A1-F18AC-NFM-700C
NATOPS
FUNCTIONAL
CHECKFLIGHT CHECKLIST

NAVY MODEL

F/A-18A/B/C/D

161353 AND UP
AIRCRAFT

PROFILE C

ISSUED BY AUTHORITY OF THE CHIEF OF NAVAL OPERATIONS AND UNDER THE DIRECTION OF THE COMMANDER, NAVAL AIR SYSTEMS COMMAND

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LIST OF EFFECTIVE PAGES

DATES OF ISSUE FOR ORIGINAL AND CHANGED PAGES ARE:

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INTERIM CHANGE SUMMARY

The following Interim Changes have been canceled or previously incorporated in this manual:

INTERIM CHANGE NUMBER(S)	REMARKS/PURPOSE
1 thru 7	Previously incorporated or canceled.

The following Interim Changes have been incorporated in this Change/Revision

INTERIM CHANGE NUMBER	REMARKS/PURPOSE
8	FCC Software Update 10.7
9	High AOA Yaw Rates/Static Radome Check
10	Advance Changes NATOPS Conference

Interim Changes - To be maintained by the custodian of this manual

INTERIM CHANGE NUMBER	ORIGINATOR/DATE (or DATE/TIME GROUP)	PAGES AFFECTED	REMARKS/ PURPOSE

NATOPS

PROFILE C

FUNCTIONAL CHECKFLIGHT CHECKLIST

NAVY MODEL F-18A/B/C/D AIRCRAFT 161353 AND UP

BUNO_____ DATE_____

Checkflight Pilot's Signature_____

Barometric Pressure _____ OAT_____

Configuration_____

This FCF is for PROFILE C.

Record time, temperature or pressure when applicable. Use a [√] for satisfactory, a [X] for unsatisfactory, or a [—] for not checked when applicable.

This document contains procedures for Profile C. Refer to A1-F18AC-NFM-700A for Profile A, A1-F18AC-NFM-700B for Profile B, and A1-F18AC-NFM-700D for Profile D.

Download only this sheet, Interim Change Summary sheet (if required), and the Profile A Checklist for use on this FCF. After the FCF is complete, these sheets need to be maintained in the aircraft historical maintenance records.

Functional Checkflights are required under the following circumstances:

PRO A - Full Aircraft check
- Acceptance
- Down time in excess of 30 days
- If no FCF As within past year (12 months)
- Anytime requested by the Commanding Officer

PRO B - Engines
- Dual engine removal (reinstallation/replacement)
- Dual ECA change
- Dual Main Fuel Control change
- Installation of any unknown engine
- Anytime requested by the Commanding Officer

PRO C - Flight Controls
- Anytime a flight control surface is re-rigged
- With the exception of the Leading Edge Flap System, installation of any flight control servo-cylinder or hydraulic drive unit
- Anytime requested by the Commanding Officer

PRO D - Rear Cockpit (Trainer Configuration only)
- Acceptance of a newly assigned aircraft or upon receipt of an aircraft returned from SDLM.
- Reconfigured from missionized to trainer configuration.

NOTE: Aft crewmember is required.

FRONT COCKPIT

PROFILE

PREFLIGHT

C 1. Perform exterior inspection IAW Chapter 7, A1-F18AC-NFM-000. . . . . ☐

a. No loose or improperly installed panels.

C 2. Perform interior check IAW Chapter 7, A1-F18AC-NFM-000. . . . . ☐

ENGINE START

C 1. Flap switch - AUTO . . . . . ☐

C 2. BATT switch - ON
If not previously on. . . . . ☐

C 3. READY (Fire extgh)/DISCH light - OUT . . . . . ☐

C 4. Control stick - CYCLE. . . . . ☐

C 5. APU - START . . . . . ☐

C 6. ENG CRANK switch - R
Leave throttle in cutoff . . . . . ☐

PROFILE
C

7. Mechanical linkage - CHECK . . . . . ☐
After both stabilators fair to the neutral position -

a. Move stick slowly forward or aft and release.
• Both stabilators shall move smoothly and symmetrically with stick input and return to neutral when stick is released.

b. Move the stick left and right.
• Ensure the corresponding stabilator trailing edge deflects up differentially higher than the opposite stabilator trailing edge.

c. Hold the stick full aft and move the flap switch to half or full.
• Visually, or using the FCS status display, verify that both stabilators move to a higher trailing edge up position.

