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Maintenance

F-16 FUNCTIONAL/OPERATIONAL  
CHECK FLIGHT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance*. It extends the guidance of Air Force Instruction (AFI) 21-101, *Aerospace Equipment Maintenance Management*; AFI 11-401/Air Force Reserve Command (AFRC) Supplement 1, *Aviation Management*; AFI 13-201, *Air Force Airspace Management*; Technical Order (TO) 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*; TO 1-1-300, *Acceptance Functional Check Flights and Maintenance Operational Checks*; TO 1F-16C-6-11, *Scheduled Inspection and Maintenance Requirements Using F110-GE-100 Engine F-16C/D*; TO 1F-16C-6CF-1, *Acceptance and Functional Check Flight Procedures Manual USAF Series Aircraft F-16C/D*; and TO 1F-16C-CL-1, *Acceptance and/or Functional Check Flight Checklist F-16 C/D*. It establishes procedures for accomplishing functional/operational check flights (FCF/OCF) in the wing. It applies to all aircraft maintenance personnel assigned to the Maintenance Group (MXG) and FCF crews assigned to the Fighter Squadron (FS).

### SUMMARY OF REVISIONS

This revision adds paragraph **3.3.** and **Attachment 1.** A (I) indicates revisions from the previous edition.

#### 1. Responsibilities:

1.1. Fighter squadron operations officer or senior FCF qualified air reserve technician (ART):

1.1.1. Manages the flying portion of the FCF Program.

1.1.2. Supervises FCF pilot training.

1.1.2.1. Initial qualification includes:

1.1.2.1.1. Ground training as prescribed by **Attachment 2**, 419<sup>th</sup> Fighter Wing Pilot FCF Checkout Program Worksheet.

- 1.1.2.1.2. Flying training as required for individual pilots.
- 1.1.2.1.3. Documentation of fighter squadron training folders.
- 1.1.2.1.4. Completion of initial qualification training is documented by a letter of aircrew certification.
- 1.1.3. Gives FCF pilots a closed book examination annually. This test includes material pertaining to FCFs covered in applicable regulations and TOs.
- 1.1.4. Authorizes continuation training as considered necessary to maintain proficiency.
  - 1.1.4.1. As a minimum, every 180 days FCF pilots will update currency by performing an FCF profile either in-flight or in the multi-task trainer (MTT)/simulator.
- 1.1.5. Notifies Quality Assurance (QA) of FCF pilot qualification by letter, signed by operations group commander (OG/CC).
- 1.1.6. Ensures Aviation Resource Management System (ARMS) products track and identify FCF currency and annual test requirements.
- 1.2. FCF Pilots:
  - 1.2.1. Remain knowledgeable of and comply with the requirements of this regulation.
  - 1.2.2. Accomplish initial qualification training.
  - 1.2.3. Satisfactorily complete a closed book FCF examination annually.
- 1.3. Maintenance Operations Center (MOC):
  - 1.3.1. Notifies QA of the anticipated FCF.
  - 1.3.2. Notifies QA when aircraft is ready for FCF.
  - 1.3.3. Coordinates the availability of qualified FCF crews with QA and the aircraft maintenance squadron (AMXS).
  - 1.3.4. Notifies QA of FCF take off time.
  - 1.3.5. Notifies QA upon return of FCF aircrew for debriefing.
- 1.4. Aircraft Maintenance Squadron (AMXS):
  - 1.4.1. Retains all AFTO Information Management Tools (IMT) 781A, Maintenance Discrepancy and Work Document, FCF aborts and FCFs flown but not released in aircraft AFTO IMTs 781 binder for QA and the FCF pilot to review prior to flight.
  - 1.4.2. Notifies MOC/Debrief when the aircraft is ready for FCF.
  - 1.4.3. Ensures a crew chief delivers the aircraft AFTO IMTs 781 binder to QA no later than two hours prior to anticipated FCF takeoff time and assists QA during AFTO IMT 781 binder review.
- 1.5. Quality Assurance:
  - 1.5.1. Reviews the aircraft AFTO IMTs 781 binder in the presence of the crew chief. Flags the AFTO IMTs 781A by writing in large red letters "FCF" at the top of the first page.
  - 1.5.2. Makes entries in the aircraft forms pertaining to the FCF and initiate a FCF checklist.

