

**BY ORDER OF THE COMMANDER  
916TH AIR REFUELING WING**

**916TH AIR REFUELING WING  
INSTRUCTION 21-101**



**3 FEBRUARY 2012**

*Incorporating Change 1, 25 MAY 2016*

***Maintenance***

**MAINTENANCE INVESTIGATIONS AND  
IMPOUNDMENTS**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

---

**ACCESSIBILITY:** Publications and forms are available for downloading or ordering on the e-Publishing website at [www.e-Publishing.af.mil](http://www.e-Publishing.af.mil).

**RELEASABILITY:** There are no releasability restrictions on this publication.

---

OPR: 916 MXG/MXQ

Certified by: 916 MXG/CC  
(Colonel Gregory D. Halen)

Supersedes: 916ARWI21-101,  
17 August 2009

Pages: 6

---

This instruction implements Air Force Policy Directive (AFPD) 21-1, *Manage Aerospace Equipment Maintenance*. This instruction extends the guidance of Air Force Instruction (AFI) 21-101, *Aircraft and Equipment Maintenance Management*, Air Force Instruction (AFI)-91-204, *Safety Investigations and Reports*, and Technical Order (TO) 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*. It outlines the procedures and responsibilities for Maintenance Investigations and Impoundment. It is applicable to all personnel performing maintenance on 916th Air Refueling Wing (ARW) aircraft or equipment. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force Information Management Tool (AF IMT) 847, *Recommendation for Change of Publication*. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://afrims.amc.af.mil/>.

**SUMMARY OF CHANGES**

This interim change updates a multitude of outdated references listed throughout the 916ARWI21-101, as well as references in **Attachment 1**. Additionally, the certifier and approval authority have been changed.

**1. General.**

1.1. Investigation – Conduct an investigation to find the cause of mishap in order to take preventive action. During the investigation, findings, and recommendations of significance may be identified and the equipment or aircraft may be impounded.

1.2. Impoundment – The isolation or control of access to an aircraft or equipment item and applicable historical records so an intensified investigation can be completed.

1.3. Aircraft, Age Equipment, Booms, Auxiliary Power Unit, and other items can be impounded.

## **2. Mandatory Impoundment.**

2.1. In addition to the minimum impoundment conditions outlined in AFI 21-101, the following are mandatory impoundment conditions:

2.1.1. Any malfunction that results in un-commanded change in attitude, altitude, or heading is unresponsive to pilot input or has a chronic flight control malfunction. If a problem stops when the pilot deactivates the Automatic Flight Control System, impoundment is not required.

2.1.2. Flight control surface lockup.

2.1.3. Any loss of throttle controls.

2.1.4. Total electrical failure.

2.1.5. Repeat condition after first impoundment.

2.1.6. Any discrepancy in the judgment of the senior maintenance supervisors resulting in a compromise of the aircraft's airworthiness, contaminated fuel, abnormal landing gear operation, safety of flight, or Foreign Objects Damage (FOD) incidents.

2.1.7. Aircraft system contamination: All equipment associated with the contaminated system (for example: fuel, oil, hydraulics, or gaseous oxygen) will be impounded.

2.1.8. If an aircraft is suspected of having contaminated fuel, all associated equipment in use will be ceased and aircraft will be grounded. Identify the source of the containment and inform the appropriate authority. If contaminated fuel was transferred to another aircraft, notify the receiving unit. All aircraft will be grounded until the source of the contamination is confirmed and all aircraft are verified to be free of contaminated fuel.

2.1.9. Consider impounding when a depot team or engineering assist is requested and dispatched to troubleshoot or repair assigned aircraft.

## **3. Reportable, But Not Mandatory Impoundment.**

3.1. The following items are reportable and will generate a 916 ARW Form 3, *Aircraft Incident Investigation*:

3.1.1. Engine flameout, failure, or emergency shut down after completing a normal start. Maintenance runs are not reportable.

3.1.2. Simultaneous loss of more than one multi-function display.

3.1.3. Smoke or fumes in aircraft where the crew performed any part of the emergency checklist.

3.1.4. If the aircraft ground aborts after the aircrew takes possession of the aircraft and the aircraft does not fly because of maintenance related problem.

3.1.5. Any discrepancy in the judgment of the senior maintenance supervisors that will require closer examination or maintenance tracking.

#### **4. Responsibilities.**

4.1. The 916th Maintenance Group Commander (MXG/CC) or designated representative is the Impoundment Authority and has the overall responsibility for impoundment and release of aircraft and equipment.

4.2. The Maintenance Group Quality Assurance (MXG/QA) office is the liaison for the 916 MXG/CC. Quality Assurance will provide assistance to the impoundment official and maintenance team leader with their duties during the impoundment. The Maintenance Operation Center (MOC) will supply all impoundment checklists and forms.

#### **5. Procedures.**

5.1. MOC will:

5.1.1. Immediately notify the production superintendent if an aircrew debriefs a malfunction that may require an impoundment per this instruction and will notify Quality Assurance of a pending impoundment.

5.1.2. Suspend further debriefing action until the required specialists arrive.

5.1.3. Initiate a 916 ARW Form 3, Aircraft Incident Investigation, and immediately route to the MXG/CC or designee for review for determination as to whether the aircraft or equipment will be impounded or not.

5.1.4. If the aircraft is impounded, load current impoundment package into GO81 using screen 9001, and lock/unlock screen 9012 per impoundment official.

