

## WELCOME TO THE FALCON BMS CHECKLISTS!

### TABLE OF CONTENT

<b>TABLE OF CONTENT .....</b>	<b>1</b>
1. Checklist Versions.....	1
2. Checklist Sections.....	2
3. Checklist Navigation .....	3
4. Checklist handling – Train to react fast but read through when time permits .....	4
5. BMS Faults.....	5
6. PRINTING BMS KNEEBOARDS ON PAPER .....	5
7. 3D Kneeboards .....	5

### 1. Checklist Versions

For each folder we have prepared two PDF versions:

1. “Print” versions are for to print the checklists on paper (refer to chapter 6).
2. “Kneeboard” versions are cropped versions with hyperlink functions for mobile devises (tablets, smartphones).
  - a) Block 25-32: **T.O. BMS1F-16C-1CL-1** (*Work in progress*)
  - b) Block 40-52: **T.O. BMS1F-16CM-1CL-1**
  - c) Block 52+: **T.O. BMS1F-16CJ-1CL-1**

## 2. Checklist Sections

### SECTION "N"

"N" stand for "Normal Procedures". Those procedures describe in detail how to prepare and check the F-16 cockpit and systems when operating at the following stages:

- Pre-/Post engine start
- Pre-/Post taxi
- Pre-/Post takeoff
- In-flight/Operational
- Pre-/Post landing.

Please note that the Blk40-52 and Blk25-32 checklists include different engine variations for some "Section N" chapters. Make sure you refer to the correct engine depending on the F-16 block you fly with.

### SECTION "X"

"X" stand for "Familiarization Procedures". It will normally be accomplished between BEFORE ENTERING COCKPIT and COCKPIT INTERIOR CHECK.

### SECTION "EP"

"EP" stand for "Emergency Procedures". Those procedures describe in detail how to react in case of an emergency in the F-16 when operating at the following stages:

- Pre-/Post engine start
- Pre-/Post taxi
- Pre-/Post takeoff
- In-flight/Operational
- Pre-/Post landing.

Please note that the Blk40-52 and Blk25-32 checklists include different engine variations for some "Section EP" chapters. Make sure you refer to the correct engine depending on the block you fly with.

### SECTION "AR"

"AR" stand for "Air Refueling Procedures". Those procedures describe in detail how to act in for air-to-air refueling and case of an emergency during refueling.

### 3. Checklist Navigation

When using the kneeboard PDF version of the BMS checklists, all sections and menus/sub-menus have a hyperlink function included to navigate quickly between sections and chapters (see red areas in the picture on the right).

When using the Blk40-52 or the Blk25-32 checklists, each engine type has its own TAB C (Engine Malfunctions). Make sure you are navigating to the correct engine type.

