

**BY ORDER OF THE COMMANDER
507TH AIR REFUELING WING**

**AIR REFUELING WING INSTRUCTION
21-108**



5 SEPTEMBER 2013

Maintenance

**FUNCTIONAL CHECK FLIGHT/
OPERATIONAL CHECK FLIGHT
PROCEDURES**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction establishes procedures, assigns responsibilities, and outlines actions pertaining to the Functional Check Flight/Operational Check Flight (FCF/OCF) program and high speed taxi procedures. It is used in conjunction with AFI 21-101 and AFI 21-101/AFRC Sup 1, *Aerospace Equipment Maintenance Management*; Technical Order (T.O.) 1-1-300, *Acceptance/Functional Check Flight and Maintenance Operational Checks*; and AFI 11-2KC-135V3, *C/KC-135 Operations Procedures*. This instruction applies to all 507 ARW organizations responsible for scheduling, supporting, or conducting Functional/Operational Check Flights. It applies to all 137 MXG and 137 OG personnel who maintain or operate ARC-Associated aircraft, systems, and equipment during periods of duty at (or off station from) Tinker AFB. References to an organization, group, or squadron, (i.e. OG, MXG, AMXS...) refer to both the 507 ARW and 137 ARW as appropriate. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afrims/afrims/afrims/rims.cfm>. See **Attachment 1** for a glossary of references and supporting information.

SUMMARY OF CHANGES

This is a new publication and must be thoroughly reviewed. It contains language that has been removed from Chapter 8 of AFI 21-101 AFRC Supplement 1 507ARW Supplement 1.

1. General

1.1. Functional Check Flights (FCF) / Operational Check Flights (OCF) are performed when required by T.O. 1C-135-6, *Aircraft Scheduled Inspection and Maintenance Requirements*, Section II, Part C. They may be conducted after maintenance actions when required by Time Compliance Technical Order (TCTO), when deemed appropriate by the Maintenance Group Commander (MXG/CC), or when airworthiness cannot be determined by ground maintenance checks.

1.2. Functional Check Flights are rarely performed by KC-135 field units; Operational Check Flights are more common. For the purposes of this instruction, OCF will be used for brevity and will be construed to mean FCF when appropriate.

1.3. The MXG/CC and OG/CC jointly share responsibilities for managing the OCF program. OG Standardization and Evaluation (OG/OGV) and Maintenance Quality Assurance (MXG/MXQ) will be the Offices of Primary Responsibility for their respective groups. Active participation from all involved will be necessary to ensure effective management of the OCF program.

1.4. OGV will determine if training may be conducted or scheduled mission continued upon successful completion of the OCF sortie requirement. The configuration (as required), fuel load, and sortie profile will be determined NLT the day prior and annotated in the Remarks section of the schedule.

1.5. When requested by the MXG and approved by the OG/CC (or designated representative), maintenance technicians may fly with the airplane as Mission Essential Personnel (MEP). MXG will provide information to the appropriate Squadron Aviation Resource Management (SARM) office IAW AFI 11-401. MEP will wear a military uniform and meet AFI 36-2903, *Dress and Appearance of Air Force Personnel*, standards prior to the flight. Technicians from the Hydraulic Shop (MXS or AMXS) should be scheduled any time an OCF involves the Air Refueling Boom.

2. OCF Scheduling Procedure

2.1. The performing MXS or AMXS workcenter will notify the Quality Assurance (QA) office when the need for an OCF arises. Provide the tail number and the reason for the OCF.

2.2. The QA OCF Manager (or alternate) will validate the condition requiring the OCF and will contact Operations Scheduling to request scheduling of the OCF. This request will be made via E-Mail no earlier than 48 hours prior to the intended flight. The request will be used to coordinate the following offices:

2.2.1. OG and ARS Commanders, (or designated representative)

2.2.2. Standardization/Evaluation (OGV) (Pilot and Boom),

2.2.3. Pilot Scheduling (DOP),

2.2.4. Chief, Air Refueling Operations (DOB),

2.2.5. Mission Development / Current Operations (OSO),

2.2.6. Maintenance Plans and Scheduling (MXOOS),

2.2.7. Maintenance Production Superintendent (MXA),

2.2.8. Other offices as the situation dictates.

2.3. After all parties have been coordinated; Operations Scheduling will add a line to GDSS2 showing the OCF and issue an AF Form 2407, *Flying Schedule Coordination*, using the 507ARW.2407@tinker.af.mil functional address.

2.4. Maintenance Plans, Scheduling & Documentation (PS&D) will then enter the affected tail number into the line in GDSS2.

3. Maintenance Quality Assurance – The QA OCF Manager will:

3.1. Review all aircraft maintenance documents for accuracy and enter the OCF discrepancy into the AFTO Form 781A, *Maintenance Discrepancy and Work Document*. Example verbiage for the entry could be, “OCF Required Due To [maintenance action]”.

3.2. Make an entry in G081 and provide the Production Superintendent or Expeditor with the Job Control Number (JCN).

3.3. Develop an OCF checklist appropriate to the system/component being checked. Use the checklist to conduct the aircrew OCF briefing, outlining all the requirements and procedures to be performed.