C

8. Right engine - START
Perform engine start IAW Chapter 7, A1-F18AC-NFM-000. . . . . ☐

C

9. BLEED AIR knob - ROTATE through OFF to NORM. . . . . ☐

PROFILE		
C	10.	Left engine - START Perform engine start IAW Chapter 7, A1-F18AC-NFM-000 .....
C	11.	On DDI FCS display - VERIFY STAB Xs (FAILED) in CHANNELS 1 and 2 .....
C	12.	FCS - RESET .....
C	13.	FLAP switch - AUTO .....
C	14.	Engine FIRE light shutdown - PERFORM .....

a. Left throttle - IDLE (For 2 minutes)

b. Left FIRE light - PUSH
- FIRE EXTGH READY light on
- L BOOST LO caution on
- MASTER CAUTION light on
- Master Caution tone sounds

When rpm is less than 60%-
- L FLAMEOUT caution on
- "Engine Left/Right" voice warning sounds
- With engine at IDLE, it may take as long as 60 seconds before the engine shuts down.

When rpm is less than 10%-

c. Left throttle - OFF

d. Left FIRE light - RESET
- FIRE EXTGH READY light off

PROFILE			
C	15.	Verify proper switching valve operation	☐
		a. Monitor HYD pressure. As pressure decreases below 1500 psi, gently pump the stick approximately ±1 inch fore and aft at approximately two cycles per second, decreasing hydraulic pressure on shutdown engine below 800 psi. Ensure system pressure on operating engine remains above 1500 psi.	
		b. Continue gently pumping the stick while monitoring FCS page for FCS Xs and/or BLIN codes for 12 seconds after system pressure on shutdown engine drops below 800 psi. Record if present.	
		c. Monitor FCS page for FCS Xs or BLIN codes. Record if present.	
C	16.	APU - OFF	☐
C	17.	Left engine - CROSSBLEED START	☐
C	18.	Repeat steps 15 and 16 for the right engine.	☐
C	19.	Right engine - CROSSBLEED START.	☐
C	20.	Hydraulic pressure - CHECK..... ☐ • Check that HYD1 and HYD2 pressures are 2,850 to 3,250 psi.	

PROFILE

BEFORE TAXI

C 1. Before taxi procedures - PERFORM IAW Chapter 7, A1-F18AC-NFM-000 ..... ☐

C 2. BLEED AIR system- CHECK

a. Throttles - 70 % N_2

b. BLEED AIR knob - L OFF and R OFF (individually)
- Opposite engine TEMP increases 5° to 90°C.

c. BLEED AIR knob - NORM

d. FIRE test switch - TEST A (momentarily) ..... ☐
- L and R BLEED warning lights on while switch held.
- Voice alert sequence initiated.
- L and R BLD OFF cautions displayed.
- Cockpit airflow stops.

e. BLEED AIR knob - CYCLE THRU OFF TO NORM ..... ☐
- L and R BLD OFF cautions removed.
- Cockpit airflow resumes.

f. Repeat steps d and e for the TEST B position.

C 3. Flight controls - CHECK/BIT ..... ☐

PROFILE

a. If wings are folded verify both ailerons Xd out . . . . . ☐

b. Flaps - HALF . . . . . ☐

c. FCS IBIT - INITIATE
If BLIN codes other than 124, 322, 336, 4124, 4263, 4322, 4336, 4522, 4526, 4527, 4773, 4774, and 70261 remain following IBIT, the aircraft requires maintenance to identify and correct failures in the flight control system. . . . . ☐

d. AOA warning tone - Verify annunciation at FCS IBIT completion

C 4. FCC keep-alive circuitry - CHECK. . . . . ☐

a. FCC circuit breakers - Pull in sequence 1, 2, 3, and 4

b. Immediately reset in sequence 1, 2, 3, 4
- Complete within 7 seconds for valid test.
- No FCC channel completely Xd out.

C 5. Gain override switch - ORIDE

a. Check LAND advisory displayed . . . . . ☐

b. Gain override switch - NORM . . . . . ☐

C 6. Spin recovery mode - CHECK

PROFILE

a. Flaps - AUTO . . . . . .

b. Select FCS display on MPCD
(aircraft 163985 AND UP)

c. Spin recovery switch - RCVY . . . . . .

d. Check both DDIs -
SPIN MODE ENGAGED . . . . . .

e. Flaps - CHECK LEF DOWN (33° ±
1° down) TEF UP 0°(±1°). . . . . .

f. Spin recovery switch - NORM . . . . . .

C

7. Full stabilator travel verification -
Set stab trim to 4° NU and verify that:
Flaps - FULL
AFT: 24 NU
FWD: 10 ND
Wings spread - R/L AILERON:
16 differential stabilator
(Wings folded -R/L AILERON:
20 differential stabilator) . . . . . .

