

**BY ORDER OF THE COMMANDER
374TH AIRLIFT WING**

**374TH AIRLIFT WING INSTRUCTION
21-118**



19 APRIL 2012

Maintenance

FUNCTIONAL CHECK FLIGHT PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance*; Air Force Instruction (AFI) 21-101, *Aircraft and Equipment Maintenance Management*; AFI 21-101, *Air Mobility Command Supplement (AFI 21-101_AMCSUP)*, *MAF Aircraft and Equipment Maintenance Management*; Technical Order (T.O.) 00-20-1-WA-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies and Procedures*; T.O. 1-1-300-WA-1, *Acceptance/Functional Check Flights and Maintenance Operational Checks*; T.O. 1C-130E(H)-6CF-1, *Acceptance and Functional Check flight Manual*; and T.O. 1C-130E(H)-6CL-1, *Acceptance and/or Functional Check Flight Checklist*. It establishes policy, assigns responsibility and outlines procedures for preparing aircraft assigned to the 374th Airlift Wing (374 AW) for functional and acceptance check flights at Yokota Air Base (AB). The C-12 and UH-1 aircraft are maintained by civilian contractors and are specifically exempted from following this instruction. The contractors are contractually required to have their own QA and FCF programs and will perform the function of FCF Manager for their respective contracts. The contractors will follow the guidance of their Performance Work Statement, applicable technical data and company generated, government accepted FCF programs to include local operating instructions and checklists. This instruction applies to all personnel assigned or attached to Yokota AB. Ensure 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 the Air Force 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 Form 847s from the field through the appropriate functional chain of command.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. Major changes include: FCF/ACF/OCF/HSTC checklist addition, changes to the Aircraft Maintenance Unit (AMU) Responsibilities and FCF completion.

1. Functional Check Flight (FCF). FCFs, Operational Check Flights (OCF), Acceptance Check Flights (ACF) and High Speed Taxi Checks (HSTC) are performed to ensure aircraft are safe for flight and capable of performing assigned missions. FCFs are not flown when the airworthiness of the aircraft can be determined by maintenance operational checks prescribed by associated technical directives.

2. Aircraft Maintenance Unit (AMU) Responsibilities. Upon notification of a FCF, OCF, ACF or HSTC, the owning aircraft maintenance unit will ensure the following steps are completed:

2.1. Place FCF/ACF/OCF/HSTC checklist in the front of the AFTO Form 781A's, *Maintenance Discrepancy and Work Document*, and ensures all applicable items are completed. Remove the checklist from the forms after the completion of the FCF/ACF/OCF/HSTC. (See Attachment 2 which is also located on the QA SharePoint site)

2.2. Ensure all aircraft systems are fully operational or will not affect the FCF, OCF, ACF or HSTC profile.

2.3. Refuel the aircraft as required in order to complete the FCF, OCF, ACF or HSTC profile.

2.4. Configure the cargo compartment with a CP-2 rig. Only one 2-man seat at F.S. 267 (right side) needs to be placed down and locked to the cargo compartment floor to accommodate the loadmaster.

2.5. Prepare the aircraft AFTO Form 781 Series forms binder for review by Quality Assurance (QA) FCF Manager. Ensure all AFTO Form 781A pages of the original grounding discrepancies are included for the review process.

2.6. The aircraft forms will be transcribed prior to flight, and maintenance will bring the transcribed forms and the active set of forms to the QA FCF Manager for the aircrew briefing.

2.7. The 374th Aircraft Maintenance Squadron (374 AMXS) Maintenance Operations Officer (MOO) (or designated representative) will notify the QA office as soon as possible, but not later than 1100, the day prior to the FCF mission requirement, and coordinate with the applicable flying squadron to schedule a FCF-qualified aircrew for the mission.

3. QA FCF Manager Responsibilities. Upon notification of an FCF, ACF or OCF, the FCF Manager will ensure the following steps are completed:

3.1. Prepare a FCF Worksheet (a blue-lined AFTO Form 781A, page 1A) for inclusion in the aircraft forms. If there is more than one FCF on the same day, use the following job control numbers: 5001-5026.

