



F-16 Block 50/52
Type Rating 4.34

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- COCKPIT – Neue Panels + DED Seiten
- COCKPIT – DTE und MFD
- COCKPIT – Caution Lights
- COCKPIT – Visier + Pilot Modell
- HOTAS – Neuigkeiten in Bedienung
- ENGINE & FUEL – Neuer Code

COCKPIT - Neue Panels + DED Seiten

IFF Panel



COCKPIT - Neue Panels + DED Seiten

EXT LIGHTING Panel



COCKPIT - Neue Panels + DED Seiten

AVTR Panel



COCKPIT - Neue Panels + DED Seiten

EHSI

PLS NAV

NAV

TCN

PLS TCN



COCKPIT - Neue Panels + DED Seiten

AVIONICS POWER Panel



COCKPIT - Neue Panels + DED Seiten

COM 1 PAGE in CNI BUP



COCKPIT - Neue Panels + DED Seiten

IFF PAGE

IFF ON		STAT		TIM	
				✱	✱
M1	13	M4	A(6)		
M2:	0504	MC	(5)		
M3	5627	OUT	(7)	M5	(8)

COCKPIT - Neue Panels + DED Seiten

LIST -> INTG PAGE

SCAN INTG		TIM
M1: 13		M4: A(6)
M2: 0504		IJAN(7)
M3: 5627	*	* DCPL(9)

COCKPIT – DTE und MFD

COLR lädt nun eigene Farbeinstellungen



COCKPIT – DTE und MFD

TCN PAGE



COCKPIT – Caution Lights

IFF CAUTION LIGHT

- IFF in STDBY
- MODE 4 disabled
- RF SWITCH in SILENT



COCKPIT – Caution Lights

CABIN PRESS CAUTION LIGHT

- Cockpit Pressure above 27.000ft
- Check Air Source Norm
- If Light stays on, descent below 25.000ft to prevent Hypoxia



COCKPIT – Visier + Pilot Modell



COCKPIT – Visier + Pilot Modell



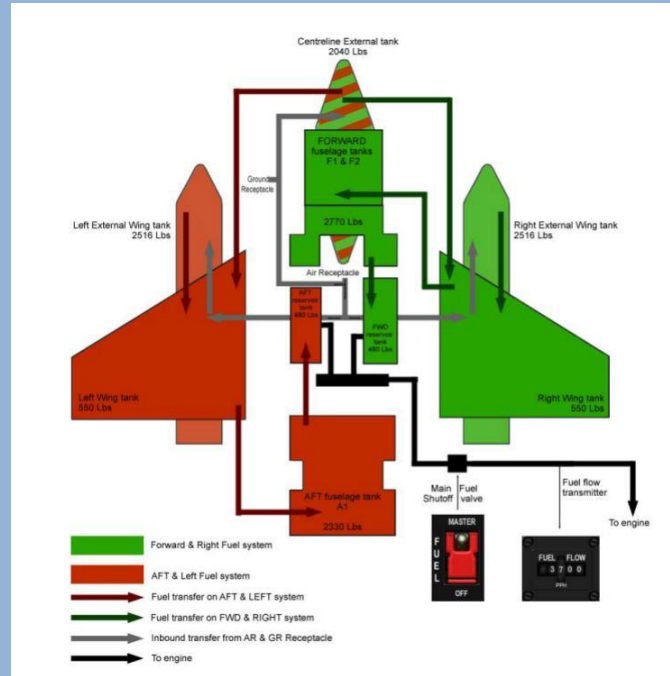
HOTAS – Neuigkeiten in Bedienung

- AG Master Mode:
 - Long Press of UNCAGE de-/activates GUN STRF
- AIM 120 Operation:
 - To shoot without Lock in BORE & SLAV now
Pickle and UNCAGE need to be pressed long
- IDM Operation:
 - COMM OUT short toggles IDM-Symbols in FCR

ENGINE & FUEL – Neuer Code

- Fuel Starvation -> OPS Check
- Fuel & Oil Leak -> Battle Damage Checks
- EPU Safety Pin
- JFS Limits
- ENG Startup & Limits

Fuel System



Please note that 4.34 introduced the possibility of flameout due to fuel starvation, even if the needles are reporting some fuel remaining. Fuel gauges are notoriously inaccurate in airplanes, especially with low fuel amounts, and this has been modelled in BMS to some extent.

Fuel Starvation -> OPS Check

First the call has to be acknowledged:

- Mamba flight, Ops check
- Two
- One is 28-32 10.4 feeding
- Two is 28-32 10.2 feeding

The format is:

Call sign (Number in the flight), A/L needle value, F/R needle value, Total Fuel, Feeding if external tanks are carried and feeding the internal wing tanks and Dry if the external tanks are empty. Once Dry has been said once it does not have to be repeated.

An imbalance condition is illustrated on the fuel quantity gauge when the red portion of the needles is visible, so each pilot can check it visually at a glance. Lead on the other hand has to ensure that the difference between the A/L and the F/R needle values do not exceed 600 Pounds each way.

Fuel & Oil Leak

3.7.10 Fuel leak

Battle damage may cause fuel leaks. Fuel leaks may be noticed visually with a sudden drop of fuel quantity at the time of battle damage and an abnormally fast needle movement (towards empty).

Fuel leak may induce fuel imbalance obviously. Afterburner use should be avoided.

As soon as a fuel leak is suspected the range should be maximised and a climb to higher altitude made to maximise the glide range. SFO should be planned for landing.