T.O. BMS1F-16CM-1CL-1		TABLE
Engine Malfunctions <b>PW220</b>		<b>P</b>
1. If <b>ENGINE</b> is on, check RPM and FTIT indications. If RPM and FTIT indications are normal, land as soon as practical.		<b>W</b>
<b>HOT START (GROUND)</b> ..... C-5/PW		<b>2</b>
<b>HUNG START/NO START</b> ..... C-7/PW		<b>0</b>
<b>ENGINE AUTOACCELERATION (GROUND)</b> ..... C-7/PW		<b>P</b>
<b>FIRE/OVERHEAT/FUEL LEAK (GROUND)</b> ..... C-9/PW		<b>W</b>
<b>ENGINE FAILURE ON TAKEOFF</b> ..... C-11/PW		<b>2</b>
<b>AB MALFUNCTION ON TAKEOFF</b> ..... C-13/PW		<b>2</b>
<b>LOW THRUST ON TAKEOFF OR AT LOW ALTITUDE (NON-AB)</b> ..... C-13/PW		<b>9</b>
<b>ENGINE FIRE</b> ..... C-15/PW		<b>G</b>
<b>OVERHEAT CAUTION LIGHT</b> ..... C-17/PW		<b>E</b>
<b>ENGINE VIBRATIONS</b> ..... C-19/PW		<b>1</b>
<b>OIL SYSTEM MALFUNCTION</b> ..... C-19/PW		<b>0</b>
<b>ZERO RPM/ERRONEOUS RPM INDICATION</b> ..... C-21/PW		<b>0</b>
<b>ENGINE STALL RECOVERY</b> ..... C-21/PW		<b>G</b>
<b>ABNORMAL ENGINE RESPONSE</b> ..... C-23/PW		<b>E</b>
<b>NOZZLE FAILURE</b> ..... C-25/PW		<b>1</b>
<b>LOW ALTITUDE ENGINE FAILURE OR FLAMEOUT</b> ..... C-27/PW		<b>2</b>
<b>STUCK THROTTLE</b> ..... C-27/PW		<b>9</b>
<b>SEC CAUTION LIGHT</b> ..... C-29/PW		<b>G</b>
<b>ENGINE FAULT CAUTION LIGHT</b> ..... C-29/PW		<b>E</b>
<b>AIRSTART PROCEDURES</b> ..... C-31/PW		<b>1</b>
<b>FLAMEOUT LANDING</b> ..... C-33/PW		<b>2</b>
C-2/PW		<b>9</b>
		<b>TABLE</b>
		<b>N</b>
		<b>X</b>
		<b>EP</b>
		<b>EP</b>
		<b>GROUND</b>
		<b>EP</b>
		<b>TAKEOFF</b>
		<b>EP</b>
		<b>INFLIGHT</b>
		<b>EP</b>
		<b>LANDING</b>
		<b>AR</b>

**PW 200** Pratt & Whitney F100-PW-200 engine (Block 25)

**GE 100** General Electric F110-GE-100 engine (Block 30).

**PW 220** Pratt & Whitney F100-PW-220 engine (Block 32)

**GE 100** General Electric F110-GE-100 engine (Block 40).

**PW 220** Pratt & Whitney F100-PW-220 engine (Block 42).

**GE 129** General Electric F110-GE-129 engine (Block 50).

**PW 229** Pratt & Whitney F100-PW-229 engine (Block 52).

## 4. Checklist handling – Train to react fast but read through when time permits

Real life pilots know most of their checklists by heart. Especially in an emergency situation, every second counts so muscle memory and learned procedures from real life pilot training comes through.

However, checklists are there for a reason. Especially in non-emergency situations, aircrews are trained to use/read checklists for every procedure when time permits and safety is given. This starts on the ground before entering the cockpit and ends after shutting down the engine. Use the BMS checklists as often as possible and train emergency procedures in different scenarios and situations. In BMS, you can use scripted faults to shorten your reaction time, build up muscle memory and increase your chance to survive and bring the jet home.

### 4.1 Emergency Procedures – Format

T.O. BMS1F-16CM-1CL-1	T.O. BMS1F-16CM-1CL-1
<p>OTHER CONSIDERATIONS:</p> <p>1. Assume engine alternator is inoperative or malfunctioning. If the engine is shut down, an airstart may not be possible.</p> <p>2. Non-AB stalls may be inaudible.</p> <p>3. Stalls may be caused by anti-ice valve failing to close at high thrust setting (throttle above midrange).</p> <p>4. Shutting down the engine with an engine alternator failure (indicated by zero or erroneously low rpm, illuminated SEC caution light, illuminated ENGINE warning light, and normal thrust) results in no ignition for an airstart.</p> <p>5. If a non-AB stall clears, maintain throttle at midrange or below unless required to sustain flight, and jettison stores (if required).</p> <p>6. If an AB stall clears, the engine is safe to operate in the IDLE to MIL range, provided no other abnormal indication is observed. Attempt further AB operation only if needed to sustain flight.</p> <p>C-20/PW29</p>	<p><b>ZERO RPM/ERRONEOUS RPM INDICATION</b> PW229 1.1W</p> <p>If SEC caution light is illuminated:</p> <ol style="list-style-type: none"> <li>Go to SEC CAUTION LIGHT PW229 page C-29.</li> </ol> <p>If SEC caution light is not illuminated:</p> <ol style="list-style-type: none"> <li>Land as soon as practical.</li> </ol> <p><b>ENGINE STALL RECOVERY</b> PW229</p> <p>If an AB stall(s) occurs:</p> <ol style="list-style-type: none"> <li>Throttle – Snap to MIL.</li> </ol> <p>If AB stalls do not clear or stall(s) occurs below AB 2:</p> <ol style="list-style-type: none"> <li>Throttle – IDLE.</li> <li>ANTI ICE sw – OFF when conditions permit. 3</li> </ol> <p>If stalls continue at idle and engine rpm is less than 60 percent with no rpm response to throttle movement:</p> <ol style="list-style-type: none"> <li>Throttle – OFF. Initiate airstart. Refer to AIRSTART PROCEDURES, page C-31. 4.1W</li> </ol> <p>If non-AB stall(s) clears:</p> <ol style="list-style-type: none"> <li>Throttle - Midrange or below. 5</li> <li>Land as soon as possible.</li> </ol> <p>END</p> <p>C-21/PW29</p>

