



DEPARTMENT OF THE NAVY  
CHIEF OF NAVAL AIR TRAINING  
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CORPUS CHRISTI TX 78419-5041

CNATRAINST 13700.2O  
N4  
19 Jun 2018

CNATRA INSTRUCTION 13700.2O

Subj: FOREIGN OBJECT DAMAGE (FOD) PREVENTION PROGRAM

Ref: (a) COMNAVAIRFORINST 4790.2C  
(b) OPNAVINST 3750.6S  
(c) National Aerospace Standard 412

Encl: (1) FOD Report Sheet  
(2) Format for Engine FOD Hazard/Mishap Report  
(3) Project Clean Bird T45A/C Checklist (CNATRA 13700/14)

1. Purpose. To define and establish policy, responsibilities, requirements and reporting procedures for the Chief of Naval Air Training (CNATRA) Foreign Object Damage (FOD) Prevention Program in order to prevent FOD to aircraft, gas turbine engines, and other aeronautical equipment. Additionally, PROJECT CLEAN BIRD is designed to provide FOD free aircraft for aircraft carrier qualification (CQ) detachments by focusing on known areas where FOD may accumulate and overall aircraft fastener integrity.

2. Cancellation. CNATRAINST 13700.2N and 13700.6G

3. Discussion

a. The FOD Prevention Program is applicable to commercial and government activities performing contract maintenance, production, or other support functions on Naval aircraft, and all Navy activities operating or directly involved in the repair of aircraft, gas turbine engines, or Support Equipment (SE) and units directly supporting flight operations. Ingestion of foreign objects accounts for the largest percentage of premature engine removals and has been directly attributed to loss of Naval aircraft and aircrew. Foreign Objects present personnel and material hazards, consume valuable maintenance man-hours, impose additional unscheduled workloads on both using and supporting activities, create shortages, waste dollars, and reduces operational readiness.

b. Most FOD can be attributed to poor housekeeping (gear adrift), aircrew attitudinal awareness, facility deterioration, improper maintenance practices or carelessness and failure to track personal gear items. FOD Prevention is an "All Hands" effort.

c. CNATRA is responsible for setting the standard for the development of good habits in young aviators prior to arriving in the fleet and ensuring the contractor work force builds a solid foundation in FOD prevention. An effective command FOD Prevention Program is crucial to

successfully conducting safe and effective aircrew training and contractor maintenance. The FOD Prevention Program must have command and contractor support from the top down along with personnel accountability, knowledge, awareness, and total integration into the maintenance and training effort.

d. CNATRA activities operating aircraft and those activities directly supporting flight line operations shall take action to prevent aircraft, engine, and SE FOD and contractor incidents. Training Air Wing (TRAWING) Foreign Object Prevention Programs and contractors will incorporate the spirit and intent delineated in references (a) through (c) of this instruction as applicable.

**NOTE (1): Any aircrew observed foreign object deficiencies shall be reported to the Aircrew FOD Prevention Officer (FPO) or CNATRA Det FPO as appropriate.**

**NOTE (2): Any maintenance observed foreign object deficiencies shall be reported to the CNATRA DET as appropriate.**

#### 4. Definitions:

a. Foreign Object (FO): Substances or articles alien to the aircraft, engine, support equipment or component that are left adrift or are otherwise allowed to invade the product. Some examples of FO are tools, hardware, personal effects (i.e. watches, jewelry, sunglasses, flashlights metal shavings, washers, spacers, safety wire, clamps, fasteners, caps, etc).

b. Foreign Object Damage (FOD): Damage to aeronautical equipment, for example aircraft, engines or support equipment, caused by object(s) external to the equipment. (Gas turbine engine FOD is defined as damage that exceeds serviceable limits caused by ingestion of objects not organic to the damaged engine).

c. Aircraft Induced FOD: Object(s) which are generated due to failure and/or breakdown of an internal or external part or component on the aircraft i.e. piece of turbine blade broken off and ingested into various stages of the engine, control knob jamming a flight control, etc., causing loss of control, damage to and/or loss of the aircraft.

d. Aircrew Induced FOD: Item(s) such as a pen, flashlight, phone, map, glove, personal tool, etc., left by aircrew in, on or around an aircraft or piece of aeronautical equipment that could cause damage to or failure of the aircraft or equipment.

e. Maintenance Induced FOD: Item(s) such as a tool, hardware, cleaning rag, can of lubricant, etc., left by maintenance personnel in, on or around an aircraft or a piece of aeronautical equipment which could cause damage to or failure of the aircraft or equipment.