3.2. Review the aircraft forms for maintenance accuracy and completed documentation. Retain the transcribed set of forms until the FCF aircraft is released. Prepare a concise statement for the reason of the FCF to be entered in Block 1 of the FCF Worksheet.

3.3. Prepare a T.O. 1C-130E(H)-6CL-1 and annotate the systems to be checked in Block 4, Reason for Check Flight. Consult the applicable maintenance specialist and highlight those areas on the checklist applicable to the FCF mission.

3.4. On the day of the FCF; review the aircraft forms and verify status prior to the AMU calling the Maintenance Operations Center (MOC) and Command Post to alert the aircrew.

3.5. Insert the FCF Worksheet page 1A in front of page 1 of the AFTO Form 781A active forms and have the highlighted T.O. 1C-130E(H)-6CL-1 checklist ready for the aircrew briefing.

3.6. When the aircrew arrives for the briefing, inform them of the reason for the FCF and annotate the action in the QA Database FCF Log. Ensure the aircrew is aware of any open discrepancies in the AFTO Form 781A active forms (e.g., in-flight operational checks, in-flight negative torque checks).

4. Aircrew Responsibilities. The FCF will be accomplished using the FCF Information File containing: 374 AWI 21-118; T.O. 1-1-300-WA-1; T.O. 1C-130E(H)-6CF-1; and FCF Area Map.

4.1. The flight engineer will sign out the FCF Information File from the QA office (as required) for guidance in accomplishing the FCF requirements.

4.2. Enter FCF-related discrepancies on the FCF Worksheet page 1A. Discrepancies not related to the FCF are placed in AFTO Form 781A active forms.

4.3. The aircraft commander will annotate and complete the appropriate blocks on T.O. 1C-130E(H)-6CL-1, AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance*, and FCF Worksheet with the local time and date the FCF is completed.

4.4. The flight engineer will complete the highlighted checklist items, and items marked with an asterisk (*) symbol as required, by using a check mark for satisfactory, an (X) for unsatisfactory, or an (O) for not checked.

5. FCF Completion. Upon completion of the FCF, the QA FCF Manager will meet the FCF aircrew at Maintenance Debrief Section and review the FCF checklist and aircraft forms to determine if all requirements have been accomplished. The QA FCF Manager will accomplish the following steps:

5.1. Retrieve the FCF Worksheet, T.O. 1C-130E(H)-6CL-1 and the FCF Information Handbook from the aircrew.

5.2. Deliver the FCF Worksheet, copy of all 781A maintenance discrepancies/corrective actions pertaining to the check flight, FCF/ACF/OCF/HSTC checklist, and T.O. 1C-130E(H)-6CL-1 to the 374th Maintenance Operations Squadron (374 MOS) Plans, Scheduling and Documentation (PS&D) Section to be included in the aircraft jacket file as a permanent record.

5.3. If the aircraft fails the FCF and is not released, coordinate with the MOC, 374 AMXS/MOO (or designated representative) and the respective flying squadron operations

desk to schedule the next flight attempt. A non-release is defined as a termination of the FCF sortie and the FCF aircrew returning to the Maintenance Debrief Section.

5.4. Upon each FCF non-release, a new T.O. 1C-130E(H)-6CL-1 will be accomplished to account for the number of attempted FCF flights.

5.5. When the FCF aircraft is released, the QA FCF Manager will complete all documentation in the QA Database FCF Log as required. This will serve as a permanent record as well as show deficiency or trend analysis.

