NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS

OPNAV INSTRUCTION 3710.7U

THIS PUBLICATION SUPERSEDES OPNAV INSTRUCTION 3710.7T
DATED 1 MARCH 2004.

DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS.

RECORD OF CHANGES

Change No. and Date of Change	Date of Entry	Page Count Verified by (Signature)

DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, D.C. 20350-2000

IN REPLY REFER TO

OPNAVINST 3710.7U
N88
NOV 23 2009

OPNAV INSTRUCTION 3710.7U

From: Chief of Naval Operations

Subj: NAVAL AIR TRAINING AND OPERATING PROCEDURES STANDARDIZATION GENERAL FLIGHT AND OPERATING INSTRUCTIONS

Ref: See Appendix A

1. Purpose. To issue policy and procedural guidance applicable to a broad spectrum of users and complements individual Naval Air Training and Operating Procedures Standardization (NATOPS) manuals. This is a complete revision and should be reviewed in it entirety.

2. Cancellation. OPNAVINST 3710.7T.

3. Background. The NATOPS Program is a positive approach toward improving combat readiness and achieving a substantial reduction in the aircraft mishap rate. Standardization, based on professional knowledge and experience, provides the basis for development of sound operating procedures. The standardization program is not intended to stifle individual initiative, but rather to aid commanding officers in increasing their unit's combat potential without reducing command prestige or responsibility.

4. Reproduction. Duplication of this publication for other than military use, without specific authority of the Chief of Naval Operations (CNO), is not authorized.

5. Records Management. Records created as a result of this instruction, regardless of media and format, shall be managed in accordance with Secretary of the Navy (SECNAV) Manual 5210.1.

6. Reports and Forms. Reports and forms required by this instruction are listed in appendix L.

D. L. PHILMAN
Director, Air Warfare

Distribution:
Electronic only, via Department of the Navy Issuances Web site
http://doni.daps.dla.mil/

INTERIM CHANGE SUMMARY

The following Interim Changes have been cancelled or previously incorporated into this manual.

INTERIM CHANGE NUMBER(S)	REMARKS/PURPOSE
1 thru 33	Previously incorporated or cancelled.

The following Interim Changes have been incorporated into this Change/Revision.

INTERIM CHANGE NUMBER(S)	REMARKS/PURPOSE
34	IFR Filing Criteria
35	Civilian Firefighting Coordinators
36	Chapter 5 — ACM Training Rules
37	Changes to Air Combat Maneuvering (ACM) Training Rules
38	Mandatory Briefing Items

Interim Changes Outstanding — To be maintained by the custodian of this manual.

INTERIM CHANGE NUMBER	ORIGINATOR/DATE (or DATE/TIMEGROUP)	PAGES AFFECTED	REMARKS/PURPOSE
39	081006Z JAN 10	3-12, 3-12a, 5-14 thru 5-16, 5-42, 8-1, 8-19, 8-20, 8-34, 11-7, E-6, K-1 thru K-5	Multi-Subject Revisions, Including Approved Simulator Additions to Appendix K
40	171006Z MAY 10	Chapter 14 and Appendix P	UAS Policies and Operations
41	221006Z JUL 10	iv, 4-5, 8-7, 11-16, K-2, K-3	Appdx K Simulators, Life Preservers, and Waivers for Min Flt Hrs
42	301006Z SEP 10	8-29,30,31, E-7	Aeromedical and Swim/ Physical Requirements
43	091006Z DEC 10	4-5,10, 8-9, K-2	Closed Tower Ops, Weather Briefing, Parachute Warning, and Misc H-60 Simulators

R 091006Z DEC 10
FM COMNAVAIRFOR SAN DIEGO CA
TO ALNAVAIRFOR
INFO CMC WASHINGTON DC//A/SD//
COMNAVAIRSYSCOM PATUXENT RIVER MD//401P//
COMNAVAIRFOR SAN DIEGO CA//N45//
COMNAVAIRLANT NORFOLK VA//N45//
COMNAVAIRFORES SAN DIEGO CA
COMNAVSAFECEN NORFOLK VA//00/10/11/FILE//
CNATRA CORPUS CHRISTI TX//00X//
COMMARFORCOM
COMMARFORPAC
CG FIRST MAW
CG SECOND MAW
CG THIRD MAW
CG FOURTH MAW
NAVSTKAIRWARCEN FALLON NV//N9//
UNCLAS //N03710//
SIC GJY
SECINFO/U/USA/USA//
MSGID/GENADMIN,USMTF,2009/COMNAVAIRFOR SAN DIEGO CA/1203/DEC//
SUBJ/INTERIM CHANGE TO OPNAVINST 3710.7U//
REF/A/MSGID:DOC/COMNAVAIRFOR/YMD:20101122//
REF/B/MSGID:DOC/COMNAVAIRSYSCOM/YMD:20101021//
REF/C/MSGID:DOC/CNO/YMD:20091123//
NARR/REF A IS COG COMMAND CONCURRENCE. REF B IS AIRS NATOPS-2010-230.
REF C IS OPNAVINST 3710.7U, NATOPS GENERAL FLIGHT AND OPERATING
INSTRUCTION.// POC/FORCE NATOPS OFFICER/-/UNIT:COMNAVAIRFOR N45N
/NAME:LCDR JOSEPH SANCHEZ/TEL:DSN 735-2779/TEL:619-545-2779
/EMAIL:JOSEPH.M.SANCHEZ@NAVY.MIL//
GENTEXT/REMARKS/1. THIS MESSAGE ANNOUNCES AND ISSUES INTERIM CHANGE
(IC) NUMBER 43 TO REF C.

2. SUMMARY.
   A. THIS INTERIM CHANGE REVISES MULTIPLE ISSUES TO INCLUDE CLOSED TOWER OPS, WEATHER BRIEFINGS, PARACHUTE USE WARNING, AND H-60 SIMULATOR ADDITIONS.
   B. REPLACEMENT PAGES CONTAINING THESE CHANGES FOR DOWNLOADING PAGE 03 RUCOSSA0165 UNCLAS AND INSERTION INTO REF C WILL BE ATTACHED TO THIS INTERIM CHANGE MESSAGE WHEN IT IS POSTED ON THE NATEC AND NATOPS WEBSITES (SEE LAST PARA BELOW).

3. THE REPLACEMENT PAGE PACKAGE INCLUDES THE FOLLOWING PAGES:
   REF C (3710.7U), PAGES: IC SUMMARY, I, 4-4, 4-5, 4-10, 4-11, 8-8, 8-9, K-1, AND K-2.

4. POINTS OF CONTACT:
   A. LCDR JOSEPH SANCHEZ, OPNAVINST 3710.7 PROGRAM MANAGER
      TEL DSN 735-2779, OR COMM (619) 545-2779,
      EMAIL:JOSEPH.M.SANCHEZ@NAVY.MIL
   B. NAVAIR POCS:
      (1) MARTY SCANLON, NATOPS IC COORDINATOR, TEL
          DSN 757-6045 OR COMM (301) 757-6045,
          EMAIL:MARTIN.SCANLON@NAVY.MIL
      (2) LCDR BEN KELSEY, 4.0P NATOPS OFFICER,
          TEL DSN 995-2502 OR COMM (301) 995-2502,
          EMAIL: BEN.KELSEY@NAVY.MIL.
      (3) KRISTIN SWIFT, 4.0P ASSISTANT DIRECTOR, TEL
          DSN 995-4193 OR COMM (301) 995-4193, EMAIL:
          KRISTIN.SWIFT@NAVY.MIL
      (4) AIRWORTHINESS GLOBAL CUSTOMER SUPPORT TEAM,

(301) 757- 0187, EMAIL AIRWORTHINESS@NAVY.MIL.

5. OTHER REMARKS:

A. THIS MESSAGE WILL BE POSTED ON THE AIRWORTHINESS WEBSITE, HTTPS:AIRWORTHINESS.NAVAIR.NAVY.MIL WITHIN 48 HOURS OF RELEASE. INTERIM CHANGES MAY BE FOUND IN TWO PLACES ON THE WEBSITE:
(1) IN THE NATOPS LIBRARY SORTED BY AIRCRAFT PLATFORM (SELECT GENERAL SERIES) AND TMS (OPNAV 3710.7U).
(2) IN AIRS, SEARCH BY AIRS NUMBER FOUND IN REF B ABOVE.

B. THIS MESSAGE WILL ADDITIONALLY BE POSTED ON THE NATEC WEBSITE, WWW.MYNATEC.NAVY.MIL. IF THE IC MESSAGE INCLUDES REPLACEMENT PAGES,THEY WILL BE PLACED WITHIN THE MANUAL AND REPLACED PAGES DELETED. IF UNABLE TO VIEW THIS MESSAGE ON EITHER THE AIRWORTHINESS OR NATEC WEBSITES, INFORM THE NATOPS GLOBAL CUSTOMER SUPPORT TEAM AT (301) 342-3276, DSN 342-3276, OR BY EMAIL AT NATOPS@NAVY.MIL.

C. INFORMATION REGARDING THE AIRWORTHINESS PROCESS, INCLUDING A

D. LISTING OF ALL CURRENT INTERIM FLIGHT CLEARANCES, NATOPS AND NATIP PRODUCTS ISSUED BY NAVAIR 4.0P, CAN BE FOUND AT OUR WEBSITE: HTTPS:(SLASH)(SLASH)AIRWORTHINESS.NAVAIR.NAVY.MIL. EPOWER FOLDER ID 921863, TRACKING NUMBER 39289.//

BT
#0165
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R 301006Z SEP 10 INTERIM CHANGE TO OPNAVINST 3710.7U//
COMNAVAIRFOR SAN DIEGO CA
TO ALNAVAIRFOR
INFO CMC WASHINGTON DC//A/SD//
COMNAVAIRSYSCOM PATUXENT RIVER MD//401P//
COMNAVAIRFOR SAN DIEGO CA//N45//
COMNAVAIRLANT NORFOLK VA//N45//
COMNAVAIRFORES SAN DIEGO CA
COMNAVSAFECEN NORFOLK VA//00/10/11/FILE//
CNATRA CORPUS CHRISTI TX//00X//
COMMARFORCOM
COMMARFORPAC
COMMARFORPAC
CG FIRST MAW
CG SECOND MAW
CG THIRD MAW
CG FOURTH MAW
NAVSURVTRAINST PENSACOLA FL
UNCLAS //N03710//
SIC GJY
FOR OFFICIAL USE ONLY (FOUO)
SECINFO/U/USA/USA//
MSGID/GENADMIN,USMTF,2009/COMNAVAIRFOR SAN DIEGO CA/0903/SEP//
SUBJ/INTERIM CHANGE TO OPNAVINST 3710.7U//
REF/A/MSGID:DOC/COMNAVAIRFOR/YMD:20100928//
REF/B/MSGID:DOC/COMNAVAIRSYSCOM/YMD:20100913//
REF/C/MSGID:DOC/CNO/YMD:20091123//
NARR/REF A IS COG COMMAND CONCURRENCE.
REF B IS AIRS NATOPS-2010-166.
REF C IS OPNAVINST 3710.7U, NATOPS GENERAL FLIGHT AND OPERATING
INSTRUCTION.//
POC/FORCE NATOPS OFFICER/-/UNIT:COMNAVAIRFOR N455
/NAME:LCDR JOSEPH SANCHEZ/TEL:DSN 735-2779/TEL:619-545-2779
/EMAIL:JOSEPH.M.SANCHEZ@NAVY.MIL//
GENTEXT/REMARKS/1. THIS MESSAGE ANNOUNCES AND ISSUES INTERIM
CHANGE (IC) NUMBER 42 TO REF C.

2. SUMMARY.
   A. THIS INTERIM CHANGE REVISES ISSUES RELATED TO NAVAL AVIATION SURVIVAL TRAINING PROGRAM (NASTP) REQUIREMENTS.
   B. REPLACEMENT PAGES CONTAINING THESE CHANGES FOR DOWNLOADING AND INSERTION INTO REF C WILL BE ATTACHED TO THIS INTERIM CHANGE MESSAGE WHEN IT IS POSTED ON THE NATEC AND NATOPS WEBSITES (SEE LAST PARA BELOW).

3. THE REPLACEMENT PAGE PACKAGE INCLUDES THE FOLLOWING PAGES:
   REF C (3710.7U), PAGES: IC SUMMARY, I, 8-28 TO 8-31, E-7 AND E-8.

4. POINTS OF CONTACT:
   A. LCDR JOSEPH SANCHEZ, OPNAVINST 3710.7 PROGRAM MANAGER, TEL DSN 735-2779, OR COMM (619)545-2779, EMAIL:JOSEPH.M.SANCHEZ@NAVY.MIL
   B. NAVAIR POCS:
      (1) MARTY SCANLON, NATOPS IC COORDINATOR, TEL DSN 757-6045 OR COMM (301) 757-6045, EMAIL:MARTIN.SCANLON@NAVY.MIL
      (2) LCDR BEN KELSEY, 4.0P NATOPS OFFICER, TEL DSN 995-2502 OR COMM (301) 995-2502, EMAIL: BEN.KELSEY@NAVY.MIL.

      (3) KRISTIN SWIFT, 4.0P ASSISTANT DIRECTOR,

TEL DSN 995-4193 OR COMM (301) 995-4193,
EMAIL: KRISTIN.SWIFT@NAVY.MIL

(4) AIRWORTHINESS GLOBAL CUSTOMER SUPPORT TEAM,
TEL (301) 757- 0187, EMAIL AIRWORTHINESS@NAVY.MIL.

5. OTHER REMARKS:

A. THIS MESSAGE WILL BE POSTED ON THE AIRWORTHINESS WEBSITE, HTTPS: AIRWORTHINESS.NAVAIR.NAVY.MIL WITHIN 48 HOURS OF RELEASE. INTERIM CHANGES MAY BE FOUND IN TWO PLACES ON THE WEBSITE:

(1) IN THE NATOPS LIBRARY SORTED BY AIRCRAFT PLATFORM (SELECT GENERAL SERIES) AND TMS (OPNAV 3710.7U).

(2) IN AIRS, SEARCH BY AIRS NUMBER FOUND IN REF B ABOVE.

B. THIS MESSAGE WILL ADDITIONALLY BE POSTED ON THE NATEC WEBSITE, WWW.MYNATEC.NAVY.MIL. IF THE IC MESSAGE INCLUDES REPLACEMENT PAGES, THEY WILL BE PLACED WITHIN THE MANUAL AND REPLACED PAGES DELETED. IF UNABLE TO VIEW THIS MESSAGE ON EITHER THE AIRWORTHINESS OR NATEC WEBSITES, INFORM THE NATOPS GLOBAL CUSTOMER SUPPORT TEAM AT (301) 342-3276, DSN 342-3276, OR BY EMAIL AT NATOPS@NAVY.MIL.

C. INFORMATION REGARDING THE AIRWORTHINESS PROCESS, INCLUDING A LISTING OF ALL CURRENT INTERIM FLIGHT CLEARANCES, NATOPS AND NATIP PRODUCTS ISSUED BY NAVAIR 4.0P, CAN BE FOUND AT OUR WEBSITE:
HTTPS:(SLASH)(SLASH)AIRWORTHINESS.NAVAIR.NAVY.MIL.

D. EPOWER FOLDER ID 917198, TRACKING NUMBER 38864.//

BT
#0903
NNNN

R 221006Z JUL 10
TO ALNAVAIRFOR
INFO CMC WASHINGTON DC//A/SD//
COMNAVAIRFORES SAN DIEGO CA//00//
COMNAVAIRSYSCOM PATUXENT RIVER MD//50F//
COMNAVAIRLANT NORFOLK VA//N45//
COMNAVSAFECEN NORFOLK VA//N3//
CNATRA CORPUS CHRISTI TX//00X//
COMMARFORCOM
COMMARFORPAC
COMMARFORPAC
COMMARFORPAC
COMMARFORPAC
NAVSTKAIRWARCEN FALLON NV//N3/N9//
CG FIRST MAW
CG SECOND MAW
CG THIRD MAW
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UNCLAS //N03710//
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MSGID/GENADMIN,USMTF,2008/COMNAVAIRFOR SAN DIEGO CA/0704/JUL//
SUBJ/INTERIM CHANGE TO OPNAVINST 3710.7U//
REF/A/MSGID:DOC/COMNAVAIRFOR/YMD:20100716//
REF/B/MSGID:DOC/COMNAVAIRSYSCOM/YMD:20100604//
REF/C/MSGID:DOC/CNO/YMD:20091123//
NARR/REF A IS COG COMMAND CONCURRENCE. REF B IS AIRS
NATOPS-2010-095, 096, 097, 103, 112, AND 113. REF C IS
OPNAVINST 3710.7U, NATOPS GENERAL FLIGHT AND OPERATING
INSTRUCTION.//
POC/FORCE NATOPS OFFICER/-/UNIT:COMNAVAIRFOR N455
/NAME:LCDR JOSEPH SANCHEZ/TEL:DSN 735-2779/TEL:619-545-2779
/EMAIL:JOSEPH.M.SANCHEZ@NAVY.MIL//
GENTEXT/REMARKS/1. THIS MESSAGE ANNOUNCES AND ISSUES INTERIM
CHANGE (IC) NUMBER 41 TO REF C.
2. SUMMARY.
A. THIS INTERIM CHANGE REVISES MISCELLANEOUS ISSUES
INCLUDING VARIOUS SIMULATOR ADDITIONS TO APPENDIX K.
B. REPLACEMENT PAGES CONTAINING THESE CHANGES FOR
DOWNLOADING AND INSERTION INTO REF C WILL BE ATTACHED TO THIS
INTERIM CHANGE MESSAGE WHEN IT IS POSTED ON THE NATEC AND NATOPS
WEBSITES (SEE LAST PARA BELOW).
3. THE REPLACEMENT PAGE PACKAGE INCLUDES THE FOLLOWING PAGES:
REF C (3710.7U), PAGES: IC SUMMARY, I, IV, V, 4-4, 4-5, 8-6, 8-7,
11-15, 11-16, AND K-1 TO K-4.
4. POINTS OF CONTACT:
A. LCDR JOSEPH SANCHEZ, OPNAVINST 3710.7 PROGRAM MANAGER
TEL DSN 735-2779, OR COMM (619)545-2779
EMAIL:JOSEPH.M.SANCHEZ@NAVY.MIL
B. NAVAIR POCS:
(1) MARTY SCANLON, NATOPS IC COORDINATOR,
TEL DSN 757-6045 OR COMM (301) 757-6045
EMAIL:MARTIN.SCANLON@NAVY.MIL
(2) LCDR BEN KELSEY, 4.0P NATOPS OFFICER,
TEL DSN 995-2502 OR COMM (301) 995-2502
EMAIL: BEN.KELSEY@NAVY.MIL.

(3) KRISTIN SWIFT, 4.0P ASSISTANT DIRECTOR,
TEL DSN 995-4193 OR COMM (301) 995-4193
EMAIL: KRISTIN.SWIFT@NAVY.MIL
(4) AIRWORTHINESS GLOBAL CUSTOMER SUPPORT TEAM,
(301) 757- 0187, EMAIL AIRWORTHINESS@NAVY.MIL.

5. OTHER REMARKS:

A. THIS MESSAGE WILL BE POSTED ON THE AIRWORTHINESS WEBSITE, HTTPS:AIRWORTHINESS.NAVAIR.NAVY.MIL WITHIN 48 HOURS OF RELEASE. INTERIM CHANGES MAY BE FOUND IN TWO PLACES ON THE WEBSITE:

(1) IN THE NATOPS LIBRARY SORTED BY AIRCRAFT PLATFORM (SELECT GENERAL SERIES) AND TMS (OPNAV 3710.7U).

(2) IN AIRS, SEARCH BY AIRS NUMBER FOUND IN REF B ABOVE.

B. THIS MESSAGE WILL ADDITIONALLY BE POSTED ON THE NATEC WEBSITE, WWW.MYNATEC.NAVY.MIL. IF THE IC MESSAGE INCLUDES REPLACEMENT PAGES, THEY WILL BE PLACED WITHIN THE MANUAL AND REPLACED PAGES DELETED. IF UNABLE TO VIEW THIS MESSAGE ON EITHER THE AIRWORTHINESS OR NATEC WEBSITES, INFORM THE NATOPS GLOBAL CUSTOMER SUPPORT TEAM AT (301) 342-3276, DSN 342-3276, OR BY EMAIL AT NATOPS@NAVY.MIL.

C. INFORMATION REGARDING THE AIRWORTHINESS PROCESS, INCLUDING A LISTING OF ALL CURRENT INTERIM FLIGHT CLEARANCES,

PAGE 05 RUCOSSA6537 UNCLAS

NATOPS AND NATIP PRODUCTS ISSUED BY NAVAIR 4.0P, CAN BE FOUND AT OUR WEBSITE: HTTPS:(SLASH)(SLASH)AIRWORTHINESS.NAVAIR.NAVY.MIL.

D. EPOWER FOLDER ID 906158, TRACKING NUMBER 37956.//

BT
#6537
NNNN

James Payne, Senior Airworthiness Engineer, 4.0P, 07/22/2010

R 171006Z MAY 10
FM COMNAVAIRFOR SAN DIEGO CA//
TO ALNAVAIRFOR//
INFO CMC WASHINGTON DC//SD//
COMNAVAIRSYSCOM PATUXENT RIVER MD//40P/50F//
CG FIRST MAW//DOSS//
CG SECOND MAW//DOSS//
CG THIRD MAW//DOSS//
CG FOURTH MAW//DOSS//
COMNAVAIRPAC SAN DIEGO CA//N45//
COMNAVAIRLANT NORFOLK VA//N3/N4/N45//
COMNAVAIRFORES SAN DIEGO CA
COMNAVSAFECEN NORFOLK VA//10/11//
COMMARFORCOM//DOSS//
COMMARFORPAC//DOSS//
COMMARFORPAC//DOSS//
CNATRA CORPUS CHRISTI TX//00X//
NAVSTKAIRWARCEN FALLON NV//N9//
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REF/B/MSGID:DOC/COMNAVAIRSYSCOM/YMD:20100308//
REF/C/MSGID:DOC/CNO/YMD:20091123//
NARR/REF A IS COG COMMAND CONCURRENCE.
REF B IS AIRS NATOPS-2010-055.
REF C IS OPNAVINST 3710.7U, NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTION.//
POC/FORCE NATOPS OFFICER/-/UNIT:COMNAVAIRFOR N455
/NAME:LCDR JOSEPH SANCHEZ/TEL:DSN 735-2779/TEL:619-545-2779
/EMAIL:JOSEPH.M.SANCHEZ@NAVY.MIL//
GENTEXT/REMARKS/1. THIS MESSAGE ANNOUNCES AND ISSUES INTERIM CHANGE (IC) NUMBER 40 TO REF C.

2. SUMMARY.
   A. THIS IC ADDS NEW CHAPTER 14 AND APPENDIX P FOR UNMANNED AIR SYSTEMS POLICIES AND OPERATIONS.
   B. THE REPLACEMENT PAGES CONTAINING THESE CHANGES WILL ALREADY BE INCORPORATED INTO REF C WHEN IT IS POSTED ON THE NATEC AND NATOPS WEBSITES (SEE PARA 5 BELOW).

3. THE REPLACEMENT PAGE PACKAGE INCLUDES THE FOLLOWING PAGES: REF C, PAGES: 14-1 TO 14-30 AND P-1 TO P-8.

4. POINTS OF CONTACT:
   A. LCDR JOSEPH SANCHEZ, OPNAVINST 3710.7 PROGRAM MANAGER, TEL DSN 735-2779, OR COMM (619)545-2779, EMAIL: JOSEPH.M.SANCHEZ@NAVY.MIL
   B. NAVAIR POCS:
      (1) MARTY SCANLON, NATOPS IC COORDINATOR, TEL DSN 757-6045 OR COMM (301) 757-6045,EMAIL: MARTIN.SCANLON@NAVY.MIL
      (2) LCDR BEN KELSEY, 4.0P NATOPS OFFICER, TEL DSN 995-2502 OR COMM (301) 995-2502,EMAIL: BEN.KELSEY@NAVY.MIL.
      (3) KRISTIN SWIFT, 4.0P PRINCIPAL DEPUTY DIRECTOR,TEL DSN 995-4193 OR COMM (301) 995-4193, EMAIL: KRISTIN.SWIFT@NAVY.MIL
      (4) AIRWORTHINESS GLOBAL CUSTOMER SUPPORT TEAM,TEL DSN 757-0187 OR COMM (301) 757-0187, EMAIL:AIRWORTHINESS@NAVY.MIL.

5. OTHER REMARKS:

A. THIS MESSAGE WILL BE POSTED ON THE AIRWORTHINESS WEBSITE, HTTPS:(SLASH)(SLASH)AIRWORTHINESS.NAVAIR.NAVY.MIL WITHIN 48 HOURS OF RELEASE. INTERIM CHANGES MAY BE FOUND IN TWO PLACES ON THE WEBSITE:
(1) IN THE NATOPS LIBRARY SORTED BY AIRCRAFT PLATFORM (SELECT GENERAL SERIES) AND TMS (OPNAV 3710.7U).
(2) IN AIRS, SEARCH BY AIRS NUMBER FOUND IN REF B ABOVE.

B. THIS MESSAGE WILL ADDITIONALLY BE POSTED ON THE NATEC WEBSITE, HTTPS:(SLASH)(SLASH)MYNATEC.NAVAIR.NAVY.MIL. IF THE IC MESSAGE INCLUDES REPLACEMENT PAGES, THEY WILL BE PLACED WITHIN THE MANUAL AND THE REPLACED PAGES DELETED. IF UNABLE TO VIEW THIS MESSAGE ON EITHER THE AIRWORTHINESS OR NATEC WEBSITES, INFORM THE NATOPS GLOBAL CUSTOMER SUPPORT TEAM AT (301)342-3276, DSN 342-3276, OR BY EMAIL AT NATOPS@NAVY.MIL.

C. INFORMATION REGARDING THE AIRWORTHINESS PROCESS, INCLUDING A LISTING OF ALL CURRENT INTERIM FLIGHT CLEARANCES, NATOPS AND NATIP PRODUCTS ISSUED BY NAVAIR 4.0P, CAN BE FOUND AT OUR WEBSITE: HTTPS:(SLASH)(SLASH)AIRWORTHINESS.NAVAIR.NAVY.MIL.

D. EPOWER FOLDER ID 895753, TRACKING NUMBER 37078.

MINIMIZE CONSIDERED. RELEASED BY: CDR JR NETTLETON, USN//
BT
#0503
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R 081006Z JAN 10
TO ALNAVAIRFOR
INFO CMC WASHINGTON DC
COMNAVAIRFORES SAN DIEGO CA
COMNAVAIRSYSCOM PATUXENT RIVER MD
COMNAVAIRLANT NORFOLK VA
COMNAVSAFECEN NORFOLK VA
CNATRA CORPUS CHRISTI TX
COMMARFORCOM
COMMARFORPAC
COMMARFORPAC
NAVSTKAIRWARCEN FALLON NV
CG FIRST MAW
CG SECOND MAW
CG THIRD MAW
CG FOURTH MAW
UNCLAS //N03710//
SIC GJY
FOR OFFICIAL USE ONLY (FOUO)
SECINFO/U/USA/USA//
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REF/B/MSGID:DOC/COMNAVAIRSYSCOM/YMD:20091117//
REF/C/MSGID:DOC/CNO/YMD:20091123//
NARR/REF A IS COG COMMAND CONCURRENCE. REF B IS AIRS
NATOPS-2009-031. REF C IS OPNAVINST 3710.7U, NATOPS GENERAL
FLIGHT AND OPERATING INSTRUCTION.//
POC/FORCE NATOPS OFFICER/-/UNIT:COMNAVAIRFOR N455
/NAME:LCDR JOSEPH SANCHEZ/TEL:DSN 735-2779/TEL:619-545-2779
/EMAIL:JOSEPH.M.SANCHEZ@NAVY.MIL//
GENTEXT/REMARKS/1. THIS MESSAGE ANNOUNCES AND ISSUES INTERIM
CHANGE (IC) NUMBER 39 TO REF C.
2. SUMMARY.
A. THIS INTERIM CHANGE AMENDS MULTI-SUBJECT REVISIONS,
INCLUDING APPROVED SIMULATOR REVISIONS AND ADDITIONS TO
APPENDIX K.
B. THE REPLACEMENT PAGES CONTAINING THESE CHANGES WILL
ALREADY BE INCORPORATED INTO REF C WHEN IT IS POSTED ON THE
NATEC AND NATOPS WEBSITES (SEE LAST PARA BELOW).
3. THE REPLACEMENT PAGE PACKAGE INCLUDES THE FOLLOWING PAGES:
REF C (3710.7U), PAGES: IC SUMMARY, 3-12/12A, 5-14/15/16, 5-42,
8-1, 8-19/20, 8-34, 11-7, E-6, AND K-1 TO K-5.
4. POINTS OF CONTACT:
A. LCDR JOSEPH SANCHEZ, OPNAVINST 3710.7 PROGRAM MANAGER,
TEL DSN 735-2779, OR COMM (619)545-2779,
EMAIL:JOSEPH.M.SANCHEZ(AT)NAVY.MIL
B. NAVAIR POCS:
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(2) LCDR BEN KELSEY, 4.0P NATOPS OFFICER,
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EMAIL: BEN.KELSEY@NAVY.MIL.
(3) KRISTIN SWIFT, 4.0P NATOPS CHIEF ENGINEER, TEL
DSN 995-4193 OR COMM (301) 995-4193, EMAIL:
KRISTIN.SWIFT@NAVY.MIL
(4) AIRWORTHINESS GLOBAL CUSTOMER SUPPORT TEAM,

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5. OTHER REMARKS:

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KRISTIN SWIFT, NATOPS CHIEF ENGINEER, 4.0P, 01/08/2010

NATOPS General Flight and Operating Instructions

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CHAPTER 1

Introduction

1.1 GENERAL

a. The Naval Air Training and Operating Procedures Standardization (NATOPS) program is a positive approach towards improving combat readiness and achieving a substantial reduction in aircraft mishaps. This instruction issues policy and procedural guidance of the Chief of Naval Operations (CNO) that is applicable to all NATOPS users.

b. Use of operational risk management (ORM) in the planning and execution of all military training is mandated by reference (a). Reference (b) further directs all Navy and Marine Corps activities to apply ORM in planning operations and training to optimize operational capabilities and readiness.

1.1.1 Purpose and Scope

a. This instruction prescribes general flight and operating instructions and procedures applicable to the operation of all naval aircraft and related activities. This instruction is not intended to cover every contingency that may arise nor every rule of safety and good practice. To achieve maximum value, the contents of all directives cited must be studied and understood. Routine interpretation and procedural questions should be referred to type wing/type command NATOPS offices for resolution prior to referral to Commander, Naval Air Forces (COMNAVAIRFOR). Where the need arises, special instructions or waivers will be issued by COMNAVAIRFOR.

b. References cited in the text of this instruction are identified by the appropriate reference designation, i.e., "reference (a)," "reference (b)," etc. The identification of the references are listed in appendix A.

c. In the tactical environment, military exigency may require on-site deviations from instructions/procedures contained here. The existing risk of deviation must continually be weighed against the benefit of deviating from this instruction. Deviation from specified flight and operating instructions is authorized in emergency situations when, in the judgment of the pilot in command (PIC), safety justifies such a deviation.

d. It is often not feasible to completely specify all situations or circumstances under which provisions of this instruction shall apply; therefore, wording such as "normally," "etc.," "usually," and "such as" is employed. Words or clauses of that type shall not be used as loopholes nor shall they be expanded to include a maneuver, situation, or circumstance that should not be performed or encountered by the aircraft in question.

e. To increase combat readiness and improve flight safety, the scope and operation of the NATOPS program, conduct of NATOPS evaluations, urgent, priority and routine change procedures to NATOPS publications, and NATOPS review conference procedures are discussed in chapter 2.

1.1.2 Change Procedures

Recommended changes to this and other NATOPS publications may be submitted by anyone in accordance with chapter 2 of this instruction. The preferred and most efficient means for submission of change recommendations for both this instruction and the NATOPS publications is to do so via the Airworthiness Issue Resolution System (AIRS) program found on the NATOPS page of the Airworthiness Web site, https://airworthiness.navair.navy.mil. When access to AIRS is not available, recommended urgent and priority changes should be submitted by naval message. Submit recommended routine changes to this instruction to Commander Naval Air Forces, Force NATOPS (N455), NAS North Island, P.O. Box 357051, San Diego, CA 92135-7051 via OPNAV 3710/6 NATOPS/TACTICAL Change Recommendation form only when unable to do so via AIRS.

1.1.3 Change Symbols

Revised text in NATOPS manuals is indicated by a black vertical line in either margin of the page, adjacent to the affected text. The change symbol identifies the addition of new information, a changed procedure, the correction of an error, or a rephrasing of the previous material.

1.1.4 Waiver Requests

Figure 1-1 delineates responsibility for areas within this instruction. Waiver requests should be sent to the applicable command and code.

1.1.5 How To Obtain Copies

1.1.5.1 OPNAVINST 3710.7U

Distribution of this directive is by electronic means only. Electronic copies of the revisions, changes and interim changes to this manual can be found in the following locations:

a. Unclassified Secretary of the Navy (SECNAV) and Office of the Chief of Naval Operations (OPNAV) directives are available at the Department of the Navy Issuances (DONI) Web site: http://doni.daps.dla.mil/.

b. Airworthiness Web site – https://airworthiness.navair.navy.mil.

c. Naval Air Technical Data and Engineering Service Command (NATEC) Web site – https://mynatec.navair.navy.mil.

ORGANIZATION	CHAPTER
COMNAVAIRFOR Safety (N455)	1, 3, 7, 8, 10, 11,12,13, appendices A, B, C, D, E, F, G, H, I, J, K, L, M, N and 0
Commander, Naval Air Systems Command (COMNAVAIRSYSCOM) Airworthiness Directorate (AIR-4.0P)	2
OPNAV Air Warfare Division (N88)	4, 5, 6, 9

Figure 1-1. OPNAVINST 3710.7U Areas of Responsibility

1.1.5.2 NATOPS Publications

a. Automatic Distribution. Automatic distribution of individual NATOPS publications are as requested by the individual units in their Automatic Distribution Requirements List (ADRL) accounts. Units flying the aircraft will receive paper copies based on requirements determined by the NATOPS model manager. Other units will receive compact disc-read only memory (CD-ROM) distribution, whenever available, as determined from the unit's ADRL request.

b. Additional Copies. Those who require paper copies can obtain them from the NATOPS model manager unit, whose address is published in the "Preface" of each NATOPS publication. The name, rank, telephone number, and e-mail address of the NATOPS program manager for each publication is contained in the NATOPS Status Report, which is a product posted on the Airworthiness Web site, https://airworthiness.navair.navy.mil. Electronic copies of most NATOPS publications are posted in PDF-format on the NATOPS "Search" page of the NATEC Web site, https://mynatec.navair.navy.mil and Airworthiness Web site https://airworthiness.navair.navy.mil. Active interim change messages are normally posted on the site within 7 days of their release.

1.2 OTHER GOVERNING SOURCES OF INFORMATION

Instructions and procedures contained here are not intended to replace or duplicate the following governing sources.

1.2.1 NATOPS Manuals

NATOPS manuals include the NATOPS flight manuals, which are issued for particular aircraft (e.g., SH-60B NATOPS Flight Manual), and the general series NATOPS manuals, which are issued for aviation-related activities (e.g., CV NATOPS Manual). They contain specific doctrine and the optimum operating procedures for the aircraft model or aviation activity concerned. Where a NATOPS manual is not issued for a particular model aircraft, appropriate commands shall issue doctrine and procedures locally. Individual aircraft NATOPS requirements should be at least as stringent as those set forth in this instruction. If as a result of a NATOPS conference, it is desired to establish a less stringent requirement, approval shall be obtained from COMNAVAIRFOR. Such approval may be requested by submitting a copy of the conference report to COMNAVAIRFOR (N455) and COMNAVAIRSYSCOM (AIR-4.0P) with the item listed as a change requiring further approval in accordance with chapter 2. When more stringent requirements are issued in this instruction, this instruction shall govern until specific authority to deviate has been granted by COMNAVAIRFOR (N455).

1.2.2 Local Flying Rules and Instructions

Local flying rules and instructions will be found in regulations issued by the various fleets, forces, naval air stations, and other activities where naval aircraft are based or operated. Navy and Marine Corps air stations and other naval aviation shore facilities that routinely conduct flight operations shall supplement this instruction with air operations manuals. Guidelines for the preparation of air operations manuals are contained in reference (c).

1.2.3 Federal Aviation Regulations (FAR)

Naval aircraft shall be operated in accordance with applicable provisions of reference (d) except:

a. Where this instruction prescribes more stringent requirements.

b. Where exemptions or authorizations issued to the Department of the Navy (DON)/Department of Defense (DoD) permit deviation from FAR.

1.2.3.1 FAR Exemptions

Users shall determine the expiration date, full scope and restrictions of an exemption prior to exercising it. Exemptions to FARs applicable to DoD aircraft may be viewed on the Federal Aviation Administration (FAA) Automated Exemption System (AES) Web site, http://aes.faa.gov, using petitioner as "Department of Defense" or "Department of the Navy" for Navy and Marine Corps exemptions and consulting the AES User Manual as needed. Exemptions/authorizations which are currently on file that allow deviation from reference (d) include:

a. Section 91.117 (Aircraft Speed). Operation of naval aircraft at speeds in excess of limits imposed by section 91.117 shall be governed by paragraph 5.1.4 of this instruction.

b. Section 91.121 (Altimeter Settings). Allows the use of the local altimeter setting when conducting high-speed tactical maneuvers that include rapid transits of Flight Level 180. (Exemption 2861A, non-expiring).

c. Section 91.135 (Operations in Class A Airspace). Authorizes U.S. Navy undergraduate student aviators to conduct solo flight in Class A airspace without an instrument rating.

d. Section 91.159 (a) (Visual Flight Rules (VFR) Cruising Altitude or Flight Level). Allows operations at altitudes other than those prescribed by section 91.159 (a) while engaged in drug interdiction operations, only to the extent necessary to obtain positive identification of a suspect aircraft and maintain visual contact with that aircraft, provided the aircraft has a dedicated on-board observer (other than the pilot) to watch for other air traffic, and the aircraft has an operating transponder with Mode C. (Exemption 5100I, expires 9/30/2010.)

e. Section 91.169 (b) and (c) (Alternate Airport Requirements). Alternate airport requirements and alternate airport weather criteria for clearance of flights to be conducted under instrument flight rules (IFR) shall be specified in paragraph 4.8.4.2 of this instruction. (Exemption 30B, non-expiring)

f. Section 91.179 (b) (1) (IFR Cruising Altitude or Flight Level). Exemption from the altitudes to be maintained in uncontrolled airspace has been granted to the extent necessary to conduct military training route (MTR) training. Policies and procedures for the conduct of MTRs is contained in OPNAVINST 3722.33 (FAA Order 7610.4, Special Military Operations) and flight information publications (FLIPs) Area Planning AP/1B. (Exemption 2396, non-expiring)

g. Section 91.209 (a) (Aircraft Lights). An exemption has been granted to DoD aircraft engaged in drug interdiction flights provided the aircraft has a

dedicated on-board observer plus an additional resource capable of detecting all aircraft operating in the vicinity of the DoD aircraft. (Exemption 5100I, expires 9/30/2010.)

h. Sections 91.209(a) and (b) (Aircraft Lights). An exemption for USMC aircraft from 91.209(a) and (b) for flight without lighted aircraft position lights in order to conduct night vision device flight training in USMC helicopters. (Exemption 8028C, expires 9/30/2012.)

1.2.4 DoD FLIPs (NOTAL) and Notices to Airmen (NOTAMs) (NOTAL)

The procedures, special notices, and instructions contained in the FLIPs and NOTAMs are mandatory for all pilots flying naval aircraft.

1.2.5 FAA Order 7110.65 (Air Traffic Control) (NOTAL)

The FAA order is applicable to air traffic control by DoD activities unless individual military service exceptions are noted therein. The applicable procedures shall be used by naval aviation shore facilities when performing ATC functions. Waivers for deviations from the procedures set forth in FAA order 7110.65 may be granted by Navy Airspace and Air Traffic Control (OPNAV (N885F)). Authority for reduced runway separation for arriving and departing aircraft using the same runway is outlined in paragraph 6.3.1.

1.2.6 NATOPS ATC Manual, NAVAIR 00-80T-114 (Reference (c))

This manual is applicable to the operation of Navy and Marine Corps ATC facilities. Applicable procedures shall be used by shore facilities when performing ATC functions.

1.2.7 DoD Detail Specification for NATOPS Program Technical Publications and Products; Style, Format, and Common Technical Content, Reference (e)

This document contains the style, format, and content standards and requirements for NATOPS publications. It applies to all (paper and electronic media) NATOPS flight manuals, general series manuals, and checklist publications, and to the other derivative NATOPS-series documents. Persons preparing or modifying NATOPS publications shall be familiar with the specifications and guidelines contained in reference (e).

1.2.8 Other Instructions

Other specialized instructions are listed in appendix A.

1.3 EXPLANATION OF TERMS

The explanation or definitions of terms and abbreviations commonly used in the aviation community can be found in FAR, Part I, and DoD FLIP General Planning, chapter 2; and Aeronautical Information Manual Pilot/Controller Glossary. No effort to duplicate these terms is intended. Where terms are used in this instruction with a different connotation or where definitions are lacking in the above-mentioned publications, the explanations of such terms are included in the glossary, appendix N.

1.4 WARNINGS, CAUTIONS, AND NOTES

The following definitions apply to WARNINGs, CAUTIONs, and Notes found throughout this instruction.

WARNING

Explanatory information about an operating procedure practice, or condition, etc., that may result in injury or death if not carefully observed or followed.

CAUTION

Explanatory information about an operating procedure, practice, or condition, etc., that may result in damage to equipment if not carefully observed or followed.

Note

Explanatory information about an operating procedure, practice, or condition, etc., that must be emphasized.

1.5 WORDING

The concept of word usage and intended meaning that has been adhered to in preparing this instruction is as follows:

a. "Shall" has been used only when application of a procedure is mandatory.

b. "Should" has been used only when application of a procedure is recommended.

c. "May" and "need not" have been used only when application of a procedure is optional.

d. "Will" indicates futurity and never indicates any degree of requirement for application of a procedure.

e. "Land Immediately" is self-explanatory.

f. "Land as Soon as Possible" means land at the first site at which a safe landing can be made.

g. "Land as Soon as Practicable" means extended flight is not recommended, the landing site and duration of flight is at the discretion of the PIC.

CHAPTER 2

Naval Air Training and Operating Procedures Standardization Program

2.1 PURPOSE

This chapter defines the NATOPS program organization and relationships, assigns responsibilities, and specifies administrative procedures.

2.2 NATOPS PROGRAM ORGANIZATION

The NATOPS program organization shall be in accordance with this chapter. (See figure 2-1 below).

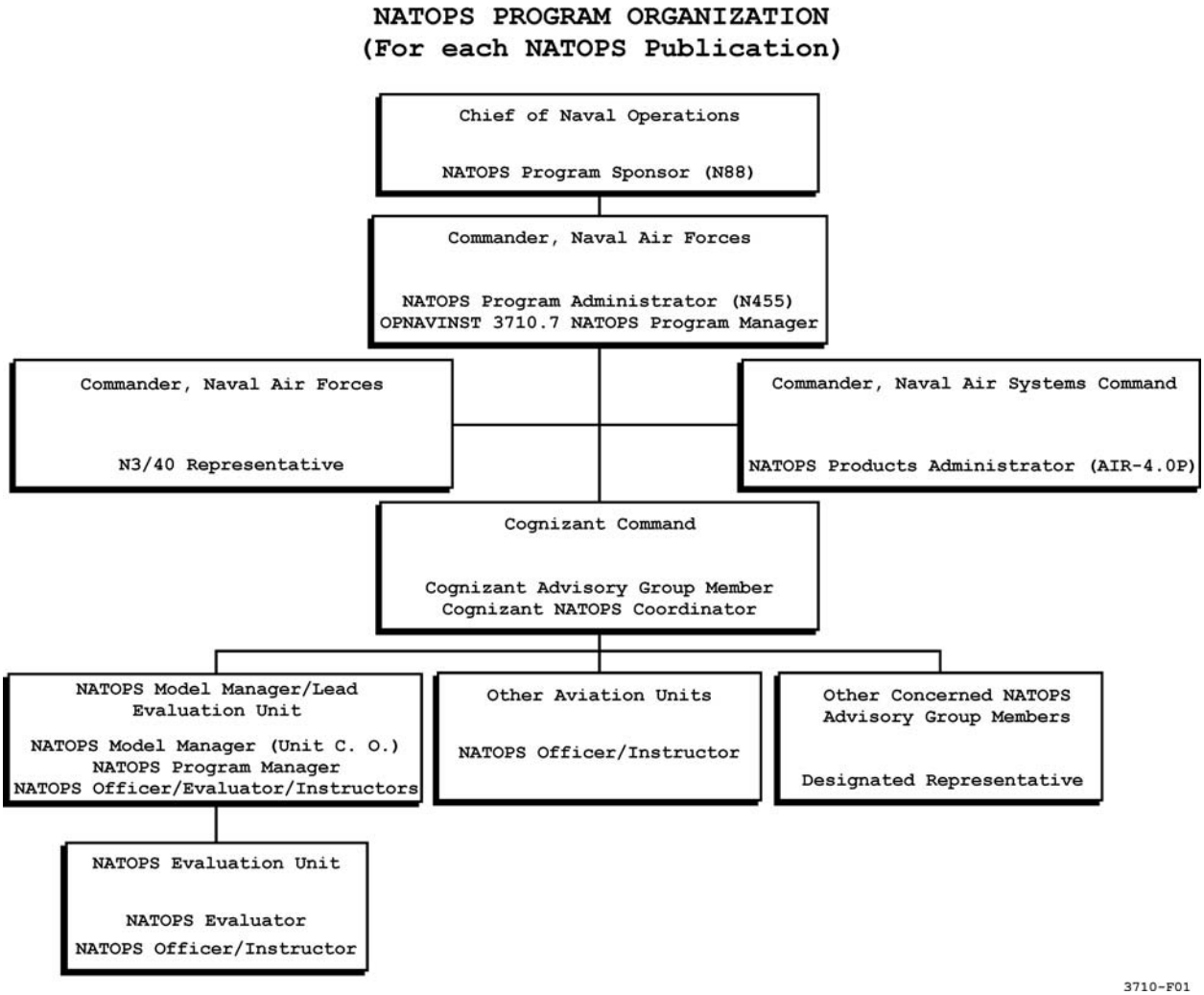


Figure 2-1. NATOPS Program Organization

2.2.1 NATOPS Program Assignments

Unit and individual NATOPS program assignments and their purposes are defined as follows:

a. NATOPS Program CNO Sponsor — OPNAV (N88) is the overall NATOPS program sponsor.

b. COMNAVAIRFOR — COMNAVAIRFOR is delegated responsibility for overall management of the NATOPS program.

c. COMNAVAIRSYSCOM — COMNAVAIRSYSCOM is delegated cognizance over the administration and maintenance of NATOPS publications.

d. NATOPS Program Administrator — COMNAVAIRFOR (N455) is NATOPS program administrator for the overall management of the NATOPS program and is responsible for the daily administration and management of NATOPS policy.

e. NATOPS Products Administrator — COMNAVAIRSYSCOM NATOPS Office (AIR-4.0P) is delegated responsibility for the administration and maintenance of NATOPS manuals and derivative products (checklists, etc.) representing CNO at all NATOPS review conferences, and overseeing or monitoring all aspects of the production of NATOPS publications.

f. NATOPS Advisory Group — The NATOPS Advisory Group is composed of the following (and other commands as designated by COMNAVAIRFOR):

(1) CNO;

(2) COMNAVAIRFOR;

(3) Commandant of the Marine Corps (CMC);

(4) COMNAVAIRSYSCOM;

(5) Chief of Naval Air Training (CNATRA);

(6) Commander, U.S. Marine Corps Forces Command (COMMARFORCOM);

(7) Commander, U.S. Marine Forces Pacific (COMMARFORPAC);

(8) Commander, Naval Air Force Reserve (COMNAVAIRFORES);

(9) Commanding General, 4th Marine Aircraft Wing (CG FOURTH MAW);

(10) Commander, Naval Safety Center (COMNAVSAFECEN); and

(11) Chief, Bureau of Medicine and Surgery (BUMED).

g. CNO NATOPS Coordinator — An individual assigned to the NATOPS products administrator, who represents CNO NATOPS policy at all NATOPS review conferences.

h. Cognizant (COG) Command — An advisory group member responsible for specific portions of the NATOPS program as designated by COMNAVAIRFOR (N455). COG command assignments are delineated in the NATOPS status report posted on the Airworthiness Web site (https://airworthiness.navair.navy.mil).

i. NATOPS Model Manager Unit (MMU) — The unit or department designated by the COG command to administer the NATOPS program for a specific aircraft model or aviation-related system. The NATOPS MMU is also the lead NATOPS evaluation unit for that aircraft model.

j. NATOPS Model Manager — The unit commander or head of department designated by the COG command to administer the NATOPS program for a specific aircraft model or aviation-related system. These assignments are delineated in the NATOPS status report posted on the Airworthiness Web site.

k. NATOPS Program Manager — An individual within the MMU assigned by the model manager to perform administrative responsibilities for the NATOPS program and who is given written authority to act on behalf of the model manager in NATOPS-related matters. The NATOPS program manager of a NATOPS flight manual (NFM) shall be an aviator highly qualified in model. The NATOPS program manager of a general series NATOPS Manual shall be knowledgeable of and highly experienced in the subject areas addressed in the manual. The NATOPS program manager should be assigned these responsibilities for a minimum of 18 months.

l. Lead NATOPS Evaluation Unit — The NATOPS MMU designated by the type/model/series (T/M/S) COG command. The lead NATOPS evaluation unit is responsible for ensuring all individuals and units operating that T/M/S aircraft receive NATOPS evaluations.

m. NATOPS Evaluation Unit — Additional NATOPS evaluation units designated by the lead NATOPS evaluation unit and endorsed by the T/M/S COG command to conduct annual NATOPS evaluations of specific units.

n. NATOPS Evaluator — A highly qualified air crewmember assigned to a NATOPS evaluation unit. Designations shall be in writing by the NATOPS model manager.

o. NATOPS Instrument Evaluator — A highly qualified military aviator or naval flight officer (NFO) designated by the commanding officer to conduct instrument evaluation flights. Contract simulator instructors (CSIs) may also be designated as NATOPS instrument evaluators by the respective type wing/marine air group commander. CSIs who maintain this designation shall receive a NATOPS instrument standardization evaluation annually by an appropriate NATOPS evaluator.

p. NATOPS Instructor — A highly qualified air crewmember whose primary duty should be administering the NATOPS evaluation program within a squadron or unit. NATOPS instructors shall receive initial and subsequent NATOPS standardization evaluations from the appropriate NATOPS evaluator and be designated in writing by the commanding officer.

q. Assistant NATOPS Instructor (ANI) — A highly qualified air crewmember who shall receive initial and subsequent NATOPS evaluations from the appropriate NATOPS evaluator or unit NATOPS instructor and be designated in writing by the commanding officer. CSIs may also be designated as ANIs by

the respective type wing/marine air group commander. CSIs who maintain this designation shall receive a NATOPS standardization evaluation annually by an appropriate NATOPS evaluator.

r. Unit NATOPS Officer — An aviator whose primary duty is to administer the NATOPS program within a squadron or unit. The NATOPS officer may also be a NATOPS instructor.

2.2.2 Responsibilities

Duties and responsibilities for the above assignments as are follows:

a. COMNAVAIRFOR — Acts as the COG command for this instruction, designates the NATOPS program administrator, and is the CNO-delegated promulgation authority for this instruction.

b. NATOPS Program Administrator — Acts for COMNAVAIRFOR on matters related to this instruction, including:

(1) Oversees and monitors the overall NATOPS program.

(2) Formulates and issues specific NATOPS policy.

(3) Designates NATOPS COG commands.

(4) Performs duties as the COG coordinator and NATOPS model manager for this instruction.

(5) Grants permissions and waivers required by this instruction.

c. COMNAVAIRSYSCOM — Promulgation authority for NATOPS manuals. Designates the NATOPS products administrator responsible for providing and maintaining accurate and up-to-date flight manual products to the fleet.

d. NATOPS Products Administrator (AIR-4.0P NATOPS Office) — Acts on behalf of COMNAVAIRSYSCOM on matters relating to the NATOPS program, including:

(1) Oversees and monitors the entire NATOPS products program.

(2) Represents and executes CNO policy at all NATOPS review conferences.

(3) Aids NATOPS MMU representatives in preparing for and conducting review conferences.

(4) Monitors the progress of urgent, priority, and routine change recommendations and coordinates the development and review of interim changes, changes, and revisions to NATOPS products.

(5) Release authority for NATOPS interim changes.

(6) Prepares letters of promulgation (LOPs) for NATOPS products for signature by COMNAVAIRSYSCOM Assistant Commander for Research and Engineering (AIR-4.0).

(7) Manages the budget and resources for the production, printing, and distribution of NATOPS publications for all out-of-production Navy and Marine Corps aircraft platforms and general series NATOPS publications.

(8) Monitors the status of all NATOPS publications and compiles and distributes the NATOPS status report.

(9) Manages and funds the editorial support of out-of-production aircraft and general series NATOPS products and those not receiving editorial support through other COMNAVAIRSYSCOM sources.

(10) Facilitates communication among all NATOPS program participants including: primary review authorities, NATOPS Advisory Group members, NATOPS model managers, NATOPS program managers, COG commands and other Navy commands, editorial production contractors, NATEC, and original equipment manufacturers (OEM) on matters related to the NATOPS program.

(11) Maintains the NATOPS military standard documents for the standardized content and formatting of NATOPS manuals, NFMs and associated checklists.

(12) Coordinates appropriate review of technical data contained in the NATOPS publications in support of interim changes and the NATOPS review conference schedule.

(13) Maintains the NATOPS portion of the Airworthiness Internet Web site and databases.

(14) Designates CNO NATOPS coordinators who represent CNO NATOPS policy at all NATOPS conferences.

e. NATOPS Advisory Group — Monitors NATOPS program and is responsible to COMNAVAIRFOR for its proper operation. The advisory group shall meet as required, to properly implement and coordinate the program. Each member shall issue instructions implementing NATOPS directives that shall include NATOPS evaluation, waiver, and reporting procedures.

(1) COG Command — Responsible for oversight of the NATOPS program for specifically assigned T/M/S aircraft or aviation-related function. The COG command designates NATOPS MMUs, coordinates with the NATOPS MMU prior to release of NATOPS review conference convening announcements, and reviews change recommendations. The COG command shall liaison with other NATOPS Advisory Group members and shall attend or designate in writing a fully authorized representative to attend applicable NATOPS review conferences. Designated representatives shall ensure that copies of their letters of designation are forwarded to the NATOPS products administrator and NATOPS program administrator.

(2) NATOPS Advisory Group Representative — Represents their respective command at NATOPS review conferences and speaks for their respective commands on matters of NATOPS policy. NATOPS Advisory Group representatives shall be designated in writing and their letters of designation shall be forwarded to the NATOPS program administrator and the NATOPS products administrator.

(3) COMNAVAIRSYSCOM — Because of their research, development, test, and evaluation mission, COMNAVAIRSYSCOM has cognizance over all aircraft equipment limitations and technical data in NATOPS publications and is responsible for ensuring the airworthiness of all naval aircraft, both manned and unmanned, including pre-accepted aircraft and public use aircraft operated by or for the Navy or USMC. COMNAVAIRSYSCOM Aviation Safety Office (AIR-5.0F) acts as a COMNAVAIRSYSCOM NATOPS advisory group representative for issues other than NATOPS change recommendations, interim change actions, and publication production matters, for which AIR-4.0P is the COMNAVAIRSYSCOM advisory group representative.

(4) COMNAVSAFECEN — Responsible for informing other advisory group members of the effectiveness of the NATOPS program as it applies to aviation safety. This includes comments on routine (NATOPS Conference agenda) as well as urgent and priority change recommendations.

f. Naval Survival Training Institute (NAVSURVTRAINST) — Designated as the aviation training advisor for emergency egress.

g. NATOPS Model Manager — Responsible for the currency of all assigned NATOPS publications and flight crews.

(1) Ensures thorough review of assigned NATOPS products for latest approved operating procedures. Makes appropriate recommendations on all matters concerning the NATOPS manuals.

(2) Hosts NATOPS review conference for their assigned NATOPS products. Prior to convening a review conference, the NATOPS model manager shall consult with the COG command and NATOPS products administrator to coordinate conference scheduling and verify that funding is available to produce, print, and distribute NATOPS publications.

(3) As the head of the lead evaluation unit, the model manager shall ensure all units operating that T/M/S aircraft receive annual NATOPS evaluations and shall further ensure that an annual evaluation is conducted on each NATOPS evaluator within T/M/S. The report of the evaluations shall be forwarded to the evaluatee's commanding officer after signature by the model manager.

h. NATOPS Program Manager — Responsible to the model manager for specific duties in the maintenance of the assigned NATOPS products, and acts as the model manager's single point of contact for all NATOPS related issues. This assignment is delineated in the NATOPS status report. The NATOPS program manager shall:

(1) Conduct a continuous review of existing publications, including appropriate NATOPS manuals, maintenance instruction manuals, Allied Tactical publications, Naval Warfare publications, Naval Tactics, Techniques, and Procedures, Naval Aviation Technical Information Product (NATIP) and associated instructions to discover any conflicts that might exist.

(2) Submit change recommendations via AIRS to resolve any conflict.

(3) Maintain close liaison with the NATOPS products administrator including access to the Airworthiness Web site in order to expedite review,

approval, and release of NATOPS interim changes and ensure knowledge of any changes in NATOPS program policy.

(4) Review all pending NATOPS change recommendations submitted to the AIRS at the Airworthiness Web site within the time period designated for that priority of change: urgent change recommendation, less than 24 hours; priority change recommendation, 3 to 5 days.

(5) Liaison with evaluators of similar aircraft models to correlate data, locate any areas of weakness, and recommend appropriate action.

(6) Make recommendations to the model manager on proposed NATOPS changes and on when to schedule review conferences.

(7) Provide guidance and assistance to NATOPS instructors.

(8) Visit and observe, as appropriate, special exercises, tests, and projects involving new operating techniques or procedures applicable to the model aircraft.

(9) Review the NATOPS status report to ensure the accuracy of all pertinent information.

(10) Forward a copy of designation letter and point of contact phone number(s) to the COG command, the NATOPS program administrator, and the NATOPS products administrator.

(11) Monitor and conduct the unit evaluation on behalf of the NATOPS model manager for that T/M/S aircraft. Every unit operating that specific T/M/S aircraft shall have a unit evaluation conducted by the MMU or their designated representative every 18 months. All NATOPS evaluators shall be evaluated annually coincident with the individual's own NATOPS evaluation.

i. NATOPS Evaluator — Conducts NATOPS unit evaluations and NATOPS instructor standardization evaluations for units operating a specific T/M/S aircraft.

j. NATOPS Instrument Evaluator — Conducts an instrument evaluation flight in either an aircraft or simulator in accordance with chapter 8 of this manual.

k. NATOPS Instructor — NATOPS instructors conduct evaluations on flight crewmembers within their units. Instructors are responsible to the commanding officer for providing the required standardization and shall keep the commanding officer informed of NATOPS development within the community and the unit.

l. ANI — Assists squadron NATOPS instructor in performing assigned duties and can administer NATOPS evaluation checks. Assigned as deemed necessary by the commanding officer.

2.2.3 General Administrative Requirements

a. Letters of Designation — Designations of responsibilities discussed above shall be made in writing, on command letterhead. Copies of the designation letters for COG command representatives, NATOPS MMUs, NATOPS

evaluation units, and NATOPS program managers shall be sent, e-mailed, or faxed to the NATOPS program administrator and the NATOPS products administrator.

b. Waiver Delegation Authority — Commands indicated below in the first column of figure 2-2 may grant waivers to the provisions of NFMs in order to develop new procedures or when compliance increases the risk of a required flight operation. This provision is not intended to permit a waiver for the sole purpose of convenience to that command. Waiver requests for this instruction are addressed in paragraph 1.1.4. Waivers shall always indicate the purpose for which granted and include a time limit. If a waiver must be continually renewed, it is a good indication that the particular procedure, requirement, or limitation should be revised. Waiver authority may be delegated in writing at the discretion of the empowered commands listed in the second column of figure 2-2. Copies of all waivers shall be forwarded to COMNAVAIRFOR (N455) and to COMNAVSAFECEN Aircraft Operations (Code 11).

2.3 NATOPS PRODUCTS AND PUBLICATIONS

2.3.1 Administrative NATOPS Products and Tools

Administrative NATOPS products and tools are designed to alleviate some of the administrative burden from the NATOPS user and the NATOPS program manager. These tools define processes, facilitate change recommendation submission and tracking, and assist with execution of NATOPS program responsibilities.

a. NATOPS Status Report — A report prepared by the NATOPS products administrator and distributed via the Airworthiness Web site delineating the status of all NATOPS publications, COG command, model manager, and program manager assignments, and other pertinent information.

b. NATOPS Program Managers Handbook — A guide maintained by the NATOPS products administrator containing detailed descriptions of the functions and responsibilities of the NATOPS program manager as well as the processes for updating NATOPS products. The NATOPS Program Manager Handbook is available on the Airworthiness Web site.

c. Airworthiness Web site — Located at https://airworthiness.navair.navy.mil. The primary information conduit for all participants in the NATOPS program. NATOPS products, NATOPS interim changes, the Program Manager's Handbook, the AIRS, this instruction, the NATOPS status report and the NATOPS conference schedule are among the items available on the Web site. NATIP and interim flight clearance (IFC) information is also located at the Web site.

DELEGATING COMMAND	WAIVER AUTHORITY MAY BE ISSUED TO:
COMNAVAIRFOR	ALL COMMANDS
CMC	ALL USMC COMMANDS
COMNAVAIRFORES	ALL RESERVE COMMANDS
FLEET AND FLEET AIR TYPE COMMANDERS (TYCOM)	FLEET COMMANDS
COMMARFORPAC	ALL MARFORPAC COMMANDS
COMMARFORCOM	ALL MARFORCOM COMMANDS
CNATRA	ALL CNATRA ACTIVITIES
COMNAVAIRSYSCOM	ALL COMNAVAIRSYSCOM AND DCMA ACTIVITIES

Figure 2-2. Waiver Delegation Authority

d. AIRS — A Web-based, interactive NATOPS change recommendation and tracking system resident on the Airworthiness Web site. All NATOPS change recommendations should be submitted via AIRS. Urgent and priority change recommendations are taken for immediate action in accordance with the interim change process upon submittal via AIRS. Routine change recommendations are collected and held within AIRS until the next NATOPS conference for the affected NATOPS product. AIRS provides the NATOPS program manager with conference tools to assist with conference agenda and post-conference report generation. AIRS allows entry of the same information as previously contained on the OPNAV 3710/6 NATOPS/Tactical Change Recommendation Form.

2.3.2 NATOPS Manuals and Associated Products

NATOPS products are published for all Navy and Marine Corps aircraft T/M/S as well as for aviation-related subjects. Depending on its maturity, a set of NATOPS products may be categorized as draft, preliminary, or promulgated, see categories of NATOPS products below for additional information. The technical content, style, and format for both paper and digital NATOPS publications shall be in accordance with the applicable military specifications including reference (e).

a. NFM — A manual for a specific aircraft model containing standardized ground and flight operating procedures, training requirements, aircraft limitations, and technical data necessary for safe and effective operation of the aircraft. To reduce the size of some NFMs, supplements may be issued for specific sections of the NFM (e.g., Performance Supplement). Variations of the standard NFM include the following:

(1) Commercial Derivative Aircraft (CDA) NATOPS Pointer Manual — A skeleton NFM structured per reference (e) that "points" to the OEM flight and operating manuals for specific data. Any additional required information not covered within the OEM commercial manuals is included in the pointer manual. Typically this includes functional checkflight information, unique equipment systems descriptions, unique operating procedures, and pilot currency requirements. All emergency procedures shall be co-located in a single document. "Pointer" NATOPS are only appropriate for CDA aircraft. Current OEM publications for the specific aircraft configuration in naval operation shall be provided to and maintained for the fleet via appropriate means (i.e., OEM subscription service) by the specific COMNAVAIRSYSCOM aircraft program office. Pointer manuals in conjunction with their respective OEM manuals may not be an effective long-term flight manual solution for all CDA aircraft, therefore development of any CDA pointer manual shall be coordinated with the NATOPS products administrator, the applicable COMNAVAIRSYSCOM aircraft program office, and the respective fleet NATOPS model manager.

(2) Unmanned Aircraft System (UAS) NFM — A UAS NFM shall contain information required for a flight manual by reference (e) but may be tailored based on the respective community requirements. Such development of tailored UAS NATOPS products shall be coordinated with the NATOPS products administrator, the applicable COMNAVAIRSYSCOM program office, and the respective fleet NATOPS model manager.

b. NATOPS General Series Manual — A manual issued for special aviation-related operations or systems that require fleet-wide standardization (e.g., Aircraft Refueling NATOPS, CV NATOPS, Landing Signal Officer NATOPS).

c. Partial NFM — An NFM issued for a variant of the basic aircraft model and affecting a small but significant percentage of the total fleet. This publication is used in conjunction with the basic NFM and addresses only the differences in the variant.

d. Supplemental NATOPS Manual — To reduce the size of an aircraft platform NFM, a supplemental NATOPS manual may be issued which contains additional information from specific sections of the NFM (e.g., Performance Charts Supplement, Mission Systems Supplement). The supplemental manual is only valid when used in conjunction with the aircraft NFM.

e. NATOPS Checklists — Excerpts, often in abbreviated form, of selected sections of the NFM or supplement, designed for easy accessibility for use while airborne (i.e., Pocket Checklist (PCL); Functional Checkflight Checklist (FCFCL); Card Checklist (CCL)). Information contained in a NATOPS Checklist shall be derived from the NFM or other approved NATOPS or related source (e.g., NATIP).

2.3.3 Categories of NATOPS Products

There are three categories of NATOPS products. These are draft NATOPS products, preliminary NATOPS products, and promulgated NATOPS products.

2.3.3.1 Draft NATOPS Products

Draft NATOPS products are developed as the first versions of the publication. They are given Naval Air Systems Command (NAVAIR) numbers and dates but not a Navy stock number and they are produced in very limited quantities. They are often prepared by the OEM and are distributed to NAVAIR program office, NAVAIR engineering competencies, and Integrated Test Team personnel. Draft NATOPS are typically used for developmental test (DT) and are not appropriate for fleet use. The contents of draft NATOPS grow and are revised throughout DT as source data and new information for them becomes available. Configuration management of a draft NATOPS is usually the responsibility of the NAVAIR Assistant Program Manager for Systems Engineering (APMSE — NAVAIR T/M/S Class Desk). The NATOPS change processes defined herein are not applicable to draft NATOPS publications. Draft NATOPS do not contain an LOP and are, therefore, not considered an approved flight clearance.

2.3.3.2 Preliminary NATOPS Products

a. Once a draft NATOPS product has been sufficiently developed, but prior to fleet introduction and use, the procuring program office shall declare the NATOPS to be preliminary. Preliminary NATOPS products contain a NAVAIR number, date, and a Navy stock number. They look like mature NATOPS publications except that they contain the word "preliminary" in their titles and do not contain an LOP. Preliminary NATOPS are not distributed for routine fleet use. They are normally incomplete with respect to containing all of the information required by reference (e) for a mature NATOPS publication. NATOPS change processes for preliminary NATOPS are defined herein. An IFC issued by COMNAVAIRSYSCOM is required in order to operate an aircraft with a preliminary NATOPS to ensure appropriate review of the technical data and limitations present in the NATOPS has been completed.

b. Inputs to the preliminary NFM are the responsibility of COMNAVAIRSYSCOM, the designated model manager, and the OEM. To update a preliminary manual, the MMU shall convene a conference as data becomes available and new procedures and techniques are developed. Procedural changes to preliminary NATOPS manuals can be approved and issued by the model manager without using the entire formal NATOPS change recommendation approval process. COMNAVAIRSYSCOM shall provide the technical information and recommended operating procedures to the NATOPS model manager, who may then modify the operating procedures within the technical constraints. The NATOPS model manager shall contact the NATOPS products administrator for NATOPS interim change numbers and may then issue the interim change without further administrative delay. The model manager has responsibility to maintain complete records of such changes and to ensure that all users are promptly informed. This modified change procedure is only for purely procedural changes within preliminary NATOPS publications. If a change to technical content is required, the interim change shall be processed and released by AIR-4.0P NATOPS Office.

Note

The NATOPS products administrator assigns all interim change numbers. When the NATOPS model manager of a preliminary NATOPS manual issues an interim change, the NATOPS products administrator shall be contacted to obtain the correct number.

2.3.3.3 Promulgated NATOPS Products

Promulgated NATOPS products contain all of the information required by reference (e) and have been judged sufficiently mature to receive an LOP. Promulgated NATOPS are approved permanent flight clearances for that T/M/S aircraft. The NATOPS change processes defined herein shall be followed for promulgated NATOPS products. NATOPS products for aircraft that are deployed in fleet units should normally be promulgated.

2.3.4 Changes to NATOPS Products

A NATOPS product is updated via an interim change, change, or revision.

a. Interim Change — An update to a publication, initiated by an urgent or priority change recommendation (based on the consequence of the recommendation), and issued by rapid means, normally via message with accompanying replacement pages, if appropriate. Interim changes are numbered consecutively throughout the life of the NATOPS publication, regardless of the number of subsequent changes or revisions. Interim changes can be cancelled or modified by a NATOPS review conference report or another interim change with a new interim change number.

Note

Assignment of a new interim change number to a correction or a change to an interim change provides visibility for new information in the NATOPS status report.

b. Change — An update to a NATOPS product which is limited to only those pages containing revised information. Changes to NATOPS publications shall include a new title page showing the change number and date below the original publication or revision date. The change number will appear on the bottom of all changed pages.

c. Revision — A second or subsequent edition of a complete publication, superseding the preceding edition and incorporating all previously issued interim changes and changes. Revisions to NATOPS publications are indicated only by a revised date on the title page.

2.3.4.1 Issuing Interim Changes

For interim changes that contain both technical information and operating procedures, COMNAVAIRSYSCOM shall provide the technical information and any recommended operating procedures to the NATOPS model manager and the COG coordinator, who may then modify the operating procedures within the technical constraints. For promulgated NATOPS publications, the AIR-4.0P NATOPS Office shall issue all interim changes. For preliminary NATOPS publications, the commanding officer of the NATOPS MMU may issue interim changes that involve operating procedures and do not affect technical data. The AIR-4.0P NATOPS Office shall issue interim changes to preliminary NATOPS publications that contain technical information. The NATOPS model manager of a preliminary NATOPS publication shall contact the AIR-4.0P NATOPS Office for assignment of an interim change number prior to issuance of an interim change. All other commands may not issue interim changes directly, but should submit change recommendations through the appropriate review and approval channels.

2.3.4.2 Distribution of Changes

a. Revisions and changes are distributed in printed and/or electronic form to all organizations that are on automatic distribution for those publications.

b. Interim changes are distributed in the following ways:

(1) By priority message to major aviation commands and other addressees when urgency so warrants. The major aviation commands shall immediately readdress and redistribute the priority message to appropriate subordinate commands.

(2) In digital form to all holders of the manual via the Airworthiness and NATEC Web sites; the changes may be replacement pages, cutouts, or pen entries.

c. Copies of the revised publications with changes incorporated are also placed on the NATEC (https://mynatec.navair.navy.mil) and Airworthiness (https://airworthiness.navair.navy.mil) Web sites.

d. Distribution of NATOPS changes and products to foreign military sales (FMS) customers, as well as any required releasability authorization, is the responsibility of the COMNAVAIRSYSCOM program office responsible for the affected aircraft.

e. Distribution and/or resale of NATOPS products outside their distribution statements shall not be allowed without the express written permission of the affected COMNAVAIRSYSCOM program office and the AIR-4.0P NATOPS Office.

2.3.4.3 Incorporation of Changes

a. Unless otherwise directed, changes to manuals shall be inserted upon receipt. After checking against the list of effective pages, the superseded pages shall be destroyed.

b. Interim changes, may be entered either as replacement pages or as pen changes to the existing pages and shall be recorded on the interim change summary page in the front of the manual.

Note

The interim change summary page in each NATOPS manual should be checked against the NATOPS status report to determine if the manual contains the latest update.

c. Replacement pages that have been modified to incorporate message and/or printed interim changes that were not included in the latest printed change shall:

(1) Retain their printed change marking (e.g., ORIGINAL, CHANGE 1, CHANGE 2), and

(2) Be marked beside the printed change marking with the number(s) of the interim change(s) that modifies them (e.g., CHANGE 2 with IC 3, ORIGINAL with ICs 26 and 29), as applicable.

2.4 CREATING, UPDATING AND CANCELLING NATOPS PUBLICATIONS

2.4.1 Creating a New NATOPS

a. Request for Creation of a New NATOPS — A letter shall be sent to the NATOPS products administrator by the initiating unit via the advisory group member in the chain of command, justifying the need for the new publication, outlining the proposed contents of the publication, and recommending a MMU to manage the publication. When available, a draft of the new publication should accompany the letter.

b. Designation of NATOPS COG Command and MMU — Upon receipt of the letter, the NATOPS products administrator shall evaluate the need for the publication. If a need for the publication exists, the NATOPS products administrator shall recommend to COMNAVAIRFOR that further development of the publication be undertaken and that a COG command be assigned. COMNAVAIRFOR (N455) shall then assign a COG command for the publication. The COG command shall, in turn, appoint the MMU of the publication.

c. Formal Approval of the NATOPS — The MMU shall convene a NATOPS conference to formally review the content of the new NATOPS. The review conference will also determine whether the new NATOPS is complete or lacks any information considered essential for a complete publication. If the

NATOPS contains all information required by reference (e) it is judged to be complete and will normally receive an LOP. If the publication is determined to be lacking essential information, it shall contain the word "preliminary" in the title of the publication, in lieu of receiving an LOP. If the publication is considered complete but remains subject to a high volume of proposed changes, and the aircraft is not yet deployed beyond the fleet replacement squadron (FRS), the publication may be retained in a preliminary status. This will reduce the administrative burden of the formal NATOPS change recommendation approval process and allow the changes to be incorporated into the publication more expeditiously. Once the aircraft is deployed in fleet units, the publication shall contain an LOP and be subject to the formal change recommendation approval process.

d. Assignment of NAVAIR Number — The NATOPS products administrator shall request assignment of a NAVAIR number for the new publication from NATEC logistics element manager (LEM), who will provide the new NAVAIR number.

e. Automatic Distribution Requirements List (ADRL) — The NATOPS program manager shall submit a proposed distribution list for each new publication and forward it via the NATOPS products administrator to NATEC. Each proposed distribution list shall be comprised of a list of each unit to receive automatic distribution of the publication. Include the NATEC activity address code if one already exists. The completed distribution list shall include (1) the NATEC distribution account code of each expected user or the complete address of each user, if a NATEC activity address code has not yet been established, (2) the user unit's command attention code, if known, and (3) the recommended distribution quantities of paper and/or CD-ROM copies for each user account. The NATOPS program manager may contact the NATOPS products administrator or the NATEC LEM to obtain a copy of the distribution list of a similar publication as an aid in preparing the initial list. FMS customers shall not be included on ADRLs. Distribution of NATOPS products to FMS customers, as well as any required releasability authorization, is the responsibility of the COMNAVAIRSYSCOM program office responsible for the affected aircraft.

f. Following preparation of the master copy of the new NATOPS, a copy shall be forwarded to the NATOPS products administrator for final approval and preparation of the LOP for the publication.

2.4.2 Updating an Existing NATOPS

a. NATOPS are updated periodically by convening a NATOPS review conference to formally reviews and approves the accumulated routine change recommendations submitted since the last NATOPS review conference. The changes addressed by the NATOPS review conference are documented in a NATOPS review conference report. The approved changes in the conference report and any interim changes that have been issued, but are not yet incorporated in the publication, are then incorporated by editors into a change or revision to the publication.

b. AIR-4.0 signs an LOP for the updated NATOPS products provided by the NATOPS products administrator. An updated LOP shall be included in each revision of a publication that has been previously published with an LOP. An LOP may also be inserted in any changed or revised preliminary publication that has matured and is determined to warrant incorporation of an LOP. Barring a request from COMNAVAIRSYSCOM to review the publication, the NATOPS

products administrator may incorporate the LOP without the change or revision being forwarded for further review. In both of these cases, incorporation of the LOP into the new publication is subject to the provision that all changes have been formally approved by the NATOPS change processes and have been incorporated into the publication as intended by the review conference.

c. The changed or revised publication is then published and distributed to the fleet in paper, CD-ROM and/or digital form.

2.4.3 Cancelling A NATOPS

Superseded NATOPS are identified on the cover(s) of the changed or revised publications that supersede them. The model manager of a NATOPS that is no longer required and will not be superseded by another shall submit a recommendation to COMNAVAIRFOR (N455) that the publication be cancelled. COMNAVAIRFOR shall relieve the COG command of management responsibilities for the publication, and direct the AIR-4.0P NATOPS Office to retire the publication. The AIR-4.0P NATOPS Office shall, in turn, declare the publication canceled and notify NATEC of the cancellation. The NATEC LEM will then retire the NAVAIR number and notify the appropriate distribution authority and the NATOPS program manager so that shelf stocks and stock numbers are retired.

2.5 CHANGE RECOMMENDATIONS

The effectiveness of the NATOPS program is dependent on the currency and accuracy of NATOPS publications. Inputs from many sources are used to maintain the integrity of the program. Any NATOPS publication user who notes a deficiency or an error is obligated to submit a change recommendation. The participation of the individual is essential, if continuing improvement of the manuals is to succeed.

2.5.1 Types of NATOPS Change Recommendations

NATOPS change recommendations are either routine or interim, depending on the urgency of the recommendation. Interim change recommendations are additionally categorized as either priority or urgent based on the consequence of the content of the change.

2.5.2 Submission of NATOPS Change Recommendations

All NATOPS change recommendations should be submitted via AIRS located at the Airworthiness Web site (https://airworthiness.navair.navy.mil). AIRS is a Web-based, interactive NATOPS change recommendation and tracking system. AIRS will acknowledge receipt of the interim change recommendation via electronic mail (e-mail) to the submitter. Urgent and priority change recommendations are taken for immediate action in accordance with the interim change process contained herein upon submittal via AIRS. Routine change recommendations are collected and held within AIRS for the NATOPS program manager until the next NATOPS conference for the affected NATOPS product. AIRS also provides the fleet user with insight into the progress of the change recommendation through the approval and release process. If Web connectivity is unavailable, use of naval message or OPNAV 3710/6 is acceptable. Transmission of urgent and priority change recommendation messages is authorized during MINIMIZE.

2.5.3 Routine Change Recommendations

Routine change recommendations are those that do not require immediate issuance to the fleet. Routine change recommendations are submitted via AIRS and held within the database until addressed at the next NATOPS conference for the affected NATOPS product. AIRS will acknowledge receipt of the routine change recommendation via e-mail to the submitter. If approved, the routine change recommendations are promulgated to the user via a change or revision to the NATOPS product. As NATOPS review conferences are typically held every 2 to 3 years, a routine change recommendation could take several years to be resolved.

Note

The NATOPS model manager may elect to upgrade the classification of a routine change recommendation to urgent or priority and forward the recommendation for immediate action.

2.5.4 Interim Change Recommendations

Interim change recommendations are those that require near-term issuance to the fleet. Approved recommendations are promulgated to the fleet user via interim change naval message and replacement pages, if appropriate. Interim change recommendations are divided into two categories, urgent and priority, based on the nature of the recommendation.

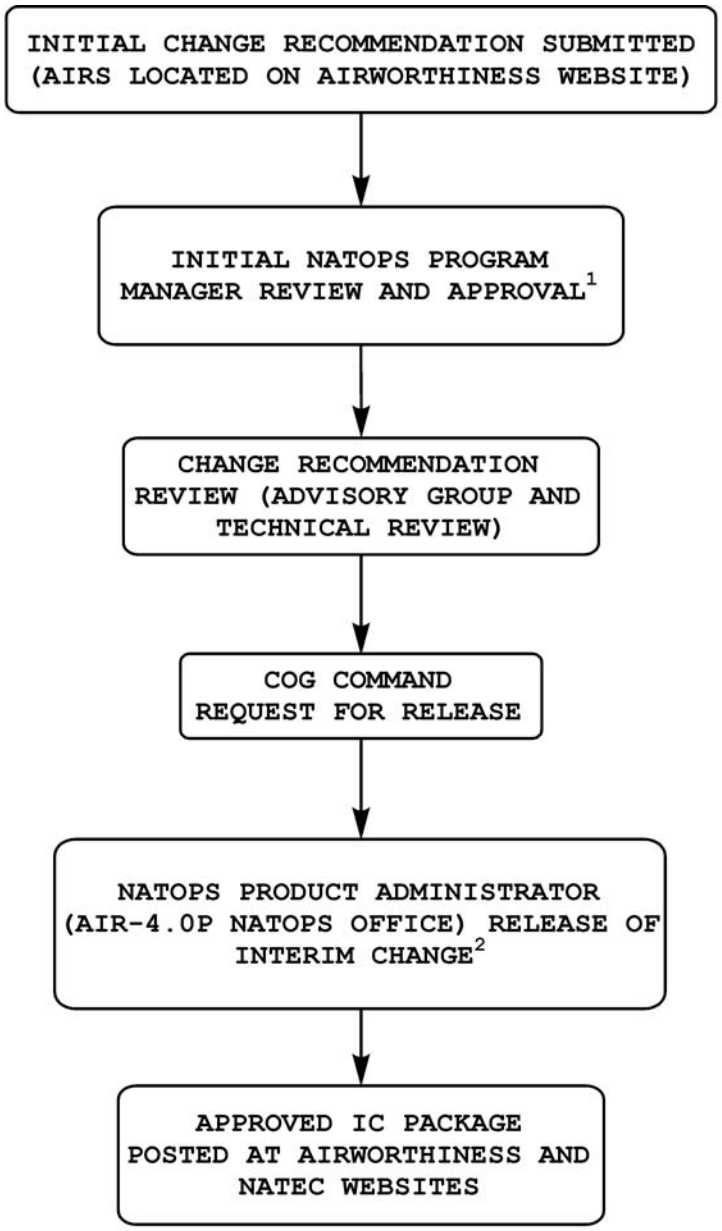
a. Urgent change recommendations are changes that immediately affect safety of flight. Urgent change recommendations shall be generated any time a hazard has been identified and classified as high risk with respect to personal injury, property damage, or mission degradation or if the situation involves the fundamental airworthiness of the aircraft or operating procedures likely to place flight personnel in immediate danger. Include the phrase "safety of flight" in the subject line. The turnaround time goal for urgent change recommendation release as an interim change is 3 days from receipt of the recommendation.

b. Priority change recommendations are changes that cannot be allowed to wait for implementation until after the next review conference. Priority change recommendations shall be generated any time a hazard has been identified that must be addressed in the short term, but does not immediately impact safety of flight. Turnaround time goal for priority change recommendation release as an interim change is 30 days from receipt of the recommendation.

2.5.4.1 Interim Change Recommendation to NATOPS Publications

The approval process for priority and urgent change recommendations to NATOPS publications is shown in figure 2-3.

a. Initial Change Recommendation — The initial change recommendation should be submitted to AIRS on the Airworthiness Web site. The recommendation should be given an initial category (CAT) of urgent or priority based on the consequence of the change. If a recommendation is safety of flight related and needs to be defined as urgent, additionally state so in the subject line and in the justification section.



NOTES:

1. INITIAL CHANGE RECOMMENDATION REVIEW COMPLETION TIMELINE:
   URGENT — WITHIN 24 HOURS
   PRIORITY — WITHIN 3 DAYS
2. RELEASE OF INTERIM CHANGE TIMELINE:
   URGENT — WITHIN 3 DAYS
   PRIORITY — WITHIN 30 DAYS

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Figure 2-3. Interim Change Recommendation Approval Process

Note

If Web connectivity is unavailable, an interim change recommendation message shall be sent to the NATOPS Advisory Group representative in the originator's chain of command, using the message format shown in figure 2-4. COMNAVAIRFOR (N455), COMNAVAIRSYSCOM (AIR-4.0P), and the NATOPS model manager shall be included as information addressees. The advisory group representative in the originator's chain of command may or may not be the NATOPS COG command. The advisory group representative should input the change recommendation into AIRS to expedite continued processing.

b. Initial NATOPS Program Manager Approval — Once a change recommendation is submitted, AIRS automatically sends the appropriate NATOPS program manager an e-mail notification. Upon receipt of the notification e-mail, the NATOPS program manager shall go to the Airworthiness Web site and review the change recommendation for appropriateness and completeness, recommend cancellation or downgrading to routine, or upgrade a recommendation to urgent, if the recommendation warrants. Incomplete change recommendations should be returned to the originator for staffing to meet the required standards. The NATOPS program manager shall at this time give initial approval on behalf of the NATOPS model manager to execute the review process for the particular change. This initial approval is not concurrence for release of the change recommendation, but is instead approval for the recommendation to proceed into review. For urgent change recommendations, this initial review shall be completed and forwarded within 24 hours of receipt of the notification e-mail; for priority change recommendations, this initial review shall be completed and forwarded within 3 days of receipt of the notification e-mail. It is imperative that the NATOPS program manager verifies that the change recommendation contains all the specific details (content, publication, location, effect on derivative pubs, etc.) required for clarity and to ensure complete understanding of the recommendation. This will facilitate timely turnaround and ensure quality of the requested change.

c. Change Recommendation Review — Once initial approval to proceed is received from the NATOPS program manager, the NATOPS products administrator shall develop the recommendation package for advisory group and technical review. If NATOPS source data is available, draft replacement pages may be generated as part of this package, if necessary. Pen and ink changes may also be utilized. If source data is not available, the change recommendations are detailed in naval message format. The review package is forwarded to the advisory group members, typically via e-mail or other electronic means, for review. Concurrences and comments shall be returned to the NATOPS products administrator in a timely manner to support release of the interim change within the designated turnaround time for a priority or urgent change. Advisory group members not exercising operational control of subject aircraft need not respond. For cases that involve both technical information and operating procedures, COMNAVAIRSYSCOM shall provide approved technical information and any recommended procedures for review.

d. Emergency Egress, Rescue, and Survival Information — When the change recommendation affects any aspect of emergency egress, rescue, or survival, NAVSURVTRAINST, the aviation training advisor for emergency egress, shall be included in the review process.

P R Date-time group
FM Originator //***//
TO Advisory group member in your chain of command //***//
INFO COMNAVAIRFOR SAN DIEGO CA//N455//
COMNAVAIRSYSCOM PATUXENT RIVER MD//4.0P/4.1/5.0F//
COMNAVSAFECEN NORFOLK VA//***// *(If it's a safety-of-flight issue)*
NAVSURVTRAINST PENSACOLA FL//02/025// *(If aircrew emergency egress/rescue/survival equipment/procedures involved)*
PEOASWASM PATUXENT RIVER MD //PMA code //
Other appropriate units in your chain of command //***//
Model Manager unit //***//
Evaluation unit in your chain of command //***// *(If different from the model manager)*
HMX ONE QUANTICO VA//C148-11// *(If H-3, CH-46E, CH-53 or H-60 aircraft involved)*
UNCLAS //N03711//
MSGID/GENADMIN/ originator unit //
SUBJ/INTERIM CHANGE RECOMMENDATION TO aircraft/title NATOPS PUBLICATIONS//
(When appropriate, add: - - SAFETY OF FLIGHT)
REF/A/DOC/OPNAV/ date // *(3710.7 Instruction, date when last changed)*
REF/B/DOC/NAVAIR pub #/ date of latest change or revision // *(e.g., NAVAIR 01-T34AAC-1 (T-34C NFM))*
REF/C/.....//
...ETC. *(Additional references as necessary)*
NARR/REF A IS OPNAVINST 3710.7U, CHAP 2. REF B IS Pub Title (short pub title). REF C IS NAVAIR Pub Title (short pub title)...Etc.// *(e.g., NAVAIR 01-T34AAC-1 (T-34C NFM))*
RMKS/1. IAW REF A, RECOMMEND CHANGE REF B (AND C,..etc.) AS FOLLOWS:
A. CHANGE REF B, PART number, CHAPTER number, PAGE number, FIGURE/PARAGRAPH number and title, SENTENCE/LINE number or other identifiable landmarks on page.
(1) DELETE: *(Always indicate what is to be deleted. If no deletion is necessary, enter NA.)*
(2) ADD: *(Quote new text or describe changed material. If none, enter NA. Unless otherwise indicated, new text is inserted in the same location as deleted material.)*
B. *(Continue change recommendations with next pub and/or next location.)*
2. JUSTIFICATION: *(Indicate if Urgent or Priority. Enter remarks necessary to justify change recommendations.)*
3. Unit POC IS Code Rank Name, TEL DSN ___-___ COMM ___-___-___,EMAIL _____@_____.
//
BT

Note

- *** indicates message routing code. (Use "//JJJ//" when code required but not known).
- NATOPS Advisory Group routing codes may be located in the Urgent Change Recommendation section of the NATOPS Status Report; or, determined by contacting the individual NATOPS Program Manager for the subject publication.
- This sample is intended as a content guide. Refer to NTP-3 for detailed GENADMIN MTF formatting instructions.
- Naval message format for NATOPS interim change submission should only be used when web connectivity to AIRS is unavailable.
- Include priority categorization (urgent or priority) in justification paragraph.

Figure 2-4. Sample NATOPS Interim Change Recommendation Message

e. COG Command's Request for Release — The COG command shall review comments from the members of the advisory group and the MMU and then recommend final action to the NATOPS products administrator in a timely manner to support release of the interim change within the designated turnaround time for an urgent or priority change. The COG command shall either cancel or downgrade the change recommendation, or submit a request to issue the recommended change to the NATOPS products administrator.

f. NATOPS Products Administrator Release of Interim Change — Upon receipt of the COG command's recommendation for issuance, the NATOPS products administrator shall assemble the final NATOPS interim change package. The package shall include copies of the original change recommendation and related NATOPS Advisory Group comments and recommendations. The MMU shall review the final package for accuracy and completeness. Upon receipt of final MMU concurrence, the NATOPS product administrator shall issue the interim change package. The NATOPS products administrator shall retain the interim change package and may cancel, downgrade, or issue the interim change.

g. Approval of Technical Information - COMNAVAIRSYSCOM has cognizance over the content and layout specifications, all aircraft equipment limitations, flight envelopes, and technical data in NATOPS publications. The fleet COG Command and Model Manager have cognizance over all operating procedures, but must operate within the constraints of the technical limitations. Following receipt of a change recommendation that involves technical information, COMNAVAIRSYSCOM may issue it directly as an interim change provided that no operating procedures are involved.

2.5.4.2 Interim Change Recommendations To OPNAVINST 3710.7U

The approval process for change recommendations to this instruction is very similar to that for interim change recommendations to the NATOPS publications, except that COMNAVAIRFOR performs both the COG coordinator and the releasing authority functions for this instruction’s change recommendations. Change recommendations shall be submitted via AIRS at the Airworthiness Web site as previously detailed. AIRS will notify COMNAVAIRFOR (N455) to initiate the review. COMNAVAIRFOR (N455) functions as the COG command and collects comments from the other concerned NATOPS Advisory Group members. As with the NAVAIR NATOPS publications, COMNAVAIRSYSCOM has cognizance over limitations and technical data, and shall provide the approved technical information and any recommended operating procedures. COMNAVAIRSYSCOM, however, may not issue changes to this instruction. After receiving the NATOPS Advisory Group's comments, COMNAVAIRFOR decides on the action to be taken and may cancel or downgrade the change recommendations, or issue an interim change to this instruction.

2.5.5 Preparation and Distribution of Interim Changes

Approved change recommendations to this instruction are issued by COMNAVAIRFOR as interim changes to this instruction. Approved change recommendations to NATOPS publications are issued as interim changes by the NATOPS product administrator. If replacement pages are included as part of the interim change package, the interim change message serves as notification of issuance of the interim change. The replacement pages can be downloaded from the Airworthiness or NATEC Web sites or may be received via e-mail from a point of contact listed in the interim change message. Replacement pages shall be inserted into the appropriate NATOPS products upon receipt. If no replacement pages are available, the interim change message shall be complete in itself and should not require the user to refer to another source for the approved text. Interim change messages shall be in the format of figure 2-5, with copies to all

PTTUZYUW RULSABU1234 XXXXXXX-UUUU--RHMCSUU.
ZNR UUUU
P XXXXXXZ MMM YY
FM COMNAVAIRSYSCOM PATUXENT RIVER MD//4.0P//
TO ALL XXXXXX AIRCRAFT/HELICOPTER ACTIVITIES
INFO COMNAVSAFECEN NORFOLK VA//11//
COMNAVAIRSYSCOM PATUXENT RIVER MD//4.1/5.0F//
ADVISORY GROUP MEMBERS//XX// (As designated in publication)
NAVAIRDEPOT XXXX//XXX// ***(If assigned as cognizant field activity)***
NAVAIRDEPOT JACKSONVILLE FL//3.3.3//
NATOPS MODEL MANAGER UNIT//XX//
PEOTACAIR PATUXENT RIVER MD//PMAXXX// ***(If appropriate)***
DCMC NAME//XX// ***(If in-production aircraft involved)***
HMX ONE QUANTICO VA//C148-11// ***(If H-3, CH-46E, CH-53 or H-60)***
NAVSURVTRAINST PENSACOLA FL//02/025// ***(If aircrew emergency egress/rescue/survival*** equip/procedures involved)
BT
UNCLAS //N03711//
MSGID/GENADMIN/COMNAVAIRSYSCOM/4.0P//
SUBJ/PLATFORM AIRCRAFT NATOPS PUBLICATIONS INTERIM CHANGE -
/SAFETY OF FLIGHT ***(Add when appropriate)*** //
REF/A/XXX/COG COMMAND INFO/DATE//
REF/B/DOC/COMNAVAIRSYSCOM/DATE//
REF/C/DOC/COMNAVAIRSYSCOM/LATEST REVISION DATE// (e.g. NAVAIR 01-T34AAC-1 (T-34C NFM))
NARR/REF A IS PLATFORM COG COMMAND REQUEST FOR RELEASE.
REF B IS AIRS XXXX-XXX.
REF C IS PLATFORM, PUBLICATION, NAVAIR # AND DATES.//
RMKS/1. THIS MESSAGE IS ISSUED IN REPONSE TO REFS A AND B. THIS MESSAGE ISSUES INTERIM CHANGE (IC) NUMBER XX TO REF C.
2. SUMMARY.
A. THESE CHANGES TO REF C (SHORT SUMMARY OF CHANGE)
B. THIS MESSAGE IS FOR NOTIFICATION OF THESE CHANGES ONLY. THE DETAILS OF THE ACTUAL CHANGES ARE FOUND IN REPLACEMENT PAGES. ALL PAGES MUST BE DOWNLOADED, PRINTED AND INSERTED.
C. REPLACEMENT PAGES CONTAINING THESE CHANGES FOR DOWNLOADING AND INSERTION INTO REF C WILL BE ATTACHED TO THIS INTERIM CHANGE MESSAGE WHEN IT IS POSTED ON THE AIRWORTINESS AND NATEC WEBSITES (SEE LAST PARA BELOW).
3. THE REPLACEMENT PAGES IMPACT THE FOLLOWING EXISTING NATOPS FLIGHT MANUAL (AND CHECKLISTS AS APPROPRIATE):
A. REF C (PLATFORM NFM), PAGES XX AND XX
4. POINTS OF CONTACT:
A. PLATFORM NATOPS PROGRAM MANAGER IS NAME,
TEL DSN OR COMM, EMAIL:
B. NAVAIR POCS:
(1) 4.0P IC COORDINATOR0
(2) NAME, PLATFORM CLASS DESK0etc
5. THIS MESSAGE WILL BE POSTED ON THE AIRWORTHINESS WEBSITE, HTTPS:AIRWORTHINESS.NAVAIR.NAVY.MIL WITHIN 48 HOURS OF RELEASE. INTERIM CHANGES MAY BE FOUND IN TWO PLACES ON THE WEBSITE:
A. IN THE NATOPS LIBRARY SORTED BY AIRCRAFT PLATFORM AND T/M/S.
B. IN AIRS SEARCHED BY AIRS NUMBER FOUND IN REF B ABOVE.
THIS MESSAGE WILL ADDITIONALLY BE POSTED ON THE NATEC WEBSITE, WWW.NATEC.NAVY.MIL. IF THE IC MESSAGE INCLUDES REPLACEMENT PAGES, THEY WILL BE PLACED WITHIN THE MANUAL AND REPLACED PAGES DELETED.
IF UNABLE TO VIEW THIS MESSAGE ON EITHER THE AIRWORTHINESS OR NATEC WEBSITES, INFORM THE NATOPS GLOBAL CUSTOMER SUPPORT TEAM AT
(301) 342-3276, DSN 342-3276, OR BY EMAIL AT NATOPS(AT)NAVY.MIL.//
BT
#1234
NNNN

Note

- *** indicates message routing code. (Use "//JJJ//" when code required but not known).
- NATOPS Advisory Group routing codes may be located in the Urgent Change Recommendation section of the NATOPS Status Report; or, determined by contacting the individual NATOPS Program Manager for the subject publication.
- This sample is intended as a content guide. Refer to NTP-3 for detailed GENADMIN MTF formatting instructions.

Figure 2-5. Sample NATOPS Interim Change Message

commands listed, as appropriate for the changed publications. Advisory group members are responsible for re-addressal of interim change messages to their subordinate commands. Use of COMNAVSAFECEN collective address designator message addresses (i.e., ALL SEAKNIGHT HELICOPTER ACTIVITIES) is authorized for the issuance of NATOPS urgent and priority interim changes.

2.6 NATOPS REVIEW CONFERENCE PROCEDURES

2.6.1 General

The effectiveness of the NATOPS program is largely dependent upon frequent review and update of NATOPS manuals to ensure that they reflect current operational procedures and accurate technical information. The formal NATOPS review conference is the primary means of carrying out this phase of the program. Procedures set forth in this chapter are intended to ensure that maximum benefit is realized from these conferences.

Note

Correspondence and virtual reviews of NATOPS publications, in lieu of formal NATOPS review conferences, are not within the intent of this chapter and shall only be authorized by waiver from the NATOPS products administrator.

2.6.2 Responsibility

The responsibility for scheduling, convening, and conducting a NATOPS conference rests with the appropriate MMU. In performing those functions, the MMU shall consult with the COG command and the NATOPS products administrator.

2.6.3 Contractor Support of NATOPS Review Conferences

The NATOPS products administrator may authorize the use of an editorial production contractor to assist the MMU during the conference. Close coordination between the contracting officer, the NATOPS products administrator, and the MMU is required in determining the scope of the support appropriate for a review conference. The NATOPS products administrator shall be contacted to establish editorial requirements and required conference support contract deliverables prior to engaging in contractual discussions for NATOPS services.

2.6.4 Convening Decision

A NATOPS product should be reviewed every 2 years. Under certain circumstances a span of more than 2 years between reviews may be warranted, but in no case shall a publication exceed 5 years between reviews. Should a review determine an update is not required, the MMU shall inform the NATOPS products administrator via e-mail or other written means. The determination as to the need for a conference shall be made by the MMU, based on recommendations from the COG command and the NATOPS products administrator. Consideration should be given to the following in determining when to hold a conference:

a. The number and importance of pending routine change recommendations.

b. The number of interim changes issued since the manual's latest revision or change was issued. A large number of unincorporated interim changes may indicate an overall program review is appropriate.

c. An abnormal increase in the aircraft mishap rate may indicate that training and operating procedures should be updated and further standardized.

d. Major aircraft modifications requiring updated systems descriptions and/or description and the incorporation of new or modified procedures.

e. Assignment of new missions or changes to the basic mission.

2.6.5 Scheduling

The NATOPS products administrator shall maintain a master schedule of all NATOPS review conferences. As soon as possible after the decision to convene a conference has been made, and prior to releasing a conference convening message, the MMU shall contact the NATOPS products administrator to determine a feasible date. The mutually agreed-upon date shall not conflict with any previously scheduled conferences unless waived by the NATOPS products administrator.

2.6.6 Conference Location

The MMU shall determine the location of the review conference. For in-production aircraft, review conferences are often held at the aircraft manufacturer's facility. In the interest of conserving travel funds, conferences for out-of-production aircraft should be scheduled at a DoD facility whenever practicable, preferably at the MMU's home station.

2.6.7 Convening Announcement

a. When the review conference date and location have been confirmed and appropriate funding has been identified, the MMU shall originate the convening announcement (see figure 2-6). The convening announcement shall precede the conference date by at least 60 days.

b. Announcement of the review conference shall be by message to all major aviation commands employing the aircraft, COMNAVAIRFOR, COMNAVAIRSYSCOM, COMNAVSAFECEN, NAVSURVTRAINST, NATEC, and Defense Contract Management Command at the manufacturer's facility. At a minimum, it shall include the dates and location of the conference, billeting availability, request for the names, grades, special billeting requirements, security clearances of the attendees (if required), and a request for agenda items with a deadline for their submission via AIRS.

c. Upon receipt of the convening announcement, NATOPS Advisory Group representatives shall inform units within their commands as appropriate. Review conference announcements and requests for agenda items should receive wide dissemination.

P R *date-time group*
FM *Cognizant Command*//***//
TO *Other Advisory Group members* //***// ***(Include those who operate the subject aircraft/equipment)***
Appropriate user commands
Model Manager unit //***//
Evaluation unit(s) //***// **(If different from the model manager)**
COMNAVAIRFOR SAN DIEGO CA//N455//
COMNAVAIRSYSCOM PATUXENT RIVER MD//4.0P//
INFO NAVSURVTRAINST PENSACOLA FL//02/025//
COMNAVSAFECEN NORFOLK VA//***//
UNCLAS //N03711//
MSGID/GENADMIN/ *Cognizant Command* //
SUBJ/ *Aircraft/title* NATOPS REVIEW CONFERENCE CONVENING ANNOUNCEMENT//
REF/A/DOC/OPNAV/ *revision date* //
AMPN/REF A IS OPNAVINST 3710.7T, CHAP 2//
POC/.....//
RMKS/1. IAW REF A, SUBJ CONFERENCE IS SCHEDULED TO CONVENE *time, date* THROUGH *time, date* AT *installation name, state, building, room #*. THE NATOPS PROGRAM MANAGER, *NATOPS model manager unit*, WILL CHAIR THE CONFERENCE.
2. ATTENDANCE. COMMANDS PROVIDE NAMES AND RANK OF ATTENDEES TO THE NATOPS PROGRAM MANAGER *Code Rank Name*, TEL DSN - COMM - - ,EMAIL @ .
3. CLASSIFICATION. THE MEETING WILL BE unclassified/confidential/secret. ATTENDEES SHALL SEND/FAX SECURITY CLEARANCES TO security manager/address/fax number (UTILIZE OPNAV 5521/27 VISIT REQUEST FORM IF AVAILABLE). VISIT REQUEST SHALL INCLUDE NAME, RANK/RATE, SSN, MAILING ADDRESS, AND PHONE/FAX NUMBERS.
4. BILLETING ARRANGEMENTS ***(Indicate arrangements as follows:)***. A LIMITED NUMBER OF BOQ ROOMS HAVE BEEN RESERVED FOR CONFERENCE ATTENDEES. CALL MCAS OR NAS *name of base* BOQ FOR INDIVIDUAL RESERVATION AT COMM - - /, DSN - /. RENTAL CAR *available/not available* IN LOCAL AREA. UNIFORM IS *uniform*.
5. SCOPE. THE FOLLOWING NATOPS PUBLICATIONS WILL BE REVIEWED:
NAVAIR ### - - type manual **(e.g., NAVAIR 01-T34AAC-1 - - T-34C NATOPS Flight Manual)** NAVAIR ### - - type manual (etc)
6. PREPARATION. SUBMIT CONFERENCE AGENDA ITEMS TO THE MODEL
MANAGER NO LATER THAN *45 days prior to the conference convening date.* USE THE NATOPS CHANGE RECOMMENDATION SYSTEM, AIRS, LOCATED AT THE AIRWORTHINESS WEBSITE, HTTPS:AIRWORTHINESS.NAVAIR.NAVY.MIL TO SUBMIT CHANGE ITEMS. SELECT THE AIRS TAB AND THEN SELECT "NEW NATOPS ENTRY". ITEMS RECEIVED AFTER THIS DEADLINE WILL BE REVIEWED AT THE CONFERENCE ONLY IF TIME PERMITS. ***(or...)*** ITEMS RECEIVED AFTER THIS DEADLINE WILL BE HELD FOR THE NEXT CONFERENCE. NATOPS MANUALS *WILL* ***(or...)*** *WILL NOT* BE AVAILABLE AT THE CONFERENCE. PLEASE BE SURE TO BRING ALL NECESSARY PUBLICATIONS. OTHER CONFERENCE SPECIFICS WILL BE PROVIDED WITH AGENDA PACKAGE TO BE DISTRIBUTED 20 DAYS PRIOR TO THE CONFERENCE CONVENING DATE.//
BT

Figure 2-6. Sample NATOPS Review Conference Convening Message

2.6.8 Conference Agenda

a. Agenda items shall be received by the MMU no later than 30 days prior to the conference convening date. Unless waived by the NATOPS products administrator, AIRS located on the Airworthiness Web site (https://airworthiness.navair.navy.mil) shall be used to compile the conference agenda. The waiver shall be obtained in writing from the NATOPS products administrator.

b. The program manager shall compile and distribute the conference agenda no later than 20 days prior to conference convening date. The conference agenda shall include complete information for each item so that details of each can be researched by the conference attendees prior to the review conference, and not just a short list of the agenda items by subject. NATOPS program managers are encouraged to e-mail copies of the conference change recommendation agenda to attendees and other interested parties. Distribution shall include all addressees on the convening announcement and others as considered appropriate.

c. Agenda items received after the deadline shall be retained by the MMU. Time permitting, late items may be considered by the conference at the discretion of the program manager and the NATOPS products administrator.

