

**BY ORDER OF THE COMMANDER
452D AIR MOBILITY WING**

**452D AIR MOBILITY WING INSTRUCTION
21-101**



25 SEPTEMBER 2013

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Maintenance

**FUNCTIONAL CHECK FLIGHTS/HIGH
SPEED TAXI CHECKS/OPERATIONAL
CHECK FLIGHTS**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This 452d Air Mobility Wing Instruction (AMWI) implements AFI 21-1, *Air and Space Maintenance*, Air Force Instruction (AFI) 21-101, *Aircraft and Equipment Maintenance Management*, AFI 21-101_AFRC_Sup 1, *Aircraft and Equipment Maintenance Management*, T.O. 1-1-300, *Maintenance Operational Checks and Check Flights*, T.O. 1C-135-6CL-1, *PILOT Acceptance and/or Functional Check Flight Checklist*, T.O. 1C-135A-6CF-1, *Acceptance and/or Functional Check Flight Procedures Manual*, T.O. 1C-17A-6CF-1, *Acceptance and/or Functional Check Flight Procedures Manual*; T.O. 1C-17A-6CL-1, *Acceptance and/or Functional Check Flight Checklist*. It establishes Functional Check Flight (FCF), Operational Check Flights (OCF) and High Speed Taxi Checks (HSTC) procedures to ensure coordination between the respective Aircraft Maintenance Squadrons (AMXS), Quality Assurance (QA) and the 452d Operations Group (OG). This instruction is applicable to all maintenance personnel in the 452d Maintenance Group and only to personnel in the scheduling and performance of FCFs within the 452d Air Mobility Wing and 452d Operations Group. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) listed above using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. Requests for waivers must be submitted through chain of command. Requests for waivers must be submitted to the OPR listed above, or as otherwise stipulated within this publication, for consideration and approval. 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) located at <https://www.af.mil/gessaf61a/afirms/afirms/>. The use of

the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

1. Procedures for Functional Check Flights (FCF)/High Speed Taxi Checks (HSTC)/Operational Check Flights (OCF):

1.1. FCFs and HSTCs are performed only by FCF certified crews and are coordinated through QA and the respective AMXS, IAW AFI 21-101_AFRC_Sup 1, chapter 8.16, 8.17 and 8.18. OCFs will be flown by highly experienced Instructor/Evaluator Pilots, Boom Operators and Loadmasters for the MDS.

1.2. Flight duration will be determined by the time required to check the system(s) causing the FCF to be flown. Minimum flight time is approximately one-half hour.

2. QA Responsibilities: FCF/HSTC/OCF:

2.1. Maintain "Functional Check Flight Briefing/Debriefing Checklist and Log Sheet" (see Attachment 1).

2.1.1. Review corrective action(s) on any discrepancies found during the FCF/HSTC/OCF and clear the inspection entered on the AFTO Form 781A (see [Attachment 2](#)).

2.1.2. Ensure the completed FCF checklist is filed with the Aircraft Records for a period of three months or until replaced by a new FCF checklist, whichever is later.

3. Aircraft Maintenance/Maintenance Squadrons' Responsibilities:

3.1. Notify QA when an FCF/HSTC/OCF requirement is identified.

3.2. Request Plans and Scheduling to coordinate with the 452d Operations Group (OG) representative to schedule an appropriate aircrew (FCF/HSTC/OCF).

3.2.1. Coordinate with the Maintenance Operations Center (MOC) the time and date when an aircraft will be flying/performing an FCF/HSTC/OCF.

3.3. Ensure all maintenance requirements are complied with and the aircraft is configured to fly the FCF; provide QA the aircraft forms four hours prior to the scheduled briefing.

3.4. The aircraft crew chief or a knowledgeable representative and QA will attend the briefing to answer any questions.

Samuel C. Mahaney, Col., USAFR
Commander

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

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

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

AFI 21-101_AFRC Sup 1, *Aircraft and Equipment Maintenance Management*, 13 January 2011

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

T.O. 1-1-300, *Maintenance Operational Checks and Check Flights*, 15 March 2012

T.O. 1C-135-6CL-1, *PILOT Acceptance and/or Functional Check Flight Checklist*, 1 July 2012

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

T.O. 1C-17A-6CF-1, *Acceptance and/or Functional Check Flight Procedures Manual*, 1 February 2011

T.O. 1C-17A-6CL-1, *Acceptance and/or Functional Check Flight Checklist*, 1 February 2011

Adopted Forms

AF Form 2519, *All Purpose Checklist*

AFTO 781A, *Maintenance Discrepancy and Work Document*

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AMXS—Aircraft Maintenance Squadron

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AFTO—Air Force Technical Order

AMWI—Air Mobility Wing Instruction

CF—Check Flight

CL—Checklist

DOC—Document

FCF—Functional Check Flight

HSTC—High Speed Taxi Check

IAW—In Accordance With

JCN—Job Control Number
MDS—Mission Design Series
MOC—Maintenance Operations Center
MXG—Maintenance Group
MXQ—Maintenance Quality Assurance
NO.—Number
OCF—Operational Check Flight
OG—Operations Group
OPR—Office of Primary Responsibility
ORGN—Organization
QA—Quality Assurance
RDS—Records Disposition Schedule
Supt—Superintendent
SYM—Symbol
T.O.—Technical Order
WDC—When Discovered Code

Attachment 2

(SAMPLE) FCF/HSTC/OCF CHECKLIST

Figure A2.1. (Sample) FCF/HSTC/OCF CHECKLIST.

