

**BY ORDER OF THE COMMANDER
301 FIGHTER WING**

**301ST FIGHTER WING INSTRUCTION
21-101**



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Maintenance

**FUNCTIONAL CHECK FLIGHT AND
OPERATIONAL CHECK FLIGHT
PROCEDURES**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Functional Check Flights (FCF) and Operational Check Flight (OCF) procedures at Naval Air Station, Joint Reserve Base (NASJRB), Fort Worth, Texas. It applies to all personnel in the 301st Maintenance Group (301 MXG), 301st Operations Group (301 OG) and 457th Fighter Squadron (457 FS) FCF qualified pilots. It implements the procedures in Air Force Instruction (AFI) 21-101, *Aircraft Equipment Maintenance Management* and Air Force Technical Order (AFTO) 00-20-1, *Aerospace Equipment Maintenance Inspection Documentation Policy and Procedures*. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the recommending office thru the 301FW Publications/Forms Managers (301 CF/SCBP) to Higher Headquarters is necessary. 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 in Air Force Records Information Management System (AFRIMS) at the Air Force (AF) Portal: <https://my.af.mil/afirms/afirms/afirms/rims.cfm>

1. General. The 301 MXG/CC, 301 OG/CC, FCF qualified pilots, and maintenance supervisors will ensure procedural compliance with this instruction. Adherence to these procedures will ensure a safe and effective FCF Program. The Functional Check Flight Continuity Guide (Attachment 1) and FCF Briefing/Debriefing Guide (Attachment 2) were developed to assist Quality Assurance (QA) personnel in making sure that all required documentation and actions are completed.

2. Procedures.

2.1. The F-16 aircraft requiring FCF are flown clean (no external stores) and with a full internal fuel load, unless otherwise approved by the 301 OG/CC.

2.2. Flight crew briefings.

2.2.1. QA will carry out all flight crew briefings. Upon completion, the FCF/OCF pilot will brief the 301 OG/CC (or designated representative) on the purpose of the check flight, its profile and any expected deviations.

3. Responsibilities.

3.1. 301 OG/CC will appoint an Officer in Charge (OIC) of the FCF Program. This individual will implement, manage and submit recommendations to improve FCF criteria and procedures to the QA Superintendent.

3.2. Maintenance Operations Center (MOC) will:

3.2.1. Notify QA and 457 FS Operations of probable need for an FCF.

3.2.2. Notify QA upon return of aircraft for debriefing.

3.3. 301st Aircraft Maintenance Squadron (301 AMXS) will:

3.3.1. Pre-flight the aircraft and sign the Exceptional Release.

3.3.2. Notify QA when the aircraft is ready for pre-flight quality verification inspection (QVI).

3.3.3. Remove old Air Force Technical Order (AFTO) Forms 781A, Maintenance Discrepancy and Work Document and transcribe open discrepancies to a new AFTO Form 781A (NOTE: Do not remove if a previous FCF attempt has been made).

3.3.4. Deliver aircraft forms (active and transcribed) to QA with the forms that document the maintenance action which generated the requirement for FCF/OCF.

3.4. QA will:

3.4.1. Coordinate with the Production Superintendent or Expediter for the pilot briefing.

3.4.2. Initiate FCF Checklist and provide it to the FCF pilot.

3.4.3. Conduct pilot FCF briefing.

3.4.4. Review the aircraft forms for completeness and accuracy.

3.4.5. Keep MOC informed of all FCF actions.

3.4.6. Accomplish an aircraft FCF Preflight Quality Verification Inspection (QVI).

3.4.7. Document entries pertaining to the FCF on AFTO Forms 781A and Integrated Maintenance Documentaion System (IMDS).

3.4.8. Retain the aircraft forms and FCF checklist in QA and deliver them to the pilot at the time of the FCF briefing.

3.4.9. Forward the completed FCF checklist to Plans, Scheduling, and Documentation section (PS&D) for filing after the FCF is complete.

4. FCF Pilot Requirements.

- 4.1. The 457 FS/DO selects and the 301 OG/CC approves all FCF pilots.
- 4.2. If an FCF is required while the aircraft is deployed and a certified FCF pilot is not available, the detachment commander can designate a highly qualified pilot to perform FCF duties.

5. FCF Flight Requirements.

- 5.1. A full profile FCF may be flown at the OG/CC's discretion.
- 5.2. The FCF profile is normally tailored for the maintenance requirements that generated the FCF.
- 5.3. FCFs are not flown in conjunction with other missions.
- 5.4. FCFs are flown during daylight hours only.
- 5.5. Weather requirements will normally be visual flight rules. Deviations are at the discretion of the FCF pilot and the Supervisor of Flying.

6. Taxi Check for Maintenance. Routine taxi checks will be accomplished by an experienced pilot. High-speed taxi checks will not be accomplished under any circumstances.

7. Operational Check Flights (OCF) Procedures. OCF will be accomplished as prescribed by AFI 21-101 and follow the same maintenance criteria contained in this instruction. OCF will be flown by an experienced pilot.

8. Perscribes/Adopted Forms: Air Force Technical Order (AFTO) Form 781A, *Maintenance Discrepancy and Work Document* and the Air Force (AF) Form 847, *Recommendation for Change of Publication*.