2.6.9 Pre-Conferences

MMUs should conduct pre-conference(s) prior to the main review conference whenever appropriate. Pre-conferences may be useful in identifying technical support requirements and vetting policy issues requiring resolution before the change recommendation could be considered at a review conference. Pre-conferences are also very useful in exploring new, controversial, and/or extensive issues, such as how new portions of the publication should be written or rewritten and who will write and chop the draft prior to the main review. Pre-conferences will not only prepare the participants so that they arrive at the main review conference with a more comprehensive understanding of the issues, but will also reduce the amount of time and work required to discuss and resolve the agenda items at the main conference.

2.6.10 Conduct of NATOPS Review Conferences

a. The NATOPS model manager's designated representative (normally the NATOPS program manager) shall act as chairperson. The chairperson shall establish the conference schedule based on the size and complexity of the agenda. Agenda items may be addressed in any logical sequence. The NATOPS products administrator shall make the determination of any voting procedures other than those specified herein.

b. Minimum conference attendance shall include the NATOPS products administrator, the COG command representative, any advisory group member exercising operational control of the subject aircraft, the NAVAIR APMSE representative, COMNAVSAFECEN, and all NATOPS evaluation units for the subject aircraft. Additional attendees shall be invited by the MMU as indicated in the conference convening message.

c. The formal voting membership shall be limited to direct representatives of advisory group members, the APMSE, the MMU, and NATOPS evaluation units. Each voting command represented shall be limited to one

vote and no individual shall have more than one vote. Designation of a representative from another command to vote and act for a voting member who cannot attend the review conference shall be done in writing. Votes may be cast in absentia only if made in writing.

d. Agenda items that involve changes to policy shall not be introduced at the conference if not provided to all voting members in sufficient time for staffing prior to the conference.

e. Discussion should be free and relatively informal. However, the chairperson shall exercise the authority to discontinue discussion when it is no longer profitable. The chairperson may call for an immediate vote on an item, defer voting on the agenda item pending receipt of additional information, or refer it to a committee for further study. It is often advantageous to appoint committees to consider specific agenda items or to review supplementary publications such as classified supplements and checklists.

f. The model manager shall ensure a comprehensive record of the conference agenda and items discussed, their disposition, and the reasons for the decision to approve or disapprove each agenda item is kept.

g. Careful planning by the program manager is the key to a successful and efficiently conducted conference. Physical arrangements must include sufficient space for joint sessions and for committee meetings as required.

h. Appropriate reference material and extra copies of the publication(s) being reviewed should be available. Clerical assistance should be provided by the MMU to maintain a daily record of conference discussion. The editorial production contractor support may assist with these tasks, if available.

i. Approved agenda items that require expeditious incorporation are designated in the review conference report as advance change items, which are then issued as interim changes for incorporation into the NATOPS publications. Advance change items should be agreed upon by the review conference formal voting membership. Liaison between the NATOPS program manager and the NATOPS products administrator prior to the conference report being finalized is strongly recommended, both to ensure that advance change items are recorded optimally, and to enable preparation of the interim change so that it is ready to be issued when the conference report arrives. The NATOPS products administrator will release the interim change following receipt of the NATOPS conference report.

j. Certain agenda items may require additional technical review following the conference. The NATOPS products administrator and the NAVAIR APMSE shall be responsible for ensuring adequate engineering review is completed prior to the conference freeze date for any such items.

2.6.10.1 Program Manager's Handbook

The NATOPS Program Manager's Handbook provides an in-depth discussion of the NATOPS program and shall be thoroughly reviewed by the NATOPS program manager prior to the convening of the conference. The handbook is available on the Airworthiness Web site (https://airworthiness.navair.navy.mil).

2.6.11 Conference Report

The conference report is the official record of the results of the review conference events and includes the disposition of all recommended changes. It is prepared by the model manager and forwarded to review conference attendees and fleet units for information and use as needed, to the COG NATOPS Advisory Group coordinator and the NATOPS products administrator for review, and to the editorial support organization for production of the resulting changes to the reviewed publications. The conference report is prepared for both those who use the publications and those who prepare them. The users need to know the text and context of the changes, while editors need to know what text is to be deleted and/or added. Model managers should keep the different requirements of the users and the editors in mind and attempt to present the information in a manner optimized for both groups. In many cases the editorial contractor may record the conference results; however, the accuracy of the conference report is still the responsibility of the model manager.

Note

Distribution of NATOPS conference report and related products to FMS conference attendees must be cleared through the required releasability authority.

2.6.11.1 Conference Report Contents

The review conference report shall contain the following:

a. A cover letter (figure 2-7) which shall include the following elements:

(1) The date and location of the review conference.

(2) A certification that all items from the review conference have been incorporated into the conference report as approved at the review conference.

(3) Whether there are or are not any advance change items.

(4) Whether there are or are not any outstanding items.

(5) Agenda items approved by the conference with which the NATOPS model manager strongly disagrees, if any.

(6) Other information as necessary to enumerate and explain the enclosures.

b. Enclosures to the review conference report letter shall include:

(1) A list of the review conference attendees. Include each attendee's name, rank, command represented, own command address, both DSN and commercial telephone numbers, and e-mail address.

COMMAND LETTERHEAD

3711
[Code / Ser]
[Date]

From: Commanding Officer, *[NATOPS Model Manager Unit]*

To: Commander, Naval Air Systems Command (AIR-4.0P)

Subj: *[Aircraft or NATOPS manual]* NATOPS Review Conference Report

Ref: (a) OPNAVINST 3710.7U

(b) Review Conference Convening message (DTG)

Encl:

(1) List of Review Conference Attendees
(2) NATOPS Review Conference Agreement
(3) Record of Approved Changes Items
(4) (When applicable) Advance Change Items
(5) (When applicable) Outstanding Items
(6) Disposition of Conference Agenda Items ***...(or)...*** List of Non-Approved Conference Agenda Items
(7) (When applicable) Conference Agenda Items contested by the NATOPS Model Manager

1. The *[Aircraft or NATOPS manual]* NATOPS review conference was held at *[location]* from *[Begin date]* to *[End date]* and conducted in accordance with references (a) and (b). Enclosures (1) through (7) are submitted as specified in reference (a) Chapter 2. The list of the conference attendees is attached as enclosure (1). Enclosure (2) contains the list of reviewed publications and the deadlines agreed upon for submission of the review conference report and the outstanding conference report material.

2. The record of approved change items is attached as enclosure (3). Except for those changes identified in paragraph 5 below which the Model Manager takes exception to, approved changes are available for use immediately at the discretion of each unit's commanding officer. Approved agenda items also listed in enclosure (4) are identified as advance change items and will be mandated shortly by interim change message. The remaining approved agenda items are routine in nature and will not become mandatory until distribution of the printed change*[s]* or revision*[s]*.

3. (As applicable) There are no outstanding items. ***...(or)...*** Enclosure (5) lists outstanding items (conditionally approved items requiring further information or concurrence prior to incorporation into the publication*[s]*) and the commands/agencies tasked with providing the required action. Action agencies should forward outstanding material to Commanding Officer, *[Model Manager Unit]*, as soon as possible. Outstanding action item material not received at *[Model Manager Unit]* by the copy freeze date*[s]* listed in enclosure (2) may not be included in the printed changes that will be produced for the effected publication*[s]*.

4. Enclosure (6) lists the disposition of each *[non-approved]* agenda item.

5. (As applicable) This command takes exception to approved agenda item number*[s] [list]*, and is submitting an urgent change recommendation with alternative wording for *[it/each]*. NATOPS Model Manager concerns with the contested agenda item*[s]* are explained in Enclosure (7). Implementation of the contested item*[s]* shall be held in abeyance pending resolution of these urgent change recommendation*[s]* in accordance with reference (a). Any changes from the approved wording in the conference report will be issued as interim change*[s]* to the effected publication*[s]*.

6. (Other information as deemed necessary).

NATOPS Model Manager's Signature

Copy to: (Including all enclosures)
Cognizant Command
Other Concerned NATOPS Advisory Group Members
User Squadrons/Units

Figure 2-7. Sample NATOPS Review Conference Report Cover Letter

(2) The Review Conference Agreement (figure 2-8) shall include the following:

(a) Review conference location and date.

(b) NAVAIR numbers and short titles of the NATOPS publications reviewed.

(c) The copy freeze date assigned to each reviewed publication.

(d) When requested by the prime contractor, whether each reviewed publication is to be revised or changed.

(e) The signatures of the NATOPS model manager's representative, the COG command representative, the NATOPS products administrator representative, and the editorial organization's representative (if present).

(3) The disposition of all agenda items from the conference including:

(a) A list of the approved conference agenda items, sorted by publication.

(b) A list of advance change items, if any.

(c) A list of outstanding items, if any, including, who is to prepare the information, and to whom and by what date the completed item is to be submitted by the preparer.

(d) A list of the non-approved (rejected and withdrawn) items reviewed by the conference and a brief reason why each was not approved. A summary list showing the conferences disposition of all agenda items may be substituted for this enclosure.

(e) A list of approved agenda items under model manager protest, if any.

2.6.11.2 Conference Report Preparation

The following procedures shall be observed when preparing the review conference report:

a. Item numbers in the conference report shall correspond to those assigned and published in the review conference agenda. Items may be subdivided into more than one item; however, previously issued item numbers shall not be reused.

b. Collect approved items by publication. Approved change items for a publication should be sorted by page, paragraph, and figure order in which the items will appear in the publication.

REVIEW CONFERENCE AGREEMENT

[Aircraft or NATOPS Manual] NATOPS REVIEW CONFERENCE

[Date]

1. The following NAVAIR NATOPS publications were reviewed during the *[Aircraft/NATOPS Manual]* NATOPS review conference held at *[Location]* on *[Inclusive dates]*:

Publication Number	Publication Long Title
[NAVAIR 01-75PAC-1	*Navy Model P-3A/B/C Aircraft NATOPS Flight Manual*
NAVAIR 01-75PAC-1.1	*Navy Model P-3A/B/C NFO/Aircrew NATOPS Flight Manual*
NAVAIR 01-75PAC-1C	*Navy Model P-3A/B/C Normal/Emergency Card Checklist*
NAVAIR 01-75PAC-1E	*Navy Model P-3A/B/C Ditching and Bailout Placards*
NAVAIR 01-75PAC-1F	*Navy Model P-3A/B/C Functional Checkflight Checklist]*

2. All change recommendations received for the above publications were compiled into the conference agenda, were presented and resolved during the review conference in accordance with OPNAVINST 3710.7U, and have been recorded as intended by the review conference for inclusion in the review conference report.

3. Advance change items have been identified for the conference report and are being submitted to the NATOPS Products Administrator (AIR-4.0P NATOPS Office) for issue by interim change message.

4. Outstanding items, along with the action required, the assigned action individual/command, and the response due dates for each, have been identified for inclusion in the conference report.

5. The copy freeze date is (1) the date by which all material/information for outstanding/incomplete agenda items should be received by the NATOPS Model Manager, and (2) the date by which the conference production package should be passed by NATOPS Products Administrator (AIR-4.0P NATOPS Office) to the editorial production organization for preparation of the changed or revised publication*[s]*. With the concurrence of the undersigned, the copy freeze date for *[each of]* the above publication*[s]* is *[Date]*.

Date:_____ Date:_____
[Rank, Name, Service]
[Rank, Name, Service]
[Aircraft / Manual] NATOPS Model Manager's
[COG Command's] Representative
Representative
(Normally the NATOPS Program Manager)

Date:_____ Date:_____
[Rank, Name, Service] *[Name]*
NATOPS Products Administrator (AIR-4.0P NATOPS *[Company]* Representative Office)
Representative (Editorial Production Organization Representative, if at conference)

Figure 2-8. Sample NATOPS Review Conference Agreement

c. The list of approved items should include all items that have been approved, have been approved as modified, and all outstanding-action items. Fields shall include:

(1) Item number.

(2) The chapter and page.

(3) The paragraph or figure number affected in the publication.

(4) The specific change to the publication (in a delete and add format), including instructions for making the change.

(5) Any remarks necessary for use by the editor in understanding how the change is to be made and/or the item number(s) of any related changes to the publications.

(6) The justification for each change.

d. When duplicate or similar items are submitted, the best-worded item should be approved or approved as modified, and all other versions of that recommended change shall be administratively disapproved. A reference to the related approved item number shall appear in the justification field of an administratively disapproved item.

e. The reason for disapproval of an agenda item shall be documented for each disapproved item. Reasons for disapproval should be kept as brief as possible (e.g., duplicate item, rewording not significant, CNATRA objects, etc.), unless an explanation in greater detail is warranted.

f. Reference (e) and other established publishing guidelines governing the content and format of the reviewed publication shall be adhered to unless the NATOPS products administrator waives a requirement. The waiving of reference (e) is best documented as an agenda item in the conference report.

g. During review of a classified publication, each figure, figure title, paragraph, subparagraph, and page shall receive a classification marking in accordance with the reference (f). Appropriate downgrading instructions for each item shall be included in the conference report.

h. Outstanding items are those that are determined by consensus approval of the voting membership to be necessary for incorporation into a NATOPS publication, but for which the required source data is not yet available and/or approved. This is often the case when new equipment is placed in an aircraft, but the necessary accompanying information is not yet in the manual; a situation where a little information is infinitely better than none at all. In this case, the item is approved pending the submission of the source data to be supplied by a responsible designated individual. The NATOPS products administrator and the NAVAIR APMSE shall be responsible for ensuring adequate engineering review is completed for any appropriate outstanding agenda items prior to the conference freeze date. Following receipt and review of the source data, the status of the item will be changed to “approved.”

i. The copy freeze date is the date on which the contents of the manual are frozen and production of the publication may proceed without further delays. If there are no outstanding change items, the copy freeze date shall coincide with the last day of the review conference.

j. No further changes or additions may be submitted after the conclusion of the conference except for the outstanding items. The additional information for outstanding items must be submitted to the NATOPS program manager and the NATOPS products administrator prior to the copy freeze date. When the necessary information and approval or disapproval of the recommendation is received for an outstanding item by the program manager before the conference report has been forwarded, the material should be incorporated into the conference report, and the item status should be restated as approved, modified or rejected, as appropriate. Outstanding items resolved after the conference report has been released should be forwarded to the NATOPS products administrator prior to the copy freeze date to ensure inclusion in the change/revision. Copies of the resolved items should also be disseminated to conference attendees and fleet users.

k. If circumstances warrant the incorporation of additional technical content during the post-conference NATOPS revision period (e.g., new equipment is approved for installation/use in the aircraft), the NATOPS products administrator reserves the right to develop a conference addendum incorporating the information into the ongoing revision. The conference addendum shall be approved by the necessary advisory group members (similar to an interim change) prior to inclusion into the NATOPS revision. The MMU and the NATOPS products administrator shall maintain record of the addendum with the approved conference report.

l. When a model manager strongly disagrees with the conference-approved disposition of an agenda item, that item shall remain in the record as an approved change; however, the NATOPS model manager shall identify the agenda item in the conference report letter and indicate the reason for objection. Within 30 days following the conclusion of the review conference, the model manager shall submit a change recommendation via AIRS to resolve the item in question. Failure to submit an AIRS recommendation constitutes a withdrawal of the objection. The change item in question shall not be incorporated into the publication until the AIRS recommendation is resolved.

m. List of non-approved (rejected and withdrawn) items. The purpose of this list is to account for all of the conference agenda items. Since the approved, modified, and outstanding action items are already accounted for in other enclosures, this list may either include only those items that have been disapproved or may be expanded to provide a summary of the disposition of all agenda items, in which case the title of the enclosure should be changed to "Disposition of All Agenda Items." Although the information provided for each item in this enclosure may be as complete as in the list of approved items, the data fields provided may be reduced to include only the item number, publication and location (page/paragraph/figure), a brief subject, disposition and a brief reason for disapproval (when applicable).

2.6.11.3 Conference Report Disposition

As soon as possible, but no later than 60 days after the review conference, the NATOPS model manager shall forward copies of the review conference report to those listed below. The distribution of the review conference report

shall not be delayed because of outstanding items. Distribution, unless specified otherwise below, may be by paper, CD-ROM, e-mail, or via AIRS.

a. NATOPS products administrator — Forward the original conference report in both paper and digital media. Best copies of source data, illustrations, and photos should not be included in the original copy of the conference report, but should be included in the publication production package.

b. COG advisory group member.

c. NATOPS Advisory Group members and fleet user units for information and use.

d. Editorial production organization as part of the publication production package.

e. Conference attendees.

Note

Distribution of NATOPS conference report and related products to FMS conference attendees must be cleared through the required releasability authority.

2.6.12 Publication Production Package

In addition to the above distribution of the conference report, the following items shall be assembled by the model manager and forwarded by traceable means to the editorial production contractor by the copy freeze date, or to the NATOPS products administrator if no production organization is assigned.

a. A copy of the review conference report.

b. A marked-up copy of each reviewed publication. These copies should be prepared for the editorial support contractor and annotated with the location and agenda item number of each approved change. Deleted text/illustrations and the location of added text/illustrations should be simply marked to assist the editor in locating the changes contained in the approved agenda items.

c. Best copies of photographs, artwork, and other source data and media submitted for editorial production contractor.

Note

In the event a contracted editor is present at the review conference, artwork and best copies of any figures may be provided directly to the editorial support contractor in order to reduce the probability of those documents being lost or damaged during separate shipment.

2.6.13 Implementation of Approved Agenda Items

The agenda items approved at the review conference are approved for fleet-wide use but are not mandatory upon receipt of the conference record. Advance change items become mandatory once issued by interim change message. Use of approved agenda items prior to receipt of an interim change or the printed change or revision is at the discretion of the commanding officer.

2.6.14 Prepublication Reviews

a. The editorial production contractor will incorporate the conference-approved changes into the master copy of the publication(s). Production of NATOPS publications requires close coordination between the NATOPS program manager, the NATOPS model manager, the NATOPS products administrator, NATEC, and the editorial production organization. Information in the conference report may be incomplete or difficult for the editor to interpret. If questions arise, delays will occur until the editor receives the information necessary to proceed. When questions do arise, every effort should be made to forward the necessary information to the editors as expeditiously as possible to avoid further delays.

b. During incorporation of the approved items into the manual, there should be at least one in-process review scheduled for the NATOPS model manager or his designated representative(s) to ensure that the technical information is being incorporated into the publication(s) as intended by the review conference. The new table of contents and index, which are not generated until after the contents of the chapter pages are fixed, will not be available during the in-process reviews. In-process reviews are normally done via e-mail or at the editor's production site. All discrepancies requiring correction should be listed and passed to the contractor. Unrecorded discrepancies are often overlooked and may not be corrected.

c. After the chapters have been reviewed and the complete publication has been assembled, including table of contents and index, the NATOPS model manager shall perform a final review of the completed publication(s) prior to printing and distribution. The final review of the assembled publication(s) is normally done at the editor's production site. Listed discrepancies should have been corrected. Travel and funding for the NATOPS model manager or his representatives to attend the final review is the responsibility of the MMU.

d. In-process and final reviews shall be completed in an expeditious manner. Delays in production initiated by the NATOPS model manager to resolve unexpected problems discovered with the approved items are unacceptable. Model managers shall recommend modifications to the approved text via the interim change process rather than interrupting editorial production of the publication(s), unless waived by the NATOPS products administrator.

2.7 NATOPS EVALUATION PROCEDURES

2.7.1 General

The technical data and standard operating procedures prescribed in the NFMs represent the optimum manner of operating various aircraft and related equipment. By grading adherence to NATOPS procedures, NATOPS evaluations are

intended to measure how closely those procedures are being followed. There are two types of NATOPS evaluations — individual NATOPS evaluations and unit NATOPS evaluations. Each air crewmember is evaluated annually, normally by own unit NATOPS instructors, for compliance with NATOPS procedures. Unit evaluations are normally conducted on an 18-month cycle by an evaluator from the NATOPS MMU or assigned NATOPS evaluation unit and include conducting individual NATOPS evaluations of selected individuals. Both evaluations measure degree of compliance, the health of the NATOPS program, and the level of individual proficiency within that unit. NATIP data is testable during NATOPS evaluations at the MMU's discretion.

2.7.2 Individual NATOPS Evaluations

The individual NATOPS evaluation allows a close assessment of the pilot or aircrewman and is the basic building block of the unit NATOPS evaluation.

2.7.2.1 Definitions

The following definitions shall apply to the NATOPS evaluation program:

a. NATOPS Evaluation — An evaluation of individual pilot or crewmember, consisting of an open book examination, a closed book examination, oral examination, and an evaluation flight (aircraft or simulator).

b. Standardization Evaluation — An evaluation conducted by the NATOPS evaluator for the purpose of measuring the knowledge and instructing capabilities of a NATOPS instructor or evaluator. This evaluation may be performed coincident with any annual NATOPS evaluation.

c. Qualified — That degree of standardization demonstrated by a very reliable flight crewmember who has a good knowledge of standard operating procedures and thorough understanding of aircraft capabilities and limitations.

d. Conditionally Qualified — That degree of standardization demonstrated by a flight crewmember who meets the minimum acceptable standards. The individual is considered safe enough to fly as PIC or to perform normal duties without supervision, but more practice is needed to become qualified.

e. Unqualified — That degree of standardization demonstrated by a flight crewmember who fails to meet minimum acceptable criteria. The individual should receive supervised instruction until the individual has achieved a grade of qualified or conditionally qualified.

f. Area — A routine of preflight, flight, or post-flight.

g. Subarea — A performance subdivision within an area that is observed and evaluated during an evaluation flight.

h. Critical Area/Critical Subarea — Any area or subarea that covers items of significant importance to the overall mission requirements or the marginal performance that would jeopardize safe conduct of the flight.

2.7.2.2 Implementation

The NATOPS evaluation program shall be carried out in every unit operating naval aircraft. FRS shall ensure those pilots, NFOs, and aircrew members have successfully completed a NATOPS evaluation prior to their completion of the course of instruction. In instances where it is impractical to NATOPS qualify such individuals, the formal course of replacement training shall be considered as having conditionally satisfied NATOPS requirements for a period of 1 year from the individual's completion date, provided that all required phases of instruction are completed. An entry shall be made in the individual's training jacket and log book stating that the individual is NATOPS conditionally qualified, utilizing a format similar to that shown in figure 2-9 of this chapter. Evaluations shall be administered to flight crew personnel as follows:

a. Pilots (other than Patrol (VP), Fleet Logistic Support Reserve (VR), Fleet Air Reconnaissance (VQ), Carrier Airborne Early Warning (VAW), and Helicopter (HM/HS/HSC/HSL/HSM)), NFOs, and naval air crewman — Within 6 months after reporting to a unit if not currently qualified in model.

b. Pilot (VP, VR, VQ, VAW, and Helicopter) — Prior to advancing beyond third pilot or equivalent.

c. Aircrew candidates — Prior to designation as air crewmember.

d. All pilots, NFOs, and naval air crewmen holding current evaluation in model aircraft — Renewal evaluation may be accomplished within 60 days preceding expiration of a current evaluation and is valid for 12 months from the last day of the month in which the current evaluation expires. Otherwise, NATOPS qualifications shall be valid for 12 months from the last day of the month in which the evaluation is flown.

2.7.2.3 Procedures

The following procedures shall be followed in implementing the NATOPS evaluation program:

a. The evaluation shall consist of a ground evaluation and an evaluation flight. A maximum of 60 days may elapse between the commencement of the initial ground evaluation and the date the evaluation flight is satisfactorily completed. At the discretion of the squadron or unit commanding officer, all or part of the flight should be simulated in a weapons system trainer (WST), operational flight trainer (OFT), or other suitable training device. Use of trainers is particularly encouraged for those simulated emergencies and/or scenarios that present significantly increased risk when performed in an aircraft. If no such device is available, the aircraft cockpit, flight deck, or communications suite may be used. Evaluation flights in aircraft that require simulated emergencies should be avoided while deployed at sea.

Note

- Commanding officers may extend the expiration date of all NATOPS qualifications that would otherwise expire during the last 90 days of a long deployment. NATOPS qualifications that are due to expire prior to the last 90 days of a long deployment should be renewed prior to deployment. The expiration date for the extension shall not be later than 90 days after return from deployment.

- Extension letters shall be filed permanently with the OPNAV 3710/7 NATOPS Evaluation Report for which the extension is granted in section III, part D (NATOPS Evaluation Report) of the OPNAV 3760/32 NATOPS Flight Personnel Training Qualification Jacket. See paragraph A.2.3). An appropriate flight log book entry should also be made.

b. Evaluees who receive a grade of unqualified on a ground or flight evaluation shall be allowed 30 days in which to complete a reevaluation. At the discretion of the commanding officer, the reevaluation need only consist of those areas/subareas in which a grade of unqualified was assigned. A maximum of 60 days may elapse between commencement of the initial ground evaluation and the date the evaluation flight is satisfactorily completed. Aviation TYCOMs may waive the time limitations under circumstances making compliance impracticable.

c. Disposition of evaluees who fail the reevaluation shall be in accordance with directives by the COG advisory group member.

d. While this instruction and the individual NATOPS publications establish standards for grading individual performance, they do not relieve the NATOPS evaluator or instructor from using sound judgment based upon knowledge and experience. The NATOPS evaluation flight is intended to measure performance with regard to knowledge of and adherence to prescribed procedures. Any tendency to extend the evaluation into the areas of pilot proficiency or weapons readiness must be avoided.

2.7.2.4 Ground Evaluation

Prior to commencing the evaluation flight, an evaluee must achieve a minimum grade of qualified on the open book and closed book examinations. The oral examination is also part of the ground evaluation, but may be conducted as part of the flight evaluation. To assure a degree of standardization between units, the model manager shall prepare and maintain a bank of questions and answers for use by unit NATOPS instructors in preparing the written examinations. The areas to be evaluated in the ground phase shall be delineated in the individual aircraft model NATOPS manual. When appropriate, NATIP material may be included in the ground evaluation at the discretion of the MMU.

a. Examinations — The maximum and minimum number of questions and the time limits for the written examinations shall be specified in the manual. The oral examinations may be conducted prior to or as part of the flight evaluation and should be based on selected general areas outlined in the NATOPS manual.

b. Grading Instructions — Examination grades shall be computed on a 4.00 scale and recorded in the appropriate column of the OPNAV 3710/7 NATOPS Evaluation Report.

(1) Open Book Examination — To obtain a grade of qualified, an evaluee must obtain a minimum score of 3.5.

(2) Closed Book Examination — To obtain a grade of qualified, an evaluee must obtain a minimum score of 3.3.

(3) Oral Examination — Questions may be taken from the NATOPS manual, question banks, or drawn from the experience of the instructor/evaluator. Such questions should be direct and positive and should in no way be opinionated. A grade of qualified or unqualified shall be assigned.

2.7.2.5 Evaluation Flight

The areas, subareas, critical areas, and critical subareas of an evaluation flight shall be specified in the NATOPS manual. When appropriate, NATIP material may be included in the evaluation flight at the discretion of the MMU. It may be conducted on any operational or training flight or in an OFT. The following procedures shall be used in determining the final grade.

a. A grade of unqualified in any critical area or critical subarea will result in an overall grade of unqualified for the flight.

b. Evaluation flight (or area) grades shall be determined by assigning the following for each subarea: UQ (unqualified), CQ (conditionally qualified), or Q (qualified). All areas graded less than Q shall be justified in the evaluator's remarks. An overall grade of less than Q for the flight shall be justified in the evaluator's remarks.

c. Evaluation flights resulting in an overall grade of less than Q shall contain the unit commander's remarks concerning the qualifications of the naval aviator/NFO evaluated.

d. Evaluation worksheets and kneepad worksheets contained in the applicable NATOPS manual shall be used during the evaluation flight.

2.7.2.6 Documentation/Record

a. A NATOPS evaluation report, OPNAV 3710/7 (3-95) (Report Symbol OPNAV 3710-21), shall be completed and signed by the NATOPS evaluator/instructor for each evaluation conducted, and forwarded directly to the evaluee's commanding officer.

b. For each evaluee, the evaluee's commanding officer may make remarks on the evaluation report regarding the aviation skills and future potential of the evaluee. The evaluee's commanding officer, who need not be aviation-qualified, shall then sign the NATOPS evaluation report as the unit commander. Neither of these responsibilities shall be delegated. The report shall then be filed in the individual's flight training jacket.

c. An entry shall be made in the pilot/NFO/enlisted air crewmen flight logbook under "Qualifications and Achievements" as shown in figure 2-9.

QUALIFICATION	
"NATOPS EVAL."	(AIRCRAFT MODEL)
"DATE"	
(CREW POSIT.)	(DATE)
"SIGNATURE"	
(Authenticating signature)	(Unit that administered evaluation)

Figure 2-9. Sample Pilot/NFO/Enlisted Aircrew Flight Logbook Entry

2.7.3 Unit NATOPS Evaluation

Unit NATOPS evaluations shall be conducted by the appropriate NATOPS evaluator for the T/M/S aircraft assigned. NATOPS evaluators shall be designated by the model manager and maintain annual NATOPS currency. The unit NATOPS evaluation shall follow the same procedures delineated in paragraphs 2.7.2 through 2.7.2.6. Additionally, the unit NATOPS evaluation shall be administered as follows:

a. It shall include one or more individual NATOPS evaluations for each crew position (ground evaluation and an evaluation flight) and be administered to flight crewmembers selected at random by the evaluator to measure overall adherence to NATOPS procedures.

b. The evaluation may be conducted as a part of command inspections.

c. The unit commander shall be informed in writing of the results of the evaluations and the effectiveness of the NATOPS program within the command. These results may be forwarded and briefed to the immediate superior in command of the unit commander upon request.

d. In instances where an unsatisfactory level of unit adherence to NATOPS is uncovered, the NATOPS evaluator shall forward an appropriate description of the discrepancies to the applicable aviation TYCOM via the model manager, unit commander and normal chain of command along with a copy to COMNAVAIRFOR (N455).

e. NATOPS unit evaluations are valid for a period not to exceed 18 months. The 18-month evaluation cycle may be extended to a maximum of 24 months by the NATOPS model manager for circumstances such as extended deployments, but only for units whose previous evaluations indicated a high degree of NATOPS program effectiveness.

CHAPTER 3

Policy Guidance

3.1 POLICY CONCERNING USE OF AIRCRAFT

3.1.1 Special Policies

3.1.1.1 Emergency and Humanitarian Operations

Naval aircraft operations are authorized in emergencies such as forest fire, search, rescue, major calamities, and for humanitarian reasons involving life-threatening circumstances. Notification of the operation shall be made to CNO or CMC, as appropriate, and the responsible local commander, but without delaying action when time is an essential factor. Squadron commanders and officers in charge will operate under the direction of assigned Joint Task Force (JTF) commanders per Combatant Commander policy/guidance.

3.1.1.2 Theater Indoctrination Training

Prior to operating at other than U.S. airports, commands/detachments shall receive specific training for the theater(s) in which the unit will operate. As a minimum, this training shall include a thorough review of theater-unique instrument requirements and procedures, the use of non-DoD instrument approach procedures, required instrumentation for specific approaches, theater weather, and local area procedures.

3.1.1.3 Special Airlift Requirements

Special airlifts shall meet the following requirements:

a. The sole purpose of the flight must be to provide air transportation for the accomplishment of urgent business in the national interest that would suffer if other forms of transportation were relied upon.

b. The flight must be in the national interest or result in cost savings to the Department of the Navy.

3.1.1.4 Assignment of Aircraft to Specific Individuals

Unless otherwise authorized by the Secretary of the Navy, no naval aircraft will be assigned to a specific individual nor shall any individual require a specific aircraft or aircraft crew be made available for exclusive use. This does not preclude the display of pilot, crew and support personnel names on aircraft.

3.1.1.5 Flights Requested by Civilian Contractors

A civilian contractor request to use naval aircraft for flight(s) not directly associated with the terms of their contract shall be referred to OPNAV (N88) for authorization.

3.1.1.6 Aircraft Performance Record Attempts

a. Proposed aircraft performance record attempts shall be submitted to OPNAV (N88) for consideration. Appropriate details, including predicted performance and estimate of results, shall be submitted.

b. OPNAV (N88) will take appropriate action to obtain the approval of the Assistant Secretary of Defense through the Office of Information and will obtain National Aeronautics Association sanction for the proposed record attempt(s).

3.1.1.7 Celebrations

Rules for participation of naval aircraft in celebrations are currently contained in reference (g).

3.1.1.8 Shipment Orders

Shipment orders specifying transfer by air or aircraft do not imply orders or authority for the indicated flight.

3.1.1.9 Travel Orders

This instruction does not grant authority to issue orders to personnel for travel where expenses for the personnel are involved. Such authority originates from instructions issued by the Chief of Naval Personnel (CHNAVPERS) or U.S. Marine Corps, as applicable.

3.1.1.10 Flight Training

Flight training in Navy or Marine aircraft shall not be given to any individual without specific CNO or CMC authorization, or designation as a student in a prescribed course of aviation instruction.

3.1.1.11 Aircraft of Other Services

Naval aviators may fly aircraft of another service, provided the other service has no objection.

3.1.1.12 Civilian Law Enforcement Officials (LEO)

Embarkation of civilian LEOs is authorized for helicopters and non-ejection seat aircraft. Reference (h) provides specific guidance for authorized missions. Authority to approve flights for LEO personnel and responsibility for establishing operational procedures is delegated to CMC, COMNAVAIRFOR, COMNAVEDTRACOM, COMNAVAIRSYSCOM, and Commander, Naval Reserve Forces (COMNAVRESFOR) for aircraft under their respective control. Authority to approve flights may be delegated to numbered fleet commanders and TYCOMs. Flight requests for high-performance, ejection seat aircraft shall be forwarded to COMNAVAIRFOR or CMC for approval.

Note

LEO personnel authorized in accordance with this paragraph should comply with the aeromedical and survival training requirements set forth in paragraph 8.4 of this instruction when time and facilities permit. The flight approval authority is authorized to waive chapter 8 Naval Aviation Survival Training Program (NASTP) requirements. COMNAVAIRFOR (N455) shall be an information addressee on all such waiver requests and approvals.

3.1.2 Nonessential Flights

The use of aircraft for nonessential flights shall not be authorized. Any flight open to misinterpretation by the public shall be avoided. Examples of flights that are considered nonessential are as follows:

a. Flights of a routine business nature for which commercial or other military transportation could be more economically substituted.

b. Flights for any officer or group of officers, the sole purpose of which is the convenience and/or prestige of the officers concerned and not the performance of official duties or accomplishment of bona fide training.

c. Repeated flights to the hometown area of flight personnel concerned.

d. Flights coinciding with major sports events or civic celebrations.

3.1.3 Personnel Authorized To Pilot Naval Aircraft

When qualified in accordance with current directives, the following personnel may pilot Navy and Marine Corps aircraft.

Note

Requests for authorization required by the following subparagraphs shall be forwarded sufficiently in advance to allow for staffing through the chain of command prior to the proposed flight.

3.1.3.1 Regular and Reserve Personnel

Regular and Reserve personnel on active duty under appropriate orders to duty in a flying status including:

a. Naval aviators of the Navy and Marine Corps.

b. Coast Guard aviators and aviation pilots.

c. Students undergoing authorized courses of instruction in flight training.

d. Rated pilots of the Air Force and Air Force Reserve.

e. Army and Army Reserve aviators.

f. Rated pilots of the Air National Guard and National Guard.

g. Aeromedical dual designators who are pilots and serving as such under the provisions of reference (i).

3.1.3.2 Other Military Personnel

a. Naval aviators under the cognizance of COMNAVAIRFORES or CG FOURTH MAW whose status as naval aviators has been confirmed by Bureau of Naval Personnel (BUPERS) or Headquarters, U.S. Marine Corps.

b. Coast Guard aviators and aviation pilots of the Coast Guard Reserve whose status has been confirmed by the Commandant, U.S. Coast Guard.

c. Navy, Marine Corps, and Coast Guard Reserve students undergoing authorized courses of instruction in flight training.

d. Officers of the Naval and Marine Corps Reserve not designated as naval aviators, but specifically authorized to pilot aircraft by CHNAVPERS or the CMC.

3.1.3.3 Civilian Aircraft Pilots

Civilian aircraft pilots are those employed in a flight status by agencies or departments of or contractors to the U.S. Government (USG) when such flights are in the interest of the USG and the pilots have been cleared by COMNAVAIRFOR. Authority is delegated to COMNAVAIRSYSCOM, to approve flights in COMNAVAIRSYSCOM aircraft or those in contractor custody. Contractor pilots are not permitted to fly aircraft aboard U.S. naval vessels or to perform public demonstrations in Navy aircraft without specific COMNAVAIRFOR approval. Contractor flight operations and pilot qualifications are governed by reference (j). Flights in naval aircraft other than those in the custody of COMNAVAIRSYSCOM shall be approved by COMNAVAIRFOR.

3.1.3.4 Foreign Military Personnel

Subject to security provisions in existing directives, physically and professionally qualified personnel of foreign nations may be authorized to pilot naval aircraft as follows:

a. The reporting custodian may authorize exchange personnel or personnel attending naval aviation training programs to pilot naval aircraft. Pilot time is not to exceed 110 hours per year except when attached to an operating squadron or as necessary in connection with a course of instruction. Personnel in this category can be designated as PIC.

b. Except as indicated in the preceding paragraph, foreign pilots must be accompanied by a U.S. PIC. The latter shall exercise all responsibility of command set forth in this instruction. Requests for such operations shall be submitted to COMNAVAIRFOR (N455) for approval.

c. All personnel shall meet the minimum NATOPS qualification for the model aircraft involved.

d. Authority is delegated to COMNAVAIRSYSCOM, to approve flights in COMNAVAIRSYSCOM aircraft or in contractor custody.

3.1.4 Personnel Authorized To Taxi Naval Aircraft

3.1.4.1 Fixed Wing

No one shall be permitted to taxi an aircraft except persons authorized to fly the aircraft or those specifically designated by their commanding officer as taxi pilots after appropriate training or checkout.

3.1.4.2 Helicopter

No one shall be permitted to taxi a helicopter except those persons who are authorized to fly helicopters.

3.1.4.3 Tiltrotor

No one shall be permitted to taxi a tiltrotor except those persons who are authorized to fly tiltrotors.

3.1.5 Personnel Authorized To Perform Crew Duties in Naval Aircraft

Note

Requests for authorization required by the following subparagraphs shall be forwarded sufficiently in advance to allow for staffing through the chain of command prior to the proposed flight.

3.1.5.1 Military Personnel

Regular and Reserve military personnel under orders by competent authority to active duty or active duty for training who are qualified in accordance with current directives are authorized as flightcrew or flightcrew under training.

3.1.5.2 Civilian Personnel

a. DoD civilian employees, and contractors to DoD are authorized as flightcrew when required in conjunction with assigned duties or contractual responsibilities. Point-to-point transportation is not authorized under this paragraph.

b. Authority to approve flights for civilian personnel is delegated to the CMC, COMNAVAIRFOR, Commander, U.S. Pacific Fleet (COMPACFLT), Commander, Fleet Forces Command (COMUSFLTFORCOM), COMUSNAVEUR, COMUSNAVCENT, COMUSNAVSO, COMNAVAIRSYSCOM, and COMNAVRESFOR for aircraft under their respective control. This authority may be delegated to numbered fleet commanders and TYCOMs with operational/administrative control.

Note

Civilian personnel authorized in accordance with this paragraph shall comply with the aeromedical and survival training requirements set forth in paragraph 8.4 of this instruction. Contractor flightcrews governed by reference (j) shall meet the requirements of that instruction.

3.1.5.3 Foreign Military Personnel

Subject to security provisions in existing directives, physically and professionally qualified personnel of foreign nations may be authorized to perform crew duties in naval aircraft that is in the best interest of official DoD business. Embarkation may be authorized for the purpose of performing a crew duty such as operating installed equipment or observing aircraft or crew performance. Foreign military personnel must possess proper base or installation visitation authorization.

3.1.6 Personnel Authorized as Project Specialists

a. CMC, COMNAVAIRFOR, COMPACFLT, COMUSFLTFORCOM, COMUSNAVEUR, COMUSNAVCENT, COMUSNAVSO, COMNAVAIRSYSCOM, and COMNAVRESFOR may authorize military personnel, DoD civilian employees, and contractors to DoD embarkation as project specialists when required in conjunction with assigned duties or contractual responsibilities. Point-to-point transportation is not authorized under this paragraph. Project specialists are not responsible for normal aircrew duties.

b. Authority to waive NASTP requirements for project specialists is delegated to COMNAVAIRSYSCOM for aircraft under its control. Decisions to waive shall be based on the risks identified through a thorough ORM analysis. Under no circumstances shall NASTP ejection seat training requirements be waived.

3.2 POLICY CONCERNING USE OF SIMULATORS

a. Naval aviation simulators, simulation systems, and networks augment the Training and Readiness (T&R) Program. These training devices and networks shall provide the level of fidelity and capability required to execute T&R events designated to be flown in such devices.

b. These simulation systems and the network on which they operate will be certified T&R Program Manual capable for each aviation community by the appropriate certification body as designated in Navy and Marine Corps directives and orders.

3.3 ORIENTATION FLIGHTS

This section establishes policy, procedures, and approval authority for orientation flights and implements DoD guidance set forth in reference (k).

3.3.1 Purpose

a. Orientation flights are typically one-time events for selected participants in a particular model aircraft. Orientation flight status shall not be used to circumvent normal training requirements for individuals required to fly multiple flights in naval aircraft. Orientation flights for midshipmen participating in official training programs are an exception and may involve multiple flights. Additionally, orientation flights are stand-alone events, specifically authorized, sanctioned and planned to accomplish the purposes listed in paragraph 3.3.1.b. Sanctioned air transport flights — those authorized expressly for the purposes of providing point-to-point transportation and lift for personnel — are different events per reference (k), and are not typically scheduled in conjunction with orientation flights.

b. Individuals are selected to participate in orientation flights for one of the following purposes:

(1) To familiarize them with an aircraft, its operation, capabilities, requirements, concept of employment, or limitations.

(2) To familiarize them with a base complex from the air for official purposes other than merely sightseeing or goodwill.

(3) To allow FAA personnel to perform official functions that require their infrequent embarkation on naval aircraft.

3.3.2 Approval Authority

a. Flight approval authorities for orientation flights are listed below, and includes waiver authority for NASTP training and specific elements therein. Waiver authority shall be applicable only for orientation flights. Letters or messages authorizing orientation flights and/or training waivers shall contain specific verbiage on what is being approved and waived (e.g., NASTP aviation water survival elements). For all other NASTP waivers, chapter 8 applies.

Note

Requests shall be forwarded sufficiently in advance to allow for staffing through the chain of command prior to the proposed flight.

b. Subject to the limitations in subparagraphs (1) through (4) below for approval of certain types of orientation flights, the CMC, COMNAVAIRFOR, COMNAVAIRSYSCOM, COMNAVAIRFORES and CNATRA are authorized to approve orientation flights in aircraft under their respective operational control (OPCON). Requests for flights involving shipboard catapult launches and/or arrested landings, and requests for exceptions to the basic guidelines as set forth in the foregoing subparagraphs of this section shall be approved by CMC or COMNAVAIRFOR.

(1) Orientation flights for members of Congress or their staffs require prior concurrence from the Chief of Legislative Affairs. Orientation flights for White House staff members require prior concurrence from the White House Military Office.

(2) Retiring members of Congress and retiring congressional staff members may be flown on orientation flights aboard military aircraft only upon the written endorsement of the Assistant Secretary of Defense for Legislative Affairs.

(3) Public affairs orientation flights or orientation flights for public figures where the resulting presentation or publicity will receive national or international distribution or interest require prior concurrence from the Chief of Information.

(4) Orientation flights for U.S. Ambassadors or their senior deputies within overseas theaters must be endorsed by the theater unified or component commander.

(5) Authority is delineated in reference (k) concerning specific procedures for approval of flights requested for diverse groups such as Reserve Officer Training Corps/Naval Reserve Junior Officer Training Corps (ROTC/NJROTC) students, Explorer Scouting Program Senior Explorers and leaders, and the Civil Air Patrol. Any flights so approved shall be subject to the provisions of paragraphs 3.3.4 and 3.3.5.

3.3.3 Categories of Eligible Participants for Orientation Flight

For the purposes of clarification, personnel selected for orientation flights are to be considered "orientees," defined differently than "passengers" per reference (k). Orientation flights require extensive coordination to ensure compliance with NASTP requirements. Additionally, approval authorities shall make maximum use of risk management procedures prior to the flight evolution. Persons who may be authorized orientation flights include:

a. Active duty and Reserve personnel, Federal and local government officials, foreign officials, members of Congress and their staff, and civilian contractors when flights would materially improve job performance and are in the best interest of the Navy and/or Marine Corps. Aeronautically designated personnel may be allowed to participate in orientation flights in aircraft other than their assigned category (appendix E, figure E-3) with proper flight approval (paragraph 3.3.2) and appropriate NASTP training.

b. U.S. legislators, senior government executives, White House staff personnel, and legislative staff personnel when flights are coordinated through the White House Military Office, the Office of Legislative Affairs, the Department of Defense, or host service component.

c. U.S. citizens who, because of position and contacts with various public organizations, can make positive contributions to public understanding of the roles and missions of the Navy and/or Marine Corps (e.g., persons affiliated with the news media, entertainment personalities, etc.). Flights of this nature are designated public affairs orientation flights. Participants must be carefully selected to ensure that the greatest benefit to understanding Navy and/or Marine Corps missions can result from such flights. Individuals shall not be selected for public affairs orientation flights solely in an effort to engender good will or as a reward for unusual service to the Navy and/or Marine Corps.

d. Personnel who, because of their group affiliation, are authorized orientation flights by separate directives (e.g., Explorer Scouting Program

Senior Explorers/leaders, Navy League Sea Cadets, Civil Air Patrol, Naval Academy midshipmen, ROTC/NJROTC students, officer students enrolled at the Uniform Services University of Health Sciences or in the Health Professions Scholarship Program and other such groups as may be designated by CNO.

e. FAA employees under the following conditions:

(1) FAA employees engaged in flight-checking local military air traffic control procedures and facilities, navigational aids, communications and approach and departure procedures only when such flights are coordinated by the appropriate regional Navy representative (NAVREP), FAA.

(2) FAA flight examiners engaged in the evaluation or examination of rated aircrew personnel of the Military Department for civil pilot, navigator, or engineer certificates or ratings.

(3) FAA employees participating in approved military familiarization flights under existing arrangements between the Navy and the FAA, if seating position permits direct monitoring of aircrew duties.

f. U.S. Ambassadors or their senior deputies, within overseas theaters, when invited by the overseas unified or component commander, when the commander determines that the orientation flight is primarily in support of the DoD mission.

g. Foreign personnel, either military or civilian, who require orientation flights in military aircraft for scientific research, development, test and evaluation (RDT&E) or training evaluation; and, to support the Military Assistance Program (MAP)/FMS.

h. Foreign military personnel of nations participating in and during the course of bilateral or multinational operations or exercises. Flights may be by shore-based aircraft or may originate and/or terminate on board ship.

3.3.4 Orientation Flight Prerequisites

a. All personnel participating in orientation flights shall receive an appropriate physical screening or examination. The scope of this screening or examination shall be determined by the reporting custodian flight surgeon but shall also include clearance for participation in high-risk NASTP training.

b. Completion of NASTP is mandatory for all orientees unless waived in rare cases by designated approving authority. In those instances, orientees shall agree in writing to participate in the flight and assume the associated risks themselves. Waivers, in general, should not be granted. COMNAVAIRFOR (N455) will be an information addressee on all waiver requests and approvals except those vetted through CMC.

c. For aeronautically designated personnel participating in orientation flights, the appropriate non-aircrew NASTP training for that class of aircraft shall be required.

d. Civilian personnel and military non-aviators selected for orientation flights shall complete appropriate non-aircrew NASTP training, which is valid for a period of 90 days.

e. All midshipmen participating in orientation flights or on a summer cruise with possibility of flying shall complete appropriate midshipmen non-aircrew NASTP training.

f. Non-DoD personnel are required to sign a DD Form 1381 Air Transportation Agreement as set forth in chapter 1 of enclosure (1) to reference (k) when the orientation flight originates in a foreign country. NATO member nation personnel are exempt from this requirement.

g. Prior to approval of flights by foreign nationals involving access to classified or controlled unclassified information, permission for the disclosure of such information shall be obtained from the Director of Naval Intelligence in accordance with reference (l).

h. Parental/legal guardian approval in writing is required prior to participation in orientation flights for anyone under 18 years of age.

i. Orientation flight briefing:

(1) Orientees shall be briefed on any information that may be pertinent for their safety and comfort. Each item should be fully explained to avoid apprehension or confusion.

(2) Orientees occupying flight personnel positions shall be briefed on procedures, controls, and instrumentation.

3.3.5 Flight Limitations

a. Only highly qualified flight personnel shall be selected to conduct orientation flights.

b. All orientation flights shall be conducted within the local flying area and terminate at the point of origin. Flights outside the local flying area may be approved if the specific mission of the orientation flight cannot be accomplished within the local flying area. FAA personnel may be enplaned on a noninterference basis in order to conduct aircrew examinations or participate in familiarization flights (as defined in paragraph 3.3.3.e) for other than local flights within their own FAA region.

c. Orientation flights involving third-nation nationals into or over foreign countries will not be approved unless confirmation of entry and/or overflight clearance for such third-nation nationals has been received from the foreign government(s) concerned in accordance with the NIMA Foreign Clearance Guide.

d. Except for flights with FAA personnel, orientation flights shall be performed only during daylight and with weather minimums equal to or better than VFR. Exceptions for midshipmen training will be granted by COMNAVAIRFOR/CMC.

e. FAA examiners shall not be permitted to pilot an aircraft without an assigned Navy or Marine Corps PIC who shall exercise all responsibility of command set forth in this instruction.

f. Formation flying shall not be performed unless required for a specific purpose and authorized by the controlling custodian of the aircraft to be used.

g. Orientation flights in high-performance jet aircraft shall not be approved except when the specific aircraft utilized is integral to the orientation flight purpose.

h. Orientation flights operating from an aircraft carrier are strongly discouraged because of the extra hazards inherent in carrier operations. Such flights may be authorized for midshipmen training, VIPs, MAP, FMS, or warranted within the provisions of paragraph 3.3.3.h. Carrier onboard delivery/vertical onboard delivery (COD/VOD) flights, used only as a means to embark or debark personnel at sea, are intended for passenger transportation and not orientation flights and are therefore exempt from the provisions of this paragraph.

i. An aircraft accepted into the naval inventory shall not be used for orientation flights by contractor flightcrews unless it has been provided to the contractor under a COMNAVAIRSYSCOM contract. The use of naval aircraft under lease to contractors for orientation flights is governed by terms of the lease agreement and may not be subject to the policy and procedures contained in this instruction.

j. Flights shall be conducted at no additional cost to the Government on a noninterference basis with operations and training unless a waiver is granted by the approving authority.

k. Orientation flights may not include those flights where a record attempt is made, a first flight is made on an aircraft just accepted into the inventory, a first flight over an isolated geographical area, or any other flight of a similar or special nature where abnormal conditions may exist.

l. Individuals occupying a seat with flight controls during orientation flights are permitted to fly the aircraft during non-critical phases of flight as determined by the pilot-in-command, in accordance with command policy.

3.4 EMBARKATION OF PASSENGERS

a. No person shall be enplaned as a passenger nor shall any cargo be embarked on a naval aircraft unless authorization has been granted by competent authority in accordance with applicable directives. (See reference (k) and reference (m).) Military Sealift Command (MSC) personnel (i.e., civilian mariners (CIVMARS)), DoD civilian employees, Federal agency technical representatives (tech reps), and contract field services personnel may be authorized COD/VOD transportation with approval by competent authority in cases of official business. Reporting custodians for helicopter detachments embarked onboard MSC/United States Naval Ships (USNS) may delegate this authority to the designated officer in charge embarked on MSC/USNS ships. No person shall be carried in a taxiing aircraft as a passenger unless such person is authorized to fly in it or has been authorized by competent authority to be embarked therein.

b. COMUSFLTFORCOM, COMPACFLT, COMUSNAVEUR, COMUSNAVSCENT, COMUSNAVSO, COMNAVEDTRACOM, CMC, COMNAVAIRFOR, COMNAVAIRSYSCOM, COMNAVRESFOR, and CNATRA

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may authorize COD/VOD transportation for civilian guests and other designated personnel not otherwise qualified for government air transportation. Their authority may be delegated to numbered fleet commanders and TYCOMs and is granted for the specific purpose of facilitating embarkation/ debarkation of these selected individuals when ships are at sea. It shall not be extended to include flights of convenience for the individual(s) concerned. Due consideration shall be given to the age and physiological characteristics of the individuals, particularly when catapult launchings or arrested landings are involved. (See paragraph 8.4 of this instruction regarding aeromedical and survival training requirements for passengers.) Night overwater helicopter passenger flights to/from ships are prohibited except in cases of operational necessity. This does not preclude troop movement in support of amphibious exercises, visit board search and seizure (VBSS) level III operations, or SPECOPS missions. A medical attendant who is current in approved water survival training (non-aircrew underwater emergency egress as a minimum training requirement), and has been properly briefed on emergency egress procedures for that aircraft, may be transferred via return night flight to the ship with approval from the ship's commanding officer.

c. COD/tiltrotor overwater flights at night are authorized. The following restrictions apply when carrying passengers:

(1) Ship launches and recoveries shall be made during daylight hours.

(2) Ship launches shall be conducted not less than 60 minutes prior to sunset. This time constraint may be waived to 30 minutes by the Battle Group Commander/Amphibious Squadron commander/Marine Air Ground Task Force (MAGTF) Commander.

(3) Night overwater tilt-rotor passenger flights ship to ship or ship to shore are prohibited except in cases of operational necessity and in accordance with paragraphs 1 and 2 above. This does not preclude troop movement in support of amphibious exercises (operations) or special operations missions.

d. The pilots in command/mission commanders of a naval aircraft (while absent from home unit) may authorize air transportation for personnel and/or equipment not otherwise qualified for Government air transportation (i.e., civilian physicians, paramedic teams, sheriff department personnel, park rangers, search dogs, medical equipment, etc.) when required for the successful prosecution of a search and rescue (SAR), medical emergency evacuation (MEDEVAC), or disaster relief mission. This authority shall only be exercised when all practical means of obtaining authorization from competent authority in accordance with applicable directives (reference (k) and reference (m)) have proven unsuccessful or unavailable. Appropriate authority shall be notified of such air transportation as soon as practicable.

3.5 FLIGHT DEMONSTRATIONS AND STATIC EXHIBITS

3.5.1 Naval Aircraft Participation

Participation of naval aircraft, other than the scheduled appearance of the flight demonstration squadron, in any airborne display is not encouraged and should only be approved in the most exceptional and carefully considered situations (e.g., occasional flights at unique aviation related events and

station open houses; however, does not include routine changes of command, sporting events, etc.). Static displays by naval aircraft at aviation events are encouraged within the limits of available resources. The approving command shall ensure that a safe, professional and appropriate event is conducted weighing the risks against the benefits of any airborne demonstration (to include demonstration parachute jumps). Approval authorities are required to ensure event coordinators obtain necessary

FAA/ICAO waivers in a timely manner. Reference (g) further discusses participation of naval aircraft at public and private gatherings.

3.5.2 Approval Authority

The CMC, COMUSFLTFORCOM, COMPACFLT, COMUSNAVEUR, COMUSNAVCENT, COMUSNAVSO, COMNAVAIRSYSCOM, COMNAVAIRFOR, COMNAVEDTRACOM, COMNAVRESFOR and CNATRA may authorize flight demonstrations sponsored by respective subordinate commands and activities. Their authority may be delegated to numbered fleet and TYCOMs.

3.5.3 Regulations

The following regulations apply to participation in flight demonstrations and static displays:

a. Flight personnel assigned to participate in flight demonstrations should be those with the maximum training and experience. No pilot shall be permitted to participate who has not currently demonstrated to the commanding officers satisfaction complete familiarity with the flight characteristics by performing with precision and safety all maneuvers to be demonstrated.

b. No extra hazardous or unusual maneuvers shall be planned or permitted at the demonstration. Routine maneuvers shall not be conducted in a manner that could make them hazardous (i.e., at excessively low altitudes or with undue close interval between aircraft). Care shall be exercised in planning and conducting the demonstration to provide maximum safety to personnel and property in event of mishap. Any ordnance delivery or expenditure in connection with a demonstration ashore for nonmilitary personnel shall receive prior specific approval from the TYCOM concerned.

c. Pre-coordination shall be accomplished with air traffic control authorities exercising jurisdiction over the affected airspace.

d. When deciding whether to allow public access to naval equipment, any probability of risk must be considered. Any doubt shall be resolved by limiting or denying public access and strictly enforcing the decision once it has been made.

e. Personnel assigned to aircraft static displays shall be selected for their maturity, appearance, personality, demonstrated soundness of judgment, and knowledge of equipment. Commanding officers shall ensure that the PIC is particularly sensitive to any hazards that the aircraft might present to an uninformed spectator.

f. The aircrew of an aircraft used for static display shall be in attendance at the aircraft and dressed in appropriate flight clothing at all times the public has access to the aircraft. They shall take precautions to prevent damage to aircraft and ensure public is safeguarded from aircraft hazards.

g. The public shall be denied access to the interior of all aircraft employing ejection seats or other installed pyrotechnic devices that could cause injury.

h. Ancillary equipment (workstands, etc.) must be in good condition and suitable for the purpose for which use is intended. If in the case of workstands or platforms, sufficient aircrew or other competent supervisory personnel are not available to control spectator loading to safe limits, then access shall not be permitted.

i. Aircraft selected for static display shall be clean, well painted, and prepared for public inspection.

3.5.4 Exception

The U.S. Navy Flight Demonstration Squadron, which is specially trained for such flight exhibitions, is not bound by paragraph 3.5, but will be employed in accordance with the instructions of CNATRA and the on-scene commander in each instance.

3.5.5 NATO Flight Demonstrations

Flight demonstrations (including parachutists) involving aircraft of more than one NATO nation shall be conducted in accordance with reference (n).

3.5.6 NATO Live Weapons Demonstrations

For NATO standardization and safety purposes, the rules and procedures for the planning and conduct of live air weapons demonstrations as specified in reference (o), shall be adhered to when the nation is either the operator of the weapon system or is responsible for the range on which the demonstration is being held.

3.6 EMPLOYMENT OF NAVAL AVIATORS BY CIVILIAN CONTRACTORS

Civilian contractors to the Federal Government cannot legally employ a naval officer on the active list to give flight demonstrations of aircraft intended for the USG.

3.7 COMMAND

A naval aircraft or formation of naval aircraft shall be flown under the command of a PIC, mission commander, or formation leader, as appropriate, and so designated by the reporting custodian or higher authority. The status of each individual participating in the mission or formation shall be clearly briefed and understood prior to takeoff and must be indicated as required by DoD FLIP General Planning. When a flight schedule is published, the PIC, mission commander, or formation leader shall be specifically designated for each aircraft or formation, as appropriate. Reporting custodians shall establish minimum requirements of initial qualification and requalifications for each model aircraft in their custody and for each flight phase and/or mission normal to the aircraft models (i.e., day solo, night solo, functional check, field carrier landing practice (FCLP), air combat maneuvers (ACM), night combat air patrol (CAP), intercepts, airborne early warning (AEW), barriers, etc.). They shall be guided by the requirements of this instruction where applicable and by appropriate NATOPS manuals. Flight personnel meeting those requirements may be considered qualified in model and phase and are eligible for designation as PIC, mission commander, or formation leader for a specific mission.

3.7.1 PIC

PIC refers to the pilot of an individual aircraft. The PIC is responsible for the safe, orderly flight of the aircraft and well-being of the crew. The PIC may also be the mission commander or formation leader when so designated. PIC should not be confused with the various qualifications defined in chapter 12. If there is no NATOPS manual for a particular model aircraft or if an existing manual fails to set forth specific initial qualifications and currency requirements, a pilot shall not be designated as PIC unless the pilot has made at least two takeoffs and landings and logged 5 hours of pilot time in the same model aircraft within the preceding 90 days. Also, lacking NATOPS guidance for a specific aircraft, 10 hours first pilot time in model is required for initial qualification. Pilots meeting the criteria may be considered qualified in model and phase and are then eligible for designation as PIC. In the absence of direct orders from higher authority cognizant of the mission, responsibility for starting or continuing a mission with respect to weather or any other condition affecting the safety of the aircraft rests with the PIC. The authority and responsibility of the PIC shall not be transferred during flight. It shall not be transferred to another individual except as required by emergency, operational necessity, or as directed by the commanding officer of the unit to which the aircraft is attached. The authority and responsibility of a PIC is independent of rank or seniority in relation to other persons participating in the mission or flight except for the following.

3.7.1.1 Officer in Tactical Command Embarked

Wing, group, or squadron commander, if embarked on a mission involving aircraft of their command, retains full authority and responsibility regarding command, including the mission in which participating.

3.7.1.2 Flag or General Officer Embarked

The PIC of an aircraft with a flag or general officer eligible for command at sea or in the field embarked as a passenger shall be subject to the orders of such flag or general officer in accordance with U.S. Navy Regulations. When such an embarked passenger exercises authority to command the aircraft, that passenger thereby assumes full responsibility for the safe and orderly conduct of the flight. The embarked passenger shall give due consideration to the judgment of the PIC regarding items of flight safety such as hazardous weather and aircraft/crew limitations. Flying rule violations, accident reports, and any other actions arising out of the flight will be referred to the embarked passenger as the responsible commander of the aircraft.

Note

The provisions of paragraphs 3.7.1.1 and 3.7.1.2 shall not be used to circumvent normal NATOPS qualification procedures if the officer desires to physically pilot the aircraft. Flights that require a NATOPS-qualified crew shall not be physically piloted by any individual not so qualified; however, the flight may be directed by an officer in tactical command embarked who is not NATOPS qualified.

3.7.1.3 Flight Control Station

The PIC shall occupy a flight control station during critical phases of flight (i.e., takeoff, landing, formation flight, functional checkflight (FCF), degraded aircraft performance regimes, etc.). During an instructor under training (IUT) flight in a multi-piloted aircraft, the PIC or a qualified/qualifying IUT instructor pilot shall occupy one of the flight control stations during critical phases of flight, provided the PIC remains in the flight station.

3.7.2 Formation Leader

A formation of two or more naval aircraft shall be under the direction of a formation leader who is authorized to pilot naval aircraft. The formation leader may also be the mission commander when so designated. The status of each member of the formation shall be clearly briefed and understood prior to takeoff. The formation leader is responsible for the safe and orderly conduct of the formation.

3.7.3 Mission Commander

The mission commander shall be a properly qualified naval aviator or NFO designated by appropriate authority. The mission commander may exercise command over single naval aircraft or formations of naval aircraft. The mission commander shall be responsible for all phases of the assigned mission except those aspects of safety of flight that are related to the physical control of the aircraft and fall within the prerogatives of the PIC. Mission commander qualifications shall be outlined in appropriate NATOPS manuals. The mission commander shall direct a coordinated plan of action and be responsible for effectiveness of the mission.

3.7.4 Instructors

In those aviation commands where training is conducted, the commanding officer is authorized to designate highly qualified naval aviators and NFOs as instructors. Instructor duties shall be specifically delineated by the unit commanding officer in formal directives. The instructor will be charged with authority and responsibility to provide appropriate direction to students (naval aviation or NFO) to ensure safe and successful completion of each training mission. The exact function, authority, and responsibility of the individual flight instructor are dependent upon the training mission and the crew assigned as issued in approved training syllabuses. On those training missions where a pilot under instruction is the PIC, instructor guidance shall be advisory in nature and under no circumstance shall pilots in command be relieved of their authority and responsibility as outlined in paragraph 3.7.1. Termination of the training or evaluation portions of the flight for reasons of safety, unsatisfactory performance, or material discrepancy shall be the instructor's prerogative.

3.8 CREW RESOURCE MANAGEMENT

a. The objective of the Crew Resource Management (CRM) Program is to integrate the instruction of specifically defined behavioral skills throughout Navy and Marine Corps aviation training, and to integrate the effective application of these behavioral skills into operational aviation

procedures wherever appropriate. CRM training will increase mission effectiveness, minimize crew preventable error, maximize aircrew coordination, and optimize risk management.

b. Commanders shall ensure that all personnel whose duties involve flying as an aircrew member in naval aircraft receive annual CRM training including an academic portion and a flight/simulator evaluation. Annual recurrency training shall be recorded in the NATOPS jacket in accordance with reference (p).

3.8.1 Critical Behavioral Skills

The critical behavioral skills that form the basis of CRM training are:

a. Decision making. The ability to choose a course of action using logical and sound judgment based on available information. Effective decision making requires:

(1) Assessing the situation.

(2) Verifying information.

(3) Identifying solutions.

(4) Anticipating decision consequences.

(5) Making the decision.

(6) Telling others of the decision and rationale.

(7) Evaluating the decision.

b. Assertiveness. An individual's willingness to actively participate, state, and maintain a position, until convinced by the facts that other options are better. Assertiveness is respectful and professional, used to resolve problems appropriately, and to improve mission effectiveness and safety.

c. Mission Analysis. The ability to develop short-term, long-term, and contingency plans and to coordinate, allocate, and monitor crew and aircraft resources. Effective planning leads to flight conduct that removes uncertainty, increases mission effectiveness, and enhances safety.

d. Communication. The ability to clearly and accurately send and acknowledge information, instructions, or commands, and provide useful feedback. Effective communication is vital to ensure that all crewmembers understand aircraft and mission status.

e. Leadership. The ability to direct and coordinate the activities of other crewmembers or wingmen, and to encourage the crew to work together as a team. There are two types of leadership:

(1) Designated Leadership — Leadership by authority, crew position, rank, or title. This is the normal mode of leadership.

(2) Functional Leadership — Leadership by knowledge or expertise. Functional leadership is temporary and allows the most qualified individual to take charge of the situation.

f. Adaptability/Flexibility. The ability to alter a course of action based on new information, maintain constructive behavior under pressure, and adapt to internal and external environmental changes. The success of a mission depends upon the crew's ability to alter behavior and dynamically manage crew resources to meet situational demands.

g. Situational Awareness. The degree of accuracy by which ones perception of the current environment mirrors reality. Maintaining a high level of situational awareness will better prepare crews to respond to unexpected situations.

3.8.2 Effective CRM Training

Optimal CRM training is integrated, research-based, and skill-oriented, incorporating the Information, Demonstration, Practice, and Feedback Instructional Methodology. The success or failure of CRM rests ultimately with each individual performing duties as an aircrew member in naval aircraft. Naval aircrew shall exhibit thorough knowledge of self, aircraft, team, environment, the seven critical skills, and risk to employ sound and logical judgment in the prevention of human errors. Human error is the leading causal factor in aviation mishaps. Additional human error-based training should complement CRM training. More information is available through the U.S. Navy CRM Web site at https://www.netc.navy.mil/nascweb/crm/crm.htm.

3.9 OPERATIONAL RISK MANAGEMENT

ORM is a systematic, decision making process used to identify and manage hazards that endanger naval resources. ORM is a tool used to make informed decisions by providing the best baseline of knowledge and experience available. Its purpose is to increase operational readiness by anticipating hazards and reducing the potential for loss, thereby increasing the probability for success to gain the competitive advantage in combat. ORM is not just related to naval aviation; it applies across the warfighting spectrum.

3.9.1 ORM Process Description

a. ORM employs a five-step process:

(1) Identify hazards.

(2) Assess hazards.

(3) Make risk decisions.

(4) Implement controls.

(5) Supervise.

b. The ORM process is utilized on three levels based upon time and assets available.

(1) Time-critical: A quick mental review of the five-step process when time does not allow for any more (i.e., in-flight mission/situation changes).

(2) Deliberate: Experience and brain storming are used to identify hazards and is best done in groups (i.e., aircraft moves, fly on/off).

(3) In-depth: More substantial tools are used to thoroughly study the hazards and their associated risk in complex operations (i.e., weapons detachment).

c. The ORM process is guided by the four principles:

(1) Accept risk when benefits outweigh the costs.

(2) Accept no unnecessary risk.

(3) Anticipate and manage risk by planning.

(4) Make risk decisions at the right level.

3.9.2 Enhancing ORM

To enhance ORM awareness and standardization, the NATOPS model manager shall incorporate risk management concepts and wording into crew coordination and flight planning sections of the individual aircraft NATOPS manuals.

3.10 FUNCTIONAL CHECKFLIGHTS

The requirements for FCFs are stated in reference (q). Commanding officers shall ensure compliance with the following.

3.10.1 Crew Composition

FCFs shall be conducted with the minimum crew required for safe flight. All flight personnel shall be fully qualified in accordance with this instruction and the applicable NATOPS manual. Appropriate maintenance quality assurance and project specialist personnel required to accomplish the functional check may be utilized, provided they meet minimum NASTP training requirements. Passengers shall not be carried. The PIC shall be designated in writing by the commanding officer as a functional check pilot for either a full-system check or the partial system(s) to be checked.

3.10.2 Weather Criteria

FCFs should be conducted during daylight hours within the local flying area in VMC. If necessary to accomplish the assigned mission, unit commanders may authorize checkflights under conditions other than the above if in their opinion the flight can be conducted with an acceptable margin of safety under the existing conditions. The authority shall not be delegated. Those portions of the flights that are considered critical shall be conducted in the vicinity of a suitable landing area.

3.11 REPORTING AND RECORDING OF DEVIATIONS AND VIOLATIONS OF FLYING REGULATIONS AND MISHAP INFORMATION

This section details the procedures for alleged violations of service or Federal flying regulations. Generally, commanders or commanding officers will receive notification of an alleged deviation by a member of their command. Paragraph 3.11.6 delineates the responsibility of the command for flight incidents. Reports of alleged violations received from the FAA will be forwarded to OPNAV (N885F) and will be processed as a major infraction. Major infractions are those that have general public, Congressional, or service interest (i.e., any infraction that cannot be resolved administratively at the command level).

3.11.1 Reports of Investigations of Violations of Flying Regulations

3.11.1.1 Responsibility

An alleged violation of flying regulations falls within the purview of U.S. Navy regulations. The responsibility to conduct the investigation into an alleged flight violation belongs to the immediate superior in the chain of command of the individual involved. However, activities whose base facilities and/or aircraft are used by pilots not attached to those activities are responsible for conducting the investigation and for notifying the commanding officer of the individual involved.

3.11.1.2 Procedures

Investigation and reporting procedures shall be in JAGMAN format using the guidelines and rules contained in reference (r). Each fact must be supported by testimony, documentary, or real evidence. Statements of the pilots concerned should be included along with maintenance action forms, flight schedules, and other documentary evidence. The report of violation of flying regulations is administrative in nature, and statements taken thereunder may not be the basis of subsequent legal or disciplinary proceedings unless the provisions of Uniform Code of Military Justice (UCMJ) Article 31 have been observed.

3.11.1.3 Intent

Lack of intent does not in itself constitute absence of culpability. One can be so grossly negligent as to equate omission with commission. The question is whether the PIC or the formation leader could reasonably have been expected to avoid the violation.

3.11.1.4 Content of Report

In making a report of an alleged violation of flying regulations, the commanding officer shall state a conclusion as to whether the alleged violation actually occurred, and if so:

a. A conclusion as to whether or not the PIC was culpable in the light of pilot responsibilities and any mitigating or extenuating circumstances that may have existed.

b. Any action taken, pending, or recommended.

Note

The authority to issue a flight violation lies solely with the CNO.

3.11.1.5 Forwarding of Report

With the exception of alleged air defense identification zone (ADIZ) violations, reports regarding naval personnel shall be forwarded to OPNAV (N885F) via the chain of command. Alleged flight violations involving U.S. Marine Corps personnel shall be forwarded through CMC prior to final processing by OPNAV (N88). Each endorser shall indicate concurrence/non-concurrence with the commanding officers report. Under no circumstances shall a report of investigation be released to any agency outside the Navy without prior approval of OPNAV (N88). Direct communication with commands (activities/agencies) outside the naval service in connection with violations shall be limited to that authorized in the basic instruction.

3.11.1.6 Time Limits on Action of Each Report of Investigation

a. To expedite action on a report of an investigation of an alleged violation, investigation by military agencies are limited as follows:

(1) By the investigating unit — within 14 duty days from time of receipt.

(2) By each intermediate command — within 7 duty days from time of receipt.

b. Each report will reach the appropriate final addressee within 60 days except in the following cases:

(1) When a commander cannot complete an investigation within the above time schedule, the commander will notify the final addressee of the reason for the delay and give an estimate of when the investigation will be forwarded.

(2) When Field Naval Aviator Evaluation Board (FNAEB) or Field Flight Performance Board (FFPB) proceedings are involved, the commander will be governed by current regulations (NAVMILPERSMAN ART. 3410300) or Marine Corps Order 1000.6 (ACTS) Manual, as appropriate. Inform OPNAV (N885). An FNAEB or FFPB does not relieve the command of the requirement to conduct a JAGMAN investigation.

(3) When a commander takes UCMJ action as a result of a flying violation, the commander will promptly forward the report of investigation and inform the final addressee of any pending action. An officer who exercises general court-martial jurisdiction will inform the final addressee of the final appellate action taken in each general and special court-martial case involving a violation of flying regulations.

c. The final addressee for flight violation processing is OPNAV (N885F).

3.11.2 FAA Reports and Cooperation

When requested to do so by FAA, commands:

a. Shall not release the names of the aircrew; names are to be released only by CNO.

b. May furnish only factual information (excluding aircrew names) that would normally be available to air traffic facilities; this response shall not contain any conjectures, assumptions, or hearsay.

Note

Each command shall ensure that all attached/assigned aircrew and air operations personnel understand that:

(1) They may make oral or written statements to FAA personnel, but that such a statement is voluntary and may be used against the individual making the statement.

(2) Reports required by reference (d) are mandatory; they are not included in the foregoing policy.

3.11.3 Applicability of Flying Regulations Other Than Naval

Pilots flying naval aircraft are responsible for compliance with flying regulations of other agencies, military or civil, only to the extent specifically provided by OPNAV directives (see paragraphs 1.2.4 and 1.2.5).

3.11.4 Alleged Offshore Air Defense Identification Zone Violations

Commanders receiving a report of an alleged offshore ADIZ violation will investigate the report promptly. Results of such an investigation will be forwarded to the immediate superior. Reports shall contain the following:

a. Conclusions.

b. The action(s) taken or recommended to prevent a recurrence.

c. The nature of any disciplinary action taken.

3.11.5 OPNAV 3760/32 Flight Personnel Training/Qualification Jacket Entry/OPNAV 3760/31 Aviators Flight Log Book Entry

An entry of a violation into OPNAV 3760/32 and OPNAV 3760/31 will be made at the sole direction of CNO and will be made in accordance with paragraph 10.5.2 and appendix B. Care shall be exercised to avoid the use of information from aircraft mishap board members, mishap reports, and endorsements, including the COMNAVSAFECEN endorsement, as a basis for the entries.

3.11.6 Incident Reports

a. Pilots in command and local commanders will ensure that deviations from ATC clearances and instructions, which result because of emergency or operational necessity, are reported to FAA immediately. Refer to reference (d), sections 91.3 and 91.123.

b. Incident reports (FAA 8020-11) are sent from FAA to the Department of the NAVREPs. The NAVREPs shall forward the reports to the appropriate commands for information.

c. Subsequent FAA investigation of flight incidents may reveal that the deviation involved a violation of the reference (d). If a violation is found, the incident is further processed as an alleged flight violation and FAAs investigation is sent to OPNAV (N885F) for processing in accordance with paragraph 3.9.1. Because of the lengthy FAA investigative process, as much as a 1-year delay may occur before the responsible naval commands receive notification of an alleged flight violation. Because of such delays, commands are advised to make and retain statements concerning incidents in the event the incidents are subsequently processed as flight violations.

3.12 CROSS-COUNTRY PLANNING

3.12.1 Cross-Country Flight

A cross-country flight is any flight that either does not remain in the local flying area or remains in the local flying area and terminates at a facility other than an active military facility. This includes out and ins. Commanding officers must ensure that these flights contribute to the mission of the command and the naval service, achieve training requirements, and can be completed safely. Commanders/commanding officers shall ensure a thorough risk assessment has been conducted for the proposed cross-country flight. The following preflight planning checklist provides additional factors which should be considered by the approving authority. These risk considerations are not intended to impose unnecessary restrictions on those flights that are deemed necessary for the training and experience of aviators/aircrew or those evolutions which contribute to the missions of the naval service.

a. Does the cross-country flight achieve training objectives as established in a training syllabus or training/readiness matrix?

b. Does the flight contribute to the mission of the command or the naval service?

c. Could this flight be perceived by the public as not in the best interest of the USG?

d. If the flight is exclusively for the transportation of the aircrew, is the purpose to meet operational commitments? If so, is alternate transportation, commercial or military, readily available? More economical?

e. Is this flight planned exclusively for the convenience and/or to enhance the prestige of the officers concerned?

f. Is there a major sporting or civic event scheduled at the destination? Cross-country flights are not authorized to these destinations.

g. Is the cross-country destination the home town of any of the crewmembers? A flight to ones home town is legal, provided repeated flights are not performed (refer to paragraph 3.1.2). Is there a personal event such as a wedding, family reunion, graduation, etc., that a member of the flight is trying to attend? Is it in the hometown of anyone on the aircraft or a destination that has been repeatedly flown to by the aircrew?

h. Has the aircrew thoroughly planned all aspects of the flight? Are they qualified and properly designated to conduct the flight?

i. Is proper security for the aircraft adequate at the intended destination? The alternate?

j. Does the flight meet squadron, wing, and aviation TYCOM directives?

k. Have adequate maintenance precautions been planned to ensure proper servicing and maintenance of the aircraft is performed?

3.12.2 Risk Assessment

The above checklist is derived from policy guidance contained in other sections of this manual. This list is not all-inclusive, since it does not cover unique risk factors determined by squadron mission, employment, operating environment, geographical location, aircraft type, model, series, and aircrew personal factors. However, it should provide a starting point for conducting a thorough risk assessment of each intended flight. The commanding officer's written authorization and the submittal of a flight plan by the PIC indicate that a thorough risk assessment has been conducted.

3.12.3 Implementation

This guidance is not intended to reduce the frequency and/or value of a unique and productive training opportunity, nor is it intended as a substitute for thorough planning, sound airmanship, and good headwork. Type, wing, and squadron commanders shall ensure appropriate procedures are in place for consistent implementation and monitoring of full compliance with this guidance.

3.13 TERMINAL INSTRUMENT PROCEDURES

3.13.1 General

Except when this requirement is waived for a flight in support of a nonstandard operation, aircrews flying passenger and/or troop-carrying aircraft shall not fly an instrument approach that has not been validated as safe and accurate by a U.S. agency in accordance with:

a. U.S. Terminal Instrument Procedures (TERPS) — FAA Order 8260.3 (reference (s));

b. ICAO Procedures for Air Navigation Services-Aircraft Operations (PANS-OPS), or

c. NATO criterion for the preparation of an instrument approach that has been validated to be safe and accurate by another USG service in accordance

with these standards, categorizes the procedure as a USG procedure and constitutes authority for use of the procedure by the other service.

d. OPNAV 3722/18 Validation of Jeppesen Terminal Instrument Procedures has been designed for squadron use in requesting the Naval Flight Information Group (NAVFIG) validation of Jeppesen Terminal Instrument Procedures for outside the continental United States (OCONUS) non-DoD FLIP published procedures.

3.13.1.1 Nonstandard Operation

A non-standard operation is defined as when an urgent requirement exists to fly a short-notice mission in support of a humanitarian, contingency, MEDEVAC, special access or state department requirement. Commanders (0-8 or above) exercising OPCON of aircraft operating in support of nonstandard operations are responsible for mission risk assessment and, therefore, may waive the requirement for a TERPS review of a non-USG instrument procedure. If aircraft and aircrew are chopped to a JTF and a waiver is required, the JTF commander shall request the waiver, and if operationally feasible, the commander issuing the waiver shall consult with the appropriate service component before granting the waiver. When a waiver is issued, the commander issuing the waiver shall immediately notify the National Military Command Center's on-duty deputy director for operations, Defense Switched Network (DSN) 225-0098 or commercial 703-695-0098, of the extent of the waiver and provide, at a minimum, the mission identification, the time and date the waiver was granted, and the circumstances that precipitated the decision.

3.13.2 U.S. Civil Airports

a. Activities or commands having a requirement for instrument procedures to civil airports in the U.S. that are not published in the DoD FLIP Terminal Procedures shall submit a request for the procedure(s) desired, with justification, through the aviation TYCOM to NAVFIG for publication. The justification will include a statement indicating that the procedure is needed to support an operational or contingency requirement and the expected annual usage of the procedure. NAVFIG address is contained in DoD FLIP General Planning, chapter 11.

b. All FAA-approved civil instrument departures and arrivals for the U.S. are published through NOS. They are not published in the DoD FLIP.

3.13.3 Other Than U.S. Airports

Activities or commands having a requirement for terminal instrument procedures to airports in areas other than the United States that are not publicized in DoD FLIP, not validated by NAVFIG or by other service components as conforming to U.S. TERPS, ICAO (PANS-OPS) or NATO Allied Publication Air Traffic Control (APATC-1), shall coordinate requirements with NAVFIG [Washington Navy Yard, DSN 285-3473, commercial 202-433-3473] and appropriate aviation TYCOM. The request shall be forwarded with justification to NAVFIG, designating the specific host government procedure desired and indicating aviation TYCOM concurrence. Approach under consideration must be approved to U.S. standards (i.e., proper obstacle clearance, etc.).

3.13.4 Conformance to TERPs

NAVFIG is the only naval authority authorized to validate instrument approaches and shall evaluate all such requests, review procedures (other than those approved by the FAA) for conformance with TERPs, and arrange for publication of the procedure in the appropriate FLIP. Instrument approach minimums published in FLIP shall be those specified by TERPs criteria application or the host government minimums, whichever are higher.

3.13.5 Annual Revalidation

In order that FLIP terminal publications contain only those procedures for which an operational or contingency requirement exists, originating activities shall annually revalidate their requirement for procedures published pursuant to this paragraph. This will be accomplished by direct coordination between the establishing activity or command and NAVFIG.

3.14 MILITARY FLIGHT OPERATIONS QUALITY ASSURANCE (MFOQA)

Military Flight Operations Quality Assurance (MFOQA) is a developing information management process that draws on the capability of advanced aircraft to monitor and record operating parameters and systems health indicators. MFOQA provides individual aircrew and maintenance personnel the ability to review flight data immediately after a flight, squadron leadership an ability to increase awareness of mission effectiveness and risk, and higher-level command echelons with aggregate, quantifiable information that can be used to improve policies, procedures, training, equipment and facilities. MFOQA benefits maintenance, operations, training, and safety.

3.14.1 Use of MFOQA Data

3.14.1.1 Performance and Procedures

Squadron/unit commanders should use MFOQA data to help quantify aircrew and maintenance performance, not only to identify hazards and deficiencies in operating procedures, but also to identify those positive trends and practices that validate existing operating procedures. MFOQA data shall not be used as the sole source of evidence to support punitive or disciplinary action except in the case of willful disregard or blatant violation of established policies or directives. MFOQA data and analytical products may be used for purposes of aircrew and/or maintenance performance reviews (e.g., FNAEBs/FSSBs, human factors related performance reviews).

3.14.1.2 Data Handling for Mishaps

In the event of a mishap, MFOQA data shall be considered to be evidence pertaining to the mishap as defined by reference (t), and shall be provided to the senior member of the Aviation Mishap Board (AMB). MFOQA data, as downloaded from the aircraft without subsequent analysis, shall be released by the AMB to the JAGMAN investigator, if requested. However, any manipulation, reconstruction, or other use of the data by the AMB shall be considered a deliberative act of the AMB, and such data shall be considered privileged information protected from release under reference (t) guidelines.

3.15 AVIATION SAFETY AWARENESS PROGRAM (ASAP)

ASAP is an information management process being implemented across Naval Air Forces. It is based on self disclosed reporting to identify errors, potential precursors to mishaps and improve operational efficiency. ASAP is used to identify and proactively address unfavorable trends pertinent to aircrew training, aircraft maintenance, flight operations and safety using human factors data and error reporting. ASAP is a tool for validation of existing operating and maintenance procedures, or an avenue for change based on metrics using aggregate data. ASAP may be the sole source of mishap prevention due to early establishment of human factor leading indicators. Participating commands are designated units that have received ASAP training from COMNAVAIRFOR Force Safey (N45) or respective type wing.

3.15.1 ASAP Data Requirements

3.15.1.1 ASAP Submission Requirements

a. ASAP is a complement to existing programs. There is no change to established processes for time critical or safety related issues.

b. For commands that have had ASAP training:

(1) Each flight crew member that manipulates flight controls or is responsible for safety of flight shall input data after each flight.

(2) All crew members should submit additional reports as safety of flight issues dictate.

3.15.1.2 ASAP Data Handling

a. ASAP works in conjunction with and complements MFOQA analyses, and vice versa, and shall be implemented with similar methods and procedures at the operator, unit, and organizational levels. All COMNAVAIRFOR commands with flight operations shall receive program training and implement ASAP.

b. Units that have had ASAP training shall:

(1) Gather and analyze safety information that may not otherwise be obtainable.

(2) Develop corrective action for identified safety concerns.

(3) Provide command personnel with feedback in an effort to preclude recurrence of events or potential mishaps.

3.16 UNMANNED AIRCRAFT SYSTEM(S) (UAS)

Additional UAS policy is currently being developed for incorporation into this instruction. This instruction may need to be changed or waived to reflect the realities of UAS operations. Refer to paragraph 1.1.2 for change procedures and paragraph 1.1.4 for waiver request procedures.

CHAPTER 4

Flight Authorization, Planning, and Approval

4.1 FLIGHT AUTHORIZATION

4.1.1 Authority

Naval aircraft shall not be flown by any person unless authorized by the reporting custodian or other commander exercising operational control over the aircraft concerned. All flights shall be in the national interest with fleet readiness receiving the highest priority. Efficient utilization of aircraft and available funds is the responsibility of the reporting custodian.

4.1.2 Documentation

Authorization for a flight shall be documented by a published flight schedule or other similar directive signed by commanding officers or their delegated authority. As a minimum, the document shall contain the following elements:

a. Names and flight function of all flight personnel.

b. Designation of the PIC, mission commander, and/or formation leader as appropriate.

c. Chain of command for formation flights in the event of an abort by the designated flight leader.

d. Aircraft model assigned.

e. Total mission or requirement code.

f. Point of departure, destination, and en route stopover points.

g. Date and estimated time of departure (ETD).

h. Estimated time en route (ETE) or estimated time of arrival (ETA).

Note

For missions such as strip alert, SAR alert, etc., the words as directed or to be assigned (TBA) may be entered for ETD and ETE/ETA.

4.1.3 Flightcrew Requirements

Prior to authorizing flight in naval aircraft, commanders shall ensure that the person designated as PIC is in all respects qualified for flight in model and that minimum flightcrew requirements are met.

4.2 MINIMUM FLIGHTCREW REQUIREMENTS

The minimum flightcrew requirements for naval aircraft are set forth in the applicable NATOPS manual for individual aircraft models. CNATRA may modify such requirements and the requirements set forth below as necessary for training purposes.

4.2.1 Aircraft Commander Requirement

An aircraft commander (paragraph 12.2.2.3 of this instruction) shall be designated for the following multipiloted aircraft missions:

a. Operational/tactical missions.

b. Administrative missions in helicopters/tiltrotors.

c. Training flights, except those that are within the capabilities of pilots of lower classification and which, in the opinion of the commanding officer, are best suited to teach such pilots self-reliance and command responsibility.

d. Flights in which the transport of passengers is involved.

4.2.2 Insufficient NATOPS Guidance

Where individual NATOPS manual guidance is lacking, the minimum flightcrew requirements for multipiloted aircraft are as follows:

a. A PIC possessing a valid instrument rating designated in accordance with paragraph 3.7 of this instruction.

b. A copilot qualified to perform all the assist functions required for the flight conditions and mission. If passengers are embarked, the copilot shall be qualified in model.

c. Other flightcrew necessary for the safe conduct of the flight.

4.2.3 Helicopters Not Requiring a Copilot

For helicopters that are configured with either dual or single-flight controls but do not require a copilot, the minimum crew requirements will be specified in the appropriate NATOPS manual. If a lookout is required, the lookout will be capable of performing internal communication and all assist functions required for the mission. The designation of the PIC shall be pilot qualified in model (PQM).

4.2.4 Use of Lookouts

Use of a qualified lookout in lieu of a copilot for those aircraft specified in paragraph 4.2.3 shall be limited to flights conducted under VMC.

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4.2.5 Rescue Helicopters Operating Over Water

Any naval helicopter that is assigned the primary mission to operate as a rescue vehicle over water shall have as a member of its crew one aircrewman who is completely outfitted for water entry as required in paragraph 8.2.1.2 of this instruction and has completed an approved CNO/CMC rescue swimmers school.

Note

Where SAR/plane guard is briefed as a primary mission, or when it becomes the primary mission, the rescue air crewman shall be prepared for immediate water entry.

4.3 FLIGHT PLANNING

4.3.1 Preflight Planning

Before commencing a flight, the PIC shall be familiar with all available information appropriate to the intended operation. Such information should include, but is not limited to, available weather reports and forecasts, NOTAMs, fuel requirements, terminal instrument procedures (to include proper use of non-DoD approaches), alternatives available if the flight cannot be completed as planned, and any anticipated traffic delays. In addition, the PIC and mission commander (when there is one designated) shall conduct a risk assessment prior to the flight.

4.4 AUTHORIZED AIRFIELDS

4.4.1 Authorized Airfields for Stop-and-Go, Refueling and Remain Overnight (RON)

4.4.1.1 DoD Airfield Facilities

a. Naval aircraft are authorized to operate at and land at all U.S. military and joint civil-military airfields. When planning to operate at other than home airfields, local training airfields or outlying landing fields (OLFs), pilots in command shall ensure that they are aware of and meet airfield operating requirements and, when necessary, have satisfied prior permission required (PPR) requirements. PPRs need not be obtained for planned alternate fields or emergency divert airfields.

b. When returning to the United States from abroad, pilots in command shall ensure that they will able to satisfy U.S. Customs Service clearance requirements at their point of entry airfield.

4.4.1.2 Civilian Airfields

Naval aircraft are permitted to operate at civilian airfields listed in the DoD Enroute Supplement when such operations contribute to mission accomplishment, add value to training, or are otherwise in the interests of the government and taxpayer. Pilots in command and other authorizing officials should consider the issues set forth in paragraph 3.12 of this instruction when planning operations at civilian airfields. Civilian

airfields shall not be used for RON unless required for mission accomplishment. In such cases, approval by the appropriate wing/group commander is required. RON is authorized if required for aircraft maintenance or following an emergency divert.

4.4.1.2.1 Local Procedures

Pilots in command shall ensure that they are familiar with any special procedures, practices or rules that apply at the civilian airfield.

4.4.1.2.2 Facilities

When planning for operations at civilian airfields, pilots in command shall ensure that runway length and runway and taxi load-bearing capabilities are adequate. If fueling and or servicing are anticipated, pilots in command shall ensure that DoD contract services are available.

4.4.1.2.3 Security

Unit commanding officers shall ensure that appropriate security and force protection plans can be implemented whenever an aircraft is left unattended away from its home field. Wing/group commanders shall only authorize planned RON stops at civilian airfields if the security and force protection requirements set forth in applicable directives can be satisfied.

4.4.2 Authorized Airfields and Landing Areas For Training

Commanding officers, wing/group commanders, and base commanders may designate airfields or landing areas for routine training. Local area flight plans need not specifically indicate planned operations at these facilities. Unit or local commanders shall ensure that standardized procedures, course rules, and guidance are set forth to ensure safe operations.

4.4.3 Helicopter, Tiltrotor, and V/STOL Landing Areas

Helicopter, tiltrotor, and V/STOL/STOL aircraft are authorized to land at other than airfield locations (such as fields, highways, and parks), provided:

a. A military requirement exists for such landing.

b. Adequate safeguards are taken to permit safe landing and takeoff operations without hazard to people or property.

c. There are no legal objections to landing at such nonairfield sites.

Note

Commanding officers are authorized to waive the provisions in subparagraphs a through c above when dispatched helicopters, tiltrotor, or V/STOL/STOL aircraft is engaged in SAR operations.

4.4.4 Airfield Operations Outside Published Hours/Closed Control Tower Airfield Operations

a. Commanding officers of airfields are authorized to extend airfield operating hours beyond those published in the Digital Airport/Facility Directory without opening the control tower. The Commanding Officer shall take into consideration requirements of reference(c).

b. Naval aircraft are permitted to operate from a closed control tower airfield when both the aircraft reporting custodian (unit commander) and the commanding officer of the airfield have specifically authorized such operations.

c. Naval aircraft are permitted to operate from a closed control tower airfield without the crash crew being present with concurrence of the reporting custodian (unit commander) and the commanding officer of the airfield.

4.4.5 Closed Airfields

All naval aircraft are prohibited from taking off or landing at closed airfields except in the case of an emergency.

4.5 FLIGHT PLANS

4.5.1 General

A flight plan appropriate for the intended operation shall be submitted to the local ATC facility for all flights of naval aircraft except the following:

a. Flights of operational necessity.

b. Student training flights under the cognizance of CNATRA conducted within authorized training areas. CNATRA shall institute measures to provide adequate flight following service.

4.5.2 Forwarding Flight Plans to ARTCC/Flight Service Station (FSS)

Delivery of a properly prepared flight plan form to duty personnel at an established base operations office at the point of departure assures that the appropriate ARTCC/FSS will be furnished with:

a. Essential elements of the flight plan as initially approved.

b. A takeoff report.

4.5.3 No Communication Link

If no communication link exists between the point of departure and the ARTCC/FSS, the pilot may relay the flight plan to an appropriate FSS by commercial telephone. When unable to file in person or by telephone, the flight plan may be filed as soon as possible by radio after takeoff. Flight in controlled airspace in IMC without ATC clearance is prohibited. Filing by radio after takeoff is not permitted when it will involve unauthorized IMC flight. In any case, the pilot's responsibility is not fulfilled until a completed flight plan and passenger manifest have been deposited with the airport manager or other suitable person.

4.5.4 Direct User Access Terminal Service (DUAT)

DUAT is not intended to provide flight plan service to the military and, therefore, is not designed to format the flight notification messages mandated for the military user or for any aircraft filing to a military destination. DUAT shall not be used to file a flight plan to a military destination.

4.5.5 Flight Plan Forms

The forms listed below are used to submit flight plans in the circumstances indicated:

a. The DD-175 Military Flight Plan or the DD-1801 International Flight Plan, completed in accordance with FLIP General Planning, is used for other than local flights originating from airfields in the United States at which a military operations department is located (see reference (d), sections 91.153 and 91.169 for mandatory items). A daily schedule containing an approved stereo (ARTCC computer stored)/canned flight plan code may be used in lieu of a DD-175 for other than local flights provided the point of departure is a military facility and the stereo/canned flight plan conforms to agreements with the parent ARTCC. A signed flight plan is required to be on file at operations for the purpose of official flight plan data entry into the ARTCC system. The Flight Weather Briefer (FWB) DD-175 flight plan feature is not approved for official flight plan data entry into the ARTCC system, but may be used by the PIC for initial notification of pending flight plan information to ARTCC. Whenever DD-175 or DD-1801 information is entered using FWB, the Flight Weather Briefing DD-175-1 flimsy number (block 37) or canned local area/route briefing number (CR) should be included in the "Weather" or "Remarks" block of the form.

b. A daily schedule or abbreviated single-copy DD-175 may be authorized by the approval authority for use when the flight will be conducted within the established local flying area and adjacent offshore operating/training areas provided that:

(1) Sufficient information relative to the flight is included to satisfy the needs of the local ATC/FSS facility that guards the flight.

(2) Facility operations maintain cognizance of each flight plan and are responsible for initiating any overdue action or issuing in-flight advisory messages as specified for handling point-to-point flight plan messages in accordance with FAA 7110.10. Termination of local flights at facilities other than the point of departure is authorized only in those cases where local flight plans may be closed out by direct station-to-station communication.

(3) Completed flight schedules are retained in operations files for 3 months.

(4) The flight shall not be conducted in IMC within controlled airspace except as jointly agreed to by the local naval command and the responsible ATC agency. When making such agreements, naval commands shall ensure that they do not conflict with policies and directives established by CNO.

(5) When an abbreviated DD-175 is utilized, items 1, 2, 3, 4, 6, 7, 9, 10, 11, 12, 20, 21, 24, and 25 of the flight plan (see FLIP General Planning) shall be completed as a minimum. For VFR flights within the local flying area, the term "local" may be entered as route of flight (item 9). For day VFR and IFR flights that penetrate or operate within an ADIZ (unless an authorized exception, see FLIP (En Route) IFR Supplement), the estimated time and point of penetration(s) shall be entered in the remarks (item 12).

c. An FAA flight plan, FAA 7233-1, may be filed in lieu of a DD-175 at airfields in the United States at which a military operations department is not located.

d. An ICAO flight plan or a DD-1801 military version thereof is used when applicable for flights conducted in international airspace in accordance with ICAO rules and procedures. For flights that originate in the United States and are conducted in accordance with ICAO rules and procedures, it is not intended that both an ICAO flight plan and DD-175 be submitted. Base operations shall specify the form desired in order that flight plan information may be passed to the appropriate ATC/FSS.

e. The flight plan form specified by the local authorities shall be used for flights originating at points of departure outside the United States.

4.5.6 Shore-to-Ship and Ship-to-Shore Operations

For shore-to-ship and ship-to-shore operations, the following procedures apply:

a. Prior to flight from a shore activity to a ship operating in offshore areas when a landing aboard the ship is intended, the PIC shall file a flight plan. For flights conducted in IMC, a DD-175 or daily flight schedule with approved stereo (ARTCC computer stored)/canned flight plan code shall be filed. Flights conducted under VFR may use an abbreviated DD-175 or daily schedule.

b. Flight plans must be filed when flights originating from offshore operating areas will penetrate controlled airspace or terminate at shore activities. Ships shall relay flight plans to appropriate ATC facilities in a timely manner and pilots shall confirm their flight plans with an appropriate ATC facility ashore as soon as practicable.

c. Timely handling of flight movement information for each shore/ship operation is essential.

d. Flight suspense for SAR purposes becomes the responsibility of the destination activity after acknowledging receipt of a flight plan.

e. Procedures for flights penetrating or operating within a coastal or domestic ADIZ or defense early warning identification zone (DEWIZ) are prescribed in FLIP (En Route) IFR Supplements.

4.5.7 Stopover Flights Within the Contiguous United States

Naval aviators are authorized to utilize one DD-175 to plan flights involving en route stops, subject to compliance with the following procedures and limitations:

a. The flight plan (DD-175) shall be prepared in accordance with the applicable instructions contained in the DoD FLIP (planning).

b. NOTAM and flight route weather briefing (in accordance with paragraph 4.6.3) shall be obtained at point of origin for the entire route of flight. If used, the weather information entered on the DD-175-1 shall clearly indicate the forecast weather (en route) for each leg of the flight, each

destination, and each alternate (if required). Separate DD-175-1s may be utilized for each leg. Pilots shall periodically determine that the intended route of flight remains clear of aviation severe weather watch (WW) bulletins and that weather forecasts for each successive intermediate destination (and alternates when required) continue to satisfy the minimums established in paragraph 4.8.4 or paragraph 5.2 of this instruction, as applicable. Pilots shall periodically update weather forecasts along intended route of flight to ensure the minimums established in paragraphs 4.8.4 and 5.2, as applicable, are satisfied, and the route remains clear of WWs, warnings and/or significant meteorological information (SIGMETS) for severe weather to include severe thunderstorms, severe icing, or severe turbulence (see paragraphs 4.8.4.4 and 4.8.4.5).

c. No change shall be made in the PIC.

d. A corrected manifest shall be left with a responsible person at each intermediate base at which a change of passengers or crew occurs (see paragraph 4.8.2).

e. Weight and balance must remain within limits (see paragraph 4.8.6).

f. A revised flight plan void time shall be filed with flight service when appropriate.

g. The pilot shall close out the balance of the original flight plan if the flight is terminated at an intermediate base.

Note

Stopover flights outside of the United States are governed by the procedures contained in the appropriate area FLIP (planning) publication.

4.6 SUBMISSION OF THE FLIGHT PLAN

4.6.1 PIC/Formation Leader

Except when a daily flight schedule is used in lieu of a flight plan form, the pilots in command/formation leaders shall submit a flight plan for their flight (including remote filing via the FWB system). For multipiloted aircraft, the PIC/formation leader may choose to delegate this responsibility to a NATOPS qualified pilot/NFO. Regardless, the PIC/formation leader is responsible for compliance with subparagraphs a through h below.

a. The flight has been properly authorized.

b. Adequate flight planning data, including NOTAM service, was available for complete and accurate planning.

c. The flight will be conducted in accordance with governing directives and adherence to criteria for fuel requirements and weather minimums.

d. Each pilot in a formation flight has received the required flight route weather briefing (in accordance with paragraph 4.6.3).

e. The PIC/each pilot in a formation flight possesses a valid instrument rating if any portion of the flight is to be conducted under IMC or in positive control areas or positive control route segments.

f. Passengers have been properly briefed and manifested.

g. Proper weight and balance forms, if applicable, have been filed.

h. The PIC acknowledges responsibility for the safe and orderly conduct of the flight.

4.6.2 Daily Flight Schedule

A signature by the reporting custodian or other appropriate authority on the daily flight schedule, when used in lieu of a flight plan form, signifies that preceding subparagraphs a through h shall be assured prior to flight.

4.6.3 Flight Plan Approval

The pilots in command of a naval aircraft or formation leaders are authorized to approve the flight plan for their proposed flight or modification thereof.

4.7 FLIGHT PLAN MODIFICATION

Modification of a written flight plan shall be accomplished only with the concurrence of the PIC.

4.8 OTHER PREFLIGHT REQUIREMENTS

4.8.1 Call Sign Requirements

Call sign selection for cross-country flights shall be made in accordance with DoD FLIPs. It is strongly recommended that squadron modex (NJ213, DB214) be used in flight planning. If the use of tactical/squadron call signs is necessary, call signs shall be the approved JANAP 119 call sign for the unit concerned. Abbreviations or contractions of these call signs is not authorized.

4.8.2 Manifest Requirements

The PIC of a naval aircraft flight shall ensure that a copy of the manifest is on file with a responsible agency at the point of departure prior to takeoff. The manifest shall include an accurate list of personnel aboard the aircraft, showing names, serial numbers, grade and service if military, duty station, and status aboard the aircraft (passenger or crew). All persons aboard other than flight personnel are passengers and shall be manifested as such. When initial transmission of a flight plan by radio is permitted after takeoff in accordance with this instruction, depositing such a personnel list continues to be a mandatory pretakeoff requirement of the PIC of the flight. The pilot shall state the location of the required personnel list when filing by radio or telephone. Helicopter and tiltrotor pilots engaged in SAR missions, lifting reconnaissance parties, patrols, and outposts during field problems are released from manifest responsibilities when there is no proper agency available with whom a passenger manifest could be deposited.

SEE IC # 43

4.8.3 Flight Route Weather Briefing

4.8.3.1 General

Naval aviators shall be thoroughly familiar with weather conditions for the area in which flight is contemplated. Many sources of weather information, both governmental and commercial, are readily available to assist pilots in flight planning and OPR. For flights where any portion of the intended route is forecast to be under IMC, naval aviators shall obtain a flight route weather brief from a DoD-qualified forecaster or approved forecasting service.

a. The primary method for requesting and obtaining flight route weather briefings ashore is online through the Web-enabled FWB system (https://fwb.metoc.navy.mil) operated by DoD-qualified meteorological forecasters at the Naval Aviation Forecast Center (NAFC), its satellite components, or within the Marine Corps Weather Services. Alternate methods of delivery are available upon request.

b. If operating from locations without access to FWB, naval aviators may obtain route weather forecast support from NAFC via 1-888-PILOTWX. Additionally, an approved flight route weather briefing may be obtained via an FSS or through Air Force Weather and Marine Corps Services, where available.

c. Commercial weather forecasting services may be utilized when the services in paragraph a and b are unavailable. Commercial weather forecasting services must meet the following requirements:

(1) Utilize National Weather Services and International Civil Aviation Organization(ICAO) approved aviation weather information.

(2) Comply with all ICAO, FAA, FAR and Joint Aviation Requirement on Commercial Air Transportation (JAROPS) requirements.

(3) Be an approved FAA Qualified Internet Communication Provider (QICP).

In addition, the final approving authority authorizing specific commercial flight forecasting services rests with the TYCOM. Reporting custodians are not responsible to fund commercial flight forecasting services.

4.8.3.2 Flight Route Weather Briefing Form (DD-175-1)

Naval aviators shall request a DD-175-1 flight route weather brief from a DoD qualified forecaster whenever a DD-175/DD-1801 flight plan is filed. For a VFR flight using a DD-175/DD-1801, the following certification statement may be used in lieu of a completed DD-175-1:

"Brief Time: _____ Brief NO: _____
"Briefing Void _____Z, Flight as planned can be conducted entirely under Visual Flight Rules. Verbal briefing given and hazards explained. No SIGMETS or WWs exist. Following AIRMETS or other warnings are known to be currently in effect along planned route of flight:
_____.
FLT LVL Winds: _____

_____
(Signature of Forecaster)

Note

- DD-175-1 flight route weather briefings will include briefing (flimsy) number and brief void time. DD-175-1 briefs are only valid for 3.0 hours past briefing/FWB delivery time or ETD plus one-half hour. Briefings received more than 3.0 hours prior to takeoff will be void and require rebriefing prior to departure. Whenever possible, naval aviators should request a DD-175-1 flight route weather briefing at least 1 hour prior to proposed brief time to allow sufficient time for brief preparation.

- Canned local area/route weather briefs (canned DD-175-1s) and associated CR for flight plan filing will be available via FWB in accordance with local instruction for military airfields to streamline support for local flight operations using stereo routes, canned routes, local training routes, or MTR. Any portions of the local area/route that are forecast for IMC will be clearly indicated on the canned local area/route weather brief, and it is incumbent on the PIC to remain cognizant of weather flight safety requirements. If significant portions of the local area are IMC or are covered by a WW, severe weather warning, or SIGMET, the local area/route weather brief and the associated CR may be suspended. Canned local area/route weather briefs will be updated in accordance with briefing void times above.

- If required by local instruction to file a DD-175 IFR flight plan for local air control only, the route of flight is intended for VMC within the field's defined local area, and the route is covered by a canned local area/route weather brief, the CR may be used for filing the flight plan.

