BY ORDER OF THE COMMANDER
33D FIGHTER WING

AIR FORCE INSTRUCTION 21-101

AIR EDUCATION AND TRAINING COMMAND

33D FIGHTER WING
Supplement

11 JULY 2017

Maintenance

AIRCRAFT AND EQUIPMENT MAINTENANCE MANAGEMENT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing website at **www.e-Publishing.af.mil** for downloading or ordering

RELEASABILITY: There are no restrictions on releasing this publication

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OPR: 33 MXG/MXQA

Certified by: 33 MXG/CC
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Supersedes: AFI 21-101_AETCSUP _33 FWSUP, 3 October 2012

Pages: 36

This instruction supplements AFI 21-101, Aircraft and Equipment Maintenance Management, dated 21 May 2015, and AFI 21-101 AETCSUP, Aircraft and Equipment Maintenance Management, dated 18 September 2015, as follows. This supplement establishes policies and procedures for aircraft maintenance at Eglin AFB, FL. Procedures outlined in this supplement apply to all maintenance and operations personnel assigned to the 33 MXG and 33 OG. Per the agreement between HQ AETC/A4M and the Commander of Naval Air Forces Policy Branch, all Department of Navy (DoN) units assigned to the 33 FW will use COMNAVAIRFORINST 4790.2, The Naval Aviation Maintenance Program (NAMP) series, to govern daily aircraft maintenance activities. AFI 21-101 and AETC supplements are not applicable to DoN units, except as specifically addressed in this supplement. Paragraphs applicable to DoN aircraft and personnel will be used as standalone instructions. Paragraphs peculiar to a single service will be annotated as such; otherwise, this guidance applies to all 33 FW units. The goal is to standardize maintenance policy throughout the wing to the maximum extent possible, while adhering to service specific standards, as applicable. When conflicts exist, parent service directives will take precedence until resolved by the affected group commander. It is the intent of this supplement to provide clear maintenance policy for all units assigned to the 33 FW, and to document any significant departures from established USAF maintenance policy and procedures. Ensure that

all records created as a result of processes prescribed in this publication are maintained In Accordance With (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, *Recommendation for Change of Publication;* route AF Forms 847 from the field through the appropriate functional chain of command.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed in its entirety. This supplement realigns paragraph numbers to match the parent Air Force manual. Additional information was added to address canopy failure manual operation, lost item reporting procedures, composite tool kit (CTKs) accountability, and driving in/around aircraft sunshades. Attachment 1 Glossary of References and Supporting. Information Attachment 22 (Added) (33 FW) Aircraft, Engine and Equipment; Impoundment Table; Attachment 23 (Added) (33 FW) 33 FW No Hat/Cover/No Salute Area; Attachment 24 (Added) (33 FW) Work Center WWID Numbers; Attachment 25 (Added) (33 FW) 33 FW Ramp/FOD Walk, Areas of Responsibility.

1.3.3. **Requests for Assistance (RFA):**

1.3.3.1. **(Added-33 FW)** Units will use the Customer Relationship Management (CRM) tool within Autonomic Logistics Information System (ALIS) to initiate engineering requests. Each unit will establish at least one Optional Screening Point (OSP) reviewer. Required Screening Point (RSP) reviewers are established at the Group level. The 33 MXG Quality Assurance (QA) is the focal point for all MXG CRM actions. The 33 MXG/CC will publish an operating instruction outlining specific roles for the CRM process.

1.6.2. **Use of Technical Orders (TO) and TO Supplements:**

1.6.2.1. **(Added-33 FW)** All individuals will ensure Joint Technical Data (JTD) installed on Portable Maintenance Aids (PMA) or other approved Air Force devices are current and validated prior to use. Support personnel will ensure PMAs with the most current JTD data set are ready for issue. Upon release of a new JTD data set, support personnel will have 5 duty days to update each PMA. Any PMA not updated by the sixth day will be removed from service until the current data set is installed.

1.18.2.3.1. **(Added-33 FW)** Contingency procedures are developed and published by the Wing Plans and Programs (33 FW/XP) office.

2.4.43.1. **(Added-33 FW)** Units will document Repeat/Recur and Can Not Duplicate (CND) discrepancies as follows:

2.4.43.1.1. **(Added-33 FW)** The Aircraft Maintenance Unit Debrief Section will:

2.4.43.1.1.1. **(Added-33 FW)** Document repeat or recur conditions in ALIS. ALIS Electronic Forms will indicate repeat/recur in the discrepancy block.

2.4.43.1.2. **(Added-33 FW)** Aircraft Maintenance Units will:

2.4.43.1.2.1. **(Added-33 FW)** REPEAT 1: If the repeated pilot reported discrepancy (PRD) is a Red X, the technician who performed the corrective action will sign the "corrected by" block within the Maintenance Action (MA) signoff. For all "Repeat 1" discrepancies, a 7-level technician or higher must sign the "inspected by" block within the MA signoff.

2.4.43.1.2.2. **(Added-33 FW)** REPEAT 2: If the repeated discrepancy is a Red X, the technician who performed the maintenance will sign the "corrected by" block within the MA signoff. For all "Repeat 2" discrepancies, a MSgt or higher must sign the "inspected by" block within the MA signoff.

2.4.43.1.2.3. **(Added-33 FW)** REPEAT 3:

2.4.43.1.2.3.1. **(Added-33 FW)** A third repeat, and all subsequent occurrences, of a NMC MEFL item will result in an automatic impoundment of the aircraft.

2.4.43.1.2.3.2. **(Added-33 FW)** The Production Superintendent will notify 33 MXG/MXQA of any third-time repeat discrepancies in order to start the impoundment procedures.

2.4.43.1.2.3.3. **(Added-33 FW)** If the repeated discrepancy is a Red X, the technician who performed the maintenance will sign the "corrected by" block within the MA signoff. For all "Repeat 3" discrepancies, the Aircraft Maintenance Unit (AMU) Officer in Charge (OIC) or Superintendent must sign the "inspected by" block within the MA signoff.

2.4.43.1.2.3.4. **(Added-33 FW)** If the recur discrepancy is a Red X, the technician who performed the maintenance will sign the "corrected by" block within the MA signoff and a MSgt or higher will sign the "inspected by" block within the MA signoff.

2.4.43.1.3. **(Added-33 FW)** Documenting CND Discrepancies in ALIS:

2.4.43.1.3.1. **(Added-33 FW)** Document Red X malfunctions which cannot be duplicated by entering an Adhoc MA "CND malfunction" in the solution set. List all actions taken during troubleshooting (including JTD references) in the MA. The individual performing or assisting in the malfunction diagnosis or maintenance will sign the "corrected by" block of the ALIS MA. To clear CND discrepancies, the individual signing the "inspected by" block for the CND must be a 7-level technician or higher.

2.4.55.2. **(Added-33 FW)** The tow team supervisor will annotate completed items of the F-35 Hangar Entry Checklist (local form) and secure it in the forward portion of the fuselage prior to leaving the aircraft. The checklist will remain attached to the aircraft until the aircraft is removed from the hangar, at which time the checklist is removed.

2.4.55.3. **(Added-33 FW)** Aircraft Towing and Hangar Input Procedures. For increased visibility during aircraft towing operations (day or night), the tow vehicle hazard flashers or beacon light will be illuminated.

3.6.12. **(Added-33 FW) Documenting Aircraft Servicing:**

3.6.12.1. **(Added-33 FW)** Each time servicing carts [hydraulic, polyalphaolefin (PAO), oil, Backup Oxygen System (BOS) bottle servicing, and nitrogen] are used, the "Notes" tab of the servicing task will be annotated in the Computerized Maintenance Management System (CMMS), stating the servicing cart number used.

3.6.12.2. **(Added-33 FW)** Maintenance personnel will document aircraft servicing on the local AGE tracking sheet after each use of the servicing cart.

3.7.1.1. **(Added-33 FW)** In order to accurately determine the landing status after an Aircraft Return Action (ARA) and/or the last flight of the day or ground run, all Portable Maintenance Devices (PMD) must be downloaded and uploaded into ALIS in order to update life usage data, process Health Report Codes (HRC), and to determine the required MAs prior to next flight. Exception: For the situations listed below:

3.7.1.1.1. **(Added-33 FW)** Hot Pit missions that are printed on the signed weekly schedule.

3.7.1.1.2. **(Added-33 FW)** Per Aircraft Release Authority's decision where ALIS is not available (away from the AV host SOU) for a prompt processing of the PMD download.

3.7.1.1.3. **(Added-33 FW)** Engine shutdown due to cold iron/mission system troubleshooting.

3.7.1.1.4. **(Added-33 FW)** Engine shut down due to weather delays with a good VS-BIT and verification of the mandatory Go/No Go HRCs by the pilot prior to shut down.

3.7.1.1.5. **(Added-33 FW)** Aircraft is turned for another sortie in the same fly day, the PMDs will be processed, but not uploaded to ALIS until after the last flight of the day.

3.7.8.1. **(Added-33 FW)** The F-35 utilizes a Mission Essential Function List (MEFL), in place of a Minimum Essential Subsystem List (MESL), and a Logistics Control Number (LCN) instead of a Work Unit Code (WUC) listing.

3.8. **(Added-33 FW)** The F-35 program uses Before Operations Servicing (BOS) for the basic pre-flight, Inter-Operations Servicing (IOS) for a thru-flight and Post Operations Servicing (POS) for a post-flight.

3.8.1.1.1. **(Added-33 FW)** 33 FW will follow wet weather criteria for aircraft tire wear.

3.10.1.30.1. **(Added-33 FW)** As part of the 25 percent inspection, Weapons Section Chief will expand their inspection to ensure Voltage Detectors (VD) in each test set are opened and checked for battery terminal corrosion or battery leakage. Visually inspect internal surfaces of VD for signs of humidity, leakage and/or corrosion.

4.4.3.1.4.1. **(Added-33 FW)** If building 1417 hangar doors are open while lightning is within five nautical miles, all Egress maintenance inside hangar bays will cease. With the exception of electro-explosive device maintenance, once the hangar doors are closed, Egress maintenance may resume because the hangar has a Lightning Protection System (LPS) installed.

4.4.3.1.5. **(Added-33 FW)** Canopy assemblies will not be removed from aircraft that are parked on the flight line under the sun shades. Aircraft must be in a hangar to protect the cockpit from exposure to local weather changes prior to removing the canopy.

4.4.3.1.6. **(Added-33 FW)** A 120-day Egress Final Inspection will be completed concurrently with the 120-day Flexible Linear Shaped Charge (FLSC) inspection.

4.4.3.1.6.1. **(Added-33 FW)** An Egress Final Inspection will be completed following a MA when the integrity of the ejection system is broken, excluding the removal/installation of the BOS bottle.

4.5.1.8. **(Added-33 FW)** The AGE Flight will develop a local tracking sheet using the AF IMT 3131 (general purpose form) for servicing carts, which will include, as a minimum: aircraft tail number, quantity serviced (if applicable), date, and user initials. This tracking sheet will stay with the servicing cart.

