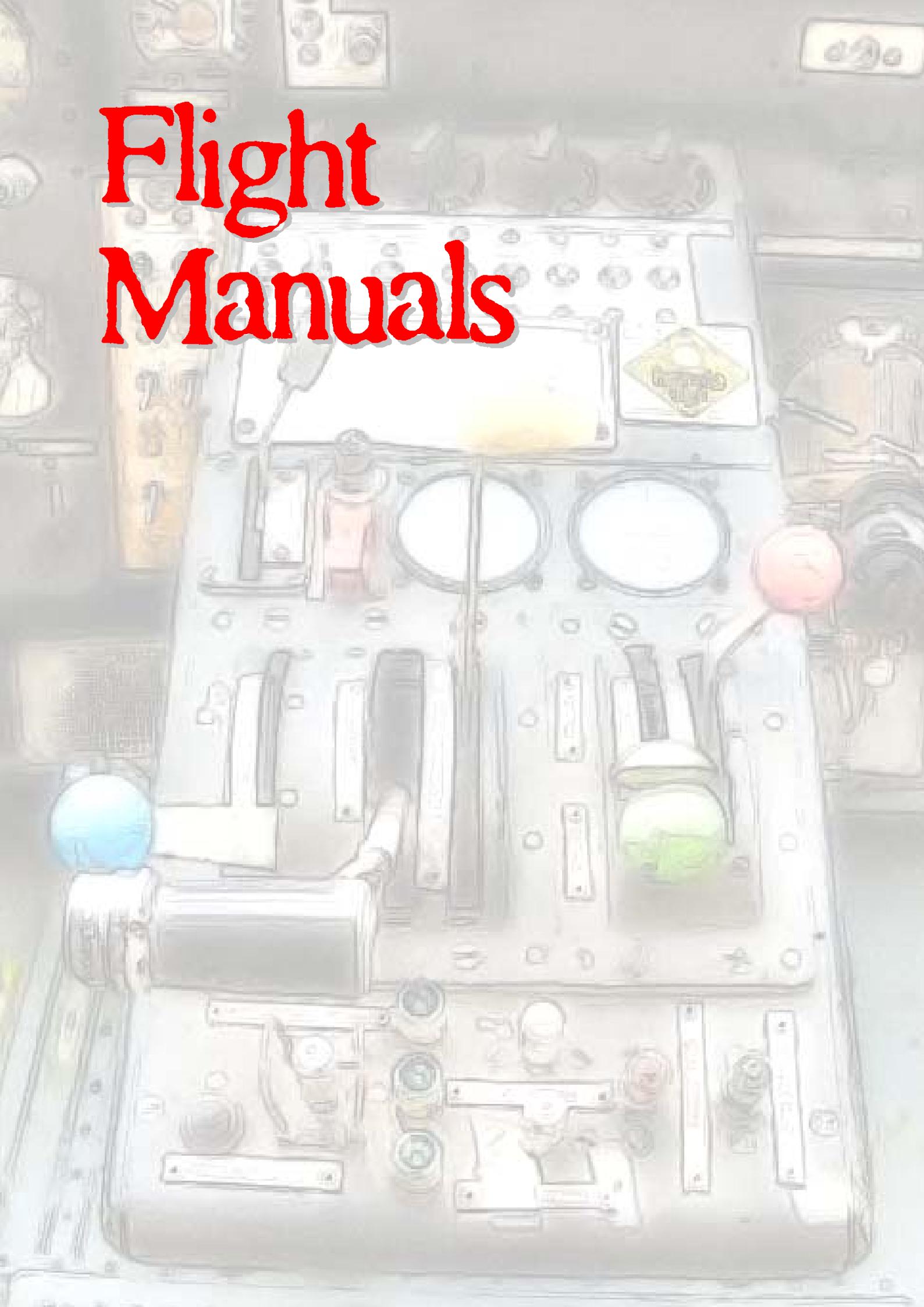


Flight Manuals



DEDICATION - for Dave "DewDog2" Wagner

This FLIGHT MANUAL COMPANION is a W.I.P.

Not all of the Pit-info contained within is complete.

Hopefully, this will be done in a future release.

Or - you could do it, and pass that to me... 😊

Regardless, I trust that you will find the following information useful.

Ara'

CONTENTS PAGE →

The following *CONTENTS Page* contains Active Links.

Clicking on the A/C name will take you to that Page.

Should make your Document navigation a little less stressful.

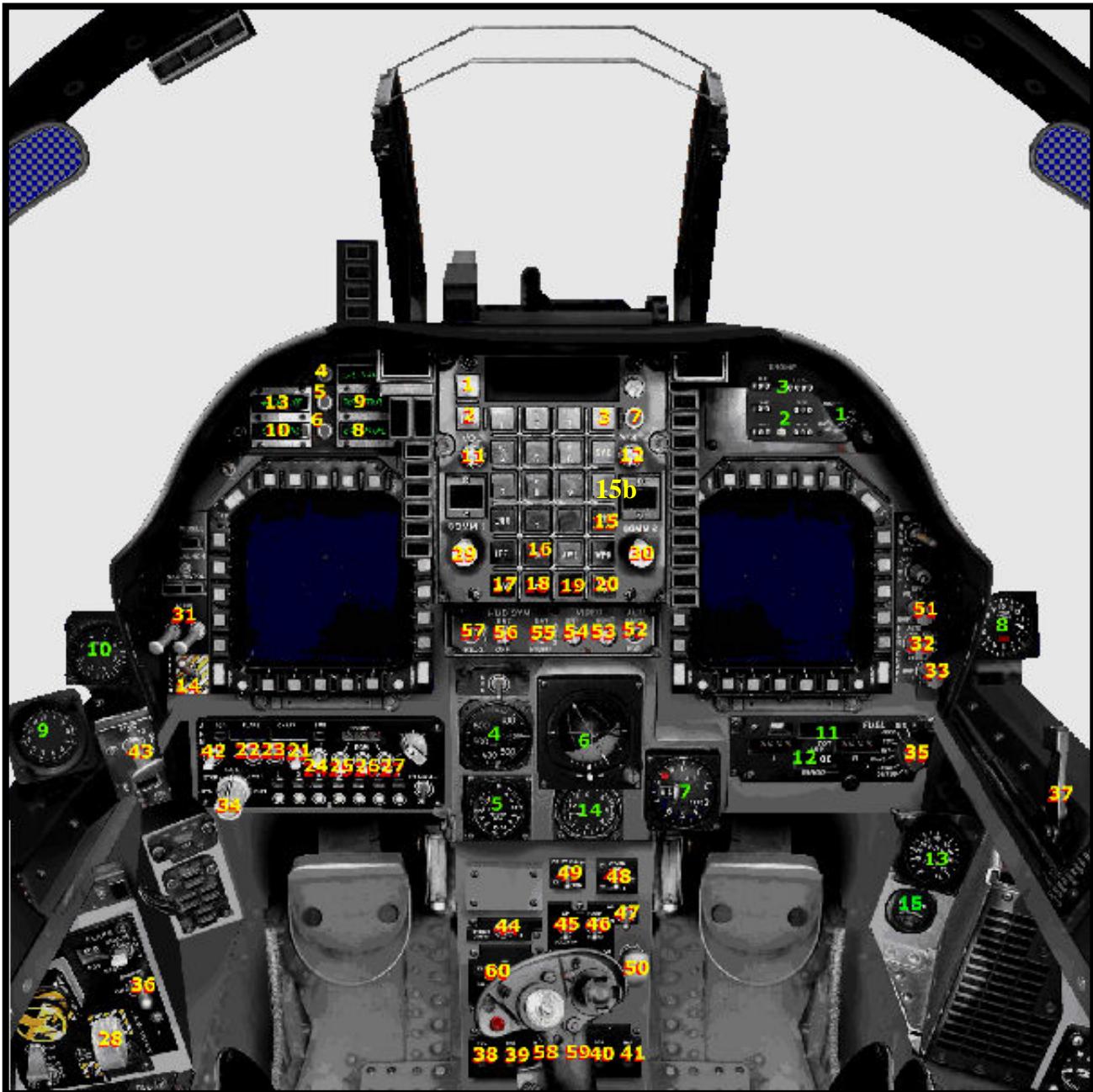
Ara'

the Harrier	→
the MiG-21	→
the MiG-23	→
the MiG-29 Fulcrum	→
the A-7 Corsair	→
the Tornado	→
the F-117	→
the Rafale	→
the F-22 Raptor	→
the AN-2 Colt	→
the F-4 Phantom	→
the F-15 Eagle	→
the F-104 Starfighter	→
the Viggens	→
the F-18 Hornet	→
the F-14 Tomcat	→
the Mirage Family	→
the JAS-39 Gripen	→
the B-52 Stratofortress	→
the A-10 Thunderbolt	→
the F-5 Tiger	→
the JASDF F-1	→
the SR-71 Blackbird	→
the Eurofighter	→
the JAGUAR	→
the F16A Falcon	→

The Harrier Jump Jet

2D Flight Manual





SWITCHES

- 1 = ICP Next button
- 2 = ICP Previous button
- 3 = ICP RecClear button
- 4 = ICP A/A panel Button
- 5 = ICP A/G panel Button
- 6 = ICP nav panel Button
- 7 = ICP IFF
- 8 = EWS Program
- 9 = EWS Mode
- 10 = Laser Arm
- 11 = Comm1 volume
- 12 = Comm2 volume
- 13 = Autopilot roll hold
- 14 = Master Arm
- 15 = R ALT
- 15b= LIST
- 16 = ICP Up
- 17 = ICP Reset
- 18 = ICP Down
- 19 = ICP Sequence
- 20 = MAL and IND test B
- 21 = SMS power
- 22 = EWS Flare power

- 23 = EWS Chaff power
- 24 = EWS RWR power
- 25 = L. Hardpoint power
- 26 = EWS RWR power
- 27 = R. Hardpoint power
- 28 = Gear handle
- 29 = ICP Comm1
- 30 = ICP Comm2
- 31 = Laser Arm
- 32 = EWS Mode
- 33 = EWS Program
- 34 = Emergency Jettison
- 35 = Fuel Indicator Select
- 36 = Wheel Brakes
- 37 = Canopy open/close
- 38 = FCC power
- 39 = SMS power
- 40 = GP power
- 41 = MAP power
- 42 = FCR power
- 43 = Cabin Air
- 44 = CAT I/III
- 45 = Anticollision lights
- 46 = Flash/Steady lights