3.4. Review the weight & balance documents to ensure all required entries are completed, and that the computed basic weight and moment from the AF Form 4100 matches that shown on the Chart C. Ensure the airplane configuration matches that represented by the AF 4100. OCFs are normally flown with a Training configuration; however, if the airplane is loaded per a different loadplan, do not reconfigure solely for the purpose of the OCF.

3.5. Be present during the aircrew post-flight debriefing and gather all needed information to report on the flight. Enter this information into the QANTTAS OCF Module in lieu of an AF Form 2400, *Functional Check Flight Log*.

3.6. Clear G081 entry, if the aircraft has been released.

3.7. Route completed, signed OCF checklist to PS&D for inclusion in the aircraft’s jacket file.

4. Performing Work Center – The shop requesting the OCF will:

4.1. Ensure all operational checks and follow-on maintenance required by technical data has been completed prior to flight.

4.2. Have a representative present during the aircrew OCF briefing, and at the post-flight debriefing. Personnel flying as MEP should be the ones attending the briefings.

5. Aircraft Maintenance Squadron – Maintainers will:

5.1. Ensure the required inspection per T.O. 1C-135-6WC-1 is completed and service/configure the airplane as required.

5.2. Review the aircraft forms and ensure no open discrepancies exist affecting the airworthiness of the aircraft and system requiring the OCF. Bring the forms binder to the OCF aircrew briefing.

6. OCF Sortie Procedures – Aircraft Commanders will:

6.1. Ensure the OCF is planned for suitable airspace providing adequate altitude blocks and

maneuvering room. (Ref: AFI 11-2KC-135V3, 507OG and 137OG Supplements respectively for OCF areas)

6.2. Ensure all required crewmembers attend the OCF briefing conducted by MXG/QA, normally two hours prior to scheduled take off time. This briefing may be held in conjunction with the normal preflight aircrew briefing for convenience.

6.3. After flight:

6.3.1. Sign off the OCF entry in the aircraft forms IAW T.O. 00-20-1. Verbiage will indicate if the airplane is Released, Conditional Released, or Not Released for further flight.

6.3.2. Create additional entries if needed to document defects from the flight.

6.3.3. Complete all applicable portions of the OCF checklist as required. Return the completed OCF checklist to MXG/QA during debrief.

6.3.4. The entire OCF aircrew will attend the MXG/QA flight debriefing. Required systems specialists should also be in attendance.

7. Releases

7.1. OCF releases will be IAW AFI 21-101, paragraph 8.16.6.

8. High Speed Taxi

8.1. High speed taxi checks will not be performed. When any checkout is requested, the maintenance actions will be reviewed to determine whether an OCF is necessary to provide validation of functionality, or if an inflight operational check of the affected system may be completed during the next scheduled sortie. Appropriate Operational Risk Management (ORM) guidelines will be followed.

RUSSELL A. MUNCY, Colonel, USAFR
Commander

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

AFI 11-401, *Aviation Management*, December 10, 2010

AFI 11-401 AFRC Sup 1, *Aviation Management*, March 1, 2005

AFI 11-2KC 135V3, *C/KC-135 Operations Procedures*, September 18 2008

AFI 13-201, *Airspace Management*, August 21, 2012

AFI 13-201 AFRC Sup 1, *Airspace Management*, August 21, 2012

AFI 21-101, *Aerospace Equipment Maintenance Management*, July 26, 2012

AFI 21-101 AFRC Sup 1, *Aerospace Equipment Maintenance Management*, January 13, 2011

AFI 21-101 507 ARW Sup, *Aerospace Equipment Maintenance Management*, March 20, 2013

T.O. 00-20-1, *Aerospace Equipment Maintenance General Policy and Procedures*, April 1, 2013

T.O. 00-20-1 AFRC Sup 1, *Aerospace Equipment Maintenance General Policy and Procedures*, April 18, 2013

T.O. 1-1-300, *Acceptance/Functional Check Flight and Maintenance Operational Checks*, March 15, 2012

T.O. 1C-135-6, *Aircraft Scheduled Inspections and Maintenance Requirements*, August 1, 2006

T.O. 1C-135-6CF-1, *Acceptance/Functional Check Flight Procedures Manual*, July 1, 2012

Adopted Forms

AF Form 2407, *Flying Schedule Coordination*

AFTO Form 781A, *Maintenance Discrepancy and Work Document*

AF Form 4100, *KC-135 Load Planning Worksheet*

Abbreviations and Acronyms

AFRC—Air Force Reserve Command

AFSC—Air Force Specialty Code

AMXS—Aircraft Maintenance Squadron

ARS—Air Refueling Squadron

ARS/CC—Air Refueling Commander

FCF—Functional Check Flight

JCN—Job Control Number

MEP—Mission Essential Personnel

MOA—Military Operations Area

MXG/CC—Maintenance Group Commander

MXG/MXQ—Maintenance Quality Assurance

MXS—Maintenance Squadron

NLT—No Later Than

OCF—Operational Check Flight

ORM—Operational Risk Management

OG/CC—Operations Group Commander

OGV—Standardization/Evaluation

PS&D—Plans, Scheduling & Documentation

QANTTAS—Quality Assurance Tracking and Trend Analysis System

SARM—Squadron Aviation Resource Management

TRP—Training Review Panel