4.5.1.8.1. **(Added-33 FW)** The AGE Flight will maintain the completed AF IMT 3131 local tracking sheet for 90 days.

4.5.2.11.1. **(Added-33 FW)** All USAF AGE/GSE deploying from Eglin AFB is requested through and processed by the AGE Flight.

4.8.4.1.7. **(Added-33 FW) Oil Analysis Program (OAP) Responsibilities and Requirements Note: Aircraft that do not have a technical order oil analysis requirement are exempt from this program.**

4.8.4.1.7.1. **(Added-33 FW) MXG/CC Responsibilities:**

4.8.4.1.7.2. **(Added-33 FW)** Appoints a Wing OAP Manager primary and alternate.

4.8.4.1.8. **(Added-33 FW) Wing OAP Manager will:**

4.8.4.1.8.1. **(Added-33 FW)** Manage the OAP IAW TO 33-1-37-1/2/3, *Joint Oil Analysis Program Laboratory Manual* and AFI 21-124, *Oil Analysis Program.*

4.8.4.1.8.2. **(Added-33 FW)** Develop procedure and establish policy and requirements for the Wing OAP.

4.8.4.1.8.3. **(Added-33 FW)** Ensure all organizations requiring OAP support appoint a primary and alternate OAP Manager in writing.

4.8.4.1.9. **(Added-33 FW) AMU Supervision/Production Superintendents (Pro Super) will:**

4.8.4.1.9.1. **(Added-33 FW)** Ensure OAP samples are delivered to the OAP lab with an AF IMT 2026 or locally overprinted DD IMT 2026, *Oil Analysis Request*, filled out IAW TO 33-1-37-1.

4.8.4.1.9.2. **(Added-33 FW)** Identify AMU OAP Manager primary and alternate in writing, and forward a copy to the Wing OAP Manager and OAP laboratory. The appointment letter will include grade, name, duty phone, AFSC, organization and office symbol. OAP manager will be an NCO and will serve as the primary liaison between their AMU and the OAP lab for all OAP issues.

4.8.4.1.9.3. **(Added-33 FW)** Ensure assigned OAP Manager attends all OAP meetings involving their AMU.

4.8.4.1.9.4. **(Added-33 FW)** Ensure DD Form 2026 with equipment and/or end item serial number error, hours since overhaul error and oil added since last sample error are corrected immediately.

4.8.4.1.9.5. **(Added-33 FW)** Ensure all MAs affecting oil-wetted engine components are provided to the OAP lab using the remarks section of the DD Form 2026 or a suitable local form.

4.8.4.1.10. **(Added-33 FW) AGE personnel will:**

4.8.4.1.10.1. **(Added-33 FW)** Ensure an oil sample is taken from all on-station oil servicing carts weekly. Samples are to be delivered to the OAP Lab on the first day of the routine flying week. If results indicate an oil cart is contaminated, discontinue use and notify the 33 MXG Maintenance Operations Center (MOC) immediately. Aircraft oils in bulk containers (55 gal drums or other) that are to be transferred to oil carts for the servicing of aircraft engines will be sampled at initial opening and results known prior to addition to the oil cart.

4.8.4.1.10.2. **(Added-33 FW)** Ensure contaminated oil carts are drained, flushed, serviced, and a new sample is submitted to the OAP Laboratory.

4.8.4.1.11. **(Added-33 FW) MOC Responsibilities:**

4.8.4.1.11.1. **(Added-33 FW)** Relay to the OAP lab, information regarding engine changes on and off-station, as they occur, NLT 0800 the next duty day.

4.8.4.1.11.2. **(Added-33 FW)** Notify the OAP lab when the cross-country/deployed aircraft return.

4.8.4.1.11.3. **(Added-33 FW)** Initiate follow-up action when the oil analysis record from cross-country/deployed aircraft is not returned to the OAP lab.

4.8.4.1.12. **(Added-33 FW) NDI/OAP Lab Non-Commissioned Officer in Charge (NCOIC) will:**

4.8.4.1.12.1. **(Added-33 FW)** Upon request, provide a copy of the DD Form 2026 (or a suitable automated form) to the Aircraft Section for each engine undergoing scheduled maintenance or overhaul at depot, Jet Engine Intermediate Maintenance (JEIM) or a Centralized Intermediate Repair Facility (CIRF).

4.8.4.1.12.2. **(Added-33 FW)** Immediately notify MOC and the AMU Production Superintendent when an installed engine is restricted from operation or placed on special sampling.

4.8.4.1.12.3. **(Added-33 FW)** Ensure analysis results on all installed engines are provided to MOC after analysis of the OAP sample is complete.

4.8.4.1.12.4. **(Added-33 FW)** Ensure AF Form 2026s with equipment and/or end item serial number errors, engine time errors and oil added since last sample errors, are corrected immediately.

4.8.4.1.12.5. **(Added-33 FW)** Track aircraft OAP sample response times for all assigned aircraft to ensure response time compliance.

4.8.4.1.12.6. **(Added-33 FW)** Maintain a current appointment letter of all customer OAP managers.

4.8.4.1.13. **(Added-33 FW) OAP Requirements for Cross-Country Flights/Deployments:**

4.8.4.1.13.1. **(Added-33 FW)** The flight line Expediter or Pro Super will notify the OAP lab in advance for cross-country documents. At a minimum, OAP lab personnel will ensure the oil analysis record contains the last 10 analyses. Flight line personnel will sign for the oil analysis record at the OAP lab.

4.8.4.1.13.2. **(Added-33 FW)** An oil analysis record (automated record or a copy of AF Form 2026) must accompany the aircraft on cross-country flights/deployments.

4.8.4.1.13.3. **(Added-33 FW)** Flight line personnel must return the oil analysis record to the OAP lab the day the aircraft returns to home station.

4.8.4.1.13.4. **(Added-33 FW)** The OAP lab will notify MOC if the oil analysis record is not returned.

4.8.4.1.13.5. **(Added-33 FW)** The OAP lab will review the returned oil analysis record for adverse trends and take necessary action.

4.8.4.1.13.6. **(Added-33 FW)** AMUs will follow the maintenance procedures in this supplement at deployed or TDY locations.

4.8.4.1.13.6.1. **(Added-33 FW)** An AR will be submitted for a one-time waiver when OAP capabilities are not available on-site.

4.8.4.1.13.7. **(Added-33 FW)** Deployed OAP personnel shall have telephone or radio communication with MOC and the AMU to expedite reporting of abnormal OAP trends.

5.2. **Maintenance Operations (MO)**

5.2.2.1.11.1. **(Added-33 FW)** MOC will include DoN squadrons on all Emergency Action Checklists (EACL).

6.2.2. **(Added-33 FW) Incident Reporting:**

6.2.2.1. **(Added-33 FW)** Report suspected incidents to the 33 MXG MOC and the respective unit's QA immediately. Follow-up incident reporting must be accomplished within 24 hours.

6.2.2.2. **(Added-33 FW)** An incident can be defined as a "near accident;" an occurrence other than an accident, associated with the operation of an aircraft, vehicle or equipment, which affects

or could affect the safety of operations. Some incidents also meet the definition of a mishap (per AFI91-204, Safety Investigations and Reports). USAF mishaps are required to be documented on an AF Form 978, *Supervisor's Mishap Report* and routed to Wing Safety. DoN mishaps are reported through their respective Squadron Safety Officer and QA Division.

6.2.2.3. **(Added-33 FW)** The following is a list of incidents that must be reported to the MOC. It is not all-inclusive and may be supplemented if an event is considered significant:

6.2.2.3.1. **(Added-33 FW)** Aircraft damage where the cause is not immediately associated as being routine, when determined by maintenance supervision.

6.2.2.3.2. **(Added-33 FW)** Foreign Object Damage.

6.2.2.3.3. **(Added-33 FW)** Munitions: Dropped, Hung, Exploded, or Damaged.

6.2.2.3.4. **(Added-33 FW)** Ground Emergencies.

6.2.2.3.5. **(Added-33 FW)** Bird Strikes.

6.2.2.3.6. **(Added-33 FW)** Component Damage.

6.2.2.3.7. **(Added-33 FW)** Support Equipment (SE) Damage.

6.2.2.3.8. **(Added-33 FW)** Hazardous Material Spills.

6.2.2.3.9. **(Added-33 FW)** Personnel Injury.

6.2.2.3.10. **(Added-33 FW)** Vehicle Damage.

6.2.2.3.11. **(Added-33 FW)** Other (Incidents deemed appropriate to be reported).

6.2.2.3.12. **(Added-33 FW)** Class II and III fuel spills.

6.2.2.3.13. **(Added-33 FW)** Dropped Object.

6.2.2.3.14. **(Added-33 FW)** Electro-Optical Targeting System (EOTS) mishap.

6.2.2.3.15. **(Added-33 FW)** Wire harness and metal line/tube chafing.

6.9. **QA Product Improvement Programs (PIP).**

6.9.5.1.9. **(Added-33 FW)** 33 MXG QA is the authority/focal point for interpretation and administration of Deficiency Reports (DR) and all related actions. QA also ensures all actions are properly accomplished.

6.9.5.1.10. **(Added-33 FW)** Log, track, and follow-up on all reports.

6.13. **(Added-33 FW) Functional Check Flights (FCFs) to include Operational Check Flights (OCFs).**

6.13.2.4.1. **(Added-33 FW)** All FCFs and OCFs will be flown using F-35 Flight Series Data (FSD).

6.13.2.5.2. **(Added-33 FW)** After completion of the FCF, debrief the FCF pilot, maintenance control and applicable work center representatives to determine compliance with the objectives outlined on the FCF checklist while clarifying any discrepancies noted.

6.13.3. **(Added-33 FW) FCF-qualified QA Inspectors will:**

6.13.3.6. **(Added-33 FW)** Attend the pilot and Top-3's Pre-Flight briefing for the reason and corrective action for the FCF.

6.13.4.1. **(Added-33 FW)** Aircraft will be configured with full internal fuel. Configurations other than the above require MXG/CC and OG/CC approval.

6.13.7. **(Added-33 FW) AMU Production Superintendent (Pro Super) will:**

6.13.7.1. **(Added-33 FW)** Brief the reason for the FCF and the corrective actions taken to both the MXG/CC and OG/CC or designated representatives.

6.13.7.2. **(Added-33 FW)** Ensure all MAs and documentation are complete and presented to the QA FCF Manager at least 4 hours prior to the scheduled FCF. Coordinate all FCF requirements in a timely manner to prevent any last minute delays. FCF documentation should consist of the following actions/items:

6.13.7.2.1. **(Added-33 FW)** Units with ALIS will ensure a FCF job flow package is inserted in the ALIS work file, and is reflected in the aircraft record.

6.13.7.2.2. **(Added-33 FW)** Ensure the ALIS automated forms are accurate, and the open job document and maintenance history report for the aircraft and engine are completed prior to the QA FCF Manager review. ALIS/relevant aircraft documentation review must be accomplished by QA prior to MXG/CC and OG/CC authorization (FCF only).

