

DCS Apache Start Checklist

NOTE

The following procedures are to be completed after pre-flight. Since there is a large amount of commonality between crewstations, checks are combined to save space. Checks specific to the Pilot crewstation will be denoted by (PLT) and checks specific to the CPG crewstation will be denoted by (CPG). Where checks are common, they will be denoted by (PLT/CPG).

1.1 Interior Checks

Upon entering the crewstation, check the following:

1. (PLT/CPG) Canopy door, check then as desired (open or intermediate position).

Check the following along the left side of the crewstation, beginning in the back left corner:

2. (PLT) **EXT LT/INTR LT** panel – Set **NAV** lights to **BRT**, **ANTI-COL OFF** and **PRIMARY** to **BRT**.

3. (CPG) **INTR LT** panel – Set **PRIMARY** to **BRT**.

4. (PLT/CPG) Power levers – **OFF**.

5. (PLT) **ENG START** switches – **OFF**.

6. (PLT) **RTR BRK** switch – **OFF**.

7. (PLT/CPG) **NVS MODE** switch – **OFF**.

On the front panel, beginning on the left side check:

8. (PLT/CPG) **KU** brightness knob – As desired.

9. (PLT) **VIDEO** panel – Check and position knobs to **12 o'clock position**.

10. (PLT/CPG) **MPD** and **EUFD** brightness knobs – As desired.

11. (PLT) **CMWS** Control Indicator **PWR** switch – **OFF**.

12. (PLT) **CMWS** Control Panel – Set Switches as follows:

a. **CMWS/NAV** – **CMWS**.

b. **BYPASS/AUTO** – **AUTO**.

c. **JETTISON** – **Off** (cover closed).

13. (CPG) **TEDAC Right Handgrip LT** switch – **OFF**

14. (PLT) **PARK BRAKE** – Set, handle out.

15. (PLT) Standby flight instruments – Check:

a. Attitude indicator – **Caged**.

Check the following along the right side of the crewstation:

16. (PLT/CPG) **COMM** panel switches – As desired.

17. (PLT/CPG) HDU – Check and adjust as required.

1.2 Before Starting APU

Once the interior checks are complete:

1. (PLT) **MSTR IGN** switch – **BATT**.

2. (PLT) Searchlight – As required.

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3. (PLT) **TAIL WHEEL** button – Locked, **UNLOCKED** light is **off**.
4. (PLT/CPG) **EMERG HYD** button – Verify pushbutton **ON** light is **off**.
5. (PLT) **EXT LT/INTR LT** panel – **PRESS-TO-TEST** button illuminates all signal lights – Check.
6. (CPG) **INTR LT** panel – **PRESS-TO-TEST** button illuminates all signal lights – Check.
7. (PLT/CPG) **MSTR WARN, MSTR CAUT,** and **EUFD** – Check.

8. **FIRE DET/EXTG** panel **TEST** switch – Test as follows:

a. (PLT) Position 1: - **MSTR WARN, ENG 1, APU** and **ENG 2 FIRE** buttons are illuminated, an **AFT DECK FIRE** warning is displayed on the **EUFD** and voice warning system is activated.

b. (CPG) Position 2: - **MSTR WARN, ENG 1, APU** and **ENG 2 FIRE** and **DISCH** buttons are illuminated, an **AFT DECK FIRE** warning is displayed on the **EUFD** and voice warning system is activated.

1.3 Starting APU

WARNING

With the Interior and Before Starting APU checks complete, it is now time to start the APU. During extended APU operations, monitor the XMSN OIL temperature on the ENG SYS page. Do not exceed operations for greater than 5 minutes at a XMSN OIL temperature of 120° to 130°

C. If the temperature exceeds 130° C, shut the APU down and allow the XMSN OIL temperature to cool for 30 minutes.

1. (PLT) APU – Start as follows:

a. **APU** button – Press and release.

b. **EUFD** – Observe for “**AP START**”, “**APU POWER ON**” and “**ACCUM OIL PRESS LO**” advisories.

1.4 After Starting APU

Now that the APU has been started, perform the following:

1. (PLT/CPG) Canopy door, check then as desired (open or intermediate position).