Fuel leak may be minimised by identifying the source of the leak and bypassing automatic forward fuel transfer by placing the FUEL QTY SEL knob out of the NORM position.

ENG FEED may be placed accordingly depending on the source of the leak to counter the imbalance. In any case, a fuel leak is a critical in-flight emergency and landing should be planned ASAP.

3.7.11 Oil Leak

Battle damage may lead to oil loss and the engine cannot work without oil. An oil leak may be noticed on the OIL pressure gauge. Oil pressure is dependent on throttle setting and must be minimum 30 psi at flight idle for the PW engine and minimum 25 psi at flight idle for the GE engine F-16. Any pressure below these limits should be considered as an in-flight emergency and landing should be considered as soon as possible.

Please note the HYD OIL PRESS warning light may not illuminate immediately. Oil pressure issues are usually slow to develop.

Whenever suspecting an OIL pressure loss minimise throttle movement (place throttle around 80% and try to leave it there unless absolutely required), minimise manoeuvring and plan for a SFO approach at the earliest convenience.

You may activate the EPU and monitor hydrazine consumption. If you leave the EPU OFF, be ready to turn it ON as soon as the engine seizes.

Battle Damage Checks

3.7.12 Battle Damage Checks

4.34 seriously increased the possibility of system failures due to battle damage. Engine stalls, fuel leaks and oil leaks are a real possibility and further emphasise the need for battle damage checks.

It is therefore advised to request a battle damage check from one of your human wingmen (if available) to visually check the extent of the damage.

Fuel leaks and oil leaks may be visible from your wingman's perspective. Both create white smoke, but oil leaks always originate from the engine while fuel leaks may originate from either tanks (wing, fuselage, etc.)

EPU Safety Pin



JFS Limits

JFS:

JFS start limits for air-start: less than 20000 feet, less than 400 knots.

JFS operating time: 4 minutes. Past 4 minutes of operation the JFS may overheat on the ground. Overheat is indicated by a 1 hertz (once per second) flashing JFS light. Stop the JFS to allow cooling. When JFS light stops flashing the JFS has cooled enough to be started again.

Failure to let the JFS cool may break the JFS. JFS failure is indicated by a 2 hertz flashing JFS light.

The JFS does not shut off automatically during air-start. While it will not overheat in the air the pilot should switch it off when it is no longer needed.

Moving canopy during JFS running may result in a failed JFS start or premature JFS shutdown due to a reduction in electrical power available to the JFS. Close the canopy before switching the JFS on.

Engine Startup & Limits

- Hung Start -> Falsche Konfiguration
- Engine Start in BATT -> Erhöhte HotStart Chance
- Engine Start in BATT -> UFC, MFDs, etc nix working

Engine Startup & Limits

3.5.3 HOT START

BMS 4.34 introduced the possibility of engine start failure due to pilot error. Advancing the throttle to IDLE *before* the JFS has spun the engine up to 20% RPM may cause a HOT START with FTIT rising very quickly above the 800°C (PW) or 935° (GE) ground limits.

During engine start the pilot **must** wait for engine RPM to reach 20% **before** moving the throttle to IDLE, then closely monitor FTIT temperature. If the needle starts to move quickly to 750°C and above a hot start is occurring and the engine must be immediately shut down. Failure to interrupt the engine start will damage the engine, leading to engine fire with FTIT rising to well over 1000°C.

After moving the throttle back to the CUTOFF position (click idle detent if necessary) keep the JFS running as it helps to cool down the engine. Allow FTIT to fall to 200°C before advancing the throttle to IDLE to attempt another engine start.

In addition there is a small, random chance that even with no pilot error a HOT START could develop. It is now mandatory to closely monitor FTIT during engine start and intervene if necessary.

Note: after 4 minutes running (on the ground) the JFS will start to overheat (JFS light will flash once per second). After 8 minutes running (on the ground) the JFS will fail (light flashes twice per second) and you will no longer be able to start the engine. To avoid this you should shut down the JFS if necessary to let it cool (the lamp will stop flashing when it has cooled sufficiently), before asking your crew chief to spend 3 minutes recharging it (ATC > Ground menu page).

Engine Startup & Limits

ENGINE F100 PW-229 (blocks ending with a 2 (Block 32, 42, 52))				
GROUND				
CONDITION	FTIT (°C)	RPM (%)	OIL (psi)	REMARKS
START	800	-	-	If FTIT rises past 750°C, expect a hot start
IDLE	625	-	15 (min)	If Oil remains under 15 psi, expect engine failure and /or fire
MIL/AB	1070	97	30 - 95	At MIL and above, oil pressure must increase 15 psi minimum above idle oil pressure
IN FLIGHT				
AIRSTART	870	-	-	-
IDLE	-	-	15 (min)	-
MIL/AB	1070	97	30 - 95	Oil pressure must increase as RPM increases

ENGINE F110 GE-229 (blocks ending with a 0 (Block 30, 40, 50))				
GROUND				
CONDITION	FTIT (°C)	RPM (%)	OIL (psi)	REMARKS
START	935	-	-	If FTIT rises past 750°C, expect a hot start
IDLE	650	-	15 (min)	If Oil remains under 15 psi, expect engine failure and /or fire
MIL/AB	980	108	25 - 65	At MIL and above, oil pressure must increase 10 psi minimum above idle oil pressure.
IN FLIGHT				
AIRSTART	935	-	-	-
IDLE	-	-	15 (min)	-
MIL/AB	980	108	25 - 65	Oil pressure must increase as RPM increases



Danke für die
Aufmerksamkeit!

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