6.13.7.2.3. **(Added-33 FW)** Brief FCF/OCF pilots on the purpose and objectives of the flight.

6.13.7.2.4. **(Added-33 FW)** Completed FCF checklists shall be retained in the aircraft history files, located in the Plans, Scheduling and Documentation (PS&D) office, for a minimum of 6 months. In addition, scan the completed FCF checklists into CMMS and attach them to the FCF Work Order (WO).

6.13.8. **(Added-33 FW) 33 MXG/QA will:**

6.13.8.1. **(Added-33 FW)** Prepare and document the FCF/OCF local form and obtain a current Weight and Balance Form F.

6.13.8.2. **(Added-33 FW)** Review aircraft automated forms and history since the last flight for all FCFs. The forms review is conducted approximately 4 hours prior to crew step the day of the FCF. The QA evaluator will note any deficiencies and brief the pilot on all open discrepancies and significant MAs since the aircraft's last flight.

6.13.8.3. **(Added-33 FW)** Perform a rated Before Operations Servicing (BOS) Quality Verification Inspection (QVI) IAW the applicable aircraft technical data.

6.13.8.4. **(Added-33 FW)** Accompany the FCF pilot for a preflight walk-around.

6.13.8.5. **(Added-33 FW)** Participate in all FCF debriefings. FCF debriefings are conducted in the appropriate squadron maintenance debrief section. The 33 MXG/QA evaluator ensures the pilot has properly annotated the aircraft automated forms.

6.13.9. **(Added-33 FW) FCF Profile:**

6.13.9.1. **(Added-33 FW)** The 33 MXG/CC and 33 OG/CC or designated representative must approve all FCF missions.

6.13.10. **(Added-33 FW) An OCF is flown when:**

6.13.10.1. **(Added-33 FW)** The FCF conditions outlined in applicable aircraft instructions do not apply, and when operational maintenance checks cannot be performed adequately on the ground, when test equipment is not available or when directed by the 33 MXG/CC or 33 OG/CC.

6.13.10.2. **(Added-33 FW)** The 33 MXG/CC (in coordination with the 33 OG/CC) may authorize an OCF to be flown with training flights if the training would not be degraded should the system check bad.

6.13.10.3. **(Added-33 FW) 33 MXG/QA will:**

6.13.10.3.1. **(Added-33 FW)** Review aircraft automated forms and maintenance history since the last flight for all OCFs. The forms review will be conducted approximately 4 hours prior to crew step the day of the OCF. The QA evaluator will note any deficiencies and brief the pilot prior to crew step on all open discrepancies and significant MAs since the aircraft's last flight.

6.13.10.3.2. **(Added-33 FW)** Prepare and document the FCF/OCF Checklist.

6.13.10.3.3. **(Added-33 FW)** Participate in all OCF debriefings. OCF debriefings are conducted in the appropriate squadron maintenance debrief section. The 33 MXG/QA evaluator ensures the pilot has properly annotated the aircraft automated forms.

6.13.10.4. **(Added-33 FW) AMU will:**

6.13.10.4.1. **(Added-33 FW)** Ensure all MAs are completed and the automated forms are properly documented and reviewed by squadron supervision (IAW TO 00-20 series requirements) before the aircraft and automated forms are turned over to 33 MXG/QA. All documentation is presented to the 33 MXG/QA at least 4 hours prior to the OCF.

6.15.4. **(Added-33 FW) QA FCF Manager will:**

6.15.4.1. **(Added-33 FW)** Brief the FCF/OCF pilot and Top 3 on the reason and corrective action for the high-speed taxi, aircraft configuration, internal fuel load, and desired taxi check speed.

6.15.5. **(Added-33 FW) 33 MXG/QA will:**

6.15.5.1. **(Added-33 FW)** Brief the FCF/OCF pilot on the items requiring the high-speed taxi check.

6.15.5.2. **(Added-33 FW)** Verify center of gravity (if aircraft components are removed) and ensure proper aircraft configuration. Aircraft will be configured for flight. Review the Form F for accuracy prior to flight.

6.15.6. **(Added-33 FW) AMU Production Superintendent (Pro Super) will:**

6.15.6.1. **(Added-33 FW)** Request specific clearance from 33 OG/CC to conduct checks above 100 Kts.

6.15.6.2. **(Added-33 FW)** Follow the approved MXG Local Checklist.

6.15.6.3. **(Added-33 FW)** Provide QA FCF Manager with a complete history of the problem to include the aircraft configuration, fuel on board, and speed at which the problem occurred.

6.15.6.4. **(Added-33 FW)** Coordinate all taxi checks through MXG/CC and OG/CC.

6.15.7. **(Added-33 FW) AMU will:**

6.15.7.1. **(Added-33 FW)** Ensure normal aircraft dispatch procedures are accomplished per JTD and normal cursory (walk around) procedures are accomplished prior to taxi.

6.16.6. **(Added-33 FW)** QA must monitor and track instances of wire, harness, and metal line/tube chafing. At a minimum, a total of 10 percent of assigned aircraft will be inspected when notification is received of a potential chafing problem. This 10 percent will include like model Low-Rate Initial Production (LRIP) aircraft.

6.16.6.1. **(Added-33 FW)** The chief inspector shall recommend initiating a One-Time Inspection (OTI) if the sampled aircraft indicates a chafing problem or the detected chafing is an operational safety hazard.

6.16.6.2. **(Added-33 FW)** QA must develop local chafing inspection criteria if the area is identified as high risk until response from an AR or JTD change has been implemented.

6.16.6.3. **(Added-33 FW)** QA must utilize a database for the purpose of tracking wire and harness chafing problems identified through OTIs and maintenance cross-tell reports. Consult the database before expending man-hours performing inspections

6.17. **(Added-33 FW) Activity Inspection Program.** The MXG/CC will accomplish an activity inspection at least every 2 years. Activity inspections are management and compliance oriented. The activity inspections program should:

6.17.1. **(Added-33 FW)** Identify discipline, housekeeping and technical discrepancies, and attempt to identify the underlying cause for the deficiencies.

6.17.3. **(Added-33 FW)** Produce objective reports and provide specific definitions of problem areas, appropriate directive references and recommended corrective action.

7.4.4. **(Added-33 FW)** The Impoundment Official (IO) will ensure an Impoundment Worksheet is initiated and maintained for each aircraft/equipment impoundment.

7.5.12. **(Added-33 FW) Impoundment of Aircraft, Engine, and Equipment:**

7.5.12.1. **(Added-33 FW)** Attachment 22, Table A22-1, Mandatory Impoundments are locally modified extractions from AFI 21-101, **Chapter 7** and add specific details applicable to impoundment of aircraft, engine and equipment within the 33 MXG and the 33 OG.

7.5.13. **(Added-33 FW)** If a single incident or event occurs that involves multiple end items owned by different squadrons; then each squadron will initiate the impoundment process for their owned asset, i.e. MXS Production Supervision will ensure impoundment of AGE, and AMXS Production Supervision or DoN Maintenance Controller will separately impound an aircraft and/or engine (not in phase) for a related incident.

7.5.14. **(Added-33 FW) General QA Responsibilities:**

7.5.14.1. **(Added-33 FW)** QA will assist the IO in initiating impounds and review final actions prior to release.

7.5.14.2. **(Added-33 FW)** Ensure the QA Impoundment Book/Event Log and the QA database are updated accordingly.

7.5.15. **(Added-33 FW) Impoundment Procedures for Engine Removal of Impounded Aircraft:**

7.5.15.1. **(Added-33 FW)** The Aircraft IO will notify the 33d Aircraft Maintenance Squadron (AMXS) Engine Manager of the engine removal.

7.5.15.2. **(Added-33 FW)** For Engine Foreign Object Damage (FOD) related incidents, units may reference the Engine FOD Impoundment Logic Tree (see Attachment 22).

7.5.15.3. **(Added-33 FW)** The original aircraft impoundment will be cleared IAW AFI 21-101 and TO 00-20-1.

7.5.16. **(Added-33 FW) Off-Station Impoundment Procedures:**

7.5.16.1. **(Added-33 FW)** Prior to scheduled TDYs, the TDY maintenance officer will ensure there is a minimum of one qualified Impoundment Authority (IA) and one qualified IO scheduled for the deployment. If there is no qualified IA or IO scheduled, ensure a letter is generated designating an IA or IO, or both, for the TDY and authorized by the 33 MXG/CC or MXG/CD. Ensure a copy of the authorization is given to QA prior to departure.

7.5.16.2. **(Added-33 FW)** For aircraft that break off-station with an impoundment condition, F-35 qualified maintenance personnel will request management of impoundment actions by the host base MXG/CC and QA. If no F-35 maintenance support is available, contact home station for further direction.

7.5.16.2.1. **(Added-33 FW)** If no F-35 maintenance support is available, Eglin QA personnel will provide the designated recovery IO with all needed documentation.

7.6. **(Added-33 FW) Impoundment Procedures:**

7.6.1.1. **(Added-33 FW)** Ensure the severity of the impound WO within CMMS has a Red X (aircraft removed from service) documented. If the equipment has no forms, attach an AFTO Form 350 with the appropriate text in the discrepancy block, border the tag in red, and remove the equipment from service.

7.6.3.5.1. **(Added-33 FW)** Provide and setup all signs and cones required for isolating aircraft (exceptions: adverse weather conditions). Cones are placed on the left, right and rear of the aircraft. The nose of the aircraft will have a placard stating the aircraft is impounded and the IO's contact information.

7.6.8.1. **(Added-33 FW)** The owning squadron senior maintenance authority reviews the impoundment and signs the impoundment worksheet recommending release.

7.6.8.2. **(Added-33 FW)** After the owning squadron has reviewed all documentation, QA will also review all documentation and sign the appropriate impoundment worksheet and/or document CMMS, as applicable. This review is considered a forms review inspection and is given a rating in the MSEP database against the owning unit or work center.

7.6.8.3. **(Added-33 FW)** If the impoundment involves a Safety Investigation, ensure the Safety Investigation Team Lead authorizes the release prior to exercising impoundment release authority.

7.6.8.4. **(Added-33 FW)** The Release Authority (RA) signs the impoundment worksheet and, if applicable, signs the "inspected by" block of the automated forms (or associated ALIS documentation) or AFTO Form 244 Red X entry (IO signs the "corrected by" block) with the following corrective action statement: "Investigation complete, all corrective actions have been

reviewed, (pick one; aircraft / engine / equipment) is released IAW AFI 21-101, see page X, item X" (refers to original discrepancy).

7.6.8.5. **(Added-33 FW)** The RA may designate that the impoundment entries be cleared. In these instances, the IO annotates the impoundment entry as "Released by (RA Name and Grade) on (Date and Time)" then signs next to that entry (First Name Initial, Last Name, Grade). For automated forms and the AFTO Form 244, supplement the information in previous paragraph with this information and sign the "inspected by" block per TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policy and Procedures*.

7.6.8.6. **(Added-33 FW)** After releasing the impoundment, the IO is responsible to clear the RAs impoundment discrepancy in ALIS (if applicable). Show corrective action as "aircraft released by (RA Name and Grade) on (Date/Time)" and clear the entry using the "inspected by" block with corresponding RAs (MXG/CC or OG/CC or designated representatives) user ID.