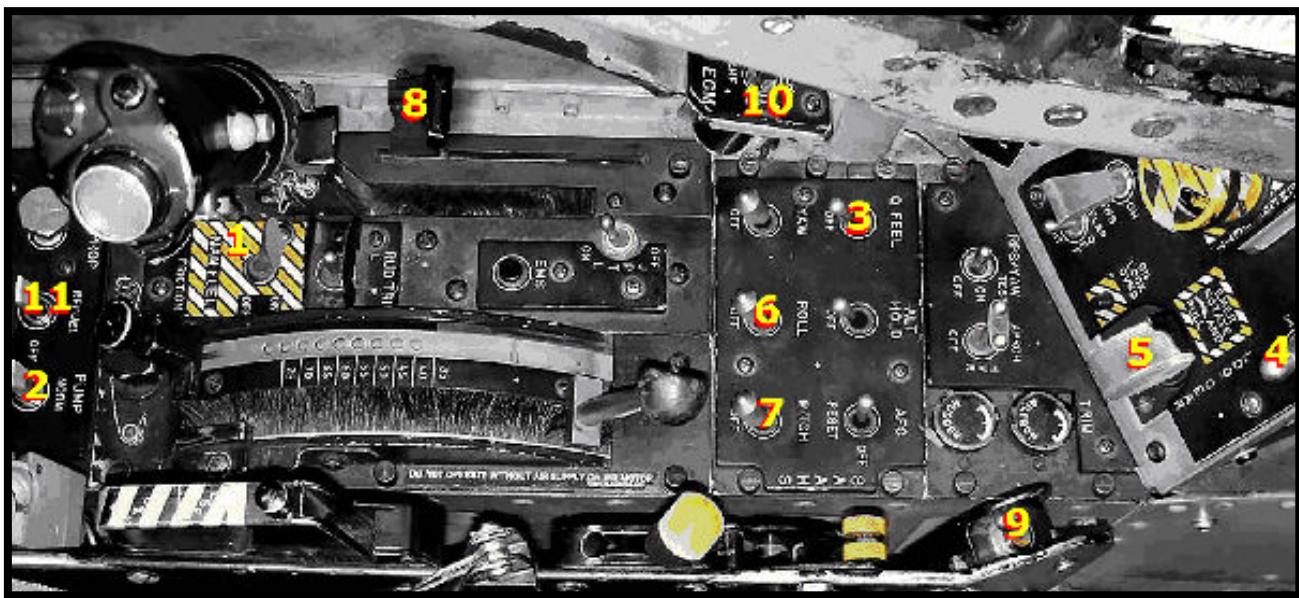
- 47 = External lights power
- 48 = Warning reset
- 49 = Drift C/O
- 50 = Landing gear lights
- 51 = RF silent
- 52 = HUD DED
- 53 = HUD Radar
- 54 = HUD Scales
- 55 = HUD Brightness
- 56 = HUD FPM
- 57 = HUD Velocity
- 58 = MFD power
- 59 = UCF power
- 60 = INS power

INSTRUMENTS

- 1 = Nozzle
- 2 = Fuel flow
- 3 = Fuel quantity
- 4 = Mach speed
- 5 = RPM
- 6 = ADI ball
- 7 = Altitude
- 8 = Temperature
- 9 = Clock
- 10 = G dial
- 11 = Fuel quantity
- 12 = Fuel flow
- 13 = Adjusted fuel indicator
- 14 = Vertical velocity
- 15 = Total fuel indicator

RWR → Your RWR can be accessed via your MFD.
Be aware of the “RWR” label on the MFD.
Use that OSB Button to bring up your RWR.

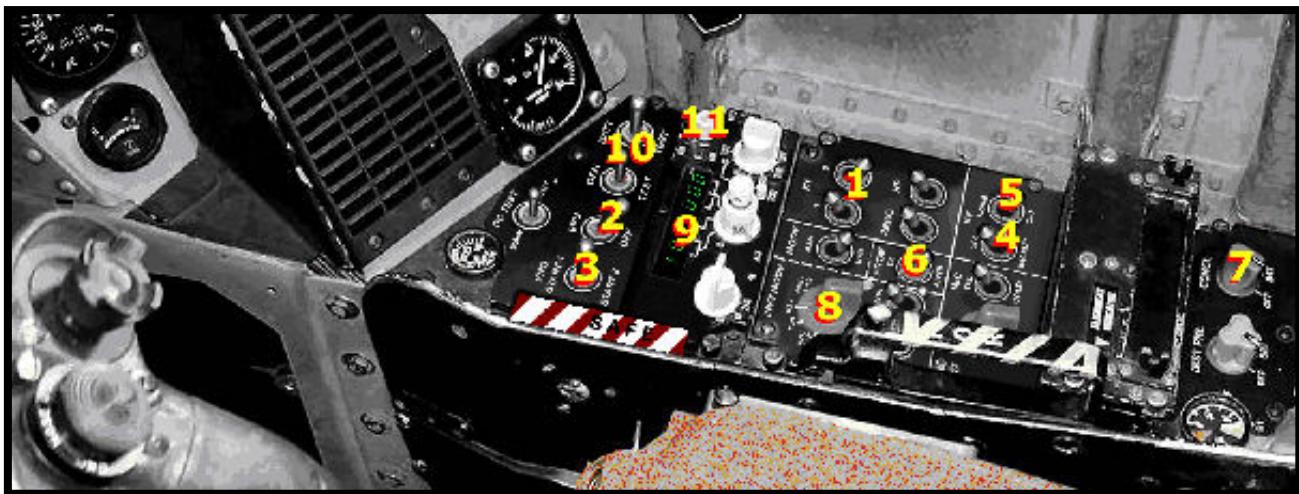
There is no “separate” RWR display in the Harrier.



1 = Master fuel
2 = Fuel transfer
3 = MPO power
4 = Wheel brakes

5 = Gear handle
6 = Autopilot roll hold
7 = Autopilot pitch hold
8 = IDLE detent

9 = SEAT ARM
10 = ECM
11 = Fuel probe

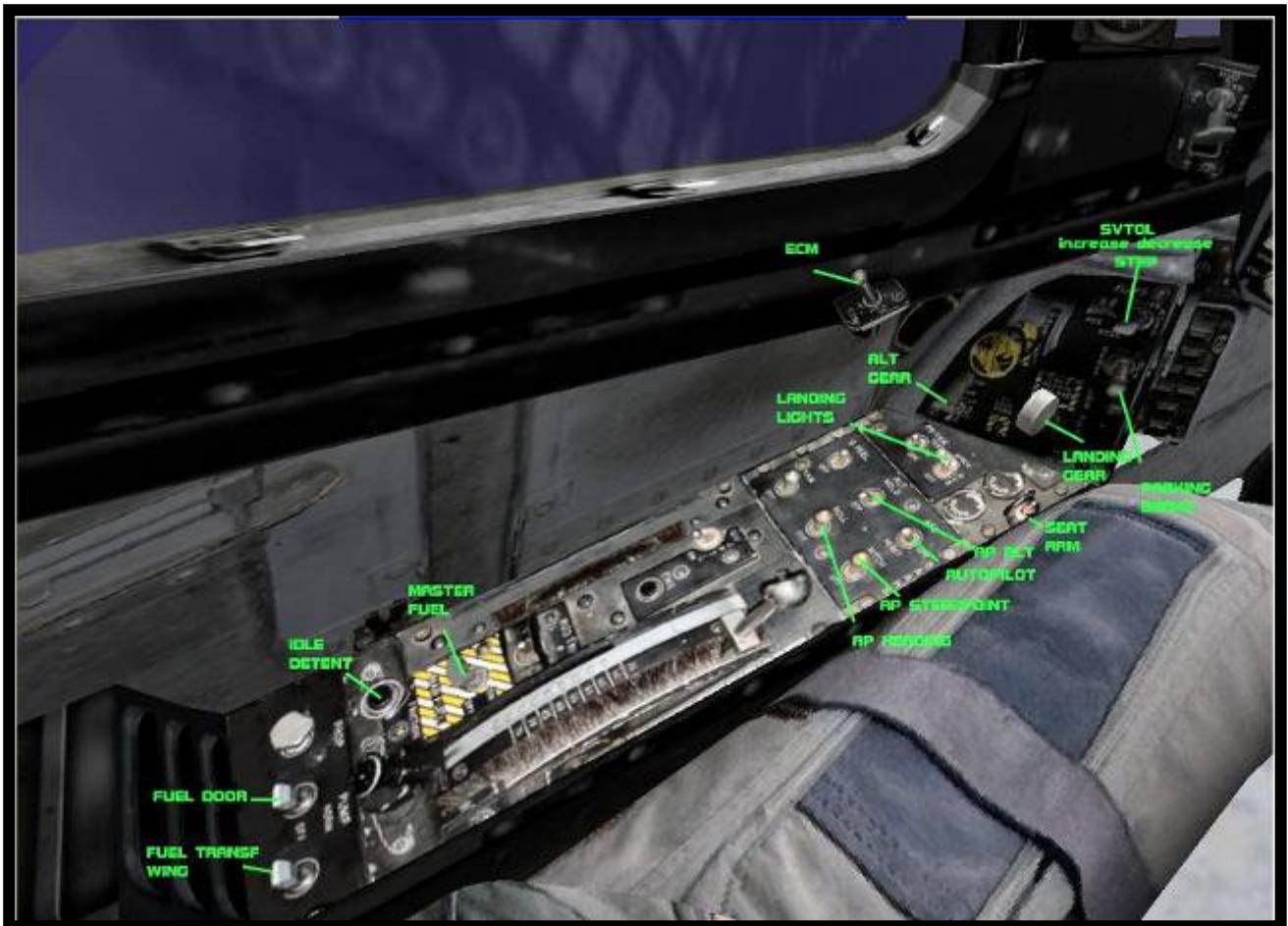


1 = AuxComm Band Digit
2 = EPU
3 = JFS
4 = AuxComm Master Select

5 = IFF power
6 = AuxComm Master Select
7 = Interior lights
8 = Instruments mode

9 = AUX Comm channel
10 = Main power
11 = UHF backup





F l y i n g t h e H a r r i e r . . .

Of all the available airplanes, the AV-8B is - perhaps - the most unique to FF5.

Because of coding limitations, FreeFalcon does not include the ability to takeoff or land vertically.

This presented a problem for modeling the Harrier. The next best solution was to model short take off and landing by adding a significant amount of lift to the flaps.

V/TOL is not possible in Falcon.

S/TOL is possible.

The "Flaps" on the Harrier have been converted into "Thrust Nozzles".

As you operate the "flaps", think of the thrust nozzles turning toward the ground. The Harrier has ten (10) Thrust Vector positions to cycle through. This allows for the lift to be added slowly when coming in to land.

When you first join the aircraft for takeoff, the Nozzles are set to position five, which will allow you to takeoff at 75-80 knots. This simulates a STOL take off. Whether in takeoff or landing mode, it is best to cycle the Nozzles up or down instead of using the full up or full down keystrokes. Because there is a large amount of lift tied to the nozzles, fast changes between Nozzle Vectors can cause unpredictable flight behavior, causing you to crash the aircraft...!

THRUST VECTORING Keystrokes:

Set to ZERO	→	CTRL-F9
Set to FULL	→	CTRL-F10
Decrease Thrust Vector	→	CTRL-F11
Increase Thrust Vector	→	CTRL-F12

Typical Takeoff Scenario:

Thrust Vector → Set to “80” (*CTRL+F12*)

Wheel brakes engaged

Spool Engine

Release brakes

50kts → Pull softly on stick

Retract Gear

Reduce Thrust Vector (*CRTL+F11*)

Typical Landing Scenario:

At five miles out, bring the Harrier to 200 kts at 2,000 ft.

Reduce the throttle and allow the airspeed to drop.

Ensure “hook” is deployed, if landing on Carrier

Engage Wheel Brake

Vector Nozzles in one step increments as speed continues to decrease.

Hold the nose level and allow speed to reduce.

Vector Nozzles until airspeed is 80 kts and nozzles are fully deployed.

Allow speed to continue to drop but hold the nose of the aircraft level.