- For IMC flights within a field's defined local area covered by a canned local area/route weather brief, a CR may be used for filing a DD-175 IFR flight plan as allowed by local instruction.

4.8.3.3 Flight Weather Packet

A flight weather packet may be requested, but is not mandatory. Naval aviators should normally allow a minimum of 2 hours for preparation of the packet. Items provided in the flight weather packet are listed in NAVMETOCCOMINST 3140.14E.

4.8.4 Weather Criteria for Filing

Flight plans shall be filed based on all the following:

a. The actual weather at the point of departure at the time of clearance.

b. The existing and forecast weather for the entire route of flight.

c. Destination and alternate forecasts for a period 1 hour before ETA until 1 hour after ETA.

4.8.4.1 VFR Flight Plans

The PIC shall ascertain that actual and forecast weather meets the criteria specified in paragraph 5.2.4 of this instruction prior to filing a VFR flight plan.

4.8.4.2 IFR Flight Plans

Regardless of weather, IFR flight plans shall be filed and flown whenever practicable as a means of reducing midair collision potential. In any case, forecast meteorological conditions must meet the weather minimum criteria shown in figure 4-1 for filing IFR flight plans and shall be based on the pilot's best judgment as to the runway that will be in use upon arrival. IFR flight plans may be filed for destination at which the forecasted weather is below the appropriate minimums provided a suitable alternate airfield is forecast to have at least 3,000-foot ceiling and 3-statute-mile visibility during the period 1 hour before ETA until 1 hour after ETA.

4.8.4.3 Alternate Airfield

An alternate airfield is required when the weather at the destination is forecast to be less than 3,000-foot ceiling and 3-statute-mile visibility during the period 1 hour before ETA until 1 hour after ETA.

DESTINATION WEATHER ETA plus and minus 1 hour	**ALTERNATE WEATHER ETA plus and minus 1 hour**	
0 — 0 up to but not including Published minimums	3,000 — 3 or better	
Published minimums up to but not including 3,000 — 3 (single — piloted absolute minimums 200 — 1/2) (single — piloted helicopter/tilt — rotor absolute minimums 200 — 1/4)	NON-PRECISION	PRECISION
	*Published minimums plus 300 — 1	*Published minimums plus 200 — 1/2
3,000 — 3 or better	No alternate required	
*In the case of single — piloted or other aircraft with only one operable UHF/VHF transceiver, radar/airport surveillance approach (PAR/ASR) minimums may not be used as the basis for selection of an alternate airfield.		

Figure 4-1. IFR Filing Criteria

Note

If an alternate airfield is required, it must have a published approach compatible with installed operable aircraft navigation equipment that can be flown without the use of two-way radio communication whenever either one of the following conditions is met:

a. The destination lacks the above described approach.

b. The forecasted weather at the alternate is below 3,000-foot ceiling and 3-statute-mile visibility during the period 1 hour before ETA until 1 hour after ETA.

4.8.4.4 Icing and Thunderstorm Conditions

Flights shall be planned to circumvent areas of forecast atmospheric icing and thunderstorm conditions whenever practicable.

4.8.4.5 Severe Weather Watch Bulletins

The Service Storm Prediction Center (SPC), Norman, OK, issues severe WW bulletins in CONUS. They are responsible for issuing these threats in text as well as graphical formats. WW bulletins are issued for areas where conditions are favorable for development of severe weather and warnings are issued by local National Weather Service forecast offices where these conditions are actually occurring. Severe thunderstorm and tornado warnings should be treated similar to WW bulletins when flight planning. Except for operational necessity, emergencies, and flights involving all-weather research projects or weather reconnaissance, pilots shall not file into or through areas for which the SPC has issued a WW unless one of the following exceptions apply:

a. Storm development has not progressed as forecast. For air operations originating/terminating at naval installations, local installation commanding officers and/or wing commanders may continue operations in areas under a WW based on a determination that storm development has not progressed as forecast for the planned route of flight. Normally, such determination should include verification by a DoD forecaster or an FSS. For naval aviators contemplating flight operations from other DoD or commercial airfields, flight operations through WW are authorized only if storm development has not progressed as forecast for the planned route as verified by DoD forecasters or an FSS. In either situation:

(1) VFR filing is permitted if existing and forecast weather for the planned route permits such flights.

(2) IFR flight may be permitted if aircraft radar is installed and operative, thus permitting detection and avoidance of isolated thunderstorms.

(3) IFR flight is permissible in controlled airspace if VMC can be maintained, thus enabling aircraft to detect and avoid isolated thunderstorms.

b. Performance characteristics of the aircraft permit an en route flight altitude above existing or developing severe storms.

Note

It is not the intent to restrict flights within areas encompassed by or adjacent to a WW area unless storms have actually developed as forecast.

4.8.5 Minimum Fuel Requirements

4.8.5.1 Fuel Planning

All aircraft shall carry sufficient usable fuel, considering all meteorological factors and mission requirements as computed below:

a. If alternate is not required, fuel to fly from takeoff to destination airfield, plus a reserve of 10 percent of planned fuel requirements.

b. If alternate is required, fuel to fly from takeoff to the approach fix serving destination and thence to an alternate airfield, plus a reserve of 10 percent of planned fuel requirements.

c. In no case shall the planned fuel reserve after final landing at destination or alternate airfield, if one is required, be less than that needed for 20 minutes of flight, computed as follows:

(1) Reciprocating engine-driven aircraft. Compute fuel consumption based on maximum endurance operation at normal cruise altitudes.

(2) Turbine-powered fixed-wing/tiltrotor aircraft. Compute fuel consumption based on maximum endurance operation at 10,000 feet.

(3) Turbine-powered helicopters. Compute fuel consumption based on operation at planned flight altitude.

d. Minimum fuel reserve requirements for specific model aircraft shall be contained in the appropriate NATOPS manual.

4.8.5.2 In-Flight Refueling

Aircraft shall carry sufficient usable fuel to fly from takeoff point to air refueling control point(s) (ARCP), thence to a suitable recovery field in the event of an unsuccessful refueling attempt. In no case shall the fuel reserve at rendezvous point be less than 10 percent. For multiple in-flight refuelings, the aircraft must have the required reserve at each rendezvous point. After the last in-flight refueling is completed, the fuel reserve required for the remainder of the flight shall be in accordance with paragraph 4.8.5.1.

4.8.5.3 Delays

Any known or expected traffic delays shall be considered time en route when computing fuel reserves. If route or altitude assigned by ATC causes or will cause planned fuel reserves to be inadequate, the pilot shall inform ATC of the circumstances, and, if unable to obtain a satisfactory altitude or routing, alter destination accordingly.

4.8.6 Weight and Balance Control

4.8.6.1 Requirements

All aircraft are subject to weight and balance control requirements, and certification that the aircraft will remain within weight and balance flight clearance requirements for the duration of flight is signified by the presence of an authorized signature on the flight plan. Blank Navy/Marine Corps aircraft weight and balance handbook forms are contained in reference (u). When filled in for a specific bureau number (BuNo) aircraft, the reference (u) data pages become the weight and balance handbook for that aircraft. An explanation of the data required to prepare the individual aircraft weight and balance handbook pages and the associated flight clearance requirements are specified in reference (v). Maximum operating weights, restrictions, and center-of-gravity limitations are delineated in the applicable NATOPS manual.

4.8.6.2 Responsibility

With the exception of aircraft to be ferried, the responsibility for ensuring safe loading of class 1A, 1B, and class II aircraft is assigned to reporting custodians. The responsibility for safe loading of aircraft to be ferried rests with the activity preparing the aircraft for ferry movement.

4.8.6.3 Filing

Submission of the flight plan constitutes PIC certification that aircraft weight and center of gravity will be within safe limits at time of takeoff and remain so for the duration of the flight. Additionally, the PIC certifies that:

a. A completed DD 365-4 Weight and Balance Clearance Form F – Transport/Tactical presented with the flight plan represents the actual aircraft loading.

b. A completed DD 365-4 representing the actual aircraft loading is on file at the aircraft’s home base.

4.8.6.4 Records

DD 365-4 originals shall be retained for a period of 3 months.

4.9 CLOSING OF FLIGHT PLAN

It is the responsibility of the PIC/formation leader to ensure that the proper agency is notified of flight termination.

4.9.1 Military Installations

At military installations, the pilot either shall verbally confirm the closing of the flight plan with tower or base operations personnel or deliver a copy of the flight plan form to base operations.

4.9.2 Nonmilitary Installations

At nonmilitary installations, the pilot shall close the flight plan with flight service through any means of communication available. Collect, long-distance telephone service may be used if required. When appropriate communication links are known or suspected not to exist at the point of intended landing, a predicted landing time in lieu of the actual landing shall be reported to an appropriate aeronautical facility while airborne.

Note

Cancellation of an instrument flight plan does not meet the requirement for closing out the flight plan. When a landing report has been properly delivered, the flight plan will be considered closed out.

CHAPTER 5

Flight Rules

5.1 GENERAL FLIGHT RULES

5.1.1 Aircraft Lighting

Except when the nature of operations requires different lighting displays (i.e., formation flight, aerial refueling, carrier operations, night vision device (NVD) operations, FCLP pattern, emergency signals, etc.) or the model aircraft configuration precludes compliance, the following rules shall apply.

Note

Flight operations with NVDs are specifically addressed in paragraph 5.7.

5.1.1.1 Position Lights

Standard position lights shall be displayed during the period 30 minutes before official sunset until 30 minutes after official sunrise or at any time when the prevailing visibility as seen from the cockpit is less than 3 statute miles. During these conditions, they shall be displayed:

a. Immediately before engine start and anytime the engine(s) is running.

b. When the aircraft is being towed unless the aircraft is otherwise illuminated.

c. When an aircraft is parked and likely to cause a hazard unless the aircraft is otherwise illuminated or marked with obstruction lights.

5.1.1.2 Anti-Collision Lights

Anti-collision lights shall be used immediately before engine start and at all times when the aircraft engine(s) is in operation, except when the use of such lights adversely affects ground operations (i.e., arming and dearming, refueling operations, etc.). They may be turned off during flight through clouds when the rotating light reflects into the cockpit. The use of green anti-collision lights for the specific purpose of identifying airborne tankers is authorized, provided that standard position lights are also displayed.

5.1.1.3 Landing/Taxi Lights

The use of landing/taxi lights is an effective means of illuminating surface hazards during taxi movements at night and alerting all concerned of an aircrafts presence/position in flight. Landing/taxi lights should be utilized for all taxi movements ashore during the hours of darkness unless a taxi signalman is directing the aircraft. Use of those lights during landing approaches (both day and night) within class B, C, or D airspace is recommended when meteorological conditions permit.

Note

Good judgment should be exercised to avoid blinding pilots of other aircraft that are either airborne or on the ground.

Use of landing/taxi lights is recommended in areas of high bird concentration.

5.1.1.4 Formation Flight Lighting

To the extent necessary for safety, lighting configuration for formation flights may be varied according to aircraft model and mission requirements. Normally, all aircraft in the flight shall have external lights on and at least one aircraft in the flight shall have lights on bright and the anti-collision light on when aircraft lighting is required.

Note

Aircraft engaged in drug interdiction operations are granted relief from reference (d), subpart 91.209(a), provided each operation is conducted using a dedicated on-board observer, electronic/radar equipment, or an observer in a spotter aircraft, all of which must be capable of detecting the presence of other aircraft operating in proximity to the interdiction aircraft and alerting the pilot to those aircraft locations. Additionally, interdiction aircraft will be required to operate the aircraft position lights to the maximum extent possible when instructed by ATC and will be authorized to operate without lights only when necessary to avoid detection by illegal elements.

5.1.2 Right-of-Way Between Single and Formations of Aircraft

When a single naval aircraft is converging with an aircraft formation at approximately the same altitude (except head-on, or nearly so), the formation flight has the right of way. In other cases, the formation shall be considered as a single aircraft and the right-of-way rules of reference (d), subpart 91.113 apply.

5.1.3 Unusual Maneuvers Within Class B, C, or D Airspace

Pilots shall not perform or request clearance to perform unusual maneuvers within class B, C, or D airspace if such maneuvers are not essential to the performance of the flight. ATC personnel are not permitted to approve a pilot's request or ask a pilot to perform such maneuvers. Unusual maneuvers include unnecessary low passes, unscheduled fly-bys, climbs at very steep angles, practice approaches to altitudes below specific minimums (unless a landing is to be made), or any so-called flat hatting wherein a flight is conducted at a low altitude and/or a high rate of speed for thrill purposes.

5.1.4 Aircraft Speed

5.1.4.1 FAR 91, Reference (d)

To reduce midair collision hazards associated with high aircraft speeds at low altitudes, reference (d), subpart 91.117, imposes a maximum airspeed limitation of 250 knots indicated airspeed (KIAS) on all aircraft operating below 10,000 feet mean sea level (MSL) in airspace where reference (d), applies and a maximum of 200 KIAS for aircraft operating: (1) at or below 2,500 feet above the surface within 4 nm of the primary airport of a class C or D airspace area, or (2) in the airspace underlying a class B airspace area designated for an airport or in a VFR corridor designated through such a class B airspace area. The regulation grants exception for operations that cannot safely be conducted at airspeeds less than the prescribed maximum airspeed. The FAA has authorized the DoD to exceed 250 KIAS below 10,000 feet MSL for certain military requirements.

Note

Aircraft engaged in drug interdiction operations are exempted from the general speed limit of 250 knots below 10,000 feet MSL. However, pilots of aircraft so involved are required to establish and maintain two-way radio communication with the tower prior to entering the class B, C, or D airspace and, unless otherwise authorized by ATC, avoid the traffic patterns for any airport in class B, C, or D airspace.

5.1.4.2 Policy

In accordance with FAA authorization, flight operations below 10,000 feet MSL at an indicated airspeed in excess of 250 knots are authorized under the following conditions:

a. Within restricted areas.

b. Within military operations areas.

c. When operating on DoD/FAA mutually developed and published routes.

d. When operating on DoD-developed and DoD-published VR routes. Such routes shall be established for specific missions and used only by designated units when the provisions of subparagraphs a through c above will not accommodate the required national defense mission. Routes shall be developed and published in accordance with DoD/FAA mutually developed criteria.

e. When operating within large-scale exercises or on short-term special missions approved by commanders listed in paragraph 5.1.4.3. Such exercises or missions may be authorized provided that coordination is effected to ensure awareness on the part of the nonparticipating flying public.

f. If the airspeed required or recommended in the aircraft NATOPS manual to maintain safe maneuverability is greater than the maximum speed described in reference (d), subpart 91.117, the aircraft may be operated at that speed.

Where the required or recommended speed is given as a range, the lower part of the speed range consistent with good operating practice should be used. The primary purpose of this provision is to accommodate climbs, descents, and terminal area operations and shall not be used to circumvent the provisions of subparagraphs above. Under no circumstance will this safe maneuverability provision be construed as authorization for individual pilots or mission commanders to conduct other flights below 10,000 feet in excess of 250 knots.

5.1.4.3 Approval Authority

Approval authority for paragraph 5.1.4.2.e is as follows: CMC; COMNAVAIRFOR, COMNAVAIRPAC; COMNAVAIRLANT; COMMARFORPAC; COMMARFORCOM; CNATRA; COMNAVAIRFORES; CG FOURTH MAW; or COMNAVAIRSYSCOM, as appropriate. Such operations may be approved providing full consideration is given to mission requirements and the safety of nonparticipating aircraft. The above commanders must review and approve each route established in accordance with paragraphs 5.1.4.2.c and 5.1.4.2.d within respective areas of responsibility. Coordination will be effected with the appropriate NAVREP at the FAA Regional Office to ensure that notice to the aviation public is provided.

Note

When an altitude below 10,000 feet MSL is assigned to aircraft requiring a higher operating speed for safe maneuverability, as indicated in the NATOPS manual for that aircraft, the pilot shall notify the controlling ATC facility of that higher minimum speed.

5.1.5 Special Use Airspace (SUA)

a. When operating within SUA, ATC assigned airspace (ATCAA), or altitude reservations (ALTRVs), flights shall be conducted under the prescribed operational area procedures appropriate to the airspace area and mission/operation. Procedures and separation standards may be contained in a letter of agreement between the FAA and the military, or other applicable military or FAA directives.

b. Military Assumes Responsibility for Separation of Aircraft (MARSA) may be applied between military aircraft as specified by letter of agreement or other appropriate military and FAA documents. However, MARSA may not be invoked by individual aircraft or between flights of aircraft.

Note

It is of the utmost importance that aircraft operating independently or under the control of a ground, ship, or airborne controller remain within the specified vertical and horizontal limits of assigned airspace. Remaining within assigned airspace can only be achieved by maintaining a total awareness of details depicted in current charts, publications, and military directives, coupled with a continual assessment of the accuracy of the controlling

agency's radar. It may be required to operate with self-imposed vertical and horizontal buffers to remain within assigned airspace.

When operating in designated SUA, aircrews should be aware that civilian aircraft may not honor the existence of such areas, nor monitor radio frequencies to receive appropriate warning/ advisories.

5.1.6 Military Training Routes (MTRs)

5.1.6.1 General

a. MTRs have been developed to accommodate high-speed, low-level tactical training in excess of 250 KIAS. Operations shall be conducted at the minimum airspeed compatible with mission requirements. General information concerning MTRs is contained in reference (w) (FAA Order 7610.4, Special Military Operations). Specific route information is contained in FLIP AP/1B (Military Training Routes). Safety of flight is of prime consideration during all phases of low-altitude training.

b. MTRs that include one or more segments above 1,500 feet above ground level (AGL) are identified by a three-digit identifier; those with no segment above 1,500 feet AGL are identified by four digits.

c. Flight operations conducted along these routes or segments of these routes shall conform to the direction of traffic flow indicated in the route description.

5.1.6.2 Preflight Planning

a. Low-altitude, high-speed navigation training can be safely conducted by the execution of carefully planned flights. It is the responsibility of each crewmember to maintain professionalism in low-level operations and exercise a thorough knowledge of MTRs and operating constraints to ensure safe and meaningful training.

b. Low-level flying requires extensive preflight planning. A thorough review of FLIP AP/1B, temporary route advisories, Chart Updating Manual (CHUM), and Chart Updating Manual Supplement (CHUMSUPP) is essential to ensure flight safety and maximum training from each sortie. Check with the scheduling agency for unpublished restrictions and low-altitude charts for airspace restrictions.

c. A 1:500,000 scale chart, current tactical pilotage chart (TPC) or sectional aeronautical chart, should be used for flying low-level navigation.

d. Review the route corridor to identify all significant obstacles and high terrain. Note the avoidance criteria for airfields and the need to remain clear of published noise-sensitive areas.

e. Compute a route abort altitude. This altitude shall provide obstruction clearance. Aircrew must be aware of route structure.

5.1.6.3 Operating Procedures

5.1.6.3.1 General

a. Unless otherwise delineated in an MTR special operating procedure, aircrew shall avoid charted, uncontrolled airports by 3 nm or 1,500 feet.

b. Aircrew shall avoid class B, C and D airspace.

c. Aircrew shall minimize disturbance to persons/property on the ground.

d. All route entries shall be accomplished at published entry/alternate entry points only.

e. Adherence to scheduled entry times provides for safe separation from other aircraft on the route or aircraft on conflicting/crossing routes.

f. Pilots shall be responsible for remaining within the confines of the published route width and altitude. If in an emergency it should become necessary to exceed the route parameters, the 250-knot speed restriction of reference (d), subpart 91.117 applies.

g. MTR Segment Transition

(1) Pilots transitioning from one MTR segment to another segment with a lower minimum altitude must cross the fix defining the next leg no lower than the preceding segments minimum altitude. Example: "05 AGL B 15 AGL to "E" 02 AGL B 15 AGL to ..." indicates "E" must be crossed no lower than 500 feet AGL.

(2) Pilots transitioning from one MTR segment to another segment with a higher minimum altitude must cross the fix defining the next leg no lower than the subsequent segments minimum altitude. Example: "02 AGL B 15 AGL to "B" 10 AGL B 15 AGL to ..." indicates "B" must be crossed no lower than 1,000 feet AGL.

(3) Pilots transitioning from one MTR segment to another segment with a lower maximum altitude must cross the fix defining the next leg no higher than the subsequent segments maximum altitude. Example: "10 AGL B 60 MSL to "D" 02 AGL B 15 AGL to ..." indicates "D" must be crossed no higher than 1,500 feet AGL.

(4) Pilots transitioning from one MTR segment to another segment with a higher maximum altitude must cross the fix defining the next leg no higher than the preceding segments maximum altitude. Example: "10 AGL B 40MSL "B" 02 AGL B 70 MSL to ..." indicates "B" must be crossed no higher than 4,000 feet MSL.

h. Pilots shall be responsible for adhering to the provisions of reference (d), subpart 91.119 (Minimum Safe Altitude, General).

i. All route exits shall be accomplished at published exit/alternate exit points only.

j. When exiting an MTR below 10,000 feet MSL, the flight shall comply with reference (d), subpart 91.117 (Aircraft Speed).

5.1.6.3.2 IFR Military Training Route (IR) Procedures

a. All IFR MTR (IR) operations shall be conducted on IFR flight plans.

b. Pilots shall be responsible for obtaining a specific ATC entry clearance from the appropriate ATC facility prior to entering an IR route.

c. Contour flight on IRs is outlined in FLIP AP/1B. Refer to "Terrain Following Operation" entry for applicable IR routes.

d. Pilots shall be responsible for obtaining an IFR ATC exit clearance prior to exiting an IR route.

5.1.6.3.3 VFR Military Training Route (VR) Procedures

a. Flight plan requirements for VFR MTR (VR) usage:

(1) Pilots departing on IFR clearances to fly VRs are required to file to the fix/radial/distance of their route entry/alternate entry point.

(2) Pilots transitioning to IFR upon exiting a VR are required to have on file a previously filed IFR flight plan from the appropriate fix/radial/distance of their exit point.

b. Operations on VRs shall be conducted only when the weather is at or above VFR minimums except that:

(1) Flight visibility shall be 5 miles or more; and

(2) Flights shall not be conducted below a ceiling of less than 3,000 feet AGL.

c. For VR routes, the nearest flight service station will be notified ((255.4 megahertz (MHz)) by the pilot upon entering the route with: entry time, number/type aircraft, exit fix and estimated exit time.

d. Pilots of aircraft operating on a VR route will adjust their transponder to code 4000 unless otherwise assigned by ATC.

5.1.6.4 Communication Failure

a. If the failure occurs in VMC, or if VMC are encountered after the failure, each pilot shall continue the flight VFR and land as soon as practicable. Refer to reference (d), subpart 91.185b and DoD FLIP Flight Information Handbook.

b. If the failure occurs in IMC or if paragraph a above cannot be complied with, each pilot shall:

(1) Maintain to the exit/alternate exit point the higher of the following:

(a) The minimum IFR altitude for each of the remaining route segment(s)

(b) The highest altitude assigned in the last ATC clearance.

(2) Depart the exit/alternate exit point at the altitude determined in subparagraph b(1) above, then climb/descend to the altitude filed in the flight plan for the remainder of the flight.

c. Adjust transponder to reply on mode 3/A code 7600.

5.1.6.5 Emergency

If aircrews are unable, during an emergency, to continue on a VR or IR at the published altitude(s), they shall immediately squawk 7700 and contact the appropriate ATC facility.

Note

Climbing above the MTR structure may place aircraft in close proximity to airways traffic; caution is advised.

5.1.7 Flight Over the High Seas

a. International law recognizes the right of aircraft of all nations to fly in airspace over the high seas. By convention, procedures for international flight are prescribed and certain nations have agreed to provide air traffic services in designated airspace over the high seas. Naval aircraft should operate in accordance with ICAO procedures presented in reference (x) and DoD FLIP General Planning, which address use of airspace by U.S. military aircraft and define due regard operations for military aircraft.

b. During flight operations at sea, tower or radar control by a ship, fleet area control and surveillance facility (FACSFAC), or other suitable agency, shall be used to the maximum extent practicable. The degree of control shall be appropriate to the nature of the operation, classification of airspace, number of aircraft involved, and the requirement to coordinate aircraft ingress and egress to/from the operating area.

c. When operating offshore within domestic ARTCC boundaries, airspace of the Hawaiian Islands, and the San Juan domestic control area, Navy policy is to use domestic air traffic control services and procedures to the maximum extent practicable consistent with mission requirements.

Note

When radar control of fixed-wing aircraft is being provided by a Navy ship or shore station in airspace managed by a FACSFAC, continuous two-way communication is required between that ship or shore station and the FACSFAC. Also the FACSFAC must maintain two-way communication with the appropriate FAA facility as required.

5.1.8 Supersonic Flight Operations

5.1.8.1 General

Commanding officers assigned aircraft capable of supersonic flight shall ensure that aircrews are thoroughly familiar with the shock wave phenomenon peculiar to supersonic flight. Serious damage, annoyance, and mental stress have resulted from sonic booms. It is incumbent on every pilot flying aircraft capable of generating sonic booms to reduce such disturbances and damage to the absolute minimum dictated by operational/training requirements.

5.1.8.2 Policy

Supersonic flight operations shall be strictly controlled and supervised by operational commanders. Supersonic flight over land or within 30 miles offshore shall be conducted in specifically designated areas. Such areas must be chosen to ensure minimum possibility of disturbance. As a general policy, sonic booms shall not be intentionally generated below 30,000 feet of altitude unless over water and more than 30 miles from inhabited land areas or islands. Deviations from the foregoing general policy may be authorized only under one of the following:

a. Tactical missions that require supersonic speeds

b. Phases of formal training syllabus flights requiring supersonic speeds

c. Research, test, and operational suitability test flights requiring supersonic speeds

d. When specifically authorized by CNO for flight demonstration purposes.

5.1.8.3 Reports, Inquiries, and Investigations

a. The Department of the Navy must accept responsibility for restitution and payment of just claims for damage resulting from sonic booms determined to have been caused by naval aircraft. To assist in determining validity of claims, all supersonic flights conducted over the CONUS or within 50 miles offshore shall be logged as to time, date, location, speed, and altitude of occurrence and retained at the unit level for 24 months.

b. Section 0910f of reference (r) provides information and instructions concerning investigations into sonic boom complaints and alleged damage claims.

5.1.9 Aerobatic Flight

5.1.9.1 General

CNO does not desire to discourage or curtail aerobatic training; however, it is of the utmost importance that aerobatic training be well regulated as to time, place, and conditions that enhance safety of flight.

5.1.9.2 Aerobatic Flight Precautions

Aerobatic flight maneuvers, as defined in the Glossary, shall not be performed:

a. If prohibited by the NATOPS manual or other directives applicable to a particular model aircraft;

b. Over any congested area of a city, town, or settlement;

c. Over an open air assembly of persons;

d. Within the lateral boundaries of the surface areas of class B, C, D, or E airspace designated for an airport;

e. Within 4 nm of the centerline of any Federal airway;

f. Below an altitude of 1,500 feet above the surface; or

g. When flight visibility is less than 3 statute miles.

5.1.9.3 Designated Aerobatics Areas

Appropriate commanders shall establish and designate areas in which aerobatics may be performed in compliance with the above restrictions and, under reference (d), subpart 91.303, in airspace where FARs apply. Pilots are encouraged to conduct aerobatic flight within the limits of designated aerobatic areas whenever the assigned mission permits.

5.1.10 Simulated Air Combat Maneuvering (ACM) Training Rules (TRs)

5.1.10.1 General

The nature of ACM demands that pilots be thoroughly familiar with the performance capabilities and limitations of the aircraft being flown. Rapid changes in heading, altitude, and the wide range of velocities generated, greatly increase the possibility of collisions between aircraft, departure from controlled flight, and or flight into terrain. ACM must be closely supervised with TRs that will provide a high degree of safety. Given the dynamic nature of ACM, these TRs cannot predict every possible airborne scenario, and do not relieve aircrew of the responsibility to apply sound judgment and the principles of ORM. Waivers to ACM TR requirements shall be submitted to COMNAVAIRFOR.

a. ACM is defined as the following:

(1) Aggressive three-dimensional maneuvering (beyond 180 degrees of turn) between two or more aircraft simulating offensive or defensive aerial combat where the potential for a role reversal exists.

Note

Aerobatic maneuvers in accordance with NATOPS manuals on scheduled training flights approved by competent authority are not considered to be ACM. However, single aircraft practicing ACM

maneuvers shall comply with the appropriate portions of the TRs (decks, cloud clearance, area, g warmup, etc.).

Air intercepts, performed in accordance with NATOPS manuals or as prescribed by cognizant aviation TYCOMs are not considered to be ACM. These intercepts shall result in no more than 180 degrees of turn by any aircraft postmerge and shall be terminated prior to any potential role reversal; however, applicable portions of the TRs (intercept/element deconfliction) shall be briefed.

The following maneuvers are considered to be ACM. This list should not be considered to be all inclusive.

(a) Neutral starts (to include butterfly starts).

(b) Offensive/defensive perches.

(c) Scissors maneuvers (roller, flat, looping).

(d) Gun defenses.

(e) Missile defenses to full blown engagements.

The following maneuvers are not considered to be ACM. However, ACM flight leads should use prudent headwork to ensure that adequate separation from clouds can be maintained during any three-dimensional maneuvering:

(a) Snapshot drill (guns weave, weapons weave).

(b) Tail chase (heat-to-guns drill).

(c) Forward quarter missile defenses that are terminated at the merge.

b. Qualification and Currency. Squadron commanders shall ensure that all participants are qualified and current in order to participate in ACM. ACM training flights shall be conducted under a formal training syllabus under direct supervision of mature, experienced flight leaders and only after all participants have been thoroughly briefed on the conduct of the flight.

(1) Initial ACM qualification in T/M/S may only be achieved by completing an FRS (Fleet Replacement Squadron) approved Basic Fighter Maneuvers (BFM) syllabus. All CAT I/II/III/FRS students receive this training. Transitioning CAT IV students shall complete an advanced handling characteristics flight as part of their syllabus at the FRS under the instruction of a qualified BFM instructor aircrew.

Background	Flight Experience	Additional Requirements
Pilot with Strike/Fighter Experience	25 hours in Type/Model and meet initial ACM qualification requirements in section 5.1.10.1 b(1)(a).	Aircrew shall be NATOPS qualified in T/M/S. Aircrew shall receive out of control flight (OCF) training. Pilot time must be FPT. Note: CNATRA approved ACM Instructor Training syllabus replaces FRS syllabus for T-45 Instructor Pilots.
Pilot without Strike/Fighter Experience	100 hrs in Type/Model and meet initial ACM qualification requirements in section 5.1.10.1 b(1)(a).	
NFO	Meet initial ACM qualification requirements in section 5.1.10.1 b(1)(a).	

Figure 5-1. ACM Qualification

(2) Out of control flight training. Pilots and NFOs flying Strike Fighter Class aircraft shall complete OCF/spin training prior to initial ACM qualification.

(3) Centrifuge-based Flight Environment Training (CFET) is required initial training for Strike Fighter Class aircrew prior to reporting for FRS training. Further guidance is located in Naval Aviation Survival Training Program, "Specialized Training Requirements" section.

c. Training Command (TRACOM) Instructor Pilot ACM qualification is subject to the CNATRA Flight Training Instruction (FTI).

d. Pilots of naval aircraft shall not make simulated attacks on any aircraft that has troops or passengers embarked except as may be authorized by fleet commanders for exercises where coordinated and scheduled simulated attacks against military troop transport aircraft are desired for training purposes.

e. Squadron commanders shall ensure all participants are qualified and current in accordance with applicable directives in order to participate in ACM.

(1) Strike/fighter experience applies to all aircraft within the Strike/Fighter Class (F-14, F/A-18, F-5, F-16, AV-8).

(2) Instructor pilots in Trainer Class aircraft (T-45, T-2) fall under the same strike/fighter flight experience requirements in figure 5-2.

(3) Type/Class/Model/Series (T/C/M/S) Definition.

(a) Type — Broadest classification (e.g., fixed wing or rotary wing).

(b) Class — Classification of general mission purpose of an aircraft (e.g., strike fighter, trainer, helicopter). Strike fighter class aircraft include F-14, F/A-18, F-5, F-16, AV-8, and F-35.

(c) Model — Basic mission symbol and design of an aircraft (e.g., F/A-18, H-60)

Flight Experience	Flight Currency	Additional Requirements
Pilot with <750 hours in T/C	1 flight within the previous 6 days. 2 flights within the previous 14 days	1 flight shall be in a dynamic maneuvering hop in the T/M aircraft ACM will be conducted. Non-tactical aircraft do not satisfy flight requirements. Flight must occur on or before 6th, 14th, 30th day. (If a flight is flown on a Friday, the following flight must be flown on or before the following Thursday in order to satisfy 1 in 6 requirement.)
Pilot with >750 hours in T/C	1 flight within the previous 14 days. 2 flights within the previous 30 days	
NFO Hours Independent		

Figure 5-2. ACM Currency

(d) Series — Specific version of an aircraft model (e.g., F/A-18C, F/A-18F, H-60R).

(4) Dynamic maneuvering is defined as three dimensional flight at or near the aircraft's aerodynamic/operating limits, or the limits as defined by NATOPS. Examples of dynamic maneuvering include tail-chase, dive weapons delivery, low altitude tactical training (LATT), and 1V0 high-performance flight.

f. Prior to commencing ACM maneuvering, fixed-wing aircrews shall perform a "g" awareness maneuver. This maneuver shall consist of a total of 180 degree of turn and should be used to operationally check g-suits and to practice straining maneuvers up to an amount of g's approaching the maximum amount anticipated on that particular flight.

g. If an aircrew experiences g loss of consciousness (GLOC) during any portion of the flight, the flight shall immediately terminate and that aircraft shall return to base.

h. Departure/spin recovery procedures shall be covered for all ACM participants during the preflight brief.

i. A face-to-face brief shall be conducted by collocated ACM participants with a minimum one individual from each participating unit. For units not collocated, a telephone brief shall be conducted to satisfy face-to-face briefing requirements. A pre-exercise brief, memorandum of agreement, e-mail, or fax may be used to complement or finalize prior face-to-face or telephone coordination between participating units. Hard and/or soft documents such as these are encouraged to add depth to TRs, special instructions, and conduct of flight coordination; however, they shall not replace the requirements mandated in a face-to-face or telephone brief. The following guidelines for telephone briefs and debriefs apply:

(1) A flight representative shall conduct the coordination/special instructions brief.

(2) All applicable TRs shall be covered during the telephone brief and included in the pre-exercise brief, memorandum of agreement, e-mail, or fax.

(3) The flight representative receiving the brief for composite or joint force training will brief all other participating aircrews prior to their flights.

(4) All aircrew shall be thoroughly familiar with the ACM TRs contained in this instruction. During the flight brief, ACM TRs (appendix M) may be briefed as "Training Rules in accordance with 3710" and shall cover, at a minimum, the mandatory briefing items denoted by asterisks. Non-mandatory briefing items do not need to be read verbatim, however, TRs specific to the mission shall be discussed in order to reduce the risk of a mishap.

5.1.10.2 ACM Training

a. The nature of ACM demands that pilots be thoroughly familiar with the performance capabilities and limitations of the aircraft being flown. Rapid changes in heading, altitude, and the wide range of velocities generated greatly increase the possibility of collisions between aircraft. ACM must be closely supervised and TR (formerly rules of engagement) applied that will provide a high degree of safety for all concerned.

b. Such training shall be conducted in airspace as nearly free from other aircraft as practicable. It shall be conducted only in designated warning/restricted areas, in controlled airspace as assigned by ATC, or in other designated areas where safe separation from non-participants can be maintained. As a minimum, designated ACM areas shall be clear of Federal airways, class B, C, or D airspace, and other areas of traffic congestion unless established under a letter of agreement with the FAA or host nation. Aviation TYCOMs or officers in tactical command, when deployed, shall designate ACM training areas and establish procedures to ensure that entering flights are aware of the existence of other scheduled flights operating there.

c. The ACM TRs set forth here are minimum requirements. Supplementary directives shall be issued as required by responsible commanders delineating syllabus contents, proficiency levels required, communication procedures, safety precautions, and other applicable areas of concern.

5.1.10.3 ACM Training Rules

The following rules are intended to provide guidance for conducting effective mishap-free ACM training. ACM TRs shall be thoroughly reviewed annually and documented in OPNAV 3760/32. The standardized ACM Training Rules Briefing Guide is listed in appendix M.

a. Always assume the other aircraft does not see your aircraft.

b. Aircraft shall maneuver to maintain at least 500 feet of separation from all other aircraft during engagements, including aircraft within the same division/section.

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c. During a forward quarter or head-on pass (track crossing angle greater than 135 deg), both aircraft shall maintain the established trend. Where no established trend exists, each aircraft shall give way to the right to create a left-to-left pass. When operating on the same radio frequency, aircrew should broadcast their own intentions if the direction of pass is in doubt. When operating on dual frequencies, exaggerate aircraft movements to ensure that the other aircraft recognizes your intentions.

d. The "up-sun" aircraft has responsibility for maintaining flight separation. If the up-sun aircraft loses sight, it shall broadcast lost sight and maintain a predictable flight path. If the "down-sun" aircraft loses sight, it shall break off the attack, lag the up-sun aircraft, and broadcast that it has lost sight. If the up-sun aircraft still has sight of the down-sun aircraft and safe separation can be maintained, the up-sun aircraft shall immediately broadcast "continue," otherwise a knock-it-off shall be initiated.

e. An aircraft pursuing another aircraft in a descent shall monitor the defensive aircraft's altitude/attitude and break off the attack with a turn away prior to either aircraft descending through the applicable altitude deck based on airspeed and AOA.

f. Nose-high aircraft on converging flightpaths shall deconflict with the higher nose attitude aircraft going high unless unable because of energy state or aircraft performance. The low or nose-low aircraft has the responsibility for maintaining flight separation.

g. A lead turn conducted while on converging flightpaths that causes the attacking aircraft to lose sight is prohibited.

h. With an offensive aircraft approaching gun parameters, defensive aircraft shall not dispense flares as part of a gun defense or as a distraction.

i. Fixed wing versus fixed-wing TRs:

(1) Missile attacks — All fixed-wing, forward-quarter missile attack acquisition (attempts to obtain AIM-9 tone rise or self-track from boresight, or attempts to obtain a radar lock from boresight) within 20 deg of the targets nose shall be broken off at a minimum of 9,000 feet. Inside 9,000 feet, the aircrew's undivided attention shall first be devoted to maintaining flight separation. Inside 9,000 feet, missile attacks may be prosecuted down to missile minimum range provided that flight separation has already been established and maintained.

(2) Gun attacks — Fixed-wing gun attacks shall be broken off at a minimum of 1,000 feet so as not to pass any closer than 500 feet to the defensive aircraft. Gun attacks within 45 degrees of target's nose are prohibited.

(3) Intercept deconfliction

(a) Aircrews conducting ACM or intercepts shall establish assigned blocks by 10 nm of the merge without situational awareness (SA) of the aircraft/formation being intercepted. This SA may be obtained from onboard sensors, communication with element members/C2, or tally (sight of adversary/visual (sight of wingmen)).

(b) Altitude blocks shall normally be MSL-definable in 4,000 foot intervals (e.g., Blue Air 5 to 9's, Red Air 0 to 4's) for all aircraft not equipped with radar altimeters. In mountainous terrain for Blue Air aircraft with training objectives that require operation in a low altitude arena, a 3,000 foot AGL definable block (i.e., Blue Air 1,000 to 4,000 feet AGL) for radar altimeter equipped aircraft is permissible. For situations where weather is less than 10,000 feet of clear air, Red Air will own the top 2,000 feet of the defined clear airspace, and Blue Air will own all clear airspace below the Red Air block (e.g., Blue Air 0 to 5, Red Air 6 to 8). In all cases where significant terrain, low level ingress routes, or nonmaneuvering intercepts (e.g., 1V1 all-weather intercepts) are involved, any adjustments to Red and Blue air altitude block deconfliction shall be thoroughly briefed.

(4) Element deconfliction

(a) Blind aircraft within an element shall immediately transmit "blind," and wingmen shall respond visual with their position. If the wingmen are simultaneously blind, they shall transmit "blind" with their altitude and maintain a level flight path. It is the responsibility of the first aircraft in the element that calls "blind" to establish altitude deconfliction. If communications are prohibited, each aircraft that remains blind shall maintain a level and predictable flight path, and their priority shall be to clear their flight path.

(5) Engagement deconfliction

(a) No more than eight aircraft may participate in ACM in the same visual engagement. A visual engagement is defined as merges occurring within 10 NM of each other.

(b) Blue and Red Air roles shall be clearly defined for each prior to fights on.

(c) Blue Air shall not turn at an engagement unless they have sufficient SA to clear their flight path. This SA may be obtained from onboard sensors, communication with element members/C2, or tally/visual. Without a tally/visual on all fighters and bandits, aircraft shall conduct belly checks at a minimum of every 90 deg of turn.

(d) Red Air shall have a more restrictive mindset to provide predictability than required of Blue Air. If tally not obtained on all fighters, Red Air shall maintain a predictable flight path in their block until positive SA assures that they are clear of the merge/engagement. This SA may be obtained from onboard sensors, communication with element members/C2, and or tally/visual.

j. Fixed wing versus helicopter TRs:

(1) All aircrew shall have completed initial low-altitude flight training as outlined by appropriate COMNAVAIRFOR, COMNAVAIRFORES or CMC directives.

(2) Supersonic flight is not authorized.

(3) If aircraft lose sight, they shall disengage. Fixed-wing aircraft will climb to at least 3,000 feet AGL. Helicopters shall climb to at least 300 feet AGL.

(4) Fixed-wing gun attacks shall be broken off at a minimum of 1,000 feet.

k. Helicopter versus helicopter TRs:

(1) All aircrew shall have completed initial low-altitude flight training as outlined by appropriate COMNAVAIRFOR, COMNAVAIRFORES or CMC directives.

(2) During prebriefed tail chase maneuvers, aircraft shall maintain a minimum of 200 feet of separation.

(3) An engagement shall be terminated if all aircrews unintentionally lose sight of each other. The engagement shall not be resumed until all participants have reacquired each other.

(4) Close range helicopter engagements shall involve no more than two 360 deg turns.

(5) Pilots shall not attempt to counter an adversary's altitude advantage with erratic or excessive climbing maneuvers.

(6) Astern gun attacks shall be broken off at a minimum of 500 feet.

5.1.10.4 ACM Communication Requirements

To facilitate positive control of aircraft and provide adequate safety measures, the following shall apply for the conduct of flights involving ACM training:

a. All aircraft participating in ACM shall have two-way radio communication. All multiplace aircraft shall have an operable intercommunication system (ICS).

b. Guard frequency shall be monitored throughout all engagements.

c. A single aircraft engaging another single aircraft shall monitor a common radio frequency.

d. Multiple flights:

(1) Flights of two or more aircraft engaging another flight of one or more aircraft may operate on assigned separate frequencies using either of the following control measures: each flight is under positive radar control of separate controllers and a senior air director (SAD) in the supervisory role is monitoring both frequencies, or each flight is under the positive control of separate range training officers (RTOs) or a tactical aircrew combat training system (TACTS) instrumented range. When a potentially dangerous situation develops, a call to “knock it off/terminate” shall be relayed by the SAD or RTO on both frequencies. Aviation TYCOMs may waive this restriction as requirements dictate.

(2) Dual-radio-equipped aircraft may elect to use a discrete intraflight frequency without separate GCI/TACTS control provided one radio is used to monitor the opposing section frequency.

e. Any no-radio (NORDO) aircraft shall rock its wings and assume 1g flight to signal loss of communication. If an aircraft rocks its wings or assumes a wings-level 1g condition during an encounter, that engagement shall be terminated.

f. If any aircrewman observes an unsafe or potentially dangerous situation developing, he/she shall announce it by transmitting, "knock it off/terminate," and shall maneuver appropriately to terminate the engagement.

5.1.10.5 ACM Weather Criteria

All ACM engagements shall be conducted in daylight VMC (minimum 30 minutes after official sunrise and 30 minutes prior to official sunset) using local altimeter and the following criteria:

a. ACM shall not be conducted into or through an overcast or undercast.

b. The top of the undercast or broken cloud layer is the simulated ground level.

c. Fixed wing versus fixed wing ACM shall be conducted with:

(1) At least 2,000 feet vertical and 1 nm horizontal separation from clouds at all times.

(2) Five miles minimum visibility with a defined horizon.

d. Fixed wing versus helicopter ACM shall be conducted with:

(1) A minimum ceiling of 3,000 feet AGL.

(2) Five miles minimum visibility with a defined horizon.

e. Helicopter versus helicopter ACM shall be conducted with:

(1) A minimum ceiling of 1,000 feet AGL.

(2) Three miles minimum visibility with defined horizon.

5.1.10.6 Fixed Wing Versus Fixed-Wing ACM Altitude Restrictions

To ensure standardization and provide an adequate margin of safety, the following restrictions shall apply:

a. No sustained maneuvering shall occur below a 5,000-foot hard deck above the terrain or undercast (e.g., over 4,000-foot terrain or a 4,000-foot undercast, the hard deck shall be adjusted to 9,000 feet). If the terrain or undercast is not of uniform height in the area of engagement, the deck shall be adjusted to reflect the highest terrain/undercast. Aircrew shall also brief that visual altitude and attitude cues are not accurate under these circumstances.

b. High AOA/slow-speed maneuvering shall be terminated passing through 10,000 feet AGL (soft deck). If the 5,000-foot AGL hard deck has been raised because of an undercast, high AOA/slow speed shall be raised and maneuvering

shall be terminated at the appropriate altitude AGL (i.e., with a 4,000-foot AGL undercast, the hard deck shall be 9,000 feet AGL and the soft deck shall be 14,000 feet AGL). An aggressive, nose low, out of plane gun defense maneuver to defeat an attackers gun solution shall not be executed below the soft deck.

c. Offensive and defensive maneuvering below the 5,000-foot deck shall be conducted in accordance with the following:

(1) For aircrews not low-altitude-flight-training qualified and current in accordance with appropriate service directives, the minimum altitude shall be 500 feet AGL.

(2) For aircrews low-altitude-flight-training qualified and current in accordance with appropriate service directives, the minimum altitude shall be 200 feet AGL.

(3) Functional wing/operational/group commanders may request waivers from such minimum altitudes from COMNAVAIRLANT, COMNAVAIRPAC, COMNAVAIRFORES, or CMC as appropriate.

(4) When an offensive/defensive relationship is established, the defensive aircraft shall react with a wing rock, an extension or separation maneuver, or the continuation of a level or climbing defensive turn of not more than 180 deg as measured from the heading at the beginning of the turn. The engagement shall also be terminated if a role reversal occurs.

(5) When during the initial maneuvering neither aircraft can be assessed as defensive, the engagement shall be terminated when any aircraft has turned a maximum of 180 degrees as measured from the heading at the beginning of the maneuvering.

(6) If the attacking aircraft's initial conversion turn is undetected, the engagement needs not be terminated until the defensive aircraft reacts and turns a maximum of 180 degrees.

(7) If a low-flying, fixed-wing aircraft wishes to maneuver in excess of 180 degrees of turn, the initial turn shall be made so as to carry the pilot above the 5,000-foot deck. Once above 5,000 feet, ACM may be continued only if each aircraft meets the appropriate airspeed and AOA requirement for ACM below the soft deck. Any aircraft not meeting those requirements shall terminate ACM.

WARNING

The flightpath behind a low-flying aircraft, co-altitude, should be avoided because of the effects of wake turbulence, jet or propeller wash, and the possibility of ordnance release. In addition, extended maneuvering precipitated by defensive reactions to repeated attacks can result in a depleted energy state such that continued maneuvers are unsafe because of ground proximity.

d. The floor is an altitude (MSL or AGL as appropriate) in which flight below is prohibited. A floor may be briefed if a no-lower-than altitude is desired for training, range restrictions, etc., above minimum NATOPS altitude restrictions.

5.1.10.7 Fixed Wing Versus Helicopter and Helicopter Versus Helicopter ACM Altitude Restrictions

a. No fixed-wing high AOA/slow-speed maneuvering below 10,000 feet AGL is authorized.

b. The following are the minimum altitudes for aircraft by type engagement:

(1) Helicopter versus helicopter — 100 feet AGL both aircraft.

(2) Helicopter versus fixed-wing (low attack angle 0 degree to 10 degrees) — 100 feet AGL, 500 feet AGL respectively.

(3) Helicopter versus fixed-wing (high attack angle greater than 10 degrees) — 100 feet AGL, 1,000 feet AGL respectively.

5.1.10.8 Fixed Wing Versus Fixed-Wing ACM and Ground Attack Interface

The following additional ACM related rules apply to multimission and composite force training where ground attack and escort aircraft may come under attack:

a. Aggressor aircrew shall be briefed on target location for any ordnance drops. The briefing shall include planned weapon delivery maneuvers and type ordnance, as appropriate. Aggressors shall break off an attack on strike aircraft below 10,000 feet AGL at a minimum of 3 nm prior to the designated target area. In no case shall strike aircraft be attacked while executing an ordnance delivery maneuver.

b. Aircraft carrying live or heavy inert external A/G ordnance (defined as 500 pounds or greater) shall not engage in ACM. A wing rock or a defensive hard turn, not to exceed 180 deg, may be made to acknowledge an attack. Aircraft carrying inert ordnance (including captive carry air-to-ground missiles) may engage in ACM at the discretion of the squadron CO based on weight/drag and specific aircraft performance.

c. Aggressor aircraft shall discontinue attack on a strike/escort aircraft following the strike/escort aircrafts wing rock or defensive turn (maximum of 180 deg).

5.1.10.9 Termination of ACM Engagements

a. ACM shall cease when:

(1) Any TR is violated.

(2) “Knock it off/terminate” is called by any aircrew or controller.

(3) Any dangerous situation develops or there is a loss of situational awareness.

(4) Any out-of-control flight situation develops.

(5) Radio failure by any aircraft.

(6) Bingo fuel state is reached.

(7) Training objectives have been accomplished.

(8) An unbriefed aircraft enters the engagement area and is detrimental to flight safety.

(9) When an aircraft rocks its wings (fixed or rotary).

b. At the completion of engagement, aircraft shall maneuver appropriately to deconflict with all other aircraft and should extend beyond visual range prior to any reattack, consistent with the briefed training objectives. The intent is to prevent visual repositioning and repeated attacks against defending aircraft that are pursuing a different mission.

c. All ACM participants have responsibility for termination of ACM training engagements when a dangerous or rapidly deteriorating situation is recognized.

d. "Knock it off" means that all participating elements in an exercise shall cease maneuvering. "Terminate" applies to individual elements or engagements within an overall exercise and means the individual units involved in a localized engagement shall cease maneuvering for that particular engagement without knocking off the entire exercise. After terminating a localized engagement, the affected aircraft are free to pursue additional missions within the exercise in accordance with pre-briefed instructions. Knock it off calls shall be acknowledged via UHF radio calls by all participating pilots using individual call signs.

WARNING

High midair collision potential exists following "knock it off" calls.

5.1.10.10 ACM Special Considerations

a. Night flying — Additional restrictions occur when operating in the night environment.

(1) Aircraft shall not execute any engaged maneuvering between 30 minutes prior to official sunset and 30 minutes after official sunrise (i.e., ACM is not authorized at night).

(2) Night AIC: Altitude blocks shall be assigned for all participants for any night AIC event. Careful attention to block management at night is critical to safely executing night AIC tactics.

b. Joint Helmet Mounted Cueing System (JHMCS)

(1) All aircrew participating in intercept phases of air-to-air events must be made aware that JHMCS high off-boresight and/or forward quarter acquisitions will be executed if so planned.

(2) Flight path separation must be established prior to any high off-boresight or forward quarter JHMCS acquisition. Inside 9000 feet (1.5 nm), the pilot's undivided attention shall first be devoted to maintaining flight separation. Inside 9000 feet, off-boresight missile attacks may be prosecuted down to missile minimum range provided that flight separation has already been established. When in doubt, broadcast own intentions and "BLANK for SAFETY."

(3) Obtaining tallies at the merge is most important. The JHMCS display shall be blanked if at any time the display symbology interferes with obtaining timely tallies or maintaining proper lookout doctrine.

c. Towed decoy — Aircraft configured with a towed decoy are prohibited from ACM in training events and shall wing rock and terminate at all merges.

5.1.11 Simulated Instrument Flight

5.1.11.1 Chase Aircraft Requirement

A chase aircraft shall be used for all simulated instrument flight in single-piloted aircraft when a vision restricting device is being used. A chase plane shall also be required for simulated instrument flight in multipiloted aircraft if adequate cockpit visual lookout cannot be maintained. Visual lookout is considered adequate:

a. For side-by-side seating configurations, when two crewmen in addition to and having positive communication with the pilot are aboard. One crewman must be in a suitable position to monitor the flight instruments and both crewmen together must be able to clear the aircraft from potential midair collision hazards.

b. For tandem seating configurations, when the vision-restricting device is being used only in the rear seat.

5.1.11.2 Chase Aircraft Position and Communication

The chase plane should fly in a position 500 feet aft and 500 feet to either side of the aircraft being chased so as to ensure clearance in all quadrants. Positive communication must be maintained at all times between the two aircraft and any controlling agency. If communication is lost, the pilot practicing simulated instruments shall immediately go contact and remain contact until positive communication is reestablished.

5.1.11.3 Altitude Limitations

Pilots of single-seat aircraft may not use a vision restricting device below 1,000 feet AGL except on a precision approach. The vision restricting device may be used down to 500 feet AGL. In single-piloted aircraft, with dual sets of flight controls and in multipiloted aircraft, a vision restricting device may be used by one pilot for simulated instrument takeoffs and down to

minimums for the approach being flown, provided the other pilot is NATOPS qualified in model. Helicopters equipped with automatic hover equipment are specifically waived from simulated instrument altitude restrictions during low level ASW/SAR training, provided the pilot not on the controls is NATOPS qualified in model.

5.1.12 Formation Flying

5.1.12.1 General

Formation flying is authorized only for units and types of aircraft for which a valid requirement exists. Appropriate commanders shall ensure issuance of and adherence to specific instructions and standard operating procedures for all aspects of formation flying.

5.1.12.2 Preflight

The formation leader shall execute one flight plan for the entire formation and shall:

a. Sign the flight plan form as PIC.

b. Ensure that all pilots are briefed on en route weather and navigational aids.

c. Ensure that each pilot holds a valid instrument rating if any portion of flight is to be conducted under IMC.

d. Ensure that a flight leader formation brief is conducted to include, but not to be limited to, loss of sight, lost communication, inadvertent IMC, and emergency procedures.

e. Ensure that necessary maps, charts, and publications are in the possession of each pilot.

f. Ensure that formation integrity is maintained in flight.

5.1.12.3 Formation Takeoffs

Section takeoffs for fixed-wing aircraft of similar performance are authorized only for units and types of aircraft whose military missions require formation flying, including essential pilot training. On ground roll, safe lateral separation shall be maintained (in event of blown tire, aborted takeoff, etc.) with leading aircraft on downwind side (if crosswind exists). Differences in flying characteristics, especially stall speeds because of gross weight and/or configuration, shall be considered.

Note

Lateral separation for required minimum interval takeoff (MITO) shall be governed by local directives.

5.1.12.4 Instrument Departures

Two-plane formation for subsequent flight into instrument conditions is authorized provided the weather (ceiling and visibility) is at or above the published circling minimums for the runway in use. In the event a circling approach is not authorized, ceiling and visibility must be at least 1,000 feet and 3 statute miles.

5.1.12.4.1 Radar Trail Departures

For aircraft equipped with operable air-to-air radar capability, formations of up to four aircraft are authorized to depart as a nonstandard formation (radar trail departure) when existing weather conditions are other than prescribed in paragraph 5.1.12.4 and that nonstandard formation has been approved by the ATC facility responsible for providing instrument separation (i.e., departure control, ARTCC).

5.1.12.5 Joining Formations

a. Unless specifically ordered, a single aircraft shall not join a formation in the air. One formation shall not join another formation. The order for joining formation in the air shall be given prior to takeoff of the aircraft concerned or by radio, and the leader of the formation to be joined shall be informed that the order has been given. Exceptions to this paragraph may be made when the leader of a formation signals another aircraft to join the formation.

b. When about to join a formation, the pilot of a single aircraft or leader of other formations shall approach their formation position from a safe altitude and from the side. They shall not take their final position until their presence has been acknowledged by the leader of the formation to be joined.

c. Whenever a lead change is required in a formation of two or more aircraft, it will be accomplished in an unambiguous manner. Pilots shall ensure that both aircraft exchanging the lead are aware of the change through positive acknowledgment by visual signals or voice transmissions.

5.1.12.6 Approach Criteria for Aircraft in Formation

a. Instrument approaches with or without intent to land in IMC by formations of more than two aircraft are not authorized. Penetration of IMC to obtain VMC by formations of more than two aircraft is authorized.

b. Formation flights shall not commence an instrument approach when the reported weather is less than circling minimums for the particular instrument approach in use. In the event a circling approach is not authorized, the ceiling and visibility must be at least 1,000 feet and 3 statute miles. Once an approach has been commenced, leaders may, at their discretion, continue the approach in formation to the minimums prescribed in paragraph 5.3.5 for the type aircraft being flown.

c. Whenever feasible, aircraft making section instrument penetrations/approaches should transition to landing configuration above the overcast whenever existing weather is below VFR minimums. Aircraft in formation shall not obtain interval by slowing to less than normal approach

speed by "S" turning. If safe landing interval cannot otherwise be obtained, a waveoff shall be executed. When landing interval will result in two or more aircraft on the runway at the same time, staggered landings on alternate sides of the runway shall be made. When crosswind conditions dictate or when centerline landings are preferred, landing interval shall be the same as that required for aircraft proceeding independently.

d. Formation approaches by aircraft of markedly different approach performance characteristics are not recommended.

e. Formation touch-and-go landings are prohibited.

5.1.12.7 Dissimilar Formation Flight

Pilots involved should perform a preflight brief delineating all aspects of the pending formation flight. Items to be briefed in addition to those identified above shall include items peculiar to either aircraft community (e.g., limitations/capabilities/hazards affecting the flight/rendezvous/joinup/ separation).

5.1.12.8 Unplanned Formation Flight

In the event unscheduled formation flight becomes necessary, every attempt shall be made by the aircrew involved to conduct a sufficient in-flight brief prior to join up.

5.2 VFR PROCEDURES

5.2.1 Compliance With Directives

The PIC shall ascertain that the contemplated flight can be conducted in accordance with the visual flight requirements of FAR, other governing regulations, and flight rules set forth in this instruction. Visual meteorological conditions are the flight weather conditions that permit military aircraft operations under VFR. If weather conditions are not VMC, military aircraft operations must be either under special VFR or IFR (excluding special military operations).

5.2.2 Judgment

Although the choice of flight rules to be followed is normally dictated by weather and mission considerations, sound judgment plays a most important role. There are occasions when VFR may be legally followed by applying the appropriate visibility and cloud clearance criteria. That prerogative should be exercised with reasonable restraint. The established weather criteria are minimums. The pilot should allow a greater margin of safety when operational requirements permit, particularly in terminal areas or when reduced visibility or cloud conditions make flight under VFR questionable. Pilots shall file and retain an IFR clearance to the maximum extent practicable consistent with mission accomplishment. (See paragraphs 5.3.1 and 6.4 of this instruction.)

5.2.3 See and Avoid

The see-and-avoid concept applies to visual flight conditions, thus eliminating the need for specific route clearance from ATC agencies under most circumstances. Since pilots are responsible for their own separation from other aircraft, conditions must exist that permit ample opportunity to see and avoid other air traffic and maintain obstruction clearance. The following measures shall serve as additional precautions when separation is maintained through the see-and-avoid concept, provided no degradation of the assigned mission will result.

a. Excepting single-seat aircraft, electronic equipment, such as airborne radar, should be used where feasible.

b. Where available, radar advisory service shall be requested especially when VFR flight is required through high-density traffic areas.

5.2.4 Weather Minimums

Within airspace where reference (d) pertains, cloud clearance and visibility minimums shown in figure 5-3 shall prevail throughout a VFR flight. In addition, ceiling and visibility minimums within class B, C, D, or E surface areas must be at least 1,000 feet and 3 statute miles. If more stringent VFR minimums have been established for the point of departure or destination, as noted in the supplementary airport remarks section of the DoD FLIP AP/1, AP/2, AP/3, or AP/4, then ceiling and visibility must be at or above those minimums in the applicable class B, C, D, or E surface area. Existing and forecast weather must be such as to permit VFR operations for the entire duration of the flight. Destination weather shall be at least 1,000-foot ceiling and 3-statute mile visibility (or such higher minimums as noted in the supplementary airport remarks section of the DoD FLIP AP/1, AP/2, AP/3, or AP/4) and forecast to remain at or above those minimums during the period 1 hour before ETA until 1 hour after ETA. Exceptions to the minimums are as follows:

a. Deviations under reference (d), subpart 91.157, special VFR weather minimums, are permitted except at those airports where special VFR is not authorized in fixed-wing aircraft. For special VFR within controlled airspace, the pilot must obtain authorization from air traffic control; ceiling must be a minimum of 500 feet; visibility must be a minimum of 1 statute mile; aircraft must remain clear of clouds, and (except for CNATRA helicopter operations) the pilot and aircraft must be certified for instrument flight. Aviation commanding officers in the chain of command may authorize tiltrotors in helicopter conversion mode and helicopter special VFR flights in conditions below 500 feet/1 mile for missions of operational necessity. The authority granted by this paragraph shall not be delegated.

b. Outside of controlled airspace, tiltrotors in helicopter conversion mode and helicopters may be operated below 1,200 feet AGL, clear of clouds, when the visibility is less than 1 statute mile if operated at a speed that allows the pilot adequate opportunity to see and avoid other air traffic and maintain obstacle clearance.

AIRSPACE	FLIGHT VISIBILITY	DISTANCE FROM CLOUDS
CLASS A	NOT APPLICABLE	NOT APPLICABLE
CLASS B	3 STATUTE MILES	CLEAR OF CLOUDS
CLASS C	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
CLASS D	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
CLASS E LESS THAN 10,000 FEET MSL	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
AT OR ABOVE 10,000 MSL	5 STATUTE MILES	1,000 FEET BELOW 1,000 FEET ABOVE 1 STATUTE MILE HORIZONTAL
CLASS G 1,200 FEET OR LESS ABOVE THE SURFACE (REGARDLESS OF MSL ALTITUDE) DAY, EXCEPT AS PROVIDED IN .91.155(b) NIGHT, EXCEPT AS PROVIDED IN .91.155(b)	1 STATUTE MILES 3 STATUTE MILES	CLEAR OF CLOUDS 500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
MORE THAN 1,200 FEET ABOVE THE SURFACE BUT LESS THAN 10,000 FEET MSL DAY NIGHT	1 STATUTE MILES 3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL 500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
MORE THAN 1,200 FEET ABOVE THE SURFACE AND AT OR ABOVE 10,000 FEET MSL	5 STATUTE MILES	1,000 FEET BELOW 1,000 FEET ABOVE 1 STATUTE MILE HORIZONTAL

Figure 5-3. Basic VFR Flight Minimums

Note

FLIP General Planning, chapter 6 (International Rules and Procedures), outlines the general flight rules for operation of military aircraft in airspace where reference (d) does not apply.

5.2.5 Weather Conditions Precluding VFR Flight

When weather conditions encountered en route preclude compliance with VFR, the PIC shall take appropriate action as follows to:

a. Alter route of flight so as to continue under VFR conditions; or

b. Remain in VFR conditions until a change of flight plan is filed and IFR clearance obtained; or

c. Remain in VFR conditions and land at a suitable alternate.

5.2.6 Additional Requirements

a. Except when necessary for takeoff and landing or when the mission of the flight requires otherwise, flights in fixed-wing aircraft shall not be conducted below an altitude of 500 feet above the terrain or surface of the water.

b. For aircraft to operate on a VFR clearance above broken clouds or an overcast, climb to and descent from such on top flight shall be made in accordance with VFR and aircraft shall be equipped and pilots qualified for instrument flight.

c. A simulated instrument approach to an airport for which an approved instrument approach exists shall not be commenced until prior approval has been obtained from the appropriate approach control or, in the case of nonapproach control locations, the airport traffic control tower. At nontower airports, the associated flight service station, if applicable, shall be notified of the simulated instrument approach.

5.3 IFR AND POSITIVE CONTROL PROCEDURES

5.3.1 General Requirements

5.3.1.1 IFR Filing and Positive Control

To decrease the probability of midair collisions, all flights in naval aircraft shall be conducted in accordance with IFR to the maximum extent practicable. This shall include all point-to-point and round-robin flights using Federal airways and other flights or portions thereof, such as flights to and from target or operating areas accessible through IFR filing. All other flights shall be conducted under positive control to the maximum extent possible. This shall apply in the following areas:

a. In the airspace over the United States and adjacent coastal waters within the 12-mile limit.

b. Within offshore operating areas of CONUS and Alaska outward to the limit of the domestic ARTCC, airspace in the Hawaiian Islands, and in the San Juan domestic control area.

c. Airspace in the vicinity of other U.S. territories and overseas airfields as prescribed by local area commander policies.

Note

Commanding officers shall ensure compliance with the intent and spirit of this requirement and shall scrutinize all flight operations as to mission and purpose to assure they are conducted in accordance with IFR or positive control to the maximum extent practicable without mission degradation.

Global positioning system (GPS) shall not be used as the means of navigation to file or fly in the National Airspace System unless that aircraft has been certified for GPS use in the National Airspace System.

Aircrew operating in visual conditions under IFR should be aware that they are in a see and avoid environment. ATC provides separation only from other IFR aircraft.

5.3.1.2 Waiving IFR Requirement

Where VFR conditions exist, pilots may waive this requirement for specific flights when necessary to circumnavigate or otherwise avoid severe weather or when dictated by an in-flight emergency.

5.3.1.3 ATC Clearance Requirement

Flights shall not be made in IFR conditions within controlled airspace until an ATC clearance has been obtained.

5.3.1.4 Instrument or Composite Flight Plan

An instrument or composite (VFR/IFR) flight plan shall be filed for all flights that may reasonably expect to encounter in-flight IFR conditions during any portion of the planned route. The VFR portion of the flight shall meet VFR criteria set forth in paragraph 5.2.

5.3.1.5 Compliance With Directives

The PIC shall ascertain that the clearance requested is in accordance with the instrument flight requirements of FAR, other governing regulations, and flight rules set forth in this instruction.

5.3.1.6 Minimum Altitude

a. When out of controlled airspace and only when the mission of the flight requires otherwise, an aircraft shall not be flown less than 1,000 feet above the highest terrain, surface of the water, or obstacle within 22 miles of the intended line of flight.

b. When out of controlled airspace and over designated mountainous terrain, as shown in appropriate DoD FLIPs, an aircraft shall not be flown less than 2,000 feet above the highest terrain or obstacle within 22 miles of the intended line of flight.

c. In controlled airspace, an aircraft shall not be flown at less than the minimum en route altitude or the altitude specified by the agency exercising control over the airspace concerned when operating in IFR conditions.

d. Authorized missions may be flown at lower altitudes than specified above when operating on published IFR MIRs (IRs) that have been developed in accordance with reference (w).

5.3.2 Aircraft Equipment Requirements

Pre-flight procedures will be established and monitored to assure that communication, navigation, and identification equipments required for the flight are operative at takeoff. Preflight/in-flight malfunctions of such equipment shall be construed as adequate cause to cancel/abort missions other than those of operational necessity. The pilot shall ensure that ATC is advised of any limitations of the pilot's aircraft and equipment that will necessitate special handling.

5.3.2.1 Instrument Flight Equipment

a. The pitot heater and all vacuum pressure or electrical sources for the pilot flight instruments must operate satisfactorily.

b. The aircraft shall be equipped with the following instruments in proper operating condition:

(1) Airspeed indicator.

(2) Altimeter.

(3) Turn-and-slip indicator.

(4) A clock displaying hours, minutes, and seconds with a sweep-second pointer or digital readout.

(5) Attitude indicator.

(6) Magnetic compass with current calibration card.

(7) Heading indicator or gyrostabilized magnetic compass.

(8) Vertical speed indicator..

c. Aircraft shall be equipped with deicing or icing control equipment for sustained or continuous flight in known or forecast icing conditions.

d. Navigation lights must operate satisfactorily.

5.3.2.2 Communication, Navigation, Identification (CNI) Equipment

a. The aircraft shall have two-way radio communication equipment and operating navigation equipment required for the en route and approach navigation aids to be used and on which the clearance is predicated.

b. Pilots planning to operate in or through areas that require special communication frequencies shall ensure that the frequencies are available in the aircraft.

c. A functioning radar beacon transponder is required for flight in airspace where FAR specify such equipment.

d. When operating with a servoed altimeter below FL 180, use either the STANDBY or RESET mode and use only the RESET mode when operating above FL 180.

e. An OPNAV (N88) fleet introduction approval letter, indicating integrity, an un-corruptible navigation waypoint database and the ability to recall the procedure by name is resident, shall certify all GPS integrations prior to use for air navigation.

f. Military GPS avionics are not authorized for supplemental or primary means of air navigation for instrument flight in controlled airspace, unless certified by an OPNAV (N88) fleet introduction approval letter.

g. The OPNAV (N88) fleet introduction letter approves an integrated GPS receiver for non-precision approach (NPA), the receiver may be used for any area navigation (RNAV)-based NPA procedure listed in the FLIP, the Digital Aircraft Flight Information File (DAFIF), or CONUS approaches listed in Jeppesen navigation publications/databases.

h. A properly integrated GPS system with an integrity function may be used for primary and supplemental navigation during en route, terminal, and GPS NPA phases of flight when certified.

i. IFR navigation with handheld GPS receivers is prohibited.

j. DoD FLIP which provide coverage for the planned route of flight are required in the cockpit and shall be the primary source of approach procedures.

CAUTION

Any discrepancy between the charted approach and the database approach shall require compliance with the charted approach.

k. NAVFIG shall validate, in advance, non-U.S. GPS approaches, not published in DAFIF.

l. Only keyed GPS Precise Positioning Service (PPS) receivers shall be used for combat, combat support, and combat service support operations.

m. All approved military GPS receivers and imbedded systems (i.e., Embedded GPS/INS (EGI), GPS Embedded Module (GEM) series, Replacement Inertial Navigation Unit Embedded GPS (RINU-G), Miniature Airborne GPS Receiver (MAGR)), when keyed and integrated with aircraft navigation systems, may be used for practice of GPS approaches under VFR, if the approach procedure is electronically loaded.

n. Approach procedures shall be loaded electronically. Manual entry of waypoints between the initial approach fix (IAF) and the missed approach point (MAP) is not allowed. The IAF, the MAP, and any waypoints in between shall not be edited or altered. This does not prohibit the use of "Vectors To Final" features or "Direct To" functions.

o. Aircraft may use standard positioning service (SPS) GPS to meet applicable standards for navigation in civil controlled airspace. An Assistant Secretary of Defense Networks and Information Integration (ASD (NII)) waiver is not required if all of the following conditions are met:

(1) The aircraft maintains an active PPS GPS capability at all times. The PPS GPS capability along with any additional non-SPS navigation aids must fully support all combat, combat support, combat service support missions without relying on SPS GPS.

Note

Merely equipping with PPS GPS is sufficient. The PPS GPS receiver must be keyed at all times when SPS is used. Exceptions require waiver from ASD (NII).

(2) SPS GPS is only used for navigation in civil controlled airspace in support of IFRs operations. No other use of SPS is authorized.

Note

This is an important distinction. If the SPS receiver is used for any purpose other than navigation in civil controlled airspace, an ASD (NII) waiver is required.

(3) The aircraft and crew shall be capable of transitioning from SPS civil navigation mode to a PPS mode at any time.

Note

Aviation TYCOMs shall take appropriate measures to ensure aircrew and aircraft are capable of operating in accordance with conditions (1) through (3) above. Refer to chapter 13 Instrument Ground School training requirements for GPS operations.

5.3.2.3 Instrument Navigation Packet

The following items constitute the minimum required articles to be included in instrument navigation packets. Additional items may be included when required by local operating procedures.

a. Appropriate FLIPs.

b. Navigation computer.

c. Navigation flight log forms.

d. Appropriate aeronautical charts.

5.3.3 RNAV/GPS Navigation

The use of GPS for navigation represents the next generation of navigation capabilities for the naval aviator. The unique nature of GPS approach construction and the procedures for selecting, loading, choosing the proper minimums, and flying require a dedicated training program. Pilots should practice GPS approaches under VFR until thoroughly proficient with all aspects of their equipment (receiver and installation) prior to attempting flight under IFR in IMC. Many GPS receivers provide a simulation mode which can be used to become familiar with receiver operations prior to actual flight operations. Proper training of GPS navigation in controlled airspace will enhance safety and awareness when using PPS for combat operations. GPS training should be developed, with assistance from NAVAIRSYSCOM, by the respective aviation TYCOM/FRS/type wing. Reference (y) should be reviewed prior to using GPS for guidance in controlled airspace.

a. Aircrew shall successfully complete aviation TYCOM or type wing approved training prior to flying GPS based approaches in weather below 1,000 feet and 3 nm visibility.

b. The navigation system may or may not display the minimum descent altitude (MDA). The aircrew is responsible for compliance with all vertical restrictions.

c. The GPS navigation system used for the approach shall be using scaling and alerting criteria no less restrictive than RNP-.3 prior to continuing past the final approach fix. The RNP criteria shall remain for the entire approach.

d. Only GPS approaches based on World Geodetic System (WGS-84) datum reference may be flown using GPS for guidance. The aircrew shall ensure all approaches flown outside the United States and Canada using GPS for primary navigation are based on the WGS-84 datum.

e. Two independent GPS systems are required to use GPS for primary navigation in oceanic controlled airspace if the aircraft is not equipped with an inertial navigation system.

f. If the GPS is giving guidance contrary to anticipated flight path, the aircrew shall disregard GPS guidance, immediately disconnect autopilot (if applicable), and climb to the minimum safe altitude (MSA) until proper flight path is confirmed and established.

g. During pre-flight planning, when an alternate is required, equipment used to navigate the non-GPS route and non-GPS approach procedure for the alternate airport shall be installed and operational.

h. On aircraft equipped with multiple GPS receivers the aircrew shall use the integrity function for the GPS receiver being used for navigation. The integrity function of other installed GPS (SPS or PPS) receivers shall not be used to indicate the integrity of the GPS receiver being used for navigation.

5.3.4 Instrument Departures

5.3.4.1 Takeoff Minimums

a. Special instrument rating — No takeoff ceiling or visibility minimums apply. Takeoff shall depend on the judgment of the pilot and urgency of flights.

Note

Only an aircraft commander with a special instrument rating, who is also on the flight controls, is authorized to make departures from an airfield when weather conditions are below minimum.

b. Standard instrument rating — Published minimums for the available NPA, but not less than 300-foot ceiling and 1-statute mile visibility. When a precision approach compatible with installed and operable aircraft equipment is available, with published minimums less than 300/1, takeoff is authorized provided the weather is at least equal to the precision approach minimums for the landing runway in use, but in no case when the weather is less than 200-foot ceiling and 1/2-statute-mile visibility/2,400-foot runway visual range (RVR).

5.3.4.2 Departure Procedure (DP)

At locations where DPs are available, pilots are encouraged to utilize them for each IFR departure, provided no unacceptable flight degradation will ensue. An appropriate DP procedure should be selected during preflight planning for pilots to realize the greatest benefit from standardization of instrument departures and to have a clear course of action to follow in the event of communication failure.

Note

For formation instrument departures and approach procedures, see paragraph 5.1.12.

5.3.5 Instrument Approaches and Landing Minimums

5.3.5.1 General

Approved instrument approach procedures for use at other than U.S. airports are published in DoD FLIPs (Terminal). For U.S. airports, approved instrument approach procedures are published in DoD FLIPs (Terminal) or other similar type publications. For straight-in approaches, pilots shall use RVR, if available, to determine if visibility meets the weather criteria for approaches, which are published in DoD FLIP Terminal Approach Procedures. Prevailing visibility shall be used for circling approach criteria. Helicopters and tilt-rotor required visibility minimum may be reduced to one-half the published visibility minimum for CAT A aircraft, but in no case may it be reduced to less than one-fourth mile or 1,200 feet RVR. Reducing CAT A visibility recognizes the unique maneuvering capability of the helicopter and tiltrotor and is based on airspeeds not exceeding 90 knots on final approach. Published approach ceiling minima shall not be reduced. Helicopter procedures ("COPTER" approaches) ceiling and visibility minima shall not be reduced.

Note

Determination that existing weather/visibility is adequate for approach/landing is the responsibility of the pilot.

5.3.5.2 Approach Criteria for Multipiloted Aircraft

When reported weather is at or below published landing minimums for the approach to be conducted, an approach shall not be commenced in multipiloted aircraft unless the aircraft has the capability to proceed to a suitable alternate in the event of a missed approach.

5.3.5.3 Approach Criteria for Single-Piloted Aircraft

a. An instrument approach shall not be commenced if the reported weather is below published minimums for the type approach being conducted. When a turbojet en route descent is to be executed, the approach is considered to commence when the aircraft descends below the highest initial penetration altitude established in high altitude instrument approach procedures for the destination airport. Once an approach has been commenced, pilots may, at their discretion, continue the approach to the approved published landing minimums as shown in the appropriate FLIP for the type approach being conducted. Absolute minimums for a single-piloted fixed-wing aircraft executing an approach are 200-foot ceiling/height above touchdown and visibility of 1/2 statute-mile/2,400 feet RVR. Absolute minimums for single-piloted helicopter/tiltrotor aircraft executing an approach are 200-foot ceiling/height above touchdown. See paragraph 5.3.5.1 for helicopter/tiltrotor visibility minimums.

b. Single-piloted aircraft that are configured for and assigned all-weather missions with side-by-side seating occupied by the PIC and an assisting NFO may operate within the same filing, clearance, and approach criteria specified above for multipiloted aircraft provided:

(1) The assisting NFO is instrument qualified in accordance with this instruction and NATOPS qualified in the model aircraft in which NFO duties are being performed.

(2) Cockpit configuration is such that the assisting NFO can:

(a) Monitor the pilot flight instruments.

(b) Monitor and control communication.

(c) Assist the pilot in acquiring the runway visually.

5.3.5.4 Criteria for Continuing Instrument Approaches to a Landing

Pilots shall not descend below the prescribed MDA or continue an approach below the decision height (DH) unless they have the runway environment in sight and in their judgment a safe landing can be executed, either straight-in or from a circling approach, whichever is specified in their clearance.

a. Precision Approaches — A missed approach shall be executed immediately upon reaching the DH unless the runway environment is in sight and a safe landing can be made. On precision radar approaches, the pilot may expect control instructions until over landing threshold; course and glidepath information given after DH shall be considered advisory in nature.

b. NPAs — A missed approach shall be executed immediately upon reaching the MAP if visual reference is not established and/or a landing cannot be accomplished. If visual reference is lost while circling to land from a published instrument approach, the missed approach specified for that particular procedure must be followed. To become established on the prescribed missed approach course, the pilot should make an initial climbing turn toward the landing runway then maneuver in the shortest direction to become established on the missed approach course.

5.3.5.5 Final Approach Abnormalities During Radar Approaches

The controller shall issue instructions to execute a missed approach or to climb and maintain a specific altitude and fly a specified course whenever the completion of a safe approach is questionable because one or more of the following conditions exist:

a. Safe limits are exceeded or radical aircraft deviations are observed.

b. Position or identification of the aircraft is in doubt.

c. Radar contact is lost or a malfunctioning radar is suspected.

d. Field conditions, conflicting traffic, or other unsafe conditions observed from the tower prevent approach completion.

5.3.5.6 Execution of the Missed Approach

a. Execution of the missed approach by the pilot is not necessary for paragraphs 5.3.5.5.a through 5.3.5.5.c above if the pilot has the runway or approach/runway lights in sight. In these cases, controller phraseology

shall be: "(reason). If runway/approach lights/runway lights are not in sight, execute missed approach (alternate instructions)." Reasons may include radar contact lost, too high/low for safe approach, or too far right/left for safe approach.

b. Execution of the missed approach is mandatory for paragraph 5.3.5.5.d above. Controller phraseology is "execute missed approach," and the reason for the order (i.e., aircraft ahead of you has taken the arresting gear); or the controller may issue instructions to climb and maintain a specific altitude and fly a specified heading and the reason for such instructions.

Note

Pilots may execute a missed approach at their own discretion at any time.

5.3.5.7 Practice Approaches

The provisions of this section are not intended to preclude a single-piloted aircraft from executing practice approaches (no landing intended) at a facility where weather is reported below published minimums when operating with an appropriate ATC clearance. The facility in question must not be filed destination or alternate and the weather at the filed destination and alternate must meet the filing criteria for an instrument clearance as set forth in this instruction.

5.3.5.8 Tower/Approach Control Responsibilities

A Navy or Marine Corps tower/approach control facility serving an airport shall keep the pilot informed of the latest reported weather and actual field conditions. Every effort shall be made to inform the pilot as well as the controller (in case of radar approaches) of the most current ceiling, runway visibility, surface wind, and runway conditions. That is particularly important during periods of rapidly changing weather conditions such as fog, snow, and other phenomena that reduce visibility and braking action.

Note

Certain naval air traffic controllers certified in accordance with the guidance contained in reference (c) are authorized to record and disseminate changing tower visibility observations directly to the pilot when prevailing visibility is less than 4 miles.

5.4 HELICOPTER/TILTROTOR OPERATIONS

5.4.1 Helicopter/Tiltrotor Operations in Class B, C, or D Airspace

5.4.1.1 Tower Clearance

When operating within class B, C, or D airspace, either tower frequency or an appropriate control frequency shall be monitored at all times.

5.4.1.2 Autorotations

Practice autorotations shall be conducted within the limits of the field boundary over a surface upon which a full autorotation can be safely completed and that is readily accessible to crash, rescue, and firefighting equipment. Practice autorotations shall require the specific approval of the tower.

5.4.1.3 Altitude

Helicopter/tiltrotor flights within class B, C, or D airspace shall be in accordance with the local air operations manual. Where no other guidance is provided, pilots of helicopters and tiltrotors (which are operated in conversion mode) shall not exceed 500 feet AGL unless specifically cleared by the tower or other control agency. Pilots shall avoid flying over areas at altitudes where their rotor or prop-rotor wash could result in damage to aircraft, property, or personnel. Tiltrotors in airplane mode shall comply with fixed wing procedures.

5.4.1.4 Ground Operations

Air taxi/ground operations shall be conducted with sufficient horizontal separation to preclude damage to aircraft, property, or personnel. Pilots shall operate with the minimum required power while on the ground and shall be particularly alert to prevent foreign object damage (FOD) and/or gust damage to their own and other aircraft.

5.4.2 Helicopter/Tiltrotor Terrain Flight Operations

Terrain flights (low level, contour, nap of the Earth (NOE)) shall be conducted only as operational necessity dictates, in training scenarios executed within designated training areas, or as published procedures and clearances prescribe.

5.4.3 Helicopter/Tiltrotor Night Hover Operation Over Water

Night/low visibility hover operations over water shall be conducted using aircraft equipped with operable automatic hover systems (i.e., coupler/Doppler/AFCS equipment) on all occasions when a natural horizon visible from the cockpit is not available to assist the pilot in establishing/maintaining a stable hover.

5.4.4 Helicopter Operations

All aircrew shall remain inside the aircraft cabin during all flight regimes unless deemed by the aircraft commander to be operationally necessary for safety of flight or mission accomplishment. Any acts conducted for thrill purposes are strictly prohibited.

5.5 REDUCING FLIGHT-RELATED DISTURBANCES

5.5.1 Annoyance to Civilians and Endangering Private Property

Flights of naval aircraft shall be conducted so that a minimum of annoyance is experienced by persons on the ground. It is not enough for the pilot to be satisfied that no person is actually endangered. Definite and particular

effort shall be taken to fly in such a manner that individuals do not believe they or their property are endangered. The following specific restrictions apply in view of the particularly unfavorable effect of the fear, extreme annoyance, and damage that can be inflicted.

5.5.1.1 Noise Sensitive Areas

Breeding farms, resorts, beaches, and those areas designated by the U.S. Department of Interior as national parks, national monuments, and national recreational areas are examples of noise sensitive areas.

5.5.1.2 Noise Sensitive and Wilderness Areas

a. These areas shall be avoided when at altitudes of less than 3,000 feet AGL except when in compliance with an approved:

(1) Traffic or approach pattern.

(2) VR or IR route.

(3) SUA.

b. Noise sensitive areas shall be avoided in the development of IR and VR routes and additional SUA unless the 3,000-foot criteria can be observed.

5.5.1.3 Aerial Refueling

Aerial refueling over densely populated areas shall be avoided whenever possible.

5.5.1.4 External Stores/Cargo

Pilots carrying external stores/cargo shall avoid overflying populated areas whenever possible.

5.5.1.5 Temporary Flight Restrictions

Aircraft shall not be operated within an area designated by a NOTAM within which temporary flight restrictions apply except as permitted in reference (d), subparagraph 91.137.

5.5.1.6 Flat Hatting

Flat hatting or any maneuvers conducted at low altitude and/or a high rate of speed for thrill purposes over land or water are prohibited. Any acts conducted for thrill purposes are strictly prohibited.

5.5.2 Disturbance of Wildlife

5.5.2.1 General

Commanding officers of aviation units shall take steps to prevent aircraft from frightening wild fowl or driving them from their feeding grounds. When it is necessary to fly over known wild fowl habitations, an altitude of at

least 3,000 feet shall be maintained, conditions permitting. During hunting season, pilots shall avoid flying near wildlife haunts except as noted above.

5.5.2.2 Firing

Firing at large fish, whales, or any wildlife inhabiting the land or sea is prohibited.

5.5.3 Zooming of Vessels

Restrictions on zooming are not intended to hamper standardized shipping/ASW surveillance rigging and photography procedures as defined in appropriate fleet operating instructions.

5.5.4 Avoidance of Commercial Carriers and Aircraft of Civil Registry

At a minimum, such aircraft shall be avoided by a margin of at least 500 feet vertically or 1 mile laterally unless ordered otherwise by competent air traffic control authority. Under no circumstances shall aircraft be flown erratically or aerobatically in the close vicinity of civil aircraft. Civil aircraft carrying 10 or more passengers are equipped with Traffic Alert and Collision Avoidance System (TCAS). TCAS may activate when it detects an aircraft within 1,200 feet vertically, and 6 nm horizontally. If the passenger-carrying aircraft is not aware of the traffics intentions or does not have the traffic in sight, the passenger-carrying aircraft may take abrupt, evasive actions in response to a TCAS Resolution Advisory (RA). This could cause injury to those on board the passenger-carrying aircraft. TCAS is activated by transponder when aircraft are squawking mode “S” or “C.” TCAS provides a protected volume of airspace around an aircraft. The dimensions of this airspace are not based on actual distance but rather on the time to closest point of approach (CPA). Thus, the size of the protected volume depends on relative closure rate. Generally, the system begins to alert the flightcrew of a potential conflict when targeted aircraft are within 6 nm and 1,200 feet vertically of the TCAS-equipped aircraft. The system is designed to operate out to a maximum of 14 nm and identifies possible conflicting air traffic in three basic ways:

a. Tracking TCAS alerts the crew to all targets (transponder equipped) within range of the TCAS equipment.

b. Traffic Advisory (TA) TCAS declares a targeted aircraft an intruder. The flightcrew is alerted that vertical separation will be less than 1,200 feet at CPA.

c. RA TCAS declares a targeted aircraft as a threat. The crew is commanded to change the altitude of their aircraft to provide vertical separation from the targeted aircraft.

5.5.5 Avoidance of Installations Important to Defense

Although a “special use airspace” designation has not been assigned to all ammunition depots, magazines, oil refineries, and other plants considered important to national defense, naval aircraft shall avoid flying over such areas when their location is known.

5.5.6 Jettisoning Fuel

Whenever practicable, fuel shall not be jettisoned (dumped) below an altitude of 6,000 feet above the terrain. Should weather or emergency conditions dictate jettisoning at a lower altitude, every effort shall be made to avoid populated areas. When under positive control, the PIC should advise the air traffic control facility that fuel will be jettisoned.

5.5.7 Air-to-Air Missile Training Flights

Aircraft carrying live missile components other than guidance and control heads are prohibited from utilizing piloted aircraft as targets for training unless all participants have been thoroughly briefed on the conduct of the flight.

5.5.8 Expenditure of Airborne Stores Through Extensive Cloud Cover

5.5.8.1 Naval Commands

Pilots of Navy and Marine Corps aircraft are only authorized to expend ordnance, fire missiles, or drop other airborne stores through cloud cover sufficiently extensive to preclude visual clearance of the air and surface area under the following conditions:

a. When operating over the high seas, provided area air and surface clearance can be ensured through radar surveillance or visual means. The operational commander conducting the exercise is responsible for the safeguarding of airborne and surface traffic. The fact that the firing is conducted in a warning area or that a NOTAM has been issued does not relieve the operational commander of his/her responsibility.

b. When operating over land (including over territorial waters), provided that the firing or drop is conducted within an activated restricted area and the impact is within a designated surface target/range. The restricted area controlling authority must specifically approve such usage and is responsible for coordination of airspace and target/range scheduling to ensure protection of other restricted area users and target/range personnel. The operational commander conducting the exercise is responsible for ensuring the firing or drops are conducted in the specified airspace and impact the scheduled surface target/range.

5.5.8.2 Non-Naval Commands

Non-naval commands may be authorized to expend ordnance in restricted or warning area airspace for which Navy or Marine Corps commands are designated controlling authority, provided the criteria specified above are observed and the using service, by written agreement, assumes complete responsibility for any damages resulting from such use.

5.5.8.3 Emergency Jettisoning

Nothing in the above precludes emergency jettisoning of external stores through extensive cloud cover; pilots are directly responsible for their actions and must take every possible precaution to minimize danger to other aircraft and persons/property on the surface.

5.6 FLAMEOUT APPROACHES

5.6.1 Actual Flameout Approaches

Actual flameout approaches shall not be attempted unless it is impossible/impractical to abandon the aircraft and it is specifically authorized by individual NATOPS manuals.

5.6.2 Simulated Flameout Approaches

Simulated flameout approaches are prohibited, unless specifically authorized by individual NATOPS manuals.

5.7 FLIGHT OPERATIONS WITH NIGHT VISION DEVICES

5.7.1 General

NVDs greatly expand the capability and survivability of night tactical flight profiles flown against modern threats. Flying with NVDs is authorized for units and types of aircraft for which a valid requirement exists. Appropriate commanders shall ensure issuance of and adherence to specific instructions and standard operating procedures for all aspects of NVD flying.

5.7.2 Operating Limitations

a. Use of NVD is compatible in both VMC and IMC flight. However when flying with NVD in IMC, the primary flight reference shall be an instrument scan (pilot flight and navigation instruments). Inadvertent IMC procedures shall be briefed and used as required for all NVD flights.

b. Aircraft interior lighting should be NVD compatible to the maximum extent possible.

c. Aircraft exterior lighting shall comply with applicable FAA regulations unless exemptions have been approved. However, the anti-collision lights need not be lighted when the PIC determines that, because of operating conditions, it would be in the interest of safety to turn the lights off. In restricted areas, position lights of multiaircraft flights of up to four aircraft on NVDs may fly with lead through dash threes navigation and anti-collision lights off. If applicable, formation and blade tip lights shall be on at the highest intensity consistent with NVD compatibility. The last aircraft in each flight shall have navigation lights on at the highest intensity consistent with NVD compatibility and anti-collision lights on.

d. Minimum illumination requirements shall be established by CNO/CMC for the conduct of NVD training flights/missions. The approved methods of deriving illumination levels are the Solar/Lunar Almanac Program (SLAP) computer program or as determined by a CNO/CMC-approved study of the illumination level under various conditions. Additionally the Solar-Lunar Almanac Core (SLAC) program used in aviation training management systems, SHARP and M-SHARP, is authorized. The SLAP computer program is available on the Marine Aviation Weapons and Tactics Squadron ONE (MAWTS-1), Naval Oceanographic Office (NAVOCEANO https://www.navo.navy.mil) and Secure Internet Protocol Router Internet (SIPRNET) Web sites. Illumination levels

must be tempered with sound judgment and the effects of cloud cover, humidity, haze, dust, low moon angles, etc., considered. For characterization purposes, low light as used in appendix H, paragraph H.4, is defined as light level less than 0.0022 lux. Other than low light is defined as light level greater than or equal to 0.0022 lux.

e. NVD aircrews shall complete an approved NVD training syllabus and be certified by the commanding officer with an OPNAV 3760/32 entry for NVD operations. Training should include demonstrations of the limits to NVD capabilities imposed by environmental conditions and human factors. A night imaging and threat evaluation (NITE) lab shall be completed for initial qualification and is strongly recommended for refresher training.

f. NVD instructors shall complete an approved NVD IUT training syllabus and be certified by the commanding officer with an OPNAV 3760/32 entry for NVD instructional flights.

g. NVD-designated aircrew shall meet currency requirements as specified in the individual aircraft NATOPS manual, functional wing directives, and/or reference (z). Qualification/currency requirements may vary for different mission areas, (i.e., shipboard operations, overland navigation, NOE navigation, strike rescue, etc.) and should be identified in the appropriate manual/instruction. Simulators may be used to support the training program, but shall not replace aircraft flight hour requirements.

h. For NVD training syllabus flights, the PIC shall be current for the mission. For all other flights, both the PIC and copilot shall meet appropriate currency requirements.

i. Mixing different types of NVDs between aircrew within individual aircraft is not authorized.

j. Shipboard and ground operation involving groundcrews using NVDs shall be dictated by the General Series NATOPS manual (e.g., CV, LHA/LHD, Helicopter Operating Procedures for Air Capable Ships).

5.8 OPERATION OF UNMANNED AIRCRAFT SYSTEMS (UAS)

5.8.1 General Precautions

The operation of UASs shall be conducted with due consideration of the potential hazard presented when they are out of control. Whenever practicable, UASs shall be operated at such an altitude and on such paths that danger to personnel and property on the surface is reduced to a minimum. In operating UASs, due consideration shall be given to avoiding other aircraft in flight.

5.8.2 Specific Operating Limitations

a. In planning and conducting the flightpath to, in, and from operating areas, all activities operating UASs shall select and adhere to those tracks and altitudes that completely minimize the possibility of UASs falling into a congested area in the event of electronic or material malfunction.

b. Aerobatics shall not be performed unless required for operational exercises of test or evaluation of operational designs.

5.8.3 Displays and Demonstrations

Participation of unmanned aircraft in public demonstrations, except for static display is prohibited unless expressly authorized by COMNAVAIRFOR or delegated authority. COMNAVAIRSYSCOM is delegated the authority to approve demonstrations of unmanned aircraft operating under COMNAVAIRSYSCOM control.

5.8.4 Overall Use and Control

Subject to the foregoing instructions and insofar as is practicable, the use and control of UASs shall be the same as for piloted aircraft.

CHAPTER 6

Air Traffic Control

6.1 APPLICABILITY

This chapter supplements the sources listed in paragraph 1.2 of this instruction and provides additional rules and procedures of particular importance for the operation and control of naval aircraft.

6.2 AIR TRAFFIC CONTROL PROCEDURES

6.2.1 Authorized Personnel

Only personnel properly qualified in accordance with reference (c) shall exercise control over aircraft exclusive of actual/simulated shipboard or tactical operations under the control of non-ATC certified personnel.

6.2.2 Control Tower

At airfields with an operating control tower, the control tower shall exercise control of all aircraft operating to, from, or on the airfield and within class B, C, or D surface area. Prior approval from the tower shall be obtained for all taxi, takeoff, landing, towing, and related operations. Preventive control may be provided to eliminate repetitious, routine approval of pilot action; in that case, the controller will issue instructions or advice only if a situation develops that needs corrective action. Prior to preventive control service being provided, appropriate directives shall be issued to ensure that affected ATC personnel and aircraft operators being afforded preventive control are aware of the procedures being used.

6.2.3 Control of Formation Flights

a. Formation flights shall be controlled/cleared as a single aircraft unless the formation leader requests otherwise.

b. Responsibility for landing interval between elements of a formation flight rests with the pilots in the formation.

6.2.4 Taxi Instructions

a. Taxi Clearance. Taxi clearance shall be obtained prior to taxiing. Formation leaders may obtain taxi clearance for their entire flight. A clearance to taxi to the runway authorizes the aircraft to cross all runways/taxiways that the taxi route intersects except the assigned takeoff runway. This does not authorize the aircraft to enter or cross the assigned takeoff runway at any point. Ground control shall clear aircraft from the parking area to the warm-up areas. Pilots shall read back all hold/hold short instructions received during taxi. Aircraft shall remain on ground control while in the warm-up area until cleared to change frequency or until ready for takeoff clearance.

b. Overtaking. No taxiing aircraft shall overtake or pass another aircraft except with tower approval.

c. Taxi Speed. All aircraft shall be taxied at a safe rate of speed and under positive control of the pilot at all times.

e. Emergencies. When the tower is controlling an aircraft in an emergency, aircraft on the ground shall taxi clear of the runway. Those on the taxiway shall hold until authorized to proceed. All aircraft shall exercise radio discipline for the duration of the emergency. Pilots of taxiing aircraft sighting emergency vehicles displaying the flashing red light on the field shall stop and hold their positions until authorized to proceed by radio or light signals from the tower.

6.2.5 Departure Instructions

a. ATC Clearance. Aircraft departing on IFR flight plans will receive their ATC clearance on ground control or designated clearance delivery frequency. Departing pilots shall read back clearances differing from the filed flight plan.

b. Takeoff Clearance. Aircraft shall hold well clear of the duty runway until cleared by the tower for takeoff or position and hold, and the aircrew has ensured that there is no conflicting traffic for runway use. Pilots shall read back position and hold and hold short instructions. When cleared for takeoff, aircraft shall take off without undue delay or clear the duty runway.

c. Unrestricted Climb. An unrestricted climb may be authorized for such reasons as noise abatement, fuel conservation, reduction of icing, or elimination of traffic conflicts. An unrestricted climb is authorized to climb directly to a cruise/en route altitude without an interim stop. It does not relieve the pilot of the responsibility to comply with applicable FARs, aircraft NATOPS, and wing/squadron doctrine. Clearance for an unrestricted climb is not authorization for an aerobatic flight maneuver.

d. Frequency Changes. Single-piloted aircraft shall not be required to change radio frequency and/or transponder code settings until reaching an altitude of 2,500 feet above surface except when the aircraft is to level off and operate at an altitude below 2,500 feet. In that event, changes will be made after level off.

e. Intersection Departure. Pilots may be cleared either at controller discretion or at pilot request for an intersection departure to expedite air traffic and reduce delays unless local directives (i.e., Air Operations Manual) prohibit use of the applicable intersection. When clearing an aircraft for an intersection departure, controllers shall issue the measured distance from the intersection to the runway end. Issuance of the measured usable runway remaining may be omitted if appropriate directives (i.e., Air Operations Manual, letter of agreement, etc.) are issued to ensure that pilots and controllers are thoroughly familiar with these procedures, including usable runway length from the applicable intersection. Pilots still retain the prerogative to use the full runway length, provided they inform the tower of their intentions. It is the pilot's responsibility to determine that sufficient runway length is available to permit a safe takeoff under existing conditions.

6.2.6 Minimum Fuel

Minimum fuel is an advisory term indicating that in the judgment of the pilot the fuel state is such that no undue delay can be accepted en route to the destination. It is not an emergency situation, but undue delay may result in an emergency. If at any time the remaining usable fuel supply suggests the need for traffic priority to ensure a safe landing, the pilot shall declare an emergency and report fuel remaining in minutes. Both minimum fuel advisories and emergency fuel state shall be reported each time control is transferred to a new controller.

Note

Pilots declaring minimum fuel should not expect special handling from FAA controllers.

6.2.7 Handling of VIP Aircraft

a. Priority. Although priority is not normally given to VIP aircraft, controllers may give consideration to such aircraft provided safety of other aircraft is not affected. Controllers shall not request priority from FAA for VIP flights.

b. Estimated Time of Arrival. Persons charged with meeting and making arrangements for VIP flights may be embarrassed if such a flight arrives prior to the ETA. Every effort should be made to provide updated ETAs to interested parties. Except in unusual circumstances, pilots of VIP flights should not arrive prior to the ETA.

6.2.8 Approach Instructions

Single-piloted aircraft arriving on an IFR flight plan shall be provided single frequency approach (SFA) to the maximum extent that communications capabilities and traffic will permit. Those activities without SFA capabilities shall keep frequency and/or transponder code shifts to an absolute minimum below 2,500 feet above the surface.

6.3 LANDING INSTRUCTIONS

a. VFR Arrivals. Contact the appropriate controlling agency (e.g., approach control, tower, etc.) prior to entering class B, C, or D airspace. Notify the controlling agency as soon as possible after initial contact of special handling requirements (e.g., hung ordnance, etc.).

b. Waveoff. A waveoff is mandatory when ordered by the control tower, runway duty officer, or wheels watch unless the pilot is experiencing an emergency. The waveoff may be given by radio, light signals, red flares, or hand/flag signals.

c. Wheels Down Report. A wheels down report shall be given as the aircraft turns onto the base leg or after lowering the landing gear on straight-in approach. The controller shall remind the pilot to check wheels down at an appropriate position in the pattern unless the pilot has previously reported wheels down.

d. Lost Communication. If unable to establish radio communication, comply with the procedures contained in the flight information handbook. Flashing of the landing/taxi lights is recommended in addition to the wing rock procedure.

6.3.1 Reduced Same Runway Separation

Strict adherence to the separation criteria for arriving and departing aircraft set forth in FAA Handbook 7110.65 may, in some circumstances, cause operational/training delays and airport congestion. Factors such as mission of the facility, airfield design, and aircraft models being supported may indicate that reduced separation standards are feasible and can be applied while maintaining adequate margins of safety. Subject to prior approval by COMNAVAIRFOR/CMC, naval aviation shore facility commanders are authorized to establish and apply reduced separation criteria for Navy and Marine Corps aircraft at the airfields under their command with the following stipulations:

a. Such action is necessary to meet operational/training requirements.

b. In the case of formation instrument approaches, ceiling and visibility minimums stated in paragraph 5.1.12.6 apply.

c. Reduced separation criteria are applied only between aircraft of similar performance characteristics or when the preceding aircraft has higher performance than the following.

d. Prior to application of reduced separation criteria, appropriate directives are issued delineating the specific standards to be applied (i.e., distance between aircraft using alternate sides of the runway, distance between aircraft using centerline, aircraft model/classes to which reduced standards apply, etc.).

e. Appropriate measures have been instituted to ensure that affected ATC personnel and aircraft operators are aware of the criteria being applied.

6.3.1.1 Aircraft of Other Military Services

The conditions of paragraph 6.3.1 may also apply to aircraft of other military services when such conditions are agreed to in writing by the cognizant operational commander of the other service and the Navy or Marine Corps shore facility commander.

6.3.2 Procedure for Checking Wheels Down and Locked

When a pilot has any doubt as to the gear being down and locked, the pilot shall promptly notify the controlling agency. Further, the pilot should request an airborne visual check, preferably by a similar model aircraft if one is available and such a procedure is considered practicable and safe. If not possible, the pilot should request a ground visual check by the most qualified personnel available (e.g., LSO, RDO, etc.). If doubt exists as to gear being down and locked, the pilot shall notify the control tower, which will in turn direct the pilot to perform a low pass in front of the tower for the purpose of a visual check. Pilots should be aware, however, that ATC personnel may only comment on the appearance of the landing gear (e.g., wheels appear down). Should doubt exist after a visual check, crash and rescue equipment shall be available for precautionary landing. After a landing rollout, the aircraft

shall not turn off the runway until ground personnel have made a visual check of the gear and gear pins have been installed. If a known not locked or up condition exists, normal crash alert procedures shall be instituted.

6.3.3 Runway Braking Action Advisory/Condition Readings

ATC facilities shall issue runway braking action advisories when braking action reports received from pilots or authorized airport operations personnel indicate braking action is poor or nil. The flight information handbook contains the necessary information for converting the numerical runway condition readings (included in the remarks portion of the weather sequence) to descriptive terms used in braking action advisories.

6.4 LETTERS OF AGREEMENT (LOAs)

Reference (c) contains procedures for executing LOAs between FAA/U.S. Navy ATC facilities concerning the control of air traffic. This guidance may also be used by wings/squadrons in effecting local LOAs with FAA facilities. The NAVREP to the FAA Regional Headquarters should be consulted in these cases. Information copies of local LOAs not specifically addressed in the reference (c) shall be forwarded to OPNAV (N885F) and the appropriate aviation TYCOM.

6.5 VITAL MILITARY OPERATIONS

6.5.1 Priority

Reference (aa) states there are certain military operations vital to national defense. These operations include active air defense interceptor missions, active undersea warfare missions, and active airborne early warning and control missions. These operations are to be given priority over all other military and civil aircraft by procedural handling by ATC for the particular operation as specified in coordinated agreements or authorizations. Joint LOAs between naval commands and FAA become the coordinating agreements specified in reference (aa).

6.5.2 Letters of Agreement

Each naval aviation shore activity from which active alert missions are conducted shall develop and implement a joint LOA with the appropriate FAA or host nation agency to prevent ATC delays for active missions. Wing/squadrons that routinely stand alert status at non-U.S. Navy airfields should execute an appropriate LOA at those airfields. Items that must be addressed in LOAs include, but are not limited to:

a. Procedures to notify ATC at least 5 minutes prior to the flight to allow for clearing of traffic from the departure corridor.

b. Provision for ATC release of the active mission aircraft to an appropriate tactical control agency upon request with due regard for safety of flight.

c. Provision of MARSA within the same mission. Refer to reference (w).

d. Prior to signing and implementing any agreement, the proposed LOA shall be forwarded to the cognizant force commander for review and approval.

NAVREPs should be consulted for assistance and advice in developing or revising joint LOAs and shall be provided copies of such agreements.

6.6 AIRFIELD VEHICLE OPERATIONS

6.6.1 Airfield Vehicle Operators Indoctrination Course (AVOIC)

a. Commanding officers and officers in charge of naval airfields shall establish procedures and policies concerning vehicle access and operation on the airfield including enforcement.

b. AVOIC curriculum, airfield operator licensing, vehicle operations, vehicle requirements, currency and recertification requirements are located at http://safetycenter.navy.mil/Aviation/operations/AVOC/index.asp.

c. At commands where the ATC division is not the AVOIC manager, the ATC facility officer shall have oversight of course curriculum and testing to ensure standardization compliance with FAA regulations and directives.

