



DEPARTMENT OF THE NAVY

COMMANDER TRAINING AIR WING SIX  
390 SAN CARLOS ROAD SUITE C  
PENSACOLA, FLORIDA 32508-5509

COMTRAWINGSIXINST 3710.20B  
N7  
15 Mar 12

COMMANDER, TRAINING AIR WING SIX INSTRUCTION 3710.20B

From: Commander, Training Air Wing SIX

Subj: T-39 NFO NATOPS CHECK FLIGHT CONDUCT

Ref: (a) OPNAVINST 3710.7U  
(b) OPNAVINST 1542.7C  
(c) NAVAIR 01-60GBE-1 (T-39 NATOPS FLIGHT MANUAL)  
(d) NAVAIR 01-60GBE-1B (T-39 NATOPS PCL)  
(e) CNATRAININST 3710.13G (CNATRA FIST)  
(f) COMTRAWINGSIXINST 3740.2P  
(g) COMTRAWINGSIXINST 3710.1N  
(h) CNATRAININST 1542.123C  
(i) CNATRAININST 1542.134A

Encl: (1) NFO NATOPS Check Conduct Kneeboard Card  
(2) Procedures and Definitions

1. Purpose. To provide T-39 NFO NATOPS check guidance and responsibilities for Commander, Training Air Wing SIX, and Training Squadrons TEN and EIGHT SIX per references (a) through (i).

2. Cancellation. COMTRAWINGSIXINST 3710.20A.

3. Discussion

a. The NATOPS evaluation should verify that the evaluatee's systems and procedural knowledge meet required standards, and ensure that the evaluatee is familiar with the flight characteristics of the T-39.

b. Initial NATOPS check flights shall take place only after minimum requirements as set forth in references (f), (h) and (i), have been completed. Normally the check flight is the last flight in the Instructor Under Training (IUT) syllabus.

c. To the maximum extent possible, NATOPS check flights should be flown on the NPA 2, 851, 941, or 941R stereo routes. If a DD-175 flight plan must be filed, it should include a delay

in the Pensacola South MOA or W-155 for free flight, steep turns, unusual attitudes, and the stall series. NATOPS checks shall be conducted using the minimum aircrew practicable. Passengers are not allowed on NATOPS check flights.

d. NATOPS check flights should be flown in VMC to the maximum extent possible. NATOPS check flights may depart and return through IMC. Maneuvers, stall series, and simulated single-engine approaches shall be flown in VMC.

e. Initial or Annual CRM evaluation may be conducted on the NATOPS check flight in accordance with reference (b) if not accomplished on an instructional Standardization flight.

#### 4. Action

a. The brief shall be conducted by the NATOPS evaluatee in accordance with references (c) and (d) and this instruction. The brief should cover but not be limited to the following items:

- (1) Pre-flight Exterior Inspection.
- (2) Takeoff data and planning considerations.
- (3) Emergency Procedures:
  - (a) Engine Starting Emergencies (ABNORMAL ENGINE STARTS)
    1. Hot Start
    2. Wet Start
    3. Hung Start
    4. Engine Fire During Start
  - (b) Ground Emergencies
  - (c) Aborted Take Off Emergencies
  - (d) Emergencies After V1
  - (e) In Flight Emergencies
    1. Engine Fire/Failure In Flight

2. Single Generator Failure
3. Dual Generator Failure
4. Total Loss of Electrical Power
5. Boost Pump Failure
6. Cabin Pressurization Failure
7. Aft Fuselage Hot

(f) Landing Emergencies. Landing Gear Unsafe  
Indication Following Extension

(g) NORDO

(4) Maneuvers:

(a) Departure

(b) Pensacola South MOA/W-155 Entry/Exit Procedures

(c) Unusual Attitudes

1. Nose High

2. Nose Low

(d) Stalls

1. Clean (Full stall investigation demo).

2. Dirty (approach to stall)

3. Approach Turn (approach to stall)

(e) Auto-pilot use, and the steps required to fly  
the aircraft to a coupled ILS approach.

(f) Discuss Simulated Single Engine Approach  
Procedures.

(g) Discuss No Flap Approaches.

(h) Discuss Precautionary Approach/Flameout Landing  
Procedures.

(i) Discuss the positive three-way change of controls

(5) Systems Discussion:

(a) Discuss the Fuel system

(b) Discuss the Electrical system

(c) Discuss the Air Conditioning and Pressurization system

(d) Discuss the Hydraulic system

(6) Crew Resource Management

b. During the NATOPS check flight the following maneuvers should be performed.

(1) Standard Instrument Departure

(2) Steep turns [see enclosure (2)]

(3) Unusual Attitudes (nose high, nose low, with the pilot at the controls as evaluatee talks him through the recovery.)

(4) Approaches to Stall (Clean, Dirty, Approach Turn)

(5) Fuel transfer (tank selection, x-feed with slip)

(6) GPS use (flight plans, fuel management, pre-loaded routes, STARS)

(7) Simulated Pressurization Failure (evaluatee dons mask and configures ICS)

(8) Approaches (evaluatee flies to airport, use of flight director and autopilot)

(9) Simulated Single Engine Approach

(10) Touch-and-go landing(s)

(11) Full stop landing

15 Mar 12

5. Point of contact for proposed revisions to this instruction is the TW-6 T-39 NATOPS Program Manager.

A handwritten signature in black ink, appearing to read "John R. Rodriguez". The signature is fluid and cursive, with a prominent loop at the end.