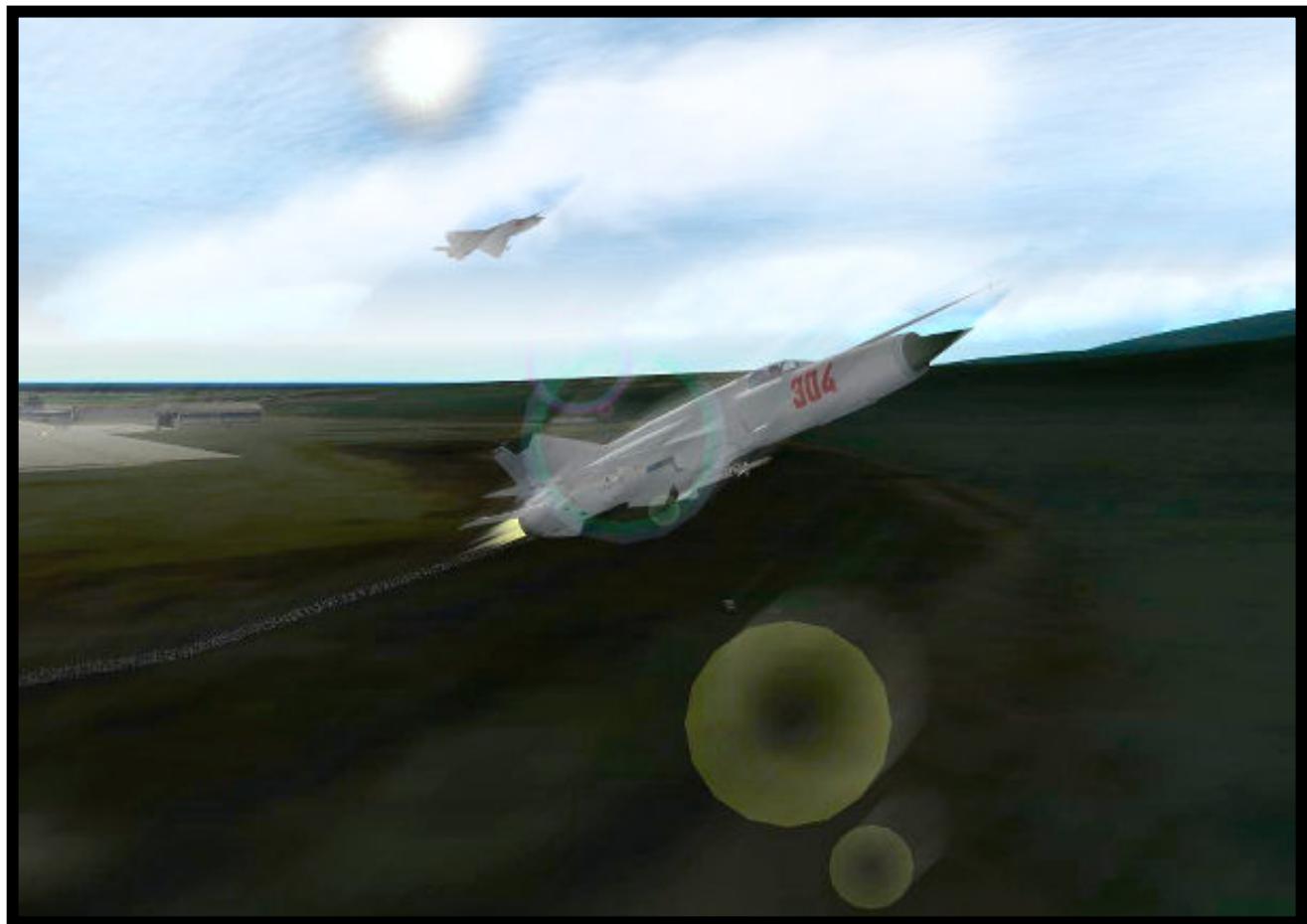
Manage descent rate with small uses of the throttle.

Touchdown with 10-12° AOA at 55-60 kts.

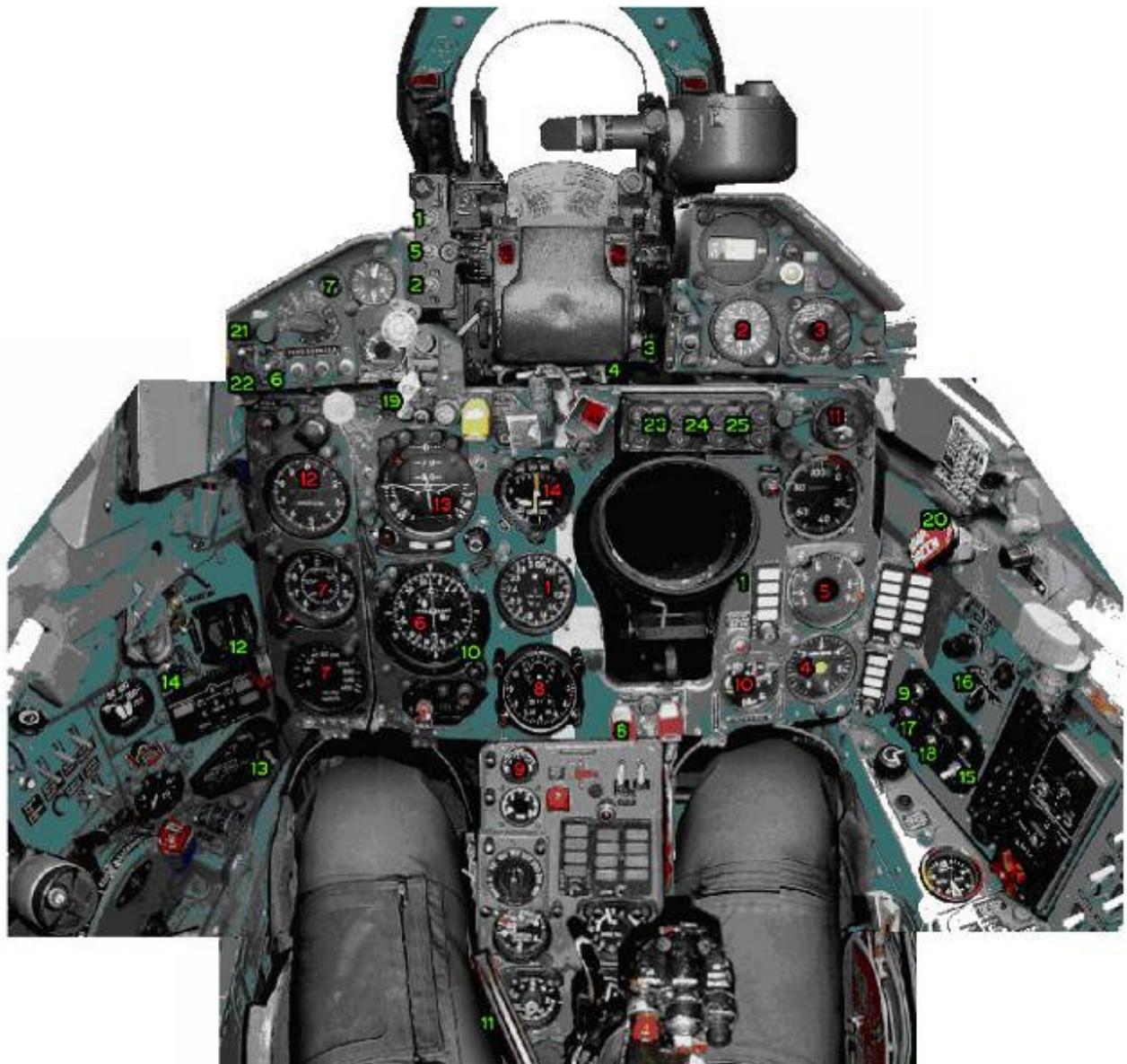
With practice you will have no problems landing virtually anywhere on the airfield or Carrier...!

LANDING VIDEO → <http://www.youtube.com/watch?v=gLgCzDgHy04>

T h e M i G - 2 1



2 D F l i g h t M a n u a l



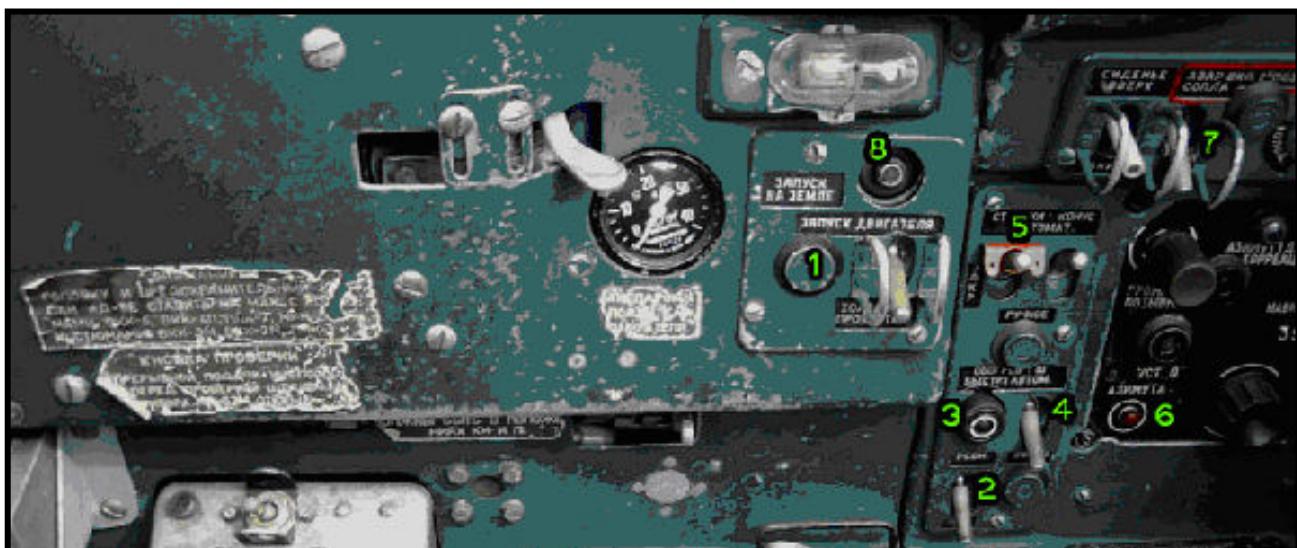
SWITCHES

- 1 – HUD colour
- 2 – HUD Brightness
- 3 – HUD Day/Night
- 4 – HUD Power
- 5 – HUD Scales
- 6 – Master Arm
- 7 – ECM
- 8 – Emergency Jettison
- 9 – RWR Power
- 10 – HSI Course
- 11 – Eject handle
- 12 – Landing Gear handle

- 13 – Autopilot
- 14 – Landing lights
- 15 – Exterior lights
- 16 – Instruments mode
- 17 – Chaff dispenser
- 18 – Flare dispenser
- 19 – Parking brake
- 20 – Altrnate gear
- 21 – AA mode
- 22 – AG mode
- 23 – MFD Main menu
- 24 – MFD brightness Up
- 25 – MFD brightness Down

INSTRUMENTS

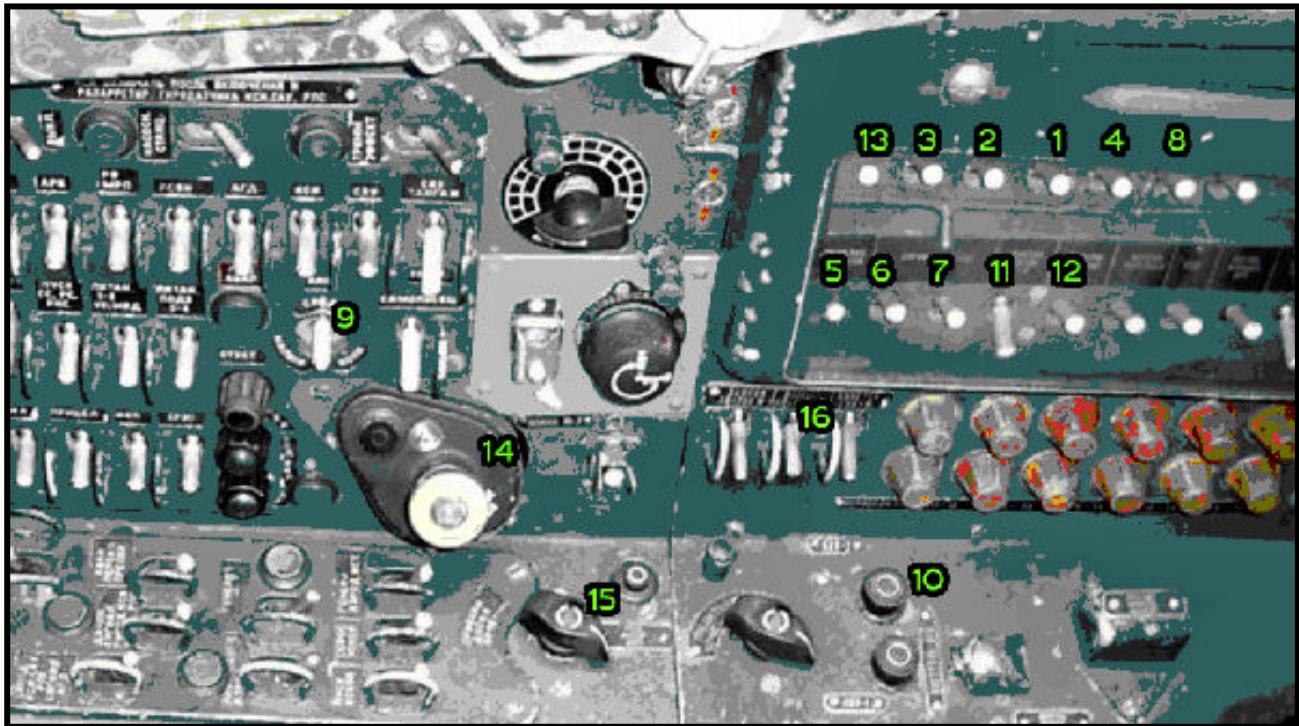
- 1 – Mach
- 2 – G force
- 3 – Angle of Attack
- 4 – Fuel
- 5 – FTIT
- 6 – HIS
- 7 – Altimeter
- 8 – Clock
- 9 – Oil Temp
- 10 – Hydraulic pressure
- 11 – RPM
- 12 –Mach ASI
- 13 – ADI Ball
- 14 – Vertical Velocity