#### 5. Responsibilities

a. CNATRA N4

(1) Responsible for the CNATRA FOD Prevention Instruction outlining policy and procedures for FOD Prevention throughout NATRACOM.

(2) Ensure contracts have appropriate language for contractors to support FOD Prevention.

(3) Direct the CNATRA Detachments to monitor contractor FOD program and ensure they assist the Aircrew FPO and Squadron Commanding Officers with FOD issues when required.

(4) Consolidate TRAWING FOD data, and submit data to CNATRA Safety.

b. CNATRA QA Program Office

(1) Provide guidance to the CNATRA Detachments on FOD Administration with contractors.

(2) Consolidate FOD data received from CNATRA Detachments and forward to N4 and CNATRA Safety monthly utilizing enclosure (2).

c. CNATRA Safety: Review FOD data from CNATRA Quality Assurance (QA) Program Office and present at CNATRA Safety Summits.

d. TRAWING Commanders:

(1) Designate Aircrew FPO. This individual will serve as the TRAWING point of contact in all matters pertaining to aircrew FOD Prevention and will report directly to the TRAWING Commander. **CNATRA Det OIC/AOIC shall not be designated as the Aircrew FPO.**

(2) Establish and coordinate a base wide FOD Prevention council. The purpose of this council is to provide a forum to communicate concerns and discuss ways of reducing FOD hazards throughout CNATRA activities.

(a) This council will consist of, but not limited to, representatives from the squadrons, Training Wing FPO, CNATRA DET FPO, contractors, Base Fuel Farm, Air Operations (AIROPS), Fire Department, and other concerned departments.

(b) Hold meetings on a quarterly basis, chaired by the TRAWING Commander or designated representative.

(3) Ensure all subordinate squadrons are in compliance with CNATRA FOD instruction.

e. CNATRA Detachment(s) Officer In Charge (OIC):

(1) Designate a CNATRA Det FPO.

(2) Ensure contractors conduct a thorough foreign object investigation to determine the origin of FOD for trending purposes.

(3) Verify Contractors are complying with references (a) through (c) as applicable and government approved FOD control Ground Operating Procedures as prescribed in the governing contract.

(4) For instances of aircraft mishaps, ensure CNATRA DET personnel assist the Training Wing FPO and/or the Aircraft Mishap Board (AMB) in gathering data from contractor personnel.

**NOTE: If Engine “FOD/Internal Failure” determination cannot be ascertained at the “O” level, ensure that NAVAIR 13700 SERIES, DECKPLATE/Engine Propulsion Module Management removal codes best describing the damage are utilized to preclude erroneous FOD reporting. Avoid the use of Malfunction Code 301 when source of FOD cannot be ascertained.**

(5) Ensure findings from all FOD incident investigations (aircraft, aircrew and maintenance) are submitted to the CNATRA QA Program Office via the Monthly Contract Surveillance Report (MCSR). To the extent possible, findings shall include the origin of the FO.

f. CNATRA Det FPO:

(1) Serve as the CNATRA DET point of contact and oversee all matters pertaining to contractor/maintenance FOD issues.

(2) Attend monthly FOD Council meetings and forward meeting minutes to CNATRA N4 and local CNATRA Det OIC.

(3) Immediately report all major foreign object incidents to CNATRA N4 via the CNATRA Det OIC, Aircrew FPO, and TRAWING Commander. Ensure these incidents are included in the FOD Prevention Council monthly meeting minutes.

