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Maintenance

F-16 FUNCTIONAL CHECK FLIGHT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction establishes procedures for accomplishing functional check flights (FCF) in the 419 FW. It implements functional check flight procedures as specified in AFRCI 21-101, *Objective Wing Aircraft Maintenance*, Technical Orders (T.O.) T.O. 00-20-5, *Aircraft, Drone, Aircrew Training Devices, Engines, and Air-Launched Missile Inspection, Flight Reports, and Supporting Maintenance Documents*, T.O. 1-1-300, *Acceptance Functional Check Flights and Maintenance Operational Checks*, T.O. 1F-16(X)-6-11, *Scheduled Inspection and Maintenance Requirements Using F110-GE-100 Engine F-16C/D*, T.O. 1F-16(X)-6CF-1, *Acceptance and Functional Check Flight Procedurals Manual USAF Series Aircraft F-16C/D*, T.O. 1F-16(X)-CL-1, *Checklist--Acceptance and Functional Check Flight F-16 C/D* and is applicable to all aircraft maintenance personnel assigned to the 419 FW and FCF crews assigned to the 466 Fighter Squadron (FS).

SUMMARY OF REVISIONS

This revision adds training requirement in paragraph **1.1.5.1**. Changes Flying Squadron Maintenance Unit (FSMU) to Flying Squadron Maintenance (FSM). A (I) indicates revisions from the previous edition.

1. Responsibilities :

- 1.1. Fighter squadron commander or designated representative:
 - 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 419 FW 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.
- 1.1.3. Completion of initial qualification training is documented by a Letter of Aircrew Certification.
- 1.1.4. Gives FCF pilots a closed book examination annually. This test includes material pertaining to FCFs covered in applicable regulations and T.O.s.
- 1.1.5. Authorizes continuation training as considered necessary to maintain proficiency.
 - 1.1.5.1. 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.
- 1.1.6. Notifies quality assurance of FCF pilot qualification by letter, signed by operations group commander.
- 1.2. FCF Pilots:
 - 1.2.1. Knowledgeable of and comply with the requirements of this regulation.
 - 1.2.2. Accomplish initial qualification training.
 - 1.2.3. Satisfactorily completes a closed book FCF examination annually.
- 1.3. Debrief Dispatch Section:
 - 1.3.1. Notifies quality assurance (LGQ) of the anticipated FCF.
 - 1.3.2. Notifies quality assurance when aircraft is ready for FCF.
 - 1.3.3. Coordinates the availability of qualified FCF crews with quality assurance and the fighter squadron.
 - 1.3.4. Notifies quality assurance of FCF take off time.
 - 1.3.5. Notifies quality assurance upon return of FCF aircrew for debriefing.
- 1.4. Flying squadron maintenance (FSM):
 - 1.4.1. Retains all AFTO Forms 781A, Maintenance Discrepancy and Work Document, FCF aborts and FCFs flown but not released in aircraft AFTO Forms 781 binder for the FCF pilot to review prior to flight.
 - 1.4.2. Notifies Debrief Dispatch section when the aircraft is ready for FCF.
 - 1.4.3. Ensures a crew chief delivers the aircraft AFTO Forms 781 binder to quality assurance and remains in quality assurance during AFTO Form 781 binder review.
- 1.5. Quality assurance:
 - 1.5.1. Reviews the aircraft AFTO Forms 781 binder in the presence of the crew chief. Flags the AFTO Forms 781A by placing a large "FCF" in red at the top of the first page.
 - 1.5.2. Makes entries in the aircraft forms pertaining to the FCF and initiate the checklist.

1.5.3. Retains the aircraft AFTO Forms 781 binder and checklist in quality assurance 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 T.O. 1-1-300, any engine related FCF must have at least 8000' broken as the most recent observation prior to takeoff, and be sufficient to comfortably perform a flameout pattern.

1.7. General requirements for the FCF are prescribed by T.O. 1-1-300, the applicable aircraft T.O. 1F-16(X)-6-11, as specified upon completion of time compliance technical orders (TCTOs), and when directed by the logistics group commander or operations group commander.

2. FCF Procedures . 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. 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. 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. Exceptions to the following configuration requirements must be approved by the logistics group commander or operations group commander.

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

2.2. The configuration is clean or with symmetric missile launchers on stations 1,2,8, or 9, and/or with a centerline weapons pylon or electronic countermeasures (ECM) adapter on station 5, when FCFs are flown for the following conditions:

2.2.1. Whenever a FCF profile is required or as directed by the logistics group commander or operations group commander.

2.2.2. After replacement or major structural repair of major fixed flight surfaces (wing or vertical stabilizer).

2.3. The configuration is described when FCFs are accomplished for the following conditions:

2.3.1. For engine related FCFs, required by T.O. 1F-16(X)-6-11, the aircraft may be flown clean or with symmetric missile launchers on stations 1, 2, 8, or 9, and/or with centerline pylon or ECM adapter on station 5. By exception only, aircraft in this category may be flown with an empty centerline 300 gallon tank and/or symmetric wing pylons, if approved/coordinated with quality assurance (consideration is given to time constraints, transfer/deployment/exercise status).

2.3.2. 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.

2.3.3. During deployed operations, FCFs are conducted under the same constraints used at home station. The detachment commander is the only authority for deviations to the wing regulations, configuration requirements, fuel loads and so forth. Deviations are kept to an absolute minimum and are approved only after close coordination between the senior maintenance representative and the detachment commander.

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