7.6.8.7. **(Added-33 FW)** If the IO is changed, notify the IA and request the change (IA must approve the change). Once approved, notify QA and document the changeover on the Impoundment Worksheet. Ensure the gaining IO is fully briefed on all actions taken or in-work.

7.6.8.8. **(Added-33 FW)** When a critical piece of equipment is removed from an impounded aircraft for back shop repair or vendor bench check, ensure the item is identified as an impounded asset. Contact MOC immediately upon the removal of equipment and MOC will contact QA so that the removed piece of equipment can be impounded with a separate impound number and all documents accompany the equipment.

7.6.8.9. **(Added-33 FW)** The IO will obtain all pertinent aircraft, engine, or equipment documentation files and automated forms history, significant historical data, available database reports, copies of shop logs, work packages, unique documentation, and ALIS history etc. Review all applicable items thoroughly and place pertinent copies within the impoundment folder, listing attachments on the impoundment worksheet.

8.2. **(Added-33 FW) General Program Guidelines:**

8.2.1.2. **(Added-33 FW)** All tools, Consolidated Tool Kits (CTK), and equipment are stored in a secured location to prevent pilfering.

8.2.1.2.1. **(Added-33 FW)** Ensure every effort is made for the accountability of tools. Tools should not be signed out for an extended period of time. An extended period is defined as extended past a duty period for the person who signed out the tools.

8.2.1.2.2. **(Added-33 FW)** Tools no longer part of the CTK [permanently removed from the Master Inventory List (MIL)] or shadow board will have the respective cutout filled or shadowing removed. This is accomplished by permanently filling in the tool cutout or by painting over the shadowed area with the background color of the shadow board.

8.2.1.3. **(Added-33 FW)** Whenever ALIS system upgrades are completed, CTK Custodians must perform a 100% SE records check in ALIS to ensure files were not inadvertently archived.

8.2.1.4. **(Added-33 FW)** Once per quarter, each CTK Custodian will validate a SE Inventory in ALIS and perform a 100% physical inventory, including SE that is not showing assigned to a Tool Room.

8.2.2.1. **(Added-33 FW)** All CTKs, tools and SE have, as a minimum, a 180-day inspection performed and documented within ALIS or an approved tool tracking system. As a minimum, inspect the following items: etchings, legibility of etchings and required markings (double etchings are not authorized), condition of tools, corrosion, foreign objects and condition/currency of the MIL and ALIS database. Check MILs against the Master MIL to ensure accuracy. Also, ensure all MILs are legible and that permanent ink changes are added to the database and new MILs are printed. Check for overdue calibration and ensure all sets contain the proper number of items (as marked on the container). Inspect all tools for serviceability IAW TO 32-1-101.

8.2.3.2. **(Added-33 FW)** Flight commanders/chiefs/senior maintenance representatives ensure strict control of warranty tools and designate program managers (primary and alternate) in writing or electronic format.

8.2.3.3. **(Added-33 FW)** The program manager will maintain a list of all warranty tools and ensure broken or damaged warranty tools are isolated and under strict control until properly replaced. Warranty replacement tools must be isolated from other replacement tools. Broken warranty tools are replaced according to the manufacturer's warranty agreement.

8.2.5.2. **(Added-33 FW)** The Pro Super authorizes all flight line CTK, tools and hand-held equipment turnovers, and keeps transfers to a minimum. Squadrons will establish local procedures approved by the respective Sq/CC.

8.2.5.3. **(Added-33 FW)** AGE equipment that does not have wheels will be signed out from the AGE section, and the location of the equipment will be updated in ALIS.

8.2.5.4. **(Added-33 FW)** AGE equipment that will not be returned to the AGE section by the end of the shift will be hand receipted to the user's support section.

8.2.5.5. **(Added-33 FW)** Items can be sub-located to other shop/units as long as ALIS reflects the change in location. AGE will still be responsible for all AGE equipment inspections.

8.2.5.6. **(Added-33 FW)** Tools, CTKs and equipment which cannot be returned at the end of the shift for physical inventory are logged into ALIS or the approved tool tracking system as a long-term checkout.

8.2.6.1. **(Added-33 FW) Procedures for AETC Form 138, *Lost Tool or Item Investigation Record* (USAF) as follows:**

8.2.6.1.1. **(Added-33 FW)** The person identifying the missing tool or item will search the immediate work area for 1 hour, unless the tool or item is found before the 1 hour mark. If the tool or item is not found after the initial 1 hour search, the individual will notify the Expediter or Pro Super. The Expediter or Pro Super will notify the 33 MXG MOC immediately. The 33 MXG MOC will then initiate the lost tool or item checklist. Outside agencies will report any tools or items lost on the 33 FW ramp to the 33 MXG MOC.

8.2.6.1.2. **(Added-33 FW)** MOC will get a lost tool or item control number from QA. MOC will call the Expediter or Pro Super to give them the control number. The control number will be inserted in the "Squadron or Functional Activity" block after the Unit designation.

8.2.6.1.3. **(Added-33 FW)** Lost tool reports shall be accomplished on all reported lost tools and items, whether they are found or not. The AETC Form 138 will be completed and sent to the Wing's FOD Monitor (located in the 33 MXG QA section) within 5 duty days.

8.2.6.1.4. **(Added-33 FW)** If tools or items are found after the initial lost tool report is completed, another report will be routed to identify that the tool or item was found. The new report will reference the initial report in the "Results of Search" block.

8.2.6.2. **(Added-33 FW) If a tool or item is lost during maintenance on an in-shop engine or component, the following procedures will apply:**

8.2.6.2.1. **(Added-33 FW)** All maintenance on the affected engine or unit will be stopped and the work center supervisor will immediately initiate a search for the missing item. All available personnel will stop all maintenance and assist in a search until the work center supervisor releases personnel or calls off the search. The work center supervisor notifies the Flight Chief, Maintenance Superintendent and QA immediately, then initiates lost tool paperwork. If the tool or item is not found after an extensive search, the Maintenance Superintendent or designated representative determines if the equipment requires impoundment.

8.2.6.2.1.1. **(Added-33 FW)** QA will review the impoundment procedures prior to release of the engine from impoundment after the work center has completed a thorough search of all involved engines and work areas.

8.2.6.2.2. **(Added-33 FW)** The shift supervisor and the individual who signed for the CTK will ensure support personnel annotate the missing tool on all copies of the CTK's MIL.

8.2.6.2.3. **(Added-33 FW)** If aircraft or associated equipment is not involved, the individual discovering the tool or item missing will notify the work center supervisor immediately. The work center supervisor stops all maintenance and a search is conducted to find the item. All equipment the tool or item was used on must be returned to the shop. A search of the equipment will be conducted and annotated on the AETC Form 138, *Lost Tool or Item Investigation Record* (USAF).

8.2.6.2.4. **(Added-33 FW)** If a tool or item is lost while performing maintenance on or around an aircraft, the affected back shop, flying unit, or AMU immediately stops aircraft movement on the ground until all involved flight line areas can be searched, unless cleared to fly sooner by the MXG/CC or designated authority. All available personnel in affected areas stop all maintenance and assist in a search until the Pro Super or higher releases personnel or calls off the search. If the tool or item is not found within a reasonable period of time, an impoundment authority determines if the aircraft or equipment requires impoundment.

8.2.6.2.5. **(Added-33 FW)** To minimize aircraft downtime when a suspected lost tool or item is in a cockpit, raise the ejection seat to the full-up position. If the search proves unproductive, remove the ejection seat components, kick panels, console instruments, and other cockpit components to facilitate the search, as required.

8.2.6.2.5.1. **(Added-33 FW)** After searching the cockpit, Egress personnel will search the ejection seat at the request of maintenance supervision. If impounded, the ejection seat search will be accomplished by Egress personnel prior to releasing the aircraft from impoundment. Before requesting the impound release, the IO will confer with the available RA to determine if an ejection seat removal is required for further searching.

8.2.6.2.6. **(Added-33 FW)** QA reviews and signs the original AETC Form 138 and forwards it to 33 FW FOD Monitor. When lost tools are found, notify the AMU Pro Super, applicable DoN Controller (or owning support section) and the 33 FW FOD Monitor.

8.2.7. **(Added-33 FW) The following procedures will be followed for Lost tools/Items INVOLVING or NOT INVOLVING aircraft/equipment:**

8.2.7.1. **(Added-33 FW)** The MXG/CC, or designated authority will clear AETC Form 138 for all lost items that occur on the flight line or in a hangar when aircraft are present. The MXG/CC, or designated authority will clear the form by signing the Maintenance Operations Officer or Superintendent block.

8.2.7.2. **(Added-33 FW)** The Maintenance Operations Officer, Superintendent, or designated authority will clear the AETC Form 138 for lost items **not** associated with an aircraft(s).

8.2.8. **(Added-33 FW) Issued PPE:**

8.2.8.1. **(Added-33 FW)** Issued personal equipment (hearing protection, reflective belts, etc.) are permanently marked with individual's first initial, last name, and last four of their Social Security Number (SSN) (example: J. Doe, 1234). Personnel must maintain strict control and accountability of issued personal equipment, and lost tool procedures apply to these items if they cannot be located. All personnel assigned to the 33 FW will comply with local requirements for the use of Personal Protective Equipment (PPE) and safety equipment such as reflective belts and hearing protection.

8.2.9.4. **(Added-33 FW)** Rags may be kept in containers for issue, with up to 25 sets of 5 rags each, and the number of rags will be marked on the container. Rags are counted each time the container is issued or turned in. Single rags may be issued using an AF Form 1297. Rags will only be exchanged on a one-for-one basis.

8.2.10.1. **(Added-33 FW)** Only government purchase cardholders and/or resource advisors are authorized to procure tools.

8.2.11.1. **(Added-33 FW)** Using the AR process, all local manufacturing and F-35 specific tool modification requests are forwarded to the Lightning Support Team (LST) via an informational AR. For items that are not F-35 specific, the requester will initiate a letter for authorization to locally manufacture or modify a particular tool or piece of equipment for use to the QA Local Manufacture Monitor. The letter should include justification for the tool and all applicable diagrams, TO references, inspection requirements, etc. **Note:** The Joint Strike Fighter Program Office (JPO) shall provide all F-35 specific tools.

8.2.11.1.1. **(Added-33 FW)** The requester will submit the requirement to the QA office for control number assignment. It is the requester’s responsibility to obtain all necessary materials for the item or tool requested.

8.2.11.2. **(Added-33 FW) QA will:**

8.2.11.2.1. **(Added-33 FW)** Assign a control number to the item using the next available number open on local manufacture tool control log (stored electronically on the 33 MXG QA SharePoint site). Note: After item is manufactured, electronically file one copy of request and drawing(s) in QA local manufacture electronic file.

8.2.11.2.2. **(Added-33 FW)** Line through applicable "do or do not need to inspect the item after manufacture" statement.