(4) Ensure all Aircrew Induced FOD and associated documentation is reported to CNATRA N4 via the Monthly Contract Surveillance Report (MCSR) and the aircrew FPO for investigation purposes per this instruction.

(5) Upon initial notification of a suspected engine FOD incident, call the appropriate CNATRA Engine Class Desk, (N421, N422, N423 or N424), DSN 861-3224, no later than 1600 hours of the following workday. A control number will be assigned at that time to be utilized in conjunction with enclosure (1), Engine FOD Hazard/Mishap Report, to ensure positive engine tracking.

(6) Lead the local Maintenance FOD Prevention Team to investigate the origin of maintenance and/or aircraft induced FOD incidents.

(7) Immediately inform the CNATRA DET OIC, CNATRA N4 and the Wing and/or Squadron Duty Officer of any FOD incident with the potential to become an aircraft mishap as defined by reference (b).

g. Aircrew FPO:

(1) Administer the local Aircrew FOD Prevention Program.

(2) Investigate all incidents of Aircrew Induced FOD and make every effort to determine origin of FO for each and every incident.

(3) Initiate the Wing and/or Squadron pre-mishap plan for any FOD incident with potential to be an aircraft mishap.

(4) Ensure all incidents of Aircrew Induced FOD are reported to TRAWING Commander and CNATRA Det FPO and that these incidents are included in the monthly FOD Prevention Council meeting minutes.

(5) Ensure aircrew perform/are aware of the following:

(a) Thorough FOD inspection of flight decks/lines and taxiways during post and preflight inspections.

(b) Inventory of aircrew personal items, aircrew gear, Aviation Live Support System (ALSS) equipment, etc., in their possession during pre/post flight inspections and before entering/exiting the cockpit of an aircraft.

(c) Inspect for loose or missing knobs, switches etc., upon entering/exiting the cockpit and for loose or missing fasteners and/or screws during pre/post flight walk around inspections.

(d) Secure all pockets while on the flight line to avoid articles being drawn into an engine intake or becoming lost in an aircraft.

h. FOD Prevention Team and Responsibilities:

(1) The FOD prevention Team will be composed of, at a minimum, personnel drawn from the following:

(a) Aircrew and CNATRA DET FPOs or a suitable substitute from both activities.

(b) "O" Level Contractor QA Division Representative via request through CNATRA Det.

(c) "I" Level Contractor QA Division Representative via request through CNATRA Det to provide assistance in the investigation of FOD at the "I" Level facility.

(2) The FOD Prevention Team will be responsible for the following:

(a) Upon notification of a mishap FOD incident, the FOD Prevention Team will begin the investigation to determine the origin of the FOD.

(b) In the case of an engine FOD, if the origin of the FOD cannot be determined, the investigation will continue when the engine is inducted into Aircraft Intermediate Maintenance Department (AIMD) or upon receipt of findings from the contractor repair facility. Provide a report of findings and completed rough Enclosure (1) for transmittal to the CNATRA Det FPO. Collect all pertinent data to complete message, Enclosure (1), and turn over to CNATRA Det FPO for transmittal.

i. Commanding Officers:

(1) Ensure all aircrew receive FOD indoctrination training. Training will emphasize the FOD Prevention Program and the importance of conducting an in-depth pre-flight inspection of the aircraft. Particular attention should be paid to areas which have had recent maintenance performed and areas adjacent to the aircraft for Foreign Objects.

(2) At a minimum, training shall address aircrew accountability for personal ALSS equipment, i.e. helmets, visors (to include visor knobs), gloves, knee boards, helmet bags and all other miscellaneous items such as watches, rings, water bottles, charts, maps, pens, seat cushions etc.