CHAPTER 7

Safety

7.1 FLIGHT PRECAUTION

7.1.1 General Precautions

All U.S. Navy/U.S. Marine Corps owned or leased aircraft, both manned and unmanned (including pre-accepted and/or commercial derivatives operated as public use aircraft modified by/for the Department of the Navy), shall have an airworthiness approval in the form of a flight clearance document promulgated/issued by COMNAVAIRSYSCOM (per reference (ab)). Permanent flight clearances are issued for standardized configurations in the form of a NATOPS publication and/or the NATIP (Web-based product). Aircraft operated in a nonstandard configuration, outside of the normal usage flight envelope, outside the limits of an existing promulgated NATOPS/NATIP, or utilizing non-standard flight operating or test techniques (i.e., operating outside of the intent of existing flight clearance documents) require a modified flight clearance. These modified flight clearances may be in the form of a NATOPS/NATIP change/update or interim flight clearance letter/message, as determined by NAVAIR 4.0P.

7.1.1.1 Conduct of Flight

Pilots shall conduct their flights in such a manner as to avoid all unacceptable risks as determined by following the ORM process. Each pilot must exercise prudent judgment and take proper action (including modifying NATOPS procedures) when dictated by emergencies that endanger life or property. The decision to abandon aircraft should be tempered by the pilot's responsibility for the safety of lives that may be endangered by subsequent flight of a pilotless but controllable aircraft. It is the responsibility of the pilot/crew to aviate, navigate, and communicate, in that priority, throughout all aspects of both routine and unusual circumstances. The aircraft commander shall ensure that a current NATOPS flight manual and/or NATOPS pocket checklist is carried onboard aircraft and readily available during ground and flight operations. If digital flight manual equivalent is utilized, an appropriate NAVAIR 4.0P approved back-up shall be available.

7.1.1.2 Life rafts

On overwater flights the number of persons in an aircraft shall not exceed capacity of the life rafts carried except as dictated by operational necessity.

7.1.1.3 Feathering or Securing Engines

During simulated emergency operations and functional check-flights of multiengine aircraft, no propeller shall be fully feathered or engine secured at an altitude below 4,000 feet AGL except as follows:

a. Aircraft undergoing test and trials as required by COMNAVAIRSYSCOM.

b. Aircraft whose design characteristics include normal operations with propellers feathered or engines secured below 4,000 feet AGL.

c. Four-engine aircraft may operate with one propeller feathered or with one engine secured at altitudes of 1,500 feet AGL or higher when required for check-flights or training purposes subject to restrictions contained in the applicable NATOPS flight manual.

7.1.1.4 Conduct of Passengers

Passengers embarked in transport aircraft shall remain in its passenger compartments and shall not enter the pilot or crew compartments except on specific invitation of the aircraft PIC.

7.1.1.5 General Flight Personnel/Passenger Restrictions

Except for emergency or operational necessity, the number of persons aboard naval aircraft engaged in flight operations such as pilot checkout, night familiarization, carrier qualifications, instrument flying in single-piloted aircraft, or functional check-flight, and evaluation shall be limited to those required to properly operate the aircraft and accomplish the assigned mission. When applicable, special precautions shall be observed in the weight and balance of the aircraft.

Note

Simulated emergencies that may affect aircraft controllability shall not be conducted anytime passengers are aboard the aircraft.

7.1.1.6 Operation of Battery Powered Devices

Crew/passengers shall not operate electronic equipment/battery powered devices such as radios, tape players, razors, calculators, etc., without approval of the PIC while the aircraft is in flight. Cellular telephones shall not be operated in naval aircraft while airborne.

7.1.1.7 Loading/Offloading

Whenever a fixed-wing aircraft is engaged in loading or offloading of passengers, the engine(s) on the side of the aircraft from which loading or offloading is taking place shall normally be shut down. When the engine(s) cannot be secured during loading/offloading evolutions without adversely affecting the successful completion of the mission, care shall be taken to ensure that passengers are properly briefed and appropriate safety precautions are observed.

7.1.1.8 Adequate Cockpit Visual Lookout

The PIC of a naval aircraft with side-by-side cockpit seating arrangement shall be responsible for both seats being occupied at all times. On occasions when either pilots or copilots are absent from their seats, they should be relieved by another pilot or qualified crewmember who will carry out the responsibilities expected of a lookout. Functional check-flights of single-piloted aircraft may be exempt from this provision when deemed advisable by the commanding officer.

7.1.2 Starting, Turning, and Taxiing

7.1.2.1 Authorized Personnel

Engines shall not be started without a pilot or designated mechanic in the pilot seat. See paragraph 7.1.2.4 concerning helicopters/tilt rotors.

7.1.2.2 General Prestart Precautions

a. Before starting an engine, the wheels of the aircraft shall be chocked and the parking brake set unless a deviation from this requirement is specifically authorized by the applicable model NATOPS manual.

b. Where applicable, intake screens shall be installed on jet aircraft.

c. Prior to starting jet engines, intakes and surrounding ground/deck shall be inspected to eliminate the possibility of FOD.

d. When an engine is started by non-pilot personnel for testing and warm-up purposes on aircraft other than transport and patrol class equipped with parking brakes, the plane shall be tied down.

e. Whenever an engine is started, personnel with adequate fire extinguishing equipment, if available, shall be stationed in the immediate vicinity of the engine but safely clear of intakes or propellers.

7.1.2.3 Starting Procedures

In starting an aircraft, all challenges and signals between the person operating the starting device and the person at the engine controls shall be clearly understood and so indicated by repetition before action is taken by either person. Where the engines are started entirely from the cockpit, the person at the engine controls shall exchange signals with a person observing the engine from outside the aircraft. In all cases, the propeller or jet intake duct and engine outlet, as applicable, shall be declared all clear prior to starting. Similarly, the rotor(s) of helicopters and prop-rotors of a tilt rotor shall not be engaged unless the individual in the cockpit is assured by positive signal that the area swept by the rotor(s) or prop-rotors is "all clear."

7.1.2.4 Helicopters/Tilt rotors

When the engine of a helicopter/tilt rotor is started, the controls should be manned by a qualified helicopter/tilt rotor pilot. Commanding officers may authorize certain specially qualified personnel, other than pilots, to ground test helicopter/tilt rotor engines and avionics when a pilot is not available; however, prop-rotors and rotors of a tilt rotor shall not be engaged except by a qualified pilot. Commanding officers of Fleet Readiness Centers and naval facilities may authorize qualified civilian employees to start engines and engage rotors or prop-rotors for ground system checks. Aircraft security requirements (e.g., tiedowns, chocks, parking brakes, etc.) shall be in accordance with applicable NATOPS.

7.1.2.5 Turnup

Before starting an engine for a high power turnup, aircraft other than transport and patrol class aircraft shall be tied down and placed in such a manner that the propeller or jet blast will not cause damage to other aircraft, equipment, or property. During any ground runup, an outside observer shall be stationed in such a location as to be in view of the person at the controls at all times.

7.1.2.6 Taxiing

a. When taxiing in the close vicinity of obstructions or other aircraft, a qualified taxi director shall attend the taxiing aircraft as well as other ground personnel necessary to ensure safe taxiing.

Note

The PIC is responsible for safe taxi clearance from obstacles and other aircraft. When uncertain of safe taxi clearances, stop and utilize appropriate ground personnel prior to continuing to taxi.

b. Instructions and use of plane handling signals appear in reference (ac), and posters and pamphlets issued by CNO. All naval activities are directed to comply with these instructions.

7.1.3 Takeoff

7.1.3.1 Flight Personnel and Passenger Briefing

The PIC of a naval aircraft shall ensure that prior to takeoff, flight personnel and passengers are adequately instructed on personal safety and survival equipment and procedures required for the particular aircraft in which they embark. Pilots of helicopters and tilt rotors that embark passengers are released from briefing responsibilities while engaged in:

a. SAR missions.

b. Transporting large troop contingents, reconnaissance parties, patrols, and outposts during field problems or when no opportunity is provided for the aircraft to be shutdown after embarkation

c. Shipboard operations when landings are precluded.

d. Under such circumstances, the briefing shall be the responsibility of the cognizant local commander(s).

7.1.3.2 Loose Articles

Prior to aircraft takeoff, an inspection shall be made to ensure that no loose articles, such as rags, waste, tools, etc., are present that might foul the controls. Articles shall be properly stowed to prevent their coming adrift and being lost overboard or damaging the aircraft during maneuvers. Care shall be taken to ensure proper load-balance distribution of all weights.

7.1.4 Takeoff and Landing Checklists

NATOPS checklists shall be provided in each aircraft for mandatory use by pilots to assist them in preparing the aircraft for takeoff and landing. They shall be followed carefully and in their given order to ensure that all steps are performed.

Note

In compliance with aircraft military design specifications, most aircraft are provided with abbreviated takeoff and landing checklists placarded (or etched) on instrument panels. The checklists are an additional reminder to flight personnel to complete required NATOPS manual checklists and serve as a double check on the proper positioning and status of major aircraft systems.

7.1.4.1 Reclining Seats

Personnel embarked in aircraft equipped with seats that have a reclining back shall be instructed to lock the seat in the erect position for all takeoffs, landings, and emergencies.

WARNING

Reclining seats that will not lock in the erect position shall not be used for passenger transport.

7.1.5 Power Failure on Multiengine Aircraft

7.1.5.1 Twin-Engine Aircraft

In the event of power failure or whenever an engine is stopped as a precaution on an aircraft that has two engines, the PIC shall land at the nearest suitable airport, in terms of time, provided weather conditions, terrain, and facilities available indicate that a safe landing can be accomplished.

7.1.5.2 Aircraft With Three or More Engines

In the event of a single power failure or whenever not more than one engine is stopped as a precaution on an aircraft that has three or more engines, the PIC may proceed to a selected destination if, after considering the following, the PIC decides that proceeding to that destination is as safe as landing at the nearest suitable airport:

a. The nature of the malfunction and the possible mechanical difficulties that may occur if flight is continued.

b. The altitude, weight, and usable fuel at the time of engine stoppage.

c. The terrain and weather conditions en route and at suitable landing points.

d. Possible air traffic congestion at suitable landing points.

e. Pilot familiarity with the airport to be used.

7.1.5.3 Reports

PICs shall report in-flight power failures and/or precautionary engine stoppages that affect safety of flight to the appropriate ground station as soon as practicable and shall keep appropriate operational control centers and/or traffic control facilities advised of their intentions and flight progress.

7.1.6 Distress and Emergency

7.1.6.1 Distress Procedures

Distress frequencies, procedures, signals, and call signs may vary among theaters of operations and are contained in various directives, such as Joint Publication 3-50, DoD FLIPS, and ICAO publications. A copy of the applicable procedures and signals shall be carried in the cockpit of all naval aircraft and may be used in time of peace regardless of the degree of radio silence that may be imposed during tactical exercises. They will be used in time of war when prescribed by the officer in tactical command and may be amplified as necessary to cover local conditions or specific military operations.

7.1.6.2 Emergency Procedures

Forced landing, lost aircraft, and SAR procedures applicable to aircraft are contained in various directives such as NWPs; Joint Army, Navy, Air Force publications (JANAP); and ICAO publications. Commanding officers shall ensure that each pilot under their command is thoroughly cognizant of applicable directives.

7.1.7 Ditching and Bailout

7.1.7.1 Ditching Precautions

When an aircraft must be crash landed on either land or water, the sudden shifting of cargo, equipment, and other heavy items may cause injury or loss of life. All units shall arrange and secure equipment in their aircraft to guard against such dangers. Emergency gear, such as life rafts, should be properly stowed for quick availability. Responsibility for proper security of cargo and equipment lies with the PIC of each aircraft.

7.1.7.2 Procedures

Ditching and bailout bills shall be prominently displayed in all multi-piloted aircraft having embarked flight personnel and/or passengers. Frequent drills shall be held to familiarize flight personnel with these instructions. Ditching and bailout signals shall be accompanied by simultaneous parallel announcements on the ICS or public address system whenever practicable.

Note

Bailout bills shall not be required in helicopters; however, strict compliance with the provisions of paragraph 7.1.3 is mandatory.

7.1.8 Command and Control Communication

Change in the control of aircraft shall be effected in a positive manner. As a minimum, a simple voice procedure (ICS or oral) shall be used to effect transfer of control responsibility. Pilots exercising control are responsible until they acknowledge verbally the relieving pilots acceptance of control of the aircraft. Where noise level, cockpit configuration, or other conditions prevent a positive verbal exchange, the following procedure shall be used:

a. The pilot desiring to be relieved or pilot desiring to take control shall shake control stick or column.

b. Pilots taking control shall shake control stick or column.

c. Pilot being relieved shall hold both hands overhead and observe the relieving pilot.

d. Pilots who have taken control shall signify this fact definitely by placing their hand on their head when the other pilot is looking at them. The pilot originally in control shall not be considered relieved until the foregoing has been executed, and responsibility for control of the aircraft rests upon the pilot until that has occurred.

e. In aircraft where visual contact between the two control positions is impossible or unsatisfactory, shift of control shall be attempted only when an operative interphone system is provided.

f. In high-performance multi-crew jet aircraft, the pilot ICS shall be selected to the "Hot Mic" position in aircraft so equipped for all takeoffs and landings, and when taxiing on an aircraft carrier deck. Below 2,500 feet AGL, "Hot Mic" shall always be selected unless the use of "Hot Mic" would significantly detract from the safety or mission effectiveness of the flight. Further use of "Hot Mic" should be prescribed in the individual flight manuals as appropriate to the installed system, mission requirements, and emergency capabilities.

7.1.9 Tobacco Products in Aircraft

a. The use of tobacco products in naval aircraft is prohibited.

b. Lighter Prohibition. Lighters with plastic liquid reservoirs and/or containers for refilling any lighter are prohibited in naval aircraft. Lighters with butane, propane, or methyl alcohol as a fuel are also prohibited.

7.2 SAFETY BELTS AND SHOULDER HARNESSES

Each person's safety belt and shoulder harness shall be worn and tightened prior to takeoff and shall be worn until completion of the flight except when

necessary activities require temporary removal. Inertia reels, where provided, shall be manually locked for all takeoffs and landings and at all other times when high g forces may be encountered except where the procedure is detrimental to safe operation. The number of persons over 2 years of age embarked in a naval aircraft for flight shall be restricted to the number for which there are adequate seats and safety belts. During takeoffs, landings, and at other times as specified by the PIC, each person over 2 years of age on board transport aircraft shall occupy a seat or berth and be secured with the safety belt provided for that purpose. Cabin seating requirement for helicopters and tilt rotors may be eliminated when operational environment or aircraft configuration/load requirements dictate for the accomplishment of essential training and operations with the following guidelines:

a. Applies to SPECOPS training and missions.

b. Applies to dedicated lifesaving efforts, including humanitarian and SAR operations.

c. Not to be used for routine operational training or personnel transfers. Applies only when tactical or procedural requirements exist for a specific mission or exercise.

d. When seats are removed, passengers will be restrained by an appropriate alternate means.

e. If mission profile requires removal of seats/seatbelts/ restraints for one part of the mission, then passengers will, if possible, use seats/seatbelts/restraints for all other phases of the mission.

WARNING

Walk-around belts do not provide impact protection; therefore, use of those belts shall be restricted to only those occurrences when mission accomplishment requires persons to be out of their seat. Such belts shall not be worn when strapped into a seat.

Note

Flight personnel leaving their seats to open a hatch or work in the vicinity of an open hatch shall wear an approved crewman aircraft belt (walk-around) during time spent out of the seat.

7.3 UNUSUAL PERFORMANCE OF AIRCRAFT

Any abnormal, erratic, or other kind of unusual performance of an aircraft or its powerplant, including material failures, shall be reported in accordance with references (q) and (t).

CHAPTER 8

Aeromedical and Survival

8.1 GENERAL

To improve the survivability of flight personnel, OPNAV (N88) has implemented the aircrew survivability enhancement program (ASEP). Sub-elements of this program are aviation life support systems (ALSS), CBRND, safety, human performance, and training. Guidelines and requirements contained here are considered minimum. Recommendations for changes or improvement in equipment, procedures, or training shall be addressed via the chain of command to COMNAVAIRFOR (N455) for evaluation and, if appropriate, implementation.

8.2 AVIATION LIFE SUPPORT SYSTEMS

The safety and survival equipment/requirements specified in paragraphs 8.2.1, 8.2.2, 8.2.3, and 8.2.4 of this manual are minimum requirements. Systems description, limits, procedures, deviations and authorization requiring a flight clearance shall be specified in an IFC, NATIP or NATOPS flight manual for the individual T/M/S aircraft. The latest equipment for use by aircrew personnel and passengers for flight in all naval aircraft is listed in aviation crew systems manuals, references (ad) through (at), and NAVAIR publications: references (aw) through (bb).

8.2.1 Aircrew Personal Protective Equipment Requirements

8.2.1.1 Aircrew

Note

All aircrew shall perform a pre-flight and post-flight inspection of their aircrew personal protective equipment.

Items below marked with * may be omitted by flight personnel flying in rotary wing executive transport mission aircraft and those in fixed-wing cargo/transport class aircraft if such flight does not involve shipboard operations and omission is approved by the commanding officer.

a. *Protective helmet — The helmet shall be 100 percent covered with white reflective tape except as modified by approved aircrew system changes. Up to 30 square inches of light-colored reflective tape may be applied so long as the white tape remains visible from all directions. The use of reflective tape may degrade NVD performance. Temporary, nonreflective cloth covers may be worn over the reflective tape.

b. *Aircrew safety/flyer boots.

c. *Fire-resistant (aramid) flight gloves.

d. *Fire-resistant flight suit (aramid) — Aramid or cotton-type undergarments shall be worn. Suitable fire-resistant unit issue clothing (aramid) may be substituted for the flight suit for flight personnel in non-ejection seat aircraft.

e. *Identification tags — Two tags on a chain worn around the neck; alternately, one tag may be laced into the boot, and the other carried elsewhere on the person.

f. *Survival knife — Do not wear exposed or attached to the life preserver.

g. *Personal survival kit — Appropriate to the area of operations.

h. *Signal device — Required for all night flights and flights over water or sparsely populated areas.

i. Survival radios and beacons

(1) Survival radios

(a) An approved voice-capable survival radio shall be carried by each aircrewman on all flights, unless otherwise directed by aircraft NATOPS manuals.

(b) A voice-capable radio shall be packed with all multiplace rafts.

(2) Emergency beacons

(a) An approved automatically actuated line-of-sight emergency beacon shall be installed in all ejection seats. Emergency beacon shall remain automatically actuated unless the aircraft will be operated in hostile fire areas.

(b) Beyond-the-line-of-sight, emergency beacon shall be packed with all multiplace rafts carried on board aircraft when performing extended overwater flights outside of normal oceanic air traffic routes.

j. Flashlight — Required for all night flights.

k. Anti-exposure suits — Final determination with regard to actual wearing of anti-exposure suits shall be made by the commanding officer or officer in charge of the aviation unit concerned. The decision will be based on an ORM analysis and take all pertinent factors into account (i.e., class aircraft, type and duration of assigned mission, ambient cockpit temperatures and environment factors, suit wearability, combat versus noncombat environment, availability of SAR resources, and ALSS accessible to all personnel onboard the aircraft) refer to figure 8-1. The latest available type continuous-wear or quick-donning anti-exposure suits, as appropriate, shall be provided for flight personnel of naval aircraft when in the event of a mishap there would be a significant risk of water entry and when either of the following two conditions prevail:

(1) The water temperature is 50°F or below.

(2) The outside air temperature (OAT) is 32°F or below (based on the wind chill factor corrected temperature (see figure 8-2)).

COLD WATER IMMERSED FUNCTIONAL EXPOSURE LIMITS BY TYPE OF EXPOSURE PROTECTION

		CWU-86 OR CWU-62/P SERIES[1]				MULTICLIMATE PROTECTION SYSTEM[1]						OTS-600[1,2]	
		86 or 62/P	86 or 62/P, 23/P liner	86 or 62/P & 43,44/P underwear	86 or 62/P, 23/P liner, 43, 44/P underwear	86 or 62/P, MCP LW underwear	86 or 62/P, MCP MW underwear	86 or 62/P, MCP LW & MW underwear	86 or 62/P, MCP HW liner	86 or 62/P, MCP HW liner & LW underwear	86 or 62/P, MCP HW liner & MW underwear	OTS	OTS & 43,44/P underwear
CWU-86 or 62/P Dry Suit		X	X	X	X	X	X	X	X	X	X		
OTS-600 Dry Suit												X	X
CWU-43-44/P Underwr				X	X								X
CWU-23/P Liner			X		X								
MCP Ltwt Underwr						X		X		X			
MCP Mdwt Underwr							X	X			X		
MCP Hvywt Liner									X	X	X		
	Water Temp °F												
8% Body Fat	35	≤ 30	≤ 60	≤ 75	≤ 150	≤ 60	≤ 90	≤ 105	≤ 135	≤ 150	≤ 240	≤ 60	≤ 165
	40	≤ 30	≤ 75	≤ 90	≤ 195	≤ 75	≤ 120	≤ 135	≤ 165	≤ 180	≤ 300	≤ 75	≤ 195
	45	≤ 30	≤ 90	≤ 120	≤ 255	≤ 90	≤ 150	≤ 180	≤ 210	≤ 225	≤ 360	≤ 90	≤ 225
	50	≤ 45	≤ 120	≤ 165	≤ 330	≤ 120	≤ 210	≤ 240	≤ 270	≤ 285	> 360	≤ 120	≤ 285
	55	≤ 60	≤ 165	≤ 225	> 360	≤ 180	≤ 300	≤ 315	≤ 300	> 360	> 360	≤ 150	≤ 345
	60	≤ 105	≤ 240	≤ 315	> 360	≤ 255	> 360	> 360	≤ 360	> 360	> 360	≤ 225	> 360
	68	≤ 225	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360
11 to 14% Body Fat	35	≤ 45	≤ 75	≤ 90	≤ 165	≤ 75	≤ 105	≤ 120	≤ 135	≤ 150	≤ 240	≤ 75	≤ 165
	40	≤ 45	≤ 90	≤ 105	≤ 210	≤ 90	≤ 135	≤ 150	≤ 165	≤ 180	≤ 315	≤ 90	≤ 195
	45	≤ 60	≤ 105	≤ 135	≤ 270	≤ 105	≤ 180	≤ 195	≤ 225	≤ 240	> 360	≤ 105	≤ 240
	50	≤ 75	≤ 150	≤ 180	≤ 345	≤ 150	≤ 240	≤ 255	≤ 300	≤ 315	> 360	≤ 135	≤ 300
	55	≤ 105	≤ 210	≤ 255	> 360	≤ 210	≤ 330	≤ 345	≤ 360	> 360	> 360	≤ 195	> 360
	60	≤ 150	≤ 285	≤ 345	> 360	≤ 300	> 360	> 360	> 360	> 360	> 360	≤ 270	> 360
	68	≤ 315	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360
15 to 18% Body Fat	35	≤ 60	≤ 90	≤ 105	≤ 195	≤ 90	≤ 135	≤ 135	≤ 165	≤ 180	≤ 270	≤ 90	≤ 195
	40	≤ 60	≤ 105	≤ 135	≤ 255	≤ 105	≤ 165	≤ 180	≤ 210	≤ 225	≤ 345	≤ 105	≤ 225
	45	≤ 90	≤ 150	≤ 180	≤ 315	≤ 150	≤ 210	≤ 225	≤ 270	≤ 285	> 360	≤ 135	≤ 285
	50	≤ 105	≤ 195	≤ 225	> 360	≤ 195	≤ 285	≤ 300	≤ 345	≤ 345	> 360	≤ 180	≤ 345
	55	≤ 150	≤ 270	≤ 315	> 360	≤ 270	≤ 360	> 360	> 360	> 360	> 360	≤ 240	> 360
	60	≤ 210	≤ 360	> 360	> 360	≤ 360	> 360	> 360	> 360	> 360	> 360	≤ 330	> 360
	68	≤ 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360
19 to 26% Body Fat	35	≤105	≤ 150	≤ 180	≤ 270	≤ 150	≤ 195	≤ 210	≤ 225	≤ 240	≤ 330	≤ 135	≤ 255
	40	≤120	≤ 180	≤ 210	≤ 315	≤ 180	≤ 255	≤ 255	≤ 285	≤ 300	≤ 360	≤ 165	≤ 300
	45	≤150	≤ 225	≤ 270	≤ 345	≤ 225	≤ 300	≤ 300	≤ 315	≤ 330	> 360	≤ 225	≤ 330
	50	≤210	≤ 285	≤ 300	> 360	≤ 285	≤ 330	≤ 345	> 360	> 360	> 360	≤ 285	> 360
	55	≤ 270	≤ 330	≤ 360	> 360	≤ 330	> 360	> 360	> 360	> 360	> 360	≤ 315	> 360
	60	≤ 315	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360
	68	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360
≥27% Body Fat	35	≤ 180	≤ 225	≤ 270	> 360	≤ 240	≤ 300	≤ 315	≤ 345	≤ 360	> 360	≤ 225	≤ 360
	40	≤ 120	≤ 270	≤ 330	> 360	≤ 300	≤ 360	≤ 360	≤ 360	> 360	> 360	≤ 285	> 360
	45	≤ 270	≤ 360	> 360	> 360	≤ 360	> 360	> 360	> 360	> 360	> 360	≤ 360	> 360
	50	≤ 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360
	55	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360
	60	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360
	68	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360	> 360

HIGH RISK SAFEST

3710-F04b

Note 1: All clothing configurations include aircrew safety boots, standard wool socks, HGU-84/P helmet, CWU-27/P flight coverall

Note 2: OTS ensembles are configured for tactical flight and also include CMU-33/P survival harness, PCU-56/P torso harness, CSU-13B/P anti-G suit

Figure 8-1. Anti-exposure Suit Requirements (Sheet 1 of 2)

CAUTION

This table shows estimated Immersed Functional Exposure Limits based on laboratory tests and simulations. Actual functional Exposure limits will vary based on the individual personal fitness including rest, meals, activity level, injuries and mental attitude and factors such as sea state, ambient air temperature, and total immersed time.

Note

- This table depicts predicted Functional Exposure Limits and not Survival Time.
- Predictions are based on body fat / weight combinations of: 8% @ 155 lbs, 11-14% @ 166 lbs, 15-18% @ 177 lbs, 19-26% @ 193 lbs, 27% @ 216 lbs.

USING TABLE TO MAKE OPERATIONAL DECISIONS

(1) Consult with Operations to determine likely alert-to-rescue time. Allow for rescue of all aircrew.

(2) Determine the coldest water temperature (rounding down) of which you will be flying.

(3) Choose the body fat range that most closely resembles you, underestimating rather than overestimating.

(4) Determine functional exposure limit by matching the water temperature row with the type of individual exposure protection available.

Example:

An 18% body fat aircrewman is scheduled for an unescorted night flight with a total of five personnel that will depart NAS Norfolk and terminates approximately three hours later on a carrier at sea. The coldest water temperature over which the crew will fly is 53 degrees. Operations estimates SAR time to be approx 1 hour and 30 minutes to arrive on station. Taking into account 1 hour to locate the survivors and an additional 1 hour and 15 minutes to rescue all five crew members, the total in water time would be 225 minutes for the last crewmember. Thus, he needs to select clothing that will protect him for no less than 225 minutes. The aircrewman has been issued the CWU-62/P, CWU-23/P liner and CWU-43, CWU-44 underwear.

The aircrewman selects the "15-18%" body fat data range and 50 degree water temperature (rounding down). Based on the table, he determines that he can wear the underwear without the liner under the CWU-62/P to last for the 225 minutes estimated it will take for the SAR rescue.

Figure 8-1. Anti-exposure Suit Requirements (Sheet 2)

WHAT THE THERMOMETER READS (degrees F.)												
WIND SPEED MPH	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	WHAT IT EQUALS IN ITS EFFECT ON EXPOSED FLESH											
CALM	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-21	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-36	-45	-58	-72	-85	-99	-112
20	32	18	8	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-49	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-137	-148
	Little danger if properly clothed				Danger of freezing exposed flesh				Great danger of freezing exposed flesh			

3710-F05

Figure 8-2. Wind Chill Index

Note

Actual determination as to when anti-exposure suits must be worn by flight personnel shall be determined by the commanding officer or officer in charge. However, it is strongly recommended that anti-exposure suit use be mandatory when either of the above two criteria are met. The threat of lethal cold shock is very significant under these conditions and occurs within the first two to three minutes following immersion.

Flight personnel have the option to wear the provided anti-exposure suits as a personal decision whenever they deem circumstances merit their use.

Rescue swimmers shall not be deployed unless equipped with anti-exposure protection when water temperature is 60°F or below and/or OAT is wind chill factor corrected at 32°F or below.

(3) If the water temperature is between 50°F and 60°F, the commanding officer or officer in charge of the unit concerned must determine whether anti-exposure suits are necessary and when they are to be provided (figure 8-1) using ORM analysis based on SAR factors as follows:

(a) Assess maximum probable rescue time (which is a function of mission distance, SAR equipment, and SAR location).

(b) Determine the lowest water temperature in the mission area during the time period of flight.

(4) When OAT corrected for wind chill is at or below 50°F and anti-exposure suits are not mandated the wearing of fire-resistant (aramid) undergarments is recommended. Wearing double layers of these undergarments can significantly improve anti-exposure performance in a cold dry environment (e.g., survival situation resulting from overland mountainous flight profile).

WARNING

Immersion in water with a temperature of between 50° and 60° for as little as 2 hours can result in unconsciousness because of hypothermia. Wearing of the complete anti-exposure ensemble as authorized by (an) is the only configuration that ensures adequate thermal protection with water temperatures below 60°F.

Note

Without the full anti-exposure ensemble, aramid undergarments are of very little or no practical value for thermal protection during water immersion situations. Refer to table 5-2 of reference (ad) for the recommended underclothing based on water temperature.

(5) Only approved combinations of anti-exposure suit inner and outer liners authorized by reference (ae).

(6) When anti-exposure suits are not actually worn by occupants of aircraft in which the use of quick-donning suits is practical (i.e., large helicopters and patrol class aircraft), such suits shall be carried for each aircrew member as part of the aircraft survival equipment on flights conducted under the temperature conditions stated above. Exceptions to the above requirements are as follows:

(a) Fleet tactical support squadrons and other commands operating transport class aircraft in routine transport operations. (Functional checkflights, flights for airlift of hazardous cargo, and flights in combat zones are examples of other than routine operations.)

(b) When worn with approved inner garments, a full-pressure suit is authorized for use in place of the continuous-wear anti-exposure suit.

SEE IC # 41

Note

The wearing of rubber wetsuits can result in rapid onset of fatigue as a result of dehydration. Since fatigue is more prevalent with the wearing of wetsuits, the rest, sleep, and flight time requirements of paragraph 8.3.2 may not be sufficient.

l. Anti-blackout suits (G-suits) shall be worn and connected on all flights in aircraft equipped for their use.

m. Inflatable life preservers shall be worn during all flights originating from or terminating on ships or landing platforms. Life preservers shall be readily available when operating from aerodromes in the vicinity of coastal waters or when operating from inland aerodromes where takeoff, route of flight, or approach path is over water. Occupants of ejection seat aircraft shall wear the appropriate life preserver at all times. Life preservers shall be worn when mission requirements dictate operation over water below 1,000 feet exclusive of normal departures or approaches (e.g., maritime patrol operations).

WARNING

Wearing a life preserver under any item of clothing or equipment may cause serious injury or death. Life preservers should never be worn under any garment or equipment unless the equipment is specifically designed to be worn in that configuration.

Note

The life preserver automatic inflation device, FLU-8/P, is designed for use in ejection seat aircraft only. It shall not be worn in aircraft where ditching is a recommended procedure, in helicopters, or on COD flights.

n. Laser eye protection (LEP) — LEP shall be worn in accordance with reference (bc) in a known or suspected laser threat environment (e.g., rangefinder, designator, etc.,) either in a single of multi-aircraft scenario.

o. Supplemental Emergency Breathing Devices (SEBD) — SEBD shall be carried by all helicopter, tiltrotor, E-2, and C-2 aircrew during overwater flight. Aircrew must complete applicable NASTP SEBD training elements prior to being issued personal SEBD equipment. The flight-approving authority may provide SEBD or similar approved equipment to any nonaircrewman who has successfully completed applicable training.

p. Appropriate aircrew CBRND protective equipment shall be worn or available for immediate use when operating in identified chemical, biological (CB) threat areas.

8.2.1.2 Rescue Aircrewmen Equipment

The minimum personnel equipment to be carried by the rescue swimmer shall be in accordance with applicable aircraft type NATOPS manual and reference (bd).

8.2.1.3 Passengers

Passengers shall comply with the provisions of paragraph 8.2.1.1 m.

a. Passengers in COD aircraft during shipboard launch and recovery and passengers in helicopters/tiltrotors shall wear an approved protective helmet with reflective tape. The combat/parachutist helmet may be worn in lieu of the protective helmet with reflective tape, provided hearing protection is worn by all passengers. Waivers of this requirement may be granted by CMC/COMNAVAIRFOR only.

b. During shipboard logistic, nontactical operations, passengers in COD/VOD aircraft (excluding Fleet Marine Force (FMF) helicopters and tiltrotors) shall wear appropriate anti-exposure protection whenever anti-exposure suits are required for aircrew. Competent authority is authorized to waive this requirement based on an ORM analysis, which considers rescue distance, expected rescue times, personal health factors, and other pertinent aircraft egress factors.

c. For all other aircraft carrying passengers, minimum safety and survival gear shall be as defined by the NATOPS manual for the specific aircraft.

8.2.2 Liferafts

Liferafts of sufficient capacity to accommodate passengers and crew shall be provided in all aircraft when there would be a significant risk of water entry in the event of a mishap. Officers in tactical command may waive this provision during troop movements between sea and shore when they deem it appropriate and adequate SAR resources are available. Waiver decision will be based on ORM analysis.

8.2.3 Parachutes

8.2.3.1 Requirements

Parachutes shall be provided as dictated by T/M/S NATOPS manuals or applicable IFC.

8.2.3.2 Responsibility of the PIC

The PIC of a naval aircraft in which parachutes are required shall assure the following:

a. A parachute is available to all flight personnel and passengers in a location convenient to the intended user.

b. All flight personnel and passengers are familiar with the location, use of the type parachute provided, and bailout procedures for the aircraft in which embarked.

SEE IC # 43

8.2.3.3 Parachute Equipped Aircraft and High Winds

WARNING

An increased risk of severe injury or death during parachute landing fall exists with surface winds exceeding 25 knots. High surface winds contribute to total landing velocity. When steady-state surface winds exceed 25 knots, Commanding Officers shall only conduct flight operations as operational necessity dictates (see figure 8-3).

8.2.4 Oxygen/Cabin Pressurization

Except as stated in paragraphs 8.2.4.1 and 8.2.4.2, all occupants aboard naval aircraft shall use supplemental oxygen on flights in which the cabin altitude exceeds 10,000 feet.

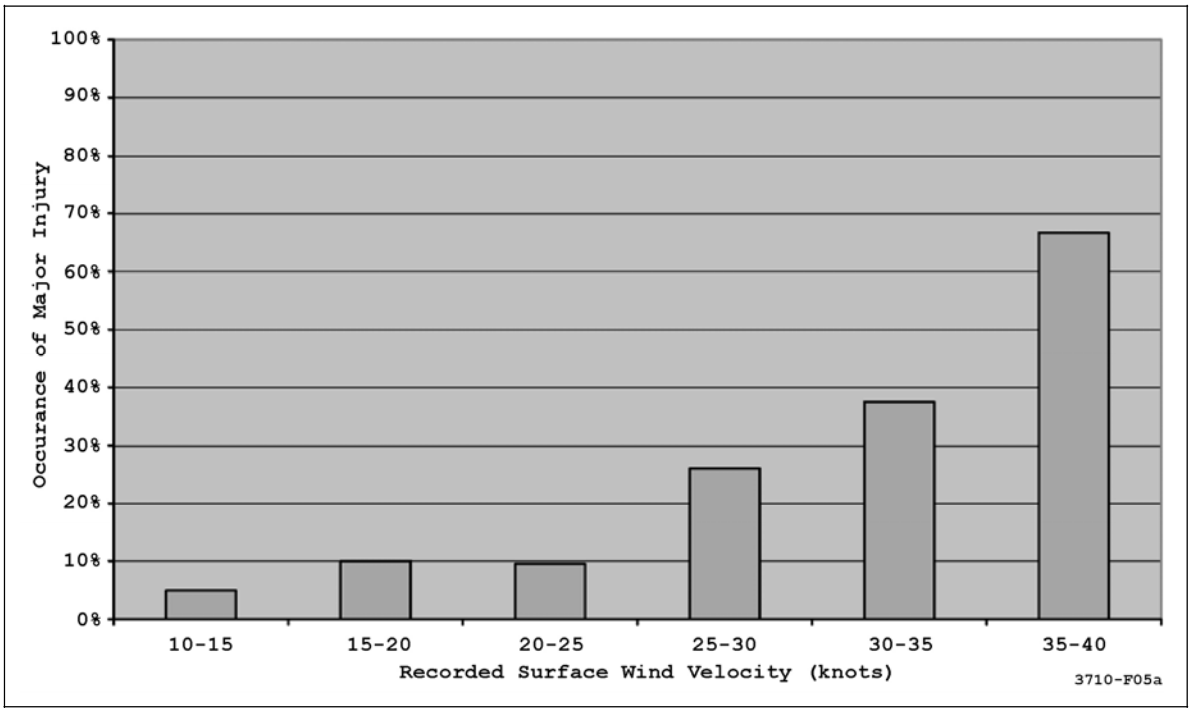

Figure 8-3. Occurrence of Major Injury Resulting from Parachute Landing on Land or Ship in Ejections Between 1969 and 1998 in High Winds

8.2.4.1 Unpressurized Aircraft

Figure 8-4 governs the use of oxygen equipment in unpressurized aircraft with oxygen systems. In unpressurized aircraft with oxygen systems, the pilot at the controls and aircrew participating in physical activity (loadmasters) shall use supplemental oxygen continuously when cabin altitude exceeds 10,000 feet. When oxygen is not available to other occupants, flight between 10,000 and 13,000 feet shall not exceed 3 hours duration, and flight above 13,000 feet is prohibited. In aircraft where oxygen systems are not available (such as helicopters), it must be determined that it is mission essential for flight altitude to exceed 10,000 feet. Time above 10,000 feet shall not exceed 1 hour and altitude shall not exceed 12,000 feet.

AIRCRAFT ALTITUDE	SINGLE-PILOTED AIRCRAFT	PILOT	COPILOT	CREW ON DUTY/W Physical Activity	CREW ON DUTY/W No Physical Activity	OTHER OCCUPANTS
FL100 and below	NA	NA	NA	NA	NA	N/A
Above 10,000 through 13,000	O	O	I - 30 min limit O - no limit	O	R - 60 min limit O - no limit	3 hr limit O - no limit
Above 13,000 through FL 180	O	O	O	O	O	O
Above FL 180 through FL 2501	O	O	O	O	O	O
Above FL250	No Flight	No Flight	No Flight	No Flight	No Flight	No Flight

LEGEND R — Oxygen shall be readily available or immediate descent to below 10,000 feet an available option

I — Oxygen shall be immediately available. Helmets shall be worn with an oxygen mask attached to one side or an approved quick-donning or sweep-on mask properly adjusted and positioned for immediate use.

O — Oxygen shall be used.

1 - To determine risk of DCS at altitude see figure 8-4 or use AFRL DCS Risk Assessment Model.

Note

- Limit refers to maximum exposure time allowed for altitude range indicated.
- Pre-oxygenation (uninterrupted breathing of aircraft oxygen systems) for 30 minutes or more prior to altitude exposure above 18,000 feet significantly reduces the risk of DCS.
- Oxygen use improves night vision performance at altitudes above 5000 feet.

Figure 8-4. Unpressurized Aircraft with Oxygen Systems Available

Note

Aircraft flying above 18,000 feet should refer to figure 8-5, the Air Force Research Laboratory (AFRL) Decompression Sickness (DCS) Risk Assessment Model. Figure 8-5 or the Web site https://rhepws002.wpafb.af.mil/hepg should be used to assist in determining the risk of DCS at altitude. It is important to note that these are population predictions and not individual predictions. There is great individual DCS variation to altitude exposure and it is very difficult to predict with accuracy whom might succumb to DCS symptoms. Factors that increase one's susceptibility to DCS are rapid ascents to altitude above 18,000 feet, length of time above 18,000 feet, dehydration, and physical activity at altitude. To reduce the risk of DCS even further, it is recommended to pre-oxygenate with 100 percent oxygen if available (figure 8-6), and if 100 percent is not available, still pre-oxygenate with the oxygen system that is available.

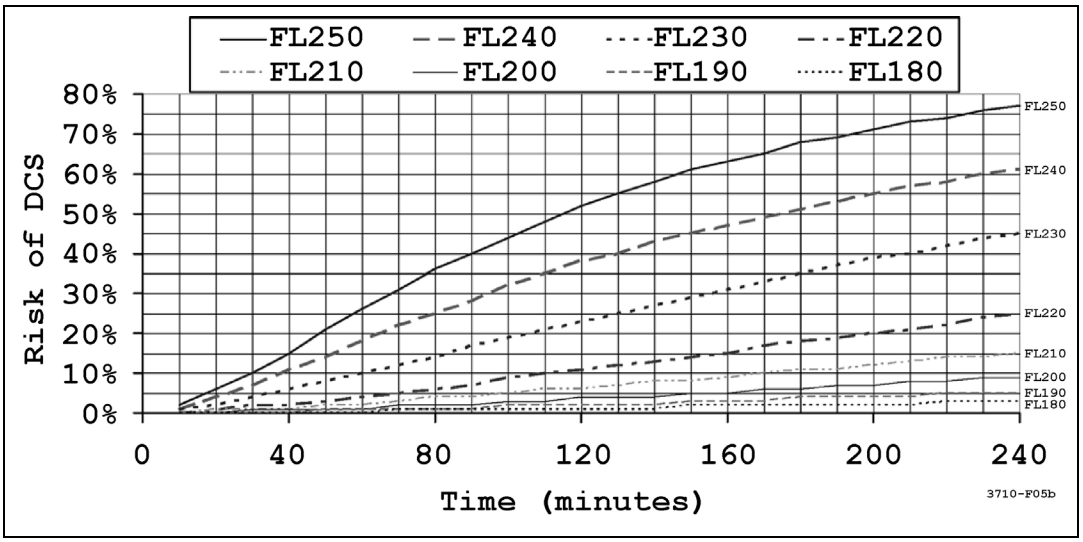

Figure 8-5. AFRL DCS Risk Assessment Model (No Pre-Oxygenation and Mild Activity)

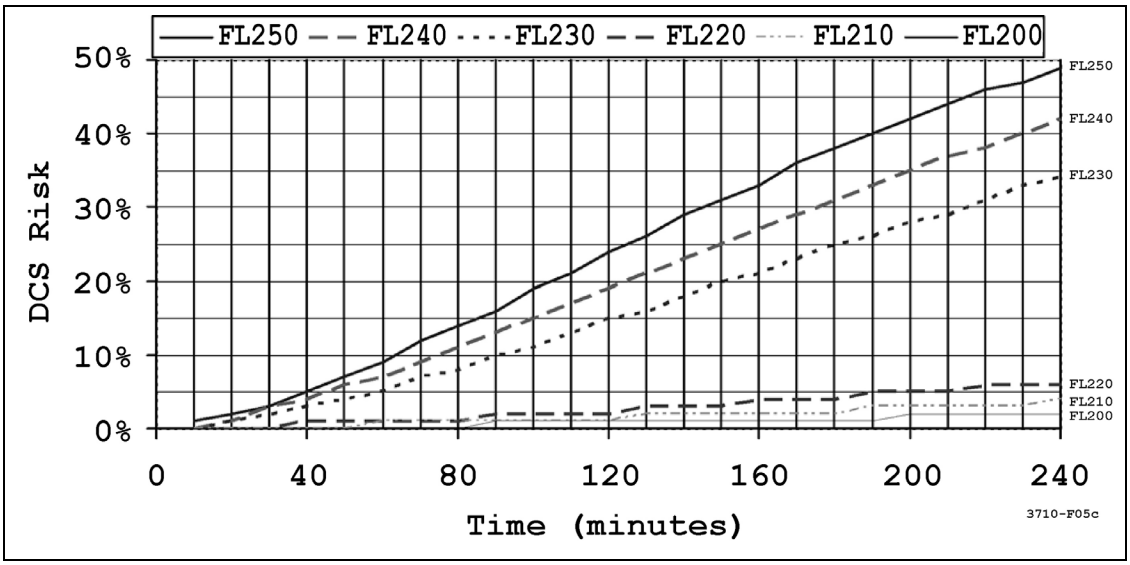

Figure 8-6. AFRL DCS Risk Assessment Model (100% Pre-Oxygenation and Mild Activity)

8.2.4.2 Pressurized Aircraft

Figure 8-7 governs the use of oxygen equipment in pressurized aircraft other than tactical jet aircraft flown above 10,000 feet pressure altitude. Oxygen shall be used when cabin altitude exceeds 10,000 feet except as modified by paragraph 8.2.4.3.

8.2.4.3 Tactical Jet and Tactical Jet Training Aircraft

Oxygen shall be used by all occupants from takeoff to landing. Emergency bailout bottles, when provided, shall be connected prior to takeoff.

8.2.4.4 Quantity of Oxygen

The quantity of oxygen aboard an aircraft before takeoff must be sufficient to accomplish the planned mission. In aircraft carrying passengers, there shall be an adequate quantity of oxygen to protect all occupants through normal descent to 10,000 feet.

8.2.4.5 Loss of Pressurization

If loss of pressurization occurs and oxygen systems are suspect, an immediate descent shall be made as soon as possible to a cabin altitude at or below 10,000 feet. If oxygen systems are not suspect, immediate descent shall be made to a cabin altitude at or below 18,000 feet. During loss of pressurization all occupants shall use oxygen.

AIRCRAFT ALTITUDE	SINGLEPILOTED AIRCRAFT	PILOT	COPILOT	CREW ON DUTY	OTHER OCCUPANTS
FL 250 and below	R	R	R	R	N/A
Above FL 250 through FL 350	I	I	R	R	R
Above FL 350 through FL 400	O	I or O	I or R	R	R
Above FL 400 through FL 450	O	O	I	I	R
Above FL 450 through FL 500	O	O	I	I	I

LEGEND R — Oxygen shall be readily available

I — Oxygen shall be immediately available. Helmets shall be worn with an oxygen mask attached to one side or an approved quick-donning or sweep-on mask properly adjusted and positioned for immediate use. Set regulators to the "ON" position (except CRU-121) and in the 100 percent setting. All CRU-121 regulators (regulator is labeled "positive pressure oxygen regulator") must be in the "OFF" position when not being utilized. The CRU-121 is a positive pressure regulator and if left on when not in use will free flow causing a decrease in the oxygen stores.

O — Oxygen shall be used.

Note

In multipiloted pressurized aircraft if above FL 250, the pilot at the controls must be using 100 percent oxygen if the other seat is occupied by other than a qualified pilot, except for aircraft equipped with quick-donning masks at both pilot stations where the above rule shall apply above FL 350.

Figure 8-7. Oxygen Requirement for Pressurized Aircraft Other Than TACTICAL Jet Aircraft

8.2.4.6 Decompression Sickness

When an occupant of any aircraft is observed or suspected to be suffering from the effects of DCS, 100 percent oxygen or available aircraft oxygen will be started and the pilot shall immediately descend to the lowest possible altitude and land at the nearest civilian or military installation suitable for safe landing and obtain qualified medical assistance. Consideration shall be given to whether the installation is in proximity to a medical recompression chamber. It is extremely important to be able to recognize symptoms and convey this and the altitude profile to medical support and follow reporting procedures in reference (t).

8.2.5 Chemical, Biological, Radiological, Nuclear, Defense (CBRND) Protective Equipment

Appropriate CBRND protective equipment (to include theater/regionally prescribed medical counter-measures) shall be available for all flight personnel on flights into, from, or in the vicinity of identified CB threat and/or CB weapons use. Refer to reference (be).

8.3 HUMAN PERFORMANCE AND AEROMEDICAL QUALIFICATIONS FOR FLIGHT AND FLIGHT SUPPORT

8.3.1 General

Operational readiness and aviation safety are enhanced by assuring that flight crew and flight support personnel achieve and maintain an optimal state of physical and emotional health. It is important that personnel are adequately rested and that conditions which contribute to fatigue, impair health, decrease performance and increase mishap potential are reduced or eliminated. This section outlines basic guidelines that individuals and all levels of supervision and command can use to attain and monitor personnel performance.

Note

The senior aviation commander responsible for conduct of air operations may exceed these guidelines, should operational necessity dictate. Exceeding the guidelines increases the probability of crew fatigue, causing impaired judgment and reduced performance. When exceeding the guidelines, commanders shall manage the increased risk created by crew fatigue. Consultation with the flight surgeon (FS) or aeromedical safety officer (AMSO) is strongly recommended in the development and implementation of appropriate risk controls.

Landing signal officers (LSOs) shall meet the physiological standards required for aircrew in a flight status to perform the duties of a controlling or backup LSO. Maladies or injuries that do not impair mental acuity (such as minor sprains, etc.), but that preclude normal flight status may be waived by the FS on a case-by-case basis.

Commanding officers and FSs shall comply with applicable directives pertaining to mental health evaluation of Service members. (See reference (bf) that is implemented by reference (bg). Individuals who fall under "Military Whistleblower Protection" guidelines per reference (bh) may require additional administrative procedures in conjunction with evaluation. Commanding officers are encouraged to consult with local FSs and legal officers.

UAS flightcrews should comply with all sections of 8.3.

8.3.2 Factors Affecting Aircrew Performance

Numerous complex factors affect the performance of flight and support personnel. Commanders and mission planners must assess the impact of factors that contribute to operational fatigue and reduce aircrew performance. The principle factors include: weather, extremes of temperature, nighttime operations, use of vision imaging systems, mission delays, personal equipment and ALSS, duration of the duty period, quality and duration of sleep (prior to duty), number of hours flown during the previous several duty periods, time of day relative to the body's internal circadian clock, degree of circadian desynchrony (jet lag), physical health, additional duties, misuse of alcohol, caffeine, tobacco, or dietary supplements and adequacy of crew rest facilities. These factors must be understood by all concerned and appropriate countermeasures established to assure they do not reduce personnel readiness. FSs and AMSOs shall proactively establish an aeromedical adjunctive training program appropriate to their unit's human factors risks. Appendix E provides minimum requirements for aeromedical adjunctive training. Flight personnel should report any physical indisposition to superiors and assume flight duty only when fit to do so. Since an individual may frequently be the poorest judge of personal fitness, commanding officers shall ensure that flight personnel are adequately observed and appropriate temporary grounding action is taken when necessary. The following guidelines and requirements should be considered for all aspects of naval aviation.

8.3.2.1 Crew Rest and Sleep

8.3.2.1.1 Crew Rest for Flight Crew and Flight Support Personnel

Crew rest is the non-duty time before a flight duty period begins. Crew rest includes free time for meals, transportation and rest and must include an opportunity for 8 hours of uninterrupted sleep time for every 24-hour period. Crew rest does not begin until after termination of official duties and is required prior to reporting for preflight preparations. Flight crew should not be scheduled for continuous alert and/or flight duty (required awake) in excess of 18 hours. If it becomes necessary to exceed the 18-hour rule, 15 hours of continuous off-duty time shall be provided prior to scheduling the member for any flight duties. Flight and ground support personnel schedules shall be made with due consideration for watch standing, collateral duties, training, and off-duty activities. Crew rest can be reduced to less than 12 hours in order to maintain a 24-hour work/rest schedule, but a shortened crew rest period (for example to maintain circadian rhythm) must always include an opportunity for 8-hours of uninterrupted sleep.

Note

As the time continuously awake duty time exceeds 16 hours, performance efficiency begins to drop. After 18 hours, performance efficiency rapidly declines to 75 percent of effectiveness or less. The loss of effectiveness is manifested by lapses in attention, increased reaction time, slowed information processing, decreased vigilance, and increased error frequency. Accident rates for just about every type of human activity increase after 18 hours of wakefulness, particularly during the night "circadian trough" when sleep would normally occur.

8.3.2.1.2 Circadian Rhythm

Circadian rhythms are cyclic fluctuations of numerous body functions that are set like a "radiological clock" by daylight exposure and sleep/awake periods. Changing local sleep/awake periods or rapidly crossing more than three time zones disrupts circadian rhythms and can cause a marked decrease in performance. This condition, called "jet lag," is compounded by illness, fatigue, dehydration, alcohol use, poor nutrition, or drugs, and is resolved only by accommodation to the new local time or sleep/awake period. The accommodation period can be estimated by allowing 1 day for every time zone crossed in excess of 3. Accommodation begins when a new daily routine is established. During that period, aircrew are not grounded but can be expected to perform at a less than optimal level. Less intense flight profiles and close observation by the FS during the accommodation period may be desirable. Shift work, where individuals are required to work during the night for extended periods, requires even longer times for adaptation (up to 4 weeks). Individuals may never fully adapt to night shift work unless completely isolated from daylight exposure, and additional controls may be necessary for safe operations. Specific fatigue countermeasures to adapt to and minimize disruption of circadian desynchrony can be found in reference (bi).

8.3.2.2 Flight Time

Precise delineation of flight time limitations is impractical in view of the varied conditions encountered in flight operations. Required preflight/ postflight crew duty time must be given due consideration. The following guidelines are provided to assist commanding officers:

a. Daily flight time should not normally exceed three flights or 6.5 total hours flight time for flight personnel of single-piloted aircraft. Individual flight time for flight personnel of other aircraft should not normally exceed 12 hours. The limitations assume an average requirement of 4 hours ground time for briefing and debriefing.

b. Weekly maximum flight time for flight personnel of single-piloted aircraft should not normally exceed 30 hours. Total individual flight time for flight personnel of other aircraft should not exceed 50 hours. When practicable, flight personnel should not be assigned flight duties on more than 6 consecutive days.

c. Accumulated individual flight time should not exceed the number of hours indicated in figure 8-8.

d. When the tempo of operations requires individual flight time to exceed the guidelines in figure 8-6 or paragraphs 8.3.2.2 a and 8.3.2.2 b, flight personnel shall be closely monitored and specifically cleared by the commanding officer on the advice of the FS. Aviation-capable ships that do not have access to FSs for recommendations to exceed flight time limitations should follow procedures outlined in reference (bj). Commanding officers should assure equitable distribution of flight time commitments among assigned flight personnel, commensurate with additional ground duties that each may be assigned.

PERIOD (DAYS)	SINGLE PILOTED AIRCRAFT	MULTI-PILOTED (PRESSURIZED) EJECTION SEAT AIRCRAFT	MULTI-PILOTED NON-PRESSURIZED AIRCRAFT	MULTI-PILOTED PRESSURIZED AIRCRAFT
1	6.5	12	12	12
7	30	50	50	50
30	65	80	100	120
90	165	200	265	320
365	595	720	960	1120

Figure 8-8. Maximum Recommended Flight Time

Note

Flight operations involving contour, NOE, chemical defense gear, night and NVDs, and adverse environmental factors (dust, cloud cover, precipitation, etc.) are inherently more stressful and demanding than flying day VFR. The resultant fatigue may have a profound physiological effect upon mission capability. Mission planners should take this physiological threat into account in making modifications to normal crew rest/crew day guidelines.

8.3.2.3 Nutrition

All flight and ground support personnel shall be provided a positive program of information for the establishment and maintenance of good dietary habits. Failure to eat within 12 hours preceding end of flight may impair performance and ability to adequately control aircraft. Reducing diets should be under supervision of an FS. Nutrition and diet information is also available as NASTP adjunctive training (appendix E) and can be provided by a naval aerospace physiologist (NAP), AMSO, or FS.

8.3.2.3.1 Nutritional Supplements

A nutritional supplement is a product taken by mouth that contains a "dietary ingredient" intended to supplement the diet. The ingredients in these products may include vitamins, minerals, herbs or other botanicals, amino acids, protein, and substances such as enzymes, organ tissues, glandular extracts, and metabolites. Dietary supplements can also be extracts or concentrates, and may be found in many forms such as tablets, capsules, softgels, gelcaps, liquids, or powders, and food bars. Use of nutritional/dietary and other OTC supplements/products by flight personnel except those approved by BUMED is prohibited. Harmful effects are often associated when used in very high doses or in non-standard manner and virtually none are tested or assured safe in the aviation environment. The term "natural" does not mean it is safe. FSs shall be consulted to assist with making informed decisions regarding nutritional supplements. The use of nutritional supplements of all types shall be reported to the FS and recorded during every periodic physical examination or physical health assessment (PHA). See also policy in paragraph 8.3.2.5.a(6) for further information.

8.3.2.4 Exercise

Planned physical fitness programs promote health. All levels of command are encouraged to establish approved physical fitness programs for all personnel in accordance with reference (bk). Due consideration must be given to avoiding contact sports, skiing, etc. Adequate rest periods must be provided for aviators before flying following participation in competitive or particularly tiring sports activity. Twelve hours should normally be adequate.

8.3.2.5 Drugs

Drugs are defined as any chemical that when taken into the body causes a physiological response. All flight and support personnel shall be provided appropriate information by a command drug abuse education program.

a. Legal drugs are those medically prescribed or legally purchased for treatment of illness. Guidance and flight restrictions are provided in the Naval Aerospace Medical Institute's (NAMI) on-line Aeromedical Reference and Waiver Guide at http://www.med.navy.mil/sites/navmedmpte/nomi/nami/arwg.

(1) Prescription drugs — Taking drugs prescribed by competent medical authority shall be considered sufficient cause for recommendation of grounding unless their use is specifically approved by an FS, or a waiver for specific drug use has been granted by CHNAVPERS or the CMC. Consideration shall be given to the removal of ground support personnel from critical duties, for the duration of the drug effects, if appropriate. Medicines such as antihistamines, antibiotics, narcotic pain relievers, etc., obtained by prescription for short term use to treat a self-limited condition, shall be discarded if all are not used during the period of medication. Unused quantities of performance maintenance drugs (amphetamines or sleeping pills) shall be returned to the FS or medical clinic for purposes of strict accountability.

(2) Over-the-counter (OTC) drugs — Because of the possibility of adverse side effects and unpredictable reactions, the use of OTC drugs by flight personnel is prohibited unless specifically approved by an FS. Ground support personnel shall be briefed on the hazards of self-medication and should be discouraged from using such drugs.

(3) Alcohol — The well-recognized effects of excessive alcohol consumption are detrimental to safe operations (i.e., intoxication and hangover). Consumption of any type of alcohol is prohibited within 12 hours of any mission brief or flight planning. Adherence to the letter of this rule does not guarantee a crewmember will be free from the effects of alcohol after a period of 12 hours. Alcohol can adversely affect the vestibular system for as long as 48 hours even when blood alcohol content is zero. Special caution should be exercised when flying at night, over water, or in IMC. In addition to abstaining from alcohol for 12 hours prior to mission brief or flight planning, flightcrews shall ensure that they are free of hangover effects prior to flight. Detectable blood alcohol or symptomatic hangover shall be cause for grounding of flight personnel and the restriction of the activities of aviation ground personnel.

(4) Tobacco — Smoking has been shown to cause lung disease and impair night vision, dark adaptation, and increase susceptibility to hypoxia. Smoking is hazardous to nonsmokers, as the effects occur whether smoke is

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inhaled directly or secondarily. Persons desiring to smoke shall show due consideration for the desires of nonsmokers in the vicinity and abstain from smoking if asked. Further guidance on smoking is contained in paragraph 7.1.9 of this instruction.

(5) Caffeine — Excessive intake of caffeine from coffee, tea, cola, etc., can cause excitability, sleeplessness, loss of concentration, decreased awareness, and dehydration. Caffeine intake of 450 mg per day (3 to 4 cups of drip coffee) is the recommended maximum intake. Caffeine use when managed appropriately, can aid in maximizing performance during long sorties or periods of sustained operations, however, the caffeine effect is maximized in individuals who are not habituated to its effects as regular users.

(6) Nutritional/Dietary and other OTC Supplements and Products — The use of nutritional/dietary and other OTC supplements/products by flight personnel except those approved by BUMED is prohibited. Guidance and restrictions are provided in the NAMI on-line Aeromedical Reference and Waiver Guide at http://www.med.navy.mil/sites/navmedmpte/nomi/nami/arwg.

b. The use of illicit drugs is prohibited.

8.3.2.6 Illness

Acute minor illnesses, such as upper respiratory infections, vomiting, or diarrhea can produce serious impairment of flight personnel. All illnesses shall be evaluated by competent medical authority. Recommendations for grounding shall be accomplished by the submission of NAVMED 6410/1 Grounding Notice (Aeromedical). NAVMED 6410/2 Clearance Notice (Aeromedical) shall be issued only by an FS. Where an FS is not available, NAVMED 6410/2 shall be handled in accordance with reference (bj). Flight personnel who are hospitalized shall be evaluated in accordance with MANMED and current BUMED directives and NAVMED 6410/2 issued prior to flight. Ground support personnel should be similarly monitored. Aircrew shall not fly for at least 48 hours after general, spinal, or epidural anesthetic. Return to flying status thereafter shall be upon the recommendation of an FS and at the discretion of the commanding officer.

8.3.2.7 Dental Care

Dental procedures that involve the use of local injectable drugs (e.g., Novocain) shall be cause for grounding for a period of 12 hours. Use of intravenous sedatives shall require grounding for 24 hours. Dental Class III except for asymptomatic third molars is generally considered grounding except on the advice of a dental officer.

8.3.2.8 Pregnancy

a. Pregnancy is considered disqualifying for flying duties. Because of the real and unknown medical hazards of flight, flight personnel shall consult with their flight surgeon when they first suspect they are pregnant. Aviators who are confirmed to be pregnant are grounded. Notification shall be submitted to the aviation unit commanding officer via Grounding Notice (Aeromedical), NAVMED 6410/01 and to NAVOPMEDINST DET NAVAEROMEDINST (Code 342) (NAMI) via an abbreviated aeromedical summary. Aviators may request a waiver to continue their flying duties while pregnant. Following evaluation by the flight surgeon and obstetric care provider, and communication with

NAMI, a Local Board of Flight Surgeons shall be convened to consider the aviator's request for a waiver to continue flying while pregnant. If the pregnancy is considered uncomplicated, NAMI concurs and the Local Board of Flight Surgeons determines the member meets requirements for a waiver, an aeromedical clearance notice shall be issued with the restrictions mandated in the following sections. The Flight Surgeon shall submit an aeromedical summary to Naval Operational Medical Institute (NOMI). The procedures and requirements for waiver submission are contained in Aeromedical Reference and Waiver Guide at the NAVOPMEDINST DET NAVAEROMEDINST (Code 342) website.

b. Designated naval aviators who are authorized to fly during pregnancy shall perform flight duties in a Medical Service Group 3 capacity only.

Note

A student naval aviator (SNA) shall not fly/ assume flight controls with a Medical Service Group 3 pilot and therefore is prohibited from flying training missions with a pregnant pilot.

c. Flying during pregnancy is prohibited in single-piloted aircraft, ejection seat aircraft, high performance aircraft that will operate in excess of 2gs, aircraft involved in shipboard operations or flights with cabin altitudes that exceed 10,000 feet.

d. Clearance will be valid only until the start of the third trimester. Participation in NASTP or other survival programs is not permitted. If NASTP qualifications expire during the pregnancy, clearance for continued flying shall not be granted beyond the date of expiration of those qualifications.

e. Following completion of the pregnancy and return to full duty, a post-grounding physical shall be submitted to NOMI DET NAMI for endorsement. This submission shall include information regarding any complications encountered during pregnancy as well as the health of the child and mother following delivery.

f. If the aircrew member becomes pregnant during aviation training prior to designation as an aircrewman, naval aviator, NFO, or aeromedical specialist, she shall be grounded until after completion of the pregnancy and return to normal full duty.

g. Normal uncomplicated pregnancy in female air traffic controllers is not considered physically disqualifying in itself. Specific duty modifications during the pregnancy if required should be managed locally.

h. Additional guidance that applies is provided in reference (bl).

8.3.2.9 Emotional Upset/Excessive Stress

Stress is a component of normal living, but excessive stress levels can manifest as mood and behavior changes and lead to deteriorating performance and chronic health effects. Commanding officers must remain alert to the emotional and physical status of assigned personnel and take corrective action as may be necessary either for individuals or particular groups (i.e., referral for professional evaluation, short standdown from flight duties, rest and recreation, leave, etc.).

Note

Commanding officers and FSs shall comply with applicable directives pertaining to mental health evaluation of Service members (see reference (bg)). Individuals who fall under reference (bh) may require additional administrative procedures in conjunction with evaluation. Commanding officers are encouraged to consult with local FSs and legal officers.

8.3.2.10 Immunizations and Injections

Flight personnel shall not participate in flight duties for 12 hours after receiving an immunization or injection unless cleared sooner by an FS. Those showing protracted or delayed reaction shall be grounded until cleared by an FS. Further guidance and policy for restrictions are provided in NAMI's on-line Aeromedical Reference and Waiver Guide at http://www.med.navy.mil/sites/navmedmpte/nomi/nami/arwg.

8.3.2.11 Blood Donation

Although blood donated in small quantities is quickly replaced and does not adversely affect ground activities, the hazards of hypoxia and reduced barometric pressure make it desirable to limit such donations by flight personnel in accordance with the following:

a. Flight personnel may donate blood occasionally. The minimum interval for all donors shall be 4 months.

b. Flight personnel in combat, flying in a shipboard environment, or flying operational missions shall not donate blood within 4 weeks prior to such flying.

c. Flight personnel shall not participate in flight duties or perform low-pressure chamber runs for 4 days following donation of 450 cc of blood (1 pint).

d. If subject to flying duties within 4 days of a blood donation, an aviator must obtain command approval prior to donating.

8.3.2.12 Hypobaric Exposure

The following restrictions to flight apply following low-pressure chamber flights or accidental hypobaric exposure (e.g., rapid decompression in flight).

a. Flight personnel shall not perform flight duties for 12 hours after exposure to low-pressure chamber flight in excess of 30,000 feet. They may fly during the 12 hours as passengers in aircraft where cabin altitude does not exceed 10,000 feet.

b. Individuals who have experienced a reaction to decompression (vasomotor collapse, unconsciousness, DCS (e.g., bends), etc.) in flight shall be immediately referred to an FS. Grounding and clearance shall be in accordance with paragraph 8.3.2.6 of this instruction.

8.3.2.13 Hyperbaric Exposure

Under normal circumstances, flight personnel shall not fly or participate in low-pressure chamber flights within 24 hours following scuba diving, compressed air dives, or high-pressure chamber evolutions. Where an urgent operational requirement dictates, flight personnel may fly within 12 hours of scuba diving, provided no symptoms of pulmonary overinflation syndrome or DCS develop following surfacing and the subject is examined and cleared by an FS. Personnel participating in dynamic SEBD (or equivalent egress device) training may fly as passengers without restriction. Participation in flight duties is prohibited for 12 hours following dynamic SEBD (or equivalent egress device) training. The hyperbaric exposure flight restriction is not applicable to routine ground pressurization checks conducted in P-3 and C-130 aircraft when completed without incident.

8.3.2.14 Beards

Beards interfere with the proper use of oxygen masks both for routine use (e.g., tactical aviation) and emergency use (e.g., quick-don masks, walk around bottles). Beards also interfere with the effective use of chemical, biological and radiological (CBR) protective ensembles. Beards are prohibited for those who use oxygen masks routinely in the performance of flight duties; prohibited for those aircrew who would use oxygen and are required to perform tasks during emergency duties; and prohibited for those who would be required to wear CBR ensembles during the performance of aircrew duties. For military personnel, Navy uniform regulations also apply. In accordance with Navy policy, beards are not authorized for military except when member has been diagnosed with Pseudofolliculitis Barbae (PFB) or other similar medical condition by competent medical authority. Any aircrew member with PFB who needs to wear an oxygen mask shall have his mask fit by a trained aviation life support equipment (ALSE) technician. If a proper fit is not possible, the member shall be found "not physically qualified" (NPQ) for flight duties.

8.3.2.15 Corrective Lenses for Vision

Corrective lenses or soft contact lenses shall be worn as prescribed. The requirement to wear corrective lenses will be annotated on NAVMED 6410/2.

8.3.2.16 Dehydration

Of all causes of fatigue, one of the most treatable is dehydration. Early stages of dehydration can lead to emotional alterations and impaired judgment. Ingestion of plain water throughout the day will reduce probability of dehydration and resultant fatigue. Heat and dehydration information is available as NASTP adjunctive training (appendix E) and can be provided by an NAP, AMSO, or FS.

8.3.2.17 Simulator Sickness

Simulator exposure can cause perceptual sensory changes that may compromise safety. The experience of symptoms such as nausea, disorientation, and sweating has occurred in fighter, attack, patrol, and helicopter simulators. Symptoms of simulator sickness may occur during simulator flight and last several hours after exposure. In some cases, the onset of symptoms has been delayed as much as 18 hours. The symptoms have occurred in both full motion

and fixed simulators to pilots and other aircrew as well as instructors. Preliminary data suggest that more experienced flight personnel may be at greater risk, as well as individuals who are new to the simulator. Flight personnel exhibiting symptoms of simulator sickness should consult with an FS prior to returning to flight duties.

8.3.2.18 Anthropometric Requirements

Applicants and designated flight personnel shall meet the anthropometric standards per reference (bm). Refer to reference (bn) for specific aircraft cockpit anthropometric measurement limitations.

WARNING

Any person flying in an ejection seat aircraft whose nude body weight is below or above the COMNAVAIRSYSCOM-certified crew member weights for an ejection seat is at increased risk for serious injury or death from ejection. COMNAVAIRSYSCOM-certified weights are depicted in figure 8-9.

Any person flying in a rotary wing or tiltrotor aircraft whose nude body weight is below or above the COMNAVAIRSYSCOM-certified crew member weights for a crash force attenuating seat is at increased risk for serious injury or death during hard/crash landing. COMNAVAIRSYSCOM-certified weights are depicted in figure 8-10.

AIRCRAFT	EJECTION SEAT(S)	NUDE WEIGHT (Pounds)
T/AV-8B	SJU-4/12/13	136 to 213
EA-6B	GRUEA-7	140 to 204
F/A-18A/B/C/D (BUNO 164068 and prior (pre-lot 13))	SJU-5/-6	136 to 213
F/A-18C/D/E/F/G (BUNO 164196 and up)	SJU-17A(V) 1/A,2/A,9/A SJU-17B(V) 1/A,2/A,9/A	136 to 245
F-16	ACES II	140 to 211
F-5E/F	Northrop Improved Rocket	132 to 201
S-3	ESCAPAC IE-1	136 to 213
T-2	LS-1A	140 to 204
T-6	Martin Baker MK16 USLA	103 to 245
T-38A	Northrop Improved Rocket	132 to 201
T-45A/C	SJU-17A(V) 5/A,6/A	136 to 245

Figure 8-9. COMNAVAIRSYSCOM Certified Crewmember Weights for Ejection Seat Aircraft

AIRCRAFT	SEATING	SEAT TYPE	NUDE WEIGHT (pounds)
TH-57C	Pilot/Co-Pilot	Seat pan and raised cushion with foam insert	136 to 214
	Cabin	Seat pan and raised cushion with foam insert	136 to 214
AH-1Z	Pilot/Co-Pilot	Stroking, Armored	103 to 214
UH-1Y	Pilot/Co-Pilot	Stroking, Armored	103 to 214
	Troop	Individual, Fabric, Stroking	103 to 214
AH-1W	Pilot/Co-Pilot	Non-Stroking, Armored	136 to 214
UH-1N	Pilot/Co-Pilot	Non-Stroking, Armored	136 to 214
	Troop	Bench Type, Fabric, Non-Stroking	136 to 214
H-46	Pilot/Co-Pilot	Stroking, Armored	136 to 214
	Troop	Bench Type, Fabric, Non-Stroking	136 to 214
H-53	Pilot/Co-Pilot	Stroking, Armored	136 to 214
	53-D Troop	Individual, Fabric, Stroking	136 to 214
	53-E Troop	Individual, Fabric, Stroking	136 to 214
V-22	Pilot/Co-Pilot	Stroking, Armored	103 to 214
	Troop	Individual, Fabric, Stroking	136 to 214
H-60	Pilot/Co-Pilot	Stroking, Armored	103 to 214
	Troop Seats	Individual, Fabric, Stroking	103 to 214

Figure 8-10. COMNAVAIRSYSCOM Certified Crewmember Weights for Crash Force Attenuating Seat Aircraft

8.3.3 Performance Maintenance During Continuous and Sustained Operations

Operational commitments may necessitate continuous and/or sustained operations in which sleep and circadian rhythms are disrupted, leading to potentially hazardous fatigue. Reference (bi). provides background on the subject, strategies for fatigue reduction, and guidance in the use of sleep-inducing and anti-fatigue medications ("no-go pills" and "go-pills") in aircrew. Commanding officers, in consultation with their FSs, are authorized to use any of the strategies described in the guide when mission requirements and ORM indicate use would be appropriate. The use of stimulants and/or sedatives shall only be authorized following the commanding officers consultation with the wing commander or equivalent, and the FS. The FS, furthermore, shall have consulted with his/her supervisor in the aeromedical chain of command. See also paragraphs 8.3.2.1 and 8.3.2.2. Optimally, aircrew should be pre-tested using specific medications to determine any idiosyncratic or persistent effects on alertness or performance after awakening. If pre-testing is not possible, formal grounding and return to flight notices should be issued by the medical officer. Further guidance, policies, restrictions and reporting procedures are provided and should be followed as outlined in the NAMI on-line Aeromedical Reference and Waiver Guide at http://www.med.navy.mil/sites/navmedmpte/nomi/nami/arwg.

8.4 NAVAL AVIATION SURVIVAL TRAINING PROGRAM

a. The NASTP includes four general categories of survival training courses.

(1) Aircrew indoctrination NASTP training.

(2) Aircrew refresher NASTP training.

(3) Non-aircrew NASTP training.

(4) Non-aircraft specific NASTP training.

b. Commanding officers shall ensure that all of the requirements are met and that all NASTP training is documented in OPNAV 3760/32. Generally for all training categories listed above, course completion letters will indicate which qualification was received and for which specific aircraft the qualification is valid.

8.4.1 Training Requirements

The NASTP shall prepare personnel authorized to fly in naval aircraft by providing training in the areas of aeromedical aspects of flight, water survival skills, the proper use of ALSS, and other general personal mission enhancement and survival procedures. Re-qualification is required every 4 years unless otherwise specified in this instruction. Expiration date shall be on the last day of the month in which training was originally completed. Specific expiration dates will be annotated on course completion letters/documents.

a. Appropriate courses for aircrew and non-aircrew are specified in appendix E, sections E.2 and E.3, and this chapter. Unless otherwise noted, course substitution is not authorized.

b. All U.S. Military Services and foreign military aviators and aircrew flying in U.S. Navy/U.S. Marine Corps aircraft shall meet U.S. Navy quadrennial refresher training requirements prior to flight.

c. The NASTP qualifications of personnel who do not fly in a crew position for a period of 18 consecutive months are considered expired; appropriate refresher training is required prior to the return to flight status.

d. Personnel who transition to a different class aircraft or will be performing duties in a different class of aircraft may require additional training prior to flight in that new aircraft class in addition to their current qualification. If aircrew indoctrination NASTP training has been completed only the refresher course for the transition aircraft needs to be completed. The date of the first qualification will be used to calculate the expiration date of the new qualification. Modules in the new course that are identical to those in the first course do not need to be repeated. Consult either the CNO/COMNAVAIRFOR approved NASTP curricula or the Naval Survival Training Institute (NSTI) for specifics.

e. Flight personnel being assigned to an OCONUS duty station shall complete applicable NASTP training prior to leaving CONUS. Commanding officers of detaching personnel shall ensure that requirements are met prior to detachment or ensure that the individual is scheduled for NASTP completion

in route. Training must be completed to ensure that NASTP currency will not expire during assigned OCONUS tour.

f. Personnel shall complete their training prior to commencement of a deployment if their qualifications will expire during that deployment or within 60 days of anticipated deployment completion.

g. Aircrew in a DIFDEN status are not required to maintain currency in NASTP training. Personnel under DIFDEN waivers are required to be current in NASTP.

h. Common elements of NASTP and U.S. Air Force (USAF) original and refresher physiology training shall be recognized as meeting either service's requirements. Common elements are items B-F, R, T, U of figure E-2 in appendix E. Not recognized are aviation water survival items and aircraft/service specific training, such as ejection seat, parachute procedures, emergency egress and ALSS training. For designated aircrew trained in USAF Physiology and Water Survival (S-V86-A or S-V90-A), appropriate NASTP refresher curriculum (appendix E, sections E.2 and E.3), less the common elements, shall be completed prior to flight. For non-aircrew, the appropriate aircrew indoctrination NASTP training course, less the common events, shall be completed prior to flight. USAF officer cadet initial training and USAF passenger training is not recognized as meeting any NASTP requirements. Common elements of NASTP and U.S. Army aviation physiology training (elements B through E of figure E-2) are recognized as meeting either service's requirements.

(1) All designated USAF flight students and instructors assigned to CNATRA commands and trained in USAF Physiology and Water Survival (S-V86-A or S-V90-A) are recognized as having sufficient water survival and physiology training to operate safely in CNATRA aircraft for the length of their tours or to their refresh dates, whichever occurs sooner. These aircrew shall meet the NASTP 4-year re-qualification criteria. Upon expiration, these aircrew shall complete USAF Physiology and Water Survival or appropriate NASTP refresher curriculum. Aircrew trained in USAF Physiology and Water Survival shall receive appropriate NASTP ALSS classroom instruction for their assigned aircraft. If this criteria is not met, the appropriate required training is aircrew indoctrination NASTP training for the appropriate aircraft class. These NASTP training requirements are not waiverable.

i. For USAF-trained designated aviators and aircrew selected to fly in class 1 aircraft (figure E-4), if original USAF physiology training and USAF Water Survival Course S-V86-A have been successfully completed, Aircrew Refresher NASTP Training for Class 1 aircraft shall be required prior to flight duties in naval aircraft. If these courses have not been completed, the appropriate required training is Aircrew Indoctrination NASTP Training for Class 1 aircraft prior to flight. These NASTP training requirements are not waiverable.

(1) All designated USAF flight students and instructors assigned to CNATRA commands and selected to fly in class 1 aircraft (figure E-4), who have successfully completed USAF physiology training, USAF Water Survival Course S-V86-A, appropriate ALSS classroom instruction, and are current in accordance with the 4-year NASTP re-qualification criteria, shall be recognized as having sufficient physiology and water survival training to safely fly in CNATRA aircraft for the length of their tours or to their refresh dates, whichever occurs sooner. If previously completed, but non-

current in any qualification, either the appropriate USAF training course(s) (Physiology, S-V86-A, and/or ALSS instruction) or Aircrew Refresher NASTP Training for Class 1 aircraft shall be required prior to flight duties in CNATRA aircraft. If a USAF course has not been completed, the appropriate USAF course or Aircrew Indoctrination NASTP Training for Class 1 aircraft shall be completed prior to flight. These requirements are not waiverable.

j. For USAF-trained designated aviators and aircrew selected to fly in class 2 aircraft (figure E-4), if original USAF physiology training and USAF Water Survival Course S-V90-A have been successfully completed, Aircrew Refresher NASTP Training for Class 2 aircraft shall be required prior to flight duties in naval aircraft. If these courses have not been completed, the appropriate training is Aircrew Indoctrination NASTP Training for Class 2 aircraft prior to flight. These NASTP training requirements are not waiverable.

(1) All designated USAF flight students and instructors assigned to CNATRA commands and selected to fly in class 2 aircraft (figure E-4), who have successfully completed USAF physiology training, USAF Water Survival Course S-V86-A, appropriate ALSS classroom instruction, and are current in accordance with the 4-year NASTP re-qualification criteria, shall be recognized as having sufficient physiology and water survival training to safely fly in CNATRA aircraft for the length of their tours or to their refresh dates, which ever occurs sooner.

(2) If previously completed, but non-current in any qualification, either the appropriate USAF training course(s) (Physiology, S-V86-A, and/or ALSS instruction) or Aircrew Refresher NASTP Training for Class 2 aircraft shall be required prior to flight duties in CNATRA aircraft.

(3) If a USAF course has not been completed, the appropriate USAF course or Aircrew Indoctrination NASTP Training for Class 2 aircraft shall be completed prior to flight. These requirements are not waiverable.

k. For USAF-trained designated aviators and aircrew selected to fly in class 3 aircraft (figure E-4), if original USAF physiology training and USAF Water Survival Courses S-V90-A and S-V84-A have been successfully completed, Aircrew Refresher NASTP Training for Class 3 Aircraft shall be required prior to flight duties in naval aircraft. If these courses have not been completed, the appropriate training is Aircrew Indoctrination NASTP Training for Class 3 Aircraft prior to flight. These NASTP training requirements are not waiverable.

(1) All designated USAF flight students and instructors assigned to CNATRA commands and selected to fly in class 3 aircraft (figure E-4), who have successfully completed USAF Physiology Training, USAF Water Survival Course S-V86-A or S-V90-A, USAF Underwater Egress Course S-V84-A, appropriate ALSS classroom instruction, and are current in accordance with the 4-year NASTP re-qualification criteria, shall be recognized as having sufficient physiology and water survival training to safely fly in CNATRA aircraft for the length of their tours or to their refresh dates, which ever occurs sooner.

(2) If previously completed, but non-current in any qualification, either the appropriate USAF training course(s) (Physiology, S-V86-A, S-V90-A, S-V84-A, and/or ALSS instruction) or Aircrew Refresher NASTP Training for Class 3 Aircraft shall be required prior to flight duties in CNATRA aircraft.

(3) If a USAF course has not been completed, the appropriate USAF course or Aircrew Indoctrination NASTP Training for Class 3 Aircraft shall be completed prior to flight. These requirements are not waiverable.

l. For USAF-trained designated aviators and aircrew selected to fly in class 4 aircraft (figure E-4), if original USAF Physiology Training and USAF Water Survival Course S-V90-A have been successfully completed, Aircrew Refresher NASTP Training for Class 4 Aircraft shall be required prior to flight duties in naval aircraft. If these courses have not been completed, the appropriate training is Aircrew Indoctrination NASTP Training for Class 4 Aircraft prior to flight. These NASTP training requirements are not waiverable.

(1) All designated USAF flight students and instructors assigned to CNATRA commands and selected to fly in class 4 aircraft (figure E-4), who have successfully completed USAF Physiology Training, USAF Water Survival Course S-V86-A or S-V90-A, appropriate ALSS classroom instruction, and are current in accordance with the 4-year NASTP re-qualification criteria, shall be recognized as having sufficient physiology and water survival training to safely fly in CNATRA aircraft for the length of their tours or to their refresh dates, which ever occurs sooner.

(2) If previously completed, but non-current in any qualification, either the appropriate USAF training course(s) (Physiology, S-V86-A, S-V90-A, and/or ALSS instruction) or Aircrew Refresher NASTP Training for Class 4 Aircraft shall be required prior to flight duties in CNATRA aircraft.

(3) If a USAF course has not been completed, the appropriate USAF course or Aircrew Indoctrination NASTP Training for Class 4 Aircraft shall be completed prior to flight. These requirements are not waiverable.

m. Civilian contractor DoD flight operations are governed by this document, reference (j) and must also comply with U.S. Title Code, Office of Management and Budget (OMB), DoD, SECNAV instructions and other OPNAV instructions concerning reimbursement to the Navy for training provided.

n. DoD civilians are authorized training per figure E-1 if duties require flight aboard U.S. Navy/U.S. Marine Corps, other U.S. Military, U.S. Coast Guard (USCG), NASA owned or DoD contracted aircraft (including pre-accepted DoD aircraft).

o. Non-DoD civilians are authorized training if authorized flight aboard U.S. Navy/U.S. Marine Corps, other U.S. Military, USCG, NASA owned aircraft or DoD contracted aircraft (including pre-accepted DoD aircraft) (reimbursement may be required).

p. The non-aircrew NASTP training curricula shall indicate those elements specific to overwater flights. For orientation flights approved with aviation water survival training waived by the flight approving authority (i.e., flights are over land only), those elements identified as specific to overwater flights in the CNO/COMNAVAIRFOR approved curriculum are not required.

q. The common elements of NASTP and foreign military aviation physiology training shall be recognized as meeting either service's requirements per the STANAG 3114 Aeromedical Training of Flight Personnel and ASCC AIR STD 61/101/3 agreements. Common elements are items B-F, R, T and U of figure E-2. Not recognized are aviation water survival items and aircraft/service

specific training, such as ejection seat, parachute procedures, emergency egress and ALSS training. For foreign-trained aircrew, appropriate NASTP curriculum (aircrew indoctrination NASTP training), less the common elements, shall be completed prior to flight. For non-aircrew (project specialists), appropriate NASTP curriculum (non-aircrew NASTP training), less the common elements listed above, shall be completed prior to flight. This policy is in effect for the following countries: Australia, Belgium, Canada, Denmark, France, Germany, Greece, Italy, Netherlands, New Zealand, Norway, Portugal, Turkey, and United Kingdom. For all others, the applicable NASTP course shall be completed in its entirety.

r. Completion of Canadian, German or United Kingdom aviation water survival training is recognized as meeting initial NASTP aviation water survival training requirements. For designated Canadian, German and/or United Kingdom aircrew, if their aviation physiology and water survival training has been successfully completed in their native country, the applicable NASTP refresher curriculum (aircrew refresher NASTP training) shall be completed prior to Navy flight duties. If initial aviation physiology and water survival has not been completed, the aviator shall be enrolled in the appropriate aircrew indoctrination NASTP training course per figure E-4.

s. Navy and Marine Corps Reserve (USN-R and USMC-R Selected Reservists (SELRES)) aircrew personnel shall, at a minimum, complete aircrew indoctrination NASTP training for appropriate class of assigned aircraft (appendix E, sections E.2 and E.3).

t. NASTP training is not required for UASs crews.

8.4.2 Records

Flight personnel reporting for NASTP training at an Aviation Survival Training Center (ASTC) shall deliver their OPNAV 3760/32 with a current BUMED 6410/2 Aeromedical Clearance Notice to the training site. The ASTC shall ensure that appropriate training entries are made and inserted into the OPNAV 3760/32. All training documentation forms are to be retained as a permanent part of the OPNAV 3760/32. Personnel completing required annual adjunctive training shall have the training documented in their OPNAV 3760/32, other adjunctive training may also be documented there. Previously, NASTP training was documented on OPNAV 3760/32F Operational Physiology and Survival Training; documentation of training now consists of a qualification letter (appendix E, section E.6). For aircraft specific training (aircrew indoctrination NASTP training, aircrew refresher NASTP training, and non-aircrew NASTP training), the specific aircraft qualified for shall be listed. Use appendix E, sections E.1, E.2, and E.3, to determine training requirements. For detailed information on aircraft specific requirements contact the ASTC or NSTI.

8.4.3 Physical and Training Prerequisites for Participation in NASTP Training

a. All prospective and designated flight personnel (including DoD civilians) on competent flight orders shall have and present a current BUMED 6410/2 prior to participation in any NASTP dynamic training. The documentation shall be signed by a naval FS, or aviation medical officer (AMO).

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(1) FMF medical officers, diving medical officers (DMO) and undersea medical officers (UMO) are authorized to provide medical clearance letters for personnel participating in basic/advanced water survival/underwater egress training (i.e., SEBD, survival swimming, remedial swim, non-aircrew underwater emergency egress, CBR in-water egress and survival, U.S. Marine Corps underwater egress familiarization).

(2) DMOs and UMOs are authorized to provide medical clearance letters for military personnel (e.g., special operations forces (SOF)) participating in high altitude parachutist (HAP) physiology or advanced underwater egress training and survival procedures.

(3) Enlisted personnel (e.g., independent duty corpsman (IDC) or other hospital corpsman (HM)) are not authorized to provide (or sign) medical clearance for FMF or other personnel with the following exception: IDC or HM may issue an aeromedical clearance after consultation with a credentialed FS or aeromedical provider. The record must include specific identifying information of the provider consulted as well as summarize the information discussed.

(4) Personnel participating in NASTP lectures only do not require medical clearance.

(5) Civilian contractors (pilots, aircrew, and non-aircrew) shall present a current FAA Medical Certificate and OPNAV 3710/18a form signed by a FAA Certified Aviation Medical Examiner or other qualified physician prior to participation in high-risk, dynamic NASTP training. If a current FAA Medical Certificate plus a completed 3710/18a is not utilized for participation in high-risk, dynamic NASTP training, the civilian contractor shall present a completed OPNAV 3710/18 form prior to participation in the training. Military flight surgeons shall have no responsibility for the endorsement of NASTP training (3710/18a) for civilian contractors.

b. With regard to naval aviator and enlisted aircrew candidates entering initial training through either the CNATRA or USAF Air Education and Training Command (AETC) pipeline, exceptions to paragraph 8.4.3.a are authorized as determined by NOMI as follows:

(1) For cases where NAMI has a completed flight physical but cannot issue a BUMED 6410/2 pending administrative processing, NAMI may certify the candidate physically qualified to commence initial training using NAVOPMEDINST 6120/2.

(2) Naval aviator candidates and enlisted aircrew candidates awaiting waiver approval for a physical defect may be transferred from Naval Aviation Schools Command (NAVAVSCOLSCOM) to further aviation pipeline training only upon recommendation from NAMI and NAVAVSCOLSCOM.

(3) In no case shall a student (naval aviator candidates and enlisted aircrew candidates) be allowed to commence actual flight training until all required waivers are approved by NAVPERSCOM or CMC (ASM) and a BUMED 6410/2 is issued by an FS.

c. Non-aircrew personnel, Federal Government agency personnel (except NASA) and civilian agency personnel shall have a BUMED 6410/2 or OPNAV 3710/18 for participation in the NASTP. The medical clearance is valid for 1 year. Where non-aircrew personnel may fly in U.S. Navy/U.S. Marine Corps aircraft on a recurring basis, their medical clearance should be adjusted to expire on the last day of their birth month.

SEE IC # 42

Medical Clearance for Non-Aircrew / Non-Military Personnel to Participate in Naval Aviation Survival Training and Fly in USN/USMC Aircraft

THIS FORM SHALL BE PROVIDED BY THE FLIGHT APPROVING AUTHORITY

TO THE APPLICANT, PLEASE READ CAREFULLY: You are requesting clearance to fly in military aircraft as a nonaircrew observer. Prior to flying, you are required to complete high risk training of the Naval Aviation Survival Training Program (NASTP) which may include altitude, egress, parachute and water survival training based upon what aircraft you are flying. NASTP training requires a high level of fitness and stamina. You will be required to complete training in full flight gear, including helmet, gloves, boots, flight suit, parachute harness and survival vest. Training includes a 25- 50 yard surface swim, treading water / drown-proofing for up to 2 minutes each and orally inflating your life preserver. Underwater emergency egress training requires you to swim 15 yards underwater in a flight suit and boots. Additionally, you may receive dynamic hypoxia recognition training in a hypobaric chamber up to simulated altitude of 25,000 feet. Actual flight may be in high performance ejection seat aircraft capable of sustained high g-force maneuvering. To obtain clearance to fly in military aircraft, you are required to obtain a physical examination. Civilian personnel may be required to bear the cost of this examination. Please fill out the medical questionnaire and have your physician fill out the physical examination section of this form. You must then present this completed form to either a FAA AME or Navy Flight Surgeon for endorsement for high risk NASTP training and subsequent flight.

YES	NO	**Medical Questionnaire – Do you have or have you ever had:**
☐	☐	1. Disease of the eyes, ears, sinuses, seasonal allergies, hayfever, difficulty with clearing your ears, or pain in your ears or sinuses from diving or flying?
☐	☐	2. Chest pain, angina, heart attack, heart disease, heart murmur, palpitations, cardiac catheterizations, pacemaker or other cardio-vascular disease not listed here?
☐	☐	3. Hypertension, stroke, blood clots in legs, swelling in feet, or excessive fatigue with mild exertion?
☐	☐	4. Asthma, wheezing, emphysema, chronic cough, tuberculosis, collapsed lung, or shortness of breath with mild exertion?
☐	☐	5. Disease of the bowel, ulcers, rectal bleeding, chronic abdominal pain, hernia, kidney stone, or painful or frequent urination?
☐	☐	6. Arthritis, joint deformity, chronic back pain, or limitation of use of your back or extremities?
☐	☐	7. Paralysis, weakness of muscles, seizures, epilepsy, migraine or other severe headaches, loss of consciousness, or amnesia?
☐	☐	8. Mania, depression, schizophrenia, suicide attempt, alcoholism, panic attacks, fear of flying, fear of heights, fear of enclosed spaces?
☐	☐	9. Anemia, diabetes, cancers, arterial gas embolism, bends, surgery, hospitalization, or other chronic medical conditions not listed?
☐	☐	10. Are you currently pregnant?
☐	☐	11. Are you taking any medication? List:
☐	☐	12. Can you jog 15 minutes continuously and can you swim 100 yards without stopping?

Applicant's Name _____ Age _____ Sex _____

Address _____ Phone _____

Signature _____ Date _____

SEE IC # 42

Medical Clearance for Non-Aircrew / Non-Military Personnel to Participate in Naval Aviation Survival Training and Fly in USN/USMC Aircraft

TO THE EXAMINING PHYSICIAN

This person is seeking clearance to fly military aircraft as a non-aircrew observer. He or she will be required to complete high risk Naval Aviation Survival Training Program (NASTP) aviation physiology and water survival training. These training programs are designated as High Risk Training (described on the front of this form) and require a high degree of physical and psychological stamina. Successful completion of these training programs may lead to actual flight in high performance ejection seat aircraft capable of sustained high g-force maneuvering. The purpose of this evaluation is to clear this individual for the required high risk NASTP training as well as actual flight.

Please Complete and Elaborate on all Abnormal Findings and Positive Responses

Height _____ Weight _____Temp _____Pulse _____ Resp _____ B/P_____

Corrected Visual Activity: Right_____ Left _____Hearing (Normal/Abnormal) _____

HGB or HCT _____ Urinalysis: Glucose_____ Protein _____ Ketone _____SP Gravity _____

EKG (within last 12 months)_____ Chest XRAY (within last 3 years)_____

NL	ABN		Elaboration and Comments
☐	☐	HEENT (include Eustachian tube patency)	_____
☐	☐	Heart and Vascular	_____
☐	☐	Chest and Lungs	_____
☐	☐	Abdomen, Genitalia and Hern	_____
☐	☐	Spine, Extremities and Musculoskeletal	_____
☐	☐	Neurological	_____
☐	☐	Mental Status	_____

I find no contraindication to this person's participation in required high risk NASTP training as well as actual flight in high performance or other military aircraft.

Examining Physician's Signature_____

Date _____ Phone #_____

FAA AME / Navy Flight Surgeon's Endorsement for Participation in High-Risk NASTP Training/Flight:

Type Aircraft _____ Qualification: PQ NPQ

Signature _____Date_____

(Note: Scope of examination at the discretion of the FAA AME/ Flight Surgeon)

Medical Clearance for Contractor to Participate in Naval Aviation Survival Training and Fly in USN/USMC Aircraft

THIS FORM SHALL BE PROVIDED BY THE FLIGHT APPROVING AUTHORITY

TO THE APPLICANT, PLEASE READ CAREFULLY: You are requesting clearance to fly in military aircraft as a non-military or non-aircrew member. Prior to flying, you are required to complete high risk training of the Naval Aviation Survival Training Program (NASTP) which may include altitude, egress, parachute and water survival training based upon what aircraft you are flying. NASTP training requires a high level of fitness and stamina. You will be required to complete training in full flight gear, including helmet, gloves, boots, flight suit, parachute harness and survival vest. Training includes a 25- 50 yard surface swim, treading water / drown-proofing for up to 2 minutes each and orally inflating your life preserver. Underwater emergency egress training requires you to swim 15 yards underwater in a flight suit and boots. Additionally, you may receive dynamic hypoxia recognition training in a hypobaric chamber up to simulated altitude of 25,000 feet. Actual flight may be in high performance ejection seat aircraft capable of sustained high g-force maneuvering. To obtain clearance to fly in military aircraft, you are required to obtain a physical examination. Civilian personnel may be required to bear the cost of this examination. Please fill out the medical questionnaire and have your physician fill out the physical examination section of this form. You must then present this completed form to an FAA AME or other qualified physician for endorsement for high risk NASTP training and subsequent flight.

YES	NO	**Medical Questionnaire – Do you have or have you ever had:**
☐	☐	1. Disease of the eyes, ears, sinuses, seasonal allergies, hayfever, difficulty with clearing your ears, or pain in your ears or sinuses from diving or flying?
☐	☐	2. Chest pain, angina, heart attack, heart disease, heart murmur, palpitations, cardiac catheterizations, pacemaker or other cardio-vascular disease not listed here?
☐	☐	3. Hypertension, stroke, blood clots in legs, swelling in feet, or excessive fatigue with mild exertion?
☐	☐	4. Asthma, wheezing, emphysema, chronic cough, tuberculosis, collapsed lung, or shortness of breath with mild exertion?
☐	☐	5. Disease of the bowel, ulcers, rectal bleeding, chronic abdominal pain, hernia, kidney stone, or painful or frequent urination?
☐	☐	6. Arthritis, joint deformity, chronic back pain, or limitation of use of your back or extremities?
☐	☐	7. Paralysis, weakness of muscles, seizures, epilepsy, migraine or other severe headaches, loss of consciousness, or amnesia?
☐	☐	8. Mania, depression, schizophrenia, suicide attempt, alcoholism, panic attacks, fear of flying, fear of heights, fear of enclosed spaces?
☐	☐	9. Anemia, diabetes, cancers, arterial gas embolism, bends, surgery, hospitalization, or other chronic medical conditions not listed?
☐	☐	10. Are you currently pregnant?
☐	☐	11. Are you taking any medication? List:
☐	☐	12. Can you jog 15 minutes continuously and can you swim 100 yards without stopping?

Applicant's Name _____ Age _____ Sex _____

Address _____ Phone _____

Signature _____ Date _____

Medical Clearance for Contractor to Participate in High-Risk Naval Aviation Survival Training

TO THE EXAMINING PHYSICIAN

This person is seeking clearance to fly military aircraft as a civilian contractor. He/she will be required to complete high risk Naval Aviation Survival Training Program (NASTP) aviation physiology and water survival training. This training program is designated as High-Risk Training and requires a high degree of physical and psychological stamina. This training may include altitude, egress, parachute and water survival training based upon what aircraft flown. He/she will be required to complete training in full flight gear, including but not limited to helmet, gloves, boots, flight suit, parachute, harness, g-suit and survival vest. Training includes such elements such as 25-50 yard surface swim, treading water / drown-proofing for up to 2 minutes each and orally inflating a life preserver. Underwater emergency egress training requires swimming 15 yards underwater in flight suit and boots. He/she may receive dynamic hypoxia recognition training in a hypobaric chamber up to simulated altitude of 25,000 feet. Successful completion of NASTP training is required for flight in high performance ejection seat aircraft capable of sustained high g-force maneuvering. The purpose of this evaluation is to clear this individual for the required high-risk NASTP training as well as actual flight. This completed form must be presented along with current a FAA Flight Physical for participation in high-risk NASTP training.

I find no contraindication to this person's participation in required high risk NASTP training as well as actual flight in high performance or other military aircraft.

Type Aircraft Screened For: _____

Examining FAA AME / Physician's Signature_____

Date _____ Phone # _____

(Note: Scope of examination at the discretion of the FAA AME)

d. Appropriate medical clearances for other U.S. military, USCG or NASA personnel participating in the NASTP may be signed by those services' or agencies' medical officers, signifying that the individual is physically qualified for participation in *high-risk* NASTP training.

e. Physical prerequisites for other personnel not identified above shall be determined on a case-by-case basis by COMNAVAIRFOR (N455) or CMC (ASM).

f. Requirements per paragraph 8.3.2 shall apply for participation in NASTP training (e.g., rest and sleep, drugs, and alcohol restrictions).

g. The NASTP swimming ability prerequisite is U.S. Navy 3rd Class swimmer, U.S. Marine Corps CWS-1, or better. For U.S. Marine Corps assault troops participating in NASTP Module M5, U.S. Marine Corps CWS-3 (to include survival flotation instruction) or better is required. Officer and enlisted aircrew receiving pre-flight training at Naval Aviation Schools Command (NASC) shall pass the intermediate swim course (CIN C-050-0605)and CPR/Basic First Aid prior to enrolling in aircrew indoctrination NASTP training. Specific details of requirements to be followed are provided in the front matter of each CNO/COMNAVAIRFOR approved NASTP curriculum.

8.4.4 Training Waivers/Qualification Extensions

Personnel delinquent in the NASTP training requirements shall not be scheduled to fly unless a qualification extension has been granted by the appropriate aviation TYCOM or in accordance with this instruction as follows:

a. Training waivers for required aircrew and non-aircrew indoctrination NASTP training shall be submitted to COMNAVAIRFOR (N455) or CMC (ASM) as appropriate. Waivers for individuals participating in orientation/ indoctrination flights will be handled per paragraph 3.2 of this instruction. If a waiver is granted, the PIC shall ensure that the individual(s) are thoroughly briefed on installed life support systems (i.e., oxygen systems, parachutes, life vests, exposure suits), emergency egress systems (i.e., ejection seats, canopy jettison system), and ditching, crash landing and bailout procedures. NASTP requirements are waived for passengers in aircraft not equipped with ejection seats or personal oxygen systems used for primary life support.

b. Training waivers and qualification extensions for Aircrew Refresher NASTP training shall be submitted to the appropriate aviation TYCOM.

c. COMNAVAIRFOR or CMC may grant a waiver/qualification extension if the previously designated waiver authorities are not in the chain of command.

d. COMNAVAIRFOR (N455) shall be an information addressee on all waiver/qualification extension requests.

8.4.5 Coordination

Aviation TYCOMs, commanding officers, NAPs, FSs, training and safety officers shall monitor the NASTP to ensure that the curricula support their requirements. NASTP curricula shall be submitted to COMNAVAIRFOR (N455) for approval. Curricula shall be developed by NSTI, the course curriculum model manager (CCMM) for all NASTP training, and sent to COMNAVAIRFOR via BUMED (NASTP training agent). The curricula shall be developed with the technical advice of other naval activities as necessary. COMNAVAIRFOR approved

curricula shall be distributed by NSTI for implementation. NASTP training shall be accomplished only through the NSTI ASTCs. NSTI shall, in coordination with BUMED, evaluate and standardize all approved curricula, procedures, equipment and devices. NSTI is also responsible for the development/distribution/duplication of academic support materials for the NASTP curricula. Naval Operational Medicine Institute (NOMI) has the responsibility to ensure annual evaluations are conducted at each ASTC for NASTP safety, standardization, and quality assurance in accordance with guidance provided by CNO, COMNAVAIRFOR (N455) and BUMED. An additional annual inspection for NASTP training device quality, assurance and revalidation (QA&R) is required. NSTI shall implement corrections as required.

8.4.6 Approved Curricula

NASTP course nomenclature has changed with the publication of this document. Some courses have been combined and the number of courses has been reduced to simplify training requirements. See figure E-3 to convert from previous to current course nomenclature.

8.4.6.1 Aircrew Indoctrination NASTP Training

Required initial training for all prospective active-duty U.S. Navy and U.S. Marine Corps aeronautically designated personnel and for USAF and USCG personnel in the Navy pipeline. Training is aircraft specific in accordance with appendix E, sections E.2 and E.3, and the CNO/COMNAVAIRFOR approved curricula. Unless otherwise specified in this instruction, all unique modules/versions must be completed in accordance with figure E-2 and the CNO/COMNAVAIRFOR approved curricula in order to qualify for a particular aircraft. In the situation of qualifying for multiple aircraft/classes of aircraft common identical modules do not need to be repeated. Aircraft/class-specific requirements are detailed in the CNO/COMNAVAIRFOR approved curricula. NASTP training is valid for 4 years. Navy and Marine Corps Reserve (SELRES/SMCR) aircrew personnel shall at a minimum complete CIN B-9E-1240 (N11) and B-322-0039 (N5/NP2) and appropriate technical training for their initial aircrew training qualification.

a. Aircrew Indoctrination NASTP Training for Class 1 Aircraft. (Previously documented as N1/NP1 and N6 or N5/NP2 and N6).

b. Aircrew Indoctrination NASTP Training for Class 2 Aircraft. (Previously documented as N1/NP1 and N11 or N5/NP2 and N11).

c. Aircrew Indoctrination NASTP Training for Class 3 Aircraft. (Previously documented as N1/NP1 and N12 or N5/NP2 and N12).

d. Aircrew Indoctrination NASTP Training for Class 4 Aircraft. (Previously documented as N1/NP1 and N11 or N5/NP2 and N11).

8.4.6.2 Aircrew Refresher NASTP Training

Required refresher training for all aeronautically designated personnel. Prerequisite is completion of one of the aircrew indoctrination NASTP training courses. Training requirements per paragraph 8.4.1 apply for USAF, other U.S. Military and foreign military. Training is aircraft specific in accordance with appendix E, sections E.2 and E.3, and the CNO/COMNAVAIRFOR

approved curricula. Unless otherwise specified in this instruction, all unique modules must be completed in accordance with appendix E, section E.2, and the CNO/COMNAVAIRFOR approved curricula in order to qualify for a particular aircraft. In the situation of qualifying for multiple aircraft/classes of aircraft, common modules do not need to be repeated. NASTP training is valid for 4 years. Aircraft/class-specific requirements are detailed in the CNO/COMNAVAIRFOR approved curricula.

a. Aircrew Refresher NASTP Training for Class 1 Aircraft. (Previously documented as R1/RP1).

b. Aircrew Refresher NASTP Training for Class 2 Aircraft. (Previously documented as R2/RP2).

c. Aircrew Refresher NASTP Training for Class 3 Aircraft. (Previously documented as R3/RP3).

d. Aircrew Refresher NASTP Training for Class 4 Aircraft. (Previously documented as R4/RP4).