2. (PLT/CPG) **DTU** page – Select **LOAD**.

3. (PLT/CPG) **MENU** page – Systems configuration – Perform DMS sweep.

1.5 Data Management System (DMS) Sweep

NOTE

The Data Management System (DMS) sweep is meant to pre-configure aircraft pages for use during flight. While conducting the DMS sweep, it is important to be consistent. As an example, technique, the sweep of any specific page begins at the top of the MPD and moves clockwise to the right, along the bottom and finishing on the left of the MPD. Other techniques may be used based on crewmember preferences or specific mission requirements.

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Perform the DMS sweep as follows:

1. (PLT/CPG) **'M'** (B1) button – Press.

a. **ASE** (L3) – Select.

(1) **UTIL** (T6) – Select.

(2) **RLWR** - enable

(2) **RLWR VOICE** (R5) –
Set as desired.

(3) Chaff settings (L2-L5)
Set as desired.

(4) **CHAFF** mode (L1) –
Set as desired.

(5) **UTIL** (T6) – Deselect.

b. **AUTOPAGE** (R1) – Set as
desired.

2. (PLT/CPG) **TSD** Button – Press.

a. **SHOW** (T3) – Select and
configure **NAV SHOW** options.

(1) **PHASE** (B2) – Select
ATK and configure ATK
phase **SHOW** options.

(2) **THRT SHOW** (T5) –
Select and configure
THRT SHOW options.

(3) **COORD SHOW** (T6)
– Select and configure
ATK phase **COORD
SHOW** options.

(4) **PHASE** (B2) – Select
NAV and configure **NAV**
phase **COORD SHOW**
options.

(5) **SHOW** (T3) –
Deselect.

3. **UTIL** (T6) – Select.

a. **TIME** (R2) – Set
Zulu/Local as desired.

b. **SYSTEM TIME>** (R3)
– Update Local time if
necessary.

c. **DOPPLER** - On

d. **UTIL** (T6) – Deselect.

d. **SCALE** (R1 & R2) – Set as
desired.

e. **CTR** (R3) – Set as desired.

f. **RTE** (B5) – Select.

(1) **DIR** (L5) – Set to
desired point.

(2) **RTE** (B5) – Deselect.

g. **MAP** (B4) – Select.

(1) **GRID** (T5) – Set as
desired.

(2) **ORIENT** (R5) – Set
as desired.

(3) **COLOR BAND** (L4) –
Set as desired.

(4) **SCALE** (L3) – Set as
desired.

(5) **TYPE** (L2) – Set as
desired.

(6) **MAP** (B4) – Deselect.

h. **INST** (L1) – Select.

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- (1) **UTIL** (T6) – Select.
- (2) **ADF** (B6) – Turn on ADF.
- (3) Configure ADF as desired.
- (4) **UTIL** (T6) – Deselect.
- (5) **INST** (L1) – Deselect.
- 4. (PLT/CPG) **WPN** Button – Press.
 - a. **GRAYSCALE** (L6) – Select and optimize.
 - b. **BORESIGHT** (B5) – Select and perform **IHADSS boresight**.
 - c. **BORESIGHT** (B5) – Deselect.
 - d. **GUN** (B2) – Select.
 - (1) Set desired **BURST LIMIT** L1 thru L5 and **MODE** on R2.
 - e. **MSL** (B3) – Select.
 - (1) **CODE** (T4) – Select.
 - (2) **SET** (T2) – **Select LRFD** and set as desired.
 - (3) **SET** (T2) – Select **LST** and set as desired.
 - (4) **SET** (T2) – Deselect.
 - f. Set/Verify **PRI** (L1) matches the LRFD.
 - g. Set/Verify **ALT** (L2) matches the LST.
 - h. **RKT** (B5) – Select.
 - i. **INVENTORY** (L1 thru L5) – Select as desired.
 - j. **QTY** (R1) – Set as desired.
 - k. **RKT** (B5) – Deselect.
 - l. **ACQ** (R6) – Set as desired, **FS** select **SLAVE** for cueing dots.
 - m. **MANRNG>** (B6) – Set as desired or enter '**A**' for Auto-Range.
- 5. (PLT/CPG) **A/C** Button – Press.
 - a. **FLT** (T2) – Select.
 - (1) **SET** (B6) – Select.
 - (2) **HI>** (T1) – Set as desired.
 - (3) **LO>** (T3) – Set as desired.
 - (4) **UNIT** (T4) – Set as desired.
 - (5) **ALT>** (T5) – Set airfield elevation if known.
or
 - (6) **PRES>** (T6) – Set altimeter if known.
 - (7) **UNIT** (B2) – Set as desired.
 - (8) **RADAR ALT** - On