**NOTE: Personal accountability cannot be overemphasized. Aircrew shall conduct an inventory of all items in their possession whenever they enter or exit the cockpit of an aircraft and shall immediately notify Maintenance Control of any missing items and/or potential FOD incidents. Personal tools are not authorized for use and must be accounted for as specified in COMNAVAIRINST 4790.2.**

6. Project Clean Bird Program. The CLEAN BIRD program is designed to provide FOD free aircraft for carrier qualification (CQ) detachments by focusing on known areas where FOD may accumulate and overall aircraft fastener integrity. Enclosure (3) lists aircraft areas which will be thoroughly examined during each PROJECT CLEAN BIRD inspection. These areas represent the minimum requirements and may be expanded at the Training Air Wing/CNATRA Detachment level. All aircraft scheduled to participate in CQ's shall be PROJECT CLEAN BIRD inspected within 14 calendar days prior to embarkation. Inspection results will be provided to the respective aircraft carrier where CQ's will be accomplished via naval message

prior to embarkation. CNATRA DET OIC shall ensure the designated CNATRA DET Maintenance Representative is provided with a copy of the naval message (inspection results) prior to member's departure from home base. Additionally, FOD/Fastener Integrity inspections shall be performed on aircraft which have undergone major rework, phase maintenance, extensive corrosion control aircraft/engine repair or modification by D-level or contract field teams, engine/major components change, or after extended down time in excess of 30 calendar days.

7. Forms. PROJECT CLEAN BIRD T-45 A/C Checklist, CNATRA 13700/14 can be found in the CNATRA Website at <https://www.cnatra.navy.mil>.

S. B. STARKEY  
Chief of Staff

Distribution:  
CNATRA Website

FORMAT FOR ENGINE FOD HAZARD/MISHAP REPORT

FM ORIGINATOR

TO CNATRA CORPUS CHRISTI TX//N4//

INFO COMNAVAIRFOR SAN DIEGO CA//N45/N23//

COMNAVSAFESYSCOM PATUXENT RIVER MD//AIR-6.6.5//

COMNAVSAFECEN NORFOLK VA//12//

APPROPRIATE TRAWING//JJJ//

BT

UNCLAS //N04790//

MSGID/GENADMIN/-//

SUBJ/(COMMAND SUBMITTING INITIAL OR SUPPLEMENTAL REPORT) ENGINE FOD

INCIDENT REPORT SERIAL NUMBER (sequential number within each calendar year followed by last two digits of calendar year) (use sequential numbering regardless of whether

this is an initial or supplemental report) example of subject line: VA-100 ENGINE FOD

INCIDENT REPORT SERIAL NUMBER 03-18//

REF/A/DOC/COMNAVAIRFOR//15MAY2012//

REF/B/DOC/-/-//

NARR/REF A IS COMNAVAIRFORINST 4790.2C//15JAN2018//

REF B IS CNATRINST 13700.2O

POC/(SENIOR MEMBER OF FOD INVESTIGATION TEAM) NAME/RANK/CODE/PHONE

RMKS/1. Summary (summarize contents of report in 2 lines or less)

2. Data:

a. Aircraft

(1) Type/Model/Series

(2) Bureau number

b. Engine(s)

(1) Type/Model/Series

(2) Serial number(s)/pssn(s) (if applicable)

(3) Installed position(s) at the time of FOD, if uninstalled N/A

c. Julian date(s)/type of last maintenance

(1) On aircraft

(2) On engine(s)/module(s)

d. Location of engine(s) at time of FOD (for example, MCAS Miramar, Oceana, CV-62 deployed, FRCSE Jacksonville test cell)

e. Employment of unit at time of FOD (example: REFTRA, FLEETEX, Weapons Det, Orange Air)

f. Julian date FOD discovered

(1) Where discovered (example: line, flight deck, IMA/FRC, test cell)

(2) How discovered (example: daily, pre-induction inspection, turnaround)

g. Disposition of engine(s)/module(s) (example: blending, i-level turn in, return to depot) (indicate next receiving activity)