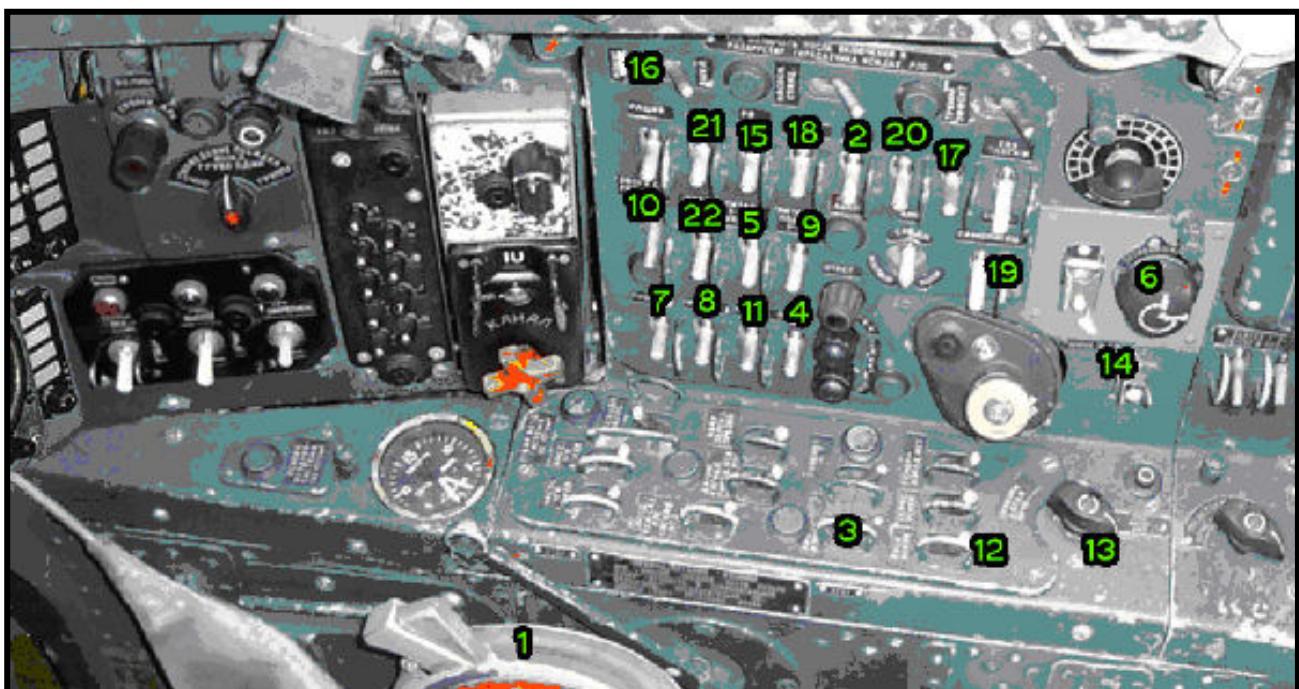
- | | |
|---------------------|---------------|
| 1 – Fuel Feed | 5 – UFC Power |
| 2 – AUX Comm Master | 6 – GPS power |
| 3 – Main power | 7 – MAP power |
| 4 – Anti collision | 8 – MPO |



- | | |
|--------------------------|--------------------------------------|
| 1 – Landing lights | 10 – Engine feed |
| 2 – Landing gear | 11 – Refuel door |
| 3 – AUX Comm master | 12 – EPU |
| 4 – AUX Comm AATR | 13 – External lights power |
| 5 – Anticollision lights | 14 – External lights
Steady/Flash |
| 6 – IFF power | 15 - External lights Wing/Tail |
| 7 – Main power | 16 – Comm1 volume |
| 8 – JFS start | 17 – Comm2 volume |
| 9 – Parking brake | 18 – ECM |



- | | |
|--------------------|-----------------------------|
| 1 – SMS power | 9 – Threat warning volume |
| 2 – FCC power | 10 – Missile warning volume |
| 3 – MFD power | 11 – Right Hardpoint power |
| 4 – UFC power | 12 – Left Hardpoint power |
| 5 – GPS power | 13 – FCR power |
| 6 – Datalink power | 14 – R ALT |
| 7 – MAP power | 15 – Interior lights |
| 8 – INS power | 16 – IFF power |

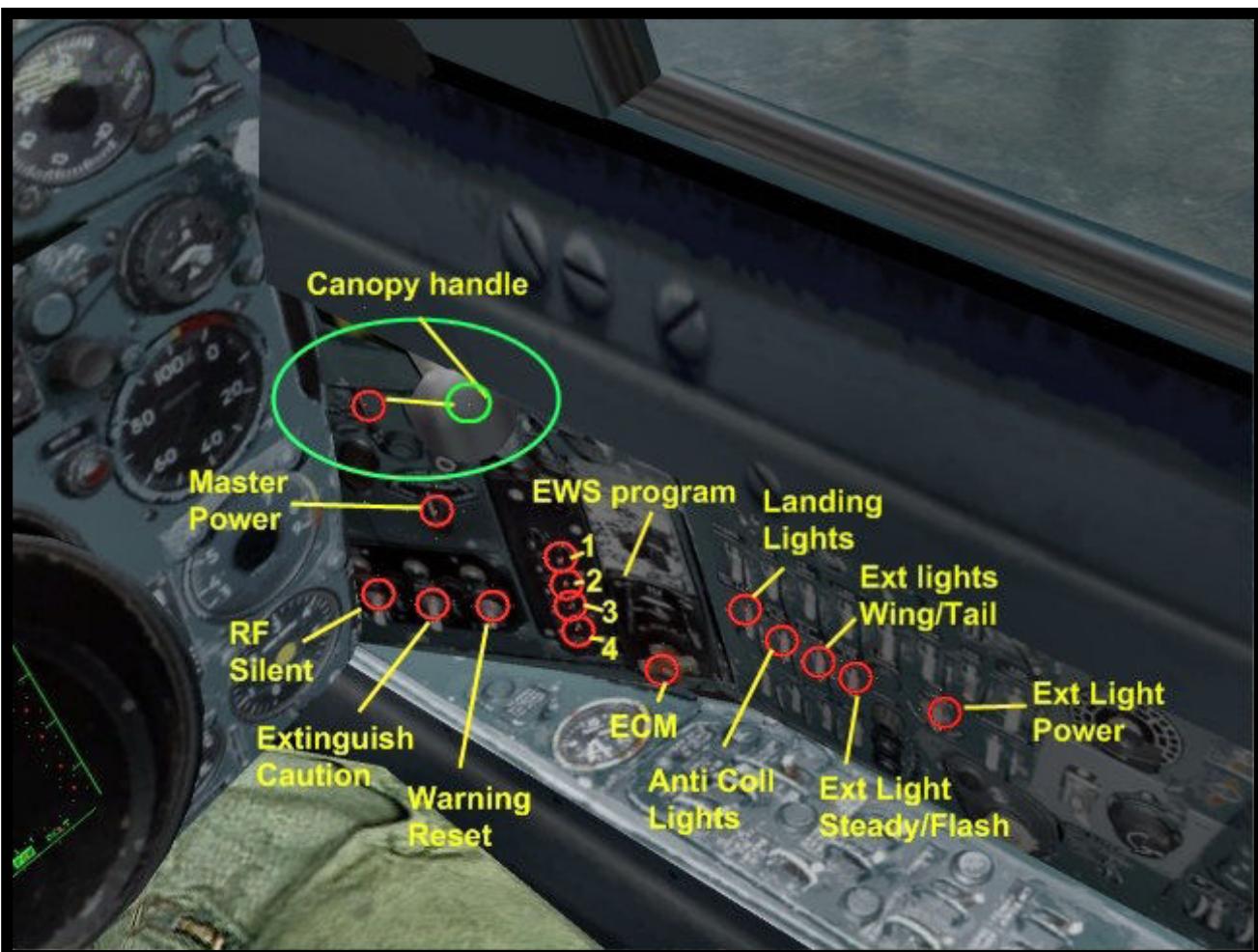
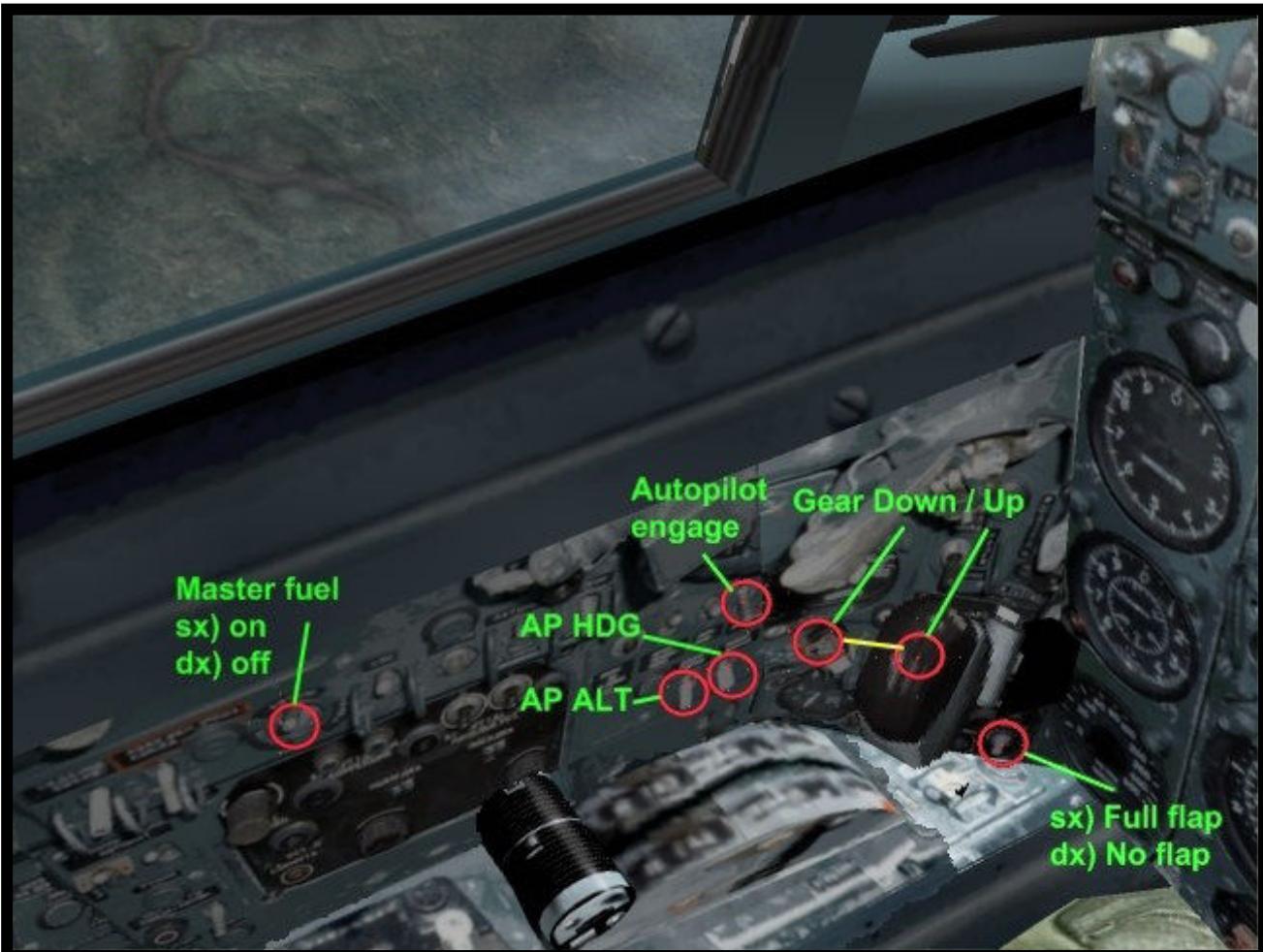