8.4.6.3 Non-Aircrew NASTP Training

Initial training for all non-aeronautically designated personnel who require aircraft-specific NASTP training prior to flight. Students include VIPs, project specialists, and midshipmen (see glossary for definitions). Training is aircraft specific in accordance with appendix E, sections E.2 and E.3, and the CNO/COMNAVAIRFOR approved curricula. Unless otherwise specified in this instruction, all unique modules must be completed in accordance with appendix E, section E.2, and the CNO/COMNAVAIRFOR approved curricula in order to qualify for a particular aircraft. In the situation of qualifying for multiple aircraft/classes of aircraft, common modules do not need to be repeated. NASTP training is valid for 4 years for project specialists, valid for 180 days for midshipmen, and valid for 90 days for VIP and orientation flights. Aircraft/class-specific requirements are detailed in the CNO/COMNAVAIRFOR approved curricula. The specific aircraft qualification(s) shall be listed in the course completion letter. Upon expiration of the NASTP qualification, the course shall be repeated to retain/regain currency.

a. Non-aircrew NASTP Training for Class 1 Aircraft. (Previously documented as N3/NP3 — CAT 1).

b. Non-aircrew NASTP Training for Class 2 Aircraft. (Previously documented as N4/NP4 — CAT 2).

c. Non-aircrew NASTP Training for Class 3 Aircraft. (Previously documented as N4/NP4 — CAT 3).

d. Non-aircrew NASTP Training for Class 4 Aircraft. (Previously documented as N4/NP4 — CAT 4).

8.4.6.4 Non-Aircraft Specific NASTP Training

Mission specific required specialized, supplemental or continuation training for aircrew and non-aircrew personnel. Training elements required are specific in accordance with appendix E, section E.2, and the CNO/COMNAVAIRFOR approved curricula. The specific qualification(s) completed shall be listed

in the course completion letter. Upon expiration of the NASTP qualification, if applicable, the course shall be repeated to retain/regain currency.

a. CFET (previously documented as NP-5). Centrifuge-based Flight Environment Training (CFET). Required initial training for all tactical jet aircrew flying AV-8, EA-6, F-5, F-16, F/A-18, or F-35 aircraft prior to reporting for FRS training (ideally CFET training should be completed prior to reporting for the advanced strike syllabus). Documented dynamic centrifuge training completed as a student at NADC Warminster, Holloman AFB, or Brooks AFB is recognized as meeting CFET requirements. Designated aircrews flying the above-listed aircraft who have not received dynamic CFET training (NP5) shall complete this course within 18 months of the signature date of this instruction unless they are specifically waived of the requirement by COMNAVAIRFOR (N45) or CMC (ASM). Failure to meet this NASTP requirement within the timeline stated shall result in grounding until successful participation is completed or CFET is waived. CFET is required only once during an aviation career, but can be repeated upon written request by the aviator's parent command. Naval Aviators and Naval Flight Officers who have completed over 20 years of tactical jet flying are waived from this requirement.

b. HAP Physiology (previously documented as NP6). Physiological training for military personnel (e.g., SOF) conducting HAP operations. The training is valid for 5 years and meets USAF/USA HAP initial physiology training requirements. Upon expiration of qualification, this course is to be repeated in its entirety to maintain

c. SEBD (previously documented as N8). Advanced underwater egress training for personnel authorized to use the SEBD, HABD, or similar underwater egress breathing devices. Prerequisites for training are per CNO/COMNAVAIRFOR approved curriculum guidance. Training is valid for 4 years. More frequent training may be given when requested in writing by the student's parent command.

d. Survival Swimming (Previously documented as N8). Basic aviation water survival skills, remedial and adjunctive training. Provides supplemental training in water survival skills and equipment usage and can be used for remediation in specific water survival training elements. Training available upon request or as required.

e. Non-aircrew Underwater Emergency Egress (Previously documented as N9). Provides underwater emergency egress training using training devices 9D5, 9D6, and/or other CNO/COMNAVAIRFOR approved underwater egress trainers for authorized personnel whose duty assignments necessitates frequent overwater helicopter or tiltrotor aircraft flights. Training is valid for 4 years. More frequent training may be provided when requested in writing by the student's parent command.

f. CBR Ensemble In-water Egress and Survival (Previously documented as N10). Advanced water survival training for aircrew using CBR ensembles. Prerequisite training is successful completion of Aircrew Indoctrination NASTP Training for Class 1, 2, 3, or 4 aircraft and/or as stated in the CNO/COMNAVAIRFOR approved curriculum. Training is valid for 4 years. More frequent training may be provided when requested in writing by the student's parent command.

g. U.S. Marine Corps “Non-Aircrew” Personnel Underwater Egress Familiarization/Orientation Course (previously documented as N13). This

course is authorized only for U.S. Marine Corps non-aircrew personnel. The course is designed specifically to provide U.S. Marine Corps Expeditionary Forces familiarization with underwater egress procedures from a multi-place underwater egress trainer. This course does not satisfy the module M prerequisite for SEBD training, nor is it a substitute for Non-aircrew Underwater Emergency Egress course (listed above). Prerequisites are completion of CWS-3 or higher and documentation of survival flotation training. This course is not valid for U.S. Navy personnel performing FMF duties: these personnel must complete the Non-aircrew Underwater Emergency Egress course. No time limit is established for this course. Training may be provided whenever requested by the U.S. Marine Corps student's parent command.

h. Advanced Underwater Egress Training (Previously documented as N14). This course provides advanced training in underwater emergency egress (from various platforms) that is specific to the equipment worn or carried by personnel. Course prerequisites are available from the ASTC or NSTI. No time limit is established for this course. Training may be provided whenever requested by the student's parent command.

i. Dynamic Hypoxia Training. This course is to provide didactic and dynamic training focusing on experiencing the symptoms of acute altitude-induced hypoxia and performing corrective actions via a low pressure chamber flight or reduced oxygen breathing device (ROBD). This course is intended to be used as supplemental or adjunctive aircrew training. If completed by designated aircrew within 90 days of attending Aircrew Refresher NASTP Training the dynamic hypoxia portion of the applicable curriculum does not need to be repeated (in this situation, the completion of the Dynamic Hypoxia Training course shall be used to calculate the ensuing Requalification intervals). No time limit is established for this course. Training may be provided whenever requested by the student or student's command. ROBD training shall be conducted using device 9A17 series only, using the COMNAIRFOR approved Dynamic Hypoxia Training curriculum under the cognizance of the NASTP training agent (BUMED).

8.4.6.5 Adjunctive Training

Mission readiness training for all aeronautically designated personnel.

a. Level A — Required annual training for all aircrew personnel. Training topics are described below and listed in appendix E, section E.5.

(1) Ejection Seat Training — In addition to the required 4-year NASTP ejection seat training (incorporated within the Aircrew Refresher NASTP Training for Class 1 aircraft curriculum), commanding officers shall ensure that static ejection seat/egress and emergency ground egress training is conducted annually. The training shall include, but is not limited to, the following topics: canopy system (preflight checks, internal/external activation), ejection seat preflight checks in accordance with T/M/S NFM, strapping in (e.g., proper leg restraint placement, as applicable), ejection decision, ejection envelope, optimal body position, ejection initiation, ejection sequences/phases/modes, drogue/stabilization, main parachute deployment altitudes, seat/man separation, inspect-release-options-Koch (IROK/ADR), malfunctions (back-up and manual overrides methods), and hazards (flash burn, cockpit missile hazards/loose gear, poor body position, excessively heavy or light body weight, wind blast, ALSS fit, landing in winds in excess of 25 knots), and ground emergency egress (with/without seat

kit). Unless operationally unfeasible, an NAP, AMSO, or FS shall address the aeromedical aspects of ejection and ground egress. Renewal may be accomplished within 60 days preceding expiration of current qualification. Qualification will expire after 12 months (expiration date is the last day of the month trained). When transitioning to aircraft with a different type of ejection system, commanding officers shall ensure that a thorough brief on the new system is conducted before the initial flight. The transition training shall concentrate on the differences in the system (i.e., ejection decisions, the envelope of the new system, seat-man separation, ejection initiation, ejection sequence, normal operations and malfunctions)

Note

Aviators and aircrew flying with NVDs in ejection seat aircraft require additional egress training. Failure to remove NVDs prior to ejection may result in serious injury or death. NVD removal training shall be incorporated into initial training and annual ejection seat/egress training. This training will include actual drills on removal of NVDs prior to ejection. The PIC of NVD demonstration flights shall ensure that non-NVD qualified aircrew are thoroughly briefed and shall demonstrate proper technique of removing NVDs for ejection situations. Documentation of annual or transition ejection seat training with NVDs shall be entered into the individual's OPNAV 3760/32.

(2) Emergency Egress Training — In addition to the required 4-year NASTP egress training (incorporated within the Aircrew Refresher NASTP Training for Class 2, 3, or 4 aircraft curriculum), commanding officers shall ensure that lectures/drills on bailout/emergency ground/water egress for other than ejection seat equipped aircraft is conducted annually. Training can be conducted by squadron personnel who are most familiar with egress procedures and devices. Unless operationally unfeasible, an NAP, AMSO, or FS shall address the aeromedical aspects of egress and survival considerations. Renewal training may be accomplished within 60 days preceding expiration of a current qualification and is valid for 12 months from the last day of the month in which the current qualification expires. Otherwise, emergency egress training shall be valid for 12 months from the last day of the month in which the training is conducted. Specific training shall be conducted for flight personnel with regard to assisting passengers and non-essential aircrew.

(3) Sensory Problems/Spatial Disorientation Training — In addition to the required 4-year NASTP sensory physiology/situational awareness training (incorporated within the Aircrew Refresher NASTP Training for Class 1, 2, 3, or 4 aircraft curriculum), commanding officers shall ensure that training describing sensory problems and spatial disorientation is conducted annually. This training will be specific to both the aircraft T/M/S and the environment in which it is flown. The following topics shall be covered at a minimum: spatial disorientation/misorientation, visual illusions, visual scanning, SA, and disorientation countermeasures. Unless operationally unfeasible, an NAP, AMSO or FS shall conduct this training. Renewal may be accomplished within 60 days preceding expiration of current qualification. Qualification will expire after 12 months (expiration is the last day of the month trained).

Note

Sensory problems/spatial disorientation training may be accomplished in conjunction with aviation TYCOM approved instrument ground school (IGS) training, where applicable. For T/M/S where no aviation TYCOM approved IGS course exists and aircrew complete an instrument examination in lieu of IGS, then an NAP, AMSO or FS should provide the brief during squadron aircrew training.

(4) LEP — Annual training is to be completed in accordance with reference (bc). Commanding officers shall ensure that laser/LEP training is conducted annually. This training will be specific to both the aircraft T/M/S and the environment in which it is flown. Renewal may be accomplished within 60 days preceding expiration of current qualification. Qualification will expire after 12 months (expiration is the last day of the month trained).

(5) Hypoxia Awareness Training (Class 1 aircraft only) — In addition to the required 4-year NASTP aviation physiology/hypoxia awareness training (incorporated within the Aircrew Refresher NASTP Training for Class 1, 2, 3, or 4 aircraft curriculum), commanding officers shall ensure that hypoxia awareness training is conducted annually. This training will be specific to both the aircraft T/M/S and the environment in which it is flown. The following topics shall be covered at a minimum: types of hypoxia, signs, symptoms, situations which could lead to hypoxia, treatment, and countermeasures. Where available, ROBD dynamic hypoxia training is encouraged. Unless operationally unfeasible, an NAP, AMSO or FS shall conduct this training. Renewal may be accomplished within 60 days preceding expiration of current qualification. Qualification will expire after 12 months (expiration is the last day of the month trained).

b. Level B — Recommended annual mission training (as applicable for aviators and aircrew). Training provided by unit FS, ASTC, NAP, or AMSO

c. Level C — Recommended deployment work-up training. Training provided by unit FS, ASTC, NAP, or AMSO.

d. Level D — Recommended annual safety briefs. Training provided by unit FS, ASTC, NAP, or AMSO.

8.4.7 Grading

a. With the exception of CFET, personnel who complete all modules of the required Aircrew Indoctrination NASTP Training, Non-aircrew NASTP Training, or any of the Non-aircraft Specific NASTP Training courses shall be classified as Qualified (Q). Personnel who do not successfully complete all modules of the course per CNO/COMNAVAIRFOR approved curricula requirements shall be classified as Unqualified (U).

b. Aircrew Refresher NASTP Training shall be graded as follows:

(1) Qualified (Q) — Individuals who successfully complete all aspects of required training shall be classified as "Qualified" (Q).

(2) Conditionally Qualified (CQ) — Individuals who fail to successfully complete any one of the required modules in appendix E, section E.2 (including lecture only modules), shall be classified as "Conditionally Qualified" (CQ). Failure to successfully complete the deficient module within 90 days will result in a grade of "Unqualified" (U), and the individual shall repeat the entire curriculum. Consecutive grades of CQ are not permitted within the current refresher cycle. Personnel designated as CQ may continue on flight status for this 90-day period. Qualification letters will indicate which module(s) was/were not successfully completed.

(3) Unqualified (U) or (UQ) — Individuals who fail to successfully complete two or more of the modules in appendix E, section E.2 (including lecture only modules), or fail to qualify within 90 days after receiving a grade of CQ, shall be classified as "Unqualified" (U). Failure to successfully complete all deficient modules within 90 days will result in the individual repeating the entire curriculum. Personnel in a U status shall be grounded until they successfully achieve a grade of Q or CQ. Qualification letters will indicate which modules were not successfully completed.

(4) No Grade (NG) — If a refresher student begins NASTP training, but due to unforeseen circumstances is unable to complete the course, an entry in the record of NG shall be made. Those items not completed shall also be listed in the record. If any training element was attempted and failed, NG shall not be used, a grade of U shall be entered. Personnel designated as NG may continue on flight status until their original qualification expires. Failure to complete training within 90 days will result in the individual repeating the entire curriculum. Qualification letters will indicate which modules were not successfully completed.

c. Remediation and completion of training elements may take place at any NSTI ASTC (as listed in appendix E, section E.4). Upon successful completion of training, the ASTC providing remediation shall generate an updated qualification letter.

d. CFET training is documented based on completion of specific CFET profiles. The qualification letter will document the completed profiles (A B C D E) and the aircraft trained for. Non-completed profiles will be listed (e.g., F/A-18, completed profiles A, B, C: non-completed profiles D, E.). Additional training is highly recommended for those who failed to complete all profiles. Grades of "Q," "CQ," and "U" are not used for CFET training.

e. Adjunctive training is required in some cases and elective in others and is not graded. Squadron NATOPS or training officers shall ensure that the required specific annual training is documented with a completion date in the individual's OPNAV 3760/32F.

f. Inoperative Devices/Inclement Weather — Personnel participating in any indoctrination or initial NASTP training courses must complete all modules of the appropriate curriculum to receive a grade of Q. Students enrolled in these courses who are unable to complete a particular module because of an unplanned/unexpected training device malfunction or unavailability (not a CASREP or previously known or planned for repair) or due to inclement weather, may receive an overall grade of Q only if the training device requirement is specified as waiverable by COMNAVAIRFOR in either the approved curricula or in appendix E, section E.2, of this instruction. Personnel participating in Aircrew Refresher NASTP Training who are unable to complete a particular module because of a training device malfunction, unavailability, or due to inclement weather may receive a grade

of Q if they successfully complete approved alternate training (when applicable per the CNO/COMNAVAIRFOR approved curricula) and meet all other requirements. Notation of the device training not received shall be made in the individual's qualification letter.

8.4.8 Environmental Exposure

Flight personnel shall not participate in flight duties for 12 hours after completion of the following NASTP training or training devices: 9D5 or 9D6 (METS), CFET, MSDD, dynamic SEBD (or equivalent egress device) training, and/or low pressure chamber flights in excess of 30,000 feet. Personnel may fly as passengers in aircraft during this 12-hour period however; the cabin altitude shall not exceed 10,000 feet for personnel who have been exposed to a low pressure chamber flight in excess of 30,000 feet. The low pressure chamber exposure flight restrictions do not apply to personnel completing dynamic hypoxia training via an ROBD in lieu of a low pressure chamber flight.

8.5 FLEET AIR INTRODUCTION/LIAISON OF SURVIVAL AIRCREW FLIGHT EQUIPMENT (FAILSAFE) PROGRAM

Commanding officers shall ensure that aircrews receive indoctrination whenever new or modified ALSS is introduced to the fleet by a designated member of the FAILSAFE Team or program comprised of AMSOs, aeromedical safety corpsman and Regional Tiger Team Survival Equipment. ALSS technical data indoctrination packages (TDIPs) provided by NAVAIRSYSCOM to AMSOs and ASTCs should be used to satisfy training requirements. NAVAIRSYSCOM is responsible for initial training assets (to include NASTP) for new and/or significantly modified ALSS items, these required training assets are to be identified and provided for during development and introduction.

8.6 NVD TRAINING PROGRAM

NITE lab indoctrination training is required and refresher training is recommended for all aircrew involved in NVD operations. Refer to paragraph 5.7 of this instruction for further information.

a. Indoctrination training is defined as the student's first attendance at a NITE lab training facility.

b. Refresher training is defined as subsequent training provided at NITE lab facilities, as required by the applicable U.S. Marine Corps Training and Readiness Manual, U.S. Navy aviation TYCOM/type wing instruction or as requested by unit commanders.

c. Personnel participating in initial/refresher NITE lab training shall be graded as follows:

(1) Qualified (Q) — Scoring 80 percent or higher on the sensor course examination.

(2) Unqualified (U) — Failing to score at least 80 percent on sensor course examination. Disposition of students in this status will be at the discretion of the command.

d. NITE lab instructors should maintain flight time currency in the T/M/S aircraft they support in accordance with the MAWTS-1 NITE Lab SOP.

8.7 SEARCH AND RESCUE PILOT/RESCUE SWIMMER TRAINING

a. The purpose of this program is to promote standardization of SAR procedures and to establish a minimum SAR training program for personnel assigned SAR duties aboard aircraft. Units involved are those that are established primarily to fulfill SAR mission responsibilities or that may be assigned SAR responsibilities in conjunction with other mission areas. The search and rescue model manager (SARMM), Helicopter Sea Combat Support Squadron THREE (HSC-3) establishes SAR procedures and ensures standardization. Aviation TYCOMs shall designate SAR evaluation units within their command to train, evaluate, and assist individual units/commands in developing and implementing SAR programs.

b. Requirements for SAR training, proficiency, and requalifications are presented in reference (bo) and shall be considered minimum standards. Commands are encouraged to supplement those listed requirements with additional training pertinent to local mission requirements.

c. The Rescue Swimmer School Training Program (RSSTP) shall prepare designated aircrew and selected aircrew candidates for SAR swimmer duties. This is accomplished through lectures, demonstration, practical experience in CNO-approved rescue procedures/techniques and hands-on training using aviation life support and rescue equipment.

d. The NAVAVSCOLSCOM is designated the rescue swimmer school model manager (RSSMM). The RSSMM establishes RSSTP procedures for approval by COMNAVAIRFOR (N455), provides oversight of the RSSTP, and ensures standardization through the following:

(1) Instructor Training — The RSSMM shall conduct the Rescue Swimmer Instructor Course and issue the RSSTP Core Unique Instructor Training Program.

(2) Curricula Management — Navy Medicine Manpower Personnel Training and Education Command (MPT&E) Council on Occupational Education (COE) shall coordinate the training requirements of CMC, aviation TYCOMs, CNATRA, and the USCG; the RSSMM shall chair curricula conferences. The RSSMM shall develop and revise RSSTP curricula for COMNAVAIRFOR (N455) approval via CNATRA and MPT&E CoE based upon the needs of the commands noted above, utilizing the procedures established by the SARMM, and employing the technical advice of BUMED.

(3) Training Analysis — The RSSMM shall monitor the attrition, rollback, and mishap trends of the RSSTP.

(4) Site Evaluations — The RSSMM shall conduct annual evaluations of CNO-approved training sites at HSC-3; Helicopter Sea Combat Wing U.S. Atlantic Fleet (HSCWINGLANT); Fleet Training Center, San Diego; and NAVAVSCOLSCOM, Pensacola.

8.7.1 Definitions

The following terms contained in the glossary, appendix N, are relevant: competent authority, designations, DIFCREW, enlisted crewmember (U.S. Marine Corps), naval aircrewman (NAC).

8.7.2 Training Requirements

RSSTP includes initial and refresher training programs. All category I aviation rescue swimmer school training shall be conducted at NASC, NAS Pensacola. Category II aviation RSS training shall be conducted at HSC-3, NAS North Island and COMHSWINGLANT, NAS Jacksonville.

8.7.3 Prerequisites

a. Initial Training — Satisfactory completion of Naval Aircrew Candidate School (NACCS) within the preceding 6 months or be designated an NAC. Must have a current flight physical, NAVMED 6410/2, and be current in all aircrew indoctrination NASTP training in accordance with the provisions of this chapter.

b. Refresher Training — Be a graduate of a CNO-approved rescue swimmer school. Must be designated an NAC, have a current flight physical and NAVMED 6410/2, and be current in all aircrew NASTP training in accordance with the provisions of this chapter.

8.8 AVIATION PHYSICAL EXAMINATIONS AND QUALIFICATIONS

8.8.1 General Requirements

Specific guidance to be followed for aviation physical exams, evaluations and qualifications is provided in MANMED chapter 15. Physical standards, as established by BUMED, are to be met as a continuing requirement, not solely at the time of the required physical examination. Physical qualification as certified by an appropriate physical examination is a prerequisite for flight for all aircrew personnel. Commanding officers shall suspend from flight duties all aircrew personnel who have not met annual flight physical qualifications. It is preferred that the physical be accomplished starting the first day of the month preceding the birth month. Flight personnel who have not initiated an aviation physical examination by the last day of their birth month shall be considered not to have met annual flight physical qualifications. Flight personnel delinquent in receiving an aviation physical examination shall not be scheduled to fly unless a waiver has been granted by BUPERS/CMC. UAS flightcrew shall follow provisions of this section. Specific flight physical requirements for UAS flightcrew can be found in MANMED.

Note

Commanding officers may extend the expiration date of a NAVMED Form 6410/2 that would otherwise expire during the last 90 days of a long deployment in consultation with flight medicine or with NAMI if local medicine support is not available. When possible, NATOPS aeromedical qualifications that are due to expire prior to the last 90 days of a long deployment should be renewed prior to deployment. The expiration date for the extension shall not be later than 30 days after return from deployment. For aircrew with annual submission requirements, a request for extension shall be forwarded to NAMI for coordination and review 30 days or more before the NAVMED 6410/2 is due to expire.

8.8.2 Required Evaluations

FSs shall keep flight personnel under surveillance so that physical illness, fatigue, and emotional upset will be readily detected. Commanding officers shall establish administrative procedures to assure that all flight personnel report to an FS whenever their fitness to fly is questionable. FSs shall conduct interviews and/or physical examinations of aircrew personnel and make recommendations to the member's commanding officer as follows.

Note

Commanding officers and FSs shall comply with applicable directives pertaining to mental health evaluations of Service members (see reference (bg)). Individuals who fall under reference (bh) may require additional administrative procedures in conjunction with evaluation. Commanding officers are encouraged to consult with local FSs and legal officers.

8.8.2.1 Periodic Flight Physical Examination

All aircrew and personnel assigned to duty involving flight (also includes those DIFDEN) shall be evaluated annually. Exams should be conducted within the interval from the first day of the month preceding their birth month until the last day of their birth month, however, examinations may be scheduled up to 3 months prior to expiration to accommodate specialty clinic and other scheduling issues. To accommodate special circumstances such as deployment requirements, permanent change of station, temporary duty, or retirement, this window may be extended up to a maximum of 6 months with written approval by the member's commanding officer. BUMED 6410/2s issued in association with an annual or periodic examination expire on the last day of the aviator's birth month of the following year regardless of when the previous required exam was completed. BUMED 6410/2s may be issued for a shorter period to ensure compliance with provisions for close follow-up. A BUMED 6410/2 issued by a local board of flight surgeons (LBFS) is limited to 90 days from the date of the LBFS.

Note

Physical examinations that have been conducted, but are not completed because of additional consultation or administrative reasons, shall be considered to have met the requirements for annual certification, unless the individual is found to be NPQ during the examination, or the determination of physically qualified must be held in abeyance awaiting consultation. A NAVMED 6410/2 shall be issued in support of satisfying the requirements.

8.8.2.2 Check-In

Upon reporting (including TAD for flying only) to a new unit or base.

8.8.2.3 Postgrounding

Following grounding for medical reasons. Reference (bj) also applies.

8.8.2.4 Post Hospitalization

Following return to duty after any admission to the sick list or hospital (including medical boards). A NAVMED 6410/1 shall be issued for all admissions and a NAVMED 6410/2 shall be issued when aircrew personnel are returned to flight duties.

8.8.2.5 Postmishap

As necessary to meet the requirements of reference (t). Results of the post-mishap examination shall be forwarded to NAMI within 14 days of the mishap.

8.8.2.6 As Directed by Higher Authority

When required of competence for duty, follow-up for waivers, etc.

8.8.3 Scope of Examinations

The extent of these examinations shall be determined by the FS, as directed by MANMED or reference (t). Notation of such examinations shall be entered in the individual's health record and reported to the commanding officer and, as required, via NOMI DET NAMI to BUPERS/CMC.

Note

Aeronautically designated personnel assigned to USAF commands may be administratively processed per host service guidelines regarding periodicity of evaluations (e.g., PHA in lieu of Navy flight physicals are authorized), but are subject to MANMED medical standards for any identified potentially disqualifying medical conditions. Waiver requests for naval/marine personnel shall be submitted to NAMI for referral to the waiver authority of the parent service.

In the case where spectacles are worn, if the current spectacles do not correct to 20/20 or better in both eyes, the aviator is grounded until a current prescription can be obtained. In the case where spectacles had not previously been required, the aviator is grounded until spectacles are obtained to correct the visual acuity to 20/20 or better in both eyes.

8.8.4 Disposition of Aircrew Found Not Physically Qualified (NPQ)

8.8.4.1 Physical Standards

Aircrew personnel are expected to maintain appropriate physical standards at all times. However, medical conditions may preclude such physical qualifications for short or long periods. When aircrew personnel are unable to meet required physical standards for periods exceeding 60 days, a grounding physical shall be completed in accordance with MANMED. If the member is within his/her physical exam vulnerability window, the appropriate long or short form physical should be completed. Otherwise procedures in MANMED shall be followed. Appropriate consultations and FS recommendations shall be forwarded to NOMI DET NAMI. NOMI DET NAMI shall review and make a recommendation to BUPERS or CMC as appropriate. Further guidance and policy are provided in MANMED and on the NAMI on-line Aeromedical Reference and Waiver Guide.

Note

Personnel NPQ for flight will normally continue to receive aviation career incentive pay (ACIP) for up to 365 days from the date of incapacitation. Final determination on ACIP eligibility resides with BUPERS/CMC and the Navy Pay and Personnel Procedures Manual (PAYPERSMAN)

8.8.4.2 Waiver of Physical Standards

Aircrew personnel who do not meet physical standards may be considered for a waiver of such standards. Such a waiver may be granted on the need of the service, consistent with training, experience, performance, and proven safety of the aircrew personnel.

a. To be considered waiverable, any disqualifying condition must be: acceptable for unrestricted general military duty; cannot jeopardize successful completion of a mission; cannot pose a risk of sudden incapacitation; cannot pose any potential risk for subtle incapacitation that might not be detected by the individual but would affect alertness, special senses, or information processing; cannot be subject to aggravation by military service or continued flying and must be resolved or stable at the time of the waiver (i.e., non-progressive). If the possibility of progression or recurrence exists, the first signs or symptoms must be easily detectable and cannot constitute an undue hazard to the individual or to others; not require uncommonly available tests, regular invasive procedures, non-routine medications or frequent absences to monitor stability or progression especially during deployment or assignment to austere areas and must not involve unconventional medical treatments (i.e., outside of medically defined standards of care).

b. UAS flightcrew shall follow provisions of this section. Specific flight physical requirements for UAS flightcrew can be found in MANMED.

8.8.4.2.1 Conditions Considered Waiverable

If condition is considered waiverable, the following procedures shall be followed for initial, continuation, or renewal of waivers:

a. A request for initial waiver of physical standards may be initiated by the member, the commanding officer or by an FS. The request shall contain recommendations as to the operational advisability of the waiver, including limitations as to aircraft type, in-flight duties, etc. A statement reflecting the commanding officer's recommendation or endorsement shall accompany all waivers. Included in this initial waiver request shall be an appropriate aeromedical evaluation by the supporting medical treatment facility. The evaluation shall be presented on a typed aeromedical summary, with appropriate consultations. The most recent age-appropriate physical exam shall be attached unless the member is within his/her 3-month vulnerability window, in which case the age-appropriate long or short form shall be completed as part of the submission package. An FS shall include medical recommendations as outlined in the MANMED. Waivers may be requested for an indefinite period or may have specific expiration dates appropriate to the condition for which the waiver is requested. The waiver request shall be forwarded via the appropriate chain of command and NOMI DET NAMI to BUPERS, or CMC (ASM), as appropriate.

b. A request for continuation or renewal of an existing waiver must comply with the submission frequency and any additional provisions specified in the original waiver recommendation letter from NAMI as well as provisions specified in the NAMI Aeromedical Reference and Waiver Guide. The waiver continuation request may be accomplished as part of the age-appropriate periodic exam, including details of any significant interval history, as well as focused history and detailed exam relevant to the disqualifying condition. Waivers may be requested for an indefinite period or may have specific expiration dates appropriate to the condition for which the waiver is requested.

c. NOMI DET NAMI shall review the medical evaluation and forward a recommendation to BUPERS, or CMC (ASM), as appropriate.

d. BUPERS, or CMC (ASM), as appropriate, shall review the request and recommendations and take appropriate action. In general, one of the following dispositions shall be made and filed in the individual's OPNAV 3760/32, section I, part C:

(1) Grant a waiver of standards to permit continued unrestricted flight status.

(2) Grant a waiver of standards to a restricted flight status that may include limitations in service group, aircraft type, mission type, in-flight duties, duty location, operational tempo, or other requirements.

(3) Restrict from all duties involving flight with a statement concerning whether the disqualifying defects are considered temporary or permanent.

e. Further guidance and policy are provided in MANMED and in the NAMI on-line Aeromedical Reference and Waiver Guide at http://www.med.navy.mil/sites/navmedmpte/nomi/nami/arwg.

8.8.4.3 Flight Status

In cases where flight status is terminated, BUPERS, or CMC (ASM), as applicable, shall determine if the individual is to be retained within the aeronautical organization or assigned to duty outside the aeronautical organization.

8.8.4.4 Disposition

For aircrew personnel whose aeromedical disposition is considered uncertain by the examining FS, consideration shall be given to appearance before an appropriate special or senior board of FSs (see MANMED).

8.8.4.5 Limited Duty (LIMDU)

Aircrew personnel placed on LIMDU status by medical board action shall be considered to be physically incapacitated for all duty involving flight and all related training until such time as returned to flight status by medical board action and endorsement of a current flight physical by NOMI DET NAMI. The LIMDU board report and a typed DD Form 2808 Report Of Medical Examination (or SF 88) and DD Form 2807-1 Report of Medical History (SF 93), or NAVMED 6120/2, shall be forwarded to NOMI DET NAMI for appropriate action as soon as possible. Flight personnel placed in a LIMDU status strictly for geographical constraints (i.e., remain in or near proximity to a naval medical treatment facility for specialized treatment or follow-up treatment) and who are otherwise physically qualified and aeronautically adapted, may request a waiver to remain in a flight status. Waivers of geographical LIMDU will be considered on a case-by-case basis and may be granted by BUPERS/CMC (ASM) upon written request with supporting medical documentation submitted via NOMI DET NAMI.

8.8.4.6 Temporary Medical Waivers

Temporary waivers for disqualifying conditions specified in the NAMI Aeromedical Reference and Waiver Guide may be granted by the LBFS based on type aircraft, mission, and patient review, pending final approval/disapproval by BUPERS/CMC (ASM). Disqualifying conditions not addressed in the NAMI Aeromedical Reference and Waiver Guide may not be waived by an LBFS and must be forwarded to NAMI for a recommendation prior to issuing a BUMED 6410/2.

8.8.5 Medical Service Groups

The physical standards for aviation personnel in each of the following medical service groups are outlined in MANMED chapter 15. The medically-related definitions and policies that shall, in general, be employed in this assignment of aviators to flight duties, are as follows.

8.8.5.1 Medical Service Group 1

Aviators who meet the physical standards specified in MANMED shall be classified as Medical Service Group 1. Those aviators may be assigned to flight duties of an unlimited or unrestricted nature.

8.8.5.2 Medical Service Group 2

Those aviators who meet the physical standards outlined in MANMED, and those aviators of Service Group 1 who temporarily meet the physical standards of Service Group 2. All aviators in Service Group 2 are restricted from shipboard aircrew duties (including V/STOL aircraft) except in helicopters.

8.8.5.3 Medical Service Group 3

Those aviators who meet the physical standards outlined in MANMED. Medical Service Group 3 aviators shall operate only aircraft equipped with dual controls and be accompanied on all flights by a pilot or copilot of Medical Service Group 1 or 2, qualified in the model aircraft operated.

Note

A waiver to Medical Service Group 3 includes PIC authority unless PIC authority is specifically restricted. Restriction of PIC authority (essentially co-pilot only authority) may be appropriate when in the opinion of medical or line authorities the risk of sudden or subtle incapacitation cannot be quantified or where background, recent experience or competing responsibilities require PIC authority to reside in a Medical Service Group 1 or Medical Service Group 2 aviator.

A student aviator (pilot in training) may not assume flight controls/fly with a Medical Service Group 3 pilot.

8.8.6 Medical Requirements for Civilians Operating Naval Aircraft

Civilian pilots under contract to operate naval aircraft shall hold a current FAA Medical Certificate. As a minimum, all civilian pilots shall have a Class II Medical Certificate with currency requirements equivalent to those set forth by the FAA for commercial flight operations.

8.8.6.1 Navy Flight Surgeon Review of Civilian Pilot FAA Medical Evaluations

FSs shall have no responsibility for reviewing civilian pilot FAA medical evaluations and shall not issue BUMED 6410/2s to civilian contractor pilots.

CHAPTER 9

Miscellaneous

9.1 PARACHUTE JUMPS

9.1.1 General

Practice parachute jumps other than those required in the necessary and normal course of training or experimentation shall not be made unless expressly authorized by CNO. Authority to conduct parachute jumps required by training syllabuses or experimental projects is delegated to the commands assigned cognizance of the training or the experimental project.

9.1.2 Delayed Release Jumps

Delayed release parachute jumps shall not be made except as authorized by CNO. Any jump where no attempt is made to open the parachute immediately upon clearing the aircraft is considered a delayed release jump. Authority to conduct delayed release parachute jumps for test or evaluation is hereby delegated to commands assigned cognizance of test or experimental projects.

9.1.3 Jump Precautions

When authorized parachute jumps are to be made in the vicinity of bodies of water, personnel making the jumps shall wear life preservers. Adequate provisions for rescue of the jumper should be made beforehand.

9.1.4 Federal Aviation Regulations

FAR, part 105, details information that must be provided to the FAA and delineates strict communication requirements that must be complied with prior to and during parachute operations. Aircraft commanders shall be thoroughly familiar with the procedures prior to conducting parachute operations from naval aircraft.

9.1.5 Demonstrations

Paragraph 3.3 of this instruction provides information on flight demonstrations.

9.2 SECURITY OF AIRCRAFT AWAY FROM BASE

9.2.1 General

When it is necessary to leave an aircraft on a field, airport, beach, body of water, or other area where military or naval personnel cannot take custody of the aircraft, the PIC shall take proper measures to ensure the safety of the aircraft and any classified equipment. When naval aircraft operating in company have landed away from home base, the senior naval aviator/NFO shall be responsible for all of the aircraft as if a detached unit operation were being conducted under his/her cognizance.

9.2.2 Aircraft Mishap

In case of mishap to an aircraft, the PIC is responsible for its safe custody until the aircraft has been taken into custody by proper authority in accordance with the provisions of reference (t).

9.3 AIRCRAFT FUEL PURCHASE

Because the cost of fuel from non-contract commercial sources is considerably higher than that from military or contract sources, unit commanders and PICs shall make every effort to purchase fuel from military or government contract sources. Navy and Marine Corps flight personnel are not authorized to purchase aircraft fuel/oil from other than military or government contract sources except when one of the following apply:

a. Mission requirements dictated stopping at a facility without military or contract fuel sources.

b. The flight terminated as the result of an emergency.

c. The flight terminated at an alternate airport in lieu of filed destination.

9.4 AIRCRAFT NOISE ABATEMENT

Aircraft noise creates a major public relations problem. All commands shall review their operating practices on a continuing basis with a view toward minimizing this nuisance to the public. OPNAV (N885F) should be informed of complaints that are considered serious by the commanding officer.

9.5 CLAIMS FOR PERSONAL PROPERTY IN MARITIME DISASTERS OF AIRCRAFT

a. During aircraft operations over open water, a forced landing is an ever present possibility. The probability of damage to the personal property aboard any aircraft exists. The condition is known to all personnel.

b. In view of the existing hazard to personal property in such operations, it is incumbent upon the personnel so engaged to use good judgment regarding the articles of personal property that are carried on such flights. They shall not needlessly jeopardize personal property that does not serve the personnel in the performance of the military missions of the aircraft in which they are embarked. When aircraft are in the execution of transfer flights from shore station to embarkation on ships and vice versa and in other similar cases, the transportation in the aircraft of articles of clothing not specifically required in the flight operation is considered to be justifiable.

c. The latest information concerning submission and payment of these claims is contained in the MILPERSMAN.

9.6 U.S. CUSTOMS, HEALTH, IMMIGRATION, AND AGRICULTURAL CLEARANCE

9.6.1 Naval Aircraft

Every effort should be made to arrive at the entry airport during those periods of time when customs/health/immigration/agriculture services are available. Official working hours within the United States are usually 0800 to 1700 local, Monday through Friday. Overtime charges accrue for services performed after official working hours.

9.6.2 Military Aircraft Arriving in the Continental U.S. From Overseas

Military Departments that operate aircraft arriving in the CONUS from overseas shall provide timely advance notice of the aircraft's point of departure and expected arrival time at a U.S. airport of entry.

9.6.3 Discharging of Passengers/Cargo

The aircraft commander/mission commander shall not permit any cargo, baggage, or equipment to be removed from the aircraft without permission from customs officials. Passengers or crewmembers shall not depart from the landing site prior to release by the customs official. Removal of cargo and/or departure of personnel may be allowed should such be necessary for the safety or preservation of life and property. Violations of customs regulations could result in a fine for which the aircraft commander/mission commander may be personally responsible.

9.6.4 Foreign Military Aircraft

Commanding officers are advised to inform the PIC of visiting foreign military aircraft that the aforementioned formalities must be complied with before the aircraft and crew may be given clearance through customs. Additionally, commanding officers of all naval air activities whose facilities are used by foreign aircraft are directed to advise appropriate local government officials of the intended movements into or out of the United States by such aircraft.

9.6.5 Medical or Economic Insect Pests

When notified by competent authority of a potential hazard from medical or economic insect pests, such as disease carrying mosquitoes, Mediterranean fruit fly, Japanese beetle, etc., commanding officers shall in cooperation with the cognizant governmental agency institute appropriate inspection and/or quarantine procedures for the control of such pests. Technical assistance may be obtained from the Naval Environmental Health Center; Environmental and Preventive Medicine Unit; or disease, vector, ecology, and control centers.

9.7 DISPERSAL OF PESTICIDES

Pesticides shall not be dispersed from naval aircraft in CONUS or possessions without approval of the Navy regional commander, Commander Marine Corps Air Bases, or his/her delegated authority. In areas where there is danger of spray contamination to civilian property, all property owners must be contacted and their permission obtained. Where State statutory authority

permits release by boards of county commissioners and/or other authorized agencies against claims and damages resulting from aerial dispersal of pesticides, such release may be obtained in lieu of individual property owner permission. The use of aircraft in the dispersal of a pesticide shall not be approved unless the application is recommended by a BUMED medical entomologist or a Naval Facilities Engineering Command (NAVFACENGCOM) applied biologist who is certified as a DoD pesticide applicator in CAT 11, Aerial Application.

9.8 AIRCRAFT TAIL LETTERS AND SIDE NUMBERS

Assignment of aircraft tail letters and identification markings is the responsibility of Air Warfare Assistant for Aviation History and Publications (OPNAV (N88H)). Aircraft side numbers are assigned by force, wing, group, and squadron commanders, as appropriate. Appendix C delineates the visual identification system for naval aircraft and provides procedures and guidelines for assignment of the markings and side numbers that uniquely identify each aircraft.

CHAPTER 10

Flight Records, Reports, and Forms

10.1 NAVAL FLIGHT RECORD SUBSYSTEM

The Naval Flight Record Subsystem (NAVFLIRS) serves as a single, integrated source of flight data for the Aviation Maintenance and Material Management (AV-3M) of the Maintenance Data System (MDS), the Aviation Data Warehouse (ADW), the Marine Corps Sierra Hotel Aviation Reporting Program (MSHARP) and all other existing up-line reporting systems.

10.2 OPNAV 4790/141 AIRCRAFT INSPECTION AND ACCEPTANCE (AIA) RECORD

OPNAV 4790/141, provides for:

a. Pilot acceptance of the aircraft in its present condition.

b. Identifies aircraft by bureau number (BUNO), T/M/S, and reporting custodian.

c. Certification of aircraft readiness for flight by maintenance personnel. This provides a record of fuel, oxygen, and expendable ordnance on board and the quantity of engine oil added since last flight.

d. OPNAV 4790/141 shall remain at the place of first takeoff. If the aircraft is away from home and qualified maintenance personnel are not available, the PIC shall sign the OPNAV 4790/141 in the safe for flight certification block. The form will be maintained by the transient/host activity until safe completion of the flight.

10.2.1 PIC

a. The PIC shall review a record of aircraft discrepancies and corrective actions for the 10 previous flights.

b. The PIC shall sign the OPNAV 4790/141, assuming full responsibility for the safe operation of the aircraft and the safety of the other individuals aboard.

10.2.2 Limitations/Remarks" Section

This section informs the pilot of uncorrected discrepancies or unique characteristics of this particular aircraft. Local instructions will always govern the specific content of this space.

10.3 OPNAV 3710/4 NAVAL AIRCRAFT FLIGHT RECORD (NAVFLIR)

OPNAV 3710/4 provides a standardized Department of the Navy/Marine Corps flight activity data collection system. The OPNAV 3710/4 is the single-source document for recording flight data and is applicable in specific areas to aircraft simulators. The form or electronic facsimile shall be prepared for each attempt at flight of naval aircraft or training evolution for simulators. The authorized document formats are the preprinted multi-copy

form, stock number (S/N) 0107-LF-037-1020, and the computer generated form from the MSHARP or Naval Aviation Logistics Command Management Information System (NALCOMIS) Organizational Maintenance Activity (OMA) Legacy or Optimized Program. These records shall be maintained per SECNAV Manual 5210.1, part III, chapter 3, subject standard identification code (SSIC) 3760.3a, b and c, "Naval Aircraft Flight Records" (OPNAV 3710/4).

a. The OPNAV 3710/4 collects flight activity data in support of the MDS, ADW, MSHARP, and the Joint Airlift Information System (JALIS). Types of data collected are as follows:

(1) A statistical description of the flight pertaining to the aircraft and crewmembers.

(2) A record of all logistic actions performed during the flight.

(3) A record of weapons proficiency.

(4) A record of training areas utilized and other miscellaneous data.

b. The OPNAV 3710/4 consists of an original and two color-coded copies of no carbon required paper. All copies contain identical information. Copy one is used for data entry and processing at the NALCOMIS Data Collections System Center (NDCSC), then is filed in operations department for retention in the master flight files. Copy two will be in the suspense file copy until copy one is returned to operations. Copy three is retained in the maintenance department and may be locally discarded after monthly reports are verified.

Note

For activities using SHARP, personnel can export a file containing flight information to NALCOMIS. The NAVFLIR data diskette is forwarded to the supporting NDCSC for processing. For activities using NALCOMIS OMA program, personnel shall print two hard copies of the computer-generated OPNAV 3710/4 for local activity use. Hard copy one is filed in operations department for retention in the master flight files. Hard copy two is retained in the maintenance department for 3 months to facilitate local database corrections, verify monthly reports, and then may be locally discarded. For activities using SHARP or NALCOMIS, no pilot or mission commander signature is required. The entry and approval process shall be controlled appropriately via computer login access.

10.3.1 Documentation of the OPNAV 3710/4

a. The shaded portions of the OPNAV 3710/4 are mandatory fields and shall be filled out for every attempt at flight/simulator training, where applicable. Although not shaded on the form, blocks 11 and 12 of the aircrew data section and block 11 of the logistics data section are mandatory fields.

b. The pilot or other designated crewmember shall maintain an accurate record of the flight. Activities operating without NALCOMIS or NDCSC support shall have the OPNAV 3710/4 signed by the pilot, mission commander or designated personnel authorized to fill out OPNAV 3710/4. When reporting simulator usage, forward the OPNAV 3710/4 to the operations department of the crewmembers' parent command.

c. In instances where the aircraft and crewmember are assigned to different activities and supported by different NDCSC, the crewmember shall provide his/her parent activity with a duplicate copy of the OPNAV 3710/4 for submission to the supporting NDCSC. That procedure is necessary to update his/her monthly individual flight activity report (NAVFLIRS-3) and fiscal year-to-date (FYTD) summary. Submission of the duplicate OPNAV 3710/4 (with same document number) at the NDCSC, that is not the same NDCSC supporting the aircraft reporting custodian, shall be batched with a (4) in the AWAY FROM HOME block on the accompanying document control form (DCF). The DCF will be completed and submitted in accordance with reference (q). For submission of flight records out of the reporting period, an away code of Z shall be entered on the DCF to indicate late data and shall be completed and submitted in accordance with reference (q).

d. The operations department is responsible for verifying the accuracy and completeness of the OPNAV 3710/4 submitted for data processing, ensuring submission of aircrew gain and loss records, verifying the daily audit reports, and coordinating the correction of errors with the maintenance analyst.

e. The maintenance analyst is the NAVFLIRS coordinator and is responsible for accomplishing the daily submission of completed NAVFLIRS for processing, distributing daily audit and monthly reports to the operations and maintenance departments, and coordination of error corrections with operations and maintenance control.

Note

For Marine Corps activities, the operations NCOIC will perform those functions.

f. One OPNAV 3710/4 may be used for two or more flights under the following conditions:

(1) The total mission requirement (TMR) codes do not exceed three and the PIC remains the same. TMRs are contained in appendix D.

(2) No maintenance or servicing is performed at intermediate stops other than the addition of fuel, oil, or oxygen.

(3) Ops code (i.e., shipboard or shore operations) remains the same.

g. The upper left corner of the OPNAV 3710/4 contains a preprinted alphanumeric number that uniquely identifies each document and is required for manual data entry processing. An OPNAV 3710/4 with this number obscured will be rejected by the NDCSC.

Note

For activities using the SHARP or NALCOMIS OMA program, the OPNAV 3710/4 document number will be automatically generated and assigned to the individual flight record.

h. The "PAGE___OF___" will be used when an additional OPNAV 3710/4 is required to supplement the document of multiple-entry data fields cited above. The maximum allowable number of supplemental pages is five. The document numbers of the supplemental pages shall be obliterated and the document number assigned to page one shall be hand-scribed legibly on each supplemental page.

i. Supplemental NAVFLIRS may be attached to page one to provide additional space to document the following data elements:

(1) Crewmember names.

(2) Additional flight legs and their associated logistic records.

(3) Weapons proficiency.

j. It is the responsibility of the aircraft or simulator reporting custodian to ensure that NAVFLIRS is available.

k. Exception codes (appendix F) are provided for entries on the OPNAV 3710/4 that require processing for other than a routine flight such as the following:

(1) Gaining or losing crewmembers to the squadron database.

(2) Correcting, deleting, or revising previously submitted data.

(3) Documenting CVW staff member flight time.

(4) Documenting simulator time. Simulator time only refers to approved simulators capable of logging flight time.

(5) Documenting canceled flights.

(6) Documenting flights when the crewmember and the aircraft are assigned to different organizations.

Note

Aircrew shall be placed on an appropriate organization individual master roster (IMR). Organizations shall submit a record type (RECTYP) 7D Gain (exception code G) when aircrew report to a new organization, and a RECTYP 7D Loss (exception code L) when aircrew depart an organization (refer to paragraph 10.3.6). Aircrew shall be assigned to only one IMR per NDCSC, or reporting errors will result.

Only approved DIFOPS CVW staff billets shall use the S (staff) exception code. All other aircrew, including other DIFOPS-assigned staff officers, shall use the exception code E when flying in aircraft assigned to an organization (RECTYP 7B block 21 ORG code) different than one to which they are assigned (ORG code for the IMR to which the aircrew is assigned). DIFOPS-assigned station pilots should be placed on the station's IMR, requiring no exception codes when flying station aircraft.

l. The use of the code tables provided in appendices D, F, G, and I is mandatory. Routine codes required for form completion are printed on the back of copy one. Abbreviated TMR codes are printed on the back of copy three. Training codes are available in the COMNAVAIRFOR joint T&R manual (COMNAVAIRFORINST 3500.1C), reference (z), or other governing instructions, as appropriate. Refer to paragraph 10.3.3. Weapon proficiency codes are located in appendix H. Commanding officers shall ensure that crewmembers and maintenance and operation personnel who enter or manipulate data derived from this form are familiar with the proper use of appropriate codes. It should be noted that although the OPNAV 3710/4 allows for only three training codes, NALCOMIS Legacy OMA will provide for up to 10 training codes on one automated OPNAV 3710/4. SHARP and NALCOMIS Optimized OMA do not limit training codes per flight document, however, only three training codes will be recorded in NALCOMIS Legacy OMA when SHARP data is brought over.

m. The documentation for a routine flight consists of information from the following sections on the OPNAV 3710/4:

(1) Aircraft data RECTYP 7B.

(2) Aircrew data RECTYP 7C.

(3) Logistics depart data RECTYP 7E.

(4) Logistics arrive data RECTYP 7F.

Note

Logistics arrive data, RECTYP 7F, is not completed in the submission of a cancellation. Weapon proficiency data, RECTYP 7G, is not mandatory for every flight but should be completed as applicable to document time spent in restricted air space, miscellaneous data, etc. Refer to paragraphs 10.3.2 through 10.3.5 for information required to complete the OPNAV 3710/4 for a routine flight. Refer to paragraph 10.3.6 for information required for personnel data, RECTYP 7D transactions.

10.3.1.1 Logging Simulator Time

Simulator events conducted in Navy simulators (or non-Navy simulators, if used for the purpose of logging Navy/Marine Corps aircrew flight time) shall be documented on an OPNAV 3710/4 and processed by the user's squadron/ activity. The following data fields, as described in paragraphs 10.3.2 through 10.3.5, are required:

a. AIRCRAFT DATA SECTION

(1) BUREAU/SERIAL NO. (BUNO/SER). If assigned to device.

(2) TYPE EQUIPMENT CODE (TEC). See appendix K.

(3) ORGANIZATION CODE (ORG). Use code "ZEZ" for simulators.

(4) MISSION 1 (MSN1).

(5) HOURS 1 (HRS1).

(6) SUPPORT CODE (SUPTCD). Use appropriate code for user's activity. See appendix I.

b. AIRCREW DATA SECTION

(1) EXCEPTION CODE. Enter the T exception code for simulators.

(2) NAME (FSTINT and LSTINT).

(3) SOCIAL SECURITY NUMBER (SSN).

(4) SPECIAL QUALIFICATIONS (SPQUAL).

(5) SERVICE CODE (SVC).

(6) FLIGHT TIME (FPT, CPT, or SCT).

(7) SIMULATED INSTRUMENT TIME (SIM).

(8) LANDINGS (TLNG1/2/3/4 AND NLNDG1/2/3/4). Optional when documenting simulator flights.

(9) APPROACHES (TAPP1/2/3/4 and NAPP1/2/3/4). Simulated only.

(10) TRAINING CODES (TRACD1/2/3). In accordance with T&R manual.

c. LOGISTICS DATA SECTION

(1) TIME ZONE (TMZONE).

(2) TIME DEPART/ARRIVE (TIMDEP-TIMARR). Enter the start and stop time of the event.

(3) DATE DEPART/ARRIVE (DTEDEP-DTEARR). Enter the four-character Julian date (YYDD) for departure and arrival date of the event.

(4) ICAO DEPART/ARRIVE (ICAODP-ICAOAR). Enter the appropriate ICAO codes (depart and arrive) for the simulator location.

d. REMARKS. If simulator is non-Navy, enter type aircraft simulated.

e. SIGNATURE. Of crewmember receiving training.

Note

Logging night time or aircraft commander time is not authorized when reporting simulator time.

Instructor time may be reported.

10.3.1.2 Approved Simulators

a. Approved simulators for logging pilot and special crew time are listed in appendix K and on the NAVAIR Airworthiness Web site (https://airworthiness.navair.navy.mil). Simulators not currently listed can be added by submitting a change recommendation to appendix K via AIRS located on the Airworthiness Web site. See chapter 2 for additional information on submitting change recommendations.

b. Simulators shall be approved based on their demonstrated ability to provide realistic flight dynamics and performance feedback. Aircraft model managers shall make the final determination that the simulator satisfies the minimum requirements necessary for the:

(1) NATOPS evaluation (or portions thereof).

(2) NATOPS instrument evaluation (or portions thereof).

(3) Substitution of flight time.

c. Additionally, it is recognized that other military services, industry, and foreign governments operate very capable military aircraft simulators that are not listed here. Generic type equipment codes, listed in appendix K, have been assigned to enable Navy aircrews to credit time gained in those devices using the OPNAV 3710/4. However, the person signing the OPNAV 3710/4 shall ensure that the following criteria are met:

d. The device reasonably simulates a particular military aircraft, including cockpit layout, instrumentation, performance, and handling. The model being simulated shall be recorded in the remarks block.

e. Instrumentation and displays sufficient to conduct the desired military training mission (e.g., instrument approach, air intercept, weapon delivery, etc.) are provided, and are appropriate to the type of flight time to be logged (pilot or special crew time).

f. The device cockpit is isolated from outside distraction.

10.3.2 Aircraft Data Section

Complete the data blocks in aircraft data section, RECTYP 7B (figure 10-1):

a. SIDE NO — Enter the side number of the aircraft. This data will not be processed at the NDCSC.

b. Block 10 — EXCEPTION CODE (EXCD): Enter the appropriate exception code if required. Exception code X documents the cancellation of a flight and is used only in the aircraft data section (see appendix F).

c. Block 11 — BUREAU/SERIAL NO. (BUNO/SER): Enter the BUNO of the aircraft or the serial number of the simulator. Right justify if less than six characters.

d. Block 17 — TYPE EQUIPMENT CODE (TEC): Enter the four-character AV-3M type equipment code assigned to the aircraft or simulator. Refer to Naval Aviation Logistics Data Analysis (NALDA) TEC Translator.

e. Block 21 — ORGANIZATION CODE (ORG): Enter the three-character AV-3M organization code for the aircraft reporting custodian or "ZEZ" for simulators. Refer to NALDA ORG Translator.

f. Block 24 — MISSION 1 (MSN1): Enter the three-character TMR code from appendix D that most accurately describes the primary mission for the flight/simulator event or its reason for being canceled or aborted. Canceled or aborted flights must use a general purpose code of N (maintenance) or O (operations) in the second position, as applicable.

Note

A canceled flight is one for which no flight time was obtained.

g. Block 27 — HOURS 1 (HRS1): Enter the hours and tenths dedicated to performance of MSN1. The block will be blank when documenting a cancellation.

h. Block 30 — MISSION 2 (MSN2): Enter the mission code from appendix D that most accurately describes the secondary mission if applicable. The mission may not necessarily be assigned at takeoff.

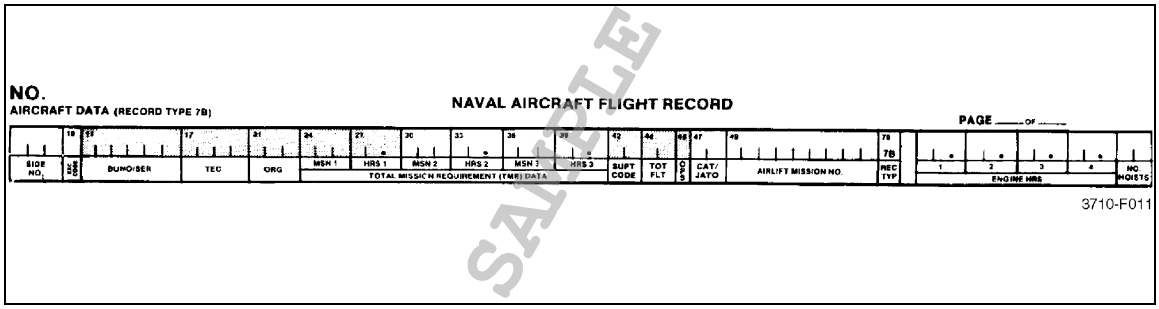


Figure 10-1. Aircraft Data Section (OPNAV 3710/4)

Note

An aborted flight is one for which flight time is obtained but requires termination of the flight. If that occurs, MSN1 or MSN2 will indicate the mission that was in progress when the abort decision was made; and MSN2 or MSN3 (as applicable) will indicate the reason for the abort.

i. Block 33 — HOURS 2 (HRS2): Enter the hours and tenths dedicated to performance of MSN2.

j. Block 36 — MISSION 3 (MSN3): Enter the mission code from appendix D that most accurately describes the tertiary mission if applicable. The mission may not necessarily be assigned at takeoff.

k. Block 39 — HOURS 3 (HRS3): Enter the hours and tenths dedicated to performance of MSN3.

Note

The sum of the hours in HRS1, HRS2, and HRS3 represents total aircraft flight time.

l. Block 42 — SUPPORT CODE (SUPTCD): Enter the two-character support code from appendix I that identifies the claimancy providing funding for mission accomplishment. The code will be used by OPNAV (N88) to monitor special-interest missions, operations, or exercises. For crewmembers within the personnel exchange program, insert NS in the field.

m. Block 44 — TOTAL FLIGHTS (TOTFLT): Enter the total number of flights.

n. Block 46 — OPERATIONS (OPS): Use one of the following codes, whichever is the most applicable to the operational scenario:

(1) A — Ship Operations (Non-deployed). For flights primarily involving carrier/ship operations ashore for a non-deployed unit.

(2) 1 — Land Operations (Non-deployed). For flights primarily involving operations ashore for a non-deployed unit.

(3) B — Ship Operations (Deployed). For flights primarily involving carrier/ship operations while unit is deployed.

(4) 2 — Land Operations (Deployed). For flights primarily involving operations ashore for a deployed unit.

(5) C — Fleet Replacement Squadron Overhead (Ship). For FRS flights involving carrier/ship operations primarily not for the purpose of training students.

(6) 3 — Fleet Replacement Squadron Overhead (Land). For FRS flights ashore primarily not for the purpose of training students.

Note

For the purpose of this instruction, deployed time shall be defined as all time accumulated when units are under operational control of Commander, SIXTH Fleet (COMSIXTHFLT), Commander, SEVENTH Fleet (COMSEVENTHFLT), Commander, FIFTH Fleet (COMFIFTHFLT), and/or Commander, Task Force (CTF) 67, 84, 12, 72, or 57 only.

o. Block 47 — CATAPULT LAUNCH/JET ASSISTED TAKEOFF (JATO):

(1) Catapult Launch: Enter the number of catapult launches (ship-based or shore-based).

(2) JATO Launch: Enter the total number of JATO launches executed during the flight.

p. Block 49 — AIRLIFT MISSION NO. (MISNUM): If applicable, enter the nine-character flight mission number from the flight advisory or number assigned by the scheduling authority. Refer to reference (bp). MISNUMs may be locally used by any activity and structured as follows:

(1) Positions 1 to 3 = ORG.

(2) Positions 4 to 6 = last three digits of the Julian date.

(3) Positions 7 to 9 = 001-099 (sequentially assigned).

Note

MISNUM must be filled in to ensure proper organization of data on the monthly aircraft logistics data report (NAVFLIRS-4). If no cargo or passengers are transported during the accounting period, the NAVFLIRS-4 will only indicate flight hours by leg number for each BUNO.

q. ENGINE HRS: Enter the hours and tenths for each engine if different than the total flight hours. The engine hours are for maintenance control's use and are not processed at the NDCSC.

r. NUMBER OF HOISTS: Enter the total number of hoists accomplished during the flight. The data is for maintenance control's use and is not processed at the NDCSC.

10.3.3 Aircrew Data Section

The aircrew data section is designed for recording necessary information pertaining only to those individuals functioning as crewmembers during the flight. Complete the data blocks in the aircrew data section, RECTYP 7C (figure 10-2).

a. Block 10 — EXCEPTION CODE (EXCD): Enter the appropriate exception code if required. Exception code E, S, or T is permitted in this block (see appendix F).

b. Block 11 — FIRST INITIAL (FSTINT): Enter the crewmember's first initial.

c. Block 12 — LAST INITIAL (LSTINT): Enter the first letter of the last name in the space provided. Space for the individual's name is provided as a convenience; only the initials shall be entered (keypunched) as part of the flight data by the NDCSC.

d. Block 13 — SOCIAL SECURITY NUMBER (SSN): Enter the social security number for each crewmember (allow no dashes).

e. Block 22 — SPECIAL QUALIFICATION (SPQUAL): Enter the special qualification code for each crewmember (see appendix F).

Note

SPQUAL identifies the crewmember function during the flight.

f. Block 23 — SERVICE CODE (SVC): Enter the service code for each crewmember (see appendix F).

g. Block 24 — FIRST PILOT TIME (FPT): Enter the hours and tenths logged as first pilot.

Note

First pilot, copilot, and special crew times are defined in chapter 1.

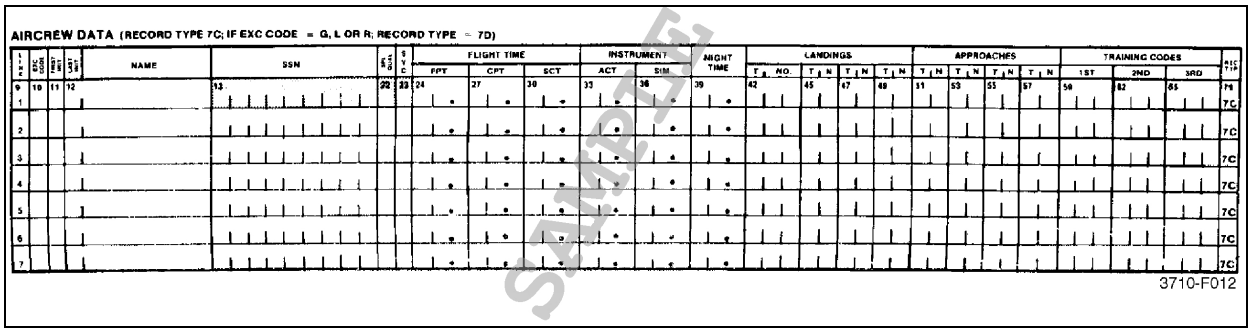


Figure 10-2. Aircrew Data Section (OPNAV 3710/4)

h. Block 27 — COPILOT TIME (CPT): Enter the hours and tenths logged as copilot.

i. Block 30 — SPECIAL CREW TIME (SCT): Enter the hours and tenths logged as special crew.

Note

The sum of FPT hours for entire document must equal the sum of HRS1, HRS2, and HRS3. The sum of hours in FPT, CPT, and SCT for each additional crewmember may equal but must not exceed the sum of HRS1, HRS2, and HRS3.

j. Block 33 — ACTUAL INSTRUMENT TIME (ACT): Enter the hours and tenths logged as actual in accordance with chapter 1.

k. Block 36 — SIMULATED INSTRUMENT TIME (SIM): Enter the hours and tenths logged as simulated in accordance with the glossary. If an actual or simulated approach is logged, actual or simulated instrument time must be logged.

l. Block 39 — NIGHT TIME (NIGHT): Enter the hours and tenths logged as night time in accordance with the glossary.

m. Blocks 42 to 50 — LANDINGS (TLNDG1/2/3/4 and NLNDG1/2/3/4): Enter the type and number of landings accomplished. If a type of landing was accomplished more than nine times, log the type in block 42 and the number beginning with block 43 (see appendix F). Only the pilot or student pilot actually controlling the aircraft during the landing and documenting FPT shall log and be credited with the landing. Landings are not required when documenting simulator flights.

Note

Copilots, NFOs and student NFOs shall report day and night carrier landings only. To indicate those landings, Y will be entered in block 42 for day landings and Z for night landings and the number beginning with block 43. If both day and night landings are recorded on the same flight, utilize blocks 45 and 46 for night landings.

n. Blocks 51 to 58 — APPROACHES (TAPP1/2/3/4 and NAPP1/2/3/4): Enter the type and number of approaches performed beginning with block 51 (see appendix F). If the number of a particular approach credited to an individual exceeds nine, record the overflow in the next type and number set.

Note

Only the pilot exercising principal active control during the approach may be credited with that approach. However, when flying in actual instrument conditions, the instructor of a student pilot (a designated aviator is not considered a student pilot) shall also receive credit for an actual instrument approach. Actual and simulated instrument conditions are defined in chapter 1.

Only that portion of the approach executed to a missed approach or landing shall be logged as an approach (i.e., a tactical air navigation (TACAN) approach to a PAR/ILS/ALS final would be logged only as a precision approach).

Precision approaches are as follows:

(a) ALS (includes SPN-42/SPN-46, mode I or IA).

(b) ILS (includes SPN-42/SPN-46, mode II).

(c) PAR (includes SPN-42/SPN-46, mode III).

Note

No precision approaches are as follows:

(a) VOR-VHF Omni-directional (OMNI) range.

(b) VOR/DME.

(c) TACAN-UHF.

(d) Non-directional Beacon/Auto-direction Finder (NDB/ADF).

(e) L/MF range.

(f) Localizer.

(g) Airport surveillance radar (ASR) (includes CCA when no glide path information is provided).

(h) Emergency Low Visibility Approach (ELVA) (helicopter only).

(i) Self-contained Approach (SCA).

(j) GPS.

Helicopters conducting coupled approaches after official sunset or during actual instrument conditions in automatic or alternate modes shall use a 3. Simulated instrument conditions in automatic or alternate modes shall use a C. Coupled approaches will not be used to fulfill approach requirements for instrument rating purposes.

o. Blocks 59 to 65 - TRAINING CODES (TRACD1/2/3): Enter the appropriate training codes in accordance with local instructions.

Note

Training codes enable recording of individual aviation training accomplished on each flight or simulator event.

These codes are standardized and represent flight training from entry level to fully combat qualified, including syllabus maintenance. Training codes for COMNAVAIRFOR squadrons are assigned by the TYCOM joint T&R instruction, Squadron T&R Manuals (COMNAVAIRFOR 3500 series), and are used to monitor the achievement of readiness qualifications in aircraft or simulators. The appropriate alphanumeric code shall be entered if the recorded flight or simulator event attains or renews a qualification listed in the appropriate T&R manual. Navy squadrons may specify and enter additional alphanumeric codes to capture training or cyclic events as long as they do not conflict with codes established by the appropriate T&R manual.

Marine squadrons use training codes as daily input to each squadron aviation training data base to update individual and activity flight training progress, to aid in scheduling daily flight training, and to forecast monthly, quarterly, and annual flight time requirements. Reference (z) contains the appropriate syllabus training codes for each crewmember position by model aircraft. Marine entries must be numeric.

Note

The NALCOMIS Legacy OMA programs allow for the entry of up to 10 training codes for the automated OPNAV 3710/4. The SHARP program and NALCOMIS Optimized OMA will allow unlimited training codes. The SHARP and NALCOMIS OMA-produced, hard copy facsimile looks similar to the current OPNAV 3710/4, except that it will display the additional training code entries at the bottom of the printed facsimile.

10.3.4 Logistics Data Section

a. Logistics Data (blocks 37 to 70) shall be recorded for every flight that involves the movement of passengers/cargo, scheduled or unscheduled, in any type aircraft. Blocks 12 to 20 are mandatory entries for all flights.

b. Complete the data blocks in the logistics data sections, RECTYP 7E and 7F (figure 10-3):

(1) Block 10 — EXCEPTION CODE (EXCD): No exception codes are permitted for the initial entry. This block is used for corrections and deletions only.

(2) Block 11 — TIME ZONE (TMZONE): Enter the time zone on page one, leg one only. The same time zone shall be used for all legs (see appendix G). The time zone remains unchanged, even during daylight savings time.

(3) Block 12 — TIME DEPART/ARRIVE (TIM-DEP-TIMARR): Enter the departure and arrival times, consistent with the time zone in block 11.

(4) Block 16 — DATE DEPART/ARRIVE (DTE-DEP-DTEARR): Enter the four-character Julian date (YYDD) for departure and arrival.

(5) Block 20 — ICAO DEPART/ARRIVE (ICAODP-ICAOAR): Enter the four-character ICAO code for departure and arrival. Obtain land-based ICAO codes from the current FLIP for the geographical area. For ship ID codes, use a four-character alphanumeric code identifying the ship (e.g., D963 for DD 963 (USS SPRUANCE), CV68 for CVN 68 (USS NIMITZ), or F084 for FF 1084 (USS MCCANDLESS). When no ICAO code is available, enter "ZZZZ".

(6) Block 25 — DISTANCE (DIST): Enter the distance, in nautical miles, flown on each leg. It may be left blank if the flight begins and ends at the same location.

(7) Blocks 37, 40, 43, 46, and 49 — CONFIRMED PAYLOAD, PRIORITY 1-5, PASSENGER NUMBER (PRI1/2/3/4/5): Enter the number of passengers in each category for each leg of the flight (if none, leave blank) (see appendix G).

(8) Block 52 — CONFIRMED PAYLOAD, CARGO IN POUNDS (CPCRGO): Enter the pounds of confirmed cargo for each leg of the flight (if none, leave blank).

(9) Block 57 — OPPORTUNE PASSENGER NUMBER (OPPAX): Enter the number of unscheduled passengers (including space A) for each leg of the flight (if none, leave blank).

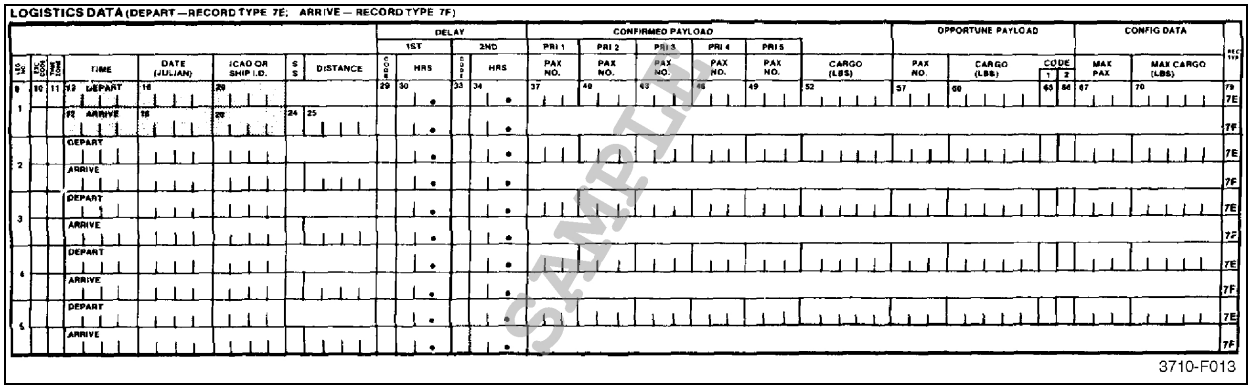


Figure 10-3. Logistics Data Section (OPNAV 3710/4)

(10) Block 60 — OPPORTUNE CARGO (OPCRGO): Enter the pounds of unscheduled cargo for each leg of the flight (if none, leave blank).

(11) Blocks 65 and 66. OPPORTUNE CARGO CODES 1/2 (OPCCD1/2): Enter the first and second most significant types of opportune cargo for each leg of the flight (if none, leave blank) (see appendix G).

(12) Block 67 — CONFIGURATION DATA, MAXIMUM PASSENGERS (MAXPAX): Enter the maximum number of seats available for each leg of the flight (if none, leave blank).

(13) Block 70 — CONFIGURATION DATA, MAXIMUM CARGO (MAXCGO): Enter the maximum cargo-carrying capability in pounds for each leg of the flight (if none, leave blank).

Note

Record flight information for flights overlapping into a new day under month and date the flight originated.

10.3.5 Weapons Proficiency Data Section

a. The weapons proficiency data section collects training area, weapons delivery, and miscellaneous data. The training area data fields allow for documenting the usage of two areas per line. The training area data section captures the use of targets, restricted areas, warning areas, alert areas, military operating areas (MOAs), ATCAA and MTRs as outlined in AP1A/AP1B area planning document. The weapons delivery data fields allow for documenting three types of delivery per line; each delivery is differentiated by the type ordnance delivered. The miscellaneous data fields allow for two entries per line, enabling the user to document miscellaneous training and utilization that is of importance to the individual or the activity. Training area data entries are mandatory when special-use airspace (restricted areas, controlled firing areas, warning areas, alert areas, and MOAs) and areas for special use (ATCAAs) or MTRs have been scheduled. The cancellation of special-use airspace must be documented using the appropriate miscellaneous data codes (see appendix H). The number of flight hours that were to be utilized within that airspace will be entered in miscellaneous data 1/2 block. Naval aviators and NFOs shall log image intensification device (night vision goggle) usage. Image intensification device usage shall be logged in the miscellaneous codes/data blocks.

b. Complete the data blocks in the weapons proficiency data section, RECTYP 7G, as applicable (figure 10-4):

(1) Block 10 — EXCEPTION CODE (EXCD): No exception codes are permitted for the initial entry. This block is used for corrections and deletions only.

(2) Block 11 — LINE NUMBER (LINENR): Enter the line number from the aircrew data section corresponding to the crewmember whose activity is being described in the weapons proficiency data section. If more than two crewmembers are involved, attach additional OPNAV 3710/4s to page one, as described in paragraph 10.3.1, with only this section complete. All crewmembers documenting weapons proficiency must be entered on page one.

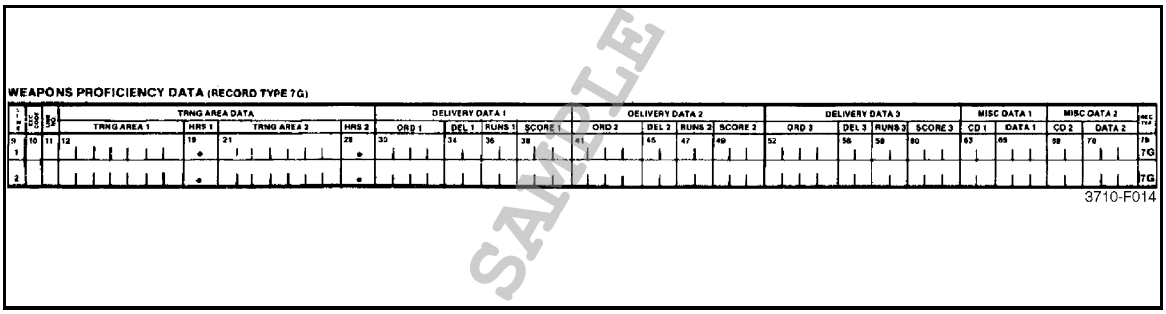


Figure 10-4. Weapons Proficiency Data Section (OPNAV 3710/4)

(3) Blocks 12 and 21 — TRAINING AREA 1/2 (TNGAR1/2): Enter applicable training area codes. Training area codes may range from two to seven characters. The code must be entered from left to right and position one must be alpha when filled in. Complete MOA designations may exceed seven characters/digits. In such cases, enter the first seven letters of the MOA name. If a subdivision is involved (i.e., north, south, east, or west; a, b, c, etc.; high or low) then enter those in the last spaces, cutting short the MOA name if necessary. For example, Pecos east high MOA would be entered: PECOSEH; Randolph 2a would be entered as RANDO2A. Regional airspace coordinators should publish standard training area codes/abbreviations for use in the NAVFLIRS weapons proficiency data section.

(4) Blocks 19 and 28 — TRAINING AREA HOURS 1/2 (TNGHR1/2): Enter the time, in hours and tenths, dedicated to TNGAR1/2. Their sum must not exceed total flight time.

(5) Blocks 30, 41, and 52 — ORDNANCE 1/2/3 (ORD1/2/3): Enter the ordnance code (see appendix H). For ordnance codes not listed in appendix H, refer to reference (bq).

(6) Blocks 34, 45, and 56 — DELIVERY 1/2/3 (DEL1/2/3): Enter the delivery data code. Position one must be alpha (see appendix H).

(7) Blocks 36, 47, and 58 — RUNS 1/2/3 (RUNS1/2/3): Enter the total number of runs associated with the respective delivery code.

(8) Blocks 38, 49, and 60 — SCORE 1/2/3 (SCORE1/2/3): Enter the score awarded if applicable for DEL1/2/3 as follows: The aviator will manually calculate the score by dividing the number of runs into the sum of the target-miss distance in feet. A score in excess of 999 feet can be entered using a K in the first position (i.e., K11 equals 1,100 feet, K26 equals 2,600 feet).

(9) Blocks 63 and 68 — MISCELLANEOUS DATA CODE 1/2 (CD1/2): Enter the miscellaneous data code if applicable (see appendix H).

(10) Blocks 65 and 70 — MISCELLANEOUS DATA 1/2 (DATA1/2): Enter the number of occurrences or time in hours and tenths (from right to left) for the data described in CD1/2.

Note

The data of miscellaneous codes with a first position of N, R, or 1 will be treated as hours and tenths with an implied decimal between positions two and three. Data for all other miscellaneous codes will be treated as whole numbers.

10.3.6 Personnel Data

a. Personnel data, RECTYPE 7D, is used to update the IMR (NAVFLIRS-00). This RECTYP is submitted whenever a crewmember is gained, detached, or a revision to the IMR is required. RECTYP 7D is composed of data fields from the aircraft, aircrew, logistics, and name/grade/local use sections. Figure 10-5 displays the RECTYP 7D data fields. RECTYP 7D entries shall be retained in a separate file until the data submitted can be verified on the IMR and then disposed of at the activities discretion.

Note

For activities with no NALCOMIS Legacy OMA or NDCSC support, the 7D requirement is waived.

(1) AIRCRAFT DATA SECTION, Block 17, ASSIGNED SYLLABUS (TEC): Mandatory entry for Marine Corps only. Enter the four-character numeric code identifying the syllabus assigned to the crewmember (see appendix J).

(2) AIRCRAFT DATA SECTION, Block 21, ORGANIZATION CODE (ORG): Enter the three-character AV-3M organization code the crewmember is assigned. Refer to NALDA ORG Translator.

(3) AIRCREW DATA SECTION, Block 10, EXCEPTION CODE (EXCD): Enter G, L, or R, as appropriate (see appendix F).

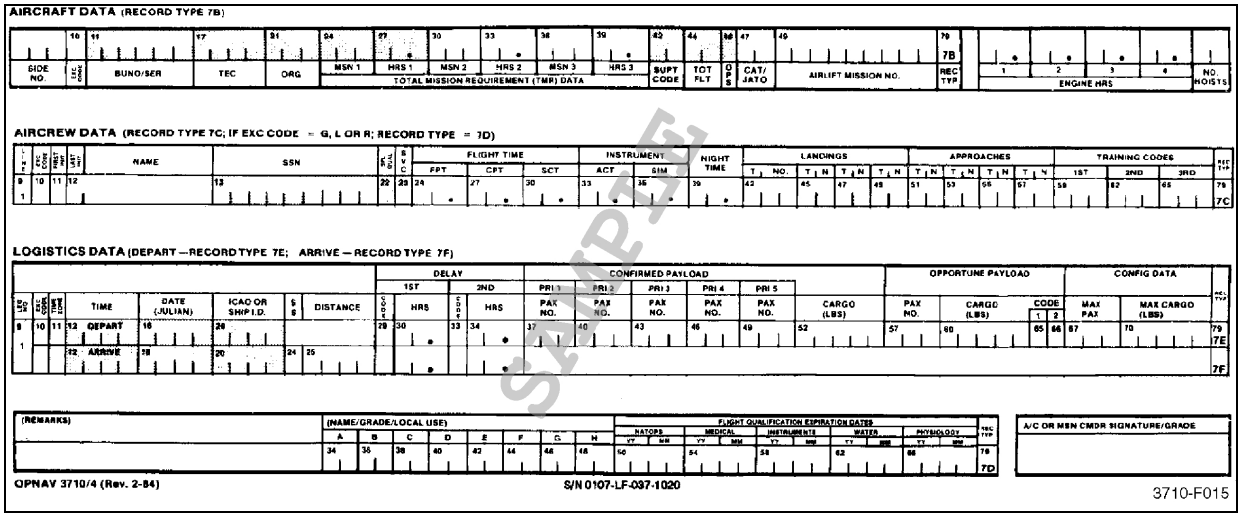


Figure 10-5. Personnel Data Section (OPNAV 3710/4)

(4) AIRCREW DATA SECTION, Block 11, FIRST INITIAL (FSTINT): Enter the first initial of the crewmember requiring the transaction.

(5) AIRCREW DATA SECTION, Block 12, LAST INITIAL (LSTINT): Enter the first letter of the last name.

Note

The name element following the last initial is not entered (keypunched) and should be left blank.

(6) AIRCREW DATA SECTION, Block 13, SOCIAL SECURITY NUMBER (SSN): Enter the social security number of the crewmember; allow no dashes.

(7) AIRCREW DATA SECTION, Block 23, SERVICE CODE (SVC): Enter the service code (see appendix F).

(8) LOGISTICS DATA SECTION, Block 16, JULIAN DATE (DATE): Enter the Julian date of the transaction.

(9) LOGISTICS DATA SECTION, Block 29, AIRCREW STATUS CODE (ASC): This field is mandatory for the Marine Corps, optional for the Navy. Enter the appropriate ASC (see appendix J).

(10) LOGISTICS DATA SECTION, Block 33, SYLLABUS STATUS CODE (SSC): This field is mandatory for the Marine Corps, optional for the Navy. Enter the appropriate SSC (see appendix J).

(11) PERSONNEL DATA SECTION, Block 34, NAME/GRADE/LOCAL USE A-G: Enter the last name of the crewmember. If the last name exceeds 14 characters, print only the first 14.

(12) PERSONNEL DATA SECTION, Block 48, NAME/GRADE/LOCAL USE H: Enter the paygrade of the crewmember, omitting dashes (i.e., O3, W2, E6, etc.).

(13) PERSONNEL DATA SECTION, Block 50, FLIGHT QUALIFICATION EXPIRATION DATES, NATOPS, MEDICAL, INSTRUMENTS, WATER, PHYSIOLOGY (YYMM): Activities may enter the last two characters of the calendar year and the month when crewmember qualifications EXPIRE (must be four characters).

b. Privacy Act Statement for OPNAV 3710/4:

(1) The authority for collecting this information is section 5013 of Title 10, United States Code (U.S.C.) for SECNAV; section 5041 of Title 10, U.S.C. for CMC, and Executive Order 9397.

(2) The purpose of this system is to consolidate the collection of flight data into a single, locally controlled, collection and correction system.

(3) The information collected is used by commanding officers and other NAVFLIRS users to compile a record of the individual's flight time, and to search and analyze for trends in order to improve aircraft maintenance and aviator readiness programs.

(4) Disclosure of this information is voluntary. However, failure to disclose this information can result in flight data not being recorded in the AV3M system and may result in loss of flight pay.

10.3.7 Personnel Exchange Program/DCMC/Any Aeronautically Designated Personnel Assigned to an Activity Where NDCSC Support Is Not Available

a. A completed OPNAV 3710/4 is required for each designated aviator who participates as a crewmember during the flight of military aircraft including foreign governments.

b. Naval FSs, naval aerospace physiologists, naval aerospace optometrists, and naval aerospace experimental psychologists are often ordered to DIFOPS at nonaviation activities (hospitals, etc.). These personnel are additionally assigned (under "Special Instructions" section of BUPERS orders) by BUPERS Community Manager Medical Corps (PERS-4415) to aviation activities for flight purposes. Assigned aviation activities shall assist in obtaining minimum annual flight time requirements, issue, inspect and maintain flight gear, maintain the OPNAV 3760/32 and provide administrative support for documentation of flight time.

10.3.8 Civilian Crewmembers Flying Naval Aircraft (Active)

a. Civilian crewmembers gained to the IMR must use an equivalent military paygrade in block 48 of RECTYP 7D.

b. Civilians functioning as crewmembers shall follow the procedures outlined in paragraphs 10.3.2 through 10.3.6. Civilian crewmembers shall insert "CIV" in the first training code field in the aircrew data section (RECTYP 7C).

10.3.9 Fleet Readiness Centers

Fleet Readiness Centers shall complete OPNAV 3710/4s as outlined in paragraphs 10.3.2 through 10.3.6 for flights involving aircraft where a Fleet Readiness Center is designated as the reporting custodian. When a Fleet Readiness Center has physical custody, but not reporting custody of an aircraft being flown, block 21 of RECTYP 7B (aircraft data) must be the ORG of the reporting custodian and block 10 of RECTYP 7C (aircrew data) must be E.

10.4 MASTER FLIGHT FILES

The master flight files shall be the only official flight record of naval aircraft and shall be maintained in accordance with this instruction by every reporting custodian of naval aircraft as defined in reference (q). Each activity using NAVFLIRS for simulators may retain copy one for local record purposes and discard the other copies. Master flight file records are to be maintained per SECNAV Manual 5210.1, SSIC 3760.2a, for routine operation and training flights, and SSIC 3760.2b for units in a combat status as a permanent record.

10.4.1 Specific Requirements

a. Only flights of aircraft of the aircraft reporting custodian shall be filed in the master files; however, all flights shall be accounted for and no flight shall be filed in more than one activity's master flight files.

b. Each detachment shall maintain separate master flight files for the period while deployed with CVWs or while otherwise remotely separated on detached duty from the parent activity.

c. Reporting custodians having aircraft of more than one controlling custodian may include all flights thereof in the activity's master flight files regardless of controlling custody (i.e., one DPRO may have COMNAVAIRSYSCOM FS, RDT&E, and structural test firing (STF) aircraft and be a separate reporting custodian for each).

d. No master flight files need to be maintained for aircraft while in a bailment or loan status.

e. For aircraft being ferried, information concerning such flights shall be placed in the master flight files of the reporting custodian of the aircraft being ferried.

f. For new aircraft being accepted from contractors, reporting custodians (i.e., DPRO) shall include in their master flight files flights of new-production aircraft before Navy acceptance only if a naval aviator was aboard in a pilot or crew status. All flights after Navy acceptance shall be filed.

10.4.2 Procedures for Maintaining Master Flight Files

10.4.2.1 File Contents

Master flight files shall consist of securely bound current OPNAV 3710/4 originals (refer to paragraph 10.3.1). NALCOMIS-OMA produced facsimiles are approved for official use in the master flight file.

10.4.2.2 Binders

Binders used for the master flight files are nonspecific except that they must provide a durable cover and backing and allow for the secure fastening of their contents. For example, NAVFLIRS may be adequately filed in commonly used legal-size, vertical pressboard folders that allow for two stacks of forms.

10.4.2.3 Starting Files

Master flight files are started initially by a new activity.

10.4.2.4 Filing Procedures

When the activity's information requirements of the OPNAV 3710/4 are satisfied, this form shall be chronologically filed by date and time of departure, using prong fasteners or similar devices in a binder as compactly and securely as possible (i.e., two stacks per binder, if feasible). Though desirable, the requirement for chronology as to departure time is not

absolute; reasonable variance is acceptable. The forms shall be logically arranged to permit easy access if flight data must be extracted at a later time. Each binder should contain records in one or more whole-month increments, be approximately 2 to 3 inches in thickness, and contain a transmittal letter. Each binder shall be externally labeled in indelible hand printing, clearly identifying the submitting activity/detachment, its location, and the monthly interval covered. For example, the label may read:

MASTER FLIGHT FILE
HC-11
PERIOD 01/01/01 through 02/28/01
NAS NORTH ISLAND (01/01-01/24)
USS TARAWA (01/25-02/28)

10.4.2.5 Missing Data

In some cases, the duration and locale of flights performed in relation to the location of the master flight files will be such that the files cannot be kept current if exact date/time chronology is to be followed. In such isolated cases and in view of the annual retention period of the files, activities shall file all of the flight data that is available. Each reporting custodian is responsible for the continuity and consistency of the master flight files.

10.4.2.6 Classification

Completed master flight files will ordinarily be unclassified, but classification may be assigned as warranted by the data. Activities should not include in the files any data that warrant a classification higher than Confidential unless the information is an important record not suitably provided for by other media.

10.4.3 Master Flight File Certification

Each master flight file binder shall contain a letter signed by the activity commanding officer, officer in charge, or an officer designated in writing by the commanding officer to do so. The following items shall be addressed:

a. Certification that attests to the accuracy, clarity, and completeness of the entries contained there for the time interval noted on the binder cover. Such certification, among other things, establishes a record of flights made by flight personnel who are in receipt of ACIP or hazardous duty incentive pay (HDIP).

b. A statement that items of historical interest (i.e., first, records, unique achievements, etc.) have been properly recorded for inclusion in the activity history in accordance with OPNAVINST 5750.12J.

c. An itemization of unusual events that may lead to subsequent litigation or adverse public relations (i.e., inadvertent bomb drops, canopy blow-offs, etc.) shall be included identifying the flight during which such an event occurred. An objective (noninterpretive, nonsubjective) description of the event by any person aboard (especially if not listed on the OPNAV 3710/4) who is a party to or observer of the event shall also be included.

d. Mishaps or combat incidents shall be noted to the extent of identifying the mishap/incident report containing the relevant information. Identifying the aircraft that was lost, missing, or damaged, and personnel aboard who were killed, missing, or wounded is also required.

e. Missing data shall be identified with an indication, if possible, of what future files will contain the information.

f. Identification of any nonstandard abbreviations, codes, or the like used on the OPNAV 3710/4 is required.

g. The time interval within the period covered by the file during which the activity was in an official combat status shall be specified.

10.4.4 Retention of Master Flight Files

Master flight file binders will be accumulated and stored in chronological sequence in annual calendar year record blocks and retained by the reporting custodian for a period of 3 years.

10.5 OPNAV 3760/31 AVIATORS FLIGHT LOG BOOK

10.5.1 General Policies

10.5.1.1 Requirements

a. All naval aviators/student naval aviators and NFOs/student NFOs shall possess a currently maintained OPNAV 3760/31, as the primary individual flight activity record. Possession and maintenance of the log book is optional for other personnel on duty involving flying. The continued submission of flight data for all aeronautically designated naval officers is mandatory.

b. Each duly issued OPNAV 3760/31 is considered to be the personal property of the individual who currently is or in the past was required to possess it. OPNAV 3760/31s of missing or captured personnel shall be handled in accordance with instructions governing disposition of the service record.

(1) Ensure that entries are legible, complete, and accurate.

(2) Ensure compliance wherever provisions for use of OPNAV 3760/31 require entries by or signature of other personnel.

(3) Keep OPNAV 3760/31(s) in good physical condition, guard against its loss, remove no pages from it (blank or otherwise), and use it as long as its capacity permits before requisitioning a new book.

10.5.1.2 Reconstructions of Log Books

The individual/aircraft flight information needed to reconstruct a lost or destroyed OPNAV 3760/31 can be regenerated from the NALDA database and may be obtained by e-mailing a request to NAVAIRSYSCOM, at naldahlp@logistics.navair.navy.mil.

10.5.2 Entries

Recording of information on the flight record, the accident and flight rule violation record, and the mishap record is mandatory. Also, documentation of completion of annual NATOPS and instrument evaluations shall be recorded on the qualifications and achievements record. Recording of information in all other sections of the OPNAV 3760/31 is optional. When entries are made in optional sections, they shall be in accordance with procedures set forth here.

10.5.2.1 Qualifications and Achievements

a. These pages are to receive whatever entries are required or appropriate to record significant qualifications or achievements accredited the individual.

b. Make entries in chronological order.

c. Enter revocation of previously held qualifications showing the date of revocation and signature of the commanding officer or authorized deputy.

10.5.2.2 Summary of Total Flight Record

Use this page to record the total accumulated pilot time earned in each model of aircraft up to and no further than the date of opening the OPNAV 3760/31.

10.5.2.3 Personal Changes

Use of this section is at the discretion of the individual.

10.5.2.4 Flight Record Summary, Total and for 12 Months Preceding This Log

a. This page is to be filled in upon opening this log book and no entry should be made to it thereafter.

b. In the first column, show the total flying hours accumulated to date from the date military flying began for those items listed for which the record is available or a good estimate can be made; indicate which are estimates; leave unknowns blank.

c. For month columns, find the column for the month corresponding to the last month covered by the previous OPNAV 3760/31, enter the proper year of that month in the column heading, draw a heavy vertical line all the way down the right side of the column, and fill out the column. Then go to the next column to the left and, from data in the previous OPNAV 3760/31 on the next to the last month covered by it, fill out that column. Proceed to the left in that manner until the January column is completed; then proceed to the December column and work to the left until all columns are completed.

d. Wherever appropriate, pen changes are authorized.

10.5.2.5 Summary of Pilot Time by Month, Model, Etc.

a. Provides for monthly, quarterly, or annual summaries of data recorded in the flight-by-flight record section of OPNAV 3760/31 plus the same in the previous OPNAV 3760/31 those months back to the beginning of the year for which OPNAV 3760/31 was opened (or even further if the individual wishes).

b. It is suggested that the current year be entered on the first line. Then, on succeeding lines, enter the identity of that to be summarized (i.e., the T/M/S of aircraft (P-3C, F-18EF, etc.)), the kind of flying time (FPT, CPT, SCT), instrument approaches, landings, or any other pertinent data. When the year is over, enter the number of the next year on the next line and start a new set of items to be summarized.

10.5.2.6 Flight-by-Flight Record

a. Space is provided in the flight-by-flight record section for 19 flights per page. If that number is exceeded for any month, sum the first 19 flights on the line "TOTAL THIS PAGE," post the totals on the first line of the next page, and continue entries. At the end of each month, all total spaces at the bottom of the page should be completed. Exception may be made for pilots who fly infrequently. In such cases, several months may be included on one page. The applicable month will be entered on the line preceding the first flight. Page totals will be entered at the bottom after each page is completed. Fill out pages and lines in chronological order as to year, month, day, and takeoff time. The date of a flight recorded in the OPNAV 3760/31 is the date upon which the flight started and not the date it ended. The number of flights will be entered in the "REMARKS" column. For months during which no flights were made, enter (on the first line of the page following the last month during which flights were made) the statement "No flights (month and year) through (month and year)," or equivalent. Simulator flights shall be logged as regular flights in the OPNAV 3760/31 starting from the rear of the month-by-month section of the OPNAV 3760/31 and working forward. More than 1 month's entries may be entered per page.

b. Always show the full model designation (FA-18EF, not FA-18) and full aircraft BUNO. Whenever the reporting custodian of the aircraft is different from the activity to which the pilot is attached or from the activity whose aircraft the pilot normally flies, show the custodians identity in the columns for aircraft and serial number or remarks column.

c. Entries to "KIND OF FLIGHT" (TMR code) column shall always be the code entered on the flight record for the individual.

d. "A/C COMDR" column may also be utilized to record either FPT, CPT, or SCT.

e. Final approaches are entered into the OPNAV 3760/31 as precision or nonprecision, utilizing the approach codes described in appendix F.

f. The notation of pilot time report printed along the right-hand margin no longer applies.

g. Upon detachment and at the end of each month, the pilot shall sign all pages on which entries have been made. The commanding officer or an authorized deputy shall sign the page of the last entry at the end of each

fiscal year and upon detachment of the individual. Spaces for those signatures are at the lower right corner of the form and are titled "CERTIFIED CORRECT RECORD" and "Approved." Signature of the commanding officer or his/her authorized deputy signifies approval of all entries made for the time period. Approval means:

h. Apparent compliance in all respects with the provisions of this instruction on maintenance of the OPNAV 3760/31.

i. All applicable instances of accident and flight rule violations since last approval have been duly recorded in the OPNAV 3760/31.

10.5.2.7 Flight Clothing Record

a. Use is self-evident; local practices in accordance with supply requirements shall be followed.

b. When opening a new OPNAV 3760/31, the last entry for each item appearing in the previous OPNAV 3760/31 shall be carried forward.

10.5.2.8 Mishap and Flight Rule Violation Record

There are two forms for this section: a summary record (one page) and a mishap record (three pages). Use these records in accordance with paragraph 3.11 of this instruction. Care shall be exercised to avoid the use of information from aircraft mishap investigation reports and endorsements (including the COMNAVSAFECEN endorsement) as a basis for the entries. Such use would be in violation of the privileged nature of this information. In the case of substantiated flight violations, jacket entries reflect an administrative finding and such entries shall not be considered punitive or as possessing any judicial character. Entries of mishaps and violations shall be signed by an officer authorized to sign the individual report of fitness or of enlisted evaluation.

a. Summary record.

(1) This is a quantitative record of all substantiated violations of flying regulations and of all aircraft mishaps for which the individual has been assigned responsibility in any degree. Only those aircraft mishaps in which aircrew error was a factor shall be entered in the mishap column of the mishap and the flight rule violation records. Entries of mishaps or violations shall be authenticated by the commanding officer.

(2) Negative reports are required; comply by entering 0 (zero). They shall be authenticated by the commanding officer or an authorized deputy.

b. Mishap record. The mishap record shall include all flight mishaps and violations.

(1) Each substantiated violation of flying regulations or an aircraft mishap in which the reporting custodian considers the action of flight personnel to be a cause factor shall be entered.

(2) Entries of mishaps and violations shall be signed by an officer authorized to sign the individual report of fitness or report of enlisted evaluation.

10.6 OPNAV 3760/32 NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET

An OPNAV 3760/32 shall be prepared and maintained for each individual assigned to flying duties. The purpose of the OPNAV 3760/32 is to provide a consolidated record of the individual's T&R status, and to serve as a repository for the person's accumulated aviation records. The composition of the OPNAV 3760/32 and responsibilities and procedures for its preparation, maintenance, and disposition are contained in appendix B.

10.7 MONTHLY INDIVIDUAL FLIGHT ACTIVITY REPORT (NAVFLIRS-3)

The NAVFLIRS-3 details, by individual, specific flight activity that was performed during the reporting period (submitted on OPNAV 3710/4s). In addition, a summarization by aircraft BUNO of flight times (FPT, CPT, and SCT), including instrument (ACT and SIM) and night times, and a summarization of weapons proficiency, miscellaneous, and FYTD summary is also provided.

10.8 INDIVIDUAL FLIGHT ACTIVITY REPORTING SYSTEM (IFARS)

10.8.1 Background

a. The IFARS database is a repository of individual flight data, including flight data accrued in authorized aircraft simulators. This data is maintained by NAVAIRSYSCOM via the Naval Sea Logistics Centers NAVFLIRS OPNAV 3710/4. IFARS is applicable to naval aviators, student naval aviators, NFOs, naval aircrew, naval FSs, and aerospace physiologists and psychologists in a DIFOPS or DIFDEN status on active duty or participating in the Navy or Marine Corps Reserve program.

b. The IFARS database provides valuable exposure information for flight safety analysis, mishap rates, budget justification, past and future flight program evaluation, and aviators compliance with established annual flight minimums.

c. NAVAIRSYSCOM records retention policy for the IFARS data is as follows:

(1) Individual flight-by-flight data, reported via NAVFLIRS, is retained from 1988 to the current fiscal year online for naval aviators, student naval aviators, NFOs, naval aircrew, naval FSs, and aerospace physiologists and psychologists in a DIFOPS or DIFDEN status on active duty or participating in the Navy or Marine Corps Reserve program.

(2) Individual historical data, summarized by fiscal year and aircraft model, for naval aviators, student naval aviators, NFOs, naval FSs, and aerospace physiologists and psychologists is retained from 1988 back for an indefinite period.

d. Assistance is available from the NALDA help desk at (800) 624-6621.

10.9 RECORDS MANAGEMENT OF AVIATION RECORDS

a. All aviation records in this chapter shall be maintain per SECNAV Manual 5210.1 via the appropriate SSIC.

b. Part III, chapter 3, of SECNAV Manual 5210.1, "Operations and Readiness" contains many of the records described in this chapter as follows:

(1) SSIC 3500, General Training and Readiness Records.

(2) SSIC 3700, General Flight/Air Space Records.

(3) SSIC 3760, Flight Records and Reports.

(4) SSIC 3760.2a and 2b, Master Flight Files.

(5) SSIC 3760.3a, b and c, OPNAV 3710/4 Naval Aircraft Flight Records.

c. If request for additional information is required, contact Chief of Naval Operations, Director of Navy Staff, Department of the Navy Directives and Records Management Office (DNS-5).

CHAPTER 11

General Instructions on Duty Involving Flying and Annual Flight Performance Requirements

11.1 SCOPE, PURPOSE, AND APPLICABILITY

It is accepted that duty involving flying constitutes hazardous duty, and it is recognized that additional pay should be provided as incentive to engage and remain in hazardous occupations. This chapter sets forth the policies for practical application of the above principle and provides instructions concerning mandatory requirements that will ensure that resources allocated to flying activities are applied economically and result in maximum benefit to fleet operations. Matters concerning Marine Corps aeronautically designated personnel (ADP) should be referred in reference (br) for additional information. The purpose of this chapter is to:

a. Summarize the policies concerning the flying status of all active duty and reserve Navy and Marine Corps personnel holding aeronautical designations and who are entitled to receive flight pay in accordance with the provisions of the DoD Military Pay and Allowance Manual.

b. Prescribe criteria, standards, and regulations to ensure that the skill of all ADP is maintained at acceptable levels of readiness and to enhance aviation safety.

c. Implement the logging and reporting of flight simulator time.

d. Provide criteria for incentive pay entitlement under ACIP and HDIP.

e. This chapter is based upon the provisions contained in section 301 of Title 37, U.S.C. and related policies established by the Secretary of Defense and SECNAV. It shall apply to all aeronautically designated (rated) officer personnel assigned to DIFOPS, DIFDEN, and enlisted personnel when assigned to duty in a flying status involving operational training flights (DIFCREW/DIFTEM).

11.1.1 General Policies

11.1.1.1 Flying in Other Than Military Aircraft

Personnel assigned to operational flying billets may fly in other than military aircraft if such flying is inherent in the duty assignment of the individual concerned. ADP, when recommended by competent authority and approved by CNO or CMC (Code ASM), may perform operational flying in other than military aircraft of the Armed Services. When so directed, such flying shall be conducted only by personnel qualified to perform such duties and shall be approved by the authority controlling the aircraft. Individual flying time (FPT, CPT, and SCT) so acquired may be credited towards minimum annual and semi-annual flying requirements.

11.1.1.2 Flying in a Leave Status

a. Under conditional ACIP, all or any combination of individual flying time acquired by those ADP assigned to operational flying billets or commands assigned to DIFOPS is creditable for flight pay except that flown while in a leave status.

b. Individual flight time acquired in a leave status may be used to fulfill the minimum annual and semi-annual flying requirements.

11.2 OPERATIONAL FLYING

a. Operational flying duty means flying performed under competent orders by designated (rated) members while in assignments in which basic flying skills are normally maintained in the performance of flight duties as determined by SECNAV and flying performed by members in training leading to award of an aeronautical designation (rating). Operational flying positions are identified by specific billet code identifiers, either code 1 or code 2, and require the billet incumbent possess DIFOPS orders. All other billets are considered other than operational flying billets. Marine Corps operational flying assignments are determined by CMC (ASM).

b. The following definitions apply:

(1) DIFOPS - Duty in a flying status involving operational or training flights. Officers so ordered by BUPERS or CMC are required to maintain basic flying skills in the performance of their assigned duties and must be assigned to a designated operational flying billet or command. Those officers are considered in DIFOPS status and will accumulate months of operational flying (MOF) time towards meeting ACIP "gate" requirements.

(2) Code 1 — Operational Flying. This category billet (Navy designator codes 1310, 1311, 1321, 1511, 6321, 7321) is derived from the application of crew ratios multiplied against unit equipment aircraft. It is a billet in which an aeronautically designated officer is required to participate as a crewmember in the operation of an aircraft or its weapon systems in support of specific aviation operational missions. Such operational missions include but are not limited to tactical air, ASW, SAR, fleet support, training, test and evaluation, and logistic or staff support.

(3) Code 2 — Operational Flying. This category billet (Navy designator codes 1312, 1320, 1322, 1512, 1812, 2102, 2302, 6322, 7322) requires an aeronautically designated officer to fly frequently and regularly in the performance of his/her assigned duties, but the requirement is not derived from the application of crew ratios against unit equipment aircraft. Designated billets involve crewmember flight duties that vary from complete aircraft/weapon system utilization to those less demanding in airborne duties and frequency of flight. Such operational duties include, but are not limited to, pertinent flight functions involving the exercise of command and control of aircraft, mission support, flight safety, aircrew evaluation, operational readiness, maintenance programs, and weapon test evaluation.

(4) Preceding codes 1 and 2 are not applicable to the Marine Corps.

11.2.1 Aeromedical Officer Flying Policy

a. This policy applies equally to student or designated FSs, aerospace experimental psychologists, aerospace physiologists, and aerospace optometrists.

b. An aeromedical officer who possesses an additional pilot designation and is assigned to an operational flying billet (2102/2302) will fly only as an aeromedical officer, and not as an aeromedical dual designator (AMDD), unless specifically designated and assigned as such. Reference (i) governs selection, training and assignment of AMDDs. Exceptions will require individual authorization by OPNAV (N889) with complete justification forwarded through and endorsed by BUMED.

c. An aeromedical officer is only authorized to fly operationally when ordered DIFOPS, and assigned to a 2102/2302 billet, including when enrolled in aerospace medicine residency or advanced training programs in aerospace/preventive medicine, or a service school. Since the purpose of aeromedical officers flying includes the maintenance of intimate familiarity with the stressors of flight, exposure to all types of flying is essential, including but not limited to shipboard, overwater, operational, night, BFM, and ACM flying commensurate with the officer's aeromedical and security clearances. Commanding officers play a vital role in ensuring the proper and ongoing training of these officers by approving and encouraging such flying.

d. An aeromedical officer who satisfies the requirements of preceding paragraph may fly in actual control of any dual-controlled naval aircraft, and log pilot and co-pilot time, subject to the same limitations as a pilot not qualified in model, including instructional syllabus dual or solo flights taken from a duly approved master curriculum guide. Additionally, an aeromedical officer who is also a rated pilot and satisfies the requirements of preceding paragraph, though not serving as an AMDD, may fly in control of any dual-controlled naval aircraft in all phases of flight, if a NATOPS-qualified PIC is occupying the other cockpit seat. An aeromedical officer who is also a rated NFO may fly as an NFO in any naval aircraft, in all phases of flight, commensurate with his/her qualifications. These privileges may be authorized by local commanders on the basis of the individual aeromedical officer's demonstrated interest and ability.

e. An AMDD who is a rated pilot, and is serving as such under the provisions of reference (i), is authorized to pilot any naval aircraft in all phases of flight, commensurate with his/her qualifications.

f. The following definitions apply:

(1) Officer Billet Designator Code 2102 — This is an operational flying billet for a designated FS (Navy Officer Billet Classification Codes (NOBC) 0110 or 0163) and requires the incumbent to fly frequently and regularly in the performance of assigned duties.