- h. Previous activity operating engine(s)/module(s). If a factor (example: FOD discovered upon receipt) indicate if FOD AESR entry was made
  - i. Other reference(s) to same FOD incident
    - (1) ETR serial number(s) (ensure engine FOD incident report serial number(s) is/are included in the remarks section of the original ETR listing reason for removal code 5c or 5d). Note: reason for removal code 3q shall not be used for engines damaged by ingestion of foreign objects
    - (2) JCN(s) (ensure engine FOD incident report serial number is included in discrepancy field of turn-in VIDS/MAF.)
    - (3) Other applicable msg dtgs (list separately)
- 3. Costs data
  - a. Engine(s) repair cost (based on current NAVSAFECEN MSG of reportable engine(s) repair cost)
  - b. Aircraft damage cost (based on P&E report, otherwise N/A)
  - c. Total injury cost (refer to Appendix B of OPNAVINST 3750.6S)
  - d. Other property damage cos
  - e. Total cost (total of a, b, c, and d above)
- 4. Investigation
  - a. Describe evidence
  - b. Analysis of evidence
  - c. Actual foreign object ingested (if known)
  - d. Suspected foreign object ingested if actual is unknown. (do not report unknown)
- 5. Date/serial number of last FOD incident message
- 6. Corrective action
  - a. Local corrective action taken to prevent recurrence
  - b. Recommended corrective action if beyond the capability of the originator to implement corrective action
- 7. Commanding Officer's comments//  
BT



**PROJECT CLEAN BIRD T-45A/C CHECKLIST**

SIDE #	BUNO	DATE/TIME STARTED	DATE/TIME COMPLETED
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Inspect the following areas for FOD and loose/ missing fasteners:

INITIALS

- \_\_\_\_\_ ( 1 ) Nose Landing Gear
- \_\_\_\_\_ ( 2 ) Nose Wheel Well (All Doors Open)
- \_\_\_\_\_ ( 3 ) Forward and Aft Cockpit Areas
- \_\_\_\_\_ ( 4 ) Forward and Aft Cockpit Indicators and Control Boxes for Fasteners
- \_\_\_\_\_ ( 5 ) Aircrew Boarding Steps
- \_\_\_\_\_ ( 6 ) Inside Access 119ABC
- \_\_\_\_\_ ( 7 ) Inside Access 311ABC
- \_\_\_\_\_ ( 8 ) Port and Starboard Intakes
- \_\_\_\_\_ ( 9 ) Inside Port and Starboard Landing Wheel Wells (All Doors Open)
- \_\_\_\_\_ ( 10 ) Inside Refueling Panel 311EL
- \_\_\_\_\_ ( 11 ) Inside Access Panel 317CL/316CR
- \_\_\_\_\_ ( 12 ) Inside Access Panel 319AL
- \_\_\_\_\_ ( 13 ) Inside Access Panel 319CL
- \_\_\_\_\_ ( 14 ) Port and Starboard Main Landing Gear
- \_\_\_\_\_ ( 15 ) Inside Access Panels 811BR and 811BL
- \_\_\_\_\_ ( 16 ) Access Panel 821A
- \_\_\_\_\_ ( 17 ) Inside Access Panels 821CL and 821CR
- \_\_\_\_\_ ( 18 ) Wing and Tail Light Lenses
- \_\_\_\_\_ ( 19 ) Inside Tail Cone Area
- \_\_\_\_\_ ( 20 ) Horizontal Stabilator Security
- \_\_\_\_\_ ( 21 ) SMURFS for Security
- \_\_\_\_\_ ( 22 ) Inside Access Panel 318BR
- \_\_\_\_\_ ( 23 ) Inside Access Panel 318AR
- \_\_\_\_\_ ( 24 ) Inside Access Panel 310ER
- \_\_\_\_\_ ( 25 ) Inside Access Panel 310CR
- \_\_\_\_\_ ( 26 ) Upper and Lower Anti-collision Light Assemblies
- \_\_\_\_\_ ( 27 ) Strobe Light Assembly
- \_\_\_\_\_ ( 28 ) Top of Fuselage Area and Vertical Stabilizer
- \_\_\_\_\_ ( 29 ) Rudder and Rudder Trim Tab
- \_\_\_\_\_ ( 30 ) Port and Starboard Wing Root Panels
- \_\_\_\_\_ ( 31 ) External Antennas

Turn in this form to Maintenance Control with pre-carrier or IMP Acceptance MAF signoff.

Print Name/Rate	Signature
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