WILLIAM M. KNIGHT, Colonel, USAF
Commander, 374th Airlift Wing

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_AMCSUP, *MAF Aircraft and Equipment Maintenance Management*, 14 February 2011

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

T.O. 00-20-1-WA-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*, 15 June 2011

T.O. 1-1-300-WA-1, *Acceptance/Functional Check Flights and Maintenance Operational Checks*, 14 November 2007

T.O. 1C-130E(H)-6CF-1, *Tech Mnl -- Acceptance & Or Functional Check, Flight Procedures Usaf Series C-130E/H, AC-130H, EC-130E/H, HC-130H/N/P, LC-130H, WC-130, HC-130(H)N Acft*, 31 December 2005

T.O. 1C-130E(H)-6CL-1, *Acceptance and/or Functional Check Flight Checklist*, 31 December 2005

Adopted Forms

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

AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance*

AF Form 847, *Recommendation for Change of Publication*

AF Form 2519, *All Purpose Checklist*

Abbreviations and Acronyms

AB—Air Base

RSD—Records Disposition Schedule

FCF—Functional Check Flight

OCF—Operational Check Flights

ACF—Acceptance Check Flights

HSTC—High Speed Taxi Checks

AMU—Aircraft Maintenance Unit

QA—Quality Assurance

MOO—Maintenance Operations Officer

MOC—Maintenance Operations Center

PS&D—Plans, Scheduling and Documentation

Attachment 2

374 MXG FCF/OCF/ACF/HSTC CHECKLIST

Figure A2.1. FCF/OCF/ACF/HSTC Checklist (Page 1)

ALL PURPOSE CHECKLIST		PAGE 1	OF	PAGES
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA 374 MXG Functional Check Flight/Operational Check Flight/Acceptance Check Flight/High Speed Taxi Check Checklist		OPR 374 MXG/ MXQ	DATE	
NO.	ITEM <i>(Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)</i>	C/W	N/A	
	(This checklist is to be placed in the front of the AFTO 781 series forms binder) Aircraft Tail # _____ Reason for FCF/OCF/ACF/HSTC _____			
1	MAINTENANCE UNIT RESPONSIBILITIES:			
1.3	Ensure all acft systems are fully operational or will not affect the FCF, OCF, ACF, or HSTC.			
1.4	Refuel the acft as required in order to complete the check flight.			
1.3	Configure acft with a CP-2.			
1.4	Transcribe acft AFTO 781 series forms prior to flight. (Bring transcribed set of forms to aircrew brief)			
1.5	Prepare and have the QA FCF Manager review the AFTO 781 series forms binder.			
1.6	Notify QA as soon as possible when the FCF, OCF, ACF, or HSTC is scheduled.			
1.7	Complete the Exceptional Release.			
2	QA FCF MANAGER RESPONSIBILITIES:			
2.1	Prepare a Check Flight/HSTC worksheet. (A blue outlined 781A)			
2.2	Review 781 series forms for maintenance accuracy and completed documentation.			
2.3	Retain the transcribed set of forms until the acft is released.			
2.4	Review weight and balance records.			
2.5	Prepare a 1C-130E(H)-6CL-1 and annotate the systems to be checked in block 4.			
2.6	On the day of the Check Flight/HSTC; review forms and verify status prior to the crew being alerted.			
2.7	Brief aircrew (purpose, previous mx actions, discrepancies, and any pertinent warnings or cautions)			
2.8	Annotate the Check Flight/HSTC in the QA database FCF/OCF log.			
3	AIRCREW RESPONSIBILITIES: (FCF crews are not required for OCF's)			
3.1	FE will sign out the FCF information File from the QA office. (As required)			
3.2	Enter FCF-related discrepancies on the FCF worksheet, all others will be documented in the 781A's.			
3.3	Aircraft Commander will complete the appropriate blocks on the checklist, 781H, and FCF worksheet.			
3.4	FE will complete all 1C-130E(H)-6CL-1 items that are required.			
3.5	Turn in 1C-130E(H)-6CL-1 to Debrief/QA.			
4	QA FCF DEBRIEFER:			
4.1	Retrieve FCF worksheet, 1C-130E(H)-6CL-1 checklist and this checklist.			
4.2	Turn in all applicable documents to PS&D.			
4.3	Document the completion of the FCF, OCF, ACF, or HSTC in the Database.			
	 NOTE: IF CONDUCTING A HIGH SPEED TAXI CHECK, COMPLETE THE ITEMS ON THE SECOND PAGE.			
	 Please refer to AFI 21-101, AFI 21-101 AMC SUP, TO 1-1-300, 1C-130H-1, and 374 AWI 21-118 for further guidance.			