JOHN R. RODRIGUEZ

Distribution:

Electronic only, via TW-6 Website:

<https://www.cnatra.navy.mil/tw6/>

15 Mar 12

CTW-6 T-39 NATOPS IN FLIGHT WORK SHEET		
<b>NAME:</b>	<b>SQDN:</b>	<b>DATE:</b>
<b>INSTRUCTOR:</b>	<b>A/C SERIAL NO:</b>	<b>FLT TIME:</b>
AREA	AREA GRADE	COMMENTS
<b>COPILOT FUNCTIONS</b>		
1. FLIGHT PLANNING		
2. BRIEFING		
3. SYSTEMS KNOWLEDGE		
4. PREFLIGHT INSPECTION		
5. GROUND PROCEDURES		
6. USE OF CHECKLISTS		
7. COCKPIT EQUIPMENT OPERATION		
8. NAVIGATION PROCEDURES		
9. AIRMANSHIP		
10 UNUSUAL ATTITUDES:		
NOSE HIGH		
NOSE LOW		
11. STALLS:		
CLEAN APPROACH TO STALL		
DIRTY APPROACH TO STALL		
APPROACH TURN APP TO STALL		
12. EMERGENCY PROCEDURES		
13. APPROACHES:		
COUPLED ILS		
PARTIAL ILS		
MANUAL ILS		
14. DON AND USE O2 MASK/CONFIGURE ICS		
<b>NOTES:</b>		
<b>OVERALL GRADE:</b>		

REVISION DATE: 3 Mar 12

## Procedures and Definitions

### 1. Turns:

- a. Altitude: 15,000'
- b. Power: As req'd to maintain selected airspeed (250 kias).
- c. Attitude: For each angle of bank, make one turn in each direction (left, right). 30 degree AoB for 90 degrees of turn, 45 degree AoB for 180 degrees of turn, 60 degrees AoB for 360 degrees of turn. Vary pitch and/or AoB to maintain altitude +/- 100'.
- d. Trim: As necessary.
- e. At 360 degrees of turn, reverse.
- f. At 360 degrees of turn, roll out.

### 2. Unusual Attitudes:

- a. Entry
  - (1) Altitude: 15,000', 200-250 kias.
  - (2) Pilot places aircraft in an attitude not to exceed aircraft limits (+/- 60 degrees pitch), such that recovery can be safely performed within the confines of the working airspace. Recommended CoA is to enter a nose high UA first. If the recovery is executed incorrectly, the resultant nose low, accelerating UA should still be easily recoverable, due to the increased available altitude.
- b. Recovery
  - (1) Nose High: If airspeed is < 150 kias or decelerating rapidly
    - (a) Power: 96%
    - (b) Attitude: Roll shortest direction to 90 degrees AoB
    - (c) Allow nose to fall to or slightly below horizon

(d) With airspeed > 150 kias, roll wings level and place nose on horizon.

(2) Nose Low: If airspeed is > 250 kias and/or increasing rapidly,

(a) Power: Idle

(b) Attitude: Roll shortest direction to horizon, wings level. Pull smoothly, not to exceed "g" limits.

(c) Speedbrake: Extend

(d) With wings level and nose on horizon, retract speedbrake and set power as desired.

**3. Clean Approach to Stall** Goals: Recognize stall indications and characteristics, and recover from impending or actual stalls with minimal altitude loss.

a. Entry

(1) Altitude: 15,000'

(2) Power: 70%

(3) Attitude: Wings level.

(4) Trim: As necessary. Stop trim at Vref.

(5) Hold altitude, using ailerons and rudder as necessary to maintain wings level.

(6) At stick shaker/ignition activation, RECOVER

b. Recovery

(1) Simultaneously: Power 96%, relax backstick 1-2 degrees, maintain attitude.

(2) With two positive rates of climb, re-establish working altitude and airspeed.

**4. Clean Stall** (full stall demo)

a. Entry

(1) Altitude: 15,000'

(2) Power: 70%

(3) Attitude: Wings level.

(4) Trim: As necessary. Stop trim at Vref.

(5) Hold altitude, using ailerons and rudder as necessary to maintain wings level.

(6) At stick shaker/ignition activation, maintain attitude to mature stall. Note benign pitch oscillations, lack of roll-off, and rapid altitude loss.

(7) RECOVER

b. Recovery

(1) Simultaneously: Power 96%, relax backstick 1-2 degrees, maintain attitude.

(2) With two positive rates of climb, re-establish working altitude and airspeed.

**5. Dirty Approach to Stall** (Perform landing checks)

a. Entry

(1) Altitude: 15,000'

(2) Power: 75%

(3) Attitude: Wings level.

(4) Trim: As necessary. Stop trim at Vref.

(5) Hold altitude, using ailerons and rudder as necessary to maintain wings level.

(6) At stick shaker/ignition activation, RECOVER

b. Recovery

(1) Simultaneously: Power 96%, relax backstick 1-2 degrees, maintain attitude.

(2) Flaps: Approach (66%)

(3) Landing Gear: With two positive rates of climb,  
retract

(4) Flaps: Retract passing 130 kias.

Note: Do not exceed 180 kias until landing gear and flaps are fully retracted.

**6. Approach Turn Approach to Stall** (Perform landing checks)

a. Entry

(1) Altitude: 15,000'

(2) Power: 75%

(3) Attitude: 25-30 degrees AoB. Maintain altitude.

(4) Trim: As necessary. Stop trim at Vref.

(5) Hold altitude and AoB

(6) At stick shaker/ignition activation, RECOVER

b. Recovery

(1) Simultaneously: Power 96%, relax backstick 1-2 degrees, level wings using aileron and rudder as required, maintain attitude.

(2) Flaps: Approach (66%)

(3) Landing Gear: With two positive rates of climb,  
retract

(4) Flaps: Retract passing 130 kias.

Note: Do not exceed 180 kias until landing gear and flaps are fully retracted.