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- (8) **SET** (B6) – Deselect.
- b. **FUEL** (T3) – Select.
 - (1) **CHECK** (B6) – Select.
 - (2) Set timer as desired on R2 thru R4.
 - (3) **CHECK** (B6) – Deselect.
- c. **PERF** (T4) – Select.
 - (1) **WT** (B6) – Select.
 - (2) **AC BASIC WEIGHT>** (L1) – Verify/Update.
 - (3) **LEFT AFT BAY>** (L2) – Verify/Update.
 - (4) **SURVIVAL KIT BAY>** (L3) – Verify/Update.
 - (5) **PILOT>** (L4) – Verify/Update.
 - (6) **CPG>** (L5) – Verify/Update.
 - (7) **WT** (B6) – Deselect.
- d. Verify **PERF** page with Performance Planning Card (PPC) and ensure aircraft is within CG (Center-of-Gravity) limits.
- e. **UTIL** (T6) – Select.
- f. **SYSTEM** (R1) – Set as desired.
 - (1) Set **ANTI-ICE** as desired on R3 thru R6.

6. (PLT/CPG) **COM** Button – Press.
WILL BE UPDATED LATER IN EA

- a. **MAN** (B2) – Select.

(1) **VHF FREQ>** (L1),
UHF FREQ> (L2), **FM1 FREQ>** (L3), and **FM2 FREQ>** (L4) – Set as desired.

NOTE

Once all pages have been configured/updated as desired, set MPD page selections as desired. A common technique is to use the **left MPD** as the “working” MPD, while the **TSD** is permanently displayed on the **right**.

1.6 Weapon Operational Checks

- 1. (PLT/CPG) Select **WPN** page
- 2. (PLT) Verify Weapon Loadout matches CPG Weapon Loadout
- 3. (PLT) **GND ORIDE – ON, A/S – ARM**
 - a. CPG Verify **GND ORIDE** and **A/S** indicators match.
 - b. (PLT/CPG) Verify **ARM** is displayed on **WPN** page.
- 4. (PLT) Select **GUN** on **WEAPON ACTION SWITCH** on cyclic.
 - a. (PLT) Verify rounds indicated on **WPN** page match loadout. Set **RANGE** on **B5** as desired. Verify **RANGE** on **B5** matches in IHADSS display.