8.2.11.3. **(Added-33 FW) Manufacturing organization will:**

8.2.11.3.1. **(Added-33 FW)** Manufacture the tool/equipment.

8.2.11.4. **(Added-33 FW) Once the tool/equipment is completed, the requesting unit's support section will:**

8.2.11.4.1. **(Added-33 FW)** Notify QA when the item is complete if it requires inspection by the QA Local Manufacture Monitor, as annotated on the local manufacture letter. NOTE: The tool/equipment will not be utilized until it is inspected by the QA Local Manufacture Monitor.

8.2.11.4.2. **(Added-33 FW)** Maintain a file of all approved local manufacture authorization letters and place the item on the Support Master Equipment Listing or equivalent.

8.2.11.4.3. **(Added-33 FW)** The owning support section maintains a list, signed by the squadron MOO/Superintendent, of all local manufacture tools used within their work center by nomenclature, QA control number, and location. This list is reviewed and documented biennially (every two years) to ensure accuracy and a copy is forwarded to QA.

8.2.11.4.4. **(Added-33 FW)** Owning organization will assign unique identifier in tool tracking system.

8.2.11.5. **(Added-33 FW) Other required actions for local manufactured tool request:**

8.2.11.5.1. **(Added-33 FW)** When an identical item has been made for another squadron, the former assigned control number is annotated on the request letter upon submittal.

8.2.12.1. **(Added-33 FW)** Depot teams, factory representatives, and contract field teams must adhere to the 33 FW publications concerning tool control.

8.2.13.2. **(Added-33 FW)** If two or more work centers elect to operate a single tool room/support section, they will designate one person from either work center as the NCOIC. The NCOIC will assume overall responsibility for proper management of all tools, equipment, and CTKs assigned to the tool room. Tools and equipment will be incorporated into a single ALIS or approved tool tracking system, however, the assigned Worldwide Identification (WWID) numbers will remain as identified in Attachment 24. If tools/equipment are distributed from any support section/tool room (consolidated or not) to a decentralized location, the NCOIC of the support section/tool room remains accountable for the proper management of those tools/equipment.

8.2.13.3. **(Added-33 FW)** CTKs and decentralized SE shall be locked when not in use. Support personnel will only issue these items on an as-needed basis. Items are inspected upon turn-in, the same individual that signs out a CTK cannot sign it back in.

8.2.14.1. **(Added-33 FW)** Spill recovery trailers/mobile spill kits that contain safety equipment and PPE are marked with the squadron and trailer number. An equipment content listing is kept with spill kits.

8.2.15.1. **(Added-33 FW)** Squadron Pro Supers or unit senior maintenance personnel may act as a second party to conduct an inspection of the tool kit. Organizations without a Pro Super on duty (such as QA) may request a second party from another squadron.

8.2.16.1. **(Added-33 FW)** Units/sections will designate individuals authorized uncontrolled access into tool rooms via a memorandum. QA inspectors do not require permission for uncontrolled access into tool rooms.

8.2.16.2. **(Added-33 FW)** Procedures to control aircrew tools and life support section tool kits that are dispatched to the flight line are found in the AFI 11-301 Vol. 1.

8.5. **(Added-33 FW) Tool Accountability:**

8.5. **(Added-33 FW)** Flight CC/Chiefs and Section NCOICs/Chiefs, through CTK Custodians, are responsible for tool and equipment accountability and control (knowing where tools are and who has responsibility for them). When a person signs for a tool or piece of equipment, they are accountable for the item until it is returned to the tool room and accountability transfers back to the CTK Custodian (through a representative or tool room employee). (Representatives will be defined as section shift leads or equivalent).

8.5.1. **(Added-33 FW)** ALIS or an approved tool tracking system is used to track all tools. Units will use numbers in Attachment 24 to mark tools not provided through the F-35 program (i.e. vehicle keys, radios, etc.).

8.5.1.1. **(Added-33 FW)** Input SE assigned to a specific tool room in ALIS as the specific section it is assigned to (e.g. AMXS Tool Room, Egress Tool Room, Wheel and Tire Tool Room, AGE Rolling Stock).

8.5.1.1.1. **(Added-33 FW)** For SE located within assigned tool rooms, input the exact location in ALIS as follows: cabinet/shelf, hangar/bay, hangar/spot, CTK/spot, flight line/parking location, etc..

8.5.1.1.2. **(Added-33 FW)** When SE is removed temporarily from the primary location, annotate the notes section with the current location/status as follows: PMEL, TDY, broken and removed, etc.

8.5.5.6.1. **(Added-33 FW)** Unit support sections will ensure delivery of TOs, F-35 Portable Maintenance Aids (PMA), and SE associated with PMAs to deployed locations.

8.5.8. **(Added-33 FW) Management of Dash-21/Red Gear:**

8.5.8.1. **(Added-33 FW)** Each set of Dash-21/Red Gear equipment is tracked in ALIS or an approved tool tracking system, is assigned to an aircraft and receives semi-annual inspections. AMU personnel will develop inspection documentation and tracking procedures. Aircraft Dash-21/Red Gear equipment will be marked with the standard nine-digit Equipment Identification Designator (EID) or tail number. This number will consist of AMU's workcenter WWID or tail number (Example: EDB1A5003 or 09-5003 for aircraft 09-5003).

8.5.8.2. **(Added-33 FW)** Spare operational sets of Dash-21/Red Gear equipment, such as TDY sets, are assigned an identification number (Example: EDB1ATDY1, etc.) and tracked in ALIS or an approved tool tracking system. Spare operational sets are inspected semi-annually by the Dash-21/Red Gear Program Manager. Operating stock needed for Dash-21/Red Gear equipment may be maintained.

9.22.6. **(Added-33 FW)** Aircraft components or panels that are stored on a panel rack or in the appropriate tail number bin (TNB), will be tagged using an AFTO Form 350 or serviceable tag. These aircraft components or panels will be annotated in the TNB/Facilitate Other Maintenance (FOM) logs if they cannot be installed by the end of the shift or if positive control cannot occur between shifts. Low Observable (LO) panels will be placed LO-side up on rubber or soft surfaces. Exception: panels that are too heavy or too large to place on panel racks or inside TNBs, will be placed on the floor in the hangar or supply, as long as they have padded protection.

11.6. **(Added-33 FW) Red Ball Maintenance.** A "cold iron" of the aircraft and/or use of a MATRIX by a Field Support Engineer (FSE) for troubleshooting during launch is not considered Red Ball maintenance.

11.6.1.1. **(Added-33 FW)** Conditions other than a "cold iron" of the aircraft and/or use of a MATRIX by FSE for troubleshooting during launch will require the aircraft is safe for maintenance IAW JTD. Red Ball maintenance will in no way authorize technicians to take shortcuts or deviate from technical orders.

11.6.1.2. **(Added-33 FW)** All required parts, tools or equipment that is required for the Red Ball procedure will be delivered by the flight line Expediter.

11.6.2.1. **(Added-33 FW)** The technician(s) will enter the discrepancy and any follow-on MAs in ALIS. Upon completion of all maintenance, including follow-on maintenance, the technician(s) will sign off the MAs and WO in ALIS.

11.6.2.2. **(Added-33 FW)** After the MAs and WO have been cleared in ALIS, the Expediter will notify the Pro Super of job completion. Qualified Exceptional Release (ER) personnel will re-accomplish the ER and the pilot will re-accept the aircraft prior to taxi.

11.8. **(Added-33 FW) Foreign Object Damage (FOD) Prevention Program.**

11.8.3.2.2. **(Added-33 FW)** Personnel performing maintenance will ensure ALIS is documented when a FOD intake barrier (barrier paper, tape, etc.) is installed. Prior to and after maintenance, all tools and hardware are inventoried with all consumable items accounted for prior to removing the FOD barrier. A 7-level will perform and document a foreign object inspection after removal of the FOD barrier in CMMS.

11.8.3.3.1. **(Added-33 FW)** While an aircraft is positioned in any hangar, the owning organization will ensure that the unattended aircraft is protected with suitable covers. Additionally, aircraft canopies will be closed over the weekends and during extended down time (when cockpit entry is not required). If the aircraft canopy is removed or cannot be closed due to ongoing maintenance, aircraft cockpit will be covered when not in use.

11.8.3.3.2. **(Added-33 FW)** F-35 throttle quadrant covers must be installed and remain installed as close to crew show as possible, unless use of the throttle quadrant is required to perform a specific maintenance task (e.g. installed engine run).

11.8.3.3.3. **(Added-33 FW)** Sunshade kiosks will not be used for storage. Kiosks will only be used to temporarily house a Portable Maintenance Assistant (PMA).

11.8.3.6.6. **(Added-33 FW) Flight line clothing policy.**

11.8.3.6.6.1. **(Added-33 FW)** Headgear, with the exception of cold weather apparel and DoN cranials, are not authorized on the flight line. Headgear is not required in the designated "No Hat/Cover/No Salute Area" (Attachment 23).

11.8.3.6.6.2. **(Added-33 FW)** Individuals performing duties in route to and from the flight line, parking ramps, and maintenance hangars are not required to wear hats. (This does not include when an individual arrives/departs his/her place of duty.)

11.8.3.6.6.3. **(Added-33 FW)** Ensure articles of clothing (coats, shirts, goggles, headsets, etc.) are properly fitted at all times. At no time will hats or loose clothing be worn within 50 feet of an operating engine. The only exception is the wearing of proper hearing protection and the cold

weather watch-cap. Watch caps can be worn under hearing protection as long as it does not interfere with the proper seal created by personal ear defenders.

11.8.3.6.6.4. **(Added-33 FW)** While on the flight line, all restricted area badges/passes will be secured with a non-metallic cord or arm band at all times to prevent lost items or FOD issues. Remove or stow loose personal items, i.e. line badge, when within 25 feet of an operating engine to prevent inadvertent ingestion into aircraft intakes. Personal items (pens, pencils, etc.), not restrained, are removed or secured to prevent being dropped or drawn into an engine.

11.8.3.6.7. **(Added-33 FW) Personal backpacks/bags are prohibited on the flight line.**

11.8.3.6.7.1. **(Added-33 FW)** Air Force issued "Camelbaks" (personal hydration packs) are authorized for use on the flight line, however, they are not authorized inside the intake or exhaust. Camelbaks are authorized during launch and recovery if serviceable and worn properly. Prior to issue, they will be identified as individual equipment IAW paragraph 8.2.8.1. of this supplement. Camelbaks will not be taken inside the normal aircraft Fuel Servicing Safety Zone (FSSZ) (ex; wingtip to wingtip, nose to tail circle). Flight line personnel will ensure all personal gear and equipment are accounted for after executing flight operations.

11.8.3.8.1. **(Added-33 FW)** All vehicle FOD containers are identified with stenciling or permanent marking. Ensure the container is emptied every shift or when full, whichever comes first. Ensure all vehicles normally driven on the flight line have secure FO containers with lids.

11.8.3.9.1. **(Added-33 FW)** When panels or components are opened or removed to FOM, maintenance personnel will ensure all removed screws and fasteners are stored in screw bags. Screw bags will be annotated with the aircraft tail number, panel number/component name, amount of each hardware type in the bag, and will be attached to the panel/component.