(2) Officer Billet Designator Code 2302 — This is an operational flying billet for a designated naval aerospace experimental psychologist (NOBC 0852), aerospace physiologist (NOBC 0849), or aerospace optometrist (NOBC 0880, AQD 6AN) and requires incumbents to fly frequently and regularly in the performance of assigned duties.

11.2.2 Aviation Operations Officer (AVOPS)

Aviation operations (632X) limited duty officers and aviation operations technicians (732X) chief warrant officers, who are aeronautically designated per NAVPERS 15839I and wear naval aviation observer wings, are classified as aviation operation officers (AVOPS). AVOPS shall meet the flight time requirements for NFOs and FSs.

11.2.3 Additional Ratings

a. Officers possessing additional aeronautical ratings (astronauts, NFOs) will comply with the flight time requirements for pilots (excluding FS).

b. AMDDs, who are pilots and are serving as such under the provisions of reference (i), shall meet the flight time minimums for pilots as set forth in this instruction.

11.2.4 Minimum Flying Hours

To assure an acceptable minimum level of readiness and to enhance aviation safety, the following annual and semi-annual minimum flying hours shall be accomplished. FPT minimums are not required for training command/FRS instructor pilots due to the nature of the training mission.

a. Naval Aviator (Code 1)

Fiscal Year Minimum Flying Hours (Less than 20 Years Aviation Service)

	Semi-annual	Annual
Pilot Time	40	100
Night Time	6	12
Instrument Time	6	12

Note

Pilot time includes time credited as first pilot and copilot. At least 50 percent of all the annual minimum pilot requirements must be gained through flying. Of that, 50 percent must be FPT. CPT may be credited towards the accomplishment of the remaining flying hour requirements. SCT does not count towards satisfaction of the annual pilot time requirements set forth in this instruction. Paragraph 11.6 discusses logging of simulator time.

Instrument time requirements are applicable to both fiscal year and an individual's instrument rating requalification.

For example, an individual must meet instrument flight minimums for both the fiscal year (i.e., October through September) and, during the year, between the date of last instrument checkflight and subsequent instrument checkflight.

Night time requirements for Fighter Squadron Composite (VFC), Naval Test Pilot School (TPS), FRS, CNATRA, and Naval Strike and Warfare Center (NSAWC) instructors, and Defense Contract Management Agency (DCMA) military and contractor aircrew, may be waived by the type wing/aviation TYCOM due to the restrictive nature of the course syllabi or operational constraints.

Marine aviators undergoing phase I training as outlined in reference (z) shall not be accountable for meeting semi-annual/annual minimums as outlined in this instruction until they have received their primary aircraft military occupational specialist (MOS) designations, which are assigned upon completion of phase I training.

b. Naval Aviator (Code 2)

Fiscal Year Minimum Flying Hours (More than 20 Years Aviation Service)

	Semi-annual	Annual
Pilot Time	24	48
Night Time	3	6
Instrument Time	3	6

Note

Fiscal year minimum flying hours for designated naval aviators who have completed 20 years of aviation service and are assigned to operational flying billets designated as 1312, 1320, or 1512 and USMC DIFOPS commands.

Hours do not reduce prerequisite pilot or instrument hours required for NATOPS qualification and instrument ratings (refer to paragraph 13.2).

Individual aviation service entry dates (ASED) should be utilized to determine years of aviation service completed.

c. NFO, Aeromedical Officer, AVOPS, Enlisted and Nondesignated Officers

	Fiscal Year Minimum Flying Hours	
	Semi-annual	Annual
Special Crew Time	24	48

11.2.5 Prorating Minimums

a. Minimum annual/semi-annual flying hour requirements shall be prorated based on each full month an individual is attached to a DIFOPS/DIFCREW billet/command beginning when initially cleared to fly (i.e., an aviator in DIFOPS/DIFCREW status who is assigned to DIFDEN status and departs during July is required to obtain annual/semi-annual flight minimums for the months of October through June. An aviator who detaches from DIFDEN status and joins a DIFOPS/DIFCREW command during April is required to obtain annual/semi-annual flight minimums from May through September).

b. Minimum annual flight time requirements apply only when assigned to permanent duty stations on DIFOPS/DIFCREW orders. They do not apply while en route on permanent change of station (PCS) orders or on TAD assignments in excess of 3 weeks away from the parent command area where flight time activity is not available as determined by the individual's commanding officer.

c. Naval pilots/NFOs undergoing replacement aircrew (RAC/FRS)/refresher training, as outlined by the respective service training manuals, shall not be accountable for meeting semi-annual/annual pilot/special crew minimums as outlined in this instruction until they have completed aviation/refresher training as defined in the applicable training manuals or are transferred from their training squadron/element. The provisions of this paragraph do not preclude the requirement to meet the instrument rating requirements as outlined in figures 11-1, 11-2, and paragraph 13.2.

11.2.6 Aviation Qualification/Currency Requirements Summary

A summary of aviation qualification/currency requirements is shown in figure 11-1 for naval aviators, figure 11-2 for NFOs/AVOPS FSs, and figure 11-3 for naval aircrewmen.

11.2.7 Flying Activity Denied

a. Flying activity is denied when ordered under DIFDEN status.

b. DIFDEN is duty in a flying status not involving flying. Officers and enlisted personnel so designated are prohibited from performing operational crewmember duties except as modified in the following paragraphs. DIFDEN officer personnel will continue to receive continuous ACIP if entitled by the Aviation Career Incentive Act of 1974. Enlisted personnel will continue to receive career enlisted flyer incentive pay (CEFIP), if so entitled.

SEE IC # 39

			Requirements By Flight Status				
			DIFOPS			DIFDEN	
Type Qualification	**Initial Qualification Required**	**Renewal Interval**	**1310/1311/ 1511**	**1312/1320/ 1512/1812**	**USMC**	**1300/1310/ 1510/USMC**	**Waiver Authority**
NATOPS Qualification	N/A	Annually	Yes	No (1)	Yes	No	None
Instrument Rating	Yes	Annually	Yes	No (1)	Yes	No	COMNAVAIRFOR/ CMC
Annual Pilot Hour Minimums	No	Annually	100 Hrs (5)	100 Hrs (5)	100 Hrs (5)	None	COMNAVAIRFOR/CMC COMNAVAIRFORES/ CG FOURTH MAW TYCOMS
Annual Instrument Hours	No	Annually	12 Hrs (5)	12 Hrs (5)	12 Hrs (5)	None	COMNAVAIRFOR/CMC COMNAVAIRFORES/ CG FOURTH MAW
Annual Night Hours (7)	No	Annually	12 Hrs (5)	12 Hrs (5)	12 Hrs (5)	None	COMNAVAIRFOR/CMC COMNAVAIRFORES/ CG FOURTH MAW TYCOMS
Physical Examination	Yes	Annually	Yes	Yes	Yes	Yes	BUMED/BUPERS/ CMC
NASTP	Yes	4 Years (2)	Yes	Yes	Yes	No (6)	TYCOMS (7)
Emergency Egress Training	Yes (3)	Annually (4)	Yes	Yes	Yes	No (6)	TYCOMS

NOTES:

1. Required only if functioning as pilot in command.
2. Refer to paragraph 8.4.
3. Dynamic ejection seat training required prior to flight in aircraft equipped with ejection seat.
4. Static training required prior to flight in different type ejection seat. (Refer to paragraph 8.4.)
5. Annual minimums for naval aviators who have completed 20 years of aviation service are 48 pilot hours, 6 instrument hours and 6 night hours.
6. Required if in flying status with waiver.
7. Initial training requirements may be waived by COMNAVAIRFOR/CMC only.

Figure 11-1. Aviation Qualification/Currency Requirements Summary (Naval Aviator)

			Requirements By Flight Status				
			DIFOPS			DIFDEN	
Type Qualification	**Initial Qualification Required**	**Renewal Interva**	**1310/1311/ 1511/6321/ 7321**	**1320/1322/ 1512/2102/ 2302/6322/ 7322**	**USMC**	**1300/1310/ 1510/USMC /6320/7320**	**Waiver Authority**
NATOPS Qualification	Yes (1)	Annually	Yes	No	Yes	No	None
Instrument Qualification	Yes (6)	Annually	Yes (6)	No (1)	Yes	No	COMNAVAIRFOR/ CMC
Annual Flight Hour Minimums	No	Annually	48 Hrs	48 Hrs	48 Hrs	No	COMNAVAIRFOR/CMC COMNAVAIRFORES/ CG FOURTH MAW TYCOMS
Physical Examination	Yes	Annually	Yes	Yes	Yes	Yes	BUMED/BUPERS/ CMC
NASTP	Yes	4 Years (2)	Yes	Yes	Yes	No (5)	TYCOMS (7)
Emergency Egress Training	Yes (3)	Annually (4)	Yes	Yes	Yes	No (5)	TYCOMS

NOTES:

1. Required only for those FSs holding dual qualification as naval aviator/FS and for NFOs.
2. Refer to paragraph 8.4.
3. Dynamic ejection seat training required prior to flight in aircraft equipped with ejection seat.
4. Static training required prior to flight in different type ejection seat. (Refer to paragraph 8.4.)
5. Required if in flying status with waiver.
6. Required for 6321/7321, holding qualification as a naval officer.
7. Initial training requirements may be waived by COMNAVAIRFOR/CMC only.

Figure 11-2. Aviation Qualification/Currency Requirements Summary (NFO/AVOPS/FS)

Type Qualificatio	Initial Qualification Required	Renewal Interval	Requirements By Flight Status			Waiver Authority
			DIFCREW (Crewmember) 78XX 82XX	DIFTEM (Non Crew)	Prior to Designation	
NATOPS Qualification	N/A	Annually	Yes	No	Yes	TYCOM (8)
Flight Hour Requirement	No	N/A	48/Year	4/Month	As Appropriate	COMNAVAIRFOR/CMC COMNAVAIRFORES/ CG FOURTH MAW/ TYCOMS
Physical Examination	Yes	(6)	Yes	Yes	Yes	BUMED/BUPERS/ CMC
NASTP	Yes (7)	4 Years (1)	Yes	Yes	Yes	TYCOMS (7)
Emergency Egress Training	Yes (2)	Annually (3)	Yes	Yes	Yes	TYCOMS
NEC Requirements	7801/8201	N/A	(4)	(5)	(4)	COMNAVPERSCOM
MOS Requirements						

NOTES:

1. Refer to paragraph 8.4.
2. Dynamic ejection seat training required prior to flight in aircraft equipped with ejection seat.
3. Static training required prior to flight in different type ejection seat. (Refer to paragraph 8.4.)
4. Must qualify for assigned distribution NEC within 18 months. While undergoing training, member must hold a 78XX or 82XX NEC. NEC qualification required prior to designation.
5. If a member is in training for a crewmember position, he/she must hold a 7801 or 8201 NEC. Members assigned under special mission categories do not require NEC identification. (Reference (bs) refers.)
6. Renewal requirements as stated in the Manual of the Medical Department, U.S. Navy, paragraph 15-60.
7. Initial training requirements may be waived by COMNAVAIRFOR/CMC only.
8. Annual NATOPS evaluation (flight and/or ground) may be waived by TYCOM for DIFCREW whose command is not assigned the type aircraft in which individual is qualified. DIFCREW members not within TYCOM chain of command submit to COMNAVAIRFOR (N455) via chain of command.

Figure 11-3. Aviation Qualification/Currency Requirements Summary (NAC)

11.2.7.1 Flying by Individuals in DIFDEN Status

Aeronautically designated officers in DIFDEN status may, on occasion, be required to perform operational flying on a temporary basis to accomplish specific tasks (for example, participation in flying exercises or test programs or to gain familiarity with selected operational weapon systems and procedures). Under such circumstances, the following will apply:

a. Approval is required for individuals to perform aircrew duties in a DIFDEN status. Waiver requests must be forwarded via chain of command to COMNAVAIRFOR (N455) or CMC (ASM), as appropriate. DIFDEN waiver request packages shall include endorsements by the chain of command for the applicant and aircraft involved. Flight waivers may be granted for a single flight, a series of flights involving an exercise or test program, or for gaining familiarity with selected operational weapons systems and procedures. Marine Corps personnel shall refer to MCO 3710.4A for guidance on the issuance of waivers. Flight waivers may also be granted on a tour basis where an aviators flight experience may be utilized periodically during the duty assignment. For personnel receiving flight waivers, minimum annual flight time requirements are not prescribed; however, appropriate NATOPS and other training qualifications apply for:

(1) Officers in pay grade 0-6 and above; a DIFDEN waiver is not required to perform temporary aircrew duties on flights involving exercises, test programs, or weapon system familiarity provided the individuals participation in such flights is required in the performance of assigned duties and responsibilities.

(2) Personnel whose DIFDEN flight activity exceeds approximately five flights per month on a regular basis should consider requesting a DIFDEN waiver or conversion of the billet to DIFOPS status, as appropriate.

b. Commanders must approve the use of command aircraft resources for personnel outside their command. Such approval must be included in the appropriate endorsement on initial submission of the waiver request.

c. Flights in DIFDEN status do not constitute operational flying duty for entitlement purposes or accumulation of operational flying months.

11.2.7.2 Policy Governing Management of DIFDEN Personnel

Competent authority will not be denied the services of aviation personnel assigned combat missions. All ADP on DIFDEN orders serving under circumstances that qualify them for hostile fire pay, regardless of assigned billet, are permitted to perform mission or mission support flight duties if otherwise qualified to fly.

11.2.7.3 DIFOPS/DIFDEN Billet Review/Assignment (U.S. Navy Only)

To ensure that manpower authorizations reflect current DIFOPS billet requirements, commanders shall annually review operational flight taskings and aircraft assignments to determine that individual command DIFOPS/DIFDEN billet requirements are accurately stated. Billet designator change requests are to be submitted in accordance with OPNAVINST 1000.16K. Commanding officers will ensure (via ODCR validation) that only officers under DIFOPS orders are assigned to DIFOPS (13X1, 13X2) billets. Particular attention

must be given to the assignment of the proper aviation billet indicator (ABI) code (DIFOPS = A, DIFDEN = 0). Commands desiring to assign individuals in a DIFOPS status to DIFDEN billets or vice versa must submit a request to BUPERS in accordance with reference (bt). Failure to comply with these provisions will cause improper crediting of MOF and could result in possible ACIP recoupment to affected aviators.

11.2.7.4 Joint Service Battlestaff Personnel Embarked on Naval Aircraft

Personnel of all services serving as battlestaff crewmembers on board Navy E-6 aircraft conducting airborne strategic communications must meet, at a minimum, Life Support Training, Emergency Egress Training, Buddy Care Training and all standards set forth in the Air Force Instruction 11-301 taught at Offutt AFB.

11.2.8 Policy Governing Assignment of Inactive Reserve Personnel

Inactive duty Reserve personnel will be assigned DIFOPS when ordered to an active duty flying drill pay billet. Reservists will be assigned in a DIFDEN status when ordered to specifically identified, nonactive duty flying drill pay billets that require aeronautical experience but not the maintenance of basic flying skills. Determination of billet types will be made by the COMNAVRESFOR or CMC, as appropriate.

11.3 AVIATION CAREER INCENTIVE PAY

11.3.1 Definitions

11.3.1.1 Aviation Service

Aviation service is the active or inactive service performed by an officer who holds or is in training leading to an aeronautical rating or designation.

11.3.1.2 Officer Service

Officer service includes all service creditable under Title 37 U.S.C. section 205 as a commissioned, warrant, and flight officer.

11.3.1.3 Aviation Service Career

An officer on extended active duty who holds an aeronautical designation shall be considered to be performing aviation service on a career basis, as prescribed in Title 37 U.S.C. section 301a, so long as a member of the authorized rated inventory (i.e., commander and below, aeronautically designated) or is serving in pay grade 0-6 or above and is qualified for aviation service.

11.3.2 Policy and Procedures

a. It is DoD policy that officers who are qualified to perform aviation service on a career basis shall receive credit for operational flying duty only during those periods when assigned to designated operational flying assignments. Credit shall not be granted for any period during which a

member is under DIFDEN orders. Officers who were past the 12 or 18 years of aviation service points on 1 June 1974 will be presumed to have had sufficient credit to meet the requirements for those points.

b. Operational flying duty time shall be credited in months. So far as fractions of months are concerned, the 15th day of the month is the break-even point for crediting or not crediting a month. Detachment from operational flying duty after the 15th day of any month or assignment to operational flying duty on or before the 15th day of any month entitles a member to credit for the entire month. The date a member signs out or otherwise vacates an assignment will be used as the date of detachment. The next day will be used as the date of assignment.

c. The number of years of aviation service for computing the appropriate rate of pay is computed beginning with the effective date of the initial order to perform aviation service as an officer. Within the Department of the Navy, the effective date of the initial order to perform aviation service, hereafter referred to as the ASED, is the day, month, and year an individual first reports, on competent orders, to the aviation facility having aircraft in which members will receive their flight training leading directly to the award of an aeronautical designation and continues to accumulate from that date without exception as long as their flight designation remains in effect.

d. Officers medically incapacitated will be considered qualified for aviation service unless such incapacitation continues for more than 1 year. Disqualification for medical incapacity will be effected on the first day following a period of 365 days that commences on the date of incapacitation. Officers disqualified for medical reasons will not be requalified for aviation service until the condition resulting in incapacitation is reevaluated and the officer is certified as medically qualified for operational flying duty by appropriate medical authority. Aviation career incentive pay and operational flying duty credit may not be authorized for any period during which an officer is medically disqualified for aviation service.

11.3.3 Aviation Career Incentive Pay for Rated Members (Rated Members Include Aeronautically Designated Naval Aviators and NFOs)

11.3.3.1 Entitlement Status

Aviation status indicators (ASIs) are one-character codes that are used in various documents such as the Joint Uniform Military Pay System (JUMPS) and ODCRs to indicate an aviation officer's ACIP entitlement status. Figure 11-4 lists the ASI codes and their definitions.

CODE	DEFINITION
A	Continuous ACIP (0 to 12 years) — An aeronautically designated officer or aviation student with ASED prior to 3 Oct 79 or an aeronautically designated officer whose ASED is 2 Oct 79 through 2 Oct 85 who had completed at least 72 MOF as of 2 Oct 91.
B	Continuous ACIP (12 to 18 years) — An aeronautically designated officer with 12 to 18 years of aviation service who has met all criteria for code A and has completed at least 72 MOF prior to 12 years aviation service.
C	Conditional ACIP (12 to l8 years) — An aeronautically designated officer with 12 to 18 years of aviation service who has not performed the required MOF outlined for codes B and T. NOTE: to be entitled to receive ACIP, this officer must: (1) meet DoD Pay Manual flying requirements of 4 hours per month, (2) be under DIFOPS orders, and (3) be in an operational flying billet (billet designator ending in 1 or 2).
D	Continuous ACIP (18 to 25 years) — An aeronautically designated officer with from 18 to 25 years aviation service who has met all criteria for code B and subsequently completed 132 MOF prior to 18 years aviation service.
E	Continuous ACIP (18 to 22 years) — An aeronautically designated officer with from 18 to 22 years of aviation service who has met all criteria for code B and subsequently completed at least 108 but less than 132 MOF prior to 18 years aviation service.
F	Conditional ACIP (over 18 years) — An aeronautically designated officer with from 18 to 22 years of aviation service who has met all criteria of code B but did not complete at least 108 MOF prior to 18 years aviation service. (Note under code C applies.)
G	Conditional ACIP (over 22 years) — An aeronautically designated officer who has met all criteria of code E and has reached 22 years of commissioned service. (Note under code C applies.)
H	ACIP Terminated — An aeronautically designated officer who has been promoted to the paygrade of 0-7 or above and has reached 25 years of commissioned service.
I	Conditional ACIP (over 25 years) — An aeronautically designated officer who has met all criteria for code D and has reached 25 years of commissioned service. (Note under code C applies.)
J	Conditional ACIP — Designated FSs aerospace medical physiologists and aerospace physiologists. These officers have completed a course of study in aerospace medicine and are entitled to conditional ACIP only. (Note under code C applies.)
K	ACIP Termination — An aeronautically designated officer who has had flight status temporarily terminated because of medical incapacitation.
L	ACIP Termination — An aeronautically designated officer who has had flight status permanently terminated through attrition, voluntary termination, or naval aviator evaluation board.
M	ACIP Termination — An aeronautically designated officer who has had flight status permanently terminated because of medical incapacitation.

Figure 11-4. Aviation Status Indicator Codes (Sheet 1 of 2)

CODE	DEFINITION
N	Continuous ACIP (0 to 12 years) — An aeronautically designated officer or aviation student with ASED on or after 1 Oct 85 with less than 12 years aviation service.
O	Continuous ACIP (12 to 18 years) — An aeronautically designated officer with from 12 to 18 years of aviation service who has met all criteria for code N and has completed at least 96 MOF prior to 12 years of aviation service.
P	Continuous ACIP (18 to 25 years) — An aeronautically designated officer with from 18 to 25 years aviation service who has met all criteria for code O or T and completed 144 MOF prior to 18 years aviation service.
Q	Continuous ACIP (18 to 22 years) — An aeronautically designated officer with from 18 to 22 years of aviation service who has met all criteria for code O or T and completed at least 120 but less than 144 MOF prior to 18 years aviation service.
R	Continuous ACIP (0 to 12 years) — An aeronautically-designated officer with ASED prior to 1 Oct 85 who had less than 72 MOF as of 1 Oct 91.
S	Continuous ACIP (12 to 18 years) — An aeronautically designated officer with from 12 to 15 years Aviation service who has met all criteria for code R and completed 72 MOF prior to 12 years aviation service.
T	Continuous ACIP (12 to 18 years) — An aeronautically designated officer with from 15 to 18 years aviation service who has met all criteria for code S and completed 108 MOF prior to 15 years aviation service.

Figure 11-4. Aviation Status Indicator Codes (Sheet 2 of 2)

11.4 ENLISTED CREWMEMBERS

11.4.1 Navy Crewmembers

a. Enlisted crewmembers are divided into three general categories: career crewmembers, non-career crewmembers, and non-crewmembers.

(1) Career Crewmember (also known as Career enlisted flyers). An enlisted crewmember who holds a 78XX, 82XX or 94XX NEC or is in a N889-approved training pipeline leading to the award of one of those NECs. They are designated as naval aircrewmen and are primarily detailed by BUPERS-404E or NAVRESPERS-CEN-417 throughout their career into flying billets (DIFCREW orders) and non-flying billets (DIFDEN orders). They are eligible for CEFIP.

(2) Non-career Crewmembers. Those individuals, not necessarily designated as naval aircrewmen, physically qualified to fly, who participate regularly in aerial operations and are assigned duty involving flying under DIFCREW orders. They are not designated as career enlisted flyers and are not eligible for CEFIP. Non-career crewmembers receive crew HDIP for flying when assigned DIFCREW orders.

(3) Non-crewmember. Those personnel whose duties require frequent and regular participation in aerial flights to perform in-flight functions that cannot be performed by other members already under flight orders. These personnel receive special mission flight orders for duty involving flying (temporary) (DIFTEM) as authorized by the appropriate allocation manager.

b. Minimum flight requirements for enlisted DIFCREW, DIFDEN, and DIFTEM flyers are set forth in figure 11-3 and reflect the requirements contained in the DoD Pay Manual. Career crew members participating in the CEFIP must meet annual flight hour requirements in order to accumulate MOF time towards meeting CEFIP "gate" requirements. CEFIP crewmembers are not required to meet HDIP flight hour minimums. Minimum requirements to obtain and maintain aircrew qualifications are covered in chapter 12 of this instruction and type/model/series aircraft NATOPS manuals.

c. Warfare systems operators and those personnel assigned by BUPERS under a distribution NEC of 82XX or 94XX are considered aeronautically designated enlisted crewmembers. Non-career crewmembers and non-crewmembers are not aeronautically designated.

11.4.2 Marine Corps Crewmembers

a. Enlisted crewmembers are assigned to temporary indefinite flight status for periods of not less than 120 days. Crewmember flight orders are issued to the following personnel:

(1) Personnel who are specifically assigned as regular full-time members of flightcrews, such as aircraft flight engineers, airborne radio operators, and enlisted navigators.

(2) Crewchiefs and assistant crewchiefs.

(3) Instructors whose duties require that they give in-flight instruction as part of a formal school curriculum.

(4) Personnel assigned to airborne command posts.

(5) Communication system operator.

(6) NATOPS evaluators/instructors.

b. Enlisted non-crewmembers are assigned to temporary indefinite or definite flight orders. Non-crewmember flight orders are issued to the following personnel:

(1) Personnel in an approved course that includes instruction in the curriculum.

(2) Personnel assigned duties requiring participation in aerial flight for special purposes that cannot be performed by a person already in receipt of flight orders.

(3) Personnel in an approved course of instruction to qualify as a helicopter aerial gunner/observer.

(4) Personnel assigned as qualified aerial gunners/observers.

(5) Personnel whose duties require participation in aerial flight to perform test, research, or evaluation of airborne technical equipment that cannot be performed by crewmembers.

c. Minimum flight requirements for all Marine enlisted crewmembers are set forth in the DoD Pay Manual. Minimum requirements to be met in order to obtain/maintain aircrew qualifications/designations are covered in chapter 12 of this instruction and the aircraft NATOPS manuals.

11.4.3 Hazardous Duty Incentive Pay for Enlisted Member/ Aeronautically Designated Enlisted and Nondesignated Officers

An enlisted member or nondesignated officer who is required by orders to participate in frequent and regular aerial flights must meet DoD Pay Manual flying requirements to be entitled to receive HDIP.

Note

Refer to MILPERSMAN and chapter 12 of this instruction for policies concerning failure to meet flying hour minimums.

11.5 WAIVERS OF MINIMUM FLYING REQUIREMENTS

11.5.1 Authority to Waive

COMNAVAIRFOR, CMC, COMNAVAIRFORES, CG FOURTH MAW, COMNAVEDTRACOM, and CNATRA may waive any or all of the minimum annual requirements specified in this chapter, except flight pay requirements, when it is determined that the assignment of ADP to a particular billet makes it impractical to fulfill the annual requirements. CHNAVPERS is authorized to waive CEFIP. Waivers are not authorized for personnel on conditional ACIP/CEFIP.

11.5.2 Action Required

a. Commanding officers and administrative seniors shall review flight records of assigned aeronautically designated officers at the end of each fiscal year. Personnel who are deficient in the minimum flight time requirements stated in this chapter shall submit individual waiver requests (figure 11-5) containing the following information (Report Symbol OPNAV 3710-19):

(1) Rank, name, last 4 digits of social security number, designator/MOS.

(2) ASED.

(3) Instrument, night, and total flight time for the fiscal year by quarter.

(4) A signed copy of the DD Form 2808 and medical endorsement if pertinent.

OR

(5) A signed copy of the DD Form 2808 (or SF 88) and medical endorsement if pertinent.

10 March 03

From: LT John K. Doe, USN, XXXX/1310
To: (Appropriate command listed in section 11.5.1),
Naval Air Forces (N455)
Via: (Chain of command)

Subj: REQUEST FOR WAIVER OF FY XX MINIMUM TIME REQUIREMENT

Ref: (a) OPNAVINST 3710.7

1. Per reference (a), the following request for waiver of minimum flight hours is submitted:

(1) LT John K. Doe, USN, XXXX/1310
(2) ASED: 970110
(3)

Type	QTR1	QTR2	QTR3	QTR4
INST	3.8	2.9	0	0
NIGHT	15.9	3.0	0	0
TOTAL	43.9	31.0	0	0

(4) N/A
(5) DIFOPS
(6) N/A
(7) Enroute: 17-29 MAR 02; Date of Arrival: 29 MAR 02
(8) OPNAV (DCNO) (N130F)
(9) PERS PLN/HD PERSONNEL EXCHANGE PGM SEC/13135/1000
(10) (Cause for flight time delinquency)

John K. Doe
LT USN

3710-F042

Figure 11-5. Minimum Flight Time Requirements Waiver Request

(6) Type of orders issued (DIFOPS or DIFDEN) and dates to determine months DIFOPS/DIFDEN during the fiscal year.

(7) Significant temporary additional duties that prevented the achieving of required flight time, if applicable.

(8) PCS en route delays and date of arrival at final DIFOPS duty station, if applicable.

(9) Name(s) of command(s) and associated unit identification code(s)/reporting unit code (UIC/RUC) and dates assigned during the fiscal year.

(10) Billet title(s) assigned and associated billet sequence code(s) and designator code(s) as listed on the activities allowance or appropriate Marine Corps during the fiscal year.

(11) Cause for the flight time delinquency.

b. Waiver requests shall be marked "For Official Use Only" and forwarded to the appropriate command listed in section 11.5.1. Commanding officers and administrative seniors may forward a consolidated list of those individuals (name/rank/last 4 digits of SSN) that are recommended/endorsed for flight time waivers. Waivers endorsed as "not approved" by aviation TYCOMs shall be forwarded to COMNAVAIRFOR or CMC for final disposition. If aircraft availability or scheduling problems prevented accomplishment of flight minimums, the reporting custodian shall provide an appropriate endorsement for the waiver request fully outlining those circumstances that were beyond the control of the individual.

c. Waiver requests shall be submitted within 30 days following the end of the reporting period or when it becomes apparent that the minimums will not be met. Any delay in submission must be satisfactorily explained by the individual and addressed in the forwarding endorsement.

Note

Administration of the semi-annual minimum flying hour program for naval personnel is the responsibility of the individual concerned and command assigned. A waiver of semi-annual minimums is not required.

d. Flight status selection board (FSSB) actions that may be taken in response to waiver request from Navy personnel include:

(1) Granting waiver.

(2) Conversion of billet to DIFDEN status.

(3) Issuing letter of caution.

(4) Direct convening of a locally constituted field naval aviation evaluation board (FNAEB) to consider the flight time deficiency.

(5) Direct in the case of captains and above, via BUPERS, a specified case may be referred to the Navy Department Naval Aviation Evaluation Board.

e. Marine Corps commanding officers will review the flight performance of all personnel assigned to their commands on a quarterly basis. Any personnel whose performance becomes suspect for any reason shall be processed in accordance with paragraph 1215 of reference (br).

f. Navy Enlisted Crewmembers — For information on waivers of the minimum annual CEFIP MOF requirements, contact BUPERS (PERS-404E) or Aircrew Enlisted Community Manager (OPNAV (N132)).

11.5.3 Assignment of Other Than Permanently Designated Aeronautical Personnel

Flight status for technical observers and enlisted personnel assigned as crew or non-crewmembers will be terminated when their assigned duties do not require regular and frequent flights. Commanding officers and administrative seniors shall continually review the requirements for temporary flight orders for enlisted or duty involved flying as a technical observer (DIFTECH) for

officer personnel. Personnel shall be ordered to flight duties or recommendations made to competent authority for issuance of flight orders to meet only the essential flight requirements of the command. Whenever the duties assigned to an individual no longer require regular and frequent participation in aerial flights, the commanding officer shall terminate temporary flight orders immediately; and, in the case of officer personnel, recommend to BUPERS or CMC, or other competent authority, cancellation of orders to DIFTECH. A requirement that formerly resulted in assignment to flight duties and that is no longer current shall not be a basis for continuing a member on temporary flight order or DIFTECH. The assignment to flight duties shall not constitute a reward for accomplishment in a nonflying billet.

11.6 POLICY GOVERNING LOGGING, REPORTING, AND USE OF SIMULATOR TIME

Procedures have been established to inaugurate the formal logging and reporting of aircraft simulator time. Time acquired in approved devices shall be logged on the naval aircraft flight record in the same manner as aircraft flight time. Detailed instructions for logging and reporting simulator time are contained in chapter 10. Substitution of simulator time to satisfy the minimum proficiency requirements of this instruction is allowable for pilots, NFOs, and aircrew members. Additionally, an individual record of simulator time shall be maintained in OPNAV 3760/31.

11.6.1 Policy Governing Flying Time Substitution

The Navy has examined appropriately configured and instrumented flight simulators to determine the suitability of substituting time accumulated in such simulators for a portion of the total annual minimum flying time requirements. The concept is cost effective and enhances maintenance of procedural competency.

a. Pilots, NFOs, and aircrewmen who have access to any of the authorized flight simulators as approved by (COMNAVAIRFOR/CMC) shall utilize them, as practicable, in maintaining basic aeronautical skills.

b. Aircrew utilizing simulators to facilitate the maintenance of basic aeronautical skills may log simulator time (first pilot/copilot/special crew) to satisfy up to 50 percent of any annual or semi-annual flying hour minimums as delineated in paragraph 11.2.4 (except night time requirements).

Note

Simulator time is intended to assist in satisfying annual or semi-annual flight time requirements. It should not be used toward the attainment of specific currency requirements as it is not a substitute for proficiency gained through actual flight in aircraft.

The substitution of simulator time for aircrewmen applies to proficiency requirements only. It does not apply to attainment of minimum flight time for pay purposes as discussed in paragraph 11.4.3.

11.6.2 Policy Governing NATOPS Evaluation Flight Substitution

At the discretion of the squadron or unit commander, the NATOPS evaluation or any portion thereof may be conducted in a simulator that will satisfy the requirements imposed in specific evaluation areas.

11.7 INDIVIDUAL AND COMMAND RESPONSIBILITIES

11.7.1 Supervision

Commanding officers and administrative seniors shall supervise and administer flights under their command to ensure maximum training effectiveness per flight hour. Commands shall verify that BUPERS/CMC orders indicate DIFOPS, DIFCREW, DIFTEM, or DIFDEN status and Medical Service Group of ADP reporting for duty in a flying status.

11.7.2 Responsibilities

Each individual and respective responsible senior (i.e., commanding officer or administrative senior) is accountable for compliance with these instructions. Responsible seniors shall ensure that sufficient opportunities are afforded all ADP under their command to comply with the annual minimum individual flying time requirements set forth herein.

11.8 REVOCATION OF ORDERS TO DUTY INVOLVING FLYING

Matters concerning the revocation of flight status for Marine Corps ADP should see reference (br). In addition to the procedures outlined in paragraph 11.7, orders to duty in a flying status will be revoked by competent authority in the case of those ADP who:

a. Voluntarily request DIFDEN.

b. Fail to meet aviation physical or psychological qualifications.

c. Fail to meet aeronautical standards or for other valid reasons are recommended for nonflying duties by an FNAEB, or in the case of the Marine Corps, an FSSB.

d. Have passed statutory retirement.

CHAPTER 12

Classification and Qualification of Flight Personnel

12.1 SCOPE

This chapter prescribes flight personnel classifications and establishes minimum requirements for various qualifications. Requirements prescribed here shall be used as the minimum when preparing aircraft NATOPS manuals or other amplifying directives.

12.2 MULTIPILOTED FIXED-WING AIRCRAFT (PILOT)

12.2.1 Pilot Classification

12.2.1.1 Classification

The following classifications are established for pilots of multipiloted fixed-wing aircraft requiring a qualified copilot to ensure accomplishment of the mission. The requirement for qualification as third pilot is optional. All requirements set forth herein for qualification as third and second pilot shall be met prior to designation as second pilot.

a. Aircraft commander.

b. Second pilot.

c. Third pilot.

12.2.1.2 Descriptive Titles

The foregoing classifications do not prohibit the use of descriptive titles that are indicative of a distinct aircraft class or employment (i.e., patrol plane commander, transport plane commander, COD transport plane commander, patrol plane second pilot, etc.). A descriptive title must be compatible with a significant feature of both the aircraft and its employment. For example, a pilot who qualifies for aircraft commander in a patrol class aircraft transporting passengers and cargo would qualify as a plane commander, not as a patrol plane commander or transport plane commander.

12.2.2 Specific Requirements for Qualification

The requirements listed below shall be met by pilots qualifying in multipiloted fixed-wing aircraft requiring a qualified copilot to ensure accomplishment of the mission. Commanding officers and qualifying authorities, or higher authority, shall prescribe proficiency standards, detailed factors, and specific minimums based on this chapter, the class and model aircraft, and unit mission. Within each classification, the weight and emphasis on the factors enumerated must be determined by the activity. The hours specified are the minimum required and they may be increased in individual manuals as aircraft increase in size and/or complexity. Waivers of minimums may be granted by the

appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary to accomplish events of the unit mission.

12.2.2.1 Third Pilot

To be qualified as a third pilot, an individual shall:

a. Have pilot time in class and model as required by the commanding officer or higher authority and demonstrate a satisfactory level of skill in the following:

(1) Ground handling.

(2) Flight technique in normal and emergency procedures.

b. Demonstrate thorough knowledge through oral and/or written examination in the following:

(1) Model aircraft and all associated equipment (flight manual).

(2) Fuel weight, aircraft configuration, and store/cargo loading as they affect takeoff, mission, and landing performances.

(3) Appropriate NATOPS manual or certified/approved civilian manuals for aircraft authorized to operate without a NATOPS manual.

(4) Survival and first-aid.

(5) Applicable technical orders and notes, COMNAVAIRSYSCOM instructions and technical directives, OPNAV instructions, Federal Aviation Regulations, ICAO procedures, and SCATANA plans.

(6) SAR procedures.

(7) Communication.

(8) Unit mission and tactics.

(9) Flight planning.

(10) Local and area flight rules.

(11) Flight safety.

c. Possess a current instrument rating.

12.2.2.2 Second Pilot

To be qualified as a second pilot, an individual shall:

a. Complete the requirements for and possess to an advanced degree the knowledge, level of skill, and capabilities required of a third pilot.

b. Have pilot time in class and model as required by the commanding officer or higher authority and demonstrate a high level of skill in the following:

(1) Tactical employment of the aircraft and all associated equipment in all tasks of the unit mission.

(2) Operation instrument flying and night tactical operations in model.

c. Possess a current instrument rating.

d. Demonstrate ability to direct and train officers and enlisted personnel of the flight crew.

e. Demonstrate thorough knowledge through oral and/or written examination of the following:

(1) Unit mission and tactics.

(2) Fleet and type tactical instructions and doctrine.

(3) Applicable portions of NWPs, fleet exercise publications (FXPs), Joint Army, Navy, Air Force publication (JANAP) s, Allied communication publications (ACPs), and ATPs.

(4) Recognition applicable to unit mission.

f. Satisfactorily complete a NATOPS evaluation or similar evaluation for aircraft authorized to operate without a NATOPS manual in model.

12.2.2.3 Aircraft Commander

To be qualified as an aircraft commander, the NATOPS manual (or applicable model manager directive for aircraft authorized to operate without a NATOPS manual) must establish the designation for the particular model and an individual shall:

a. Complete the requirements for and possess to an advanced degree the knowledge, skill, and capabilities of a second pilot.

b. Have a minimum of 700 hours total individual pilot time.

c. Have a minimum of 100 hours pilot time in class and be NATOPS-qualified (either via NATOPS or a model manager approved qualification process for aircraft authorized to operate without a NATOPS manual) in model.

d. Possess a current instrument rating.

e. Demonstrate positive ability to command and train the officers and enlisted of the flightcrew including enforcement of proper air discipline.

f. Demonstrate the qualities of leadership and mature judgment required to conduct advanced base or detached unit operations as officer in charge.

12.2.3 General Requirements for Qualification

12.2.3.1 Initial Qualification

On initial qualification for command, a pilot will normally be required to progress through third and second pilot classifications before being allowed to qualify for aircraft commander.

12.2.3.2 Requalification

a. After having gained initial qualification, requalification in model or qualification in another model of the same class will not require progression through lower classifications. Such requalification or qualification shall consist of an appropriate checkout, including a minimum flight-familiarization phase as established by the commanding officer or higher authority, and demonstration of the knowledge, proficiency, and capabilities commensurate with desired classification.

b. After having gained initial qualification in a type and class of aircraft, on subsequent qualification in another type or class, progression through any of the lower classifications may be required by the qualifying authority if such a course is considered necessary to ensure proper qualification. The same procedure may be required of pilots who report to a command, unit, or activity whose mission includes tasks or employment that demand operational and tactical knowledge or proficiency differing appreciably from that gained on initial qualification.

12.2.3.3 Time Limits

Under normal conditions, a pilot serving in a billet that requires eventual qualification as aircraft commander will gain initial qualification within 24 months after being cleared to fly in the command. Requalification after lapse of qualification should be attained within 6 months. Aviation TYCOMs, using these limits as a guide, shall establish specific maximum time limits for qualification and requalification based on the class aircraft and unit employment. Amplifying instructions shall prescribe procedures for the disposition of pilots who fail to qualify within the specified time limit.

12.3 MULTIPILOTED ROTARY-WING AIRCRAFT (PILOT)

12.3.1 Pilot Classification

The following classifications are established for pilots of multipiloted rotary-wing aircraft that may or may not require a qualified copilot to ensure accomplishment of the mission.

a. Helicopter aircraft commander.

b. Helicopter second pilot.

12.3.2 Specific Requirements for Qualification

Requirements listed below are to be met by pilots qualifying in multipiloted rotary-wing aircraft. Commanding officers and qualifying authorities, or higher authority, shall prescribe proficiency standards, detailed factors, and specific minimums based on this chapter, class and model aircraft, and the unit

mission. Within each classification, the weight and emphasis on the factors enumerated must be determined by the activity. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary to accomplishment of the unit mission.

12.3.2.1 Helicopter Second Pilot

In addition to being a designated helicopter pilot, a helicopter second pilot shall:

a. Have pilot hours in class and model as required by the commanding officer or higher authority and demonstrate satisfactory proficiency in the following:

(1) Ground handling.

(2) Flight technique in normal and emergency procedures for flight including autorotation and the use of flotation gear, if applicable.

(3) Navigation (all types applicable to unit mission and model aircraft).

(4) Tactical employment of the aircraft and associated equipment in all tasks of the unit mission.

(5) Night tactical operations and operational instrument flying within the capability of the model.

b. Possess a current instrument rating.

c. Demonstrate knowledge through oral and/or written examination on the following:

(1) Model aircraft and all associated equipment.

(2) Operational performance in all flight maneuvers.

(3) Weight and balance.

(4) Appropriate NATOPS manual.

(5) Survival and first-aid.

(6) Applicable technical orders and notes, OPNAV instructions, FAR, ICAO procedures, SCATANA plans, and NAVAIRSYSCOM instructions and technical directives.

(7) SAR procedures.

(8) Communication.

(9) Unit mission and tactics.

(10) Navigation.

(11) Flight planning.

(12) Local and area flight rules.

(13) Fleet and type tactical instructions and doctrine.

(14) Applicable portions of NWPs, FXPs, JANAPs, ACPs, and ATPs.

(15) Recognition applicable to unit missions.

d. Satisfactorily complete a NATOPS evaluation in model.

12.3.2.2 Helicopter Aircraft Commander

To be qualified as a helicopter aircraft commander, the NATOPS manual shall establish the designation for the particular model, and an individual shall:

a. Have completed the requirements for and possess to an advanced degree the knowledge, proficiency, and capabilities of a second pilot.

b. Have a minimum of 500 total flight hours.

c. Have 150 flight hours in rotary-wing aircraft.

d. Have pilot hours in class and model required by the commanding officer or higher authority and demonstrate the proficiency and judgment required to ensure the successful accomplishment of all tasks of the unit mission.

e. Demonstrate ability to command and train the officers and enlisted members of the flightcrew.

f. Demonstrate the qualities of leadership required to conduct advanced base or detached unit operations as officer in charge when such duty is required as part of the units mission or method of operation.

12.3.3 General Requirements for Qualification

12.3.3.1 Initial Qualification

On initial qualification for command of multipiloted rotary-wing aircraft, a pilot will normally be required to progress through the second pilot category before being allowed to qualify for aircraft commander.

12.3.3.2 Requalification

a. After having gained initial qualification, requalification in model or qualification in another model of the same class will not require progression through lower classifications. Such requalification or qualification shall consist of an appropriate checkout, including a minimum flight familiarization phase as established by the commanding officer or higher authority and demonstration of the knowledge, proficiency, and capabilities commensurate with desired classification.

b. After having gained initial qualification in a type and class aircraft, on subsequent qualification in another type or class, progression through any of the lower classifications may be required by the qualifying authority if such a course is considered necessary to ensure proper qualification. The same procedure may be required of pilots who report to a command, unit, or activity whose mission includes tasks or employment that demand operational and tactical knowledge or proficiency differing appreciably from that gained on initial qualification.

c. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary for the accomplishment of the unit mission.

12.3.3.3 Time Limits

Under normal conditions, a pilot serving in a billet that requires eventual qualification as aircraft commander will gain initial qualification as such within 24 months after being cleared to fly in the command. Requalification after lapse of qualification should be attained within 6 months. Aviation TYCOMs, using these limits as a guide, shall establish specific maximum time limits for qualification and requalification based on the class aircraft and the unit employment. Amplifying instructions shall prescribe procedures for the disposition of pilots who fail to qualify within the specified time limit.

12.4 MULTIPILOTED TILTROTOR AIRCRAFT (PILOT)

12.4.1 Pilot Classification

The following classifications are established for pilots of multipiloted tiltrotor aircraft that may or may not require a qualified copilot to ensure accomplishment of the mission:

a. Tiltrotor aircraft commander.

b. Tiltrotor second pilot.

12.4.2 Specific Requirements for Qualifications

Requirements listed below are to be met by pilots qualifying in multipiloted tiltrotor aircraft. Commanding officers and qualifying authorities, or higher authority, shall prescribe proficiency standards, detailed factors, and specific minimums based on this chapter, class and model aircraft, and the unit mission. Within each classification, the weight and emphasis on the factors enumerated must be determined by the activity. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary to accomplishment of the unit mission.

12.4.2.1 Tiltrotor Second Pilot

A tiltrotor second pilot shall:

a. Have completed a formal fixed-wing syllabus administered by CNATRA or other established training activity.

(1) Have a minimum of 200 total flight hours.

(2) Have a minimum of 30 flight hours in helicopters.

(3) Have a minimum of 30 flight hours in fixed-wing aircraft.

b. Have pilot hours in class and model as required by the commanding officer or higher authority and demonstrate satisfactory proficiency in the following:

(1) Ground handling.

(2) Flight technique in normal and emergency procedures for flight including dual engine failures and the use of flotation gear, if applicable.

(3) Navigation (all types applicable to unit mission and model aircraft).

(4) Tactical employment of the aircraft and associated equipment in all tasks of the unit mission.

(5) Night tactical operations and operational instrument flying within the capability of the model.

c. Possess a current instrument rating.

d. Demonstrate knowledge through oral and/or written examination on the following:

(1) Model aircraft and all associated equipment.

(2) Operational performance in all flight maneuvers.

(3) Weight and balance.

(4) Appropriate NATOPS manual.

(5) Survival and first-aid.

(6) Applicable technical orders and notes, OPNAV instructions, FAR, ICAO procedures, SCATANA plans, and NAVAIRSYSCOM instructions and technical directives.

(7) SAR procedures.

(8) Communication.

(9) Unit mission and tactics.

(10) Navigation.

(11) Flight planning.

(12) Local and area flight rules.

(13) Fleet and type tactical instructions and doctrine.

(14) Applicable portion of NWPs, FXPs, JANAPs, ACPs, and ATPs.

(15) Recognition applicable to unit missions.

e. Satisfactorily complete a NATOPS evaluation in model.

12.4.2.2 Tiltrotor Aircraft Commander

To be qualified as a tiltrotor aircraft commander, the NATOPS manual shall establish the designation for the particular model, and an individual shall:

a. Have completed the requirements for and possess to an advanced degree the knowledge, proficiency, and capabilities of a second pilot.

b. Have a minimum of 500 total flight hours.

c. Have 100 flight hours in tiltrotor aircraft.

d. Have pilot hours in class and model required by the commanding officer or higher authority and demonstrate the proficiency and judgment required to ensure the successful accomplishment of all tasks of the unit mission.

e. Demonstrate ability to command and train the officers and enlisted members of the flightcrew.

f. Demonstrate the qualities of leadership required to conduct advanced base or detached unit operations as officer in charge when such duty is required as part of the units mission or method of operation.

12.4.3 Initial Qualification

On initial qualification for command of multipiloted tiltrotor aircraft, a pilot will normally be required to progress through the second pilot category before being allowed to qualify for aircraft commander.

12.4.4 Requalification

a. After having gained initial qualification, requalification in model or qualification in another model of the same class will not require progression through lower classifications. Such requalification or qualification shall consist of an appropriate checkout including a minimum flight familiarization phase as established by the commanding officer or higher authority and demonstration of the knowledge, proficiency, and capabilities commensurate with the desired classification.

b. After having gained initial qualification in a type and class aircraft, on subsequent qualification in another type or class, progression through any of the lower classifications may be required by the qualifying authority if such a course is considered necessary to ensure proper qualification. The same procedure may be required of pilots who report to a command, unit, or activity whose mission includes tasks or employment that demand operational and tactical knowledge or proficiency differing appreciably from that gained on initial qualification.

c. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary for the accomplishment of the unit mission.

12.4.5 Time Limits

Under normal conditions, a pilot serving in a billet which requires eventual qualification as aircraft commander will gain initial qualification, as such, within 24 months after reporting to the command. Requalification after lapse of qualification should be attained within 6 months. Aviation TYCOMs, using these limits as a guide, shall establish specific maximum time limits for qualification and requalification based on the class aircraft and the unit employment. Amplifying instructions shall prescribe procedures for the disposition of pilots who fail to qualify within the specified time limit.

12.5 NAVAL FLIGHT OFFICERS

12.5.1 Naval Flight Officer Classification

12.5.1.1 Classification

The following classifications are established for NFO crewmembers of aircraft requiring a qualified NFO crewmember to ensure accomplishment of the mission.

a. Tactical coordinator (VP, VS).

b. Navigator (VR, VQ).

c. Radar intercept officer (VF).

d. Weapon Systems Officer (VFA, VMFA).

e. Combat information center officer/air control officer (VAW).

f. Electronic warfare evaluation officer (VQ).

g. Electronic countermeasures officer (VAQ).

h. Airborne communication officer (VQ).

i. Supporting arms coordinator (airborne) (VMO).

12.5.1.2 Intermediate Classification

The foregoing classifications do not prohibit the use of intermediate classifications that are indicative of a distinctive aircraft class or employment. Such classifications must serve to indicate progress and achievement levels prior to final qualifications (i.e., patrol plane navigator and patrol plane tactical navigator indicate progress toward designation as undersea warfare tactical coordinator for patrol class aircraft).

12.5.2 Specific Requirements for Qualification

The requirements listed below shall be met by NFOs qualifying in aircraft requiring a qualified NFO crewmember to ensure accomplishment of the mission. Commanding officers and qualifying authorities, or higher authority, shall prescribe proficiency standards, detailed factors, and specific minimums based on this chapter, the class and model aircraft, and the unit mission. Within each classification, the weight and emphasis on the factors enumerated must be determined by the activity. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary to accomplishment of the unit mission. To be qualified as an NFO crewmember for a specific class and model of aircraft, an individual shall:

a. Have flight hours in class and model as required by the commanding officer or higher authority and demonstrate a satisfactory level of skill in the following:

(1) Tactical employment of the aircraft and all associated equipment in all tasks of the unit mission.

(2) Flight technique during normal and emergency procedures.

(3) Navigation (all types applicable to unit mission and aircraft model).

b. Demonstrate thorough knowledge through oral and written examination on the following:

(1) Model aircraft and all associated equipment (flight manual).

(2) Unit mission and tactics.

(3) Fleet and type tactical instructions and doctrine.

(4) Applicable portions of NWPs, FXPs, JANAPs, ACPs, and ATPs.

(5) Recognition applicable to unit mission.

(6) Communication.

(7) Navigation.

(8) Flight planning.

(9) Local and area flying rule.

(10) Flight safety.

(11) SAR procedures.

(12) Survival and first-aid.

(13) Fuel weight, aircraft configuration, and store/cargo as they effect takeoff, mission, and landing performance.

(14) Applicable technical orders and notes, COMNAVAIRSYSCOM instructions and technical directives, OPNAV instructions, Federal Aviation Regulations, ICAO procedures, and SCATANA plans.

(15) Appropriate NATOPS manual.

c. Possess current instrument qualifications as delineated in chapter 13.

d. Satisfactorily complete a NATOPS evaluation in model.

12.5.3 General Requirements for Qualification

12.5.3.1 Initial Qualification

On initial qualification, an NFO will normally be required to progress through any prescribed intermediate classification levels before being qualified in class and model.

12.5.3.2 Requalification

a. After having gained initial qualification, requalification in model or qualification in another model of the same class will not require progression through intermediate classification levels. Such requalification or qualification shall consist of an appropriate checkout, including a minimum flight-familiarization phase as established by the commanding officer or higher authority, and demonstration of possession of the knowledge, proficiency, and capabilities commensurate with the classification.

b. After having gained initial qualification in a type and class of aircraft, on subsequent qualification in another type or class, progression through any intermediate classification may be required of NFOs who report to a command, unit, or activity whose mission includes tasks or employment that demand operational and tactical knowledge or proficiency differing appreciably from that gained on initial qualification.

12.5.3.3 Time Limits

Under normal conditions, an NFO serving in a billet that requires eventual qualification as an NFO crewmember will gain initial qualification, as such, within 24 months after being cleared to fly in the command. Requalification after lapse of qualification should be attained within 6 months. Aviation TYCOMs, using these limits as a guide, shall establish specific maximum time limits for qualification and requalification based on the class of aircraft and the unit employment. Amplifying instructions shall prescribe procedures for the disposition of NFOs who fail to qualify within the specified time limit.

12.6 MARINE AERIAL NAVIGATION OFFICER

a. For navigators of aircraft requiring a qualified aerial navigation officer, the following classification is established: aerial navigation officer (transport/aerial refueler aircraft).

b. The following are the specific requirements for qualification:

(1) Must have successfully completed the Aerial Navigator School.

(2) Must meet the requirements delineated in paragraph 12.5.2, as applicable.

12.7 QUALIFICATIONS OF UAS FLIGHTCREW

Training and qualification requirements for UAS shall be formally established by instruction to include medical qualifications and formal syllabus requirements for each operator position.

12.8 TRAINING OF ENLISTED FLIGHT PERSONNEL

12.8.1 General

This section amplifies the requirements for training enlisted personnel in a flight status contained in MILPERSMAN, articles 1220-010 and 1220-020, DoD Pay Manual, part 2, chapter 1, articles 20101-20114 inclusive and reference (bs).

12.8.2 Flight Records

Commanding officers of units having allocations of enlisted flight orders shall ensure that all enlisted flightcrew are documented in accordance with chapter 10 of this instruction. MIFAR will be used as the individuals flying time record.

12.8.3 Auditing of Enlisted Flight Record

A flight order audit board shall be appointed by the commanding officer and consists of at least three officers. One shall be from the supply department (when assigned) and one from the operations department. The board shall audit enlisted flight records to ensure that all requirements for hazardous duty pay have been met. The audit should be performed immediately following the end of each month in accordance with reference (bs) or reference (bu) and prior to the submission of flight certificates. All entries and documents pertaining to flight order administration shall be included.

12.8.4 Allocation of Temporary Flight Orders

Commanding officers shall submit their requirements for non-crewmember special mission flight orders as required by higher authority. When flight orders and monetary limitations are received, they allocate them within their command. Temporary flight orders (DIFTEM) shall only be allocated to individuals by BUPERS or Naval Reserve Personnel Center (NAVRESPERSCEN). DIFTEM, as well as non-crewmember special mission aircrew orders, shall be issued only to those personnel who have been found physically qualified in accordance with MANMED and have satisfied the requirements of applicable paragraphs of chapter 8 of this instruction.

12.9 CLASSIFICATION AND QUALIFICATION OF NAVAL AIRCREWMAN

12.9.1 Naval Aircrewman Classification

Classifications of NAC are established in the Navy Enlisted Classification Code Manual (NAVPERS 18068F), the Military Occupation Specialty Manual, aircraft NATOPS manuals, and other applicable naval directives.

12.9.2 General Requirements for Positional Qualification as a Naval Aircrewman

All NAC shall meet the following requirements for qualification and requalification.

a. Comply with requirements of chapter 8.

b. Complete type wing commander positional requirements.

c. Complete a NATOPS evaluation in the crew position in accordance with the applicable NATOPS manual.

d. In lieu of sub paragraph c above, complete a prescribed operating/ standardization evaluation in accordance with applicable model manager directives for aircraft authorized to operate without NATOPS manual.

12.9.3 Proficiency

A naval aircrew designation is valid only in the aircraft model (refer to the glossary) (P-3, H-46, SH-60, etc.) in which the qualification was achieved. Proficiency in all requirements for initial qualification must be maintained and demonstrated periodically. Regular performance of aircrew duties sufficient to satisfy the requirements for crewmember flight orders is the minimum proficiency standard to retain qualification.

12.9.4 Maximum Time Limit for Positional Qualification as Naval Aircrewman

a. Personnel under DIFCREW orders shall be allowed a maximum of 18 months from the date of reporting onboard for duty at a permanent duty station to achieve positional qualification. DIFCREW orders for personnel who fail to positionally qualify within the 18-month period shall be suspended in accordance with reference (bs).

b. Personnel under DIFTEM flight orders shall be allowed a maximum of 18 months from the date of authorization. Personnel shall be in training for a valid billet, and requests for DNEC and DIFCREW status shall be submitted no later than 8 months prior to DIFCREW vacancy occurring. DIFTEM flight orders shall be suspended for DIFTEM personnel who fail to qualify within 18 months.

12.9.5 Time of Requalification for Naval Aircrewman

Requalification should be accomplished within the below time limit of reporting to a unit that has the same type of aircraft as that within which the aircrew designation was attained. Annual NATOPS evaluations are separate qualifications. For guidance on time limits for expired annual NATOPS evaluations, see chapter 2, “NATOPS Evaluation Procedures” paragraph.

a. Lapse of 2 years or less — 6 months.

b. Lapse of more than 2 years — 12 months.

c. Selected Air Reserves — 12 months.

12.9.6 Qualification Waivers for Naval Aircrewmen

Immediate seniors (wing, functional wing commanders) may waive initial and requalification time limits for aircrew personnel who fail to qualify within prescribed time limits. Justification for such waivers includes lack of appropriate security clearances, duty assignments, or periods of TAD. Appropriate documentation shall be made in the service record, NATOPS training jacket, and to BUPERS.

12.10 QUALIFYING AUTHORITIES

12.10.1 Aeronautical Organizations

Commanding officers or higher authority in the chain of command are empowered to qualify flight personnel in the classifications established here and to issue the certification thereof. The immediate superior in command to the commanding officer or higher authority may assume the function of approving the qualifications of aircraft commanders and issue the certifications of qualification. In such cases, amplifying instructions shall be specific in regard to the authority vested in the commanding officer.

12.10.2 Non-aeronautical Organizations

The senior aviation line officer attached to activities that are not a part of the aeronautical organization (naval missions, etc.) is empowered to qualify flight personnel in the appropriate classifications and to issue certification. Such activities may request checkout and examination assistance from the nearest naval aviation command with the required personnel and facilities.

12.10.3 Fleet Replacement Squadrons

Commanding officers of fleet replacement squadrons or higher authority may, with respect to replacement flight personnel, determine initial qualification as flight personnel based on satisfactory completion of applicable NATOPS requirements.

12.10.4 Guidance for Qualifying Authorities

12.10.4.1 Qualification Opportunity

a. Flight personnel should be afforded ample opportunity to complete the necessary training to permit qualification without delay after minimum experience requisites are met.

b. Pilots shall be advanced commensurate with their experience and demonstrated ability.

c. Pilots should be assured the opportunity to qualify for aircraft command during their first tour of duty.

12.10.4.2 Previous Experience

a. Flight experience acquired in previous commands in varied aircraft is important to overall qualification and due weight shall be given such experience in qualifying and requalifying flight personnel in accordance with this instruction. It is not the intention of this chapter to requalify pilots currently designated.

b. A pilot qualification shall remain effective as long as the pilot remains current in class and model and regularly performs missions required of the command unit or activity unless specifically revoked by the qualifying authority or appropriate superior. Commanding officers shall always retain the right to suspend a pilot's qualification for a serious breach of flight rules, demonstrated lack of ability, or serious errors of judgment. For guidance in respect to revocation or lengthy suspension of qualifications, attention is directed to MILPERSMAN, article 3410300, and reference (br), paragraphs 2005 and 3005.

12.10.4.3 Additional Requirements

Nothing in this instruction is intended to curtail establishment of any additional or special requirements that may be considered necessary for the qualification of a pilot in the classifications previously listed. The provisions of this instruction are not to be interpreted as contrary to proficiency standards that have been or may be established by appropriate authority.

12.11 QUALIFICATION TO TRANSITION INTO JET, HELICOPTER, OR TILTROTOR AIRCRAFT

Requirements to transition into jet, helicopter, or tiltrotor aircraft (initial qualification) will normally be accomplished through a formal syllabus administered by CNATRA or other established training activity. Circumstances may occur where it is desirable or necessary that such transition training be administered by other commands. Commands capable of performing such transition training with no degradation of training quality or safety may do so providing they meet the requirements stated in paragraph 12.11.1.

12.11.1 Minimum Training Syllabus Requirements

Where the NATOPS manual does not specify a transition syllabus, the following minimum syllabus requirements for transition to jet, helicopter, and/or tiltrotor aircraft shall apply.

12.11.1.1 All Pilots

All pilots shall:

a. Successfully complete the approved OFT/WST and naval air maintenance trainer (NAMT) syllabus(es) or equivalent.

b. Satisfactorily complete a NATOPS evaluation in model.

12.11.1.2 Helicopter Transition Pilots

All helicopter transition pilots shall complete:

a. The prescribed CNATRA written examination on helicopter aerodynamics.

b. A minimum of 25 flight hours of dual instruction under the tutelage of a designated instructor.

c. A minimum of 5 additional flight hours of training that shall be solo when conducted in a helicopter model in which single-piloted flight is authorized.

12.11.1.3 Jet Transition Pilots

All jet transition pilots shall complete:

a. A minimum of 10 flight hours of dual instruction under the tutelage of a designated instructor.

b. A minimum of 5 additional flight hours of solo syllabus training.

12.11.1.4 All Fixed-Wing Multiengine Transition Pilots

All fixed-wing multiengine pilots shall complete:

a. A minimum of 10 flight hours of dual instruction with a designated instructor.

b. A minimum of 5 additional flight hours of syllabus training.

12.11.1.5 Tiltrotor Transition Pilots

All tiltrotor transition pilots shall complete:

a. The helicopter and tiltrotor aerodynamics and mechanical systems written examinations provided by an established training activity.

b. A minimum of 25 flight hours of dual instruction under the tutelage of a designated instructor.

c. A minimum of 5 additional flight hours of syllabus training.

12.11.2 Action

Commanding officers or their seniors in the chain of command desiring to initiate jet/helicopter/tiltrotor transition training shall comply with the following:

a. Prior to initiating training, submit the training syllabus to COMNAVAIRFOR (N455) for approval.

Note

Commands may implement syllabuses prescribed in the aircraft NATOPS manuals without further approval of COMNAVAIRFOR.

b. Screen applicants to ensure that transition training is in the best interests of the naval establishment.

c. Administer ground and flight training, as necessary, in accordance with the approved syllabus.

d. Enter qualifications achieved in the OPNAV 3760/32.

12.11.3 Chief of Naval Air Training Responsibility

CNATRA shall:

a. Continue to provide transition training in accordance with approved quotas and syllabuses.

b. Provide a standard helicopter aerodynamics syllabus for use of requesting commands.

12.12 REPORTS

12.12.1 Navy Flight Personnel

Navy flight personnel who have qualified in one of the classifications shall have a certification signed by the qualifying authority placed in their officer service record or enlisted service record, as appropriate. Certifications shall indicate the class and model aircraft in which qualified, together with a concise statement of the type of operations in which qualified (i.e., mining, transport, utility, etc.). The reporting senior shall enter in the duties section of the report on the fitness of officers a statement indicating such qualification in the next regular report of fitness. A copy of the certification to command multipiloted aircraft shall be forwarded by the qualifying authority to CHNAVPERS each time a pilot qualifies for command in a separate class aircraft. No other distribution of copies of flight certification is required.

12.12.2 Marine Corps Flight Personnel

Marine Corps flight personnel who have qualified in one of the classifications shall have a certification signed by the qualifying authority placed in their OPNAV 3760/32 and their NAVMC 123A (Rev 9-95) Officers Qualification Record (or NAVMC 118A (Rev 12-96) Enlisted Service Record Book), as appropriate.

12.12.3 Revocation of Qualifications

When a commanding officer revokes a qualification for substandard performance, an entry to that effect shall be made in the individual's NATOPS jacket in accordance with appendix B, paragraph B.2.2.1. This allows subsequent commands to have an accurate account of this individual's qualifications.

CHAPTER 13

Instrument Ratings and Qualifications

13.1 INSTRUMENT RATINGS AND QUALIFICATIONS

13.1.1 Pilots/NFOs Required To Maintain Instrument Ratings/ Qualifications

13.1.1.1 Requirement

All naval pilots in DIFOPS flying status, except DIFOPS code 2 aviators, are required to maintain a valid instrument rating. NFOs in a DIFOPS status are required to maintain a valid instrument qualification. Commanding officers shall use every means available to assist pilots/NFOs in meeting those requirements.

13.1.1.2 Period of Grace

a. Pilots/NFOs returning from DIFDEN status or duties, where a valid instrument rating/qualification could not be maintained and who had requirements waived by COMNAVAIRFOR or CMC, shall be granted a period of 6 months or completion of the FRS in which to requalify.

b. Newly assigned Navy/Marine Corps Reserve pilots/NFOs in a DIFOPS status shall be granted a period of 6 months from date of first reporting to requalify.

13.1.2 Renewal/Expiration of Instrument Ratings and Qualifications

13.1.2.1 Renewal/Expiration

Renewal evaluation of current instrument ratings for all naval pilots and instrument qualifications for NFOs may be accomplished within 60 days preceding expiration of the current evaluation and is valid for 12 months from the last day of the month in which the current evaluation expires. Otherwise, instrument ratings/qualifications shall be valid for 12 months from the last day of the month in which the evaluation is flown. When pilots/NFOs are ordered to a formal course of flight instruction that includes an instrument syllabus, and their instrument rating/qualification expires prior to or during the training period, the instrument rating/qualification may be delayed until the pilot/NFO achieves NATOPS qualification in model aircraft for which the pilot/NFO is undergoing training.

13.1.2.2 Instrument Ground Training, Examination, and Flight Evaluation

CNATRA, as COMNAVAIRFOR deputy for training, shall review and standardize all formal annual instrument ground training courses and examinations, to ensure inclusion of the associated requirements as listed below. CNATRA shall aid

in development of any new instrument ground training course and examination. COMNAVAIRFOR is the approval authority for all formal instrument ground training courses and examinations. Unless otherwise extended in accordance with this instruction, all naval aviators and NFOs in DIFOPS status shall annually attend an approved course:

a. Attend a formal COMNAVAIRFOR-approved instrument ground school syllabus, if one is available. This syllabus shall include:

(1) Spatial disorientation review.

(2) CNO GPS policy statement and GPS fundamentals to include RNAV (GPS) and (RNP) requirements.

(3) Reduced Vertical Separation Minimum (RVSM) procedures, requirements and denial reports.

(4) Use of non-DoD instrument approach/DPs.

(5) Use of non-DoD GPS NOTAMS systems (Jeppeson GPS NOTAMS and databases).

b. Satisfactorily complete a written examination covering the following subject areas:

(1) Federal Aviation Regulations as they apply to flight under instrument conditions.

(2) Navigational systems and procedures, instrument approach procedures, and radio communication procedures.

(3) Meteorology, including the characteristics of air masses, fronts, thunderstorms, microbursts, and windshear; meteorological reports, elements of the DD-175-1, and pilot's responsibility for obtaining a thorough weather brief; and aviation severe weather hazards, to include pilot's responsibility to determine that the route of flight remains clear of aviation severe weather watch areas.

(4) Instrument procedures contained in pertinent military directives.

Note

The written instrument examination shall be administered incident to the formal instrument ground training syllabus. When such a syllabus is not available, the command to which the pilot/NFO is assigned for flight shall be responsible for ensuring completion of an approved instrument examination prior to flight evaluation.

c. Additionally, naval aviators delineated in paragraph 13.1.1.1 shall satisfactorily complete an instrument evaluation flight conducted by a designated military aviator, NFO (if authorized by individual aircraft NATOPS manual), or CSI in an aircraft or approved simulator. The conduct, content, and grading criteria of the flight shall be in accordance with the NATOPS Instrument Flight Manual.

Note

The written examination must be completed with a grade of "Qualified" within 60 days prior to commencing the evaluation flight. The instrument evaluation flight may be combined with an aircraft NATOPS evaluation flight if all written examination requirements are satisfied prior to the flight.

NFOs may at the discretion of their type wing/wing commander be required to complete an instrument flight evaluation. If an instrument flight evaluation is deemed necessary, it may be accomplished in conjunction with the NFO aircraft NATOPS evaluation flight. The written examination must be completed with a grade of "Qualified" prior to commencing the flight evaluation.

13.1.2.3 Extensions

a. The expiration date for instrument ratings/qualifications may be extended under the following conditions:

(1) Commanding officers may extend the expiration date of instrument ratings/qualifications issued to naval aviators/NFOs that would otherwise expire during the period of a long deployment. The expiration date for the extension shall not be later than 90 days after return from deployment.

(2) After thorough review, issuing authority may grant written extension not to exceed 6 months for original issue or renewal of instrument ratings/qualifications in those cases that so merit because of circumstances beyond the control of the individual. Such circumstances will normally be limited to hospitalization, temporary removal from flying status by competent authority, or assignment to a billet where certain flight requirements have been waived by COMNAVAIRFOR or CMC.

b. In both cases, extension letters shall be filed permanently with the OPNAV 3710/2 NATOPS Instrument Rating Request for which the extension is granted in section III, part E (instrument rating) of the OPNAV 3760/32. See paragraph B.2.3 in appendix B.

13.1.2.4 Issuing Authority

The commanding officer or reporting senior, as appropriate, is the issuing authority for instrument ratings/qualifications to naval aviators and NFOs.

13.1.3 Composition and Functions of Instrument Flight Boards

Each station, squadron, wing, ship, detachment or equivalent, or higher authority, as appropriate, shall establish an instrument flight board composed of designated military aviators, NFOs, and designated civilian instrument evaluators, as applicable. Commanding officers of squadrons whose pilots are required to complete a formal instrument course at designated instrument training squadrons need not comply with this requirement. It shall be the function of those boards to conduct instrument evaluations of naval aviator/NFOs in accordance with the provisions of this instruction. It is desired, insofar as possible, that members of instrument flight boards hold a special instrument rating. Where it is not feasible for an activity to establish an instrument flight board, arrangements shall be made with neighboring boards to conduct instrument evaluations. Naval aviators/NFOs on duty at isolated areas or at joint activities should normally obtain their evaluations from naval instrument flight boards. If this is not feasible, they may be evaluated by a rated military aviator holding a valid instrument rating.

13.2 REQUIREMENT FOR INSTRUMENT RATINGS

13.2.1 Standard Rating

Minimum requirements for a standard instrument rating are as follows:

a. Fifty hours of instrument pilot time under actual or simulated instrument conditions.

b. Successfully complete a NATOPS instrument evaluation in accordance with the NATOPS Instrument Flight Manual.

c. Within the 6 months preceding the date of the instrument evaluation flight obtain (i.e., if the checkride occurs on 24 January 01, count all instrument hours and approaches after 24 July 00):

(1) Six hours as pilot under actual or simulated instrument conditions.

(2) Twelve final approaches under actual or simulated instrument conditions, six of which shall be precision approaches and six of which shall be nonprecision.

d. Within the 12 months preceding the date of the instrument evaluation flight obtain (i.e., checkride occurs on 24 January 01, count all instrument hours and approaches after 24 January 00):

(1) Twelve hours as pilot under actual or simulated instrument conditions.

(2) A total of 18 final approaches under actual or simulated instrument conditions, 12 of which shall be precision and six of which shall be nonprecision.

e. Instrument hours and approaches conducted as part of a previous instrument evaluation flight may be applied to minimums if the checkride occurred within the period specified in paragraph 13.2.1.d.

f. Approved flight simulators listed in appendix K may be utilized to meet one-half of the minimum instrument rating requirements.

g. CNATRA is authorized to issue an initial standard instrument pilot rating following successful completion of the Naval Air Training Command instrument training syllabus.

h. Renewal of an expired instrument rating for pilots returning to flying duty under provisions of paragraph 13.1.1.2 shall meet the requirements of paragraphs 13.2.1.b and 13.2.1.c.

i. Renewal of an expired instrument rating for pilots returning from sustained combat operations ashore where facilities or threat did not allow for the required 12 months of instrument minimums shall only have to meet the requirements of paragraphs 13.2.1.b and 13.2.1.c.

13.2.2 Special Rating

Minimum requirements for special instrument ratings include all of the requirements for a standard instrument rating plus the following:

a. Five years of military and nonmilitary flying experience.

b. Two thousand hours of military and/or civil time as a certificated commercial/airline transport pilot.

c. One hundred hours of military actual instrument time.

d. A special instrument rating is recognition of a pilot's experience, demonstrated flight ability, and judgment. Its issuance shall be made accordingly. COMNAVAIRFOR, COMMARFORCOM, aviation type wing commanders, COMNAVAIRFORES, CG FOURTH MAW, CNATRA or their delegated representatives may reduce the above minimum requirements. A special instrument rating may be issued to pilots who display exceptional judgment and proficiency in instrument flying procedures if the pilot has at least 3 years military and/or nonmilitary flying experience, has a total of 1,500 hours pilot/copilot time, and meets the other requirements for issuance of a special instrument rating enumerated above.

13.2.3 Failure To Meet Requirements

13.2.3.1 Action

The following action is directed for cases of failure to meet requirements:

a. Board Action — Unless reasons in the case are sound and valid, commanding officers shall direct a pilot who fails to meet the foregoing requirements to appear before a field naval aviator evaluation board in accordance with the current MILPERSMAN, article 3410300 or reference (br), as appropriate.

b. Command Action — Naval aviators/NFOs who are required to qualify for an instrument rating and have not done so shall not be detached from an activity unless a written extension is forwarded to their next duty station or compliance with paragraph a above has been accomplished.

13.2.3.2 Restrictions on Instrument Ratings

Under no conditions shall instrument ratings be issued when the requirements of this chapter have not been met. The endorsement of instrument ratings to limit their applicability or use in any way is not authorized without specific approval of COMNAVAIRFOR or CMC.

13.2.3.3 Revoking of Instrument Ratings

Any commanding officer authorized to issue an instrument rating is also authorized to revoke the instrument rating of any naval aviator/NFO attached or assigned to his/her command for flying when, in the commanding officer's opinion, the naval aviator/NFO has displayed a lack of instrument flying proficiency.

13.3 INSTRUMENT RATING FORMS

A naval aviator and NFO (when applicable) shall make application for an instrument rating by submitting an OPNAV 3710/2 in accordance with the reference (y). The completed OPNAV 3710/2 shall constitute issuance of an instrument rating.

13.4 AIRCRAFT CONSIDERATIONS

Instrument ratings shall be valid in all aircraft in which the naval aviator/NFO is NATOPS qualified regardless of the model in which the check was flown. A naval aviator/NFO may be considered to be instrument qualified in an aircraft when he/she has completed the evaluation as outlined in each respective NATOPS manual and has met the requirements for an instrument rating as outlined in this chapter. In aircraft for which there is no NATOPS guidance, 10 first pilot hours in model may be substituted as a minimum requirement.

13.5 GPS NAVIGATION TRAINING

13.5.1 General

Pilots should practice GPS approaches under VFR until thoroughly proficient with all aspects of their equipment (receiver and installation) prior to attempting flight under IFR in IMC. Many GPS receivers provide a simulation mode which can be used to become familiar with receiver operations prior to actual flight operations. Proper training of GPS navigation in controlled airspace will enhance safety and awareness when using PPS for combat operations. GPS training should be developed, with assistance from COMNAVAIRSYSCOM, by the respective aviation TYCOM/FRS/type wing.

13.5.2 Ground Instruction

The use of GPS for flight in controlled airspace requires a thorough knowledge of the terms and nomenclature used to describe and depict GPS navigation processes. The charting of GPS procedures does not follow the convention described by previous training. Some of the areas which the training should cover are:

a. The meaning and proper use of aircraft equipment/navigation suffixes.

b. Procedure characteristics as determined from chart depiction and textual description.

(1) Depiction of waypoint types (fly-over and fly-by) and path terminators as well as associated aircraft flight paths.

(2) Published material for RNAV routes, standard instrument departures (SIDs), standard terminal arrival routes (STARs), and GPS approaches.

c. Utilizing the Receiver Autonomous Integrity Monitoring (RAIM) prediction function.

d. RNAV/GPS system-specific information:

(1) Levels of automation, mode annunciations, changes, alerts, interactions, reversions, and degradation.

(2) Functional integration with other aircraft systems.

(3) The meaning and appropriateness of route discontinuities as well as related flight crew procedures.

(4) Monitoring procedures for each phase of flight.

(5) Types of navigation sensors (for example, IRU, EGI, GEM) utilized by the RNAV system and associated system prioritization/weighting/logic.

(6) Turn anticipation with consideration to speed and altitude effects.

(7) Interpretation of electronic displays and symbols.

(8) Verify currency of aircraft navigation data.

(9) Verify successful completion of RNAV system self-tests.

e. Crew coordination and Flight Management System/GPS etiquette.

f. Using the Flight Management System/GPS/displays to maximize situational awareness.

g. Using the Flight Management System/GPS for visual approaches.

h. Extending a point for interception.

i. Intercepting a route between two points.

j. Conditional waypoints and Flight Management System generated waypoints.

13.5.3 GPS Navigation Flight Training

The amount and type of flight training should be sufficient to expose the flight crew to the displays, autopilot use (if applicable), and aircraft performance when using GPS for navigation.

a. Proceeding direct to a waypoint in the flight plan and not in the flight plan.

b. Inserting an instrument DP into the flight plan, including setting terminal course deviation indicator (CDI) sensitivity, if required, and the conditions under which terminal RAIM is available for departure.

c. Inserting the destination airport in a flight plan.

d. Determining the correct initial approach fix (IAF) to proceed to when entering a terminal arrival area (TAA) and determining the correct altitudes within a TAA.

e. Executing overlay approaches (especially procedure turns and arcs).

f. Changing to another approach after selecting an approach.

g. Executing “direct” missed approaches where the route is direct to the first waypoint after the missed approach waypoint (MAWP).

h. Executing “routed” missed approaches where the route is not direct to a waypoint from the MAWP, particularly where a course must be manually inserted and flown. This procedure may vary with installation of the receiver.

i. Entering, flying, and exiting holding patterns “manually” (e.g., non-charted holding, holding following a procedure turn, and holding with a second waypoint in the holding pattern).

j. Flying a “route” from a holding pattern to another waypoint.

k. Executing an approach with radar vectors to the final segment.

l. Actions required for RAIM failure both before and after the final approach waypoint (FAWP).

m. Programming a radial and distance from a VOR.

n. Recovering from sequencing past a waypoint at which holding was intended.

o. Operator-recommended levels of automation for phase of flight and workload, including methods to minimize crosstrack error to maintain procedure centerline.

CHAPTER 14

UAS Policies and Operations

14.1 PURPOSE AND SCOPE

This chapter addresses the NATOPS general flight and operating instructions that apply to all Groups of naval unmanned aircraft system (UAS) operations. UAS personnel need not search elsewhere in this document for additional UAS information. However, a person reading this chapter will be directed to related information applicable to UAS, UAS Crewmember (UASC), and UAS support personnel located in a previous chapter of this publication. The paragraphs in this chapter are numbered such that the second level digit identifies the corresponding chapter of this instruction (e.g., paragraph 14.3 supplements pertinent subjects addressed in Chapter 3). UAS operators are responsible for all policy set forth in this chapter and, when directed, the corresponding policy of previous chapters.

14.1.1 Directives, Procedures and Terminology Applicable to UAS Operations

UAS operators shall be familiar with Chapter 1 of this instruction. UAS operations will be conducted in accordance with Chapter 1, and as supplemented by information provided in Section 14.1.

14.1.2 Military Reporting Procedures For UAS Flight Deviations

NATOPS Model Managers shall ensure that military reporting procedures are established for UAS flight deviations.

14.1.3 Federal Aviation Regulations (FAR)

Unmanned Aircraft System Commanders (UACs) shall make every effort to comply with all applicable portions of the Title 14 CFR Part 91 FAR except where exemptions or authorizations issued to the Department of the Navy/DOD by the FAA permit deviation from FAR, or where maintaining safety of flight takes precedence. UAS are currently unable to comply with all the provisions of Title 14 CFR, Part 91 (e.g., specifically the see and avoid requirements in Part 91.113).

14.1.3.1 Deviations from FAR

Intentional deviation from a flight rule is authorized only when:

a. An in-flight emergency requires immediate action.

b. Safety of flight dictates (e.g., avoidance of an in-flight collision).

c. An Operational Necessity is declared by competent authority.

Note

Intentional deviation from a flight rule is not authorized when the deviation will jeopardize the safety of manned aircraft or civilians.

14.1.4 Other UAS-Specific Publications

14.1.4.1 Federal Aviation Administration Order (FAAO) JO 7610.4 Special Operations

FAAO JO 7610.4 contains procedures for unmanned and remotely operated aircraft operations in the National Air Space (NAS), but outside of the scope of MOA 14887-07. These include procedures for USN/USMC UAS operations outside of Restricted or Warning Areas, DOD-controlled, non-joint-use Class D airspace, and other areas outside the scope of DOD FAA UAS MOA 14887-07.

14.1.4.2 DOD FAA UAS MOA 14887-07 Memorandum of Agreement for the Operation of Unmanned Aircraft Systems in the National Airspace dated 27 Sep 2007.

DOD FAA UAS MOA 14887-07 addresses procedures and prescribed operations for military operated UAS in the NAS.

14.1.5 Certificates of Authorization (COA)

COA process provided in FAAO JO 7610.4 establishes mandatory provisions when operating in the NAS outside of Restricted and Warning Areas to ensure that the level of safety for UAS flight operations is equivalent to that of manned aviation. A COA is unique to the intended mission, and specifies the time period, circumstances and conditions under which the UAS must be operated. Units submitting COA applications shall do so in accordance with FAAO JO 7610.4. As part of the COA application process, an interim flight clearance (IFC), obtained from NAVAIRSYSCOM (AIR-4.0P) is to be forwarded to the FAA to support the COA application process. For those UAS that have a permanent flight clearance in the form of an NAVAIRSYSCOM (AIR 4.0P)-approved NATOPS Flight Manual (NFM), AIR 4.0P will determine if the NFM, with accompanying memorandum, can be used as the declaration of airworthiness. UAS operating outside Restricted Areas and Warning Areas shall comply with associated UAS directives.

14.1.6 Compliance with UAS-Related Directives

The Unmanned Aircraft Commander (UAC) responsible for the flight of an unmanned aircraft (UA) shall ensure compliance with pertinent UAS-related documents and directives to include the following:

a. This instruction.

Note

When this instruction provides more stringent requirements than the CFR Part 91 FAR or COA, this instruction shall take precedence.

b. System UAS-specific operating manuals.

c. FAR, when operating within the United States, including the airspace overlying the waters out to 12 miles from the US coast, unless the FAA has excluded military operations.

d. International Civil Aviation Organization (ICAO) Standards and Recommended Practices (SARP) when operating in international airspace over the high seas, mission permitting.

e. The specific rules of each individual nation as published in DoD Flight Information Publications (FLIP) planning documents and the DoD Clearance Manuals (CM, DoD 4500.54).

f. ICAO SARP when operating in the airspace of a nation whose rules are not published.

g. Procedures and special notices contained in the FLIP, Notices to Airmen (NOTAMS) (available at https://www.notams.jcs.mil/), aircraft technical orders, and Air Traffic Control (ATC) Instructions.

h. All provisions contained in the FAA issued COA under which the flight is being conducted.

i. Published local flying rules, restrictions and ATC instructions concerning UA operations.

j. Aviation-related state and local laws and ordinances

14.1.7 Explanation of UAS Groups

All current and currently planned DOD UAS fall into one of the five UAS groups depicted in Figure 14-1:

<table>
<tr><th></th><th>Maximum Gross Takeoff Weight (lbs)</th><th>Normal Operating Altitude (ft)</th><th>Airspeed (KIAS)</th><th>Examples of Current & Future Representative UAS</th></tr>
<tr><td>Group 5</td><td rowspan="2">> 1320</td><td>> 18,000 MSL</td><td rowspan="2">Any Airspeed</td><td>MQ-9A, RQ-4, MQ-4C, Global Observer, N-UCAS</td></tr>
<tr><td>Group 4</td><td rowspan="2">< 18,000 MSL</td><td>MQ-5B, MQ-8B, MQ-1A/B/C, A-160</td></tr>
<tr><td>Group 3</td><td>< 1320</td><td rowspan="2">< 250</td><td>RQ-7B, RQ-15, STUAS, XPV-1, XPV-2</td></tr>
<tr><td>Group 2</td><td>21-55</td><td>< 3,500 AGL</td><td>Vehicle Craft Unmanned Aircraft System, ScanEagle, Silver Fox, Aerosonde</td></tr>
<tr><td>Group 1</td><td>0-20</td><td>< 1200 AGL</td><td>< 100</td><td>WASP III, Future Combat System Class I, TACMAV RQ-14A/B, BUSTER, BATCAM, RQ-11B/C, FPASS, RQ-16A, Pointer, Aqua/Terra Puma</td></tr>
</table>

Figure 14-1. UAS Groups

(1) Group 1 UAS: Typically weigh less than 20 pounds and normally operate at altitudes below 1200 feet AGL and airspeeds less than 100 knots.

(2) Group 2 UAS: Typically weigh 21 - 55 pounds and normally operate at altitudes below 3500 feet AGL at airspeeds less than 250 knots.

(3) Group 3 UAS: Typically weigh greater than 55 pounds, but less than 1320 pounds and normally operate at altitudes below 18,000 feet MSL and airspeeds less than 250 knots.

(4) Group 4 UAS: Typically weigh greater than 1320 pounds and normally operate below at altitudes 18,000 feet MSL at any airspeed.

(5) Group 5 UAS: Typically weigh greater than 1320 pounds and normally operate at altitudes higher than 18,000 feet MSL at any airspeed.

These groups are based on UA gross weight, normal operating altitude and airspeed, and are independent of tasking authority, echelon of command and control authority, and type of payload. For example, a UA that weighs 10 pounds and is normally operated below 1200 feet AGL at speeds less than 100 knots, is categorized a Group 1 UAS. A UA possessing one attribute of the next higher numbered group is categorized in the higher numbered group. For example, a UA that weighs less than 20 pounds, and is normally operated above 1200 feet AGL at speeds less than 250 knots is a Group 2 UAS.

14.1.8 Waivers

Requests for waivers authorized by the provisions of this chapter shall be submitted via the administrative chain of command to the organization responsible for the requirements as listed in Figure 1-1.

Situations in which compliance with established directives cannot be met or where compliance compromises UAS operational effectiveness should be submitted as Airworthiness Information Resolution System (AIRS) items via the NATOPS page of the NAVAIRSYSCOM(AIR-4.0P) Airworthiness website at https://airworthiness.navair.navy.mil. Submitted AIRS items should include recommended solutions to the problems identified.

14.1.9 Non-Programs of Record (POR) Systems

Non-POR UAS may need to operate under deviations from the strict limitations of this instruction. The unit commander or a designated representative of the Non-POR system is required to inform their TYCOM of such deviations in writing, with information copy to COMNAVAIRFOR and COMNAVAIRSYSCOM. The letter will include the platform, timeframe, location(s), and intended deviations from this instruction. This shall be done in a timely manner so as to give the TYCOM the opportunity to process the informational letter. The TYCOM shall give written acknowledgement of the intended operation(s) and deviations before the respective flights occur.

14.2 UAS NATOPS PROGRAM

All Navy and Marine Corps commands operating UAS shall implement and utilize the NATOPS program as described in Chapter 2 of this instruction.

14.2.1 Basic UAS Qualification (BUQ) Levels

The Basic UAS Qualifications (BUQ) levels, described in Appendix P shall be utilized as standards for training and certifying UAS crewmembers. The BUQ Levels are cumulative. Therefore, to meet BUQ Level II requirements, a UASC must complete all BUQ Level I tasks as well.

14.2.2 UAS NATOPS Program Implementation

The scale of the NATOPS Program will vary considerably over the range of UAS groups. A Group 5 UAS NATOPS program will closely parallel that of a Chapter 2 NATOPS program for manned aircraft, whereas the NATOPS Program for a Group 1 or 2 UAS will be reduced considerably from the level in the manned aircraft community. Just as the size and sophistication of Type/Model/Series (T/M/S) UAS themselves vary from group to group, the level of effort required to administer flightcrew requirements and documentation will vary considerably. As a minimum, each T/M/S UAS program shall have a Cognizant Command, a NATOPS Model Manager Unit with NATOPS Model Manager, and NATOPS Program Manager assigned, with general NATOPS program responsibilities and duties as described in Chapter 2. If it is determined that departures from the requirements described in Chapter 2 are necessary, then the UAS NATOPS Model Manager shall recommend such adjustments be made via the NATOPS Cognizant Commander to the NATOPS Program Administrator (CNAF N455). The NATOPS Program Administrator (N455) may then authorize whatever variances are necessary to ensure the successful operation and efficient administration of that T/M/S UAS NATOPS program. Each UAS T/M/S NATOPS Model Manager that operates sea-based UAS will provide sufficient information to all applicable shipboard NATOPS model managers to ensure proper documentation to support successful UAS operations on each platform affected.

14.3 POLICY GUIDANCE FOR USE OF UAS

The policies contained in chapter 3 of this document are applicable to all UAS with the following additions and modifications.

14.3.1 UAS Command Responsibilities

A naval UAS shall be flown under the command of a UAC so designated by the Unit commander or higher authority. In addition to the other requirements outlined in this chapter, the responsibilities of the UAC include, but are not limited to, the following:

14.3.1.1 Flight plan submission.

a. Risk assessment.

b. UASC cargo manifest submission, when applicable.

c. Flight plan closure.

d. Visitor access to the Mission Control Station (MCS) when a UA is being operated.

e. Suitability of landing areas.

f. Security of the UA and the safe handling of classified material and equipment.

g. Reviewing UA maintenance discrepancies. When transfer of a UA occurs while in flight, the relieving UAC shall ascertain the current status of the UA.

Note

These responsibilities may, when appropriate, be delegated to the Air Vehicle Operator (AVO). However, the UAC is ultimately responsible for the completion of these tasks.

14.3.1.2 UAS Commander (UAC)

The UAC shall be responsible for the safe, orderly flight as related to the physical control of one or more UAs. The UAC may direct the actions of an AVO. The positional authority of the UAC is analogous to that of an "Aircraft Commander" of a manned aircraft, yet the UAC need not be a winged aviator nor an officer. As with manned aircraft, a single individual may act as both UAC and perform other UASC duties. Model Managers shall establish minimums and requirements for each T/M/S UAC qualification.

14.3.1.3 UAS Mission Commander (UMC)

The UMC shall be responsible for all phases of the assigned mission except those aspects of safety of flight that are related to the control of the UA and are within the prerogative of the UAC. The UMC may exercise command over a single or multiple UAS. The UMC shall be properly qualified and designated, but need not be a winged aviator nor a commissioned officer. Specific UMC qualification requirements shall be defined in the respective UAS T/M/S NATOPS manual. The UMC shall direct a coordinated plan of action and be responsible for effectiveness of the mission.

14.3.1.4 Officer in Tactical Command Present

The wing, group, squadron or unit commander, when present at the MCS for a mission involving a UAS under their command, retains full authority and responsibility regarding command, including the mission in which participating.

14.3.1.5 Flag or General Officers

The UAC or AVO retains full authority for the performance of the UAS and mission duties when a flag or general officer eligible for command at sea is present at the MCS, unless clearly informed by the flag or general officer of his/her desire to exercise command authority over the UAS, subject to the same limitations as described in 3.7.1.2 for manned aircraft.

14.3.2 Transfer of UAS Responsibilities During Flight

If, at the discretion of the unit commander or designated representative, the nature or length of the UAS mission requires changing crew positions, he or she may authorize crew position changes between qualified personnel, including UMCs. Every effort shall be made to avoid causing a UASC to leave a MCS without proper relief during UAS operations.

Note

Crew position changes during emergencies or aircraft-in-distress situations are discouraged.

14.3.2.1 UAS Crew Replacement Briefings

UAS NATOPS Model Managers shall establish procedures for crew replacement/relief. UAS crew replacement briefings shall address at a minimum the following information:

a. UAS location, airspeed, altitude, type of airspace, any active airspace restrictions and weather.

b. Flight time remaining in current configuration and operating conditions.

c. Mission considerations.

d. Status of systems including any UAS problems or discrepancies.

e. Communications (current and expected).

f. Supporting element information.

14.3.3 Non-Participating Personnel

All personnel regardless of rank or authority shall minimize interacting with and avoid distracting UASCs actively engaged in UAS flight operations. Every effort shall be made to avoid any UASC being directed to vacate the MCS during UAS operations without a proper relief.

14.3.4 Functional Checkflights (FCFs)

The requirements for FCFs are contained in NAVAIRFORINST 4790.2. Unit commanders shall ensure compliance with the following requirements for UAS FCFs.

14.3.4.1 FCF Crew Composition

FCF procedures may require that additional personnel monitor critical systems and evolutions. UACs/AVOs shall be qualified in accordance with the applicable UAS NATOPS T/M/S flight manual to conduct FCFs.

14.3.4.2 FCF Location and Weather Criteria

FCFs shall be conducted in flight conditions (weather, VMC/IMC, GPS availability, etc) appropriate with standard operation of the UA. All evolutions shall be conducted to maximize control links and onboard vehicle navigation capabilities (the intent is to avoid loss of link or losing critical navigation systems e.g., GPS). Those portions of the flights that are considered critical shall be conducted in the vicinity of the launch location or a suitable recovery area. Consideration should be given to performing the FCF in segregated airspace as defined by the appropriate controlling authority.

14.4 FLIGHT AUTHORIZATION AND PLANNING

14.4.1 Requirement for Flight Authorization

A Naval UAS shall not be operated by any person unless authorized by the reporting custodian, unit commander, or a delegated authority exercising control over the UAS concerned.

14.4.1.1 Authorization for UAS Flight Operations (Flight Schedule)

Authorization for a Naval UAS flight or a series of UAS flights shall be published by the unit commander on a flight schedule or other similar directive signed by the unit commander or their delegated authority.

a. UAS Groups 1 through 5. Information published for each scheduled event shall include the following elements:

(1) UAS T/M/S to be flown

(2) Designation of each UAC or AVO.

(3) Names of UASC(s).

(4) Planned operating areas/restricted operating areas as applicable.

(5) Intended date(s) and time(s) of ETDs, and ETEs or ETAs.

b. Groups 3 through 5. Information published for each scheduled event shall include the following additional elements:

(1) Total Mission Requirement Code (TMR).

(2) Place(s) of departure and intended landing.

(3) Designation of the UMC, UAC and/or AVO as appropriate.

(4) Applicable COA with title and end date if required.

14.4.2 UAS Flightcrew Requirements

14.4.2.1 UAS Flightcrew Qualifications

Prior to authorizing a UAS flight, commanders shall ensure that person(s) designated to perform UASC duties are, in all respects, qualified to control the specific UAS T/M/S and that flightcrew currency requirements have been met.

14.4.2.2 Unmanned Aircraft System Commander Requirement

A designated UAC shall be present at the MCS from takeoff to landing for all UAS flights. The qualified UAC shall also be present at the MCS anytime there is intent for flight as defined in the T/M/S operating manual. Whenever a non-designated UAC (e.g., during initial training) is in physical control of the UAS during flight, the designated UAC shall be prepared to assume physical control of the UAS if necessary.

14.4.2.3 UAS Crewmember Requirements

The UAS T/M/S NATOPS Model Manager shall specify the minimum crewmember requirements for each UAS flight. Commanders shall ensure that each UAS flight has UASCs assigned who are qualified for both UAS model and mission. General requirements for specific crew duties can be found in paragraph 14.12 of this document. Standard UAS crewmember position titles that span all UAS groups and models include the following.

a. UAS Commander (UAC). See definition in 14.3.1.1

b. Air Vehicle Operator (AVO). The person who has been trained, qualified and properly designated as an AVO, is physically located at a UAS MCS, and in positive control of the UA.

c. Mission Payload Operator (MPO). The person who has been trained, qualified, and properly designated to control the payload of a UAS. The payload may include a sensor package and/or a weapon system on the assigned UA(s).

d. UAS Mission Commander (UMC). See definition in 14.3.1.2

e. Qualified DOD civilians or contractors may, at the unit commander's discretion, act as an UASC. Commanders are responsible for ensuring all respective T/M/S qualifications have been met prior to approving DOD civilian participation in UAS operations. Refer to OPNAVINST 3710.1 for policy regarding civilian contractors operating naval aircraft.

f. UAS Crewmember (UASC). Generic term for any flightcrew member designated to employ UAs including those positions listed above in this paragraph.

g. Ground Maintenance Vehicle Operator (GMVO). Although not members of the flight crew per se, the GMVOs are considered UASCs and are required to qualify and be designated to operate the UAS during ground operations necessary for onboard equipment checks and ground maintenance. Specific qualification requirements for UAS T/M/S GMVOs shall be published in the respective NFM or equivalent operating publication, or issued by the NATOPS Model Manager via separate directive.

14.4.3 Positive Control Requirement

Any time intent for flight exists as defined in the T/M/S operating manual, a qualified UAC/AVO shall be present and in control of the UA, ready to expeditiously respond to system malfunctions, emergencies and ATC direction. A UAS with an autopilot or programmable mode capability can be considered under control with such mode engaged provided the responsible qualified UAC/AVO maintains continuous situational awareness, and can alter UA airspeed, altitude and heading by their specific actions.

14.4.4 UAS Preflight Planning

The UAC is responsible for preflight planning. Before commencing a flight, the UMC/UAC shall ensure that UASCs are familiar with all information relevant to the intended flight. Flight planning shall be conducted IAW Chapter 4.3 of this instruction.

14.4.4.1 UAS Groups 1 through 5 Preflight Planning

UACs shall ensure that they have associated information available to them for their intended operation. When applicable, this information shall include, but is not limited to:

a. Alternate airfields/landing zones if the flight cannot be completed as planned.

b. Departure, en route, destination, and alternate (if applicable) weather observations and forecasts.

c. Fuel/battery charge requirements per appropriate technical manual.

d. Maximum operating altitudes, minimum safe altitudes, visual and/or datalink line-of-sight considerations for the planned route of flight and area of operations.

e. Takeoff and landing limitations.

f. Spectrum/EMI considerations and frequency availability to prevent lost link during takeoff/landing.

g. Lost link procedures coordinated through ATC if entering the NAS, and Range Control agencies.

14.4.4.2 UAS Groups 3 through 5 Preflight Planning

In addition to the above requirements, Groups 3-5 UACs shall ensure that they have the following information available to them for their intended operation.

a. Appropriate sections of the aircraft technical order and operator's manual.

b. Notices to Airman (NOTAMs).

c. FLIP appropriate to the specific UAS and mission, including appropriate aeronautical paper or digital charts with FAA/ICAO airspace and/or display of approved working area boundaries (whichever is more restrictive). Ensure digital charts are updated with the most current version.

d. Applicable airfield advisories, bird advisories and hazard information available through Automated Terminal Information System (ATIS), Internet, or as disseminated locally.

14.4.5 Airspace

14.4.5.1 Airspace Coordination

UACs and mission planners shall review the current airspace procedures and comply with the following directives:

a. FAR and FAA Documents (e.g. FAAO JO 7610.4).

b. The DOD FAA Memorandums of Agreement.

c. ICAO Standards and Recommended Practices (SARP).

d. DoD Foreign Clearance Guide and country regulations, laws, and rules.

e. DoD FLIP.

f. Local flight regulations and procedures.

g. Current and applicable OSD Memorandums, DoD Operations CONOPS, and ATC Procedures for Non-Joint-Use Airfields with associated Class D Airspace.

14.4.5.2 ATC Liaison

Units should assist the local ATC facility to develop local procedures that incorporate the provisions contained in this manual and in the DoD/FAA agreement on Non-Joint Use Class D airspace.

14.4.5.3 Joint Forces Established Airspace OCONUS Operations

For combat or other contingency operations, refer to Joint Publication 3-52, which states, in part, that UAs may be operated in the airspace control area by each joint force command. The established principles of airspace management used in manned flight operations will normally apply to UAS operations.

14.4.6 Airfield Requirements

14.4.6.1 Authorized Airfields

Naval UAS should utilize non-joint use military airfields. Joint use (civil/military) airfields should be used only when such use is necessary to accomplish a mission assigned by higher authority. The UAC/AVO is responsible for ensuring that airfield facilities, servicing, and safety are adequate for the UAS involved.

Note

This does not preclude UAS from operating from non-traditional launch and recovery zones as described below.

14.4.6.2 Use of Closed Airfields

The restrictions and authorizations on the use of closed airfields in 4.4.4 are also applicable to UAS operations.

14.4.6.3 Airfield and Launch/Recovery Zone Considerations

When UAS are traditionally launched (e.g., runway take-off and landing), the UAC shall ensure that the proposed airfield is suitable for use. For those systems that are launched and recovered non-traditionally (e.g., catapult or hand-launched, net, hook, or water recovered), a thorough survey of the proposed launch and recovery zones shall be accomplished prior to flight. The following factors shall be considered for both launching methods:

a. Proposed runways shall meet length, width, and surface-type requirements in the specific UAS T/M/S operator's manual, UAS Model Manager's guidance, and unit Standing Operating Procedures (SOP).

b. Non-traditional launch and recovery zones shall meet all applicable requirements the UAS T/M/S operating manual, UAS Model Manager's guidance, and the unit SOP.

c. Sufficient obstacle clearance shall exist for takeoffs and landings (see applicable system specifications for obstacle clearance requirements).

d. UAS launch and recovery zones shall be suitably distanced from populated areas. Areas with high population densities and multiple high-tension power lines shall be avoided whenever possible.

e. The availability of approach and departure corridors.

f. The distance and Line-of-Sight (LOS) to possible mission areas considering communication relays, beyond line-of-sight operations and MCS hand-over requirements.

g. Areas with high concentrations of communications equipment and transmitters emitting frequencies and bandwidths which may interfere with UAS control should be avoided.

h. Operations security (OPSEC) should be considered during site selection to minimize the possibility of detection and destruction by enemy forces.

i. When the UAS launch and recovery site is co-located with manned aircraft operations, the parking plans and flight traffic patterns should be deconflicted, if possible. This usually can be done by coordinating with the airfield manager.

j. The ready availability of ground support equipment (GSE) (e.g., generators). In addition to the physical limitations of cables and other GSE, personnel should also consider other factors such as security and noise abatement.

k. The UACs/AVOs are responsible for ensuring launch and recovery operations conform to all host airfield regulations applicable to UAS operations.

14.4.7 Weather Planning

UACs/AVOs are responsible for being thoroughly familiar with the weather conditions (i.e. icing, hail, etc.) for the area in which flight is contemplated and the effects of that weather on the UA. The UAC/AVO should obtain current and forecast weather information for the flight whenever possible. In addition, the UAC/AVO shall be aware of local restrictions placed on UA operation during inclement weather.

Note

Naval UAS operating in Instrument Meteorological Conditions (IMC) in controlled airspace are required to obtain the appropriate clearance from the controlling authority.

14.4.7.1 Weather Planning Factors

UAS NATOPS Model Managers shall establish specific operating guidelines for each UAS T/M/S considering the weather and its effects on aircraft during flight operations. Particular attention should be paid to temperature, winds, precipitation, and hazardous weather phenomena. Factors to be considered when developing operating guidelines include:

a. Wind effects on launch, navigation legs, loiter, and landing. Operators must keep in mind that due to weight and power limitations, small UAs are especially susceptible to winds and turbulence which can degrade mission effectiveness (e.g., target designation).

b. Temperature extremes and its effects on aircraft, payloads, and batteries.

c. Effects of high humidity on internal and external payloads.

d. Effects of precipitation on payloads, batteries, and electronics.

e. Hazardous weather (e.g. thunderstorms, turbulence, icing, clouds, and precipitation) pose hazards to UAS operations. Present Group 1 UAS design and payload limitations do not include weather avoidance system; UACs shall rely on forecast weather and personal observations.

f. Effects of operating elevation and temperature on flight characteristics of the vehicle. The vehicle should not be operated outside the published limitations of the system.

14.4.7.2 Groups 3 to 5 Weather Planning

UACs shall ensure compliance to the maximum extent practicable with paragraph 4.8.3 of this instruction where any portion of the intended route of flight is forecast

to be under IMC. IFR flight plans shall be filed and flown whenever practicable, otherwise paragraph 4.8.4.1 to 4.8.4.3 including Figure 4-1 of this instruction is not applicable for UAS with autonomous takeoff and landing capability.

14.4.7.3 Groups 1 and 2 Weather Planning

UACs of Groups 1 and 2 UAS are exempt from formal weather briefing requirements when operating in Visual Meteorological Conditions (VMC). Groups 1 and 2 UACs must have reasonable cause to believe that the local weather conditions will permit successful employment and that operations will be in compliance with UAS system limitations, applicable range directives, operations orders, FAA Certificates of Authorization, or other governing directives.

14.4.8 Mission Essential Subsystem Matrix (MESM)

An equipment go/no-go matrix or MESM shall be developed by the NATOPS Model Manager of each UAS T/M/S. The MESM shall, at a minimum, determine the feasibility for using the scheduled UAS for the intended flight by addressing the following factors:

a. Flight conditions to include VMC, IMC, and winds.

b. Whether the UAS can accomplish the mission when flown with equipment not installed or not functioning.

c. For a non-standard operation, a UAS unit may request a onetime waiver of MESM requirements from COMNAVAIRFOR (N455) or COMNAVAIRSYSCOM via their NATOPS Model Manager in consultation with NAVAIR AIR 4.0P.