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- b. (CPG) Verify P-GUN indications in **IHADSS**.
 - c. (PLT) Deselect **GUN**
5. (PLT) Select **ROCKETS** using **WEAPON ACTION SWITCH** on the cyclic.
- a. (PLT) Verify rockets indicated on **WPN** page on in **IHADSS** match loadout. Verify loadout zones for different rocket types if applicable.
 - b. (CPG) Verify **P-RKTS** is indicated in **IHADSS**.
 - c. (PLT) Verify rocket symbology is indicated and rocket steering cue slews per head movement.
 - d. (CPG) Select **ROCKETS** using **WEAPON ACTION SWITCH** on **LHG** of **TEDAC**.
 - e. (PLT/CPG) Verify **COOP** is indicated on **IHADSS**.
 - f. (PLT/CPG) Deselect **ROCKETS**.
6. (PLT) **GND ORIDE – OFF, A/S – SAFE**
7. (CPG) **GND ORIDE – ON, A/S – ARM**
- a. (PLT) Verify **GND ORIDE** and **A/S** indicators match.
 - b. (PLT/CPG) Verify **ARM** is displayed on **WPN** page.
8. (CPG) Select **GUN** using **WEAPON ACTION SWITCH** on **LHG** of **TEDAC**.
- a. (CPG) Verify rounds indicated match loadout. Set **RANGE** on **B5** as desired. Verify **RANGE** on **B5** matches in **IHADSS** display.
 - b. (PLT) Verify **CGUN** indications in **IHADSS**.
 - c. (CPG) Deselect **GUN**
9. (PLT) Select **ROCKETS** with **WEAPON ACTION SWITCH** on **LHG** of **TEDAC**.
- a. (CPG) Verify rockets indicated on **WPN** page match loadout. Verify loadout zones for different rocket types if applicable.
 - b. (CPG) Verify rocket symbology is indicated and rocket steering cue slews per selected **ACQ** source. Verify **TADSS** and **PHS ACQ** move the rocket steering cue appropriately.
 - c. (CPG) Deselect **ROCKETS**
10. (CPG) Select **MISSILE** using **WEAPON ACTION SWITCH** on **LHG** of **TEDAC**.
- a. (CPG) Verify missiles indicated on **WPN** page match loadout.
 - b. (CPG) Verify **LST** and **LRFD** codes are set IAW mission parameters.
 - c. (PLT/CPG) Verify **CMSL** is indicated in **IHADSS**.
 - d. (CPG) Deselect **MISSILE**.

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1.7 Before Starting Engines

Prior to starting the engines, perform the following:

1. (PLT/CPG) **NVS** mode switch – As desired.
2. (PLT) Standby attitude indicator – Uncage.

1.8 Starting Engines

1. (PLT) Area around helicopter – Clear

CAUTION

Rotor locked engine starts shall not be performed with a rotor blade directly over the exhaust for the engine being started.

2. (PLT) **RTR BRK** switch – **OFF**, or **LOCK** if performing a rotor lock start.
3. (PLT) **EXT LT – ANTI-COL - WHT** for day or **RED** for nights.

CAUTION

During the start if the TGT appears it will exceed 851°C prior to NG idle speed of 63%; if TGT, NP and ENG OIL PSI do not increase within 45 seconds after moving power lever to idle; or if the ENG 1 or 2 START advisory is removed prior to attaining 52% NG, abort the start by taking the power lever to OFF.

NOTE

While starting the engines, select an **ENG** and an **ENG SYS** page to monitor aircraft indications and perform the following:

4. (PLT) First engine – Start as follows:

- a. **ENG START** switch – **START**, observe **ENG # START** advisory on the **EUFD** and **START** box displayed on the **ENG** page.

CAUTION

Prior to advancing the power lever to **IDLE**, verify **TGT** is less than **80° C**.

- b. Power lever – **IDLE**, at first indication of Ng increase.
- c. **ENG OIL PSI** – Monitor.
- d. **TGT** – Monitor.
- e. **NG** – Monitor.
- f. **MSTR WARN, MSTR CAUT**, and **EUFD** – Monitor.

5. (PLT) Second Engine – Repeat the steps above.

6. (PLT) **RTR BRK** switch – **OFF**.

CAUTION

Prior to advancing the power levers to FLY, confirm that both ENG 1 and 2 OIL PSI readouts are less than 70 PSI and the NGB TEMP readouts are above 20° C.

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7. (PLT) **POWER** levers – Advance both **POWER** levers smoothly to **FLY** and ensure that both torque indications increase simultaneously.

8. (PLT) **NP** and **NR** – Verify 101%.

9. (PLT) **MSTR WARN**, **MSTR CAUT**, and **EUFD** – Monitor.

10. (PLT) **APU** – Off.

1.9 Before Taxi

Prior to initiating ground taxi, perform the following:

1. (PLT) **EXT LT** panel – Verify **NAV** lights to **BRT**, set **ANTI-COL - WHT** for day or **RED** for night.

2. (PLT/CPG) Searchlight – As required.

3. (PLT) **PARKING BRAKE** – Released, handle in.

4. (PLT) **TAIL WHEEL** button – **UNLOCK** as desired, verify unlocked, light on.