5.1.5. Contact Plans and Scheduling to ensure aircraft jacket file or equipment history is secured, if required.

5.1.6. Provide impoundment forms and checklist for the effected aircraft or equipment records.

5.2. The Impoundment Authority will:

5.2.1. Determine whether to impound the aircraft or equipment.

5.2.2. Appoint an Impoundment Official who is responsible for directing the investigation of the impoundment discrepancy.

5.2.3. Inform MOC of the name and rank of the Impoundment Official.

5.2.4. Release the aircraft from impoundment when the aircraft or equipment discrepancy has been fully investigated and repaired.

5.2.5. Notify 916th Wing Safety Office (SE), if required.

5.3. In addition to the requirements in AFI 21-101, the Impoundment Official will:

5.3.1. Use the Impoundment Official Checklist obtained from MOC.

- 5.3.2. Limit maintenance actions to those required making the aircraft or equipment safe. All maintenance actions will be at the discretion of the Impoundment Official.
- 5.3.3. Ensure a chronological log is maintained. This will include, but is not limited to tests, results, actions performed, and who performed them. In accordance with AFI 21-101 AFRC Sup1 Log requirements.
- 5.3.4. Ensure that aircraft is refueled to the standard ramp load. If fuel problems or contamination is suspected, suspend refueling and coordinate with production superintendent to have aircraft towed into a hangar.
- 5.3.5. Enter a Red X in the aircraft or equipment forms stating that the Aircraft or equipment is impounded and the nature of the problem.
- 5.3.6. Enter a Red Dash and the following statement, "Aircraft forms and chronological log review required by Quality Assurance prior to impoundment release".
- 5.3.7. Enter the following note, "NOTE: Troubleshooting, repair, and/or inspection actions of any nature are prohibited without approval of Impoundment Official".
- 5.3.8. Isolate the aircraft or equipment and highlight using cones, ropes, tags, and signs.
- 5.3.9. Document on the impoundment checklist; the name, organization, and phone number of the individual who discovered the impoundment discrepancy associated with the aircraft or equipment, aircraft commander, and maintenance technician.
- 5.3.10. Coordinate with MOC to obtain a block of job control numbers for impoundment related maintenance and for unlocking and locking of aircraft forms in GO81 for required documentation of impoundment related maintenance.
- 5.3.11. Forward the equipment forms or aircraft forms binder, chronological log, and any related maintenance documentation concerning the impoundment through Quality Assurance prior to going to the 916 MXG/CC.

#### 5.4. Impoundment Team:

- 5.4.1. Team composition will be determined by the Impoundment Official. Flight control malfunctions will be handled with special care. A dedicated flight control team may be assigned by the Impoundment Official to troubleshoot and investigate the problem.
- 5.4.2. The team members will ensure all work and troubleshooting is documented to show sequence of actions. This information will be presented to the Impoundment Official.

#### 5.5. Quality Assurance will:

- 5.5.1. Provide assistance to the impoundment official with their impoundment duties and responsibilities.
- 5.5.2. Report impoundment integrity violations to the impoundment official and squadron supervision.
- 5.5.3. Monitor the investigation to ensure proper procedures are being followed.

5.5.4. Assist the impoundment official in obtaining technical or engineering assistance upon request.

5.5.5. Maintain completed copies of impoundment checklist, chronological log, and 916 ARW Form 3 for one year.

5.5.6. Review the chronological log, equipment forms, or aircraft forms for corrective actions and form documentation prior to the impoundment release.

**6. Aircraft impounded at an off-base location.**

6.1. The primary or lead crew chief will notify Command Post during non-duty hours of the condition requiring the impoundment and provide daily updates about the status of the investigation. Command Post will notify the following offices as appropriate: 916th Air Refueling Wing Commander, 916th Maintenance Group Commander, 916th Maintenance Group Quality Assurance Office and 916th Air Refueling Wing Safety Office.

6.2. Where the Impoundment Authority is not available, the senior crew chief may act as the Impoundment Official and complete provisions covered within this instruction. They must have the concurrence of the Impoundment Authority for release of aircraft from impoundment.

6.3. The Impoundment Official will brief the Impoundment Authority on aircraft troubleshooting and corrective actions. They will recommend one of the following:

6.3.1. Continued impoundment with request for additional support.

6.3.2. Conditional release of the aircraft, contingent upon a successful operational check flight or taxi check. The primary or lead crew chief will follow the guidance of Technical Order 00-20-1, *Aerospace Equipment Maintenance Inspection Documentation*.

6.3.3. Full release of impounded aircraft.

█ \*CRAIG B. SHENKENBERG, Colonel, USAFR  
Commander

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 21-1, *Air and Space Maintenance*, 25 February 2003

AFI 21-101, *Aerospace Equipment Maintenance Management*, 21 May 2015

AFI 21-101 AFRCSup-1, *Aerospace Equipment Maintenance Management, Air Force Reserve Command Supplement*, 24 August 2015

AFI 91-204, *Safety Investigations and Reports, Aircraft and Equipment Management*, 10 April 2014

AFI 91-204 AFRC Supplement, *Safety Investigations Reports*, 24 June 2015

AFMAN 33-363, *Management of Records*, 9 April 2015

Technical Order 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures. Basic*, 15 June 2013

Technical Order 00-20-1 AFRC Sup 1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures. Basic*, 15 June 2013

***Prescribed Forms***

916 ARW Form 3, *Aircraft Incident Investigation*

***Adopted Forms***

AF IMT 847, *Recommendation for Change of Publication*

***Abbreviations and Acronyms***

**ARW**—Air Refueling Wing

**CC**—Commander

**MOC**—Maintenance Operation Control

**MXG**—Maintenance Group

**MXQ**—Maintenance Quality Assurance

**QA**—Quality Assurance

**SE**—Chief of Safety