14.4.9 Fuel and Propulsion Battery Charge Considerations

The UAC/AVO shall ensure sufficient fuel/propulsion/battery charge exists onboard the aircraft to successfully conduct the flight and comply with FAA regulations and the requirements of this instruction.

14.4.9.1 Minimum and Emergency Fuel/Propulsion Battery Charge States

Minimum fuel is an advisory term indicating that in the judgment of the UAC/AVO the fuel state is such that no undue delay can be accepted en route to the destination. It is not an emergency situation, but undue delay may result in an emergency. If at any time the remaining usable fuel supply suggests the need for traffic priority to ensure a safe landing, the UAC/AVO shall declare emergency fuel state and report fuel remaining in minutes. Once declared, both minimum fuel advisories or emergency fuel state declarations shall be reported each time control is transferred to a new ATC controller. UAS T/M/S minimum fuel and propulsion battery charge states shall be established by the unit commander or higher authority.

Note

UACs/AVOs declaring minimum fuel will not receive special handling from FAA controllers.

14.4.9.2 UAS Groups 1 and 2 Fuel/Propulsion Battery Charge Reserves

UAS Groups 1 and 2 have no FAA alternate airport or reserve fuel requirements. Groups 1 and 2 UMCs/UACs shall make every effort to land the UA before reaching either minimum useable fuel or battery charge.

14.4.9.3 UAS Groups 3 to 5 Fuel/Propulsion Battery Charge Reserves

Before takeoff, Groups 3-5 UAS shall have enough usable fuel/propulsion battery charge onboard to complete the flight to a final landing at the destination airport or landing zone, plus enough fuel/battery charge to fly to the alternate landing zone (if one is required), plus the UAS NATOPS specific fuel/battery charge reserves.

a. Each NATOPS manual shall establish minimum fuel and propulsion battery charge requirements. In no case shall the planned fuel and propulsion battery charge reserves after final landing be less than the minimum requirements prescribed in the respective UAS NATOPS.

b. When operating in controlled airspace, UAC/AVO shall declare minimum/emergency fuel/battery charge to the controlling agency when in their judgment the aircraft will land at the intended destination with less than the T/M/S NATOPS specified required minimum/emergency fuel/propulsion battery charge reserves.

14.4.10 Risk Assessment

UACs/AVOs shall conduct a risk assessment prior to each flight. The NATOPS Model Manager shall prepare a detailed list of risk factors to be incorporated into the UAS T/M/S NATOPS publications, operating manual or unit SOP.

14.4.11 UAS Preflight Briefings

The UMC/UAC shall ensure that each crewmember is briefed on items affecting safety or mission completion.

14.4.11.1 Briefing Requirements

Briefings shall be started in sufficient time to complete the briefing prior to commencing flight operations. Brief times should be noted on the flight schedule. Mission elements and events may be modified and briefed while the aircraft is airborne as long as changes do not compromise flight safety. Flying non-briefed missions and/or events is not recommended. The UMC/UAC shall ensure crewmembers acknowledge changes to mission briefings. Debriefs shall be conducted after each flight, whenever possible.

14.4.11.2 Briefing Items

Preflight briefings shall include the following items:

a. Crewmember assignments and responsibilities.

b. Airspace/working area and frequencies authorized for operations and method of complying with restrictions.

c. The flight/mission scenario along with the essential details of how it will be accomplished.

d. Special procedures and instructions for use during training, formation, or operational missions.

e. Precautions and restrictions, including minimum aircraft requirements and go/no-go criteria.

f. Current and forecasted weather (if available).

g. Alternative airfields (if applicable).

h. Emergency procedures.

i. Mission debrief time and location.

14.4.11.3 Preflight Briefing Guides

UAS NATOPS Model Managers shall develop preflight briefing checklists for their specific T/M/S to be used by UACs/AVOs when briefing each flight/mission. Use of briefing checklists is mandatory for crew-served UAS, and all applicable items in the briefing checklists shall be adequately briefed by the UMC/UAC/AVO or other members of the crew. Unit commanders may supplement these checklists locally as required for mission accomplishment, and establish additional briefing requirements in their unit SOPs.

14.4.11.4 Emergency/Contingency Considerations

The UAC/AVO shall plan and brief for other than normal circumstances, and shall brief procedures that comply with the operator's manual, unit SOP and locally established operating procedures. Emphasis should be placed on the use of sound judgment in place of rote adherence to procedures. At a minimum, the emergency portion of the preflight briefing shall address the following types of emergencies:

a. Ground emergencies.

b. In-flight emergencies, to include notification of controlling agencies, use of checklists, and the UAC/AVO intentions for managing the emergency.

c. Both ground and airborne aborts. Ground aborts should include a review of the takeoff abort and landing go-no go requirements and capabilities. Air aborts could include bird strike, uncommanded flight control inputs, engine/motor failure, loss of GPS or other navigation equipment or loss of link.

d. Armament system malfunctions, if applicable.

e. Sensor malfunctions which impact navigation, sense and avoid capabilities and flight operations.

f. Lost navigation/GPS procedures.

g. Lost link procedures.

h. Emergency Divert and Forced landing procedures.

i. Flight termination criteria and procedures. Review of criteria which may require termination of flight, procedures to initiate flight termination, and methodology to identify safe impact point for the air vehicle.

14.5 GENERAL FLIGHT RULES

14.5.1 Displays and Demonstrations

Participation of UAS in public demonstrations, except as static displays, is prohibited unless expressly authorized by the COMNAVAIRFOR or COMNAVAIRSYSCOM.

14.5.2 Right-of-way Rules

Right-of-way rules for UAS aircraft are the same as for manned aircraft as stated in FAR 91.113 with the following clarifications.

14.5.2.1 General

When weather conditions permit, regardless of whether an operation is being conducted under IFR or VFR, vigilance shall be maintained by each person operating an aircraft so as to see and avoid the other aircraft. When a rule in this section gives another aircraft the right-of-way, the pilot shall give way to that aircraft and may not pass over, under, or ahead of it unless well clear. Due to its size and paint scheme, a UAS may not be easily seen by other aircraft. Therefore, UAC/AVO should always be prepared to take evasive action, including possible termination of flight.

14.5.2.2 In Distress

An unmanned aircraft in distress has right of way over other air traffic except when doing so will jeopardize the safety of manned aircraft or ground personnel.

14.5.2.3 Converging

When aircraft of the same category are converging at approximately the same altitude (except head-on, or nearly so), the aircraft to the other's right has the right-of-way. Aircraft of different categories have the right-of-way in decreasing order of priority as follows.

a. Balloons.

b. Gliders.

c. Aircraft towing or refueling other aircraft.

d. Airships.

e. Fixed-wing and rotary aircraft.

14.5.2.4 Approaching Head-on

Each aircraft that is being overtaken has the right of way, and each pilot, UAC, or AVO of an overtaking aircraft shall alter course to the right to pass well clear.

14.5.2.5 Overtaking

Each aircraft that is being overtaken has the right of way, and each pilot, UAC, or AVO of an overtaking aircraft shall alter course to the right to pass well clear.

14.5.2.6 Landing

Aircraft, while on final approach to land or while landing, have the right-of way over other aircraft in flight or on the surface, except that they shall not take advantage of this rule to force an aircraft off the runway surface which has already landed and is attempting to make way for an aircraft on final approach. When two or more aircraft are approaching an airport for the purpose of landing,

the aircraft at the lower altitude has the right-of-way, but it shall not take advantage of this rule to cut in front of another aircraft which is on final approach to land or to overtake that aircraft.

14.5.2.7 Right-of-way Between Single Aircraft and Formations of Aircraft

The information in 5.1.2 addresses this circumstance.

14.5.3 Loss of Link (LOL)

If a LOL condition occurs, contact the airspace control authority as soon as possible and provide following information (at a minimum):

a. UAS type/size.

b. Last known location and time of LOL.

c. Heading, altitude, and estimated flight time remaining.

d. Pre-programmed LOL flight instructions.

14.5.4 Airspace

UAS operations in the NAS should, to the maximum extent practical, be conducted in either restricted or warning areas. Any UAS operation outside of these special use airspaces requires coordination with the FAA in accordance with FAA JO 7610.4, Chapter 12, Section 9, or appropriate aviation authorities if operating OCONUS. UAS may operate in the NAS outside of restricted areas and warning areas with an active approved COA in accordance with current regulations, memorandums of agreement, and directives.

14.5.5 UAS VFR Requirements

When operating in VMC, UASCs are required to see and avoid other traffic and ground obstacles. UAS do not have the traditional capability to see and avoid. When operating in VMC in the NAS, within restricted airspace, warning areas, or military controlled class D airspace UAS will be deconflicted with other traffic by the airspace controlling authority. When operating in VMC in other areas of the NAS the COA issued by the FAA for that operation will specify traffic avoidance procedures.

14.5.5.1 VFR Weather Requirements

When operating in VMC in the NAS outside of restricted airspace, warning areas, and military controlled class D airspace, FAR Part 91 weather requirements apply. Model Managers shall establish UAS T/M/S VMC weather requirements based on system limitations, aircraft equipage, level of autonomy, and flight crewmember qualifications.

14.5.5.2 VFR Operating Provisions

When not operating under positive control, the following provisions apply:

a. UAC (UAS Groups 3 through 5) shall request and utilize Radar Advisory Services (Flight Following) to the maximum extent practical.

b. Unless operational necessity dictates, IMC shall be avoided at all times. If inadvertent IMC is encountered, UAC shall make every effort to exit IMC as quickly and safely as possible.

14.5.6 UAS IFR Requirements

14.5.6.1 UAS Groups 1 and 2 Procedures

UAS Groups 1 and 2 operating in IMC shall comply with all regulations governing IFR flight and shall have obtained prior permission from the reporting custodian and the local airspace controlling authority to conduct IFR flight operations

14.5.6.2 UAS Groups 3 through 5 Procedures

Instrument flight procedures cited in 5.3.1 through 5.3.1.6 of this instruction also apply to Groups 3-5 UAS.

14.5.6.3 Instrument Flight Equipment Requirements

In order to fly under IFR a UAS must be equipped so the following parameters can be monitored:

a. Airspeed.

b. Altitude.

c. Turn rate.

d. Time.

e. Attitude.

f. Vertical speed.

g. Heading.

14.5.6.4 IFR Weather Filing Requirements

The NATOPS Model Manager shall establish UAS T/M/S weather filing requirements for IFR flight. At a minimum, the filing requirements shall address the following factors:

a. Maximum winds for the entire route of flight.

b. Any weather conditions that can degrade flight capabilities.

c. The weather filing requirements contained in 4.8.4 applies to those UAS that have no autonomous landing capability.

d. Destination airfield conditions (e.g., field closure, snow on runway, adverse weather, etc).

14.5.7 UAS Airport Operating Procedures

NATOPS Model Managers for Groups 3 through 5 UAS shall develop UAS-specific airport operating procedures. At a minimum these procedures shall address:

a. Ground operations

b. Flight clearances

c. Takeoff

d. Departure

e. Approach and landing

f. Waveoffs and missed approaches

g. Airport/airfield traffic patterns

14.6 AIR TRAFFIC CONTROL

UASCs who intend to operate and communicate with ATC and/or operate in the NAS shall be familiar with Chapter 6. The UAC/AVO shall use sound judgment in adhering to relevant ATC requirements and precautions.

14.7 SAFETY

UACs/UASCs shall be familiar with the safety precautions associated with general flight operations contained in Chapter 7, and for those relevant to UAS operations, shall be adhered to the maximum extent practical.

Group 4 & 5 UASs (at a minimum) shall also follow the reporting procedures for Unusual Performance of Aircraft (Chapter 7.3).

14.7.1 Conduct of Flight

UACs shall avoid unacceptable risks by utilizing the Operational Risk Management (ORM) analysis process when preparing for each flight. Each UAC/AVO shall exercise good judgment and take prudent action in applying NATOPS procedures to aircraft emergencies that endanger life or property. It is the responsibility of the UAC/AVO/UASC to aviate, navigate, and communicate, in that order, during both routine and challenging circumstances. UAS Groups 4-5 UMCs/UACs shall ensure that a current NATOPS Flight manual and/or a NATOPS Pocket Checklist is available during ground and flight operations. If a digital flight manual or the equivalent is utilized, a NAVAIRSYSCOM (AIR-4.0P)-approved back-up flight manual and related checklists shall be available.

14.7.2 Starting, Turning, and Taxiing

14.7.2.1 Authorized Personnel

Engines shall not be started without a UAC/AVO or designated UASC in control of the UAS at the respective MCS or maintenance laptop with suitable shutdown capability and health and status feedback to the UASC.

14.7.2.2 General Prestart Precautions

The UAC shall ensure that the safety precautions outlined in 7.1.2.2 are adhered to the maximum extent practical.

14.7.2.3 Takeoff and Landing Checklists

NATOPS Model Managers for Groups 1-3 shall ensure that takeoff and landing procedures are in place to ensure standardization during critical phases of flight.

NATOPS checklists shall be provided to each UAS Groups 4-5 UASC for mandatory use by UACs in preparing the aircraft for takeoff and landing. The checklist steps shall be followed in their given order to ensure that all steps are performed.

14.8 AEROMEDICAL REQUIREMENTS

Unless otherwise noted below, UASCs are subject to the requirements of 8.3. NASTP training is not required for UASC IAW 8.4.1(t). Personnel engaged in flight operations of both manned and unmanned aircraft shall meet the aeromedical requirements for both.

14.8.1 Aviation Physical Examinations and Qualifications

Specific flight physical requirements for UAS flightcrew members are found in the Manual of the Medical Department (MANMED).

14.8.1.1 Medical Waivers

Until provisions are made in the MANMED, a waiver of the examination policy may be provided to those individuals required to train/operate with Group-1 UAS but are in a Light Duty or Limited Duty status. Unit commanders may authorize a medical waiver after written endorsement is obtained from an aviation medical officer that states that the nature of the individual's medical limitations do not interfere with safe operation of the air vehicle. This waiver shall remain on file in unit training records until such time as full duty status has been regained or the operator is no longer serving in the unit. An aviation medical officer may also extend the time allowed for completion of the annual physical examination IAW MANMED.

Note

At no time shall a waiver be granted for UASCs to self medicate while operating a UAS without the expressed written authorization of a flight surgeon or in accordance with BUMEDINST 6410.9.

14.8.2 Human Performance and Aeromedical Qualifications For Flight and Flight Support Personnel.

14.8.2.1 Flight Time Limits

UAS NATOPS Model Managers shall establish maximum flight time limits for their respective UAS operators. The crew duty time required to perform preflight and postflight checks shall be taken into consideration when establishing these standards. For those UAS T/M/S NATOPS without established maximum recommended flight time requirements, paragraph 8.3.2.2, Figure 8-8, maximum flight times for aircrews of multi-piloted pressurized aircraft will apply.

14.8.2.1.1 Exceeding Established Flight Time Guidelines

When the tempo of operations requires that individual flight time exceed the established maximum flight time guidelines, UAS personnel shall be closely monitored and specifically cleared by the unit commander with the advice of the flight surgeon. Units that do not have access to flight surgeons for recommendations to exceed flight time limitations should follow procedures outlined

in BUMEDINST 6410.9. Commanders should ensure that flight time commitments are equitably distributed among the assigned flight personnel.

14.8.2.2 Pregnancy

Normal uncomplicated pregnancy for female UAS crewmembers is not considered physically disqualifying in itself. Specific duty modifications during the pregnancy, if required, should be managed locally.

14.8.2.3 Immunizations and Injections

Unless experiencing a reaction, UAS Crewmembers receiving an immunization or injection may participate in normal UAS operations. Those showing protracted or delayed reaction shall be grounded until cleared by a flight surgeon.

14.8.2.4 Blood Donation

UASCs who have donated blood may participate in normal UAS operations 24 hours after donating blood, unless experiencing side effects or a reaction. Unit Commanders shall establish guidelines on how often blood may be donated by UASCs without affecting crewmember readiness.

14.8.2.5 Hypobaric and Hyperbaric Exposure

Restrictions for hypobaric and hyperbaric exposure do not apply to UASCs unless such activity produces side effects that would otherwise impair their ability and/or judgment to conduct normal UAS operations.

14.9 MISCELLANEOUS

The information contained in 9.2 through 9.8 of this instruction also applies to UAS.

14.10 FLIGHT RECORDS, REPORTS AND FORMS

14.10.1 Naval Flight Record Subsystem (NAVFLIRS)

a. The NAVFLIRS serves as a single, integrated source of flight data for the aviation maintenance and material management (AV-3M) system, the Marine Corps flight readiness evaluation data system (FREDS), the individual flight activity reporting system (IFAR), the Navy logistics information system (NALIS), and up-line reporting to all other existing systems. UAS Groups 3 through 5 shall utilize NAVFLIRS reporting forms and procedures whenever possible.

b. Some UAS T/M/S have been procured with material readiness systems other than NAVFLIRS. Refer to COMNAVAIRSYSCOM directives for instructions on tracking and reporting data for those aircraft.

14.10.2 Flight Records for UAS Groups 1 and 2

Unit commanders operating Groups 1 or 2 UAS shall maintain a record of UAS unit flight operations for historical purposes and training and proficiency records for assigned UAS Crewmembers.

14.10.2.1 UAS Monthly Flight Operations Summary

Unit commanders with UAS Groups 1 or 2 aircraft shall record a monthly summary of daily flight operations titled "UAS Flight Operations Summary" as a separate enclosure or appendix to their unit operations summary. The summary provides a standardized collection method and shall be prepared for each month when flight operations occurred. It shall include monthly totals of UAS launches and flight hours flown by the unit, rounded to the nearest whole hour. The data shall include, at a minimum, the following elements:

a. Reporting unit, address, and POC information

b. Authorized allowance and model of UAS

c. On hand number and models of UAS

d. Number of Full Mission Capable (FMC)/Partial Mission Capable (PMC)/Non-Mis• sion Capable (NMC) days per month for each Air Vehicle, Mission Control System, and Launch/Recovery System (if applicable).

e. Number of UAS launches during current month and current FY to date.

f. Number of UAS flight hours during current month and current FY to date.

g. Training areas or ranges utilized

h. Number of incidents involving loss of link, loss of communications, or in-flight emergencies requiring a deviation of intended landing destination.

The collected data shall be certified by the unit commander and forwarded to COMNAVAIRSYSCOM to facilitate tracking of UAS training, performance, and maintenance.

14.10.2.2 UAC/AVO Training Roster

Commanders of units operating UAS Groups 1 or 2 shall maintain a current training roster that lists all assigned UACs and records their training activities for a given month. It shall also include the results of any evaluations performed. Flight activity of the unit's UACs shall be recorded and then certified monthly by the unit operations officer or designated representative. The following proficiency information shall be recorded for each assigned UAC/AVO:

a. Reporting unit, address, and POC information.

b. Name, rank, and last four digits of social security number.

c. Date and result of crewmember's last annual evaluation.

d. Total flights controlled during the month.

e. Total hours flown during the month.

14.10.3 Groups 3 to 5 UAS Flight Logs

UAS Groups 3-5 operators and flight crews shall document every UAS flight utilizing a flight log report system separate from that prepared for manned aviation documentation. This log shall contain the following data:

a. Reporting unit, address, and POC information.

b. The names of all UASCs involved in the flight and their flight times.

c. Flight duration time.

d. Flight location.

e. Systems utilized and their status (e.g., up, down, functional, mission capable, etc.).

f. Proficiency and training data.

g. All other information pertinent to the maintenance of UAS and training of UAS flight crews.

At least two hard or electronic copies of every flight log shall be made. One copy shall be kept with the maintenance documentation for the UAS airframe and one copy shall be kept by the operations department. These samples are by no means all encompassing. Commands are encouraged to continue to develop reporting products as their needs change and to share these products with other UAS custodians.

14.11 GENERAL INSTRUCTIONS ON DUTY INVOLVING FLYING AND ANNUAL FLIGHT PERFORMANCE REQUIREMENTS

Aircraft operations of any type are inherently dangerous. Therefore, additional measures must be taken to ensure that proper levels of proficiency and readiness are established, achieved and maintained. The purpose of this paragraph is to:

a. Enhance UAS safety.

b. Establish training and readiness policies concerning the status of all active duty and reserve Navy and Marine Corps personnel operating UAS.

c. Prescribe guidance on criteria, standards, and regulations to ensure that the skills of all UAS personnel are maintained at acceptable levels of readiness.

d. Implement logging and reporting UAS simulator time.

For matters concerning Marine Corps UAS, operators should also consult Marine Corps Order (MCO) P100.6 Assignment, Classification, and Travel System (ACTS) Manual for additional information.

14.11.1 Operating UAS While in a Leave Status

UAS operating time accumulated while in a leave status may be used to fulfill the annual UAS operator proficiency requirements.

14.11.2 Operational Flying

Operational flying duty means flying performed under competent orders by designated (rated) members while in assignments in which basic flying skills are normally maintained in the performance of flight duties as determined by the Secretary of the Navy and flying performed by members in training leading to award of an aeronautical designation (rating). Operational flying positions are identified by

specific billet code identifiers, either code 1 or code 2, and require the billet incumbent possess Duty in a Flying Status Involving Operational or Training Flights (DIFOPS) orders. All other billets are considered other than operational flying billets. Marine Corps operational flying assignments are determined by Commandant of the Marine Corps (CMC) Aviation Manpower and Support Branch (ASM). Consult the Naval Military Personnel Manual (MILPERSMAN) to determine if UAS operators are eligible for flight/incentive pay.

14.11.3 Operating Proficiency

The unit NATOPS officer shall maintain the UAC/AVO log books and training records, and keep unit commanders informed of the currency of all assigned UASCs.

14.11.3.1 UAS Proficiency Requirements

To ensure that an acceptable level of readiness is maintained to enhance aviation safety, UAS NATOPS Model Managers shall establish annual proficiency standards for each T/M/S UAS. Simulator flight requirements for each UAS T/M/S shall be conducted in an approved simulator. The following standards shall be met by all applicable UASCs:

a. UASCs shall perform a minimum of one mission or simulator scenario every 90 days and six missions or simulator scenarios every 180 days to remain current. This scenario shall be completed in IAW T/M/S manuals/instructions. The operator must perform a mission scenario in all positions in which he/she is qualified. Each mission shall include a launch and recovery when those skills are required to complete the respective UAS T/M/S scenario.

b. UAC/AVO shall complete one launch and recovery or simulator flight every 90 days to remain current. UAC should complete classroom training to include, but not limited to, reviewing the operator's manual, emergency procedures and proper preparation of both the Ground Control Station (if applicable) and the aircraft.

c. UACs who deploy after having met all proficiency requirements should remain current during the duration of the deployment and for 45 days following their return from a deployment. Commanders shall make every attempt to maintain operator proficiency for UACs/AVOs throughout the deployment.

d. NATOPS Model Managers shall establish the minimum flight duration required for a flight to count toward UAC/AVO currency requirements.

14.11.3.2 Refresher Training

When a UAC/AVO has not maintained the required proficiency requirements, the UAC/AVO shall receive refresher training. Refresher training may vary from unit to unit, but shall include a review of exercising all core UAS tasks, a review of emergency procedures, setting up and tearing down the system (portable systems only) and at least one UAS or UAS T/M/S simulator flight. At the completion of refresher training the UAC/AVO will be considered current and qualified to perform UAS T/M/S operator duties. Specific requirements for refresher training shall be identified by the UAS T/M/S NATOPS Model Manager and should be administered locally by the unit commander. Satisfactory completion of the refresher training shall be recorded in the individual's training record.

14.11.3.3 Maintaining Proficiency

A UAC/AVO should be required to maintain proficiency from the date of initial qualification, refresher training, or re-qualification as recorded in the operator's logbook or training record.

Note

UAS operating time shall not count toward manned aircraft proficiency requirements, and manned aircraft flying time shall not count toward UAS proficiency requirements.

14.11.3.4 Non-Current UASC

UAC/AVO/MPO/UASC who fail to maintain proficiency requirements and have not completed refresher training shall be declared non-current and shall not be permitted to perform the duties of UAC/AVO until after he/she has completed refresher training.

14.11.4 UAS Simulators

UAS T/M/S NATOPS Model Managers shall determine the degree to which UAS flight simulators may be used to satisfy UAS proficiency requirements and establish standards for using simulators to maintain individual operator proficiency.

14.12 USAC CLASSIFICATIONS AND DESIGNATION OF UAS FLIGHT AND MAINTENANCE PERSONNEL

This paragraph establishes qualification requirements for each UASC classification. Requirements prescribed here shall be considered by NATOPS Model Managers as the minimum when preparing aircraft NATOPS manuals and other amplifying directives.

14.12.1 UASC Classifications

The following classifications are established for UASC to ensure accomplishment of the unit mission:

a. UAC

b. AVO

c. MPO

d. GMVO

14.12.1.1 Descriptive Titles for Additional Designations

The foregoing classifications do not prohibit the use of additional descriptive titles within the various UAS T/M/S communities. These titles shall be indicative of a distinct UAS class or employment (e.g., internal pilot, sensor operator, weapons operator, imagery analyst, aerial observer). A descriptive title must be compatible with a significant feature of both the aircraft and its employment. For example, a qualified Payload Operator does not necessarily qualify as a weapons operator or imagery analyst until additional unique training and qualification requirements have been completed and recorded.

14.12.2 Basic UAS Qualification (BUQ) Levels

Detailed qualification requirements for the above UASC classifications, initially developed in CJCSI 3255.01, are listed in appendix P. These BUQ levels are

presented as minimum training standards that are to be utilized when developing requirements for specific UASCs. The diversities of UAS designs, missions, and vehicle technologies make it impossible to prescribe a standard set of training requirements applicable to all crewmembers. For example, highly automated systems may not include manual controls, but instead use keyboard or "point and click" entry methods. In such cases, training certification requirements for manual controls should not be imposed. Conversely, many UAS are limited to GPS navigation and are not capable of using legacy radio aids for navigation and approaches.As a result, the training certification requirements for navigation should reflect the use of GPS skills. Therefore not all knowledge, skills, abilities and training tasks listed in the BUQ levels will be applicable to all UASCs or UAS.

14.12.3 Specific Requirements for Qualification

14.12.3.1 UASC Designations

Regardless of the type of controls, UASCs must be capable of safely conducting UAS missions to include appropriate responses to emergency situations. These unique skills are especially critical when operating in conjunction with other manned and unmanned airborne systems. UASCs must also know how to coordinate with Air Traffic Control representatives when required.

14.12.3.2 UAC

To be qualified to perform the duties of an UAS Commander (UAC), the NATOPS manual shall establish the position designation for the particular model UAS, and at a minimum the individual shall:

a. Complete the requirements for and possess the BUQ knowledge, skill, and capabilities required of an AVO.

b. Be NATOPS-qualified in UAS T/M/S and have the required minimum operator/simulator time for the T/M/S UAS.

c. Demonstrate the ability to successfully train UASC personnel in aircrew coordination and mission requirements.

d. Be designated in writing as a UAC by the unit commander.

Upon initial qualification, a candidate for UAC will normally be required to progress successfully through all training requirements for AVO before beginning the qualification requirements for UAC.

14.12.3.3 AVO

To be qualified to perform duties as an AVO an individual shall:

a. Satisfactorily complete a NATOPS evaluation.

b. Be familiar with the primary missions tasked to the AVOs assigned unit and the UAS's weapons system.

c. Complete the requirements for and possess the BUQ knowledge, level of skill, and capabilities required as set forth by the UAS T/M/S NATOPS Model Manager.

d. Have achieved minimum operating time in UAS T/M/S as defined by the UAS T/M/S NATOPS Model Manager.

e. Be designated in writing as an AVO by the unit commander.

14.12.3.4 MPO

To be qualified to perform duties as a MPO an individual shall:

a. Satisfactorily complete a NATOPS evaluation

b. Have achieved minimum operator time in UAS T/M/S as defined by the UAS T/M/S NATOPS Model Manager.

c. Be designated in writing as a MPO by the unit commander.

14.12.3.5 GMVO

To be qualified to perform duties as a GMVO, an individual shall:

a. Satisfactorily complete a NATOPS evaluation.

b. Have achieved a minimum operator time in UAS T/M/S as defined by the UAS T/M/S NATOPS Model Manager.

c. Be designated in writing as a GMVO by the unit commander.

14.12.4 General Requirements for Qualification

14.12.4.1 Initial Qualification

The requirements listed above shall be met by personnel qualifying in UAS to ensure accomplishment of the mission and safety of flight. In addition to the BUQ requirements, T/M/S NATOPS Model Managers shall prescribe additional knowledge and proficiency standards and flight hour minimums based on the class and model UAS and unit mission. The minimum hours specified are required to ensure operators are highly proficient before designation. UAS T/M/S NATOPS Model Managers shall establish time limits within which initial qualifications shall be completed. Waivers of flight hour minimums may be granted by the Unit commander commensurate with demonstrated ability and only when deemed necessary to accomplish events of the unit mission.

14.12.4.2 Transition Course Training

Operators with prior experience in a specific UAS T/M/S will require only a transition course of instruction for respective positional qualification on an updated UAS of the same T/M/S or a UAS of the same group that utilizes the same ground control station. In all other cases, the individual shall be required to undergo initial qualification training on the new UAS T/M/S. In case of any system similarity disputes, the Model Manager of the UAS being transitioned into shall serve as the final authority.

14.12.4.3 Requalification

UAS T/M/S NATOPS Model Managers shall establish requirements for requalification along with the time limits within which they are to be completed. Appendix P should be used as a reference when establishing these requirements.

14.12.5 Failure To Qualify

UAS T/M/S NATOPS Model Managers shall establish requirements and time limits for crew members who fail to qualify. At a minimum, the unit commander shall ensure the crew member has safely completed all failed requirements.

14.12.6 Revocation of Qualifications

When a commander revokes a qualification for substandard performance, an entry to that effect shall be made in the individual's NATOPS/training record.

14.13 UAS INSTRUMENT RATING

14.13.1 Requirement For UAS Instrument Ratings

UACs and AVOs who operate Groups 3 - 5 UAS's are required to hold current UAS instrument ratings. Instrument ratings are required for UASCs who control UAs that are capable of instrument flight and operate under IFR. UAS T/M/S NATOPS Model Managers shall establish T/M/S standards for a UAS instrument rating based on the Appendix P BUQ level IV requirements for incorporation into their respective UAS NATOPS Flight Manuals or equivalent operating publications. Manned aircraft instrument training facilities and curricula may be utilized by UAS personnel to maintain UAS instrument rating requirements. A manned aircraft instrument rating satisfies the UAS instrument rating requirement. Instrument flight time and instrument approaches logged in manned aircraft may be used to satisfy UAS instrument rating requirements.

Note

- Chief of Naval Air Training (CNATRA) is authorized to issue instrument ratings to UACs/AVOs following successful completion of an approved Naval Air Training Command instrument training syllabus.
- UAS instrument time and approaches are not authorized toward qualification and currency requirements for manned aircraft instrument ratings.

14.13.2 UAS Instrument Rating Annual Qualification Requirements

A UAC/AVO shall satisfy the following minimum requirements for an UAS instrument rating:

a. Be NATOPS qualified in the UAS.

Note

In aircraft for which there is no NATOPS guidance, 10 hours as AVO in model may be substituted as a minimum time required to establish a NATOPS qualification.

b. Have a minimum of 25 hours of instrument operating time under instrument (actual or simulated) conditions.

c. Within the 6 months preceding the date of the instrument evaluation flight, have logged:

(1) A minimum of six hours as UAC/AVO under instrument conditions.

(2) A minimum of 9 final instrument penetrations with approaches to minimums, of which 5 shall be to precision approach minimums.

d. Within the 12 months preceding the date of the instrument evaluation flight, have logged:

Note

Instrument hours conducted as part of a previous instrument evaluation flight may be applied to minimum requirements if the checkflight occurred within 12 months of the date of the evaluation flight.

(1) A minimum of 12 hours as a UAC/AVO under instrument conditions (e.g. if the instrument checkflight occurs on 24 January 01, count all instrument hours and approaches after 24 January 00).

(2) A minimum of 18 final instrument penetrations and approaches to minimums, of which 10 shall be to precision approach minimums.

e. Attend a CNAF-approved instrument ground school if one is available.

f. Pass an approved written closed-book NATOPS instrument examination.

g. Pass a NATOPS instrument flying evaluation that reflects the requirements contained in the T/M/S UAS NATOPS or the Instrument Flight Manual.

Note

Instrument flight time and instrument approaches accumulated in the designated flight simulators may be used to fulfill instrument flight time and instrument approach requirements. UAS instrument flight simulators shall be approved and designated for use by CNAF N455.

14.13.3 Instrument Rating Administration

14.13.3.1 Aircraft Considerations

UAS instrument ratings are valid for all UAS T/M/S in which the UAC/AVO is NATOPS qualified, regardless of the model with which the check was flown. A UAC/AVO is instrument qualified for any UA upon completing the qualification requirements as published in the respective NATOPS/operating manual, meeting the requirements for an instrument rating listed in 14.13.2, and being signed off as complete by the unit commander.

14.13.3.2 Issuing Authority

Unit commanders or reporting seniors, as appropriate, have the authority to issue instrument ratings to qualifying UACs/AVOs.

14.13.3.3 Restrictions on Instrument Ratings

Under no circumstances shall UAS instrument ratings be issued when the requirements of this chapter have not been met. The endorsement of instrument ratings to limit their applicability or use in any way is not authorized without specific approval of COMNAVAIRFOR or CMC.

Note

UAS instrument time and approaches are not authorized toward qualification and currency requirements for manned aircraft instrument ratings.

14.13.4 Initial Qualification For UAS Instrument Ratings

14.13.4.1 Initial Qualification For An Instrument Rating

Initial qualification for an UAS instrument rating will normally take place during the UASCs period of initial UAS familiarization and training.

14.13.4.2 Expiration of Instrument Flight Qualifications

Once conferred, the initial UAS instrument rating is valid for a period of one year from the last day of the month in which the qualification was attained.

14.13.5 UAS Instrument Rating Renewal Requirements

14.13.5.1 Period for Renewal/Expiration of Renewed Instrument Rating Qualifications

Instrument ratings may be renewed up to 60 days prior to the last day of the month in which the rating expires. If renewed during this period, the renewed rating expires one year from the date the last rating was to expire. If not renewed during this period, the new rating expires on the last day of the month that the instrument evaluation flight was conducted (13.1.2.1 applies).

14.13.5.2 Period of Grace For Requalification

a. Newly assigned Navy/Marine Corps Reserve AVOs shall be granted a period of 6 months from date of first reporting to requalify.

b. UACs/AVOs returning from duties where a valid instrument rating/qualification could not be maintained and who had requirements waived by COMNAVAIRFOR or CMC shall be granted a period of 6 months in which to requalify.

c. When a UAC/AVO is ordered to a formal course of flight instruction that involves an instrument syllabus, and his/her instrument rating qualifications expire prior to or during the training period, renewal of the instrument rating may be delayed until the UASC achieves NATOPS qualification in the UAS T/M/S for which he/she is undergoing training.

14.13.5.3 Extensions

Extensions to instrument ratings beyond the expiration dates may be granted under the conditions listed in 13.1.2.3.

14.13.6 Failure To Meet Renewal Requirements

UACs who are required to qualify for an instrument rating and have not done so within the required time period shall be reassigned by their unit commander to duties not requiring an instrument rating.

14.13.7 Revoking of Instrument Ratings

A unit commander / unit commander authorized to issue an instrument rating is authorized to revoke the instrument rating of any UAC/AVO attached or assigned to his/her command when, in the unit commander/unit commander's opinion, the UAC has displayed a lack of instrument flying proficiency.

APPENDIX A

References and Other Selected Aviation Issuances

A.1 SELECTED AVIATION DIRECTIVES (LISTED IN NUMERICAL SEQUENCE)

Note

The following references can be downloaded from these Web sites:

Command	URL
OPNAV and SECNAV	http://doni.daps.dla.mil/default.aspx
U.S. Marine Corps	http://www.marines.mil/news/Publications/Pages/orders.aspx
BUPERS	http://www.npc.navy.mil/ReferenceLibrary/Instructions/BUPERSInstructions/
CNAF	https://www.portal.navy.mil/comnavairfor
COMNAVAIRSYSCOM	http://directives.navair.navy.mil/index.cfm
DoD	http://www.dtic.mil/whs/directives/
BUMED	http://www.med.navy.mil/directives/Pages/BUMEDDirectives.aspx
JAG	http://www.jag.navy.mil/library/instructions.htm
NATOPS	https://mynatec.navair.navy.mil/
NATOPS	https://airworthiness.navair.navy.mil/

This appendix lists each of the issuances cited within its text. The issuances listed here have been placed in ascending numerical order and contain the current revision. Reference in the chapters of this manual are by numeric series only and do not contain revision information. SECNAV and OPNAV directives may be viewed on the DONI Web site, http://doni.daps.dla.mil. NAVAIR NATOPS publications may be viewed on the NATEC Web site, https://mynatec.navair.navy.mil/ or the Airworthiness Web site, https://airworthiness.navair.navy.mil/.

Ref	NUMBER	SOURCE	TITLE
(a)	6055.1	DoD Instruction	DoD Safety and Occupational Health (SOH) Program of 19 Aug 98
(b)	3500.39B	OPNAVINST	Operational Risk Management (ORM)
(c)	00-80T-114	NAVAIR	NATOPS Air Traffic Control Manual
(d)	Part 91	FAA	Federal Aviation Regulations (FAR)
(e)	MIL-STD-85025B	NAVAIR	NATOPS Program Technical Publications and Products; Style, Format, and Common Technical Content, 28 Sep 07
(f)	5510.36A	SECNAVINST	Department of Navy (DON) Information Security Program (ISP) Instruction
(g)	5720.44B	SECNAVINST	Department of the Navy Public Affairs Policy and Regulations
(h)	5820.7C	SECNAVINST	Cooperation with Civilian Law Enforcement Officials
(i)	1542.4C	OPNAVINST	Aeromedical Dual Designator (AMDD) Program
(j)	3710.1F	NAVAIRINST	Contractor's Flight and Ground Operations
(k)	4630.25C	OPNAVINST	Air Transportation Eligibility
(l)	5510.34A	SECNAVINST	Disclosure of Classified Military Information and Controlled Unclassified Information to Foreign Governments, International Organizations, and Foreign Representatives
(m)	505	NAVSUP	NAVSUP Publication 505 - Preparing Hazardous Material for Military Air Shipments
(n)	3533	NATO (STANAG)	NATO Standardization Agreement 3533 Safety Rules for Flying Displays
(o)	3564FS	NATO (STANAG)	Rules for Live Weapons Demonstrations
(p)	1542.7C	OPNAVINST	Crew Resource Management Program
(q)	4790.2A	COMNAVAIRFORINST	The Naval Aviation Maintenance Program (NAMP)
(r)	5800.7E	JAGINST	Manual of the Judge Advocate General (JAGMAN)
(s)	3722.16C	OPNAVINST	United States Standard for Terminal Instrument Procedures (TERPS)
(t)	3750.6R	OPNAVINST	Naval Aviation Safety Program
(u)	01-1B-40	NAVAIR	Technical Manual, Weight and Balance Data
(v)	01-1B-50	NAVAIR	Technical Manual, USN/USMC Aircraft Weight and Balance Control
(w)	3722.33C	OPNAVINST	Federal Aviation Administration Handbook of Special Military Operations 7610.4
(x)	3770.4A	OPNAVINST	Use of Airspace by U.S. Military Aircraft and Firing Over the High Seas
(y)	00-80T-112	NAVAIR	NATOPS Instrument Flight Manual

Ref	NUMBER	SOURCE	TITLE
(z)	3500.14	MCO	Aviation Training and Readiness (T&R) Program
(aa)	3722.30C	OPNAVINST	Security Control of Air Traffic and Air Navigation Aids (SCATANA)
(ab)	13034.1C	NAVAIRINST	Flight Clearance Policy for Air Vehicles and Aircraft Systems
(ac)	00-80T-113	NAVAIR	Aircraft Signals NATOPS Manual
(ad)	13-1-6.1-1	NAVAIR	Inflatable Survival Equipment (Liferafts) of 1 Sep 07 w/chg 3 of 1 Sep 09
(ae)	13-1-6.1-2	NAVAIR	A; Inflatable Survival Equipment (Lifepreservers) of 1 Mar 09 w/chg 1 of 1 Sep 09
(af)	13-1-6.2	NAVAIR	Organization, Intermediate and Depot Maintenance with Illustrated Parts Breakdown Emergency Personnel and Drogue Parachute Systems of 1 Sep 06 w/chg 5 of 1 Sep 2009
(ag)	13-1-6.3-1	NAVAIR	Seat Survival Kits (Oxygen Hoses and Non-SKU-Series Seat Kits) of 1 Apr 07 w/chg 5 of 1 Sep 2009
(ah)	13-1-6.3-2	NAVAIR	Seat Survival Kits (SKU-Series Seat Kits) of 1 Apr 07 w/chg 5 of 1 Sep 09
(ai)	13-1-6.4-1	NAVAIR	Oxygen Systems (Aircraft Equipment, Masks and Other Systems) of 1 Apr 08 w/chg 3 of 1 Sep 09
(aj)	13-1-6.4-2	NAVAIR	Oxygen Systems (Regulators) of 1 Sep 09
(ak)	13-1-6.4-3	NAVAIR	Oxygen Systems (Concentrators) of 1 Apr 01 w/chg 14 of 1 Sep 09
(al)	13-1-6.4-4	NAVAIR	Oxygen Systems (Converters) of 1 Apr 01 w/chg 12 of 1 Sep 09
(am)	13-1-6.5	NAVAIR	Rescue and Survival Equipment of 1 Aug 04 w/chg 10 of 1 Sep 09
(an)	13-1-6.7	NAVAIR	Aircrew Personal Protective Equipment of 1 Sep 08 w/chg 2 of 1 Sep 09
(ao)	13-1-6.7-1	NAVAIR	Aircrew Personal Protective Equipment (Aircrew/Passenger Equipment) of 1 Sep 08 w/chg 2 of 1 Sep 09
(ap)	13-1-6.7-2	NAVAIR	Aircrew Personal Protective Equipment (Clothing) of 1 Apr 07 w/chg 5 of 1 Sep 09
(aq)	13-1-6.7-3	NAVAIR	Aircrew Personal Protective Equipment (Helmets and Masks) of 1 Apr 07 w/chg 4 of 1 Sep 09
(ar)	13-1-6.7-4	NAVAIR	Aircrew Personal Protective Equipment (Protective Assembly, Aircrew Survival - Armor A/P22P-18(V)) of 1 Sep 09

Ref	NUMBER	SOURCE	TITLE
(as)	13-1-6.7-5	NAVAIR	Aircraft Organizational and Intermediate Maintenance with Illustrated Parts Breakdown A/A24A-56 Helmet Unit Integrated (Joint Helmet Mounted Cueing System) of 1 Aug 02 w/chg 10 of 1 Sep 09
(at)	13-1-6.10	NAVAIR	Special Aircrew Mission Equipment of 15 Sep 99 w/chg 15 of 1 Sep 09
(au)	13-1-6.10-1	NAVAIR	A; Operators Manual Joint Protective Aircrew Ensemble (JPACE) of 4 Jul 07
(av)	13-1-6.10-4	NAVAIR	Operators Manual for Joint Service Lightweight Intergrated Suit Technology (JSLIST) Chemical Protective Ensemble of 28 Jul 08
(aw)	16-30PRC-90-2	NAVAIR	Radio Sets AN/PRC-90 and AN/PRC-90-2, of 1 Aug 09
(ax)	16-30PRC-149-1	NAVAIR	Radio Set AN/PRC-149 Part Number 2155-09093-00, Radio Set AN/PRC-149A Part Number 2155-09093-01, Radio Set AN/PRC-149-T1 (Training Unit) Part Number MEA-23100-0002, Radio Set AN/PRC-149-T1 (Training Unit) Part Number MEA-23000-0004, and C-12631/PRC-149 Swimmer Control Unit Part Number 2155-09073-00 of 1 Aug 09
(ay)	16-30URT-140-1	NAVAIR	Radio Beacon Set AN/URT-140 Part Number 2155-0908300 NSN 5826-01-466-0179 and Radio Beacon Set AN/URT-140-T1 (Training Unit) Part Number MEA-23100-0002 NSN 5999-01-493-1991 of 1 Aug 09
(az)	16-35PRC-112-1-1	NAVAIR	Radio Set AN/PRC-112B Part Number 01-P35000J001, Radio Set AN/PRC-112B1 Part Number 01-P494004001, Quickdraw Interrogator Set Part Number 1794AS0993, Quickdraw2 Interrogator Part Number 1794AS0983, Suitcase Interrogator Set Part Number 01-P38932J001, Radio Programming Set Part Number 1794AS0984 of 1 Mar 08
(ba)	16-35PRC-112-1	NAVAIR	Radio Set AN/PRC-112 (NSN 5820-01-279-5450)(EIC:JBG), AN/PRC-112C (NSN 5820-01-458-6018)(EIC:N/A), AN/PRC-112D (NSN 5820-01-500-1535)(EIC:NA), Program Loader KY-913/PRC-112 (NSN 7025-01-279-5308)(EIC:N/A) of 15 Jun 05

Ref	NUMBER	SOURCE	TITLE
(bb)	16-35AVS-9-4	NAVAIR	Image Intensifier Set, Night Vision, Type AN/AVS-9(V) P/N 264359-15, P/N 264359-26, P/N 264359-27, P/N 264359-28, P/N 264359-47 of 1 Apr 08
(bc)	5100.27B/5104.1C	OPNAVINST/MCO	Navy Laser Hazards Control Program
(bd)	3-50.1 (Rev A)	NWP	Search and Rescue (SAR) Manual
(be)	00-80T-121	NAVAIR	Chemical and Biological Defense NATOPS Manual
(bf)	6490.1	DoD Directive	Mental Health Evaluations of Members of the Armed Forces of 1 Oct 97
(bg)	6320.24A	SECNAVINST	Mental Health Evaluation of Members of the Armed Forces
(bh)	5370.7C	SECNAVINST	Military Whistleblower Reprisal Protection
(bi)	P-6410	NAVMED	Performance Maintenance During Continuous Flight Operations of 1 Jan 00
(bj)	6410.9	BUMEDINST	Medical Monitoring Flight Personnel in Locations Where Flight Surgeons Are Not Available
(bk)	6110.1H	OPNAVINST	Physical Readiness Program
(bl)	6000.1C	OPNAVINST	Navy Guidelines concerning pregnancy and parenthood.
(bm)	3710.37A	OPNAVINST	Anthropometric Accommodation in Naval Aircraft
(bn)	3710.9D	NAVAIRINST	Anthropometric Accommodation in Naval Aircraft
(bo)	3130.6D	OPNAVINST	Naval Search and Rescue (SAR) Standardization Program
(bp)	4631.2D	OPNAVINST	Management of Department of the Navy (DON) Airlift Assets
(bq)	11-1-11B	NAVAIR	Navy Ammunition Logistic Codes
(br)	P1000.6G	MCO	Assignment, Classification, and Travel System (ACTS) Manual
(bs)	1326.4D	BUPERSINST	Administration of Enlisted Flight Orders/Career Enlisted Flyer Incentive Pay (CEFIP)/Hazardous Duty Incentive Pay (HDIP) for Aerial Flight
(bt)	7220.29A	BUPERSINST	Aviation Career Incentive Pay (ACIP)
(bu)	1326.2G	MCO	Administration of Temporary Flight Orders
(bv)	5211.5E	SECNAVINST	Department of the Navy Privacy Program
(bw)	5214.1	SECNAV Manual	Department of the Navy Information Requirements (Reports) Manual of 31 Dec 05

Other Selected Aviation Issuances

NUMBER	SOURCE	TITLE
1000.16K	OPNAVINST	Navy Total Force Manpower Policies and Procedures
3140.14E	NAVMETOCCOMINST	Procedures Governing Flight Weather Briefings and Preparing DD Form 175-1 and U.S. Navy Flight Forecast Folder
F3300.53C	OPNAVINST	Navy Anti-terrorism (AT) Program
3300.53A	COMNAVAIRFORINST	Force Protection Program
3710.4A	MCO	Waivers to Duty Involving Flying Denied (DIFDEN)
4790.2J	OPNAVINST	The Naval Aviation Maintenance Program (NAMP)
5210.8D	SECNAVINST	Department of the Navy Records Management Program
5400.07	DoD Directive	DoD Freedom of Information Act (FOIA) Program of 2 Jan 08
5510.30B	SECNAVINST	Department of Navy Personnel Security Program Instruction
6100.13	MCO	Marine Corps Physical Fitness Program
7050.06	DoD Directive	Military Whistleblower Protection of 23 Jul 07
00-80T-122	NAVAIR	Helicopter Operating Procedures for Air Capable Ships NATOPS Manual

APPENDIX B

NATOPS Flight Personnel Training/ Qualification Jacket

B.1 INTRODUCTION

This appendix describes the composition of OPNAV 3760/32 NATOPS Flight Personnel Training/Qualification Jacket required by chapter 10 for each individual assigned to flying duties, and provides procedures and responsibilities for its preparation, maintenance and disposition.

B.1.1 Purpose

The OPNAV 3760/32 provides a consolidated record of the training status and readiness of flight personnel and serve as a repository for certain aviation records accumulated by flight crewmembers during active aviation tours.

B.1.2 Scope

OPNAV 3760/32 is intended to provide commanding officers with pertinent data to assist in assignment, utilization, and training of individuals. Properly maintained, it presents a cumulative history and concise summary of qualifications. It is not a forum for evaluating the performance of an officer or enlisted aircrew member. The jacket will not become part of the individual's personnel records within BUPERS, except as noted in paragraph A.1.5.

B.1.3 Responsibility

Responsibilities pertaining to custody of OPNAV 3760/32 are as follows:

a. Commanding officers shall ensure that custody and maintenance of OPNAV 3760/32 are in accordance with provisions of this instruction.

b. Ensure that OPNAV 3760/32 are maintained for all assigned flight personnel.

c. Flight personnel, when flying with a unit other than the one that regularly maintains their jacket, shall ensure that the unit with which they are flying is provided temporary custody of the OPNAV 3760/32.

B.1.4 Security

The OPNAV 3760/32 is "For Official Use Only" in accordance with DoD 5400.7-R of 4 Sep 98. No information may be divulged from it, except to persons possessing a need to know. Only the individual and personnel designated in writing by the commanding officer may have access to OPNAV 3760/32s. In accordance with reference (bv), attach OPNAV 5211/9 Record of Disclosure and a "Privacy Act Statement" (figure B-1) inside the front cover of the OPNAV 3760/32.

21 OCT 2009

PRIVACY ACT STATEMENT
FOR
OPNAV 3760/32 (REV 4/81) - NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET

This statement is provided in compliance with the provisions of the Privacy Act of 1974 (PL 92-579) which require that federal agencies inform individuals who are requested to furnish Personally Identifiable Information (PII) about themselves as to the following facts concerning the information requested.

1. AUTHORITY: 10 U.S.C. 5013, Secretary of the Navy; 10 U.S.C. 5041, Headquarters, Marine Corps; OPNAVINST 3710.7, NATOPS General Flight and Operating Instructions; and E.O. 9397 (SSN).

2. PRINCIPLE PURPOSE: To provide a consolidated record of the training status and readiness of an air crewman and serve as a repository for certain aviation records accumulated during active aviation tours, and to provide Commanding Officers with pertinent data to assist in assignment, utilization, and training of an air crewman.

3. ROUTINE USES: In addition to those disclosures generally permitted under 5 U.S.C. 552(b) of the Privacy Act, these records or information contained therein may specifically be disclosed outside the Department of Defense as a routine use pursuant to 5 U.S.C. 552(b)(3) as follows:

   The Department of Defense `blanket routine uses' that appear at the beginning of the Navy's compilation of systems and records notices apply to this system.

4. DISCLOSURE: Failure to provide this access authorization may result in delays in entering information into your jacket and / or scheduling events to complete your training and qualification requirements in a timely manner.

Signature: _____

Date: _____

Figure B-1. PRIVACY ACT STATEMENT

B.1.5 Disposition

Upon detachment from a squadron/command, or from active duty service, the OPNAV 3760/32 will be reviewed, certified by the commanding officer or a designated representative, and given to the individual. In the event of death, the OPNAV 3760/32 will be treated as personal effects.

B.1.6 Review

The individual's OPNAV 3760/32 will be periodically reviewed by the commanding officer or a designated representative to ensure accuracy and currency. The review shall be conducted:

a. Upon reporting to a unit.

b. Annually (within 30 days of date of birth).

c. Upon major change in flight status.

B.1.7 Design

The OPNAV 3760/32 is composed of a cover, standard sectional and topical dividers, and pertinent documents and records. It is divided into four sections. Each section is divided into topical parts with appropriate titles.

B.1.8 Maintenance

a. The jacket shall be maintained in accordance with the provisions of this appendix.

b. No records or documents will be inserted that do not provide pertinent data concerning the aviation status of the individual.

c. Individuals will not insert or remove records without approval of the commanding officer.

B.1.9 Forms

OPNAV 3760/32 through OPNAV 3760/32I may be obtained through normal supply channels in accordance with NAVICP PUB 2003 and NAVSUP PUB P409 or download from Naval Forms Online at https://forms.daps.dla.mil/.

B.2 ASSEMBLY AND MAINTENANCE

B.2.1 General

Part A shall contain the OPNAV 3760/32A Review and Certification Record.

Part B shall contain a copy of only the most recent PCS orders showing the current authority for flying status. Letters from enlisted aircrew indicating their volunteer flight status shall be filed in this section. Letters of suspension and/or revocation of flying status shall be filed in this part for permanent retention.

Part C shall contain the signed original of the current standard NAVMED 6410/1 Grounding Notice (Aeromedical) or 6410/2 Clearance Notices

(Aeromedical); NAVMED 6410/9 Anthropometric Data Sheet, and/or OPNAV 3710/37 Anthropometric Data Measurement Record. Forms maintained include those covering annual flight physicals and most current up chits from any grounded period (the exception being a grounding notice that "expires automatically," in which case a clearance notice is not required). They will be retained until the succeeding years annual flight physical clearance notice is received. Medical waivers (official PERS or CMC letters to include NAMI recommendation letter) shall be retained as long as they are in effect.

Part D shall contain an OPNAV 3760/32B Record of Flight Equipment Issued.

B.2.2 Qualifications and Achievements

Part A shall contain a permanent record of all functional designations prescribed in chapters 12 and 13 and specific NATOPS manuals. Examples of qualifications to be recorded on OPNAV 3760/32C Flight Personnel Designation Record are aircraft commander, helicopter, second pilot, maintenance functional check pilot, and NATOPS evaluator/instructor. To maintain a historical record, copies of designation letters containing designation dates and approving authority signature shall be maintained following OPNAV 3760/32C.

Part B shall contain a permanent record of all other designations not included in part A above. Tactical-oriented and mission-oriented designation shall be recorded on OPNAV 3760/32D Mission Qualilification Record. Designation letters may also be retained in this part.

B.2.2.1 Revoked Qualifications

When a commanding officer revokes a qualification for substandard performance, a suitable entry shall be made in section II, part A or part B as appropriate.

B.2.3 Training

Part A shall contain a record of all formal schools and courses attended. OPNAV 3760/32E School/Course Attendance Record shall be utilized. CRM training and flight evaluations shall be logged in the individual OPNAV 3760/32 in section II, part C on enclosure (4) of reference (p). Regular squadron and ground training lectures will not be included. Part A, section 3 shall also include a copy of the training command student summary and all FRS summaries for training completed after 1 January 1988. Summaries for training completed prior to this date are desired but not mandatory.

Part B shall contain a permanent record of NASTP (formerly water survival (NAWSTP) and physiology training (NAPTP)), SERE, NITE lab and annual egress training. OPNAV 3760/32F Operational Physiology and Survival Training shall be utilized. Qualification letters for NASTP are preferred. Training course description and signature are required as documentation. Type of sensor (e.g., AN/AVS-6, CATEYES, FLIR, etc.) is also required for NITE lab training documentation. Annual egress training conducted locally for other than ejection seat equipped aircraft shall be recorded on OPNAV 3760/32F. Any and all competent, qualified and/or designated FS, divers, PR, seat mechanics, aircrew, and other instructors providing training within his/her area of expertise may record and sign the entry to document completion of the training. No further documentation is necessary or desired.

Part C shall contain a record of all examinations (on a 4.0 scale) pertinent to the individual's aviation qualifications. OPNAV 3760/32G Examination Record shall be utilized. The most current open and closed book exam or answer sheet, if appropriate shall be included following OPNAV 3760/32G.

Part D shall contain all OPNAV 3710/7 NATOPS Evaluation Reports. (Effective from the date of this instruction, Marine Corps commands shall include a NATOPS evaluation form with each OPNAV 3710/7. Samples may be found in reference (z) and individual NATOPS manuals.)

Part E shall contain all OPNAV 3710/2 Instrument Rating Requests. If an extension has been granted, this section shall contain the approved waiver for the extension.

B.2.4 Flight Records

The OPNAV 3760/31 Aviators Flight Log Book is the official document of pilot history. Copies of MIFARs for the current fiscal year should be maintained in part A.

Part B shall contain a permanent record of all aircraft mishaps/flight violations involving an aircrew causal factor, and FNAEB results. In addition to those entries authorized by paragraph A.2.1, the FNAEB entry shall consist of the date of the FNAEB and comments by the commanding officer. The commanding officer may not delegate this responsibility. OPNAV 3760/32H Mishap/Flight Violation Record shall be utilized.

B.2.5 Procurement

a. The basic jacket with dividers, OPNAV 3760/32 (Rev. 4-81), may be ordered using S/N 0107-LF-736-2112. Existing jackets, OPNAV 3760/32 (Rev. 11-73), may be adapted to this instruction by inserting tabs included with OPNAV 3760/32I Flight Jacket Divider Tabs.

b. Forms may be procured as stated in appendix L.

APPENDIX C

Aircraft Visual Identification System

C.1 GENERAL

In response to the requirement in chapter 9 to establish a unique identity for each naval aircraft, this appendix establishes a visual identification system for naval aircraft and provides for assignment of aircraft markings and side numbers that identify aircraft of one unit from those of another. The system provides a means of rapid identification of Navy and Marine aircraft that is simple, flexible, and readily adaptable to expansion in the event of mobilization. Requests for changes or recommendations for assignment of identification letters to new or activated reserve units issued aircraft for custody shall be made to OPNAV (N88H) via the chain of command. To expedite the request, submit via e-mail to aviationhistory@navy.mil.

C.1.1 Unit Identification

CNO will assign unit identification letters for aircraft of air wings/groups and squadrons in accordance with the following guidelines.

C.1.1.1 Present Assignments

Identification letters presently assigned will be retained permanently regardless of transfers of units between fleets.

C.1.1.2 Future Assignments

Future assignments will consist of either a single letter (CNATRA) or a combination of any two letters or numbers indicated below:

Command	First Character	Second Character
NAVAIRLANT	A through M	A through Z
NAVAIRPAC	N through Z	A through Z
CNATRA	A through G	None

Note

Upon decommissioning, the identification letter will revert to CNO for future use.

C.1.1.3 Additional Identification Characters

Expansion of this system will be accomplished by assigning the numerals 2 through 9 as the first character in place of a letter.

C.1.1.4 Exceptions

The letters "I" and "O" are too easily confused with numerals and shall not be used.

C.1.1.5 Listing

Assigned visual identification letters/numbers are posted on the Airworthiness Web site, https://airworthiness.navair.navy.mil.

C.1.1.6 Other Aircraft

Aircraft assigned to units other than those provided for above shall be identified by spelling out the name of the station or unit (i.e., NORFOLK, NIMITZ, YUMA, etc.).

C.1.2 Aircraft Side Numbers

Aircraft side numbers are assigned by force, wing, group, or squadron commanders, as appropriate. To achieve correlation between the electronic (IFF/SIF) and visual identification of each aircraft, combat and combat support aircraft shall be numbered using octal numbers (i.e., only the numerals 0 through 7). CVW commanders shall assign squadron aircraft identification side numbers. Squadrons and units of CNATRA shall number their aircraft as directed by the Chief of Naval Air Training. Fleet replacement squadrons with aircraft employing the automatic precision approach and landing system (PALS) shall number their aircraft with three-digit octal numerals. Activities and units other than those included above shall number their aircraft by utilizing the last three digits of the bureau number.

C.1.3 Marking of Aircraft

The provisions of the current version of Military Specification for Insignia and Markings for Naval Aircraft (MIL-STD-2161A (AS)) apply in the implementation of the visual identification system.

APPENDIX D

Total Mission Requirement (TMR) Codes

D.1 PURPOSE

This appendix contains the Total Mission Requirement (TMR) Codes required for entry into the OPNAV 3710/4 Naval Aircraft Flight Records (NAVFLIR) subsystem and air crewmember's OPNAV 3760/31 Aviators Flight Log Book addressed in chapter 10.

D.2 NAVAL AIRCRAFT/SIMULATOR FLIGHT CLASSIFICATION SYSTEM

D.2.1 Primary Source

The TMR codes set forth in this appendix supersede the flight purpose codes (FPCs) of previous editions. TMR codes cover a full range of flight operations from training (including simulators) to combat. The TMR code is developed from a three-character code matrix with the first character representing the flight purpose, the second character representing the general purpose, and the third character representing the specific purpose. The definition of assigned TMR codes is outlined below. This instruction is the primary source of TMR codes and all personnel using these codes shall be made aware of the existence of this source. The OPNAV 3710/4 provides space to document as many as three missions and their associated times for one flight.

D.2.2 Deviation

No variations from the classifications specified herein are to be made without OPNAV (N88) approval.

D.3 APPLICABILITY OF THE TOTAL MISSION REQUIREMENT CODES

TMR codes apply to all flight personnel, aircraft, and approved simulators. They should reflect the primary purpose for the flight regardless of varying purposes particular individuals have for being aboard.

D.4 CLASSIFICATION OF TOTAL MISSION REQUIREMENT CODES

D.4.1 Purpose of Flight

The purpose of flight by naval aviators/naval aircraft or approved simulators shall be described by a three-character code in the following sequence:

a. The first position of the TMR is the FPC and denotes the type of operation.

(1) Training flights conducted for the purpose of training (both individual and as a crew) to maintain or improve the readiness of the activity to perform its assigned mission.

(2) Support Services. Flights conducted in support of an assigned mission including tests, logistics, SAR, troop transports, etc., either independently or as part of a squadron function.

(3) Operations. Navy flights conducted in support of operational tasking not specifically designated as contingency operations.

(4) FMF Operations. Marine flights conducted as part of an exercise while deployed with a battle group or task force.

(5) Contingency Flights. Flights conducted in support of contingency operations as delineated by the TYCOM.

(6) Combat Flights. Combat flights shall be used only for aircraft and by units specifically designated by competent authority as being in combat status. This rule shall be strictly followed even though a combatant incident did occur or was likely to occur on the flight (i.e., fired upon by unfriendly forces, search for or detection of unfriendly submarine, flight over or near areas where it is prudent to anticipate hostile action against the aircraft, etc.).

(7) Exercise Flights. Flights conducted as part of an authorized fleet exercise as designated by the battle group or TYCOM.

b. The second position of the TMR is the GPC and denotes the general purpose of the flight. GPCs N and O will be used to document aborts and/or cancellations and may be used with FPCs 1 through 7.

(1) FPC 1 only GPCs of A through I, P, or R can be used.

(2) FPC 2 must be used with GPCs of J through R.

(3) FPCs 3 through 7 must be used with GPCs S through Z.

c. The third position of the TMR is the specific purpose code (SPC) and denotes the specific purpose of the flight.

D.5 GENERAL/SPECIFIC PURPOSE OF FLIGHT CODE COMBINATIONS A THROUGH I (TRAINING FLIGHTS)

D.5.1 GPCs

GPCs for training flights (A through I) are used as follows:

a. Use code A if the flight is for training, exercises, or simulated operations conducted by a fleet/FMF/air reserve squadron or unit (nontraining command) to which the pilot is attached when such flight maintains or advances the ability of the squadron or unit to perform the mission for which organized. May be used for flights by training command personnel that do not properly fall under codes C through I.

b. Use code B if flight is for syllabus training of a designated naval aviator undergoing formal instructor training (IUT).

c. Use code C within air commands for pilots assigned thereto when locally imposed requirements for a particular kind of flying are necessary to prepare for satisfactory performance within the command.

Note

When a pilot flies with a squadron or other unit whose primary mission is carried out by the flight of aircraft, he/she may consider himself/herself an integral part of that unit. If he/she makes a flight that maintains or advances the ability or readiness of the unit to perform its assigned mission, the purpose of the flight is unit training (code A), and the effect on individual proficiency is irrelevant.

d. Use code D, E, F, or G for flights by Navy and Marine Corps aircrew attached to units of CNATRA (excluding reserves) and FRSs as required or provided by training command training syllabus.

(1) Use code D if flight is for syllabus training of a SNA undergoing formal training to become a designated naval aviator.

(2) Use code E if flight is for syllabus training of a designated naval aviator undergoing formal training.

(3) Use code F if flight is for syllabus training of a designated naval aviator when the purpose of the flight does not support a formal training syllabus (i.e., standardization evaluations, instrument checks, or attaining minimum annual flying requirements).

(4) Use code G if flight is for special training (including crew training) for completion of a nonpilot training syllabus (i.e., NFO, AI, midshipmen, student FS training).

e. Use code H or I for training of nonnaval personnel.

(1) Use code H if flight is for the purpose of training, familiarization, or proficiency of personnel of other services of the United States (i.e., Air Force, Army, Coast Guard).

(2) Use code I if flight is for the purpose of training, familiarization, or proficiency of personnel of foreign countries.

D.5.2 SPCs

SPCs to be used with GPCs A through I are listed below. Codes A through I must always be followed by one of the number codes listed below, selecting the code denoting the primary type of training (if syllabus flight, the most advanced requirement being met; if nonsyllabus flight, that on which most effort was spent). In any case, the character following codes A through I shall always refer to the following list:

1 — Fundamentals — Familiarization, aerobatics, formation, cross-country, navigation, etc.

2 — Instrument — General instrument or all-weather, when principal objective of flight.

3 — Field carrier landing practice.

4 — Carrier qualification.

5 — Transition Jet, VP, VR, helicopter, etc.

6 — Air combat intercept, fighter escort, air-to-air gunnery, etc.

7 — Attack — Surface targets; bomb, rocket, torpedo, etc.; non-USW.

8 — Antisubmarine — Patrol, search, escort, attack, minelaying, etc.

9 — Special equipment — AEW, ECM, AMCM, photo, etc.

10 — Unsatisfactory syllabus.

D.6 GENERAL/SPECIFIC PURPOSE OF FLIGHT CODE COMBINATIONS J THROUGH R (SERVICE FLIGHTS)

D.6.1 SPCs To Be Used With GPCs J and K for Service Flights

J1 — Those ferry flights funded from the fleet ferry fund managed by the respective TYCOM. Reporting custodians shall ascertain from the controlling custodian under what circumstances the flight categories apply.

J2 — Those ferry flights funded from other sources (i.e., unit operating budgets, allotments, etc.).

K1 — Those functional checkflights funded from the fleet ferry fund managed by the respective TYCOM. Reporting custodians shall ascertain from the controlling custodian under what circumstances the flight categories apply.

K2 — Those functional checkflights funded from other sources (i.e., unit operating budgets, allotments, etc.).

K3 — Functional checkflight observer.

K4 — Bogey in support of other aircraft.

K5 — Bogey in support of ground units.

K6 — Bogey in support of ship operations.

K7 — Flying qualities or performance evaluation of aircraft.

K8 - Accelerated service test or propulsion system evaluation.

K9 — Navigation, weapons, or electronic warfare evaluation.

K0 — Carrier suitability or dynamic interface evaluation.

D.6.2 GPCs L, M, N, and O for Service Flights

a. Code L (Experimental/Evaluation). Experimental, developmental, or evaluation flights of aircraft, its equipment, or an individual (i.e., NATOPS check).

L1 — Operational test and evaluation (OT&E).

L2 — Operational readiness inspection (ORI).

L3 — Instrument check.

L4 — NATOPS check.

L5 — Instructor standardization, test pilot training, or qualification evaluation.

L6 — Special weapons evaluation.

L7 — Ordnance separation, conventional, or nuclear weapon evaluation.

L8 — Drone support or target towing.

L9 — Aircraft or survival system evaluation.

L0 — Project support or other.

b. Code M (Logistics Support). Use code M if flight is for the purpose of logistics support as follows:

M1 — MAG/CVW commitment: A logistics flight in support of the MAG/CVW.

M2 — MAW/functional/typewing commitment: A logistics flight scheduled for support of the wing.

M3 — NAS/MCAS commitment: A logistics flight in support of the air station.

M4 — FMF/CINC commitment: Flights flown in support of FMF/CINC units.

M5 — CMC/CNO commitment: Flights flown in support of CMC/CNO schools or units.

M6 — TYCOM/division commitment: Flights flown in support of the TYCOM or of a Marine division.

c. Code N (Maintenance). Use code N to document aborts or cancellations for maintenance reasons.

N1 — Engine or fuel system.

N2 — Hydraulics, flight controls, or airframe.

N3 — Avionics, communication.

N4 — Avionics, NAVAID.

N5 — Avionics, radar/systems.

N6 — Avionics, electronics/instruments.

N7 — Ordnance system.

N8 — Wingman's aircraft down.

N9 — Support equipment.

N0 — Safety of flight (initiated by higher authority, usually by message).

d. Code O (Operations). Use code O to document aborts or cancellations initiated by operations.

O1 — Weather.

O2 — Mission canceled by higher authority.

O3 — Mission canceled by supported or requesting unit.

O4 — Targets or range not available.

O5 — Required airfield services or navigational facilities not available (tacan, carrier, mirror, etc.).

O6 — Controlled airspace not available.

O7 — Required crewman incapacitated/unavailable.

O8 — Aircraft accident.

O9 — Mission canceled by projects.

D.6.3 SPCs Used With GPC P

SPCs to be used with GPC P for all search and/or rescue (includes any flight, scheduled or unscheduled, in support of a search and/or rescue effort) or MEDEVAC (includes any flight, scheduled or unscheduled, providing evacuation or other transport of hospitalized and/or medically stabilized personnel) flights are listed as follows:

P1 — Search and/or rescue flight conducted over water in support of military personnel.

P2 — Search and/or rescue flight conducted over land in support of military personnel.

P3 — Search and/or rescue flight conducted over water in support of non-DoD personnel.

P4 — Search and/or rescue flight conducted over land in support of non-DoD personnel.

P5 — MEDEVAC flown in support of military personnel.

P6 — MEDEVAC flown in support of non-DoD personnel.

P7 — Search and/or rescue flight into, out of, or over an area where enemy fire is received or can reasonably be expected.

P8 — Search and/or rescue flight into, out of, or over an area over water where enemy fire is received or can reasonably be expected.

P9 — Search and/or rescue flight into, out of, or over an area over land where enemy fire is received or can reasonably be expected.

P0 — Search and/or rescue training.

D.6.4 SPCs Used With GPC Q

SPCs to be used with GPC Q for miscellaneous nontraining service flights are listed as follows:

Q1 — Aerological (including combat weather reconnaissance).

Q2 — Noncombat patrol or search (other than survivor search, rescue, weather).

Q3 — Noncombat photography or radar mapping.

Q4 — Air shows and demonstrations not classified as tactical exercises.

Q5 — Noncombat, nontraining flights not elsewhere classified.

Q6 — Noncombat, nontraining air refueling flights.

Q7 — AEW flights (carrier-based or land-based) in support of either fleet tactical exercises or fleet operations.

Q8 — Pathfinder flights.

Q9 — Drug interdiction flights.

D.6.5 SPCs Used With GPC R

SPCs to be used with GPC R for transport/troop support are as follows:

a. Logistics transport flights include transportation of military or civilian personnel (other than at points of contact with enemy or in training exercises) as incident to change in location of duty or civil employment or to the transfer of entire units as well as transport of cargo or mail (including guard mail with or without couriers) for other than troop support purposes. If the flight is required for any of the foregoing uses, it is a logistics transport flight even if it also served an administrative transport purpose.

R1 — Regularly scheduled flight for the purpose of transporting cargo, personnel (except hospitalized patients), or mail, as set forth above, whether anything was transported or not.

R2 — Special flight, not regularly scheduled, to transport cargo, personnel (except hospitalized patients), or mail, as set forth above.

b. Administrative transport flights include transportation of military or civilian personnel for inspection, conference, instruction, or other official business involving no PCS, and for other authorized purposes of a similar nature, whether or not under travel or temporary duty orders.

R3 — Special flight, not regularly scheduled, to provide administrative transport for the pilot or other persons aboard, and that would not be made were it not for the administrative purpose alone.

c. Troop support flights include transportation of troops and other personnel (including battle casualties) to or from points of contact with enemy as well as rescue of personnel or transport of liaison personnel to or from engaged units. Transport of cargo under equivalent circumstances also falls in this specific purpose category.

R4 — Troop lift into, out of, or over an area where enemy fire is received or can reasonably be expected.

R5 — Liaison flight into, out of, or over an area where enemy fire is received or can reasonably be expected.

R6 — Logistics flight into, out of, or over an area where enemy fire is received or can reasonably be expected.

D.7 GENERAL/SPECIFIC PURPOSE OF FLIGHT CODE COMBINATIONS S THROUGH Z (COMBAT FLIGHTS)

a. GPCs S through Z will be used with FPCs 3 through 7 (noted in paragraph D.4). When in combat status, FPC 6 will be used with GPCs S through Z and will be the only TMR code entered for the flight.

b. SPCs to be used with GPC S for attacks on ground or surface targets designated by air support control:

S1 — Targets assigned before takeoff.

S2 — Targets assigned after takeoff.

S3 — Provision of illumination for attack of targets.

S9 — Escort or cover for above (not assigned to attack).

c. SPCs to be used with GPC T for attacks on ground or surface targets (excluding submarine and aircraft) not designated by air support control:

T1 — Targets assigned before takeoff.

T2 — Targets of opportunity: armed reconnaissance.

T3 — Provision of illumination for attack of targets.

T4 — Flak suppression.

T5 — Surface-to-air missile suppression.

T6 — Minelaying (all types).

T7 — Aerial refueling tanker supporting combat operations.

T8 — ECM support for attack operations against ground or surface targets.

T9 — Escort to cover for above (VF or VFA not assigned to attack).

d. SPCs to be used with GPC U for anti-air warfare offensive missions (primary objective aircraft; any other target secondary):

U1 — Fighter sweeps, intruder missions, night airfield heckling.

U2 — Combat air patrol over enemy airfields or other targets.

U3 — Offensive diversion and deception missions (other than attack sweep or intruder).

U4 — ECM support for attack operations against aircraft targets.

U5 — AMCM mine neutralization/mine sweep.

U8 — Escort or cover of Air Force bombers.

U9 — Escort or cover of transport aircraft.

e. SPCs to be used with GPC V for reconnaissance missions (except armed reconnaissance and USW search):

V1 — Photographic reconnaissance.

V2 — Radar and ECM reconnaissance, radar mapping, etc.

V3 — Gunfire spotting, air support controller, and other visual reconnaissance of enemy areas. Exclude weather (Q1) and survivor search (P).

V4 — AMCM mine search/mine hunting.

V9 — Escort or cover for reconnaissance aircraft.

f. SPCs to be used with GPC W for air defense of own air base (carrier force or land base) from which aircraft departs:

W1 — AEW or airborne combat information center (CIC) and its escort or cover.

W2 — Combat air patrol, local or advanced.

W7 — Intercept (scramble).

g. SPCs to be used with GPC X for air defense of other forces or bases:

X1 —CIC and its escort or cover.

X2 AEW or airborne — Special combat air patrol to protect radar picket or aircraft.

X7 — Intercept (scramble).

h. SPCs to be used with GPC Y for offensive ASW missions:

Y1 — Routine sector or area search.

Y2 — Barrier patrol.

Y3 — Offensive search.

Y4 — Holddown of located submarine.

Y5 — Attack on located submarine.

Y6 — Locate and attack submarine.

Y9 — Attack submarine facilities (including operational bases, shipyard, or other logistical facilities, etc.).

i. SPCs to be used with GPC Z for defensive ASW missions:

Z1 — Protection of own force underway (by aircraft based on ships of same force).

Z2 — Escort of vessels not in own force (by ship-based or land-based aircraft).

Z4 — Defensive patrol of harbor or other limited area.

Note

Generally, the distinction between offensive ASW (Y codes) and defensive ASW (Z codes) is the primary mission of the force involved. If it is not primarily an ASW force, the ASW conducted to protect itself from attack by submarine is defensive ASW. But if it is primarily an ASW force (primary mission is ASW), all the ASW it conducts is offensive, including ASW conducted to protect itself.

D.8 CURRENTLY ASSIGNED TOTAL MISSION REQUIREMENT CODES

The currently assigned TMR codes are listed in figure D-1 with the description that will be displayed on the NAVFLIRS monthly reports.

TMR CODE	DESCRIPTION
1A1	TRNG SYL/EXC F/FN
1A2	TRNG SYL/EXC INST
1A3	TRNG SYL/EXC FCLP/CAL
1A4	TRNG SYL/EXC CQ
1A5	TRNG SYL/EXC TRANS
1A6	TRNG SYL/EXC AIR CMBT
1A7	TRNG SYL/EXC ATCK
1A8	TRNG SYL/EXC ASW
1A9	TRNG SYL/EXC SP EQUIP
1A0	TRNG SYL/EXC UNSAT FLT
1B1	TRNG IUT F/F/N
1B2	TRNG IUT INST
1B3	TRNG IUT FCLP/CAL
1B4	TRNG IUT CQ
1B5	TRNG IUT TRANS
1B6	TRNG IUT AIR CMBT
1B7	TRNG IUT ATCK
1B8	TRNG IUT ASW
1B9	TRNG IUT SP EQUIP
1B0	TRNG IUT UNSAT FLT
1C1	TRNG NAV F/F/N
1C2	TRNG NAV INST
1C3	TRNG NAV FCLP/CAL
1C4	TRNG NAV CQ
1C5	TRNG NAV TRANS
1C6	TRNG NAV AIR CMBT
1C7	TRNG NAV ATCK
1C8	TRNG NAV ASW
1C9	TRNG NAV SP EQUIP
1C0	TRNG NAV UNSAT FLT

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 1 of 15)

TMR CODE	DESCRIPTION
1D1	TRNG STU/AV F/F/N
1D2	TRNG STU/AV INST
1D3	TRNG STU/AV FCLP/CAL
1D4	TRNG STU/AV CQ
1D5	TRNG STU/AV TRANS
1D6	TRNG STU/AV AIR CMBT
1D7	TRNG STU/AV ATCK
1D8	TRNG STU/AV ASW
1D9	TRNG STU/AV SP EQUIP
1D0	TRNG STU/AV UNSAT FLT
1E1	TRNG NAV REF SYL F/F/N
1E2	TRNG NAV REF SYL INST
1E3	TRNG NAV REF SYL FCLP/CAL
1E4	TRNG NAV REF SYL CQ
1E5	TRNG NAV REF SYL TRANS
1E6	TRNG NAV REF SYL AIR CMBT
1E7	TRNG NAV REF SYL ATCK
1E8	TRNG NAV REF SYL ASW
1E9	TRNG NAV REF SYL SP EQUIP
1E0	TRNG NAV REF SYL UNSAT FLT
1F1	TRNG NAV N-SYL F/F/N
1F2	TRNG NAV N-SYL INST
1F3	TRNG NAV N-SYL FCLP/CAL
1F4	TRNG NAV N-SYL CQ
1F5	TRNG NAV N-SYL TRANS
1F6	TRNG NAV N-SYL AIR CMBT
1F7	TRNG NAV N-SYL ATCK
1F8	TRNG NAV N-SYL ASW
1F9	TRNG NAV N-SYL SP EQUIP
1F0	TRNG NAV N-SYL UNSAT FLT
1G1	TRNG NFO N-SYL F/F/N
1G2	TRNG NFO N-SYL INST

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 2)

TMR CODE	DESCRIPTION
1G3	TRNG NFO N-SYL FCLP/CAL
1G4	TRNG NFO N-SYL CQ
1G5	TRNG NFO N-SYL TRANS
1G6	TRNG NFO N-SYL AIR CMBT
1G7	TRNG NFO N-SYL ATCK
1G8	TRNG NFO N-SYL ASW
1G9	TRNG NFO N-SYL SP EQUIP
1G0	TRNG NFO N-SYL UNSAT FLT
1H1	TRNG OT US MIL F/F/N
1H2	TRNG OT US MIL INST
1H3	TRNG OT US MIL FCLP/CAL
1H4	TRNG OT US MIL CQ
1H5	TRNG OT US MIL TRANS
1H6	TRNG OT US MIL AIR CMBT
1H7	TRNG OT US MIL ATCK
1H8	TRNG OT US MIL ASW
1H9	TRNG OT US MIL SP EQUIP
1H0	TRNG OT US MIL UNSAT FLT
1I1	TRNG FRGN F/F/N
1I2	TRNG FRGN INST
1I3	TRNG FRGN FCLP/CAL
1I4	TRNG FRGN CQ
1I5	TRNG FRGN TRANS
1I6	TRNG FRGN AIR CMBT
1I7	TRNG FRGN ATCK
1I8	TRNG FRGN ASW
1I9	TRNG FRGN SP EQUIP
1I0	TRNG FRGN UNSAT FLT
1N1	TRNG C/A MAINT ENG/FUEL
1N2	TRNG C/A MAINT HYD/FRAME
1N3	TRNG C/A MAINT RADIOS
1N4	TRNG C/A MAINT NAVAID

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 3)

TMR CODE	DESCRIPTION
1N5	TRNG C/A MAINT RAD/SYS
1N6	TRNG C/A MAINT ELEC/INST
1N7	TRNG C/A MAINT ORDNANCE
1N8	TRNG C/A MAINT WGMAN DOWN
1N9	TRNG C/A MAINT SUPT EQUIP
1N0	TRNG C/A MAINT SAFETY
1O1	TRNG C/A OPS WEATHER
1O2	TRNG C/A OPS HIGHER AUTH
1O3	TRNG C/A OPS SUPT UNIT
1O4	TRNG C/A OPS NO TGT
1O5	TRNG C/A OPS FAC DOWN
1O6	TRNG C/A OPS AIR SPACE
1O7	TRNG C/A OPS NO CREW
1O8	TRNG C/A OPS ACCIDENT
1P1	TRNG SAR/WATER MIL SUPT
1P2	TRNG SAR/LAND MIL SUPT
1P3	TRNG SAR/WATER N-DOD
1P4	TRNG SAR/LAND N-DOD
1P5	TRNG SAR/MEDEVAC MIL SUPT
1P6	TRNG SAR/MEDEVAC N-DOD
1P7	TRNG SAR/MEDEVAC LAND CMBT
1P8	TRNG SAR/WATER CMBT
1P9	TRNG SAR/LAND CMBT
1P0	TRNG SAR
1R4	TRNG TRANS TRP IN/OUT CMBT
1R5	TRNG TRANS LSN IN/OUT CMBT
1R6	TRNG TRANS LOG IN/OUT CMBT
2J1	SUPT FERRY FLEET FUND
2J2	SUPT FERRY SQDN FUND
2K1	SUPT TEST FLEET FUND
2K2	SUPT TEST SQDN FUND
2K3	SUPT TEST OBS/CHASE TGT

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 4)

TMR CODE	DESCRIPTION
2K4	SUPT BOGEY FOR OT ACFT
2K5	SUPT BOGEY FOR GND UNIT
2K6	SUPT BOGEY FOR SHIP OPS
2K7	SUPT FLY QUAL/PERF EVAL
2K8	SUPT ACCEL SERV/PROP EVAL
2K9	SUPT NAV/WEAP/EW EVAL
2K0	SUPT CARR SUIT/DYN EVAL
2L1	SUPT EXPM/EVAL OT&E
2L2	SUPT EXPM/EVAL ORI
2L3	SUPT EXPM/EVAL INST CHECK
2L4	SUPT EXPM/EVAL NATOPS
2L5	SUPT EXPM/EVAL STANDARD
2L6	SUPT EXPM/EVAL SP WEAPONS
2L7	SUPT ORD/CONV/NUC EVAL
2L8	SUPT DRONE/TGT TOW
2L9	SUPT ACFT/SURV SYS EVAL
2L0	SUPT PROJECT/OTHER
2M1	LOG SUPT MAG/CAG
2M2	LOG SUPT MAW/FUNCT WING
2M3	LOG SUPT NAS/MCAS
2M4	LOG SUPT FMF/CINC
2M5	LOG SUPT CMC/CNO
2M6	LOG SUPT TYCOM/MARDIV
2N1	SUPT C/A MAINT ENG/FUEL
2N2	SUPT C/A MAINT HYD/FRAME
2N3	SUPT C/A MAINT RADIOS
2N4	SUPT C/A MAINT NAVAID
2N5	SUPT C/A MAINT RAD/SYS
2N6	SUPT C/A MAINT ELEC/INST
2N7	SUPT C/A MAINT ORDNANCE
2N8	SUPT C/A MAINT WGMAN DOWN
2N9	SUPT C/A MAINT SUPT EQUIP

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 5)

TMR CODE	DESCRIPTION
2N0	SUPT C/A MAINT SAFETY
2O1	SUPT C/A OPS WEATHER
2O2	SUPT C/A OPS HIGHER AUTH
2O3	SUPT C/A OPS SUPT UNIT
2O4	SUPT C/A OPS NO TGT
2O5	SUPT C/A OPS FAC DOWN
2O6	SUPT C/A OPS AIR SPACE
2O7	SUPT C/A OPS NO CREW
2O8	SUPT C/A OPS ACCIDENT
2O9	SUPT C/A OPS PROJECTS
2P1	SUPT SAR/WATER MIL SUPT
2P2	SUPT SAR/LAND MIL SUPT
2P3	SUPT SAR/WATER N-DOD
2P4	SUPT SAR/LAND N-DOD
2P5	SUPT SAR/MEDEVAC MIL SUPT
2P6	SUPT SAR/MEDEVAC N-DOD
2P7	SUPT SAR/MEDEVAC LAND CMBT
2P8	SUPT SAR/WATER CMBT
2P9	SUPT SAR/LAND CMBT
2P0	SUPT SAR TRNG
2Q1	SUPT MISC AEROLOGICAL
2Q2	SUPT MISC N-CMBT PAT
2Q3	SUPT MISC N-CMBT PH/RD MAP
2Q4	SUPT MISC AIR SHOW/DEMO
2Q5	SUPT MISC N-CMBT/TRNG
2Q6	SUPT MISC N-CMBT REFUEL
2Q7	SUPT MISC AEW TACT OPS
2Q8	SUPT MISC PATHFINDER
2Q9	SUPT MISC DRUG RUN
2R1	SUPT TRANS TRP SCH
2R2	SUPT TRANS TRP N-SCH
2R3	SUPT TRANS TRP N-SCH ADMIN

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 6)

TMR CODE	DESCRIPTION
2R4	SUPT TRANS TRP IN/OUT CMBT
2R5	SUPT TRANS LSN IN/OUT CMBT
2R6	SUPT TRANS LOG IN/OUT CMBT
3N1	BGO C/A MAINT ENG/FUEL
3N2	BGO C/A MAINT HYD/FRAME
3N3	BGO C/A MAINT RADIOS
3N4	BGO C/A MAINT NAVAID
3N5	BGO C/A MAINT RAD/SYS
3N6	BGO C/A MAINT ELEC/INST
3N7	BGO C/A MAINT ORDNANCE
3N8	BGO C/A MAINT WGMAN DOWN
3N9	BGO C/A MAINT SUPT EQUIP
3N0	BGO C/A MAINT SAFETY
3O1	BGO C/A OPS WEATHER
3O2	BGO C/A OPS HIGHER AUTH
3O3	BGO C/A OPS SUPT UNIT
3O4	BGO C/A OPS NO TGT
3O5	BGO C/A OPS FAC DOWN
3O6	BGO C/A OPS AIR SPACE
3O7	BGO C/A OPS NO CREW
3O8	BGO C/A OPS ACCIDENT
3S1	BGO DES GND ATCK BEF T/O
3S2	BGO DES GND ATCK AFT T/O
3S3	BGO DES ILLUM TGT
3S9	BGO DES ESC/COV NO ATCK
3T1	BGO N-DES GND ATCK BEF T/O
3T2	BGO N-DES TGT OPP RECON
3T3	BGO N-DES ILLUM TGT
3T4	BGO N-DES FLACK SUPPRESS
3T5	BGO N-DES MISSILE SUPPRESS
3T6	BGO N-DES MINELAYING
3T7	BGO N-DES REFUEL CMBT OPS
3T8	BGO N-DES ECM SUPT GND TGT

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 7)

TMR CODE	DESCRIPTION
3T9	BGO N-DES ESC/COV NO ATCK
3U1	BGO AWO FIGHTER SWEEPS
3U2	BGO AWO CMBT AIR PAT
3U3	BGO AWO DEF DIVER/DECEPT
3U4	BGO AWO ECM SUPT FROM ACFT
3U5	BGO AWO AMCM NEUT/SWEEP
3U8	BGO AWO ESC USAF BOMBERS
3U9	BGO AWO ESC/COV TRANS
3V1	BGO RECON PHOTO
3V2	BGO RECON RAD/ECM
3V3	BGO RECON GUNFIRE SPOT
3V4	BGO RECON AMCM SEARCH
3V9	BGO RECON ESC/COV ACFT
3W1	BGO DEF HOME AEW/CIC
3W2	BGO DEF HOME CMBTAIR CONT
3W7	BGO DEF HOME INTERCEPTT
3X1	BGO DEF OT AEW/CIC
3X2	BGO DEF OT PROT RAD ACFT
3X7	BGO DEF OT INTERCEPTT
3Y1	BGO OFF ASW ROUTE SEARCH
3Y2	BGO OFF ASW BARRIER PAT
3Y3	BGO OFF ASW OFF SEARCH
3Y4	BGO OFF ASW HOLDDOWN SUB
3Y5	BGO OFF ASW ATCK SUB
3Y6	BGO OFF ASW LOC/ATCK SUB
3Y9	BGO OFF ASW ATCK SUB FAC
3Z1	BGO DEF ASW PROT FORCE
3Z2	BGO DEF ASW ESC SHIPS
3Z4	BGO DEF ASW DEF HARBOR
4N1	FMF C/A MAINT ENG/FUEL
4N2	FMF C/A MAINT HYD/FRAME
4N3	FMF C/A MAINT RADIOS
4N4	FMF C/A MAINT NAVAID

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 8)

TMR CODE	DESCRIPTION
4N5	FMF C/A MAINT RAD/SYS
4N6	FMF C/A MAINT ELEC/INST
4N7	FMF C/A MAINT ORDNANCE
4N8	FMF C/A MAINT WGMAN DOWN
4N9	FMF C/A MAINT SUPT EQUIP
4N0	FMF C/A MAINT SAFETY
4O1	FMF C/A OPS WEATHER
4O2	FMF C/A OPS HIGHER AUTH
4O3	FMF C/A OPS SUPT UNIT
4O4	FMF C/A OPS NO TGT
4O5	FMF C/A OPS FAC DOWN
4O6	FMF C/A OPS AIR SPACE
4O7	FMF C/A OPS NO CREW
4O8	FMF C/A OPS ACCIDENT
4S1	FMF DES GND ATCK BEF T/O
4S2	FMF DES GND ATCK AFT T/O
4S3	FMF DES ILLUM TGT
4S9	FMF DES ESC/COV NO ATCK
4T1	FMF N-DES GND ATCK BEF T/O
4T2	FMF N-DES TGT OPP RECON
4T3	FMF N-DES ILLUM TGT
4T4	FMF N-DES FLACK SUPPRESS
4T5	FMF N-DES MISSILE SUPPRESS
4T6	FMF N-DES MINELAYING
4T7	FMF N-DES REFUEL CMBT OPS
4T8	FMF N-DES ECM SUPT TGT
4T9	FMF N-DES ESC/COV NO ATCK
4U1	FMF AWO FIGHTER SWEEPS
4U2	FMF AWO CMBT AIR PAT
4U3	FMF AWO DEF DIVER/DECEPT
4U4	FMF AWO ECM SUPT FROM ACFT
4U5	FMF AWO AMCM NEUT/SWEEP
4U8	FMF AWO ESC USAF BOMBERS
4U9	FMF AWO ESC/COV TRANS

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 9)

TMR CODE	DESCRIPTION
4V1	FMF RECON PHOTO
4V2	FMF RECON RAD/ECM
4V3	FMF RECON GUNFIRE SPOT
4V4	FMF RECON AMCM SEARCH
4V9	FMF RECON ESC/COV
4W1	FMF DEF HOME AEW/CIC
4W2	FMF DEF HOME CMBT AIR CONT
4W7	FMF DEF HOME INTERCEPTT
4X1	FMF DEF OT AEW/CIC
4X2	FMF DEF OT PROT RAD ACFT
4X7	FMF DEF OT INTERCEPT
4Y1	FMF OFF ASW ROUT SEARCH
4Y2	FMF OFF ASW BARRIER PAT
4Y3	FMF OFF ASW OFF SEARCH
4Y4	FMF OFF ASW HOLD DOWN SUB
4Y5	FMF OFF ASW ATCK SUB
4Y6	FMF OFF ASW LOC/ATCK SUB
4Y9	FMF OFF ASW ATCK SUB FAC
4Z1	FMF DEF ASW PROT FORCE
4Z2	FMF DEF ASW ESC SHIPS
4Z4	FMF DEF ASW DEF HARBOR
5N1	CONT C/A MAINT ENG/FUEL
5N2	CONT C/A MAINT HYD/FRAME
5N3	CONT C/A MAINT RADIOS
5N4	CONT C/A MAINT NAVAID
5N5	CONT C/A MAINT RAD/SYS
5N6	CONT C/A MAINT ELEC/INST
5N7	CONT C/A MAINT ORDNANCE
5N8	CONT C/A MAINT WGMAN DOWN
5N9	CONT C/A MAINT SUPT EQUIP
5N0	CONT C/A MAINT SAFETY
5O1	CONT C/A OPS WEATHER

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 10)

TMR CODE	DESCRIPTION
5O2	CONT C/A OPS HIGHER AUTH
5O3	CONT C/A OPS SUPT UNIT
5O4	CONT C/A OPS NO TGT
5O5	CONT C/A OPS FAC DOWN
5O6	CONT C/A OPS AIR SPACE
5O7	CONT C/A OPS NO CREW
5O8	CONT C/A OPS ACCIDENT
5S1	CONT DES GND ATCK BEF T/O
5S2	CONT DES GND ATCK AFT T/O
5S3	CONT DES ILLUM TGT
5S9	CONT DES ESC/COV NO ATC
5T1	CONT N-DES ATCK BEF T/O
5T2	CONT N-DES TGT OPP RECON
5T3	CONT N-DES ILLUM TGT
5T4	CONT N-DES FLACK SUPPRESS
5T5	CONT N-DES MISSILE SUPPRESS
5T6	CONT N-DES MINELAYING
5T7	CONT N-DES REFUEL CMBT OPS
5T8	CONT N-DES ECM SUPT TGT
5T9	CONT N-DES ESC/COV NO ATCK
5U1	CONT AWO FIGHTER SWEEPS
5U2	CONT AWO CMBT AIR PAT
5U3	CONT AWO DEF DIVER/DECEPT
5U4	CONT AWO ECM SUPT ACFT
5U5	CONT AWOAMCM NEUT/SWEEP
5U8	CONT AWO ESC USAF BOMBERS
5U9	CONT AWO ESC/COV TRANS
5V1	CONT RECON PHOTO
5V2	CONT RECON RAD/ECM
5V3	CONT RECON GUNFIRE SPOT
5V4	CONT RECON AMCM SEARCH
5V9	CONT RECON ESC/COV ACFT

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 11)

TMR CODE	DESCRIPTION
5W1	CONT DEF HOME AEW/CIC
5W2	CONT DEF HOME CMBT AIR CON
5W7	CONT DEF HOME INTERCEPT
5X1	CONT DEF OT AEW/CIC
5X2	CONT DEF OT PROT RAD ACFT
5X7	CONT DEF OT INTERCEPT
5Y1	CONT OFF ASW ROUT SEARCH
5Y2	CONT OFF ASW BARRIER PAT
5Y3	CONT OFF ASW OFF SEARCH
5Y4	CONT OFF ASW HOLDDOWN SUB
5Y5	CONT OFF ASW ATTACK SUB
5Y6	CONT OFF ASW LOC/ATCK SUB
5Y9	CONT OFF ASW ATCK SUB FAC
5Z1	CONT DEF ASW PROT FORCE
5Z2	CONT DEF ASW ESC SHIPS
5Z4	CONT DEF ASW DEF HARBOR
6N1	CMBT C/A MAINT ENG/FUEL
6N2	CMBT C/A MAINT HYD/FRAME
6N3	CMBT C/A MAINT RADIOS
6N4	CMBT C/A MAINT NAVAID
6N5	CMBT C/A MAINT RAD/SYS
6N6	CMBT C/A MAINT ELEC/INST
6N7	CMBT C/A MAINT ORDNANCE
6N8	CMBT C/A MAINT WGMAN DOWN
6N9	CMBT C/A MAINT SUPT EQUIP
6N0	CMBT C/A MAINT SAFETY
6O1	CMBT C/A OPS WEATHER
6O2	CMBT C/A OPS HIGHER AUTH
6O3	CMBT C/A OPSSUPT UNIT
6O4	CMBT C/A OPS NO TGT
6O5	CMBT C/A OPS FAC DOWN
6O6	CMBT C/A OPS AIRSPACE
6O7	CMBT C/A OPS NO CREW
6O8	CMBT C/A OPS ACCIDENT

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 12)

TMR CODE	DESCRIPTION
6S1	CMBT DES GND ATCK BEF T/O
6S2	CMBT DES GND ATCK AFT T/O
6S3	CMBT DES ILLUM TGT
6S9	CMBT DES ESC/COV NO ATCK
6T1	CMBT N-DES ATCK BEF T/O
6T2	CMBT N-DES TGT OPP RECON
6T3	CMBT N-DES ILLUM TGT
6T4	CMBT N-DES FLACK SUPPRESS
6T5	CMBT N-DES MISSILE SUPPRESS
6T7	CMBT N-DES REFUEL CMBT OPS
6T8	CMBT N-DES ECM SUPT TGT
6T9	CMBT N-DES ESC/COV NO ATCK
6U1	CMBT AWO FIGHTER SWEEPS
6U2	CMBT AWO AIR PAT
6U3	CMBT AWO DEF DIVER/DECEPT
6U4	CMBT AWO ECM SUPT
6U5	CMBT AWO AMCM NEUT/SWEEP
6U8	CMBT AWO ESC USAF BOMBERS
6U9	CMBT AWO ESC/COV TRANS
6V1	CMBT RECON PHOTO
6V2	CMBT RECON RAD/ECM
6V3	CMBT RECON GUNFIRE SPOT
6V4	CMBT RECON AMCM SEARCH
6V9	CMBT RECON ESC/COV ACFT
6W1	COMBT DEF HOME AEW/CIC
6W2	CMBT DEF HOME CMBT AIR CON
6W7	CMBT DEF HOME INTERCEPT
6X1	CMBT DEF OT AEW/CIC
6X2	CMBT DEF OT PROT RAD ACFT
6X7	CMBT DEF OT INTERCEPT
6Y1	CMBT OFF ASW ROUT SEARCH
6Y2	CMBT OFF ASW BARRIER PAT
6Y3	CMBT OFF ASW OFF SEARCH

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 13)

TMR CODE	DESCRIPTION
6Y4	CMBT OFF ASW HOLD DOWN SUB DOWN SUB
6Y5	CMBT OFF ASW ATCK SUB
6Y6	CMBT OFF ASW LOC/ATCK SUB
6Y9	CMBT OFF ASW ATCK SUB FAC
6Z1	CMBT DEF ASW PROT FORCE
6Z2	CMBT DEF ASW ESC SHIPS
6Z4	CMBT DEF ASW DEF HARBOR
7N1	EXER C/A MAINT ENG/FUEL
7N2	EXER C/A MAINT HYD/FRAME
7N3	EXER C/A MAINT RADIOS
7N4	EXER C/A MAINT NAVAID
7N5	EXER C/A MAINT RAD/SYS
7N6	EXER C/A MAINT ELEC/INST
7N7	EXER C/A MAINT ORDNANCE
7N9	EXER C/A MAINT SUPT EQUIP
7N0	EXER C/A MAINT SAFETY
7O1	EXER C/A OPS WEATHER
7O2	EXER C/A OPS HIGHER AUTH
7O3	EXER C/A OPS SUPT UNIT
7O4	EXER C/A OPS NO TGT
7O5	EXER C/A OPS FAC DOWN
7O6	EXER C/A OPS AIR SPACE
7O7	EXER C/A OPS NO CREW
7O8	EXER C/A OPS ACCIDENT
7S1	EXER DES GND ATCK BEF T/O
7S2	EXER DES GND ATCK AFT T/O
7S3	EXER DES ILLUM TGT
7S9	EXER DES ESC/COV NO ATCK
7T1	EXER N-DES ATCK BEF T/O
7T2	EXER N-DES TGT OPP RECON
7T3	EXER N-DES ILLUM TGT
7T4	EXER N-DES FLACK SUPPRESS
7T5	EXER N-DES MISSILE SUPPRESS

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 14)

TMR CODE	DESCRIPTION
7T6	EXER N-DES MINELAYING
7T7	EXER N-DES REFUEL CMBT OPS
7T8	EXER N-DES ECM SUPT TGT
7T9	EXER N-DES ESC/COV NO ATCK
7U1	EXER AWO FIGHTER SWEEPS
7U2	EXER AWO AIR PAT
7U3	EXER AWO DEF DIVER/DECEPT
7U4	EXER AWO ECM SUPT
7U5	EXER AWO AMCM NEUT/SWEEP
7U8	EXER AWO ESC USAF BOMBERS
7U9	EXER AWO ESC/COV TRANS
7V1	EXER RECON PHOTO
7V2	EXER RECON RAD/ECM
7V3	EXER RECON GUNFIRE SPOT
7V4	EXER RECON AMCM SEARCH
7V9	EXER RECON ESC/COV ACFT
7W1	EXER DEF HOME AEW/CIC
7W2	EXER DEF HOME CMBT AIR CON
7W7	EXER DEF HOME INTERCEPTT
7X2	EXER DEF OT PROT RAD ACFT
7X7	EXER DEF OT INTERCEPTT
7Y1	EXER OFF ASW ROUT SEARCH
7Y2	EXER OFF ASW BARRIER PAT
7Y3	EXER OFF ASW OFF SEARCH
7Y4	EXER OFF ASW HOLD DOWN SUB DOWN SUB
7Y5	EXER OFF ASW ATCK SUB
7Y6	EXER OFF ASW LOC/ATCK SUB
7Y9	EXER OFF ASW ATCK SUB FAC
7Z1	EXER DEF ASW PROT FORCE
7Z2	EXER DEF ASW ESC SHIPS
7Z4	EXER DEF ASW DEF HARBOR

Figure D-1. Total Mission Requirement (TMR) Codes (Sheet 15)

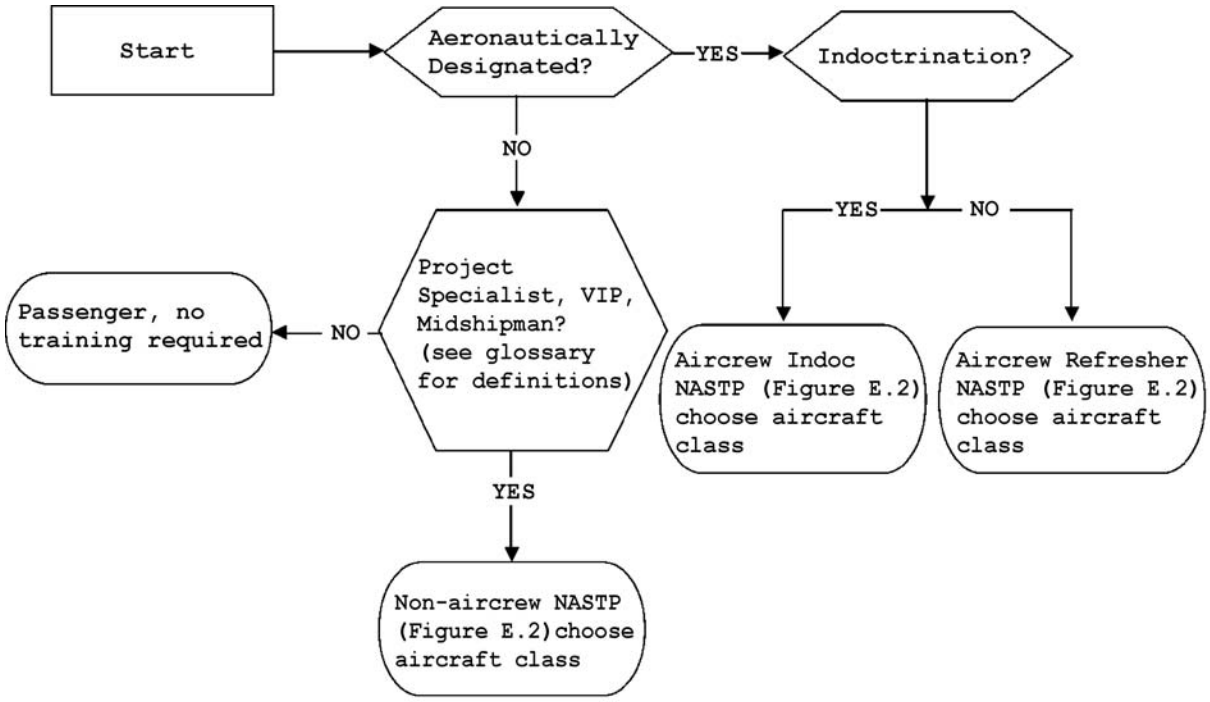
APPENDIX E

Naval Aviation Survival Training Program (NASTP) Requirements

E.1 PURPOSE

As addressed in chapter 8, this appendix establishes the training requirements for aircrew and non-aircrew for Navy and Marine Corps aircraft. It establishes curricula content for required NASTP training courses, course locations, and provides a table of old curriculum equivalent training for use in indoctrination/refresher training determinations. A standard letter for NASTP course completion or requirement for further training is provided. Also included are course topics for required and recommended NASTP annual and work-up training modules.