- | | | | |
|-------------------|---------------------------|----------------------------|-----------------------------|
| 1 – Seat arm | 7 – Left hardpoint power | 13 – Interior lights | 19 – AVTR power |
| 2 – Battery power | 8 – Right hardpoint power | 14 – Anti-collision lights | 20 – Datalink power |
| 3 – Warning reset | 9 – FCR power | 15 – IFF power | 21 – Exterior lights switch |
| 4 – HUD radar | 10 – R ALT power | 16 – EWS RWR power | |
| 5 – Main power | 11 – Manual reticule | 17 – EWS Jammer power | |
| 6 – Air Source | 12 – VMS Inhibit | 18 – EWS Chaff power | |



MiG-21 3D Pit

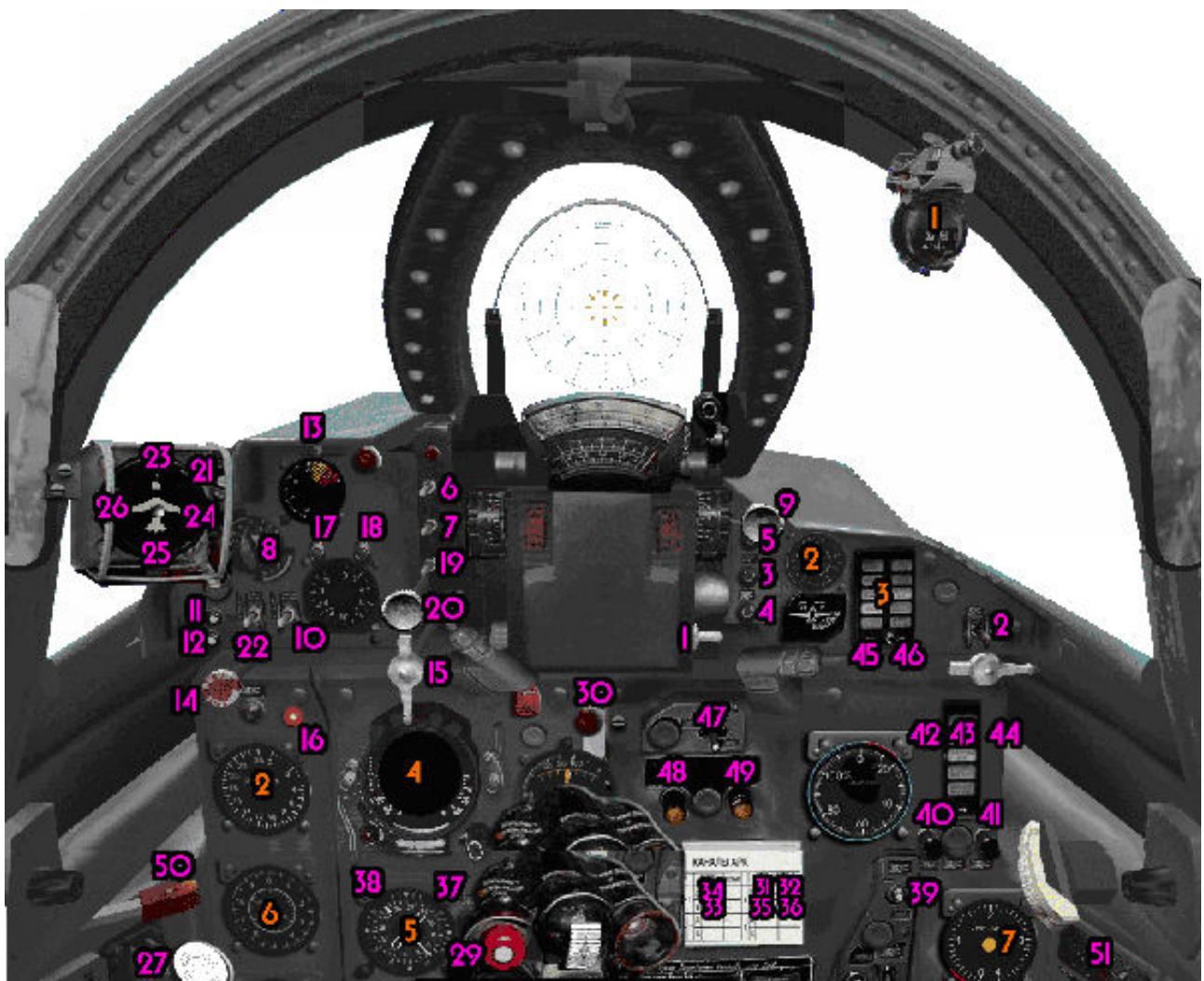




T h e M i G - 2 3



2 D F l i g h t M a n u a l

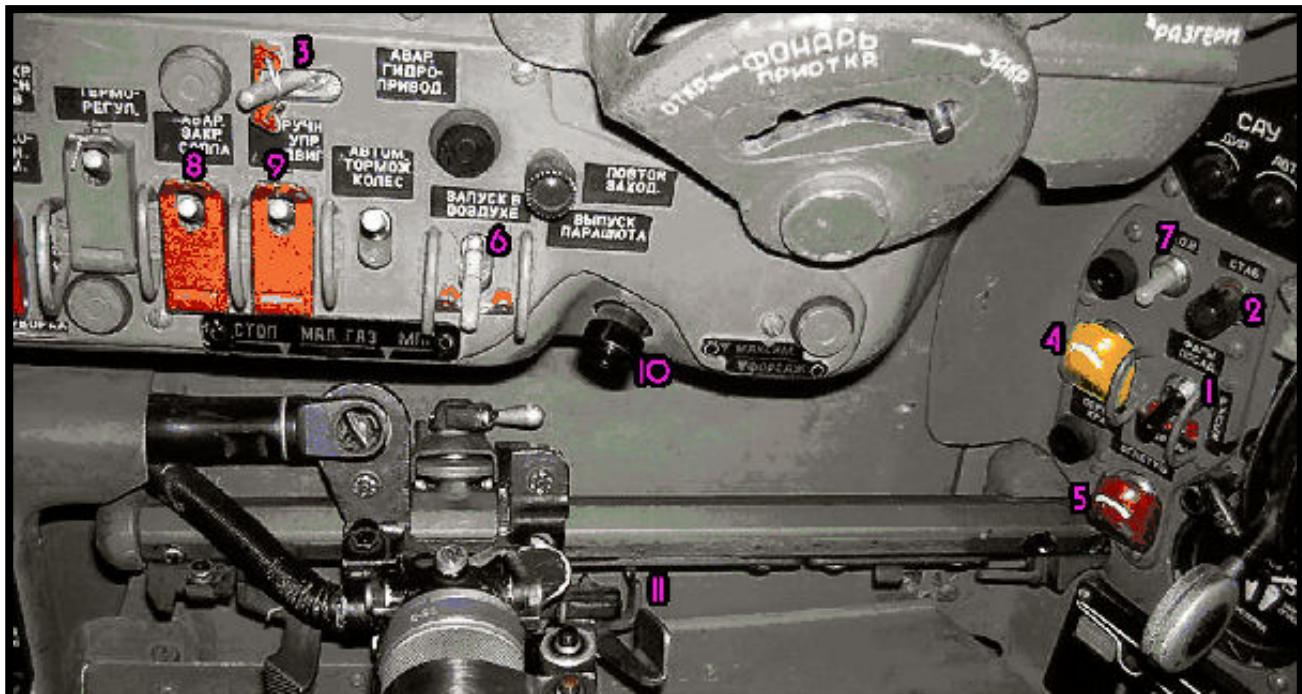


- 1 – Laser Arm
- 2 – RF silent
- 3 – HUD colour
- 4 – HUD brightness
- 5 – Manual reticule
- 6 – Drift c/o
- 7 – HUD DED
- 8 – HUD radar selector
- 9 – NWS activator
- 10 – Nav mode
- 11 – AA mode
- 12 – AG mode
- 13 – Warning reset
- 14 – Emergency Jettison
- 15 – Parking brake
- 16 – CAT I/III
- 17 – External lights power
- 18 – Main battery power
- 19 – HUD power
- 20 – Drag chute
- 21 – RWR power
- 22 – Master arm
- 23 – RWR Priority
- 24 – RWR Target sep
- 25 – RWR Unknowns

INSTRUMENTS

- 1 – Magnetic compass
- 2 – RPM
- 3 – ICP DED keyboard
- 4 – ADI ball
- 5 – HSI
- 6 – Altimeter
- 7 – Fuel indicator

