

**BY ORDER OF THE COMMANDER  
MACDILL AIR FORCE BASE**

**MACDILL AIR FORCE BASE INSTRUCTION  
21-105**



**18 DECEMBER 2013**

**MAINTENANCE**

**FUNCTIONALCHECK FLIGHT  
(FCF)/OPERATIONAL CHECK FLIGHT  
(OCF) AND HIGH SPEED TAXI CHECK  
(HSTC) PROGRAMS**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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Certified by: 6 MXG/CC  
(Colonel Barry Roeper)

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This instruction implements AFI 21-101, Aircraft and Equipment Maintenance Management. This instruction establishes procedures, assigns responsibilities, and outlines actions pertaining to the Functional Check Flight (FCF)/Operational Check Flight (OCF) and High Speed Taxi Check (HSTC) programs. All actions involving the 6/927th Operations Group (6/927 OG) have been coordinated with and approved by the 6/927 OG Commander (6/927 OG/CC).

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 Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afirms/afirms/afirms/rims.cfm>. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, Recommendation for Change of Publication; route AF Forms 847 from the field through the appropriate chain of command.

**SUMMARY OF CHANGES**

This document has been substantially revised and must be completely reviewed. Major changes include: updates reference of Technical Orders (T.O.) 1C-135A-6 converting to T.O. 1C-135-6, Aircraft Scheduled Inspection and Maintenance Requirements, throughout, deletes paragraph 3.

and 4. which contained duplicate information. A bar ( | ) indicates a revision from the previous edition.

## 1. Responsibilities.

1.1. The 6th Maintenance Group Commander (6 MXG/CC) and 6 OG/CC have joint responsibility for the effective management of the FCF/OCF and HSTC programs. The Maintenance and Operations communities will work closely together in planning and conducting unit-level FCF/OCF and HSTCs.

1.2. The maintenance focal point for FCF/OCF and HSTC matters is Quality Assurance (QA). The operations focal point for FCF/OCF and HSTC matters is the FCF Officer in Charge (OIC), designated here as the 6/927 Operations Group Standardization and Evaluation Office (6/927 OG/OGV). QA and OG/OGV will work closely together to ensure the FCF/OCF and HSTC are performed safely and by the most qualified aircrew available.

1.3. When an FCF/OCF or HSTC is requested; OG/OGV with proper coordination will decide if a Stan/Eval (or other suitably qualified) aircrew should accomplish the FCF/OCF or HSTC. High-speed taxi checks will be accomplished with qualified FCF aircrews and accomplished with applicable aircraft Dash 1 series publications and maintenance T.O.s.

## 2. Procedures.

2.1. FCF/OCF will be accomplished in accordance with the following T.O.s: T.O. 1-1-300, Acceptance/Functional Check Flight and Maintenance OPR Checks; T.O. 1C-135-6, Aircraft Scheduled Inspection and Maintenance Requirements; applicable Mission Design Series (MDS) 1C-135(K)R(1)-1, Flight Manual KC-135R/T; 1C-135(K)R(1)-6CF-1, -135 Acceptance and/or Functional Check Flight Procedures Manual; 1C-135(K)R(1)-6CL-1, -135 Pilot Acceptance and/or Functional Check Flight Checklist; 1C-135(K)R(1)-6CL-2, -135 Navigator Acceptance and/or Functional Check Flight Checklist; 1C-135(K)R(1)-6CL-3, -135 Boom Operator Acceptance and/or Functional Check Flight Checklist.

2.2. FCF/OCF will be performed upon completion of maintenance/repair actions (i.e., Cannibalizations (CANN)) where the owning squadron (6/927th Aircraft Maintenance Squadron /6/927th Maintenance Squadron (6/927 AMXS/6/927 MXS)) supervision deems an FCF/OCF is appropriate and the 6/927 MXG/CC or designated representative signs the FCF/OCF recommendation letter (Attachment 1). Check Flights and HSTCs will be performed during daylight hours under visual meteorological conditions. Configure aircraft with the minimum fuel practical to accomplish high-speed taxi checks to minimize brake and tire wear. Aircrews performing high-speed taxi checks will compute takeoff data. All aircraft forms entries will be documented in accordance with T.O. 00-20-1, Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures. **NOTE:** Ensure enough fuel is onboard to execute a takeoff, a normal radar pattern, and landing with applicable reserves should unexpected circumstances require takeoff.