1.5.3. Retains the aircraft AFTO IMTs 781 binder and checklist in QA and delivers them to the pilot at the time of the FCF briefing.

1.5.4. When aircraft returns from the FCF, meets the pilot in debrief for a simultaneous maintenance, FCF debriefing.

1.6. Weather requirements. In addition to the requirements of TO 1-1-300, any engine related FCF must have at least 8000 feet broken as the most recent observation prior to takeoff, and be sufficient to comfortably perform a flameout pattern.

1.7. Mandatory FCF requirements are prescribed by TO 1-1-300, TO 1F-16C-6-11, as specified upon completion of time compliance technical orders (TCTO), and when directed by the logistics group commander MXG/CC or OG/CC.

1.8. Additional FCF Requirements. The MXG depending on the situation and aircraft history can request FCFs.

1.8.1. FCFs will be accomplished on aircraft when any of the following conditions exist:

1.8.1.1. Forty-five (45) days or more of downtime.

1.8.1.2. Thirty (30) days of downtime resulting from other than normal scheduled maintenance.

1.8.1.3. A repeat/recurring write up for engine, hydraulic, flight control, landing gear, electrical or airframe system.

1.8.1.4. When an in-flight operational check is required.

1.8.1.5. Unexplained or uncommanded flight control anomalies.

1.8.1.6. FCFs for the above conditions may be waived by the OG/CC, in conference with the MXG/CC, based on the specific circumstances or aircraft history that indicates an FCF is unwarranted.

**2. FCF Procedures.** FCFs will be coordinated through the AMXS and maintenance operations flight (MOF) to establish requirements and scheduling. FS operations will be notified of the crew ready time. FS operations will schedule a departure window with SLC TRACON and range space; then pass the desired takeoff time to AMXS. When FCFs are accomplished to test specific equipment or systems, only applicable portions of the full FCF profile need to be accomplished. However, as much of the full profile should be accomplished on all FCFs as configuration, weather or other factors permit.

2.1. Configurations. FCF configurations are based on the extent of maneuvering required to complete the desired checks/portions of the full FCF profile. The required FCF profile is determined by the maintenance requirement that prompted the FCF. The FCF pilot ensures that requirements of the FCF profile are compatible with aircraft stores limitations, carriage limits, angle of attack (AOA), rolling limits, and aircraft configurations. Additionally the following guidance will apply (exceptions to the following configuration requirements must be approved by the MXG/CC or OG/CC).

2.1.1. Do not carry external stores, triple ejection racks (TER) or LAU-117 launchers.

2.1.2. For engine related FCFs the configuration will be clean or with symmetric missile launchers on stations 1, 2, 8, 9, and/or with a center line weapons pylon or electronic countermeasures (ECM) adapter on station 5.

2.1.3. By exception only, FCFs for engine related discrepancies may be flown with an empty centerline 300 gallon tank and/or symmetric wing pylons.

2.1.4. Aircraft directed to fly a FCF for air refueling/fuel transfer related problems are flown with the same tank configuration in which the discrepancy was encountered. Any external stores are downloaded, except for wing weapons pylons and centerline pylon. If a FCF is required with all three external tanks, the FCF pilot remains within category III AOA and rolling limits and tailors the FCF profile accordingly.

2.2. During deployed operations, FCFs are conducted under the same constraints used at home station.

### 3. OCF Procedures.

3.1. OCF will be accomplished as prescribed by AFI21-101 and follow the same maintenance criteria contained in this instruction.