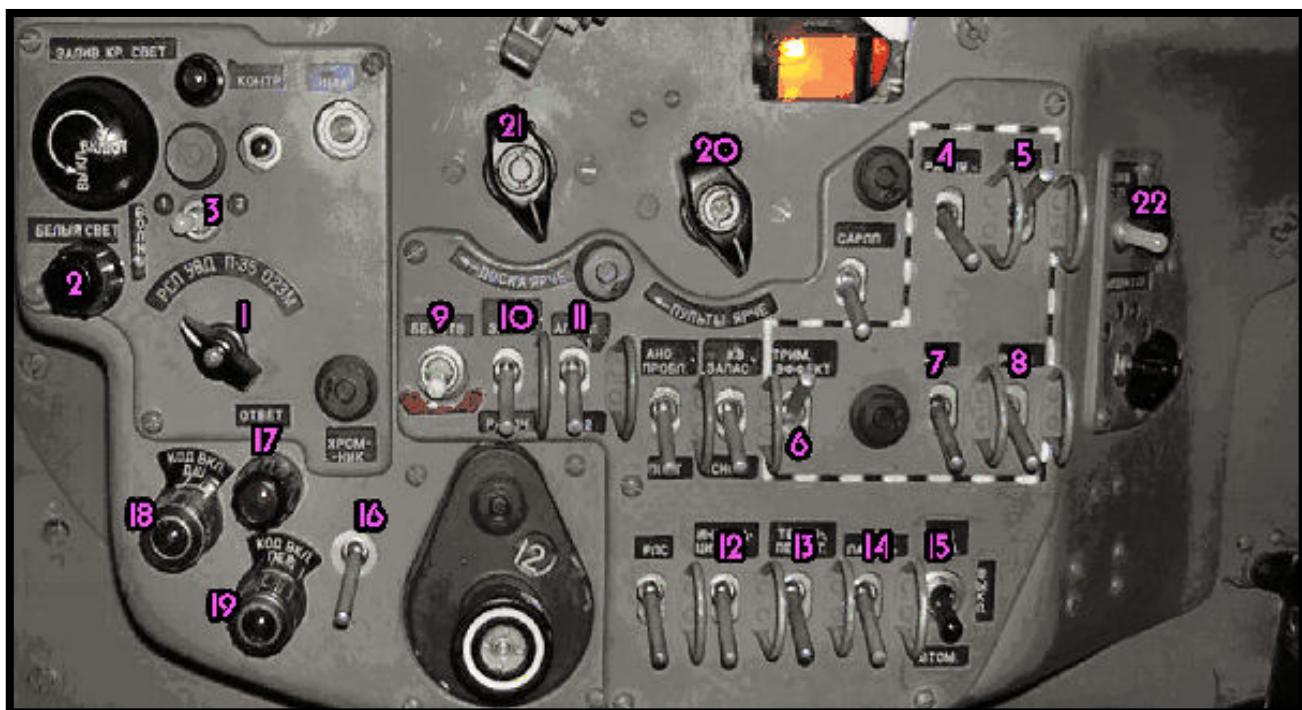
- 26 – RWR Naval
- 27 – Landing gear
- 28 – Eject handle
- 29 – ECM
- 30 – Master caution
- 31 – ICP comm1
- 32 – ICP Comm2
- 33 – ICP IFF
- 34 – ICP List
- 35 – ICP Previous
- 36 – ICP Next
- 37 – HSI Course select
- 38 – HSI Heading select
- 39 – EWS mode
- 40 – Fuel display
- 41 – Fuel door
- 42 – ICP reset
- 43 – ICP Up/Down
- 44 – ICP Sequence
- 45 – ICP Clear
- 46 – ICP Enter
- 47 – Autopilot
- 48 – AP Roll hold
- 49 – AP Pitch hold
- 50 – Canopy handle
- 51 – Interior lights



- 1 – Landing lights
2 – Horn silencer
3 – Ground jettison enable
4 – Alternate gear reset

- 5 – Alternate gear
6 – Air source
7 – Interior lights
8 – Master fuel

- 9 – Fuel transfer
10 – JFS start
11 – Idle detent



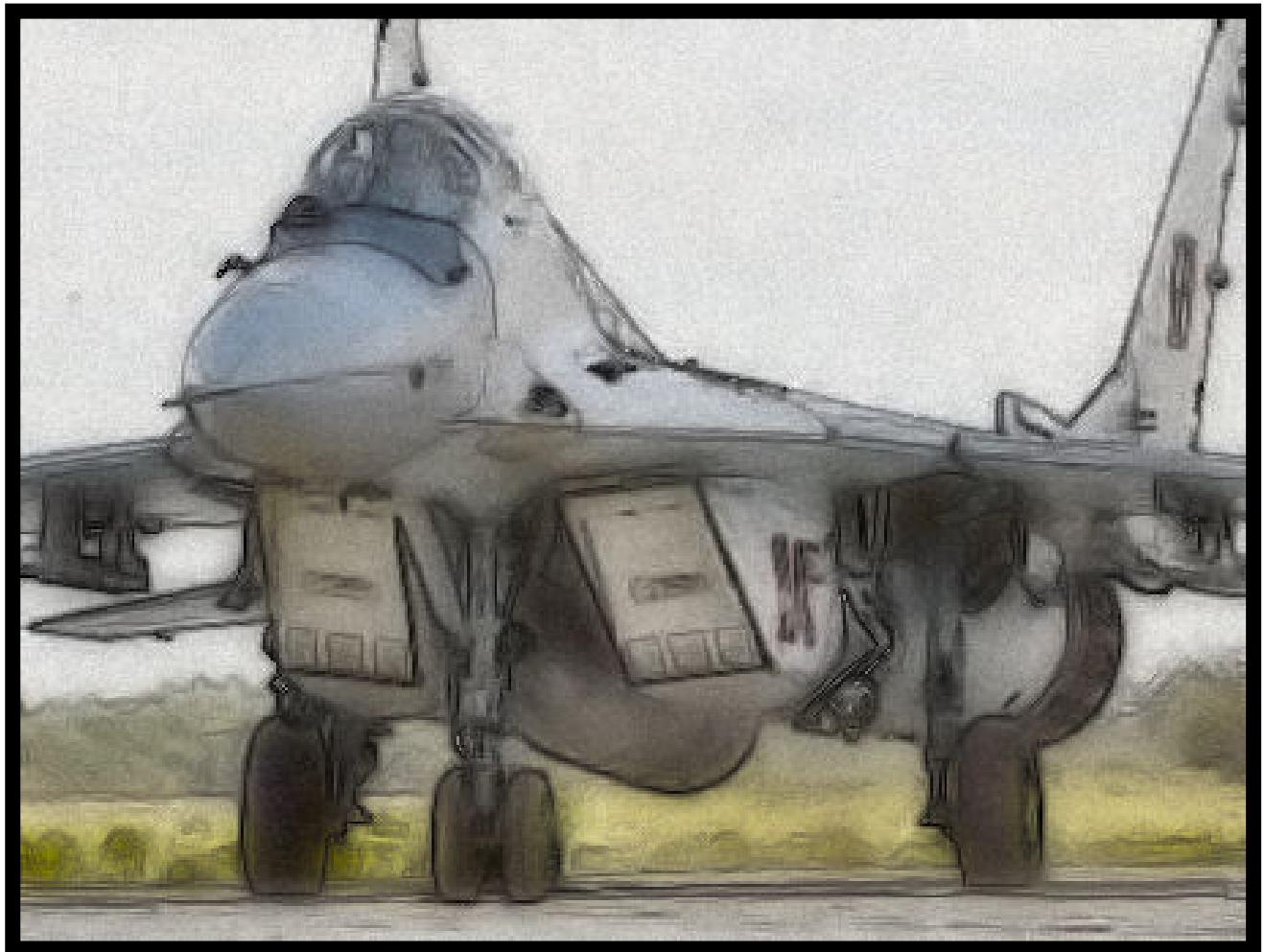
- 1 – Exterior lights
2 – Steady/Flash lights
3 – Wing/Tail
4 – MFD power
5 – SMS power
6 – Datalink power
7 – FCC power
8 – UFC power

- 9 – Seat Arm
10 – Left hardpoint power
11 – Right hardpoint power
12 – EWS Jammer
13 – EWS Chaff
14 – EWS Flare
15 – EWS Program

- 16 – GPS power
17 – FCR power
18 – R ALT power
19 – INS selector
20 – Threat warning volume
21 – Missile warning volume
22 – Light interior switch



The MiG - 29 Fulcrum



2 D Flight Manual



- 1 - Landing gear
- 2 - Eject
- 3 – ECM
- 4 – Emergency jettison
- 5 – Master caution
- 6 – HUD colour
- 7 – HUD brightness
- 8 – MFD Main menu
- 9 – MFD SubMenu
- 10 – NAV mode
- 11 – Master arm
- 12 – Interior light button
- 13 – ILS
- 14 – AA Mode
- 15 – AG mode
- 16 – MFD brightness down
- 17 – MFD brightness up

- 1 - Magnetic compass
- 2 – Mach ASI
- 3 – Fuel quantity
- 4 – Altimeter
- 5 – HSI
- 6 – Altimeter
- 7 – Mach/ASI
- 8 – Clock
- 9 – ADI ball



1. Master Arm	12. EWS Program 4
2. A/A Mode	13. Landing Gear Handle
3. A/G Mode	14. EWS Mode Manual
4. NAV Mode	15. EWS Mode Semi
5. Emergency Stores Jettison	16. EWS Mode Auto
6. Master Caution	17. ECM Emitter
7. Landing Lights	18. RF Silence
8. Canopy Handle	19. Steerage Autopilot
9. EWS Program 1	20. Attitude/Altitude Autopilot
10. EWS Program 2	21. Autopilot Engage
11. EWS Program 3	



1. HUD Brightness	6. RWR Ground Priority
2. HUD Colour	7. RWR Priority
3. Left MFD Touchscreen	8. RWR Search
4. Warning Reset	9. RWR Target Step
5. RWR Hand Off	10. RWR Unknown
0. Pit Lighting	



11. Ejection Handle	16. Anti-Collision Lights
12. Master Power	17. Steady / Flash
13. Master Fuel	18. Wings / Tail Lights
14. Left Engine (Both)	19. Ext Lights Power
15. Right Engine (Both)	20. ICP + DED (see below)

NEXT	1	2	3	UP
PREV	4	5	6	DOWN
RESET	7	8	9	SEQ
CLEAR	ENTER	0	LIST	



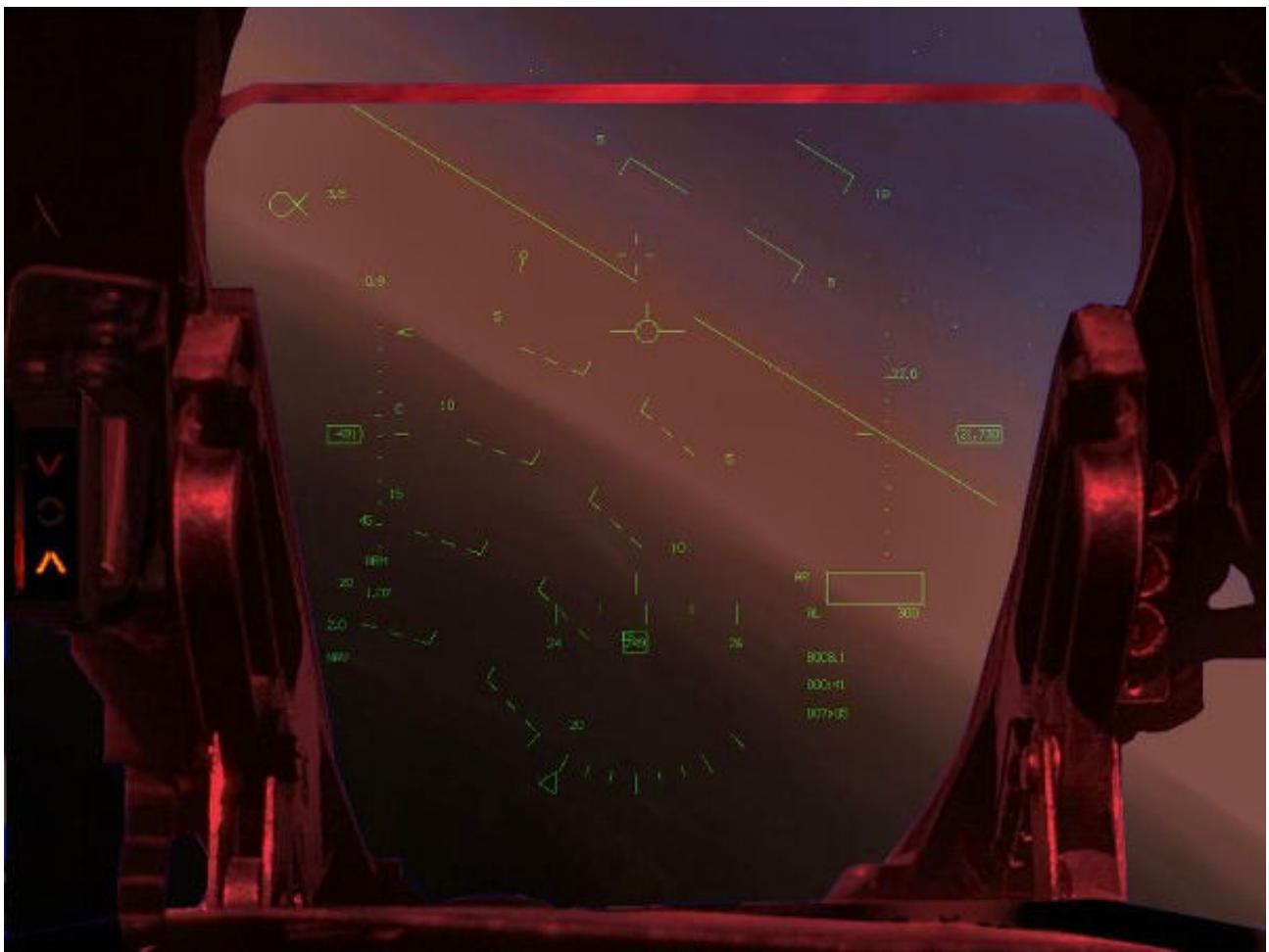
Pic by RAM22

T h e A - 7



2 D Flight Manual











T h e T O R N A D O



2 D Flight Manual



SWITCHES

- 1 = Hook
- 2 = Nav mode
- 3 = A/G mode
- 4 = A/A mode
- 5 = Ext Master Caution
- 6 = Master Arm
- 7 = HSI mode
- 8 = Drift C/O
- 9 = HUD colour
- 10 = HUD DED
- 11 = R ALT
- 12 = HUD FPM
- 13 = Canopy open/close
- 14 = RF silent
- 15 = HSI Heading inc/dec
- 16 = Manual Reticule
- 17 = HUD Brightness
- 18 = HUD Radar