2.3. The AMXS Production Superintendent and/or the MXS Production Superintendent will:

2.3.1. Notify the 6/927th Maintenance Plans, Scheduling and Documentation (6/927 PS&D) and QA of the requirement for an FCF/OCF or HSTC, providing them with the aircraft type and reason for the FCF/OCF or HSTC requirement.

2.3.2. Ensure required personnel and aircraft transcribed forms are readily available for review by the FCF/OCF and HSTC, QA program manager, and aircrew at the designated time and place for the FCF/OCF or HSTC prior-to-flight aircrew briefing.

2.3.3. Ensure the appropriate specialists attend crew debriefings after FCF/OCF flights or HSTC.

2.4. PS&D will:

2.4.1. Confirm the need for the FCF/OCF or HSTC, notify Operations Scheduling, provide them with the aircraft type and tail number, and request a time and place for the FCF/OCF or HSTC aircrew briefing.

2.4.2. After receiving this information, notify QA of the time and place for the FCF/OCF or HSTC prior-to-flight aircrew briefing.

2.5. QA will:

2.5.1. Validate that the existing condition requires an FCF/OCF or HSTC. After confirmation, coordinate with OG/OGV the requirements to be performed during the FCF/OCF or HSTC and prepare the FCF/OCF checklist MACDILLAFB Form 105. Prior to FCF/OCF crew briefing, review aircraft AFTO 781-series forms, Maintenance Discrepancy and Work Document, for all corrective/completed actions and place a preprinted copy of AFTO 781A (Attachment 2) in the aircraft forms binder.

2.5.2. Meet with FCF/OCF/HSTC aircrew at the scheduled time and place for the prior-to-flight aircrew briefing.

2.5.3. Notify representatives (AMXS Supervision, Pro-Super, or Crew Chief) from the organization with aircraft ownership of the time and place of the FCF/OCF/HSTC prior-to-flight aircrew briefing.

2.5.3.1. Owing aircraft organization will ensure maintenance personnel are immediately available to answer aircrew questions such as discrepancy and corrective actions for the condition(s) requiring the FCF/OCF/HSTC.

2.5.4. Brief and explain the purpose of the FCF/OCF or HSTC using the FCF/OCF/HSTC Briefing/Debriefing Worksheet MACDILLAFB Form 105 or MACDILLAFB Form 106 (Located at <http://www.e-publishing.af.mil/>) with the aircraft commander and aircrew. Discuss previous maintenance problems and discrepancies corrected on the aircraft, system, and/or equipment relating to the FCF/OCF/HSTC.

2.5.5. Review the aircraft primary Weight and Balance (W&B) Handbook.

2.5.6. Maintain an aircraft FCF/OCF file. As a minimum, this file will include:

2.5.6.1. AF Form 2400, Functional Check Flight Log, for FCFs only.

2.5.6.2. AF Form 4327A, Crew Flight Authorization (FA).

2.5.6.3. Aircrew Functional Check Flight Certifications letter designating aircrew members will be approved by the OG/CC to perform FCFs and HSTC.

2.5.7. Send a copy of the AF Form 2400 and any other appropriate FCF documents to PS&D for filing in the aircraft jacket file (applies to FCFs only).

2.5.8. Attend aircrew debriefing after FCF/OCF flights or HSTC and ensure the FCF/OCF Brief-in/Debriefing Worksheet MACDILLAFB Form 105 or MACDILLAFB Form 106 (Located at <http://www.e-publishing.af.mil/>) is filled out properly.

2.6. OG/OGV will:

2.6.1. Be involved with, coordinate and work closely with QA and maintenance to ensure an effective FCF/OCF and HSTC program. Actively promote safety and standardization in the unit FCF/OCF and HSTC program.

2.6.2. Upon request, provide ORM and crew suitability recommendations to the OG/CC to assist in determining the most highly qualified individuals. The 91/63 Air Refueling Squadron, Scheduling Office (91/63 ARS/DOS) will provide QA a copy of the AF Form 4327A (Flight Authorization) upon request for the FCF file (applies to FCFs and HSTC).

2.6.3. Coordinate any locally developed FCF/OCF/HSTC checklists, policies, and procedures with QA. If required, OG/OGV will recommend a suitable mission profile.

2.6.4. Review any locally developed FCF/OCF/HSTC checklists in accordance with TO 1-1-300 annually.

2.7. 6/927th Operations Support Squadron, Current Operations Flight (6/927 OSS/OSO), will:

2.7.1. Once notified of the requirement for a FCF/OCF or HSTC, coordinate with QA to determine FCF/OCF or HSTC requirements.