Most of the emergency procedures have additional explanation (also known as “Other Considerations”).

Above on the right side you see the main checklist (page C-21/PW29). If additional information/explanation is available, you see a little number in some lines. Those numbers refer to additional information mentioned always one page before (in this case: C-20 PW29).

## 5. BMS Faults

You find all possible system faults in the BMS Technical Manual, chapter 14.6.2 (“Fault Codes”).

As this list shows, not all chapters of the new BMS checklists coming with 4.37 (especially in the “EP” section) can be used yet because the implementation of certain faults and the desired “effect” may vary from RL for now.

## 6. PRINTING BMS KNEEBOARDS ON PAPER

All BMS kneeboards come in a 4,5 x 9 inch format. Every page has a registration dashed line included (see the picture on the right).

As per real life, all pages should be printed on both sides. The paper color is light yellow in order to help within cockpit and low light conditions (if you have both of those). After printing the checklists out, the registration dashed line is your crop-line. We recommend to go to an office supplies store. They can help you with cropping, adding binder holes and bind the checklists.

**T.O. BMS1F-16CM-1CL-1**

**Engine Malfunctions PW229**

1. If **ENG FIRE** is on, check RPM and FTIT indications. If RPM and FTIT indications are normal, land as soon as practical.

	Page
HOT START (GROUND) .....	C-5/PW29
HUNG START/NO START .....	C-7/PW29
ENGINE AUTOACCELERATION (GROUND) .....	C-7/PW29
FIRE/OVERHEAT/FUEL LEAK (GROUND) .....	C-9/PW29
ENGINE FAILURE ON TAKEOFF .....	C-11/PW29
AB MALFUNCTION ON TAKEOFF .....	C-13/PW29
LOW THRUST ON TAKEOFF OR AT LOW ALTITUDE (NON-AB) .....	C-13/PW29
<b>ENG FIRE</b> ENGINE FIRE .....	C-15/PW29
<b>OVERHEAT</b> OVERHEAT CAUTION LIGHT .....	C-17/PW29
ENGINE VIBRATIONS .....	C-19/PW29
<b>HYD/OIL PRESS</b> OIL SYSTEM MALFUNCTION .....	C-19/PW29
ZERO RPM/ERRONEOUS RPM INDICATION .....	C-21/PW29
ENGINE STALL RECOVERY .....	C-21/PW29
ABNORMAL ENGINE RESPONSE .....	C-23/PW29
NOZZLE FAILURE .....	C-25/PW29
LOW ALTITUDE ENGINE FAILURE OR FLAMEOUT .....	C-27/PW29
STUCK THROTTLE .....	C-27/PW29
<b>SEC</b> SEC CAUTION LIGHT .....	C-29/PW29
<b>ENGINE FAULT</b> ENGINE FAULT CAUTION LIGHT .....	C-29/PW29
AIRSTART PROCEDURES .....	C-31/PW29
FLAMEOUT LANDING .....	C-33/PW29

C-2/PW29

## 7. 3D Kneeboards

For now, you can use 16 pages per 3d kneeboard each (left and right) in BMS. Of course, this cannot cover all pages of the checklists. We recommend to use a printed version for now.

To all VR users: refer to this third party software which works in BMS

<https://github.com/OpenKneeboard/OpenKneeboard/releases>