E.2 NASTP TRAINING STATUS (DOES NOT INCLUDE NON-AIRCRAFT SPECIFIC NASTP TRAINING COURSES LISTED IN FIGURE E-2)



Note
Aircrew Indoctrination training conducted in Pensacola for API and NACCS students includes NASC Basic Water Survival courses Q-98-0020 for Officers and Q-050-1500 for Enlisted as NASTP prerequisites.

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Figure E-1. NASTP Training Status

E.3 NASTP TRAINING REQUIREMENTS

NASTP COURSE	A: NASTP Overview	B: Altitude Threats	C: Hypoxia Lab	D: Human Performance	E: Sensory Physiology	F: Acceleration Physiology	G: ALSS	H: First Aid	I: Survival Swimming	J: Flight Equip. Swim	K: Water Survival Skill	L: Underwater Prob. Solving	M: Underwater Egress	N: Parachuting	O: Liferafts	P: Rescue Devices	Q: Ejection	R: CFET	S: Underwater Brthg. Device	T: Parasail	U: Exam
Aircraft Specific NASTP Training Courses																					
Indoc Class 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			1	X
Indoc Class 2	X	X	X	X	X	3	X	X	X	X	X	X	X	X	X	X			2	1	X
Indoc Class 3	X	X		X	X		X	X	X	X	X	X	X		X	X			X		X
Indoc Class 4	X	X	X	X	X		X	X	X	X	X	X	X		X	X			2	1	X
Refresher Class 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X
Refresher Class 2	X	X	X	X	X	3	X	X	X	X	X	X	X	X	X	X			2		X
Refresher Class 3	X	X		X	X		X	X	X	X	X	X	X		X	X			X		X
Refresher Class 4	X	X	X	X	X		X	X	X	X	X	X	X		X	X			2		X
Non-aircrew Class 1	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X
Non-aircrew Class 2	X	X	X	X	X	3	X		X	X	X	X	X	X	X	X			2		X
Non-aircrew Class 3	X	X		X	X		X		X	X	X	X	X		X	X			5		X
Non-aircrew Class 4	X	X	X	X	X		X		X	X	X	X	X		X	X			2		X
Non-aircraft Specific NASTP Training Courses																					
CFET	X					X												X			X
HAP Phys	X	X	X	X	X																X
Dynamic Hypoxia	X	X	X																		X
SEBD	X											X							X		X
Survival Swimming	X						4		4	4	4	4	4	4	4	4					4
Non-aircrew Egress	X								X	X	X	X	X								
CBR Ensemble Egress	X						X					X	X						2		2
USMC Egress	X								X			X	X								
Advanced Egress	X								X		X	X	X						2		2

Notes: Aircraft Class is defined in Figure E.3. Curricula contain aircraft unique modules which are frequently not interchangeable. (see CNO/COMNAVAIRFOR approved curricula for specific guidance on multiple qualifications).

1. Parasail Training is available only in Pensacola and is only applicable to Aviation Preflight Indoctrination students. Parasail is waiverable for Navy and Marine Corps personnel due to inoperative devices or inclement weather.
2. Required for all personnel authorized to carry HABD or similar underwater emergency egress device.
3. Included for T-34 only.
4. Survival swimming curriculum varies depending on student needs.
5. Lecture only training provided to Midshipmen, VIPs, and Project Specialists as appropriate.

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Figure E-2. NASTP Courses

New Curriculum Nomenclature	Old Curriculum Equivalent
Aircrew Indoctrination NASTP Training for Class 1 Aircraft	N1/NP1 plus N6 or N5/NP2 plus N6
Aircrew Indoctrination NASTP Training for Class 2 Aircraft	N1/NP1 plus N11 or N5/NP2 plus N11
Aircrew Indoctrination NASTP Training for Class 3 Aircraft	N1/NP1 plus N12 or N5/NP2 plus N12
Aircrew Indoctrination NASTP Training for Class 4 Aircraft	N1/NP1 plus N11 or N5/NP2 plus N11
Aircrew Refresher NASTP Training for Class 1 Aircraft	R1/RP1
Aircrew Refresher NASTP Training for Class 2 Aircraft	R2/RP2
Aircrew Refresher NASTP Training for Class 3 Aircraft	R3/RP3
Aircrew Refresher NASTP Training for Class 4 Aircraft	R4/RP4
Non-aircrew NASTP Training for Class 1 Aircraft	N3/NP3 or N2/NP7 or N2/NP8
Non-aircrew NASTP Training for Class 2 Aircraft	N4/NP4 or N2/NP7 or N2/NP8
Non-aircrew NASTP Training for Class 3 Aircraft	N2/NP7 or N2/NP8
Non-aircrew NASTP Training for Class 4 Aircraft	N2/NP7 or N2/NP8
CFET	NP5
HAP Physiology	NP6
Dynamic Hypoxia Awareness Training	(New)
SEBD	N7
Survival Swimming	N8
Non-aircrew Underwater Egress	N9
CBR In-water Egress & Survival	N10
USMC “non-aircrew” Egress Familiarization	N13
Advanced Underwater Egress	N14

Figure E-3. New Versus Previous NASTP Curricula Nomenclature

E.4 NASTP CURRICULA OUTLINE

a. NASTP OVERVIEW — Presentation on the content and requirements of the NASTP as well as the role of the NASTP in reducing mishaps and enhancing aircrew performance. During this period, the students will complete student screening questionnaires and be briefed on drop on request, training time out and high risk training safety policies as required.

b. AVIATION PHYSIOLOGY — Presentation on the effects of the flight environment on the human body. The principles of cardiovascular and respiratory physiology are emphasized. Presentation primarily covers hypoxia, hyperventilation, trapped gas, and evolved gas (decompression sickness) and aircraft pressurization/oxygen systems as appropriate to aircraft class.

c. HYPOXIA LABORATORY — Presentation and laboratory exercise on the use of oxygen systems and proper equipment use. Includes a review of the simulated altitude profile, and reinforces the effects of altitude on the human body with the corrective actions required. The training device evolution may include exposure to a hypobaric environment and/or induction of hypoxia using a low-pressure chamber or the ROBD.

d. HUMAN PERFORMANCE ENHANCEMENT — Presentation discussing the various aspects of physiological, (self-imposed) psychological, environmental, and mission stressors, and their effect on performance. Includes discussion of governing general NATOPS regulations/requirements as applicable. Indoctrination courses emphasize physiological factors and the regulatory aspects of the general NATOPS manual. Advanced training focuses more on the impact of specific operational stressors on crew performance.

e. SENSORY PHYSIOLOGY/SITUATIONAL AWARENESS — Presentation on the effects of the flight environment on the human body's sensory systems. Specifically, the stressors that affect sensory adaptation (acceleration, darkness, lack of visual cues, visual illusions, etc.) are covered. Disorientation, misorientation, temporal distortion, motion sickness caused by flight, and situational awareness are also discussed as appropriate. The training may include laboratory evolutions to demonstrate visual and vestibular phenomena.

f. ACCELERATION PHYSIOLOGY — Presentation on the effects of acceleration forces (Gz) on human physiology. Includes instruction on GLOC, almost loss of consciousness (ALOC), and the proper performance of the anti-G straining maneuver.

g. AVIATION LIFE SUPPORT SYSTEMS — Presentation on and hands-on experience with NATOPS required ALSS equipment which includes helmets, anti-exposure systems, general flight clothing, survival vests and contents, optional flight equipment, flotation devices, life raft contents, signaling devices, and CBR protective systems as applicable.

h. SURVIVAL FIRST AID — Classroom and/or laboratory presentation using survival equipment and improvised first aid items available to the aircrew.

i. AVIATION SURVIVAL SWIMMING SKILLS — Review of basic aviation survival swimming skills and in-water practice period for swim strokes, treading water, and drown proofing.

j. FLIGHT EQUIPMENT SWIM — Wearing appropriate NATOPS required flight equipment; demonstrate ability to effectively survival swim.

k. AVIATION WATER SURVIVAL SKILLS — Wearing the appropriate NATOPS required flight equipment; demonstrate the ability to stay afloat and inflate LPU.

l. UNDERWATER PROBLEM SOLVING SKILLS — Wearing the appropriate NATOPS required flight equipment; demonstrate ability to solve simple egress problems while underwater. Training may include the use of a shallow water egress trainer and the shallow water initial memory mechanical exit release trainer.

m. MULTIPLACE AIRCRAFT UNDERWATER EGRESS — Classroom presentation and practical experience in procedures for underwater escape from multiplace aircraft. The training evolution may include devices of the 9D5 series or 9D6 series.

n. PARACHUTE TRAINING — Classroom and laboratory presentations and practical experience in overwater and overland parachute descent training. Procedures are practiced while suspended from virtual reality trainers, lateral drift trainers, parachute hang trainers, swing landing trainers, and/or slide trainers, as appropriate to version and training site. Additional dynamic training includes PLFs, in-water landing procedures, and parachute drag using training devices 9F2 and 9F9A.

o. LIFERAFTS AND SEA SURVIVAL — Practical and laboratory presentation on multiplace and singleplace life raft righting, organization, boarding and extended sea survival priorities and techniques.

p. RESCUE DEVICES AND SIMULATED HELICOPTER HOIST — Classroom and practical experience with rescue devices and a simulated helicopter hoist. Training includes device 9H1. An actual helicopter hoist may be conducted at Pensacola (only) as part of the Aviation Preflight Indoctrination (API) and Naval Aircrew Candidate School (NACCS) pipeline training.

q. EJECTION SEAT TRAINING — Classroom presentation covering the psychological aspects of the ejection decision, aeromedical aspects of ejection, wind blast and flailing injuries, and seat-man separation. The training device evolution includes static firing of an ejection seat emphasizing proper body position and a dynamic firing on device 9E6 for some courses.

r. CENTRIFUGE FLIGHT ENVIRONMENT TRAINING — Classroom and laboratory presentation covering the physiological affects of acceleration and the counter-measures employed in the high G environment. The training device evolution includes device 9A16 (CFET) and is accomplished at ASTC Lemoore.

s. UNDERWATER EMERGENCY EGRESS BREATHING DEVICE (e.g., SEBD) — Classroom and dynamic training as applicable to the specific curricula in underwater egress using the SEBD or similar underwater emergency egress breathing device as applicable.

t. PARASAIL — Classroom and practical experience in actual parachute descent (parasail) and landing.

u. FINAL EXAMINATION — Specific content of the written examination is a function of course modules completed. Normally a passing score of 80 percent must be achieved, specific standards are listed in CNO/COMNAVAIRFOR approved curriculum (e.g., SEBD requires 100 percent to pass).

SEE IC # 39

E.5 AIRCRAFT CLASS

Class 1 Ejection Seat	Class 2 Non-Ejection Seat, Parachute Equipped	Class 3 Helicopters	Class 4 Pressurized (or Oxygen Available/ Required), Non-Parachute Equipped
AV-8	E-2	AH-1	C-12
EA-6	C-130 (excludes C-130T)	H-3	C-130T
F/A-18	P-3	H-46	C-20
F-16	T-34	H-53	C-21
F-35	C-2	H-60	C-26
F-5		TH-57	C-35
S-3		UH-1	C-37
T-2			C-40
T-38			C-9
T-45			E-4
T-6			E-6
			T-39
			T-44
			V-22
Note: Aircraft not listed above shall be categorized and trained based on which class is most applicable.			

Figure E-4. Aircraft Class

E.6 APPROVED NASTP TRAINING SITES (AVIATION SURVIVAL TRAINING CENTERS (ASTC))

ASTC MCAS Cherry Point, NC

ASTC NAS Jacksonville, FL

ASTC NAS Lemoore, CA (CFET capable)

ASTC MCAS Miramar, CA

ASTC NAS Patuxent River, MD

ASTC NAS Norfolk, VA

ASTC NAS Pensacola, FL

ASTC NAS Whidbey Island, WA

Note

All sites are fully equipped to conduct any NASTP course with the exception of CFET. CFET can be conducted at NAS Lemoore only.

SEE IC # 42

E.7 AEROMEDICAL ADJUNCTIVE TRAINING TOPIC GUIDE

Each course is a stand alone training module. The NASTP will support aviation activities by providing assistance and technical information/ resources as referred to by the topic guide. Level A is required annual training. Levels B, C, and D are recommended annual or deployment preparation training. Briefs are available from FSs, AMSOs, ASTCs and/or APs.

Level A — Required Annual Training

1. Aeromedical aspects of ejection and/or emergency ground egress (as applicable). NVD removal training shall be incorporated into initial and annual training for aviators, aircrew and project specialists flying with NVDs in ejection seat aircraft.

2. Sensory problems — Spatial disorientation/misorientation, visual illusions, visual scanning, situational awareness (including low level flight issues) and disorientation countermeasures (may be fulfilled during instrument ground school training and should be conducted by an aerospace physiologist, FS or aerospace physiology technician).

3. Laser/LEP (per reference (bc)).

4. Hypoxia Awareness Training (Class 1 Aircraft only) — Platform specific hypoxia awareness training to include signs, symptoms, types of hypoxia, and the situations which might cause them (training may be accomplished as lecture only or as part of NASTP Dynamic Hypoxia Awareness Training (uses a ROBD)).

5. G-Tolerance Improvement Procedures (GTIP) — For tactical aircraft (TACAIR) pilots. This brief should cover anti-G straining maneuver (AGSM), push/pull, G-suit fit, hydration, nutrition, fatigue, and exercises that will promote increases in G tolerance.

Level B — Recommended Annual Mission Training (as applicable for aviators and aircrew)

1. Night vision/NVD (MAWTS-1 refresher curriculum).

2. CBRND.

3. Hypoxia awareness training (may include ROBD) for tilt-rotor and all fixed wing platforms less class 1.

4. Aircraft-installed panel-mounted first aid kit (as applicable)

Level C - Recommended Deployment Work-up Training

1. Circadian rhythms/long duration flights/fatigue.

2. Sustained operations/combat stress.

3. Survival/combat first aid — Self aid/buddy aid review to include aircraft/survival vest/raft first aid kit contents and proper use.

4. Land survival — Geographically specific emphasizing hypo/hyperthermia in jungle, mountain, desert and arctic environments (cold/hot weather climate briefs as required).

5. Water survival — Geographically specific emphasizing hypo/hyperthermia & use of cold weather gear if applicable.

6. Military Laser threat briefs (available from MAWTS-1).

7. Military communication devices and procedures (applicable survival radios, etc.).

Level D — Recommended Annual Safety Briefs

1. Human performance enhancement (e.g., stress management, fatigue management, fitness for health, etc.).

2. Situational awareness — Anomalies of attention/ complacency, learning, memory improvement, temporal distortion.

3. Fitness enhancement — Exercise/cardiovascular fitness/strength training, proper nutrition, and weight management.

4. Nutrition, diet, and over-the-counter supplements.

5. Simulator sickness/motion.

6. Noise and vibration.

7. Aircraft mounted first aid kit contents/use along with survival vest/raft first aid kit contents and proper use.

8. Aviation physiology (may include hypoxia awareness training) to include barometric physiological phenomena, decompression sickness, altitude threats.

E.8 NASTP TRAINING QUALIFICATION LETTER FOR AIRCRAFT SPECIFIC TRAINING

NSTI Letterhead

3760
SER #
Date

From: Officer in Charge, Naval Survival Training Institute

To: (insert name, rank)

Subj: NASTP TRAINING QUALIFICATION LETTER

Ref: (a) OPNAVINST 3710.7U

1. In accordance with reference (a), **(insert name, rank)** has received **(insert course)** on **(insert date)** at Aviation Survival Training Center **(insert location)**.

2. **(insert name)** received a grade of **(insert grade [Q, CQ, NG or U])**. All required modules were completed. ***(or)*** The following modules were not completed: **(list as appropriate)**

3. ***(if Q)*** This qualification expires on **(insert date)** unless additional conditions listed in reference (a) chapter 8, paragraph 8.4 apply.

(or)

3. ***(if CQ)*** This qualification expires on **(insert date, 90 days from training date)** unless incomplete modules listed in paragraph 2 are completed prior to this date. Contact any ASTC for scheduling your remediation/requalification(s).

(or)

3. ***(if U)*** A grade of Q or CQ is required to resume flight duties. Contact any ASTC for scheduling your remediation/requalification(s).

(or)

3. ***(if NG)*** The original qualification remains current until it expires. Failure to finish this qualification within 90 days will require repeating the entire course.

4. This qualification applies to the following aircraft only: **(list aircraft models as appropriate)**

SIGNATURE
By direction

APPENDIX F

Exception, Special Qualification, Service, Landing, and Approach Codes

F.1 PURPOSE

This appendix contains the exception, special qualification, service, landing, and approach codes required for completion of the OPNAV 3710/4 Naval Aircraft Flight Record (NAVFLIR) and aircrew member's OPNAV 3760/31 addressed in chapter 10.

F.2 EXCEPTION CODES

C — Correction to previously submitted data other than RECTYP 7D.

D — Deletion of previously submitted data other than RECTYP 7D.

E — Documenting flights when the crewmember and the aircraft are assigned to different organizations (RECTYP 7C only).

G — Gaining a crewmember to the squadron data base (RECTYP 7D only).

L — Losing a crewmember from the squadron data base (RECTYP 7D only).

R — Revision to crewmember personnel data residing on the squadron data base (RECTYP 7D only).

S — Documenting staff member flight time. Indicates an individual assigned to an approved DIFOPS billet on a CVW staff only. All other staff crewmembers shall use an exception code E when flying in aircraft assigned to a different organization than the one to which the staff crewmember is assigned (RECTYP 7C only).

T — Documenting simulator time. Simulator time only refers to approved simulators capable of logging flight time (RECTYP 7C only).

X — Documenting a canceled flight. A canceled flight is one for which no flight time is obtained (RECTYP 7B only).

F.3 SPECIAL QUALIFICATION CODES

A — ACFT CMDR. That individual designated as a qualified aircraft commander in the aircraft model being flown, serving as PIC (pilot assigned responsibility for the safe and orderly conduct of the flight).

B — OBSERVER. Performs in-flight duties as an observer and not actively engaged in the performance of the flight.

C — COPILOT. An assistant pilot or instructor who is positioned with access to the flight controls or is providing instruction to the pilot exercising

principal active control of the aircraft. The copilot designation does not change even though the copilot may exercise principal control of the aircraft.

D — SAR CREWMAN. Performs emergency medical care functions assigned in support of SAR missions.

E — ECM. Performs in-flight duties related to electronic countermeasures.

F — FLIGHT ENGINEER/CREWCHIEF. Performs in-flight duties as a flight engineer. Is knowledgeable of all aircraft systems, emergency procedures, and flight equipment. Troubleshoots and repairs discrepant aircraft systems.

G — FLT ATTENDANT. Performs in-flight duties as a flight attendant dealing with passenger handling requirements, safety procedures, and equipment.

H — FLT SURGEON AEROMEDICAL OFFICER. That individual designated as an aeromedical officer FS. This individual may collect FPT or CPT as defined in chapter 11, if all specified conditions are met.

I — INSTRUCTOR. Performs in-flight duties as an instructor or evaluator of other aeronautically designated personnel during the flight.

J — SENSOR OPERATOR. Performs in-flight duties as a sonar, acoustic, or nonacoustic operator.

K — FLT TECHNICIAN. Performs in-flight duties of maintaining, troubleshooting, and repairing avionic systems.

L — LOADMASTER. Performs in-flight functions of maintaining loading, rigging, internal cargo handling, and weight and balance requirements.

M — STUDENT PILOT. That individual under going training as a student pilot and performing functions/collecting FPT or CPT.

N — MISSION SPECIALIST (Space Shuttle). The mission specialist, working with the commanding pilot, has overall responsibility for the coordination of shuttle operations in the areas of crew activity planning, consumables usage, and experiment and payload operations.

O — ORDNANCE. Performs in-flight duties as a flightcrew ordnanceman. Is knowledgeable of aircraft ordnance systems, weapons loading, emergency procedures, and flight equipment.

P — NFO. As a qualified NFO crewmember, performs in-flight duties required to ensure mission accomplishment (e.g., ASW tactical coordinator, navigator, radar intercept officer, electronic warfare evaluator, electronics countermeasures officer, airborne communicator, etc.)

Q — COMMUNICATION. Performs in-flight duties as a flight communication operator. Is knowledgeable of aircraft avionic systems, emergency procedures, and flight equipment.

R — RADAR. Performs in-flight duties as a radar operator. Is knowledgeable of aircraft avionic systems, emergency procedures, and flight equipment.

S — ACFT CMDR and MSN CMDR. That individual designated as a qualified aircraft commander, serving as PIC of his or her aircraft and simultaneously, during a single flight, functioning as the mission commander of a group of aircraft performing a mission.

T — CREW UT. An aircrewman assigned to crewmember flight status who has not achieved full designation in the syllabus to which assigned.

U — NONCREW UT. An enlisted aircrew candidate assigned to non-crewmember flight status for training.

V — LOCAL USE/OTHER. As the local activity desires for functions that do not fall into any identified special qualifications.

W — GUNNER. Performs in-flight functions as a gunner.

X — 2ND MECHANIC/ASSIST FLT ENGINEER. Performs in-flight functions assisting the crewchief/flight engineer in the performance of his/her duties. He/she may perform takeoffs and landings (no induced malfunctions) with an instructor pilot and instructor flight engineer onboard during minimum crew training flights.

Y — HELO UTILITY/AMCM. Performs in-flight operation of vertical replenishment or mine countermeasures equipment.

Z — MSN CMDR. A qualified naval aviator or NFO designated by appropriate authority to exercise command over single aircraft or formation and responsible for all phases of the assigned mission except those aspects in safety of flight that relate to the physical control of the aircraft during flight.

F.4 SERVICE CODES

a. Pilot/Student/Pilot

(1) USN/R Active Duty	1
(2) USNR Reserve Training	2
(3) USMC/R Active Duty	3
(4) USMCR Reserve Training	4

b. NFO/Aeromedical Officer FS

(1) USN/R Active Duty	6
(2) USNR Reserve Training	7
(3) USMC/R Active Duty	8
(4) USMCR Reserve Training	9

c. Other

(1) USMC Navigator 0

(2) Other Services 5

(3) Enlisted Marine M

(4) Enlisted Navy N

F.5 LANDING CODES

TYPE	DAY	NIGHT
Ship Arrest/Recovery, Assist, Securing and Traversing (RAST)	1	A
Ship Touch and Go	2	B
Ship Bolter/RAST Free Deck	3	C
Ship Helicopter/Clear Deck	4	D
NFO	Y	Z
Field Carrier Landing Practice (FCLP)	5	E
Field/Field Touch and Go	6	F
Field Arrest	7	G
V/STOL Slow	8	H
V/STOL Vertical	9	J
V/STOL Vertical Roll	0	K
NVD Ship	—	N
NVD Field/Field T&G	—	P
NVD FDLP	—	Q

F.6 APPROACH CODES

Note

The approach is actual if actual instrument conditions (as defined in the glossary, appendix N) are encountered below 1,000 feet above airport/ flight deck elevation during the approach. The approach is simulated if flown in accordance with the criteria set forth in the glossary under "simulated instrument conditions."

CATEGORY	ACTUAL INSTRUMENT (ACT)	SIMULATED INSTRUMENT (SIM)
Precision	1	A
Nonprecision	2	B
Auto	3	C
Auto (NVD)	4	—

a. Precision

(1) ALS - Automatic landing system (includes SPN-42/SPN-46 Mode I or IA).

(2) ILS - Instrument landing system (includes SPN-42/SPN-46 Mode II).

(3) PAR - Precision approach radar (includes SPN-42/SPN-46 Mode III).

b. Nonprecision

(1) VOR — VHF omni range.

(2) VOR/DME — VOR/distance measuring equipment.

(3) Tacan — UHF tactical air navigation aid.

(4) NDB (ADF) — Nondirectional beacon (automatic direction finder).

(5) L/MF range.

(6) Localizer.

(7) ASR — Airport surveillance radar (includes CCA when no glide path information is provided).

(8) ELVA (helicopter only) — Emergency low visibility approach. Controlled by ASAC utilizing ship-controlled radar.

(9) SCA — Self-contained approach controlled by operator using onboard radar.

(10) GPS — Global Positioning System.

c. Auto. Coupled/automatic hover system approaches after official sunset or during actual instrument conditions in automatic or alternate modes will utilize 3. Simulated instrument conditions in automatic or alternate modes will utilize C.

APPENDIX G

Time Zone, System Status, Passenger Priority, and Opportune Cargo Codes

G.1 PURPOSE

This appendix contains the time zone, system status, passenger priority, and opportune cargo codes required for completion of the OPNAV 3710/4 addressed in chapter 10.

G.2 TIME ZONE CODES

Time zone codes are referenced to Greenwich Mean Time (GMT)/Coordinated Universal Time (UTC): solar time of the meridian at Greenwich, England, used as the basis for standard time throughout the world.

Compute time in the Western Hemisphere from local zones to GMT/UTC as follows:

ZONE	MINUS	HOUR(S)
N	+	1
0	+	2
P	+	3
Q	+	4
R	+	5
S	+	6
T	+	7
U	+	8
V	+	9
W	+	10
X	+	11
Y	+	12

Compute time in the Eastern Hemisphere from local zones to GMT/UTC as follows:

ZONE	MINUS	HOUR(S)
A	–	1
B	–	2
C	–	3
D	–	4
E	–	5
F	–	6
G	–	7
H	–	8
I	–	9
K	–	10
L	–	11
M	–	12

Note

The time zone for either the Eastern or Western Hemisphere remains unchanged, even during daylight savings time.

G.3 SYSTEM STATUS CODES

a. F — Full systems from takeoff to landing.

b. P — Full systems at takeoff; not full systems at landing.

c. N — None/partial systems from takeoff to landing.

G.4 PASSENGER PRIORITY CODES

a. Priority 1 (PRI1) — Emergency airlift in direct support of operational forces or for lifesaving purposes.

b. Priority 2 (PRI2) — Official business airlift of personnel with scheduling constraints that cannot be satisfied by any other mode of travel.

c. Priority 3 (PRI3) — Other official business airlift of passengers that requires the carrying of classified material for mission accomplishment that cannot be accommodated by mail or the Armed Forces Courier Services.

d. Priority 4 (PRI4) — Official business airlift involving group or team travel that requires the conduct of official business while en route that maintains the integrity of cohesiveness of the group and that cannot be reasonably satisfied by other modes of travel.

e. Priority 5 (PRI5) — Any other official business airlift that can be shown to be less expensive than any other mode of travel to satisfy scheduling constraints. Requests carrying this priority shall be supported only when cost effective.

G.5 OPPORTUNE CARGO CODES

CODE	CARGO
*1	NMCS items
*2	CASREP items
*3	NMCM items
A	Mail
B	Aircraft spares, parts
C	Avionic spares, parts
D	Aircraft engines
E	Ship parts
F	Electronic spares, parts
G	Electronic test equipment
H	Ground support equipment
I	Boats
J	Medical equipment, supplies

CODE	CARGO
*K	Organizational equipment
L	Maintenance tools, equipment
M	Petroleum products/tanker fuel
N	Explosives, flares, ammunition
O	Aircraft
P	Weapons, weapon parts
Q	Missiles, torpedoes
R	Drones, air targets
S	Chemicals
T	Vehicles, vans, trailers
U	Food, commissary supplies
V	Musical instruments
W	Human remains
*X	Other aviation cargo
*Y	Other general cargo
*Z	Other (i.e., hazardous cargo)

*Briefly described in remarks section of the naval aircraft flight record.

Note

If codes 1, 2, or 3 are utilized, indicate alphabetical code first (primary), and code 1, 2, or 3 second. (E2 means ship parts that are CASREP items.) If codes 1, 2, or 3 are not used, indicate the categories relative to predominance/bulk of cargo.

APPENDIX H

Weapons Proficiency Codes

H.1 PURPOSE

This appendix contains the weapons proficiency codes required for completion of the OPNAV 3710/4 addressed in chapter 10.

H.2 ORDNANCE CODES

Below are the ordnance types and the weapons proficiency subsystem:

ORDNANCE	ORDNANCE CODE
B43	B43
B43 Retarded	B43A
B57	B57
B57 Retarded	B57A
B61	B61
B61 Retarded	B61A
Mk-81 FF	B81
Mk-81 SE	B81A
Mk-82 FF	B82
Mk-82 SE	B82A
Mk-83 FF	B83
Mk-84 FF	B84
BDU-8	BD1
BDU-8 Retarded	BD1A
BDU-12	BD2
BDU-12 Retarded	BD2A
BDU-20	BD3
BDU-20 Retarded	BD3A
BDU-24	BD4
BDU-24 Retarded	BD4A
BDU-33	BD5
BDU-33 Retarded	BD5A
BDU-36	BD6
BDU-36 Retarded	BD6A
BDU-45	BD7
BDU-45 Retarded	BD7A
BDU-48	BD8
BDU-48 Retarded	BD8A
Mk-20 Rockeye	C20
CBU-55 FAE	C55
CBU-59 APAM	C59
CBU-72 Napalm	C72

ORDNANCE	ORDNANCE CODE
Mk-82 Gator	C78
CBU-88 Smokeye	C88
RR-129 Chaff	CH1
Speedbrake Chaff	CH2
Pod Chaff	CH3
Chaffeye	CH4
RR-144	CH5
Air-Launched Rapid Bloom Off-Board Chaff (AIRBOC)	CH6
Mk-36 Destructor	D36
Mk-40 Destructor	D40
Mk-41 Destructor	D41
Mk-45 Flare (SUU-44 Dispenser)	F1
Mk-46 Decoy Flare	F2
Aviation Parachute Flare	F3
Mk-25 Marine Smoke Marker	F10
Mk-12 Smoke Tank	F11
Mk-58 Marine Smoke Markers	F12
G-900 Series Smoke Grenades	F13
LB-31 Camera Pod	F21
M-112/123 Photo Flash Cartridges	F22
LAU-I0 Leaflet Dispenser	F31
GAU-2 Gun	G2
20 millimeter (MM) Gun	G20
25 MM Gun	G25
30 MM Gun	G30
.50 Caliber Gun	G50C
7.62 MM Gun	G762
M60 Machinegun	GM60
Mk-81 FF Inert	I81
Mk-81 SE Inert	I81A
Mk-82 FF Inert	I82
Mk-82 SE Inert	I82A
Mk-83 FF Inert	I83
Mk-84 FF Inert	I84
Mk-7 JATO	J1
LGB Mk-82	L82
LGB Mk-82 With Extended Fin (PEP KIT)	L82P
LGB Mk-83	L83
LGB Mk-84	L84

ORDNANCE	ORDNANCE CODE
Mk-25 Mine	M1
Mk-36 Mine	M2
Mk-52 Mine	M3
Mk-55 Mine	M4
Mk-56 Mine	M5
AIM-7 Sparrow	M7
AIM-7 Sparrow (Captive)	M7C
AIM-9 Sidewinder	M9
AIM-9 Sidewinder (Captive)	M9C
AGM-119B Penguin	M119
AIM-120 AMRAAM	M10
AIM-120 AMRAAM (Captive)	M10C
AGM-45 Shrike	M45
AGM-45 Shrike (Captive)	M45C
AIM-54 Phoenix	M54
AIM-54 Phoenix (Captive)	M54C
AGM-62 Walleye	M62
AGM-62 Walleye (Captive)	M62C
AGM-65 IR Maverick	M65I
AGM-65 Laser Maverick	M65L
AGM-71 Tow	M71
AGM-78 Standard Arm	M78
AGM-84 Harpoon	M84
AGM-88 Harm	M88
AGM-114 Hellfire	M114
AGM-122 Sidearm	M122
AGM-123 Skipper	M123
Mk-76	P76
Mk-106	P106
ACMR/TACTS Pod	POD1
LAU-68 (7 2.75 Rockets)	R275
LAU-61(19 2.75 Rockets)	R275
LAU-10 (5” Zuni)	R5
Mk-94 Chemical Bomb	S1
AERO-14 Spray Tank	S2
Bigeye	S3
Weteye	S4
AN/SSQ-36 Sonobuoy	SB1
AN/SSQ-41 Sonobuoy	SB2
AN/SSQ-47 Sonobuoy	SB3
AN/SSQ-50 Sonobuoy	SB4
AN/SSQ-53 Sonobuoy	SB5
AN/SSQ-62 Sonobuoy	SB6

ORDNANCE	ORDNANCE CODE
AN/SSQ-77 Sonobuoy	SB7
ADSID III-N Seismic Detector	SD1
Mk-64 SUS	SU1
Mk-84 SUS	SU2
Mk-46 Torpedo	T594
Mk-46 Torpedo (Extorp)	T595
Mk-46 Torpedo (Rextorp)	T596
Mk-50 Torpedo	T597
Mk-50 Torpedo (Extorp)	T598
Mk-50 (Rextorp)	T599

H.3 DELIVERY DATA CODES

Below are the delivery types and delivery codes for the weapons proficiency subsystem:

H.3.1 System/Automatic Deliveries

TYPE DELIVERY	DELIVERY CODE
Straight Path (1g)	A1
General/Dive Toss (Any g)	A2
Auto TV (Any g)	A3
Auto Hud (Any g)	A4
Auto Slew	A5
Air-to-Air Radar	F1
Air-to-Air Infrared	F2
High Loft)	S1
LST/LDT-Bombs (Laser Designated	S2
LST/LDT-Missiles (Laser Designated)	S3
System Mining	S4
CCIP	V1
Point Blank (Boresight/Pickle-Pull)	V2

H.3.2 Manual Deliveries

TYPE DELIVERY	DELIVERY CODE
0° Bombs (Manual)	B0
5° Bombs (Manual)	B5
10° Bombs (Manual)	B1
20° Bombs (Manual)	B2
30° Bombs (Manual)	B3
45° Bombs (Manual)	B4
60° Bombs (Manual)	B6
5° Popup Bombs (Manual)	BA
10° Popup Bombs (Manual)	BB
20° Popup Bombs (Manual)	BC
30° Popup Bombs (Manual)	BC/D
Radar Manual Range Line	L0
Labs IP	L1
Labs Target	L2
Conlabs	L3
Special Weapons Laydown	L4
Mining (Manual)	L5
5° Rockets (Manual)	R5
10° Rockets (Manual)	R1
20° Rockets (Manual	R2
30° Rockets(Manual)	R3
45° Rockets (Manual)	R4
60° Rockets (Manual)	R6
5° Popup Rockets (Manual)	RA
10° Popup Rockets (Manual)	RB
20° Popup Rockets (Manual)	RC
30° Popup Rockets (Manual)	RD

H.4 MISCELLANEOUS DATA RECORD CODES

The miscellaneous data subsystem of NAVFLIRS is utilized to capture and document miscellaneous training and utilization that is of importance to the individual aviator or his command, but is not documented elsewhere.

The miscellaneous code contains two characters. If the first character of the miscellaneous code is "N", "R" or "1," the data field will be numbers and tenths of numbers with an implied decimal between the second and third characters.

Below are the listed miscellaneous data codes:

DATA	CODE
Number of Autorotations	Al
Number of Rounds Fired	FI
Logistical Movement W-79 8" Arty Rounds	L1
Logistical Movement B-33 8" Arty Rounds	L2
Logistical Movement B-48 155 MM Arty Rounds	L3
Logistical Movement B-54 SADM	L4
Logistical Movement B-43	L5
Logistical Movement B-57	L6
Logistical Movement B-61	L7
NVD Usage (other than low light)	N1
NVD Usage (low light)	11
Special use airspace (SUA) not utilized because of cancellation of flight ops	N2
SUA canceled because of wx	N3
SUA canceled because of maintenance action	R1
SUA canceled by air traffic control	R2
Future Use	12
Future Use	13
Covered Radio-Successful Check In	21
Covered Radio-Unsuccessful Check In	22
Future Use	31
Future Use	32
Future Use	33

APPENDIX I

Support Codes

I.1 PURPOSE

This appendix contains the user's activity codes required for completion of the OPNAVINST 3710/4 for flight simulators addressed in chapter 10.

SUPPORT CODES	ACTIVITY NAME
AL	COMNAVAIRLANT
AP	COMNAVAIRPAC
CN	CNATRA
FL	COMMARFORCOM
FP	COMMARFORPAC
ME	COMMANDER MARINE CORPS AIR BASES EAST (COMCABEAST)
MR	MARINE RESERVE (CG FOURTH MAW)
MW	COMMANDER MARINE CORPS AIR BASES WEST (COMCABWEST)
MX	MARINE HELICOPTER SQUADRON ONE (HMX-1)
NA	COMNAVAIRSYSCOM
NS	COMNAVSAFECEN (PEP)
RE	COMNAVAIRFORES

APPENDIX J

USMC Personal Data Syllabus and Status Codes

J.1 PURPOSE

This appendix contains the syllabus and status codes for use by U.S. Marine Corps and U.S. Navy personnel for completion of the OPNAV 3710/4 "Personnel Data" section addressed in chapter 10. Completion of OPNAV 3710/4 "Personal Data" section assigned syllabus (TEC), aircrew status (ASC), and syllabus status (SSC) codes are mandatory for U.S. Marine Corps personnel, and paragraphs J.2 through J.4 identify specific codes for use by U.S. Marine Corps personnel. Although these NAVFLIRS fields are also available for by U.S. Navy personnel use, no U.S. Navy codes are presently established within this appendix.

J.2 U.S. MARINE CORPS ASSIGNED SYLLABUS (TEC) CODES

SYLLABUS	SYLLABUS CODES
EA-6 Pilot	7541/7543
EA-6 Electronic Warfare Officer (EWO)	7582/7588
AV-8 Pilot	7507/7509
F/A-18 Pilot	7521/7523
F/A-18 Weapon Systems Officer (WSO)	7524/7525
C-9 Pilot	7551
CT-39 Pilot	7559
UC-12 Pilot	7555
KC-130 Pilot	7556/7557
KC-130 Navigator	7372/7380
KC-130 Radio Operator/Loadmaster	7381/7382
KC-130 Flight Engineer (F,R, & T)	6242
KC-130 Crew Chief	6276
CH-46 Pilot	7561/7562
CH-46 Crew Chief	6172
CH-53 Pilot	7558/7560/7564/7566
CH-53 Crew Chief	6173
Qualified Observer/Gunner	6199
MV-22 Pilot	7531/7532
MV-22 Crew Chief	6176

J.3 U.S. MARINE CORPS SYLLABUS STATUS (SSC) CODES

C — Conversion Syllabus. The syllabus provided for aircrewmen converting from one model aircraft to another within the specific aircraft type (i.e., CH-46 to CH-53 or F-4 to F/A-18).

F — Full Syllabus. The standard instruction prescribed for newly designated aircrewmen to become full-combat qualified (sometimes referred to as the first tour or replacement aircrew (RAC) syllabus).

R — Refresher Training. The syllabus to be flown by aircrewmen who have not flown the model aircraft in which refresher training is to be conducted within the previous 12 months. Refresher programs to be flown by aircrewmen with differing backgrounds and assignments are outlined within reference (z).

T — Transition Syllabus. Syllabus instruction designed for aircrewmen changing aircraft types. Tactical jet, helicopter, fixed-wing transport, fixed-wing observation, and V/STOL attack are the Marine Corps aircraft types.

J.4 U.S. MARINE CORPS AIRCREW STATUS (ASC) CODES

0 — Personnel authorized more than two syllabuses.

1 — Tactical Crewmen. Aircrewmen permanently assigned to a tactical aircraft unit and whose cumulative combat readiness contributes directly toward the combat readiness of the unit as reported through the Unit Status and Identify Report (UNITREP).

2 — Augmentation Crewmen. Those crewmen assigned to fly with tactical squadrons to augment the unit for combat readiness purposes. No more augmentation personnel will be assigned to a unit than is required to bring that unit to 100-percent tactically operational.

3 — Tactical Support Crewmen. Crewmen similarly assigned as augmentation crewmen, but only maintained at a level of combat readiness that shall not inordinately degrade the capacity of the reporting unit to maintain combat readiness of tactical and augmentation crewmen.

4 — Replacement Aircrewmen. Newly designated aircrewmen undergoing training as outlined in reference (z) within a tactical or training squadron.

5 — All enlisted aircrewmen (flight engineers, radio operators, crewchiefs, gunners, test, trainees, etc.) and aerial observers and non-U.S. Navy/U.S. Marine Corps naval aviators/NFOs.

6 — Nonsyllabus pilot.

7 — Nonsyllabus NFO.

8 — Other nonsyllabus crewmen.

9 — Local use.

SEE IC # 39

APPENDIX K

COMNAVAIRFOR Approved IFAR Simulators

K.1 PURPOSE

This appendix contains Navy simulator designation codes for both pilot and NFO special crew time, Navy simulator designation codes for NFO special crew time only, and non-Navy simulator designation codes for both pilot and special crew time required for completion of the OPNAV 3710/4 and aircrew member's OPNAV 3760/31 addressed in chapter 10.

K.2 NAVY SIMULATORS (PILOT AND NFO SPECIAL CREW TIME)

Change recommendations to approved simulators may be made by letter to COMNAVAIRFOR (N455). Approved simulators for logging pilot and special crew time are listed below. A current list is maintained on the NAVAIR Airworthiness Web site (https://airworthiness.navair.navy.mil). Modifications to this appendix may be made by submitting a change recommendation via the AIRS located on the Airworthiness Web site. See chapter 2 for additional information on submitting change recommendations.

AC/TYPE	SIMULATOR DESIGNATION	SIMULATOR TYPE	TYPE EQUIP CODE
AV-8B	2F149	WST	VAGQ
AV-8B	2F150	WST	VAGR
AV-8B	2F150A	WST	VAGW
AV-8B	2F150C	WST	VAGZ
AH-1W	2F170	APT	VHTQ
AH-1/W	2F136	WST	VHTK
C-2A	2F168	OFT	VCWC
CH-46D	2F117B	OFT	VHRH
CH-46E	2F191	APT	VHRP
CH-46E	2F172	APT	VHRM
CH-46E	2F173	WST	VHRN
CH-53D	2F121	OFT	VHUA
CH-53E	2F174	WST	VHUP
CH-53E	2F171	APT	VHUM
CH-53E	2F190	APT	VHUQ
C-9B	2F223	OFT	VZAC
E-6B	2F144A	OFT	VECE
EA-6B	15E43-1	TTT	VAEC
EA-6B	2F119A	WST	VAE1
EA-6B	2F143	OF/NT	VAEY
EA-6B	2F187	WST	VAEM
EA-6B	2F185	OF/NT	VAEK

AC/TYPE	SIMULATOR DESIGNATION	SIMULATOR TYPE	TYPE EQUIP CODE
EA-6B ICAP II BLK 89A	2F178	WST	VAEF
E-2C	15F8C	WST	VEBM
E-2C	5F8H-4	WST	VEBN
E-2C	15F8H-5	WST	VEBP
E-2C	2F110	OFT	VEBG
E-2C	2F166	OFT	VEBE
KC-130	2F176	APT	VCMG
KC-130J	2F199	WST	VCMJ
KC-130R	2F107	APT	VCMH
KC-130T	2F152	OFT	VCME
KC-130T	2F176	APT	VCMG
F-5	2F213	IFT	VFZA
F/A-18	2E7	VTI	VFYA
F/A-18	2F132	OFT/TOFT	VFYB
F/A-18	2F192	TOFT	VFXG
F/A-18	2F193	TOFT	VFXH
F-18	2F193B	TOFT	VFXK
F-18C	2F193A	OFT	VFXJ
MH-53E	2F141	OFT	VHUK
MH-60R	2F195	WST	VHYG
MH-60R	2F195	TOFT #1 thru 5	VHYG
MH-60S	2F189	OFT	VHZX
MH-60S	2F189A	OFT	VHYD
MH-60S	2F189B	TOFT #3	VHYH
MH-60S	2F189C	TOFT #4	VHYJ
MH-60S	2F189D	TOFT #5	VHYK
MH-60S	2F189E	TOFT #6	VHYL
MH-60S	2F189F	TOFT #7 & 8	VHYM
MV-22	2F183-1	FTD	VKAO
MV-22	2F182	FFS	VKAC
MV-22	2F183	FTD	VKAD
MV-22	2F200	CFTD	VHAQ
P-3C	2F87(F)	OFT	VPBR
P-3C	2F142(AF)	OFT	VPCD
P-3C	2F179	TACT	VPCF
P-3C	2F140	WST	VPB6
S-3B	2F92B	WST	VSBJ
SH-3H	2F64C	OFT	VHCL
SH-60B	2F135	OFT	VHZB
SH-60B	2F135A	TOFT	VHYB
SH-60B	2F139	WST	VHZW
SH-60B	2F135B	TOFT #7	VHYQ
SH-60F	2F146	WST	VHZF
TC-12B	12CSIM	OFT	VACU
T-2C	2F101	OFT	VTBB
T-34C	2B37	FIT	VTEB
T-44A	2F129	OFT	VACV
T-44C	2F129C	OFT	VTLB
T-45A	2F137	IFT	VTMA
T-45A	2F138	OFT	VTMB
T-45C	2F137C	IFT	VTME

AC/TYPE	SIMULATOR DESIGNATION	SIMULATOR TYPE	TYPE EQUIP CODE
T-45C	2F138C	OFT	VTMF
T-45C	2F138D	OFT	VTMG
T-6A	2F208A	OFT	VTQA
T-6B	2F208B	OFT	VTQA
TA-4J	2F90A	OFT	VACY
TH-57C	2B42	FIT	VHSH
UH-1N	2F161	WST	VHTR
UH-1N	2F175	APT	VHTS
UH-1Y	2F206	FFS	VHEB
UH-1Y	2F196	FTD	VHEC
VH-3D	2F180	APT	VHCU
VH-60N	2F181	APT	VHZY

Where simulator types are as follows:

APT — Aircrew Procedure Trainer
CFTD — Containerized Flight Training Device
FIT — Flight Instrument Trainer
FTD — Flight Training Device
FFS — Full Flight Simulator
IFT — Instrument Flight Trainer
OFT — Operational Flight Trainer
OF/NT — Operational Flight/Navigation Trainer
TACT — Tactical Air Crew Trainer
TOFT — Tactical Operational Flight Trainer
WST — Weapon System Trainer
WTT — Weapon Tactics Trainer

K.3 NAVY SIMULATORS (NFO SPECIAL CREW TIME ONLY)

The following simulators are suitable only for substitution of special crew time.

Note

Pilots must occupy a pilot station to log pilot time.

AC/TYPE	SIMULATOR DESIGNATION	SIMULATOR TYPE	TYPE EQUIP CODE
MH-53E	20D17	WTT	VHUN
EA-6B	15E22C	TTT	VAER
E-2C	15F8A	TT	VEBJ
SH-60B	14B51	WTT	VHZC
SH-60F	14H9	TTT	VHZV
P-3C	2F140(T)	TTT	VPB6

Where simulator types are as follows:

MCOT — Missile Control Officer Trainer
TT — Tactics Trainer
TTT — Team Tactics Trainer
WTT — Weapon Tactics Trainer

K.4 NON-NAVY SIMULATORS (PILOT AND SPECIAL CREW TIME)

A/C TYPE	SIMULATOR TYPE	LOCATION	TYPE EQUIP CODE
TC-4C	OFT	FSI SAVANNAH	VZAG
C-9	OFT	FSI LONG BEACH	VZAC
C-9/DC-9-33	OFT	FSI ST. LOUIS	NA
DC-9	OFT	NWTC MINNEAPOLIS	NA
C-20G/D	OFT	FSI SAVANNAH/FSI LONG BEACH	NA
C-37A	OFT	FSI SAVANNAH	NA
C-40	OFT	CAE DALLAS	NA
UC-12B	OFT	FSI/SIMUFLITE	VZAP
C-130E	OFT	US AIR FORCE	VZAU
C-130T	OFT	CAE TAMPA	NA
E-3	OFT/TTT	US AIR FORCE/NATO	VZBE
E-6B	OFT	L3 LINK OKLAHOMA CITY	NA
F-4	OFT/WST	US AIR FORCE	VZAT
RF-4	OFT	US AIR FORCE	VZAK
F-15	OFT/WST	US AIR FORCE	VZBV
F-16	OFT/WST	US AIR FORCE	VCT7
F-111	OFT/WST	US AIR FORCE	VCT6
AH-1S	OFT	US ARMY	VZA5
AH-1T	OFT	US ARMY	VZA1
UH-1	OFT	US ARMY	VZAM
HH-52	OFT	US COAST GUARD	VZAJ
UH-60	OFT	US ARMY	VZAQ
AH-64	OFT	US ARMY	VZBC
T-37	OFT	US AIR FORCE	VZBJ
T-38	OFT	US AIR FORCE	VZBK
CT-39	OFT	FSI ST. LOUIS	VZAE
T-43	OFT/TT	US AIR FORCE	VZAX
FALCON	OFT/WST	NUMEROUS FOREIGN	VZBL
HARRIER	OFT/WST	NUMEROUS FOREIGN	VZBM
HORNET (F-18)	OFT/WST	NUMEROUS FOREIGN	VZA8
JAGUAR	OFT/WST	NUMEROUS FOREIGN	VZA7
LYNX	OFT/WST	NUMEROUS FOREIGN	VZBN
MIRAGE	OFT/WST	NUMEROUS FOREIGN	VZBP
ORION (P-3)	OFT/TTT/WST	NUMEROUS FOREIGN	VZBQ
SEA KING (H-3)	OFT/WST	NUMEROUS FOREIGN	VZBR
TORNADO	OFT/WST	NUMEROUS FOREIGN	VZA6
AURORA	OFT/TTT/WST	CANADA	VZBA
CRUSADER (F-8)	OFT/WST	FRANCE	VZBS
ETENDARD	OFT/WST	FRANCE	VDT1

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A/C TYPE	SIMULATOR TYPE	LOCATION	TYPE EQUIP CODE
F-14	WST	GRUMMAN	VZBU
F-15	WST	MCAIR ST. LOUIS	VZBV
F/A-18	WST	MCAIR ST. LOUIS	VZAW
GENERIC	FIXED WING	US AIR FORCE	V1AF
	HELO	US AIR FORCE	V2AF
	FIXED WING	US ARMY	V1AR
	HELO	US ARMY	V2AR
	FIXED WING	US COAST GUARD	V1CG
	HELO	US COAST GUARD	V2CC
	FIXED WING	FOREIGN	V1FM
	HELO	FOREIGN	V2FM
	FIXED WING	NASA	VZBW
	V/STOL	NASA	VZAV
MFS	FIXED WING	PATUXENT RIVER	VZBX
MFS	V/STOL	PATUXENT RIVER	VZBY

APPENDIX L

List of Forms and Reports

L.1 PURPOSE

This appendix lists all forms and reports cited within the text of this document as required by paragraph 6 of this instruction.

L.2 FORMS

Forms are available electronically or can be obtained in hard copy when a stock number appears below with the form number and title:

a. The following form may be obtained in electronic format through the NOMI Pensacola page of the Navy Medicine Manpower, Personnel, Training and Education Command Web site, https://www.med.navy.mil/sites/navmedmpte:

NAVOPMEDINST 6120/2 (Rev 4-00)	Physical Examination Disposition Notice

b. The following forms may be obtained in electronic form through the Department of Defense Forms Management Program Web site, http://www.dtic.mil/whs/directives/infomgt/forms/formsprogram.htm:

DD 175 (Rev 5-86)	Military Flight Plan.
DD-175-1 (Rev 10-02)	Flight Weather Briefing.
DD 365-4 (Rev 8-96)	Weight and Balance Clearance Form F – Transport/ Tactical.
DD 1381 (Rev 7-62)	Air Transportation Agreement.
DD-1801 (Rev 5-87)	DoD International Flight Plan.
DD-2807-1 (Rev 3-07)	Report Of Medical History.
DD-2808 (Rev 10-05)	Report Of Medical Examination.

c. The following form may be obtained electronically through the Forms Library page of the FAA Web site at http://www.faa.gov:

FAA 7233-1 (Rev 8-82)	Flight Plan.

d. The following forms may be obtained in hard copy or electronically through the Naval Forms Online Web site http://navalforms.daps.dla.mil:

NAVMC 118A (Rev 12-96)	U.S. Marine Service Record Book (Cover), S/N 0109-LF-067-1200.
NAVMC 123A (Rev 9-95)	Officer's Qualification Record, S/N 0109-LF-062-8800.
NAVMED 6120/2 (Rev 11/79)	Officer Physical Examination Questionnaire.
NAVMED 6410/1 (Rev 5-90)	Grounding Notice (Aeromedical), S/N 0105-LF-010-1600.
NAVMED 6410/2 (Rev 5-90)	Clearance Notice (Aeromedical).
NAVMED 6410/9 (Rev 4-77)	Anthropometric Data Record S/N 0105-LF-206-4145

OPNAV 3710/2 (Rev 1-74)	NATOPS Instrument Rating Request.
OPNAV 3710/4 (Rev 2-84)	Naval Aircraft Flight Record, S/N 0107-LF-037-1020.
OPNAV 3710/6 (Rev 4-90)	NATOPS/Tactical Change Recommendation.
OPNAV 3710/7 (Rev 3-95)	NATOPS Evaluation Report.
OPNAV 3710/18 (Rev 3-04)	Clearance for Nonmilitary/Nonaircrew Personnel to Fly in USN/USMC Aircraft, S/N 0107-LF-019-4600.
OPNAV 3710/37 (Rev 7-05)	Anthropometric Data Measurement Record
OPNAV 3722/18 (8-09)	Validation of Jeppesen Terminal Instrument Procedures.
OPNAV 3760/31(Rev 4-65)	Aviators Flight Log Book, S/N 0107-LF-736-2001.
OPNAV 3760/32 (Rev 4-81)	NATOPS Flight Personnel Training/Qualification Jacket, S/N 0107-LF-736-2112.
OPNAV 3760/32A (Rev 4-81)	Review and Certificate Record.
OPNAV 3760/32B (Rev 4-81)	Record of Flight Equipment Issue.
OPNAV 3760/32C (Rev 4-81)	Flight Personnel Designation Record.
OPNAV 3760/32D (Rev 4-90)	Mission Qualification Record.
OPNAV 3760/32E (Rev 4-90)	School/Course Attendance Record.
OPNAV 3760/32F (Rev 4-90)	Operational Physiology and Survival Training.
OPNAV 3760/32G (Rev 4-90)	Examination Record.
OPNAV 3760/32H (Rev 4-81)	Mishap/Flight Violation Record.
OPNAV 3760/32I (Rev 4-81)	Flight Jacket Divider Tabs, S/N 0107-LF-000-7500.
OPNAV 4790/141 (Rev 12-89)	Aircraft Inspection and Acceptance Record, S/N 0107-LF-008-4600.
OPNAV 5211/9 (Rev 3-92)	Disclosure Accounting Form - Record of Disclosure.

e. The following forms may be obtained in electronic format through the Forms Library page of the U.S. General Services Administration Web site at http://www.gsa.gov/.

SF-88 (Rev 10-94)	Report of Medical Examination.
SF-93 (Rev 6-96)	Report of Medical History.

L.3 CONTROL

The following reports are approved in accordance with reference (bw):

REPORT CONTROL SYMBOL	TITLE	LOCATION
OPNAV 3710-19	Minimum Flight Time Requirements Waiver Request	Page 11-17 Figure 11-5
OPNAV 3710-21	NATOPS Evaluation Report	Page 2-38

APPENDIX M

Standardized ACM Training Rules Briefing Guide

M.1 PURPOSE

This appendix contains the standardized ACM training rules briefing guide. The ACM training rules are applicable to all Department of the Navy aircraft. U.S. Navy and U.S. Marine Corps units shall utilize these training rules as published and shall not deviate, change or manipulate them. Interservice or international ACM training shall be conducted using the most restrictive ACM training rules. Any changes to this appendix shall be routed to COMNAVAIRFOR (N455). More restrictive rules may be used but must be specifically briefed.

M.2 ACM TRAINING RULES

Note

Mandatory briefing items denoted by an asterisk (*).

M.2.1 Administrative

- *Departure/spin for each type of aircraft
- Scheduled face to face or coordinated brief
- ACM authorized by cognizant commander
- Designated ACM area

***Currency: All In Flight Have Flown**

Pilots:

- < 750 hrs FPT in type/class:
  - ♦ Once within previous 6 days.
  - ♦ Twice within previous 14 days (1 dynamic in T/M).
- > or = 750 hrs FPT in type/class:
  - ♦ Once within previous 14 days.
  - ♦ Twice within previous 30 days (1 dynamic in T/M).

Naval Flight Officers (NFO)

- Hours independent:
  - ♦ Once within previous 14 days.
  - ♦ Twice within previous 30 days (1 dynamic in T/M).

Weather, Decks and Blocks

Weather:

- Daylight, VMC, 5 miles visibility and a defined horizon.
- Cloud separation — 2,000 feet vertically and 1 mile horizontally.
- No maneuvers through cloud layers.

*Decks

- Hard deck:
  - ♦ Minimum 5,000 feet AGL or above an undercast.
- Soft deck:
  - ♦ Minimum 5,000 feet above the hard deck.
  - ♦ No slow speed or high AOA maneuvering below the soft deck (defined by T/M/S NFM).
- Below the hard deck:
  - ♦ Maximum of 180 degrees of turn or role reversal.
- Below 500 feet AGL:
  - ♦ Wing rock only.

*Blocks

- Established in assigned block by 10 nm without required SA on opposing force.

COMM Requirements

- Transmit/receive/monitor guard/ICS (multi place aircraft).

<u>Pre-commencement of ACM</u>

- Perform G-warm maneuver
- Altimeter warnings set
- Element lead final coordination
- Confirm:
  - ♦ Weather.
- Announce:
  - ♦ Type of war.
  - ♦ Local altimeter setting.
  - ♦ Any decks/spins changes.

Commencement of ACM

Collision Avoidance:

- 500 feet separation between all aircraft at all times.
- Always assume the other aircraft does not see you.
- Head-on pass:
  - ♦ Maintain established trend, if no trend established, give way to the right to create a left-to-left pass.
- When in doubt, broadcast your own intentions.
- Converging flight paths:
  - ♦ Nose high goes high.
  - ♦ Nose low has collision avoidance responsibility.
- Never intentionally maneuver to lose sight (no blind lead turns).
- Up sun aircraft has the responsibility for collision avoidance. If down sun aircraft lost sight, transmit "call sign blind" and turn away from predicted collision bearing.
- Call "ballistic" (for slow speed reduced maneuverability).
- No head-on missile acquisition inside 9000 feet (1.5 nm) 20 degree of the nose.
- No forward quarter gun attacks (45 degree of the nose).
- Break off all gun attacks at 1000 feet.
- No flares with attacker approaching guns.

Terrain Avoidance:

- No guns defense below the soft deck.
- Offensive aircraft will monitor the defensive aircraft altitude, attitude, and airspeed and will break off the attack prior to pushing the defensive aircraft through the hard deck.

Termination of ACM

- ACM shall cease when:
  - ♦ Any training rule is violated.
  - ♦ "Knock it off"/"terminate" is called, all players echo.
- "Knock it off" for:
  - ♦ Interloper.
  - ♦ Departure/spin.
  - ♦ G-Loc.

- ♦ Min alt broken.
- ♦ Nordo.
- ♦ Overstress.
- ♦ Bingo fuel.
- ♦ Inadvertent IFR.
- ♦ Loss of situational awareness/any unsafe condition develops.
- ♦ Training objectives attained.
- ♦ In a BFM engagement, both aircraft lose sight approaching training area boundary.

Post Termination of ACM

- Be aware of the high midair collision potential following the "knock it off"/"terminate" call.

APPENDIX N

GLOSSARY

The explanation or definitions of terms and abbreviations commonly used in the aviation community can be found in FAR, part 1, and DoD FLIP General Planning, chapter 2; and Aeronautical Information Manual (AIM) pilot/controller glossary. No effort to duplicate these terms is intended. Where terms are used in this instruction with a different connotation or where definitions are lacking in the above-mentioned publications, the explanations of such terms are included.

A

Actual Instrument Approach. When actual instrument conditions are encountered below 1,000 feet above the airport/flight deck elevation during an instrument approach.

Actual Instrument Conditions. Conditions external to the aircraft in flight that do not permit visual reference to the horizon.

Aerobatic Flight Maneuvers. An intentional maneuver involving an abrupt change in aircraft attitude, intentionally performed spins, or other maneuvers requiring pitch/dive angles greater than 45°, bank angles greater than 60°, or accelerations greater than 2gs. A maneuver that conforms to the model NATOPS manual (e.g., break, weapons delivery, autorotations, etc.) is not considered to be aerobatic flight.

Aeromedical Dual Designator. An aeronautically designated medical department officer (i.e., flight surgeon, aerospace physiologist, aerospace experimental psychologist, or aviation optometrist) with the Additional Qualification Designator (AQD) of either 6AC (Med Dept & NFO) or 6AE (Med Dept & Pilot).

Aeromedical Officer. An aeronautically designated medical department officer (i.e., flight surgeon, aerospace physiologist, aerospace experimental psychologist, or aerospace optometrist), or officer student in a course of instruction leading to such designation.

Aeronautically Designated Personnel. A collective term that applies to all naval aviators, NFO, naval aerial observers (U.S. Marine Corps), naval FSs, naval aerospace physiologists, naval aerospace experimental psychologists, aviation operations officers (AVOPS), aviation warfare systems operator (AW rating), personnel assigned by the Chief of Naval Personnel under a distribution Naval Enlisted Classification (NEC) of 82XX and 94XX, and U.S. Marine Corps-enlisted crewmembers. Enlisted non-crewmembers are not considered aeronautically designated.

Aircraft Class. A broad classification as to the general mission purpose of an aircraft design (e.g., attack, fighter, helicopter, patrol, transport, vertical takeoff and landing and unmanned aerial vehicles).

Aircraft Commander Time. The individual flight time during which an individual, designated as a qualified aircraft commander in the aircraft model being flown, is serving as pilot in command. Aircraft commander time is a measure of command experience rather than of pilot experience.

Aircraft Model. The basic mission symbol and design number (e.g., P-3, S-3, F/A-18, and H-60).

Aircraft Series. The specific version of aircraft within the same model (e.g., AV-8B; H-46D or E; F/A-18D or E/F).

Aircraft Type. The broadest classification of aircraft as to physical characteristics (i.e., fixed-wing, rotary-wing or tilt-rotor).

Aircrew. A collective term that applies to all categories of personnel in a flight status either as crew or non-crewmember. Aircrew are military personnel on competent flight orders or civilian personnel whose duties require frequent and regular participation in aerial flights to perform inflight functions such as installation, maintenance, evaluation of airborne technical equipment (maintenance skins), communication specialists, photo specialists, etc.

Aviation Training System (ATS). The ATS is used to manage Marine Aviation Training (Maintenance, Aircrew and Command and Control) by facilitating standardization, evaluation and crew resource management in order to provide a tactically relevant training continuum.

B

Bolter. An attempted arrested landing on a carrier in which some portion of the aircraft, such as the landing gear or hook, touches the deck but the arresting gear is not engaged and the aircraft continues in flight.

C

Career Crewmember (also known as Career Enlisted Flyer). A member of the Navy enlisted aviation community rating (AD, AE, AM, AMH, AME, AMS, AO, AT, AV, AW, PR, IT (TACAMO only), or AZ (TAR only)) holding a 78XX, 82XX, or 94XX NEC; or is in a formal training pipeline leading to the award of those NECs, and is detailed by PERS-404E or NRPC-417. Career enlisted flyers are crewmembers who are primarily detailed throughout their career into flying billets. Career enlisted flyers receive either continuous or conditional career enlisted flyer incentive pay (CEFIP) and not hazardous duty incentive pay (HDIP) for aerial flight.

Chemical, Biological Radiological, or Nuclear Defense (CBRND). Defensive measures taken against the effects of a chemical, biological, or a nuclear weapon attack.

Civilian Non-DOD Government Employee. Individual could be with other Federal Government agency, state, county, or local government, etc., or an individual not with any government agency but whose activities benefit the general public at large. Firefighters and in-flight medical services are examples.

Combatant Commander. A commander of one of the unified or specified combatant commands established by the President.

Contract Simulator Instructor (CSI). Contractor or civil service personnel designated by a Service training agency or COMNAVAIRFOR/CMC as a simulator instructor. A contractor simulator instructor may be designated as an assistant NATOPS instructor and/or a NATOPS instrument evaluator by the respective type wing/Marine Air Group commander. CSIs who maintain these designations shall receive a NATOPS and instrument standardization evaluation annually by an appropriate NATOPS evaluator.

Control (Radar)

a. Advisory. The tactical control of aircraft by a designated control unit in which the pilot receives directions and recommendations. Aircraft commanders are not relieved of responsibility for their own safety and navigation.

b. Close. The tactical control of aircraft by a designated control unit, whereby the pilot receives orders affecting aircraft movements. The pilot will not deviate from controller instructions unless given permission or unless unusual circumstances require immediate action for the safety of the flight. In either case, the pilot will inform the controller of the action taken. This type of control requires two-way radio communication and radar contact. The controller is responsible for the safe separation of the aircraft, and the pilot must be informed whenever the aircraft is not held on the radarscope for periods in excess of 1 minute or five sweeps of the radar and, as a result, is being dead reckoned. The ultimate safety of the aircraft is the responsibility of the pilot.

c. Positive. The tactical control of aircraft by a designated control unit, whereby the pilot receives orders affecting aircraft movements that transfer responsibility for the safe navigation of the aircraft to the unit issuing such orders. The ultimate safety of the aircraft is the responsibility of the pilot.

Controlling Custodian. The command exercising administrative control of assignment, employment, and logistic support of aircraft. Controlling custodians are identified in reference (q).

Conversion Mode. Flight operations with the nacelles set between 74° and 5° are considered to be in CONV mode. (Constant nacelle settings between 5° and 1° are not selectable by the pilot.)

Crew Resource Management (CRM). The use of specifically defined behavioral skills as an integral part of every flight to improve mission effectiveness by minimizing crew preventable errors, maximizing crew coordination, and optimizing risk management.

Cross-Country Flight. A flight that either does not remain in the local flying area or remains in the local flying area and terminates at a facility other than an active military facility.

D

Designations. A designation is a one-time occurrence and remains in effect until removed for cause. Commanders shall issue a designation letter to the individual upon the occasion of his/her original designation with appropriate copies for inclusion in his/her NATOPS qualification jacket.

DIFCREW. Duty for enlisted personnel in a flying status involving operational or training flights.

DIFDEN. Duty involving flying denied; duty in a flying status for an officer not involving flying.

DIFOPS. Duty in a flying status for an officer involving operational or training flights.

DIFTEM (USN). Duty in a temporary flying status performing special mission duties as a non-crew member. Enlisted personnel are so ordered in accordance with reference (bs).

Direct Station-to-Station Communications. A means of passing flight progress information between airfields. Communications should

be established by one of the following methods:

a. Voice landline.

b. Aeronautical Information System (AIS).

E

Enlisted Crewmember (USMC). Enlisted personnel on competent orders to perform duty involving frequent and regular participation in aerial flight as a crewmember.

Enlisted Noncrewmember on Flight Orders (USMC). Enlisted personnel on competent orders to perform duty involving frequent and regular participation in aerial flight who are not performing duties related to the actual operation of the aircraft or associated equipment in the aircraft (i.e., maintenance personnel who perform inflight functions such as installation or troubleshooting of airborne technical equipment (maintenance skins) and VIP support, photo specialists, etc.).

F

Flight

a. For operational purposes, a flight is one or more aircraft proceeding on a common mission.

b. For recording and reporting purposes, a flight begins when the aircraft first moves forward on its takeoff run or takes off vertically from rest at any point of support and ends after airborne flight when the aircraft is on the surface and either:

(1) The engines are stopped or the aircraft has been on the surface for 5 minutes, whichever comes first

(2) A change is made in the pilot in command.

c. For helicopters, a flight begins when the aircraft lifts from a rest point or commences ground taxi and ends after airborne flight when the rotors are disengaged or the aircraft has been stationary for 5 minutes with rotors engaged.

Note

Flight time on repetitive evolutions such as field carrier landing practice (FCLP), passenger/cargo stops, and carrier qualifications shall be logged from the time the aircraft takes off until the aircraft has been on the surface for 5 minutes after each evolution flown (i.e., three sorties of 55 minutes actual air time interspersed with two 20-minute ground periods for refueling or passenger/cargo transfer will be logged as 3.0 hours of flight time).

Flight Clearance. A flight clearance provides temporary flight operating limits for an aviation system operating in a nonstandard configuration or to a nonstandard envelope, pending issuance of the technical directive or change to the NATOPS, NATIP, or tactical manuals. A flight clearance is a temporary airworthiness approval from COMNAVAIRSYSCOM.

Flight Crew. Personnel whose presence is required on board a manned aircraft or at a control station for UAS to perform crew functions in support of the assigned mission (e.g., pilot, copilot, navigator, flight engineer, crew chief, air observer, special crew, trainee, etc.).

Flight Support Personnel. Personnel immediately involved in the maintenance, fueling, towing/moving, start-up, taxi, or launch and recovery of aircraft including, but not limited to, taxi directors, catapult and arresting gear crew, final checkers, landing signal

enlisted (LSEs), aircraft maintenance personnel and aircraft move crews and directors.

Flight Time. The elapsed time computed in accordance with the definition of flight. Flight time is logged in hours and tenths of hours and is creditable to the aircraft, personnel aboard, and equipment.

Formation Flight. A flight of more than one aircraft operating by prior arrangement as a single aircraft with regard to altitude, navigation, and position reporting, and where separation between aircraft within the flight rests with the pilots in that flight.

H

Hazard. A condition with the potential to cause personal injury or death, property damage, or mission degradation.

I

Individual Flight Time. The total pilot time and special crew time creditable to an individual.

Instructor. A naval aviator, naval flight officer, or naval aircrewman designated in writing by competent authority as a flight instructor, NATOPS evaluator, or NATOPS instructor in the aircraft model being flown.

Instructor Time. Individual flight time during which an instructor is required to instruct or evaluate other aeronautically designated personnel or students undergoing a formal flight syllabus.

Instrument Meteorological Conditions. Meteorological conditions expressed in terms of visibility, distance from clouds, and ceiling less than the minimums specified for visual meteorological conditions. IMC conditions exist anytime a visible horizon is not distinguishable.

Instrument Time. The portion of pilot time in either day or night under actual or simulated instrument conditions.

a. Actual instrument time will be logged by both pilots in a dual/multipiloted aircraft during flight in actual instrument conditions.

b. Simulated instrument time shall be logged only by the pilot actually manipulating the controls.

Note

NFOs and student NFOs may report actual instrument time if they fly in an aircraft in which they can monitor the pilot instruments and recommend information to the pilot during actual instrument conditions.

J

Joint Service Battlestaff Personnel Embarked on Naval Aircraft. Personnel of all services serving as Battlestaff crewmembers on board Navy E-6 aircraft conducting airborne strategic communications.

L

Landing. A return to the surface; landings include touch and go (providing the landing gear touches the surface), bolter, forced, or crash.

Note

Terms of control terminology such as immediately, possible, and practicable refer to the degree of urgency intended in the message:

a. Land immediately — Self-explanatory.

b. Land as soon as possible — Land at the first site at which a safe landing can be made.

c. Land as soon as practicable — Extended flight is not recommended. The landing site and duration of flight is at the discretion of the pilot in command.

Local Flight. A flight that remains within the local flying area and terminates at either the same facility or another military facility with which the originating station has direct station-to-station communications.

Local Flying Area. That area in the vicinity of an air installation in which locally-based aircraft can operate during an average/typical sorties flight time. The local flying area shall not exceed 350 miles from an air installation and be designated as such in the Air Operations Manual by the commanding officer. In so far as practicable, local flying areas shall be bounded by prominent terrain features and/or air navigation aid radials/distances.

M

Mile. All distances referred to in this instruction are nautical miles unless otherwise specified.

Mission Commander Time. Flight time during which an individual, designated as a qualified mission commander in the aircraft model being flown, is serving as the mission commander. Mission commander time is a measure of command experience rather than flight experience.

Multipiloted Aircraft. Any aircraft having two sets of flight controls and instruments and operated by two pilots, both of who meet the requirements of the NATOPS manual for that model aircraft.

N

Naval Aircraft. For the purposes of this instruction, those aircraft accepted into the naval aircraft inventory reporting system, pre-accepted aircraft, and public use aircraft operated exclusively by or for the Navy.

Naval Aircrewman. A designation for enlisted personnel who have met the requirements for qualification and have been so certified in accordance with paragraph 12.9 of this instruction.

Naval Aviation Shore Facility. A facility at which an active airfield exists and is either owned, operated, or controlled by the Navy or Marine Corps.

Night Time. The portion of pilot time during darkness (i.e., between the official time of sunset and sunrise (on the surface below the aircraft in flight), regardless of whether visual or instrument conditions exist).

O

Oceanic. A situation where an aircraft has no radio communication and is greater than 250 nm from the nearest navaid.

Officer in Tactical Command. The senior officer present eligible to assume command, or the officer to whom he has delegated tactical command.

Official Business. The necessity to contact personnel, units, or organizations for the purpose of conducting transactions in the service of and in the interest of the United States Government. This definition does not authorize the use of official business only airfields, their services, or other items attendant to itinerant operations when making en route stops while proceeding to an

airfield at which official business is to be conducted. Official business only restrictions do not preclude the use of the facility as an alternate during instrument flight rule (IFR) conditions.

Operational Flying. (See paragraph 11.2 for definition and application.)

Operational Necessity. A mission associated with war or peacetime operations in which the consequences of an action justify accepting the risk of loss of aircraft and crew.

Operational Risk Management. The process of dealing with the risk associated with military operations, which include risk assessment, risk decision making and implementation of effective risk controls.

Orientation Flight. A continuous-flight in DoD aircraft performed within the local flying area and terminating at the point of origin intended to further the understanding of particular programs concerning the roles and missions of the Department of Defense.

P

Passenger. An individual who is not part of the aircrew traveling in an aircraft designed or normally configured for passenger (non-aircrew) carrying capability on a point-to-point flight.

Pathfinder. An aircraft whose primary mission is to assist tactical aircraft with communication or navigation of flights over regions where normal tactical aircraft navigation/ communication equipment is unusable.

Pilot in Command. The pilot assigned responsibility for safe and orderly conduct of the flight.

Pilot Time. The flight time credited to a designated aviator, student naval aviator, student/designated naval flight surgeon, student/designated aerospace physiologist, or student/designated aerospace experimental psychologist assigned to duty involving flying. Pilot time includes all time credited as first pilot and copilot. Pilot time is intended to be a record of active participation in the control of an aircraft. Pilot time will be credited to the individual actually earning it regardless of rank, billet, age, or level of experience.

a. First Pilot Time. The portion of pilot time during which an individual is positioned with access to the flight controls and is exercising principal active control of the aircraft.

b. Copilot Time. The portion of pilot time while assisting the pilot exercising principal active control of a multipiloted aircraft during which the copilot is positioned with access to and is immediately ready to operate the flight controls; or, in those aircraft with only one set of flight controls, that portion of flight time while instructing the pilot who is exercising principal active control when the designated instructor is positioned so that pilot and aircraft instruments can be observed. Aeronautically designated personnel may log CPT while performing copilot duties as required by the aircraft mission.

Pilot Under Instruction. A designated aviator under instruction.

Pre-Accepted Aircraft. Those aircraft under development or in production for the Navy which have not yet been accepted into the naval aircraft inventory via DD 250.

Project Specialist. A non-aeronautically designated individual (military or civilian) embarked in a government aircraft for the purpose of operating aircraft systems, operating specially designed equipment, or observing aircraft or crew performance, etc. when required in conjunction with assigned duties or contractual responsibilities. Project specialists are not responsible for normal aircrew duties. This category is not appropriate for those completing orientation flights or for midshipmen.

Public Aircraft. An aircraft that is not used for commercial purposes and 1) is owned or operated by the armed forces or chartered to provide transportation or other commercial air service to the armed forces for national interest; or 2) an aircraft used only for the U.S. Government; or 3) an aircraft owned by the U.S. Government and operated by any person for purposes related to crew training, equipment development, or demonstration.

Q

Qualified in Model. A designation that indicates the minimum requirements for qualification in a specific crew position, as set forth in the appropriate NATOPS manual, have been attained. Such designations are a one-time occurrence (per unit/command tour) and remain in effect until removed for cause. Annual NATOPS evaluations should not be confused with or combined with these designations. If specific aircraft model NATOPS guidance is lacking, an individual shall be considered qualified in model for specific crew position when so designated by the reporting custodian.

R

Reporting Custodian. An organizational unit of the lowest echelon of command accepting responsibility (involving accountability to CNO) for aircraft as designated either by CNO or by the controlling custodian of the aircraft.

Risk. An expression of possible loss in terms of severity and probability.

Risk Assessment. The process of detecting hazards and assessing associated risks.

S

Simulated Instrument Approach. An instrument approach flown under simulated instrument conditions.

Simulated Instrument Conditions. Conditions external to the aircraft in flight are visual meteorological conditions (VMC), but pilot vision is limited primarily to the interior of the aircraft.

Single-Piloted Aircraft. Any aircraft that has only one set of flight controls or a tandem cockpit, or any aircraft that has two sets of flight controls and instruments and is being operated by only one pilot who meets the requirements of the NATOPS manual for that model aircraft.

Special Crew Time. The portion of flight time accrued while not acting as first pilot or copilot, but otherwise serving as a member of the authorized crew complement of an aircraft or as a student in flight training.

Special Operations Forces Personnel. Herein referred to as SPECOPS. Personnel who are required to conduct special operations such as high altitude parachuting from military aircraft (SEALS, ANGLICO, RECON, etc.).

Standardization Evaluation. An evaluation conducted by the NATOPS evaluator for the purpose of measuring the knowledge and instructing capabilities of a NATOPS instructor or evaluator. This evaluation may be performed coincident with any annual NATOPS evaluation.

Stereo Route. Routinely used route of flight established by users and ARTCC identified by a coded name. These routes simplify flight plan handling and communications.

Student Naval Aviator (Student Pilot). An individual undergoing training who is not designated as a naval aviator.

T

Tilt-rotor. Aircraft type capable of rotor-borne and wing-borne flight (e.g., MV-22).

Trip. A consecutive series of flights by the same aircraft with the same general purpose of flight (with regard to the aircraft only), pilot in command, and transaction code (i.e., ship operations or shore operations) from point of original departure to destination.

U

Unmanned Aircraft (UA). A rotary, fixed-wing, or lighter-than-air aircraft which is capable of flight without an on-board crew. UA can be operated autonomously or remotely, can be expendable or recoverable, and can carry a lethal or nonlethal payload. Ballistic or semi-ballistic vehicles, cruise missiles, artillery projectiles, torpedoes, mines, satellites, and unattended sensors (with no form of propulsion) are not considered unmanned vehicles. Unmanned aircraft are the primary component of unmanned aircraft systems (UAS).

Unmanned Aircraft System(s) (UAS). The system, whose components include the necessary equipment, data communication links, and personnel to control and employ an unmanned aircraft (UA).

Unmanned Aerial Vehicle. A legacy term replaced by Unmanned Aircraft (UA) or Unmanned Aircraft System (UAS) as applicable.

V

Very Important Persons. VIPs are defined as flag officers, DoD officials equal to or senior to flag officers, high-profile public figures, elected members of Congress, etc.

Visual Meteorological Conditions. Meteorological conditions expressed in terms of visibility, cloud distance, and ceiling that are equal to or better than specified minimums. Basic weather conditions prescribed for flight under visual flight rules (VFR). (Refer to chapter 5.)

VOD. For the purposes of this instruction, all helicopter and tilt-rotor aircraft that have the capability to deliver passengers or cargo.

APPENDIX O

LIST OF ABBREVIATIONS/ACRONYMS

A

ABI. Aviation billet indicator.

ACFT CMDR. Aircraft commander.

ACIP. Aviation career incentive pay.

ACM. Air combat maneuvers.

ACP. Allied communication publication.

ACT. Aircraft commander time.

ADIZ. Air defense identification zone.

ADMAT. Administrative material inspection.

AES. Automated Exemption System.

AEW. Airborne early warning.

AFB. Air Force base.

AFCS. Automatic flight control system.

A/G. Miscellaneous ship.

AGSM. Anti-G straining maneuver.

AI. Air intelligence; Air intercept.

AGL. Above ground level.

AIA. Aircraft inspection and acceptance.

AIM. Aeronautical Information Manual.

AIRBOC. Air-Launched Rapid Bloom Off-Board Chaff.

AIRS. Airworthiness Issue Resolution System.

AIS. Aeronautical Information System.

ALOC. Almost lost of consciousness.

ALS. Approach lighting system.

ALSS. Aviation life support system.

ALTRV. Altitude reservation.

AMB. Aviation Mishap Board.

AMCM. Airborne mine countermeasures.

AMDD. Aeromedical Dual Designator.

AME. Aviation medical examiner.

AMO. Aviation medical officer.

AMSO. Aeromedical Safety Officer.

ANI. Assistant NATOPS Instructor.

AOA. Angle of attack.

AOR. Area of responsibility.

AP. Area planning.

APMSE. NAVAIR Assistant Program Manager for Systems Engineering.

ARCP. Air refueling control point(s).

ARTCC. Air route traffic control center.

ASAC. Antisubmarine air controller.

ASAP. Aviation Safety Awareness Program.

ASC. Aircrew Status Code

ASED. Aviation service entry date.

ASEP. Aircrew survivability enhancement program.

ASI. Aviation status indicator.

ASTC. Aviation Survival Training Center.

ASW. Antisubmarine warfare.

ATC. Air traffic control.

ATCAA. Air traffic control assigned airspace.

ATCF. Air Traffic Control Facility.

ATP. Allied tactical publication.

AVOIC. Airfield Vehicle Operators Indoctrination Course.

AVOPS. Aviation Operations Officer.

B

BFM. Basic Fighter Manuevers.

BRAC. Base realignment and closure.

BUMED. Bureau of Medicine and Surgery.

BuNo. Bureau number.

BUPERS. Bureau of Naval Personnel.

BVA. Best visual acuity.

C

CAD. Collective address designator.

CAP. Combat air patrol.

CASREP. Casualty report.

CBR. Chemical, biological, and radiological.

CBRND. Chemical, biological, radiological, or nuclear defense.

CCA. Carrier-controlled approach.

CCL. Card checklist.

CDA. Commercial Derivative Aircraft.

CDC. Combat Direction Center.

CD-ROM. Compact disc-read only memory.

CG FOURTH MAW. Commanding General, 4th Marine Air Wing.

CEFIP. Career Enlisted Flyer Incentive Pay.

CFET. Centrifuge-based Flight Environment Training.

CHNAVPERS. Chief of Naval Personnel.

CIVMARS. Civilian Mariners.

CMC. Commandant of the Marine Corps.

CNATRA. Chief of Naval Air Training.

CNI. Communication, navigation, identification.

CNO. Chief of Naval Operations.

COD. Carrier on-board delivery.

COG. Cognizant.

COMCABEAST. Commander, Marine Corps Air Bases, Eastern Area.

COMCABWEST. Commander, Marine Corps Air Bases, Western Area.

COMFAIR. Commander, Fleet Air.

COMMARFORs. Commading Generals, Fleet Marine Force.

COMMARFORCOM. Commander, U.S. Marine Forces, Atlantic.

COMMARFORPAC. Commander, U.S. Marine Forces, Pacific.

COMNAVAIRFOR. Commander, Naval Air Forces.

COMNAVAIRFORES. Commander, Naval Air Force Reserve.

COMNAVAIRLANT. Commander, Naval Air Force, U.S. Atlantic Fleet.

COMNAVAIRPAC. Commander, Naval Air Force, U.S. Pacific Fleet.

COMNAVAIRSYSCOM. Commander, Naval Air Systems Command.

COMNAVAIRWARCENACDIV. Commander, Naval Air Warfare Center, Aircraft Division.

COMNAVEDTRACOM. Commander, Naval Education and Training Command.

COMNAVRESFOR. Commander, Naval Reserve Force.

COMNAVSAFECEN. Commander, Naval Safety Center.

COMPACFLT. Commander, Pacific Fleet.

COMSEVENFLT. Commander Seventh Fleet.

COMSIXTHFLT. Commander Sixth Fleet.

COMUSFLTFORCOM. Commander, U.S. Fleet Forces Command.

COMUSNAVEUR. Commander, U.S. Naval Forces Europe.

COMUSNAVCENT. Commander, U.S. Naval Forces Central.

COMUSNAVSO. Commander, U.S. Naval Forces South.

CONUS. Continental United States.

CORTRAMID. Coordinated training of midshipmen.

CPT. Copilot time.

CQ. Conditionally qualified.

CRM. Crew Resource Management.

CSI. Contractor Simulator Instructor.

CTF. Commander Task Force.

CVW. Carrier air wing.

D

DCF. Document control form.

DAFIF. Digital Aircraft Flight Information File.

DCMC. Defense Contract Management Command.

DEWIZ. Defense early warning identification zone.

DH. Decision height.

DIFCREW. Duty involving flying, crewman.

DIFDEN. Duty in a flying status not involving flying.

DIFOPS. Duty in a flying status involving operational or training flights.

DIFTECH. Duty involved flying as a technical observer.

DIFTEM. Personnel under training to become crewmembers.

DM. Defensive Maneuvering.

DME. Distances measuring equipment.

DNEC. Distributive naval enlisted classification.

DoD. Department of Defense.

DON. Department of the Navy.

DONI. Department of the Navy Issuances Web site.

DP. Departure procedure.

DPRO. Digital projection readout.

DSF. Data service facility.

DSN. Defense switched network.

DT. Development test.

DUAT. Direct user access terminal.

E

ECM. Electronic countermeasures.

ELVA. Emergency Low Visibility Approach.

ETA. Estimated time of arrival.

ETD. Estimated time of departure.

ETE. Estimated time en route.

EWO. Electronic Warfare Officer.

F

F/W. Fixed wing.

FAA. Federal Aviation Administration.

FACSFAC. Fleet area control and surveillance facility.

FAILSAFE. Fleet air introduction/liaison of survival aircrew flight equipment.

FAR. Federal Aviation Regulation.

FCF. Functional checkflight.

FCFCL. Functional checkflight checklist.

FDE. Fault Detection and Exclusion.

FCLP. Field carrier landing practice.

FDLP. Field deck landing practice.

FFPB. Field Flight Performance Board.

FL. Flight level.

FLIP. Flight information publication.

FLIR. Forward looking infrared.

FLP. Field landing pattern.

FMF. Fleet Marine Force.

FMS. Foreign military sales.

FNAEB. Field Naval Aviator Evaluation Board.

FOD. Foreign object damage.

FPC. Flight purpose code.

FPT. First pilot time.

FRC. Fleet Readiness Center.

FRS. Fleet Replacement squadron.

FS. Flight surgeon.

FSS. Flight service station.

FSSB. Flight Status Selection Board.

FTI. Flight Training Instruction.

FXP. Fleet exercise publication.

FYTD. Fiscal year to date.

G

GCI. Ground-controlled intercept.

GLOC. G-loss of consciousness.

GMT. Greenwich Mean Time.

GPC. General purpose code.

GPS. Global positioning system.

GSA. General Services Administration.

H

HABD. Helicopter aircrew breathing device.

HAP. High-altitude parachute.

HAT. Height above touchdown.

HDIP. Hazardous duty incentive pay.

HEED. Helicopter emergency egress device.

HF. High frequency.

HOI. Handbook of overhaul instructions.

HWD. Horizontal weather depiction.

I

ICAO. International Civil Aviation Organization.

ICS. Intercommunication system.

IFARS. Individual flight activity reporting system.

IFC. Interim flight clearance.

IFF. Identification friend or foe.

IFR. Instrument flight rules.

ILS. Instrument landing system.

IMC. Instrument meteorological conditions.

IMR. Individual master roster.

IR. Infrared; IFR Military Training Route.

IRS. Intelligence report; Independent research.

IT. Instructor time.

J

JAGMAN. Manual for Judge Advocate General.

JANAP. Joint Army, Navy, Air Force publication.

JHMCS. Joint Helmet Mounted Cueing System.

JQR. Job qualification requirements.

JTF. Joint Task Force.

K

KIAS. Knots indicated airspeed.

L

LANT/PAC/MED/TRAMID. Atlantic/Pacific/Mediterranean/Naval reserve officers training corps midshipmen.

LEO. Law enforcement official.

LEM. Logistics element manager.

LEP. Laser eye protection.

LIMDU. Limited duty.

LOA. Letter of agreement.

LOG. Log video.

LOP. Letter of promulgation.

LOS. Line of sight; Launch on search.

LPC. Low pressure chamber.

LPU. Life preserver unit.

LSO. Landing signal officer.

M

MAG. Marine aircraft group.

MANMED. Manual of the Medical Department.

MAP. Military assistance program; missed approach point.

MARFORCOM. U.S. Marine Forces, Atlantic.

MARSA. Military assumes responsibility for separation of aircraft.

MAW. Marine Air Wing.

MCAS. Marine Corps Air Station.

MCO. Marine Corps Order.

MCT. Mission commander time.

MDA. Minimum descent altitude.

MDS. Maintenance data system.

MEDEVAC. Medical emergency evacuation.

METS. Modular Egress Training System.

MFOQA. Military Flight Operations Quality Assurance.

MHz. Megahertz.

MIFAR. Monthly individual flight activity report.

MILPERSMAN. Military Personnel Manual.

MIM. Maintenance instruction manual.

MITO. Minimum interval takeoff.

MM. Millimeter.

MMU. Model Manager Unit.

MOA. Military operating areas.

MOP. Month(s) operations flying.

MOS. Military occupational specialty.

MRU. Military radar unit.

MSDD. Material safety data sheet.

MSL. Mean sea level.

MSN. Mission.

MSN CDR. Mission Commander.

MTR. Military training route.

MWA. Military weather advisory.

N

NAC. Naval aircrewnman.

NALCOMIS. Naval Aviation Logistics Command Management Information Systems.

NALIS. Navy logistics information system.

NAMI. Naval Aerospace Medical Institute.

NAMT. Naval air maintenance trainer.

NAS. Naval air station.

NASA. National Aeronautics and Space Administration.

NASTP. Naval Aviation Survival Training Program.

NATEC. Naval Air Technical Data and Engineering Service Command.

NATIP. Naval Aviation Technical Information Product.

NATO. North Atlantic Treaty Organization.

NATOPS. Naval air training and operating procedures standardization.

NAVAID. Navigation aid.

NAVAIR. Naval Air Systems Command.

NAVAVSCOLSCOM. Naval Aviation Schools Command.

NAVFIG. Naval Flight Information Group.

NAVFLIRS. Naval Flight Record Subsytem.

NAVMETOCCOM. Naval Meteorology and Oceanography Command.

NAVPERSCOM. Navy Personnel Command.

NAVREP. Navy representative.

NAVSURVTRAINST. Naval Survival Training Institute.

NCOIC. Noncommissioned officer in charge.

NCR. No carbon required.

NEC. Naval enlisted classification.

NFM. NATOPS flight manual.

NFO. Naval flight officer.

NIMA. National Imagery and Mapping Agency.

NITE. Night imaging and threat evaluation.

NJROTC. Naval Reserve Junior Officer Training Corps.

nm. Nautical mile.

NMCS. Not mission capable-supply.

NMCM. Not mission capable-maintenance.

NOE. Nap of the Earth.

NOMI. Naval Operational Medicine Institute.

NOS. National Oceanographic Service.

NOTAM(s). Notice(s) to airmen.

NPA. Non-precision approach.

NPQ. Not physically qualified.

NROTC. Naval reserve officer training corps.

NSTI. Naval Survival Training Institute.

NTTP. Naval Tactics, Techniques, and Procedures publication.

NVD. Night vision device.

NWP. Naval warfare publication.

O

OAT. Outside air temperature.

OCF. Out of control flight.

OCONUS. Outside the Continental United States.

ODCR. Officer data control report.

OEM. Original Equipment Manufacturer.

OFT. Operational flight trainer.

OMA. Operational Maintenance Activity.

OMB. Office of Management and Budget.

OOCF. Out-of-control flight.

OPAREA. Operating area.

OPCON. Operational control.

OPNAV. Office of the Chief of Naval Operations.

ORE. Operational readiness evaluation.

ORG. Originator.

ORI. Operational readiness inspection.

ORM. Operational risk management.

OT&E. Operational test and evaluation.

P

PALS. Precision approach and landing system.

PANS-OPS. Procedure for Air Navigation Services-Aircraft Operations.

PAR. Precision Approach Radar.

PCL. Pocket Checklist.

PCS. Permanent change of station.

PEP. Personnel exchange program.

PHIBRON. Amphibious Squadron.

PIC. Pilot in command.

PNT. Position Navigation Time.

POC. Point of contact.

PPS. Precise Positioning Service.

PQM. Pilot qualified in model.

PQS. Personnel qualification standard.

PR. Parachute rigger.

PROTRAMID. Professional training of midshipmen.

Q

Q. Qualified.

QAC. Quick attachable chest.

R

RAC. Replacement aircrew.

RDD. Required delivery date.

RDO. Runway Duty Officer.

RDT&E. Research, development, test, and evaluation.

RNP. Required Navigation Performance.

ROTC. Reserve Officer Training Corps.

RSSMM. Rescue swimmer school model manager.

RSSTP. Rescue swimmer school training program.

RTO. Range training officer.

RUC. Reporting unit code.

RVR. Runway visual range.

S

SA. Situational awareness.

SAD. Senior air director.

SAR. Search and rescue.

SARMM. Search and rescue model manager.

SCATANA. Security control of air traffic and air navigation aids.

SCT. Special crew time.

SEBD. Supplemental emergency breathing device.

SECNAV. Secretary of the Navy.

SELRES/SMCR. Selected reserve.

SERE. Survival, evasion, resistance to interrogation and escape.

SFA. Single frequency approach.

SHARP. Sierra Hotel Aviation Readiness Program.

SIF. Selective identification feature.

SOP. Standard operating procedure.

SPC. Specific purpose code.

SPECOPS. Special Operations Forces personnel and/or missions.

SSC. Syllabus Status Codes.

STANAG. Standardization agreement.

STOL. Short takeoff and landing.

SUA. Special use airspace.

T

T&R. Training and readiness.

TACTS. Tactical aircrew combat training system.

TAD. Temporary additional duty.

TAR/FTS. Tactical air request.

TBA. To be assigned.

TCAS. Traffic Alert and Collision Avoidance System.

TDIP. Technical data indoctrination package.

TEC. Type Equipment Code.

TERPS. Terminal instrument procedures.

TMR. Total mission requirements.

T/M/S. Type/model/series.

TO. Table of organization.

TRACOM. Training command.

TRAMID. Training for U.S. Naval Academy/Naval reserve officers training corps midshipmen.

TR. Training rules.

TYCOM. Type Commander.

U

UA. Unmanned Aircraft.

UAS. Unmanned Aircraft System(s).

UCMJ. Uniform Code of Military Justice.

UCR. Urgent change recommendation.

UHF. Ultrahigh frequency.

UIC. Unit identification code.

UNITREP. Unit Status and Identify Report.

UQ. Unqualified.

USAF. U.S. Air Force.

USCG. U.S. Coast Guard.

USG. U.S. Government.

USN. U.S. Navy.

USNS. U.S. Naval Ship.

USMC. U.S. Marine Corps.

UT. Underway trial.

UTC. Coordinated Universal Time.

V

VBSS. Visit Board Search and Seizure.

VFR. Visual flight rules.

VHF. Very high frequency.

VIP. Very important person.

VMC. Visual meteorological conditions.

VOD. Vertical on-board delivery.

VOR. VHF Omni-Directional Range.

VR. VFR Military Training Route.

V/STOL. Vertical/short takeoff and landing.

VTOL. Vertical takeoff and landing.

W

WSO. Weapons Systems Officer.

WST. Weapon system trainer.

WW. Weather watch.

APPENDIX P

BUQ Levels

P.1 BUQ LEVELS I-IV TRAINING.

Each training level is inclusive of the previous levels (e.g., BUQ IV includes BUQ-1, II, and III tasks).

a. BUQ Level I: Knowledge and knowledge-based skills required to fly in VFR conditions in Class E, G, and Restricted/combat airspace <1200' AGL. The 14 Code of Federal Regulation (CFR) requirements do not currently exist for this group of aircraft. BUQ-I is the minimum recommended training level for UASC who perform duties other than UACOM/UAO. Table 1 contains the required areas of knowledge for BUQ Level I.

BUQ Level I	
MISSION PREPARATION	
Aviation Weather	Aircraft Performance Data and Limitations
Crew Resource Management and Communications	Publications
Emergency Equip/In Flight Emergency Procedures	Departure and Arrival Planning
Flight Checklists and Use	Computerized Flight Planning Systems
Charts - Sectional, Tactical, and Global	Mission Route Selection & Analysis
International Civil Aviation Organization (ICAO)/Flight Information Publications Procedures	
COMMUNICATIONS	
Communication Planning and Management	Data Links
Knowledge of Airborne Communication Systems	
AIRCRAFT OPERATIONS	
Weather Hazards	Basic Manual Navigation
General Flight Rules	Low Level Flying
Fuel Planning	Aircraft System and Directives
Integrated Navigation Systems	Emergency Procedures
Aviation Principles	Manual Flight Control Skills
Time & Course Control	Air Tasking Order (ATO)

Table 1. BUQ Level I (Sheet 1 of 3)

BUQ Level I	
(1) BEFORE FLIGHT CATEGORY	
VFR Mission Planning	Exterior Inspection Checks
Weather Data for Mission Planning	Appropriate Communication Procedures
Operational Data for Mission Planning	Starting Engines Checks
Mission Briefing	
Map Preparation for use During Flight	Verbal Communication/Radio Procedures
Route Planning to Destination & Alternates	GPS Position Checks
En Route Altitudes IAW FLIP	Pre-flight Clearances
Pre-flight Checks	Ground Control Station (GCS) Instrument Checks
Maintenance Logs	Before Takeoff Checks
(2) CONTACT CATEGORY	
Recognize departure and recovery procedures	
Appropriate climb airspeed	Controlling Rate of Descent
Establishing and maintaining altitude	Use of local area map for orientation
Applicable in-flight checks	Clearing turns
Turns, climbs, descents, as required	Slow flight
Level-off checks	Approach to field checks
Basic area orientation	Basic AERO maneuvers
Current wind conditions	Before descent checks
Touch and go landing	Automatic approach and landing
Go-around on final approach turn	Approach to landing
Airspeed change, straight-and-level as required	Landing & rollout procedures
Go-ahead form final approach/flare	Go-around/missed approach checks
GCS Safety procedures	Post landing checks & procedures
Normal traffic pattern	Flight line and air discipline
Traffic pattern deconfliction	Final approach procedures
	Takeoff, initial climb & Associated checks

Table 1. BUQ Level I (Sheet 2)

BUQ Level I	
(2) CONTACT CATEGORY	
Clearing airspace in direction of turn	Maneuvering within assigned airspace
Aircraft configuration: Pre-landing checks	Airmanship, judgment, & decision-making in aircraft (CS-situational awareness)
Unusual attitudes and recovery techniques	Stalls and recovery procedures
Normal overhead and straight-in patterns, as appropriate	Altitude/attitude control Throughout flight
(3) INSTRUMENT CATEGORY - NO TASKS	
(4) NAVIGATION CATEGORY	
Visual navigation	Correlation of aircraft position with map
Map reading	Calculation of actual fuel consumption
Using visual landmarks in flight planning	In-flight navigation planning
Calculation/compensation for in flight winds	Time and fuel management
Calculation of new Estimated Time of Arrival (ETA)	Lost communication/Command and Control (C2) link procedures
Emergency conditions	Analyzing current situation, including systems for possible emergency
Aircraft control during emergency conditions	Recognition of applicable Emergency procedures
Communication/declaration of an emergency (if required)	Recognition and proper response to unplanned lost C2 link events
Land as soon as conditions permit	
After landing checks	Completion of flight time logs
Engine shutdown checks	Completion of maintenance logs
All safety procedures for securing aircraft	Post landing procedures

Table 1. BUQ Level I (Sheet 3)

b. BUQ Level II: Aviation knowledge and UAS knowledge-based skills required to fly in VFR conditions in Class D, E, G, and Restricted/combat airspace <18,000' MSL. BUQ Level II meets or exceeds the knowledge requirements of 14 CFR Sub-part J 61.309 and 61.311 for a FAA sport pilot license. Table 2 contains the required areas of knowledge for BUQ Level II. As stated above, tailoring of BUQ requirements toward individual UAS, and BUQ Levels are cumulative in nature.

BUQ Level II	
ALL BUQ LEVEL I TASKS	
MISSION PREPARATION - NO NEW TASKS	
COMMUNICATIONS - NO NEW TASKS	
AIRCRAFT OPERATIONS	
Radio Aid Navigation	RADAR Navigation/Fixing
(1) BEFORE FLIGHT CATEGORY	
Compute takeoff and landing data	Clearance to taxi
Local VFR flight clearance	Clearance to takeoff
ICE-T/Ground speed	Taxiing to runway
Filing DD 175/ICAO 1801 (Flight Plan)	Taxiing into takeoff position
Interior inspection check	Line-up checks
Before taxi checks	Operation of navigation radios
(2) CONTACT CATEGORY	
Appropriate climb per manuals	Requesting and receiving landing clearance
Basic departure procedures	Local breakout procedures
Leveling off from TECH order climb	Closed pattern
(3) INSTRUMENT CATEGORY - NO NEW TASKS	
(4) NAVIGATION CATEGORY	
Position reporting	Usage of Pilot to Metro Service (PMSV) and Air Traffic Information Service (ATIS), and Pilot Report (PIREP)
In-flight clearances	Interpretation of radio weather condition report
Dead reckoning navigation	Navigation Diversions based on weather reports
Actual and planned rate of fuel consumption	Comparing actual and planned groundspeeds
(5) EMERGENCY CATEGORY - NO NEW TASKS	
(6) AFTER FLIGHT CATEGORY	
Taxiing clear of runway	Closing a flight plan with ATC
Taxiing to parking	

Table 2. BUQ Level II

c. BUQ Level III: Knowledge and knowledge-based skills required to fly in VFR conditions in airspace below 18,000' MSL. BUQ Level III meets or exceeds the knowledge requirements of 14 CFR Sub-part E 61.105 and 61.107 for a FAA private pilot license. Table 3 contains the required areas of knowledge for BUQ Level III. As stated above, tailoring of BUQ requirements toward individual UAS, and BUQ Levels are cumulative in nature.

BUQ Level III	
ALL BUQ LEVEL I AND II TASKS	
MISSION PREPARATION - NO NEW TASKS	
COMMUNICATIONS - NO NEW TASKS	
AIRCRAFT OPERATIONS	
Instrument Flight	Instrument Flight Procedures
(1) BEFORE FLIGHT CATEGORY	
Instrument Flight Rules (IFR) mission planning	Obtaining an IFR clearance
Operation of Air Traffic Surveillance Equipment (Identification, Friend or Foe/Selective Identification Feature/Traffic Collision Avoidance System/Sense and Avoid Sensors)	
(2) CONTACT CATEGORY - NO NEW TASKS	
(3) INSTRUMENT CATEGORY	
Partial panel instrument flight	Aircraft maneuvers under instrument conditions
Recognition of improper nose low condition	Course intercept
Rate of intercept	Angle of intercept
Recognition and recovery from unusual attitudes under instrument conditions	Operation of aircraft instruments and navigation equipment
Hazardous/adverse weather conditions in flight	Weather phenomena which affect flight
Establishing and maintaining constant altitude, airspeed, and heading during instrument flight	
(4) NAVIGATION CATEGORY	
Unfamiliar field departure procedures	Low level navigation
Unfamiliar field visual and instrument approach procedures	
(5) EMERGENCY CATEGORY - NO NEW TASKS	
(6) AFTER FLIGHT CATEGORY - NO NEW TASKS	

Table 3. BUQ Level III

d. BUQ Level IV: Knowledge and knowledge-based skills required to fly VFR/IFR in all weather conditions in airspace up to FL600. BUQ Level IV meets or exceeds the knowledge requirements of 14 CFR Sub-part F 61.125 and 61.127 for an FAA private pilot license with instrument rating. Table 4 contains the required areas of knowledge for BUQ Level IV. As stated above, tailoring of BUQ requirements toward individual UAS, and BUQ Levels are cumulative in nature.

BUQ Level IV	
ALL BUQ LEVEL I, II AND III TASKS	
MISSION PREPARATION	
Global Flight Ops Knowledge	
COMMUNICATIONS	
Satellite Communications (SATCOM)	
AIRCRAFT OPERATIONS	
Global Navigation Procedures	
AIR OPERATIONS	
Search and Rescue (SAR)	
(1) BEFORE FLIGHT CATEGORY - NO NEW TASKS	
(2) CONTACT CATEGORY - NO NEW TASKS	
(3) INSTRUMENT CATEGORY	
Auto/instrument takeoff, climb, and departure procedures	Departing a holding pattern
Instrument cross check	Procedure turns
Intercepting a heading at a predetermined angle	Transitioning from Minimum Descent Altitude (MDA) to runway
Establishing and maintaining appropriate heading	ATC/approach control clearances
Determination of lead point	Standard instrument approach Plate procedures
Course interception	Procedure turn airspace
IFR Navigation	En Route descents
Fix-to-fix navigation	Appropriate Landing Configuration
Maintaining selected course with wind correction	Descent gradients
Knowledge of establishing Arc	Instrument Meteorological Condition (IMC) penetration
Arc interception	ATC clearances
Arc maintenance	ATC procedures
Radial interception from Arc	Remaining within cleared airspace
Holding/loitering	Controlling Rate of Descent
Understanding holding instructions	Instrument approach procedures

Table 4. BUQ Level IV (Sheet 1 of 2)

BUQ Level IV	
(3) INSTRUMENT CATEGORY	
Holding pattern entry	RADAR procedures
Maintaining position within holding pattern airspace	Following Ground Controlled Approach (GCA) controller's directions
Wing analysis in holding pattern airspace	Turning to directed headings
Maintaining directed altitudes	Glide slope control
Maintaining proper airspace	Course control
Establishing proper holding configuration	Transitioning from instruments to visual references
Precision RADAR approach	Visual Descent Point (VDP)
Non-precision RADAR approach	Circling approach procedures
Gyro-out instrument pattern	Missed approach procedures
Half-standard rate turns on final	ATC missed approach clearances
Gyro-out precision RADAR approach	Missed approach checks
Corrections to aircraft heading	Transitioning from glide path to runway
In-flight IFR Clearance	
(4) NAVIGATION CATEGORY - NO NEW TASKS	
(5) EMERGENCY CATEGORY - NO NEW TASKS	
(6) AFTER FLIGHT CATEGORY - NO NEW TASKS	

Table 4. BUQ Level IV (Sheet 2)

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