11.8.3.11.2. **(Added-33 FW)** Portable FOD magnets will be cleaned of all FO after each use.

11.8.3.13.4. **(Added-33 FW)** All personnel entering aircraft cockpits will ensure personal belongings are removed from their pockets to prevent FOD. Pilots will account for equipment and personal items before and after each flight, and ensure that items lost during flight are entered into ALIS.

11.8.3.16.1. **(Added-33 FW)** Flight line vehicle operators will monitor the flight line/taxiways for the presence of FO or broken concrete and ensure all items are removed immediately. Operators are responsible for inspecting the interior, cargo bed area and tires prior to/post use. Vehicle operators will request a sweeper through the MOC/Base Operations for items deemed excessive for manual pickup and contact the Wing FOD Monitor.

11.8.3.16.2. **(Added-33 FW)** When vehicles are operated on unpaved surfaces, public roads, and along the black asphalt at the edge of the concrete airfield/taxiway, tires frequently pick up rocks and debris between the treads. Prior to entering the flight line, taxiways, End of Runway (EOR), hot-pits, de-arm, trim pad, and Christmas tree areas, operators will stop prior to airfield/taxiway concrete and remove any debris from the tire treads.

11.8.3.18.1. **(Added-33 FW)** Vehicle operators will ensure magnetic bars (if installed) are cleaned at the beginning of each shift and checked in conjunction with vehicle tire rollover checks. Ensure all pintle hooks attached to vehicles/golf carts are secured and serviceable. Ensure proper sized pintle hook pins are installed and secured at all times.

11.8.3.22. **(Added-33 FW)** All personnel will practice good housekeeping in all areas. The "Clean As You Go" concept is required. It is imperative that proactive housekeeping procedures are included in every task performed, whether on the flight line, in hangars or in shops.

11.8.3.23. **(Added-33 FW)** Only personal re-sealable type drink containers are authorized on the flightline and other maintenance areas.

11.8.3.23.1. **(Added-33 FW)** All personal re-sealable type drink containers will be identified / labeled IAW para 8.2.8.1 of this supplement.

11.8.3.23.2. **(Added-33 FW)** Drink containers must be stowed within 50 feet of an operating engine and will be secured at all times during aircraft operations to prevent inadvertent ingestion into aircraft intakes.

11.8.3.23.3. **(Added-33 FW)** Drink containers must not be brought into or consumed in toxic chemical or material areas IAW AFI 91-203, *AIR FORCE CONSILIDATED OCCUPATIONAL SAFETY INSTRUCTION*.

11.8.3.24. **(Added-33 FW)** Paper, plastic, or Styrofoam cups are **only** authorized in vehicles operated on the flightline, and must be properly stowed when not in use.

11.8.4.2.2.1. **(Added-33 FW)** All personnel will ensure all FOD mishaps are reported and investigated IAW applicable USAF or DoN guidance.

11.8.4.2.2.2. **(Added-33 FW)** Any aircraft maintenance personnel discovering FOD damage to an engine or aircraft will immediately report their findings to maintenance supervision.

11.8.4.2.2.3. **(Added-33 FW)** Maintenance supervision will notify the MOC of FOD damage immediately. MOC will initiate the applicable checklist.

11.8.4.2.2.4. **(Added-33 FW)** DoN FOD incidents are investigated and reported IAW DoN guidance. DoN units will send a courtesy copy of completed FOD Incident Reports to the 33 FW FOD Monitor.

11.8.5. **(Added-33 FW) FOD Monitor.**

11.8.5.2.1. **(Added-33 FW)** The 33 FW FOD/Dropped Object Prevention (DOP) Monitor will document spot inspections on a general purpose form and store the results in SharePoint or in the FOD/DOP program binder.

11.8.5.2.2. **(Added-33 FW)** Spot inspections and assessments will cover, but are not limited to the following areas: awareness boards (content and condition), prevention (sweeper utilization and condition), housekeeping, CTK (FOD in tool boxes, SE connectors, lost tool log, etc.), vehicles (FOD bars, cleanliness), and aircraft (use of intake plugs, caps/plugs).

11.8.5.4.2. **(Added-33 FW)** All newly assigned personnel are trained on FOD awareness and their personal responsibilities in Maintenance Orientation Training.

11.8.7.1. **(Added-33 FW)** The 33 FW FOD Prevention Committee Meeting can be combined with the 96 TW.

11.8.9. **(Added-33 FW) FOD Program Management.**

11.8.9.1. **(Added-33 FW)** Ensure personnel comply with spirit and intent of the FOD Prevention Program IAW applicable USAF or DoN instructions.

11.8.9.2. **(Added-33 FW)** The unit OIC or NCOIC will appoint FOD prevention monitors from each unit by memorandum. Unit FOD Monitors will provide their name, rank, office symbol and phone number via an appointment letter, and forward it to the 33 FW FOD Monitor. Update appointment letters annually or as necessary.

11.8.9.3. **(Added-33 FW)** Each unit assigned a FOD area of responsibility (Attachment 25) on the aircraft parking ramp will use the "FOD BOSS" sweeper prior to/during the FOD walk. These units will conduct a FOD walk daily prior to flying or maintenance operations. Squadron personnel performing maintenance in aircraft maintenance docks and back shops will ensure these areas are kept clean and FOD free. AGE flight is responsible for ensuring the AGE ready-line is FOD free.

11.8.9.3.1. **(Added-33 FW)** Squadrons towing aircraft off the parking ramp (i.e. wash rack) will ensure that the towing path and hangar is FOD free prior to towing the aircraft.

11.8.9.3.2. **(Added-33 FW)** Prior to engine maintenance runs, the engine run supervisor will ensure the aircraft parking spot or trim pad is FOD free prior to engine start. Maintenance personnel will be responsible for ensuring housekeeping and potential FOD problems are reported to their respective squadron FOD Monitor and supervision.

11.8.9.3.3. **(Added-33 FW)** The 33 FW FOD Monitor will check all Entry Control Point (ECP) FOD receptacles weekly and empty when necessary.

11.8.9.4. **(Added-33 FW)** All 33 FW maintenance organizations will maintain a FOD/DOP program awareness board located in a high visibility area. DoN squadrons will ensure items are included in the program binder or on the required reading board. The purpose of the board is to inform personnel on FOD prevention and provide contact information. As a minimum, the board will include:

11.8.9.4.1. **(Added-33 FW)** 33 FW FOD/DOP Monitor picture sheet.

11.8.9.4.2. **(Added-33 FW)** 33 FW FOD and DOP Monitor appointment and notification procedures letter.

11.8.9.4.3. **(Added-33 FW)** Most current FOD/DOP flash.

11.8.9.5. **(Added-33 FW)** Optional board items are:

11.8.9.5.1. **(Added-33 FW)** Wing/Squadron/Flight incentive program award recipients.

11.8.9.5.2. **(Added-33 FW)** FOD/DOP related news and magazine articles.

11.8.10. **(Added-33 FW) Incentive Program:**

11.8.10.1. **(Added-33 FW)** The 33 FW FOD Monitor conducts the Wing FOD Prevention Incentive Program. Submissions for the monthly 33 FW FOD Fighter Award may be sent via e-mail providing the person's name, rank, organization, date of event, and a brief narrative. FOD Fighter nominations must be received by the last duty day of the quarter.

11.8.10.2. **(Added-33 FW)** FOD prevention posters will be submitted on 8 1/2 x 11 inch bond paper or via e-mail. The 33 FW FOD Prevention Monitor must receive poster nominations NLT the last duty day of the quarter (to be considered for that quarter). The FOD poster is a quarterly award.

11.8.10.3. **(Added-33 FW)** Quarterly FOD program winners will receive a FOD certificate from Vice Wing Commander or designated representative.

11.9. **(Added-33 FW) Dropped Object Prevention (DOP) Program, and the (DoN) Things Falling Off Aircraft (TFOA) Program.**

11.9.1.2. **(Added-33 FW) The 33 FW FOD/DOP/TFOA Manager is the OPR for this program. The DOP/TFOA Program monitor will:**

11.9.1.2.1. **(Added-33 FW)** Monitor the overall effectiveness of the Wing DOP/TFOA Program.

11.9.1.2.2. **(Added-33 FW)** Analyze results of all dropped object incidents and ensure maintenance managers are aware of unfavorable trends.

11.9.1.2.3. **(Added-33 FW)** Brief the Vice Wing Commander on all matters concerning dropped objects.

11.9.1.2.4. **(Added-33 FW)** Maintain a listing of all unit DOP/TFOA monitors.

11.9.1.2.5. **(Added-33 FW)** Assist QA dropped object investigations.

11.9.1.2.6. **(Added-33 FW)** The Maintenance Training Section (MTS) will ensure all maintenance personnel receive dropped object prevention training at their initial and annual Maintenance Orientation Training.

11.9.1.3. **(Added-33 FW)** MXG and OG Squadron Commanders will:

11.9.1.3.1. **(Added-33 FW)** Ensure personnel comply with the spirit and intent of the DOP/TFOA Program IAW applicable USAF or DoN instructions.

11.9.1.3.2. **(Added-33 FW)** Appoint DOP Monitors from each unit, by letter, to the 33 FW/CV with their name, rank, office symbol and phone number. Update appointment letters annually or as necessary.

11.9.1.3.3. **(Added-33 FW)** When a dropped object incident occurs, the unit will notify MOC, complete the Dropped Object Incident Report (local form) and route it to the 33 FW DOP/TFOA monitor within 24 hours of the incident. The 33 FW DOP/TFOA monitor will investigate the incident and determine the most likely cause and ensure corrective actions are taken to preclude reoccurrence. If a material, design or JTD procedural deficiency is determined to be the root cause, submit an AR to request the appropriate corrective actions from the LST.

11.9.2.3. **(Added-33 FW)** LO coating of any type (e.g. RAM tape, RAM boot, filler) or a canopy transparency exceeding 8 inches in any dimension will be deemed as a dropped object IAW AFI 21-101_AETCSUP para. 11.9.

11.13.8.7. **(Added-33 FW)** Cannibalization (CANN) Rebuild Procedures. The CANN manager will produce a tracking sheet detailing the rebuild requirements and timeline, and brief progress to the Lead Pro Supervisor and AMU supervision at the daily production meeting.

11.13.8.7.1. **(Added-33 FW)** QA will complete a “Rated” ALIS review and BOS QVI prior to the first flight out of CANN status.

11.13.9.7.2. **(Added-33 FW)** Egress will coordinate with PS&D once a CANN action is completed against service/shelf life Egress items, to ensure the associated Production Aircraft Inspection Requirement (PAIR) reflects the changes in component tracking.

11.17. **(Added-33 FW) Engine Run Training and Certification Program.**

11.17.5. **(Added-33 FW)** Engine run personnel, Expediters and Pro Supers will ensure there are no aircraft engine runs during announced quiet hours. Only the MXG/CC or a designated representative is authorized to waive these requirements.