PROFILE

C 8. Flaps - FULL
While at full flaps, cycle stick in small circular motions (1 to 2 inches diameter) at a rate slower than one cycle per second. Stick motion should be smooth and continuous. If stick provides uncommanded movement, horizontal stabilator servocylinder and mechanical linkage troubleshooting is required prior to flight. . . . . ☐

C 9. Flaps - HALF . . . . . ☐

C 10. Trim - CHECK . . . . . ☐

a. Trim - FULL LEFT and UP

b. T/O TRIM button - PRESS UNTIL TRIM ADVISORY DISPLAYED
- Check that ailerons and rudders return to neutral, stabilator returns to 12° NU.

TAXI

C 1. Emergency brakes - CHECK . . . . . ☐
- No appreciable change in performance should be observed compared to the normal system.

PROFILE

BEFORE TAKEOFF

NOTE

In GPS/EGI equipped aircraft, do not switch INS to IFA.

C 1. Perform before takeoff IAW Chapter 7, A1-F18AC-NFM-000. . . . . ☐

TAKEOFF

C 1. 10,000 Feet FCS RIG (Symmetrically Loaded Aircraft only) - CHECK (Trim rudder to center ball prior to each roll check at each incremental airspeed).

a. Disengage any autopilot mode in 1 g flight. . . . . ☐

b. Check memory inspect unit 14, address 5016. If first and third lines are not between 177200 and 177777 or between 000000 and 000600, retrim laterally until within this range. . . . . ☐

c. Stabilize at 200 knots, release controls, time roll through 30° of bank. Record the time and direction of roll (6 seconds minimum.) . . . . . d ☐ / t

d. Stabilize at 300 knots, and repeat timed roll check (6 seconds minimum.) . . . . . d ☐ / t

PROFILE

e. Stabilize at 400 knots, and repeat timed roll check (6 seconds minimum.) ..... d t /

f. Stabilize at 500 knots, and repeat timed roll check (6 seconds minimum.) ..... d t /

g. Stabilize at 550 knots, and repeat timed roll check (6 seconds minimum.)
- The 550 knot check should not be performed if a pod is loaded on station 4 or 6. ..... d t /

MEDIUM ALTITUDE (15,000 FEET)

C 1. Flight control damping - CHECK .....

a. Airspeed - Maintain 300 to 350 KCAS

b. Make small, abrupt pitch, roll, and yaw inputs.
- Aircraft response is appropriate.
- No oscillation tendencies noted.

C 2. AFCS - CHECK

a. A/P - At 350 knots, 15,000 feet, and bank angle ≤ 5° engage autopilot. .....
- Check that aircraft maintains heading.

b. Attitude Hold .....

PROFILE

(1) Bank aircraft 45° left using CSS.
• Check that aircraft maintains attitude.

(2) Bank aircraft 45° right using CSS.
• Check that aircraft maintains attitude.

(3) Input ±10° pitch commands using CSS.
• Check that aircraft maintains heading and attitude.

c. Heading select - . . . . . .

(1) Select 30° left heading change with the HDG set switch. Select HSEL option.
• Check that heading hold is reestablished after selected heading is captured.

(2) Repeat with 30° right heading change.

d. Barometric altitude hold - . . . . . .

(1) Select BALT option during a 4,000 feet/minute climb.
• Check that altitude is captured and maintained.

(2) Repeat during 4,000 feet/minute dive.

PROFILE	
	(3) Perform 45° bank turn. • Check that altitude is maintained within ±100 feet.
C	3. Perform negative G check for FOD.

18,000 TO 10,000 FEET

C	1. LEF System - CHECK ..... ☐
	a. G-WARM - Perform
	b. Stabilize at 450 knots /10,000 feet MSL. Commence a MIL power loop with a firm initial pull to 4.5-5g. Monitor LEF position on the FCS page. Discontinue check if left-to-right split is greater than 5°. Any left-to-right split in flap position greater than 5° shall be recorded, and follow-up maintenance action is required. Do not exceed 20° AOA with a split between left and right LEF. If an HDU is weak the split should be seen during the first 90° of the loop. Greater than 5° of left or right LEF split will likely result in uncommanded roll/yaw during maneuvering flight.
C	2. FCF Profile C - Complete ..... ☐

PROFILE

REAR COCKPIT

BEFORE TAXI

Perform before taxi IAC Chapter 7, A1-F18AC-NFM-000

C 1. Speed brake - CYCLE
• On aft stick and throttle equipped F/A-18D check operation of the speed brake from the rear cockpit. . . . . .

TAXI

C 1. Emergency brakes - CHECK . . . . . .
Anti-skid inoperative

10,000 FEET TO LANDING

C 1. Flight controls and throttles - FUNCTIONALLY CHECK . . . . . .

C 2. Hand controllers - CHECK
• Verify operation of hand controllers. Selection of displays shall not affect selection in forward cockpit . . . . . .