- 19 = HIS course inc/dec
- 20 = Eject handle
- 21 = Gear handle
- 22 = Emergency jettison
- 23 = HIS course inc/dec
- 24 = HSI Heading inc/dec
- 25 = Alternate gear
- 26 = Landing lights
- 27 = Laser Arm
- 28 = MFD gain up
- 29 = MFD gain down
- 30 = CAT III / I
- 31 = Drag chute
- 32 = Mal-Ind Lights
- 33 = IDLE detent
- 34 = JFS
- 35 = EPU power
- 36 = MPO
- 37 = Fuel display

INSTRUMENTS

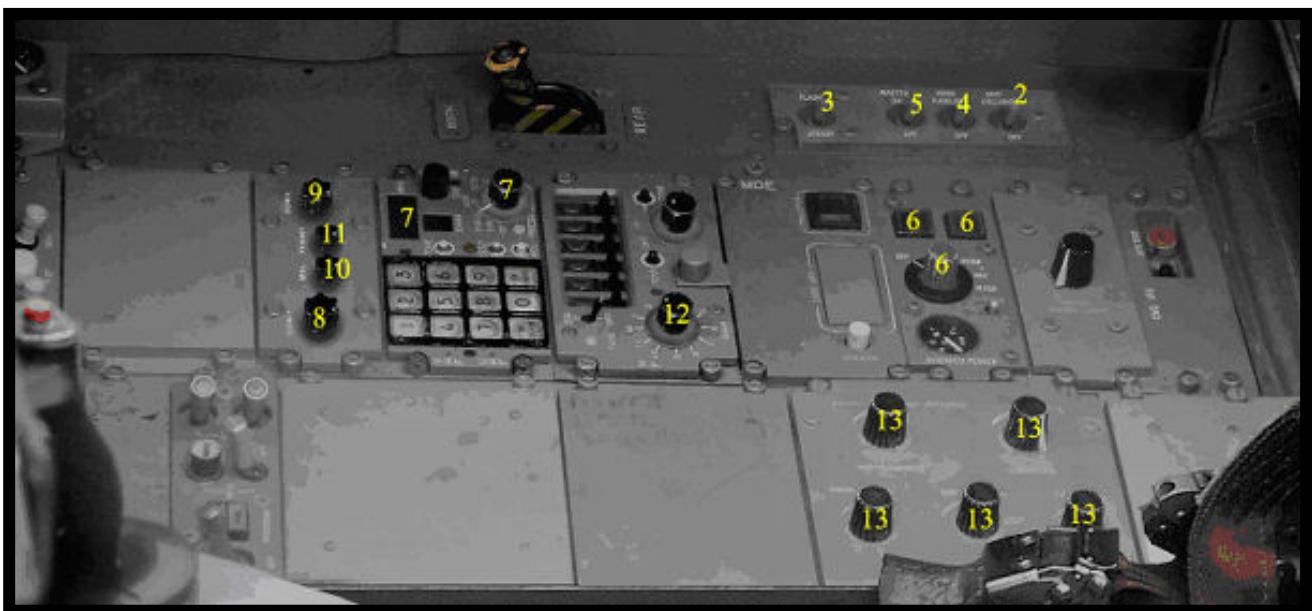
- 1 = G Force
- 2 = HSI display
- 3 = Altitude
- 4 = Magnetic compass
- 5 = AOA
- 6 = Clock
- 7 = Fuel quantity
- 8 = ADI ball
- 9 = RPM
- 10 = FuelFlow
- 11 = FTIT
- 12 = Nozzle
- 13 = Airspeed
- 14 = Radar Altitude
- 15 = Vertical velocity
- 16 = Right MFD
- 17 = Left MFD



1 = AVTR
2 = SEAT ARM
3 = Autopilot on/off
4 = Autopilot Roll hold

5 = Autopilot Pitch hold
6 = Gear handle
7 = Parking brake
8 = Flap handle

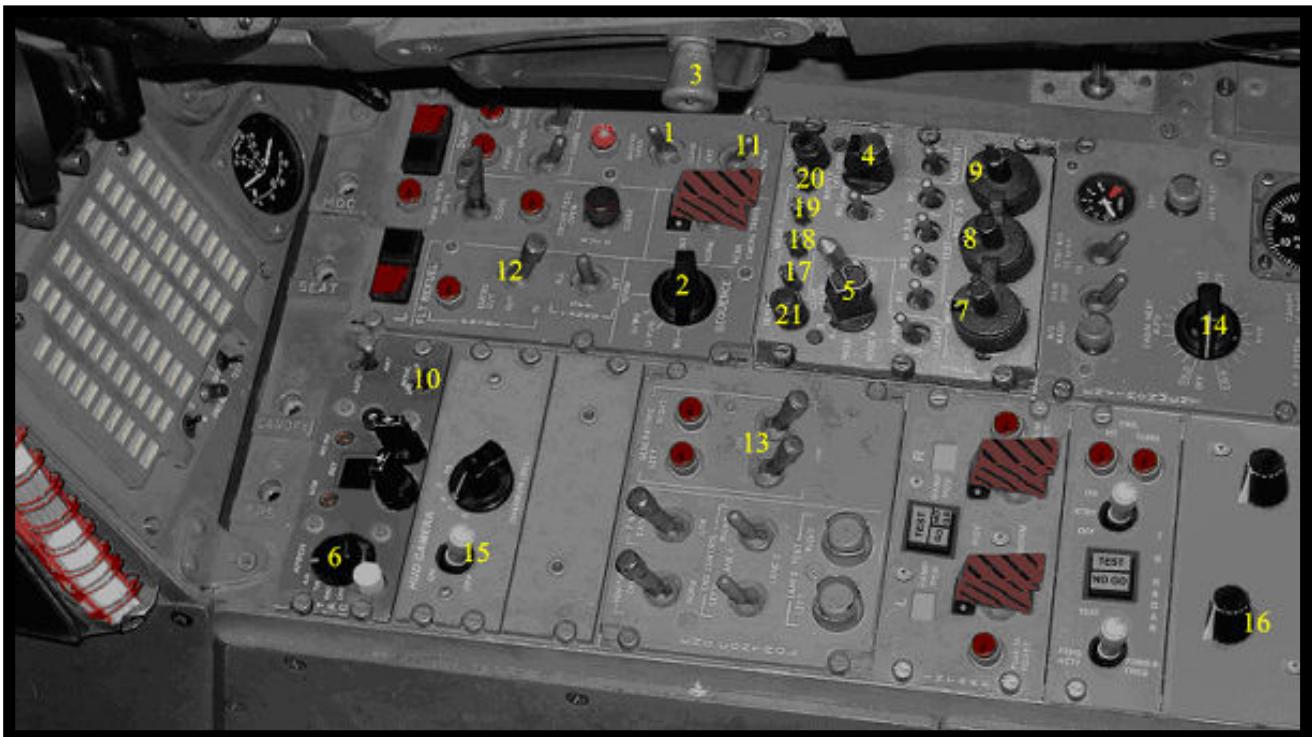
9 = IDLE detent
10 = JFS
11 = Emergency jettison



1 = Canopy open/close
2 = Anti-collision lights
3 = Exterior lights steady/flash
4 = Exterior lights Wings/Tail
5 = Exterior lights power

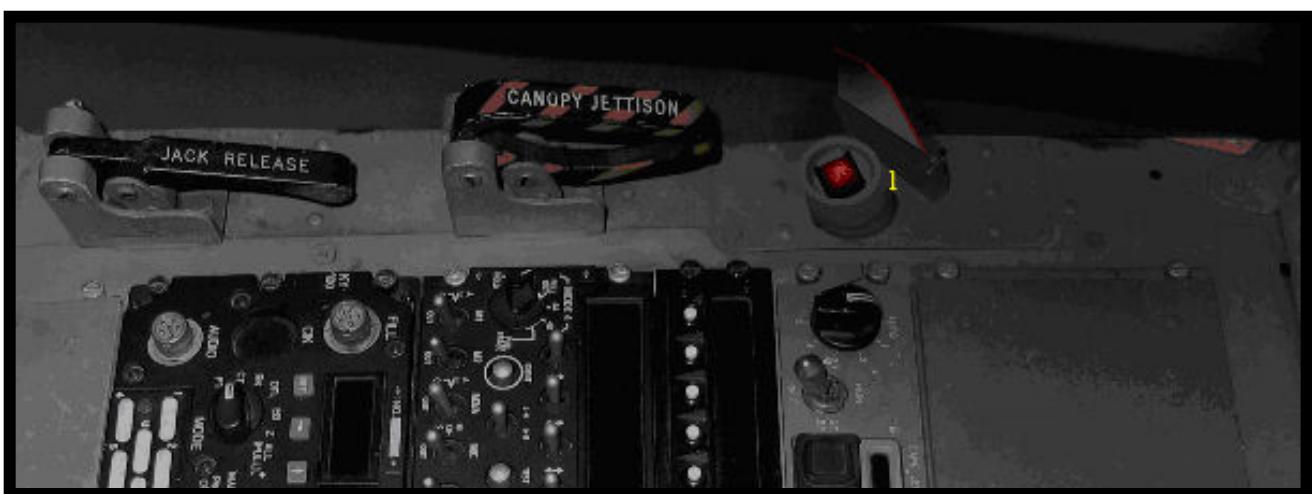
6 = INS power
7 = UHF Master select
8 = Comm1 Volume
9 = Comm2 volume

10 = Missile warning volume
11 = Threat warning volume
12 = UHF backup
13 = Interior lights



1 = Master fuel
2 = Fuel transfer
3 = Canopy open/close
4 = IFF power
5 = Aux Comm Master select
6 = Aux Comm AA/TR select
7/8/9 = Aux Comm channel
10 = Aux Comm Band
11 = Fuel Feed
12 = Refuelling door

17 = Comm1 volume
18 = Comm2 Volume
19 = Missile warning volume
20 = Threat warning volume
21 = UHF master select
13 = Main power
14 = Air source
15 = AVTR
16 = Interior lights