11.17.8.2.2. **(Added-33 FW)** Decertification. Individuals failing to maintain proficiency or failing requalification requirements will be decertified. Local guidance is outlined in the 33 MXG OI 21-0006, *Engine Operation and Intake and Exhaust Inspection*, para. 1.2.6.

11.37. **(Added-33 FW) Unknown Canopy Failure Manual Operation**

11.37.1. **(Added-33 FW)** When the canopy is required to be manually operated with an unknown canopy failure condition, Egress personnel will install a canopy brace set.

11.37.2. **(Added-33 FW)** Once the cause of the failure is determined and corrected, the use of a canopy brace set will no longer be required.

11.37.2.1. **(Added-33 FW)** In the event that the aircraft needs to be towed, the canopy brace set will be removed and the canopy will be lowered manually.

11.38. **(Added-33 FW) Airfield Driving In/Around Aircraft Sun Shades**

11.38.1. **(Added-33 FW)** Personnel shall not drive any vehicles through aircraft sun shades owned by the 33 FW, with the following exceptions:

11.38.1.1. **(Added-33 FW)** Towing an aircraft to its parking location.

11.38.1.2. **(Added-33 FW)** Picking up/dropping off AGE equipment from a sub-pool location.

11.38.1.3. **(Added-33 FW)** Transporting munitions trailers, provided no aircraft is present in the shelter.

15.3.2.6. **(Added-33 FW)** Aircraft Configuration Management. ARs or Time Compliance Technical Directives (TCTDs) are the only authorized medium for directing a permanent configuration change and/or Health State Assessment (HSA) of delivered production F-35 aircraft and propulsion systems.

15.3.3.3.1.8. **(Added-33 FW)** QA must monitor the performance of TCTD validation events. In instances where the TCTD validation was waived, QA will be notified and may choose to monitor the initial performance of the TCTD.

15.3.3.3.1.8.1. **(Added-33 FW)** When applicable, changes to TCTD validation events must be approved through the AR process. Any changes approved during the TCTD validation process must be annotated on the TCTD validation form prior to submittal.

PAUL D. MOGA, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 21-101, *Aircraft and Equipment Maintenance Managemen*t, 21 May 15
AFI 21-101 AETCSUP, *Aircraft and Equipment Maintenance Management*, 18 Sep 15
AFMAN 33-363, *Management of Records*, 1 Mar 08
AFI 91-204, *Safety Investigations and Reports*, 12 Feb 14
COMNAVAIRFORINST 4 790.2 Series, *The Naval Aviation Maintenance Program (NAMP)* , 15 May 12
TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policy and Procedures*, 15 Oct 15
TO 33-1-37-1 through –3, *Joint Oil Analysis Program Manual Volumes I – III*, 15 Sept 14

Prescribed Forms

AETC Form 138, *Lost Tool or Item Investigation Record*

AF Form 847, *Recommendation for Change of Publication*

Adopted Forms

AF IMT 1297, *Temporary Issue Receipt*

Abbreviations and Acronyms

ADR—Aircraft Document Review

ALIS—Autonomic Logistics Information System

AMU—Aircraft Maintenance Unit

AR—Action Requests

ARA—Aircraft Return Action

BOS—Before Operations Servicing or Backup Oxygen System (watch the context used)

CANN—Cannibalization

CIRF—Centralized Intermediate Repair Facility

CMMS—Computerized Maintenance Management System

CND—Can Not Duplicate

CRM—Customer Relationship Management

CTK—Consolidated Tool Kit

DIT—Data Integrity Team

DoN—Department of the Navy

DOP—Dropped Object Prevention

DR—Deficiency Reports

EACL—Emergency Action Checklist

ECP—Entry Control Point

EID—Equipment Identification Designator

EOR—End of Runway

EOTS – Electro—Optical Targeting System

ER—Exceptional Release

FCF—Functional Check Flight

FLSC—Flexible Linear Shaped Charge

FMS – Full-Mission Simulator

FOD—Foreign Object Damage

FOM—Facilitate Other Maintenance

FSSZ—Fuel Servicing Safety Zone

HRC—Health Report Code

HSA—Health State Assessment

IA—Impoundment Authority

IAW—In Accordance With

IO—Impoundment Official

IOS – Inter-Operations Servicing

JEIM—Jet Engine Intermediate Maintenance

JPO—Joint Program Office or Joint Strike Fighter Program Office

JTD—Joint Technical Data

LCN—Logistics Control Number

LO—Low Observable

LPS—Lightning Protection System

LRIP – Low-Rate Initial Production

LRU—Line Replaceable Units

LST—Lightning Support Team

MA—Maintenance Action

MEFL—Mission Essential Function List

MESL—Minimum Essential Subsystem List

MIL—Master Inventory List

MOC—Maintenance Operations Center

MOO—Maintenance Operations Officer

MTS—Maintenance Training Section

NAMP—Naval Aviation Maintenance Program

NCOIC – Non-Commissioned Officer in Charge

NDI – Non-Destructive Inspection

OCF—Operational Check Flight

OIC—Officer in Charge

OSP—Optional Screening Point

OTI – One-Time Inspection

PAIR—Production Aircraft Inspection Requirement

PIP—Product Improvement Program

PMA—Portable Maintenance Aid

PMD—Portable Memory Device

PMEL—Precision Measurement Equipment Laboratory

POS—Post Operations Servicing

PPE—Personal Protective Equipment

PRD—Pilot Reported Discrepancy

PS&D—Plans, Scheduling and Documentation

QA—Quality Assurance

QVI—Quality Verification Inspection

RA—Release Authority

RSP—Required Screening Point

SE—Support Equipment

TCTD—Time Compliance Technical Directives

TFOA—Things Falling Off Aircraft

TO—Technical Order

TNB—Tail Number Bin

VD—Voltage Detectors

VMC—Visual Meteorological Conditions

WO—Work Order

WUC—Work Unit Code

WWID—Worldwide Identification

Attachment 22 (Added-33 FW)

AIRCRAFT, ENGINE AND EQUIPMENT IMPOUNDMENT TABLE (USAF)

A22.1. Any aircraft, engine, or equipment reportable incident or unusual occurrence may require impoundment; each event is evaluated on a case-by-case basis. Any aircraft, engine or equipment with the potential for impoundment is treated as such by being placed on impoundment freeze until it is determined by an approved IA that impoundment is not justified. **No** MAs are performed until a determination for impoundment is made by an approved Impoundment Authority.

A22.2. When using the impoundment table "Conditions" column, pay particular attention to keywords; e.g., the use of "in-flight" means that condition only applies to those that occurred in-flight. The absence of keywords mean all conditions apply; e.g. in-flight, on-ground, installed, removed, by aircrew or maintenance personnel. Similarly, when using the "**Notes"** column, carefully read specific conditions typically noted as Includes or Excludes.

Table A22.1. (Added) Mandatory Impoundments.

	Conditions	Notes
1.	**General Mishaps and Incidents (On and Off-Equip)**	
1.1.	When aircraft or equipment is involved in an incident, considered to be a reportable mishap (Class A, B, or C)	- Notify 33 FW Safety Office of incident details - In general, all Class Reportable Mishaps require direct coordination with Interim Safety Board (ISB), Safety Investigation Board (SIB), or Safety Investigation Office (SIO) prior to release by the impoundment release authority
1.2.	Any physiological incident to a rated aircrew member such as, but not limited to: hypoxia, hyperventilation, G-induced loss of consciousness, motion sickness, vertigo, etc.	- Attributable or believed to be aircraft related - See also this table, item 1.1.
1.3.	When there is evidence or suspicion of intentional damage, vandalism, tampering, or sabotage	
1.4.	Aircrew unintended departure from paved surface, runway, taxiway	
1.5.	Suspected Nuclear, Biological, or Chemical Contamination	
1.6.	When an IA directs	
1.7.	When an in-flight fire occurs	- See also this table, item 1.1.
2.	**Flight Controls and Instruments (On-Equip Only)**	
2.1.	Flight control malfunction that results in	- Excludes known interference by

	an un-commanded change in altitude, attitude, heading, or difficulty in maintaining positive control	occupant in rear cockpit, however incident is still a Class-E reportable per this table, item 1.1. - May Require completion of JSF specific checklist for JSFPO evaluation - Includes during landing roll, takeoff or taxi
2.2.	Out-of-control/departure events, to include spins, rolls, and stalls	- Excludes intentionally induced departure - See also this table, item 1.1.
2.3.	Any aircraft not responding to auto fly-up command or warning	- See also this table, item 1.1.
2.4.	Aircraft descends below 75% of set altitude clearance without an auto fly-up command, with fly-up system armed	- See also this table, item 1.1.
2.5.	Non-resettable Flight control malfunction	- Excludes failures during self-test
2.6.	Non-resettable Dual Flight control Fail	- Excludes failures during self-test
2.7.	Loss of all pitot static or all gyro-stabilized instruments or any multiple failure that would result in the total loss of any directional or attitude indications (i.e. total failure of all pitch indications, total failure of all altitude indications, total loss of all heading indications etc.)	- See also this table, item 1.1.
3.	**Environmental (On-Equip Only)**	
3.1.	Suspected oxygen system contamination or unusual odor from oxygen system	
3.2.	Sudden or explosive loss of cabin pressure	- Excludes failure of the cockpit to pressurize during climb-out or slow loss of cabin pressure for environmental bleed air failure -See also this table item 1.2 - See also this table, item 1.1.
4.	**Electrical (On-Equip Only)**	
4.1.	Electrical fire or catastrophic failure of wiring harness or fiber optic cables	- Includes all damage to harnesses from current flow - Excludes abraded or cut harnesses that show little or no evidence of current flow damage - See also this table, item 1.1. - Mandatory deficiency report required per applicable JTD -May require completion of JSF

		specific checklist for JSFPO evaluation
4.2.	Explosive or catastrophic (case rupture) battery failure	
5.	**Airframe General (On-Equip Only)**	
5.1.	Unusual noise or vibration	- Includes installed engines
5.2.	Simultaneous failure of A and B hydraulic systems	- Excludes indication malfunctions - Includes over-pressurization or under-pressurization - See also this table, item 1.1.
5.3.	Structural chemical contamination	- Includes exposures to chemicals such as mercury, hydrazine (see 6.4 and 6.5), and caustic cleaners (i.e. accidental use of Simple Green or Grease Lightning)
5.4.	Fire or evidence of fire or heat damage to aircraft, aircraft components or aircraft structure	- Excludes fires contained in components such as engines or generators that do not effect external components or structures - See also this table, item 1.1.
6.	**Landing Gear, Brakes, Steering (On-Equip Only)**	
6.1.	In-flight failure of any landing gear to fully extend and lock following alternate extension	- Excludes indication malfunctions - See also this table, item 1.1.
6.2.	Landing gear collapse or un-commanded retraction/extension	- See also this table, item 1.1.
6.3.	Unrecoverable brake failure	- Excludes failure for prolonged usage after B-System hydraulic failure - See also this table, item 1.1.
7.	**Engine (Installed Engines Only)**	
7.1.	Loss of thrust or no throttle response	- Exclude expected performance losses for augmenter malfunction, exhaust nozzle position errors, and secondary fuel control (SEC) operation - FCF requirements may apply - See also this table, item 1.1.
7.2.	Stall	- Exclude stalls that occur with throttle in augmenter range - FCF requirements may apply
7.3.	Stagnation or in-flight engine shutdown	- Engine stagnations are NOT