1.10 During Ground Taxi

During ground taxi, perform the following:

1. (PLT/CPG) Wheel brakes – Check in both crew stations by applying a slight amount of pressure against the toe brakes.

2. (PLT) **ENG** page – Check, **NP/NR** 101%, all indications green.

3. (PLT) **FLT** page – Check and set/update altimeter.

4. (PLT) Pilot standby instruments – Check and set/update altimeter.

1.11 Before Takeoff

Perform the following prior to picking up to a hover:

1. (PLT/CPG) Weapons Subsystem – Check the following:

a. **A/S** button – **SAFE**.

b. **GND ORIDE** button – Off.

c. Weapons not actioned – Verify in the **High Action Display (HAD)**.

2. (PLT/CPG) **TAIL WHEEL** button – Locked, **UNLOCKED** light is **off**.

3. (PLT) **PARK BRAKE** – Released, handle in or as desired.

4. (PLT/CPG) Systems – Check as follows:

a. **FUEL** page options – Verify

(1) **XFER** – **AUTO**.

(2) **XFEED** – **NORM**.

(3) **BOOST** – **OFF**.

(4) **CHECK** page – select page and start a 15-minute fuel check.

(5) **CHECK** page – De-select.

b. Fuel quantity – Check and verify enough fuel for the mission to be flown.

c. **EUFD** – Check clear of Warnings and Cautions.

d. Engine and flight instruments – Check:

(1) **NP/NR** 101%, all indications green.

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(2) Update altimeter as required on **FLT** page and pilot's standby altimeter.

e. **ASE** – As required.

f. Avionics – As desired.

(1) Transponder – **NORM**, or as desired and squawking appropriate codes.

(2) **COMM** – As desired, verify in **EUFD**.

(3) **NAV** – Update navigation direct or select desired route.

NOTE

Prior to performing the hover power check, ensure an **ENG** page and **PERF** page are displayed.

g. Hover Power Check – Perform.

1.12 Before Landing Check

Before landing perform the following:

1. (PLT/CPG) Weapons Subsystem – Check the following:

a. **A/S** button – **SAFE**.

b. **GND ORIDE** button – Off.

c. Weapons not actioned – Verify in the **High Action Display (HAD)**.

2. (PLT/CPG) **ASE** – As required.

3. (PLT/CPG) **TAIL WHEEL** button – Locked, **UNLOCKED** light is **off**.

4. (PLT) **PARK BRAKE** – Released, handle in or as desired.

1.13 After Landing Check

After landing, perform the following:

1. (PLT/CPG) **TAIL WHEEL** button – As desired.

2. (PLT) Exterior lights – As required.

4. (PLT/CPG) Avionics – Transponder to STBY.

1.14 Shutdown

Once established in parking, perform the following:

1. (PLT) **APU** – Start as follows:

a. **APU** button – Press **ON**.

b. **EUFD** – Observe for **APU START, APU POWER ON and ACCUM OIL PRESS LO**.

2. (PLT) **TAIL WHEEL** button – Locked, **UNLOCKED** light is **off**.

3. (PLT) **PARK BRAKE** – Set, handle **out**.

NOTE

Prior to retarding the power levers to **IDLE** verify the **APU ON** advisory is displayed on the **EUFD**.

4. (PLT) Power levers – **IDLE**, start 2-minute timer on **EUFD**.

5. (PLT) Standby attitude indicator – **Cage**.

6. (PLT) **CMWS Control Indicator PWR** switch – **OFF**.

7. (PLT/CPG) **NVS MODE** switch – **OFF**.

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8. (PLT/CPG) **ACM** switch – **OFF**.
9. (PLT) Power levers – **OFF**, after 2 minutes has elapsed.
10. (PLT) **RTR BRK** switch – BRK, when NR is less than 50%.
11. (PLT) Stabilator – Manually set to **0°** using the **ENG SYS** page.
12. (PLT) Search Light – **OFF**.
13. (PLT) **RTR BRK** switch – **OFF** after rotor has stopped.
14. (PLT) **EXT LT/INTR LT** panel switches – **OFF**.
15. (CPG) **INTR LT** panel switches – **OFF**.