2.7.2. Schedule the FCF/OCF mission to include flight duration, fuel load, and appropriate qualified aircrew. Notify PS&D of the FCF/OCF mission and coordinate mission timing.

SCOTT V. DETHOMAS, Colonel, USAF  
Commander, 6 AMW (AMC)

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

AFI 21-101, Aircraft and Equipment Maintenance Management, 26 July 2010

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

AFMAN 33-363, Management of Records, 1 March 2008

00-20-1, Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures 15 June 2011

1-1-300, Acceptance/Functional Check Flight and Maintenance OPR Checks 15 March 2012

1C-135-6; Aircraft Schedule Inspection and Maintenance Requirements 13 Sep 2012

1C-135(K)R-1-1, Flight Manual KC-135R/T 01 APR 2012

1C-135(K)R(1)-6CF-1, -135 Acceptance and/or Functional Check Flight Procedures Manual 1 JULY 2012

1C-135(K)R(1)-6CL-1, -135 Pilot Acceptance and/or Functional Check Flight Checklist 1 JULY 2012

1C-135(K)R(1)-6CL-2, -135 Navigator Acceptance and/or Functional Check Flight Checklist 1 JULY 2012

1C-135(K)R(1)-6CL-3, -135 Boom Operator Acceptance and/or Functional Check Flight Checklist 1 JULY 2012

***Prescribed Forms***

MACDILLAFB FORM 105

MACDILLAFB FORM 106

***Adopted Forms***

AF Form 2400, *Functional Check Flight Log*

AF Form 4327A, *Crew Flight Authorization (FA)*

AFTO 781A, *Maintenance Discrepancy and Work Document*

***Abbreviations and Acronyms***

**AMXS**—Aircraft Maintenance Squadron

**MXG/CC**—Maintenance Group Commander

**MXS**—Maintenance Squadron

**OG**—Operations Group

**OG/CC**—Operations Group Commander

**OG/OGV**—Operations Group Standardization and Evaluation Office

**OSS/OSO**—Operations Support Squadron, Current Operations Flight

**PS&D**—Maintenance Plans, Scheduling and Documentation

**ARS/DOS**—Air Refueling Squadron, Scheduling Office **CANN**—Cannibalizations

**FCF**—Functional Check Flight

**HSTC**—High Speed Taxi Check

**MDS**—Mission Design Series

**OCF**—Operational Check Flight

**OIC**—Officer in Charge

**OPR**—Office of Primary Responsibility

**QA**—Quality Assurance

**RDS**—Records Disposition Schedule

**W & B**—Weight and Balance

Attachment 2

FCF/OCF RECOMMENDATION LETTER

MEMORANDUM FOR: 6 MXG/MXQ  
FROM: REQUESTING UNIT: \_\_\_\_\_  
SUBJECT: FCF/OCF

1. The following discrepancy(ies) was discovered on KC-135, serial number  
\_\_\_\_\_  
\_\_\_\_\_.

2. Corrective action(s) taken:  
\_\_\_\_\_  
\_\_\_\_\_

FCF is/is not recommended for the above discrepancy and corrective action. OCF is/is not recommended for the above discrepancy and corrective action.

Printed Name: \_\_\_\_\_  
Signature: \_\_\_\_\_

1st Ind, 6 MXG/MXQ TO:  
6 MXG/CCC Approved/Disapproved  
Printed Name: \_\_\_\_\_  
Signature: \_\_\_\_\_

2d Ind, 6 MXG/CCC TO:  
6 MXG/CC Approved/Disapproved  
Printed Name: \_\_\_\_\_  
Signature: \_\_\_\_\_

3d Ind, 6 MXG/CC TO:  
6 MXG/MXQ Approved/Disapproved  
Printed Name: \_\_\_\_\_  
Signature: \_\_\_\_\_