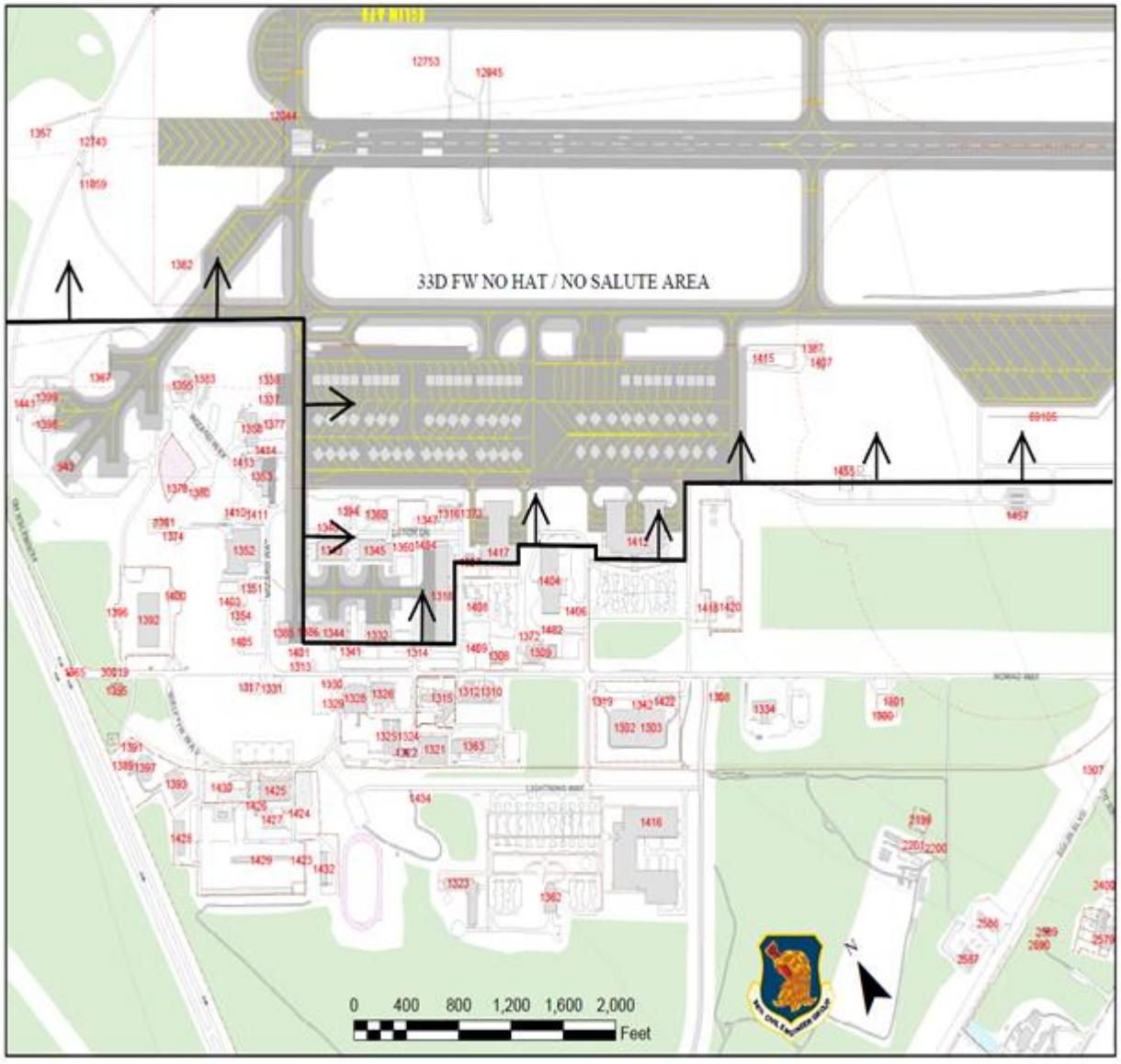
		recoverable and must be shut down and restarted - Exclude under this category any engine that recovers without being shutdown - Include any commanded or un-commanded in-flight engine shutdown - FCF requirements may apply - See also this table, item 1.1.
7.4.	Flameout or die-out.	- FCF requirements may apply - See also this table, item 1.1.
7.5.	**(Installed or Removed Engines)**	
7.5.1.	Case rupture, penetration or burn through	- Exclude damage that does not penetrate the outer engine casing (fan duct case, bypass area case and augmenter case) - See also this table, item 1.1.
7.5.2.	Engine foreign object damage that will necessitate engine removal and teardown for repair	- For installed engines, aircraft is placed on impoundment freeze until determination of repair action. (- If engine must be disassembled for repair, impound the engine **ONLY** and release impound freeze on aircraft for maintenance
7.5.3.	Engine damaged while in transport	- For uninstalled engines damaged in transport, engine is placed on impoundment. Investigation of engine damage will be performed to determine extent of damage and cause
8.	**Aircraft and Equipment General (On and Off-Equip)**	
8.1.	Unusual or unknown fluid system contamination	- Include suspected serious cross-contamination of oil, hydraulic fluid, fuel, with unknown fluids, water, or cleaners etc. - Include contamination of servicing units such as hydraulic carts, nitrogen carts etc. - Include on-aircraft contamination not covered in technical data - Exclude on-aircraft contamination for known malfunctions. Typical contaminants such as hydraulic fluid in fuel, fuel in oil systems,

		metals in filters etc. are known contaminations that occur as the result of normal system failures - Exclude contamination of hydraulic mules for known aircraft system contamination
8.2.	FO in the Cockpit	- Initiate after the initial 1 hour search is complete and the FO was not recovered.

Attachment 23 (Added-33 FW)

33 FW NO HAT/COVER/NO SALUTE AREA

Figure A23.1. (Added) 33 FW No Hat/Cover/No Salute Area.



Attachment 24 (Added-33 FW)

WORK CENTER WWID NUMBERS

Figure A24.1. Work Center WWID Numbers.

OFFICE SYMBOL	FLIGHT	WWID NUMBERS
MXG		
MXQA	QA	EDQA
MXL	WEAPONS STANDARDIZATION	EDLC
MXOT	TRAINING	EDTH
MXS		
MXM	PRODUCTION	EDMS
MXMG	AGE	EDMG
MXMCG	EGRESS	EDME
MXMCF	FUELS	EDMF
MXMFM	METALS TECH	EDMM
MXMFS	LO	EDMX
MXMFN	NDI	EDMN
MXMMT	TIRE SHOP	EDMT
MXMM	PHASE	EDMP
AMXS		
MXAAF	58 AMU	EDB1
372 TRS		
TD	DET 19	EDFTD

Attachment 25 (Added-33 FW)

33 FW RAMP/FOD WALK AREAS OF RESPONSIBILITY

Figure A25.1. (Added) 33 FW Ramp/FOD Walk Areas of Responsibility.

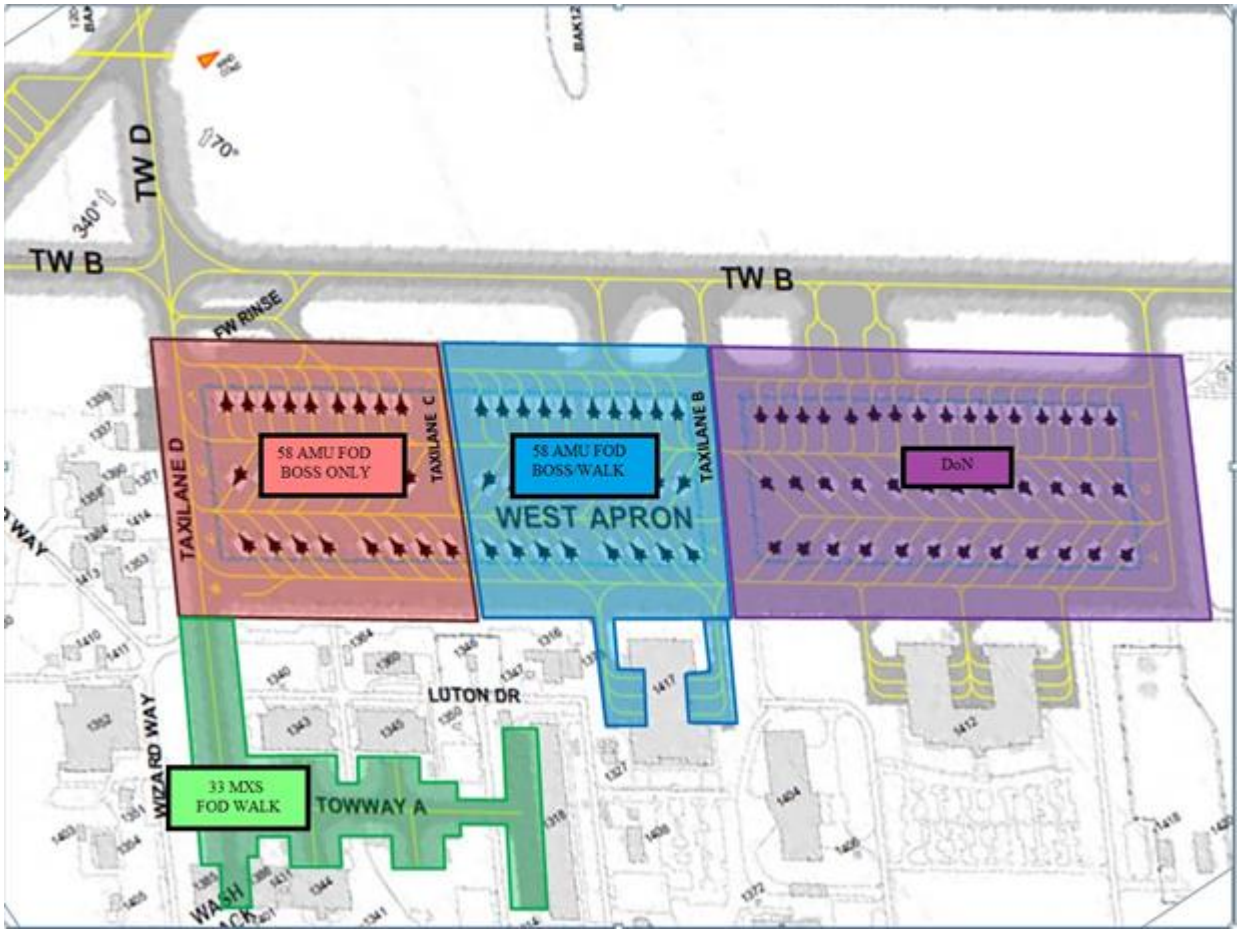


Figure A25.2. (Added) 33 MXS FOD Walk Areas of Responsibility.