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Commander

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

AFI 21-101, *Aircraft Equipment Maintenance Management*

Air Force Technical Order 00-20-1, *Aerospace Equipment Maintenance Inspection Documentation Policy and Procedures*

Abbreviations and Acronyms

AFI— Air Force Instruction

AFMAN— Air Force Manual

FCF— Functional Check Flights

IMDS— Integrated Maintenance Documentaion System

MOC— Maintenance Operations Center

NASJRB— Naval Air Station, Joint Reserve Base

OCF— Operational Check Flight

OIC— Officer in Charge

PS&D— Plans, Scheduling and Documentation section (PS&D)

QA— Quality Assurance

QVI— Quality Verification Inspection

Attachment 2

FCF/OCF CONTINUITY GUIDE

A2.1. Requirements:

A2.1.1. This guide is to be used in conjunction with the FCF Briefing/Debriefing guide (Attachment 2).

A2.1.2. FCF/OCF's will be tracked in the "Quality Assurance Tracking and Trend Analysis System" (QANTTAS) computer program.

A2.1.3. All FCF/OCF PILOT coordination will be done by Quality Assurance (QA).

A2.1.4. A new 1F-16C-6CL-1 checklist will be initiated for each FCF/OCF attempt.

A2.1.5. A new QANTTAS Report Control Number (RCN) will be assigned for each FCF/OCF or continuing attempt.

A2.2. Prior to Briefing:

A2.2.1. After determination is made that an FCF/OCF is required, 301 AMXS will notify QA when all maintenance is complete and the aircraft has been pre-flighted.

A2.2.2. After the aircraft has been pre-flighted, 301 AMXS personnel will bring the active aircraft forms along with the transcribed forms, to QA. Review all AFTO Forms for proper documentation, completion of required inspections, and proper clearing of all red symbol discrepancies.

A2.2.3. Print a copy of the aircraft #380 CAMS screen and compare entries to the active AFTO Forms 781A.

A2.2.4. Create a job in the CAMS (screen #073 option 03) stating "FCF/OCF REQUIRED DUE TO _____." (reason for FCF).

A2.2.5. In the next open block of the AFTO Form 781A, enter the exact verbiage as created in the CAMS generated discrepancy. The symbol for the FCF will be a red dash (-) and the "When Discovered Code" (WDC) will be "P". In the "Corrective Action" block enter the red FCF stamp. The pilot will complete the required stamp information after flight completion.

A2.2.6. Initiate pilot's 1F-16C-6CL-1 *FCF/OCF Checklist*.

A2.2.7. Enter the FCF/OCF basic information in QANTTAS. ** NOTE ** The Job Control Number (JCN) assigned to an FCF will remain with that aircraft until it releases regardless of the number of FCF attempts. However, each successive attempt will require another QANTTAS entry and a new RCN assigned.

A2.2.8. Proceed to the aircraft parking area, perform a preflight QVI of the aircraft paying particular attention to the paneled areas where maintenance was performed.

A2.2.9. Notify 457 FS Operations that the aircraft and forms are ready. Instruct FCF pilot to assemble at the QA office for a FCF briefing and forms review. Verify engine start time.

A2.2.10. Notify MOCC that the FCF/OCF is ready.

A2.2.11. Notify MOCC when the briefing is in progress.

A2.3. Briefing/Debriefing:

A2.3.1. Brief/Debrief the pilot in accordance with the FCF Briefing/Debriefing Guide (Attachment 2).

A2.3.2. When the pilot briefing is complete, notify MOCC and the Expediter that the pilot is stepping to the aircraft.

A2.3.3. A QA Inspector will accompany the pilot to the aircraft and assist him with his walk-around inspection. The inspector will act as the liaison between the pilot and the 301 AMXS Expediter in the event problems arise. The inspector will remain with the aircraft during launch and taxi.

A2.4. Post-debriefing:

A2.4.1. Retain the FCF/OCF checklist whether aircraft releases or not.

A2.4.2. Complete and close-out the FCF/OCF QANTTAS entry. If an unsuccessful (no-release) FCF/OCF was flown, enter the corrective action of the code 3 discrepancy on the FCF/OCF QANTTAS entry.

A2.4.3. If the FCF/OCF is successful (releases), forward the completed checklist to PS&D for filing. If the FCF is unsuccessful, retain the checklist until the FCF does release; at that time all checklists will be forwarded to PS&D.

A2.4.4. If the FCF/OCF generates a CODE 3 discrepancy that will require another FCF, QA will review the corrective action which cleared the discrepancy for completeness and correctness.

A2.4.5. Review the QANTTAS FCF/OCF section at least monthly for trends that may indicate problems requiring further investigation and analysis. Identify deficient areas to the Chief of QA for required review and/or action.

Attachment 3**FCF/OCF BRIEFING/DEBRIEFING GUIDE****A3.1. Pilot Briefing:**

A3.1.1. Brief pilot as to the purpose of the FCF. Ensure pilot is aware of any supplements to FCF checklist.

A3.1.2. Discuss prior maintenance problems and discrepancies documented against the aircraft. Discussion must include all affected systems and equipment pertinent to the FCF.

A3.1.3. Brief pilot on documentation required to complete the AFTO 781 series forms and the FCF checklist.

A3.1.4. Review the aircraft Weight and Balance documents.

A3.2. Pilot debriefing:

A3.2.1. MOC has the responsibility to notify QA when the aircraft lands. Either meet the pilot at the parking spot or in debriefing. Discuss any and all problems incurred during the flight. Have the debriefer call for specialist support as required.

A3.2.2. Ensure the pilot has properly documented all discrepancies in the AFTO Form 781A. Be sure the pilot clears the FCF entry if FCF releases. If a "NO RELEASE" condition exists, the pilot will leave the FCF discrepancy open for the next attempt. Be sure the pilot completes the FCF checklist and fills out page P-1.

A3.2.3. Work with the AMXS debriefer on duty to assist in assigning proper discrepancy symbols to FCF discrepancies.