ALL PURPOSE CHECKLIST		PAGE 1 OF 2 PAGES			
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA: FUNCTIONAL CHECK FLIGHT/HIGH SPEED TAXI CHECK BRIEFING AND BRIEFING/DEBRIEFING CHECKLIST AND LOG SHEET (REF: AFI 11-401 and T.O. 1-1-300)		OPR MXQ	DATE		
NO.	ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)	CW	NC	NA	
GENERAL INFORMATION: This checklist will be completed by the Quality Assurance FCF/HSTC/OCF Monitor. When filled out, it will be used as a log sheet to provide information for evaluation and analysis.					
1.	<p>Notified of FCF/HSTC/OCF requirement:</p> <p>Date: _____ Time: _____ Notified by: _____</p> <p>a. Obtain the following information:</p> <p>(1) Aircraft type and tail number: _____/_____</p> <p>(2) Current Fuel Load: _____</p> <p>(3) Reason for FCF/HSTC/OCF Request: _____</p> <p>b. Establish the following information through coordination with P&S and MOC.</p> <p>(1) FCF/HSTC/OCF Crew Briefing: Date: _____ Time: _____ Location: _____</p> <p>(2) FCF/HSTC/OCF Fuel Load: _____</p> <p>(3) Takeoff/Landing Time: _____/_____</p>				
2.	<p>Prior to Aircrew briefing:</p> <p>a. Prepare the appropriate FCF/HSTC/OCF Checklist.</p> <p>b. Review aircraft forms and maintenance records, to include weight and balance. Record any problem areas or peculiar flight characteristics.</p> <p>c. Review all corrective actions for maintenance performed after the last flight. (These forms will be available and briefed at aircrew briefing.)</p>				

Figure A2.2. (Sample) CONT FCF/HSTC/OCF CHECKLIST.

NO.	ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)	CW	NC	NA
3.	Aircrew Briefing: a. Date/Time: _____/_____ b. Aircraft Commander: _____ c. Crew Chief: _____ d. FCF/HSTC/OCF Briefer: _____ (1) Purpose and extent of FCF/HSTC/OCF briefed. (2) Major of Maintenance briefed. (3) Review current aircraft forms: (4) FCF/HSTC/OCF checklist and aircraft forms briefed.			
4.	Aircrew Debrief: a. Aircraft released for normal flight. (Indicate reason if not released.) _____ b. AFTO Form 781A Discrepancy cleared by pilot. (If released) c. FCF/HSTC/OCF Checklist completed. d. FCF/HSTC/OCF discrepancies entered in aircraft AFTO Form 781A. e. QA review aircraft forms for proper documentation. f. Takeoff/Landing Time (Actual): _____/_____			
5.	Follow-up action for completed FCF/HSTC/OCF: a. Review FCF/HSTC/OCF checklist and aircraft forms for corrective actions of FCF/HSTC/OCF discrepancies. (If applicable) b. Clear open note in aircraft AFTO Form 781A for QA review. c. Forward completed FCF/HSTC/OCF checklist to P&S for filing in the aircraft jacket file. Date: _____			
	END OF CHECKLIST			

Attachment 3
(SAMPLE) AFTO FORM 781A

Figure A3.1. (Sample) AFTO Form 781A.

DATE FROM		TO		CREW CHIEF		ORGN	LOCATION		MDS	SERIAL NO.
SYM	DATE DISCD	WDC	JCN	DOC NO.		CF TO 781A P I	DATED	TRANSCRIBED TO 781K DATE	DATE CORRECTED	
		P	0200001						1990 01 20	
DISCREPANCY FCF/HSTC/OCF REQUIRED FOR						CORRECTIVE ACTION FCF /HSTC/OCF COMPLETED, AIRCRAFT RELEASED FOR FLIGHT AT 1200 HRS. SEE FCF/HSTC/OCF WORKSHEET.				
						CORRECTED/TRANSFERRED BY		GRADE	EMPLOYEE NO.	
DISCOVERED BY J. Doe		GRADE MSgt	EMPLOYEE NO. 55555			INSPECTED BY D. John		GRADE Col	EMPLOYEE NO. 77777	
SYM	DATE DISCD	WDC	JCN	DOC NO.		CF TO 781A P I	DATED	TRANSCRIBED TO 781K DATE	DATE CORRECTED	
		P	0200001						1990 01 20	
DISCREPANCY QUALITY ASSURANCE WILL REVIEW THE FCF/HSTC/OCF						CORRECTIVE ACTION CORRECTIVE ACTIONS OF FCF/HSTC/OCF DISCREPANCIES REVIEWED				
CORRECTIVE ACTIONS PRIOR TO NEXT FLIGHT.						FOR ADEQUACY.				
						CORRECTED/TRANSFERRED BY		GRADE	EMPLOYEE NO.	
DISCOVERED BY J. Doe		GRADE MSgt	EMPLOYEE NO. 55555			INSPECTED BY J. Doe		GRADE MSgt	EMPLOYEE NO. 55555	
SYM	DATE DISCD	WDC	JCN	DOC NO.		CF TO 781A P I	DATED	TRANSCRIBED TO 781K DATE	DATE CORRECTED	
DISCREPANCY						CORRECTIVE ACTION				
						CORRECTED/TRANSFERRED BY		GRADE	EMPLOYEE NO.	
DISCOVERED BY		GRADE	EMPLOYEE NO.			INSPECTED BY		GRADE	EMPLOYEE NO.	
AFTO FORM 781A, AUG 98 (EF-V3)						PREVIOUS EDITION IS OBSOLETE		MAINTENANCE DISCREPANCY AND WORK DOCUMENT		

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