**Attachment 3**

**PREPRINTED AFTO FORM 781A**

**Figure A3.1. PREPRINTED AFTO FORM 781A (page 1).**

DATE FROM: _____ TO _____		MDS:KC135R	SERIAL NUMBER: _____		PAGE ____ OF ____ PAGES	
SYM	JCN	DATE EISC	INFORMATION OR DOC NUMBER	CF 781A	XF 781K	DATE CORRECTED
---	7290		FCF/OCF PACKAGE	<input type="checkbox"/>	<input type="checkbox"/>	
WUC/REF DESIGNATOR 01000		FAULT CODE	STA CODE	CORRECTIVE ACTION		
DISCREPANCY						
MXGQA FCF / OCF REQUIRED FOR COMPLETION OF:						
I.A.W. TO 1-1-300 AND 1C-135A-6						
SEE PAGE _____ BLOCK _____						
DATE FROM _____ TO _____						
DISCOVERED BY (PRINT)			EMPLOYEE NO	INSPECTED BY		EMPLOYEE NO
SUPPLY DOC NBR UJC PART NUMBER NOMENCLATURE QTY			SUPPLY DOC NBR UJC PART NUMBER NOMENCLATURE QTY			
SYM	JCN	DATE EISC	INFORMATION OR DOC NUMBER	CF 781A	XF 781K	DATE CORRECTED
---	7291		FCF/OCF PACKAGE	<input type="checkbox"/>	<input type="checkbox"/>	
WUC/REF DESIGNATOR 01000		FAULT CODE	STA CODE	CORRECTIVE ACTION		
DISCREPANCY						
MXGQA QA / AIRCREW FORMS REVIEW DUE PRIOR TO FCF / OCF						
FLIGHT						
CORRECTED BY _____ EMPLOYEE NO _____						
DISCOVERED BY (PRINT)			EMPLOYEE NO	INSPECTED BY		EMPLOYEE NO
SUPPLY DOC NBR UJC PART NUMBER NOMENCLATURE QTY			SUPPLY DOC NBR UJC PART NUMBER NOMENCLATURE QTY			
SYM	JCN	DATE EISC	INFORMATION OR DOC NUMBER	CF 781A	XF 781K	DATE CORRECTED
---	7292		FCF/OCF PACKAGE	<input type="checkbox"/>	<input type="checkbox"/>	
WUC/REF DESIGNATOR 01000		FAULT CODE	STA CODE	CORRECTIVE ACTION		
DISCREPANCY						
MXGQA REVIEW AIRCRAFT WEIGHT AND BALANCE HANDBOOK						
(IF APPLICABLE)						
CORRECTED BY _____ EMPLOYEE NO _____						
DISCOVERED BY (PRINT)			EMPLOYEE NO	INSPECTED BY		EMPLOYEE NO
SUPPLY DOC NBR UJC PART NUMBER NOMENCLATURE QTY			SUPPLY DOC NBR UJC PART NUMBER NOMENCLATURE QTY			

Figure A3.2. PREPRINTED AFTO FORM 781A (page 2).

DATE FROM: _____		TO _____		MDS: C135R	SERIAL NUMBER: _____	PAGE _____	OF _____	PAGES	
SYM	JCN	DATE DISC	INFORMATION OR DOC NUMBER		CF 781A	XF 781K	DATE CORRECTED		
---	7293		FCF/OCF PACKAGE		<input type="checkbox"/>	<input type="checkbox"/>			
WUC/REF DESIGNATOR 01000		FAULT CODE	STA CODE	CORRECTIVE ACTION					
DISCREPANCY									
MXGQA FORMS REVIEW BY PRODUCTION SUPER OR HIGHER DUE UPON COMPLETION OF FCF / OCF									
CORRECTED BY						EMPLOYEE NO			
DISCOVERED BY (PRINT)			EMPLOYEE NO	INSPECTED BY			EMPLOYEE NO		
SUPPLY DOC NBR	UJC	PART NUMBER	NOMENCLATURE	QTY	SUPPLY DOC NBR	UJC	PART NUMBER	NOMENCLATURE	QTY
SYM	JCN	DATE DISC	INFORMATION OR DOC NUMBER		CF 781A	XF 781K	DATE CORRECTED		
---	7294		FCF/OCF PACKAGE		<input type="checkbox"/>	<input type="checkbox"/>			
WUC/REF DESIGNATOR 01000		FAULT CODE	STA CODE	CORRECTIVE ACTION					
DISCREPANCY									
MXGQA FORMS REVIEW BY QA UPON COMPLETION OF FCF / OCF									
CORRECTED BY						EMPLOYEE NO			
DISCOVERED BY (PRINT)			EMPLOYEE NO	INSPECTED BY			EMPLOYEE NO		
SUPPLY DOC NBR	UJC	PART NUMBER	NOMENCLATURE	QTY	SUPPLY DOC NBR	UJC	PART NUMBER	NOMENCLATURE	QTY
AFTO FORMS 781A					MAINTENANCE DISCREPANCY AND WORK DOCUMENT				