3.2. OCF can be flown by FCF qualified or experienced aircrew designated by OG/CC.

3.3. MXG/CC will be notified of reason for OCF

GARY M. BATINICH, Col, USAFR  
Commander

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

AFPD 21-1, *Air and Space Maintenance*

AFI 11-401/AFRC Sup 1, *Aviation Management*

AFI 13-201, *Air Force Airspace Management*

AFI 21-101, *Aerospace Equipment Maintenance Management*

TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*

TO 1-1-300, *Acceptance Functional Check Flights and Maintenance Operational Checks*

TO 1F-16C-6-11, *Scheduled Inspection and Maintenance Requirements Using F110-GE-100 Engine F-16C/D*

TO 1F-16C-6CF-1, *Acceptance and Functional Check Flight Procedures Manual USAF Series Aircraft F-16C/D*

TO 1F-16C-CL-1, *Acceptance and/or Functional Check Flight Checklist F-16 C/D*

***Abbreviations and Acronyms***

**AFI**—Air Force Instruction

**AFPD**—Air Force Policy Directive

**AFRC**—Air Force Reserve Command

**AFTO**—Air Force Technical Order

**ARMS**—Aviation Resource Management System

**AMXS**—Aircraft Maintenance Squadron

**AOA**—Angle of Attack

**ART**—Air Reserve Technician

**CC**—Commander

**ECM**—Electronic Countermeasure

**FCF**—Functional Check Flight

**FS**—Fighter Squadron

**IMT**—Information Management Tool

**MOC**—Maintenance Operations Center

**MOF**—Maintenance Operations Flight

**MTT**—Multi-Task Trainer

**MXG**—Maintenance Group

**OCF**—Operational Check Flight

**OG**—Operations Group

**TCTO**—Time Change Technical Order

**TER**—Triple Ejection Rack

**TO**—Technical Order

**QA**—Quality Assurance

## Attachment 2

## 419TH FIGHTER WING FCF PILOT CHECKOUT PROGRAM WORKSHEET

419 <sup>th</sup> Fighter Wing FCF Pilot Checkout Program Worksheet		
NAME:	Date:	
READ THE FOLLOWING:	Initials	Date
1. AFI 11-401 AFRC Sup 1, Attachment 6, and 466FS ARMS TRAINING ACCOMPLISHMENT SHEET, For Supersonic Reporting		
2. AFI 21-101, Aerospace Equipment Maintenance Management Attachment 10 Para. 1.10 thru 1.10.3.18.1		
3. AFI 13-201, Air Force Airspace Management, Para 2.11. Supersonic Operations		
4. TO 00-20-1, Chapter 5, Documentation of Functional Check Flights Para 5.4 and Exceptional/Conditional Release Para 5.16.3.7.3		
5. TO 1-1-300, Acceptance/Functional Check Flights and Maintenance Operational Checks		
6. TO 1F-16C-6CF-1, Acceptance and Functional Check Flight Procedures Manual		
7. TO 1F-16C-6CL-1, Acceptance and Functional Check Flight Checklist		
8. TO 1F-16C-6-11 SECTION II - PART C, Conditions requiring FCF		
9. 419 FWI 21-109, F-16 Functional/Operational Check Flight		
10. AFTO Form 781G, General Mission Classifications		
11. ZOOM DEPARTURE ZCL-400-B-1 ATTACHMENT 3		
12. ZOOM DEPARTURE REVISION 2, 1/03/91		
ACCOMPLISH THE FOLLOWING:		
13. Briefing by FCF Officer (FCF Procedures).		
14. Simulator Sortie (If Available).		
15. Back Seat "D" Model Flight (FCF Profile). NOTE: Flight may be accomplished in Two "C" models if no "D" model is available.		
16. FCF Pilot Exam (Given by FCF Officer).		
17. Certification letter signed by Operations Group Commander.		
The FCF Checkout Program may be modified at the discretion of the 466FS/CC or designated FCF officer to facilitate upgrade training.		