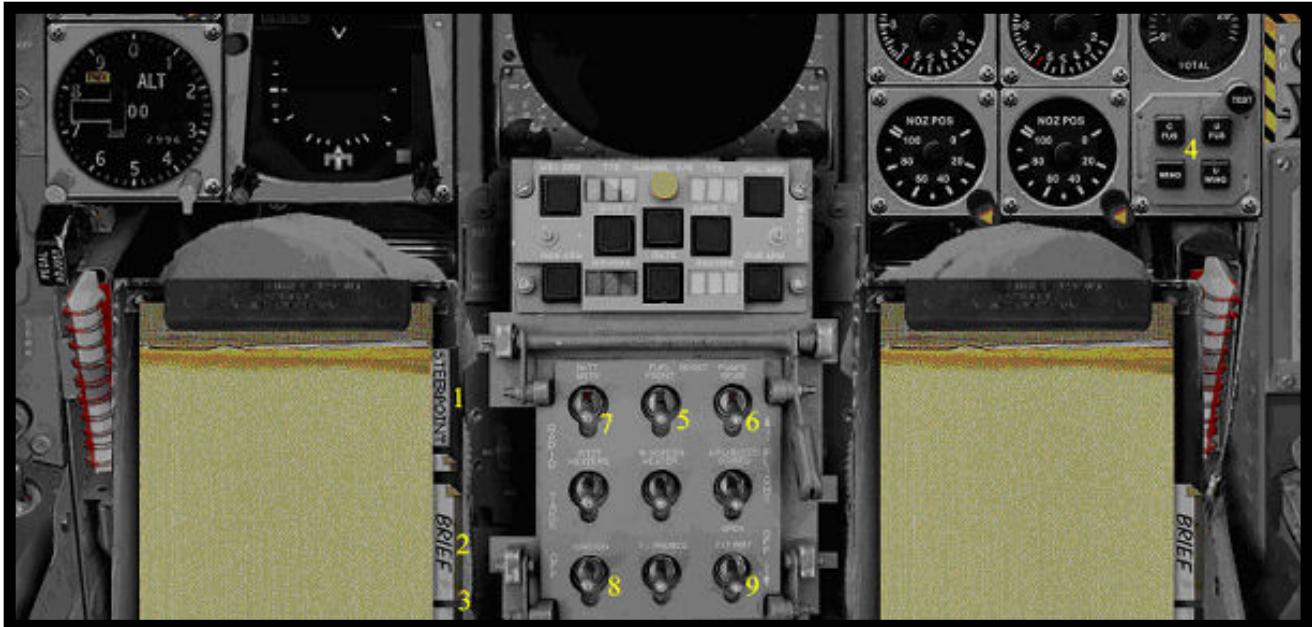
1 = Master arm



1 = ICP Comm1
 2 = ICP Comm2
 3 = ICP IFF
 4 = ICP LIST
 5 = ICP Clear
 6 = ICP Enter
 7/8 = Right MFD Brightness
 9/10 = Left MFD Brightness
 11 = Warning reset
 12 = ECM
 13 = RWR PriMode
 14 = RWR Naval
 15 = RWR Handoff
 16 = RWR Unknown
 17 = A/G mode
 18 = Nav mode
 19 = A/A mode
 20 = MAP power
 21 = UFC power
 22 = GPS power
 23 = DL power
 24 = MFD power
 25 = SMS power

26 = FCC Power
 27 = RF silent
 28 = Nav mode
 29 = A/G mode
 30 = A/A mode
 31 = ICP Comm1
 32 = ICP Comm2
 33 = ICP IFF
 34 = ICP Clear
 35 = ICP Enter
 36 = ICP list
 37 = RWR Set Search
 38 = ICP Sequence
 39 = ICP Reset
 40 = ICP Up
 41 = ICP Down
 42 = ICP Reset
 43 = ICP Sequence
 44 = ICP Up
 45 = ICP Down
 46 = Canopy open/close
 47 = Left Hardpoint power
 48 = Right hardpoint power
 49 = EWS Program inc/dec

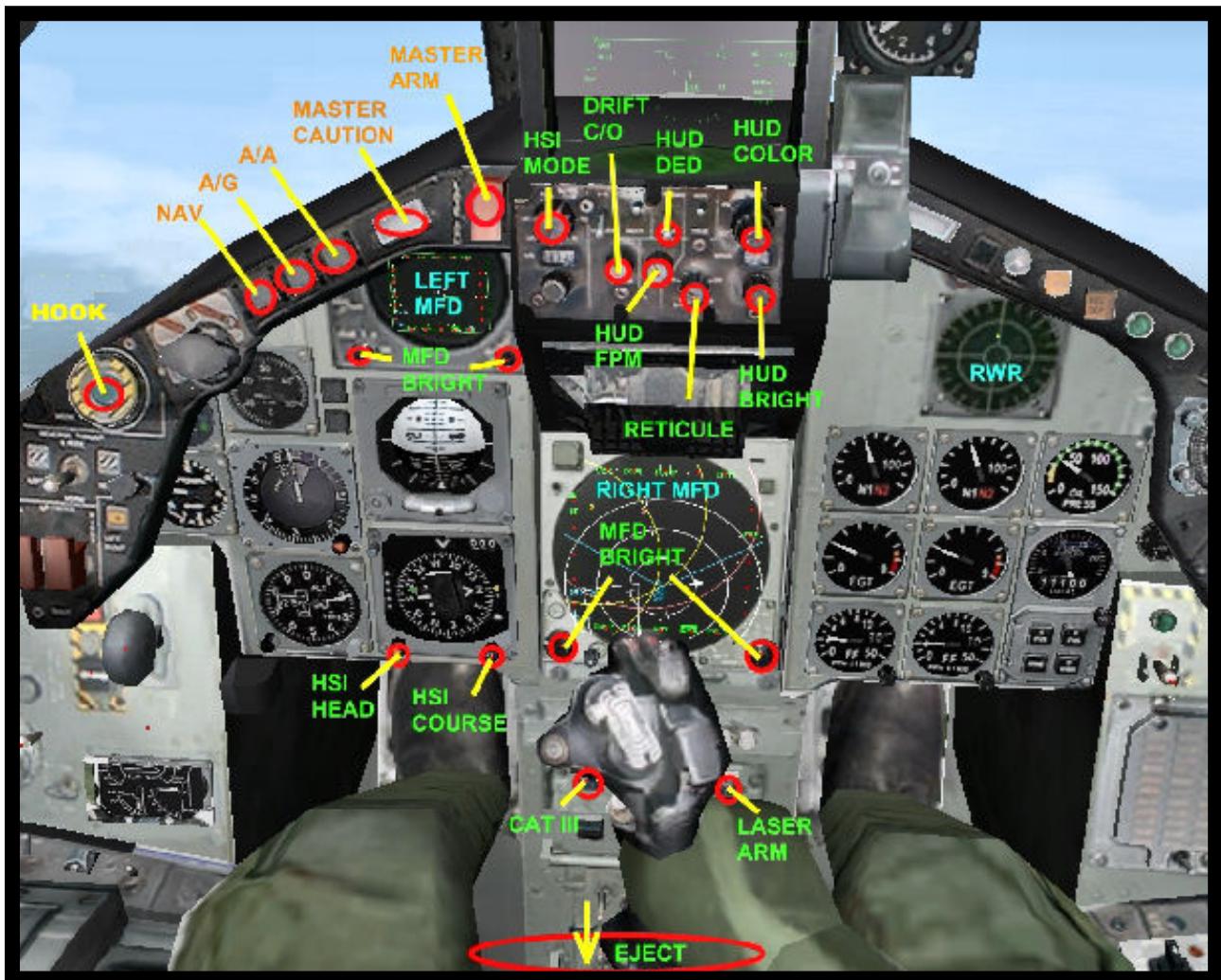
50 = EWS Mode inc/dec
 51 = FCR power
 52 = EWS Jammer power
 53 = EWS RWR power
 54 = Flare power
 55 = Chaff power
 56 = MAP power
 57 = RWR Altitude
 58 = Drop chaff
 59 = Drop flare
 60 = RWR power
 61 = EWR mode
 62 = EWR program
 63 = EWS Chaff power
 64 = EWS Flare power
 1 = Altitude
 2 = DED display
 3 = Mach speed
 4 = Altitude
 5 = ADI
 6 = AOA
 7 = Clock
 8/9 = MFD Left/Right

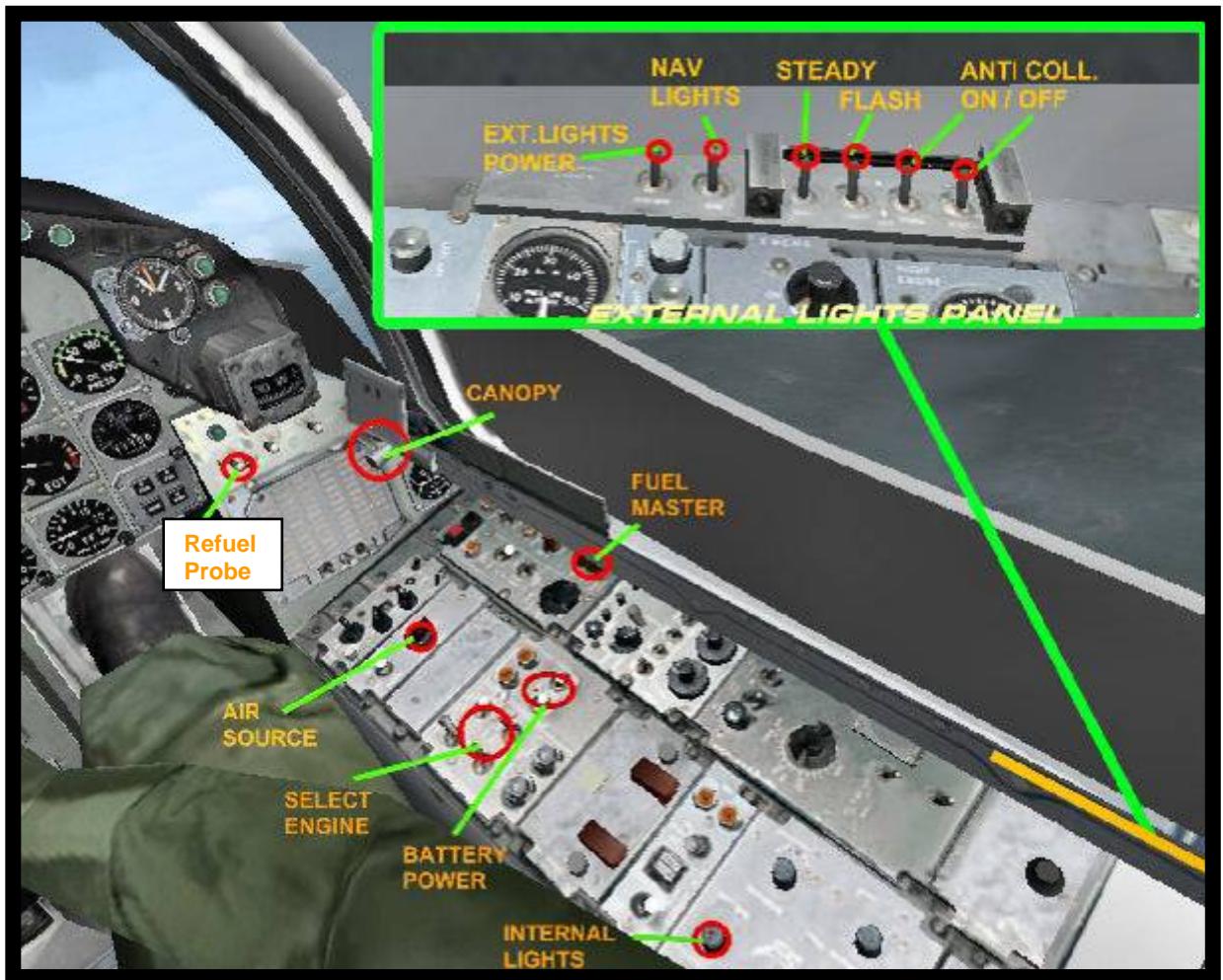
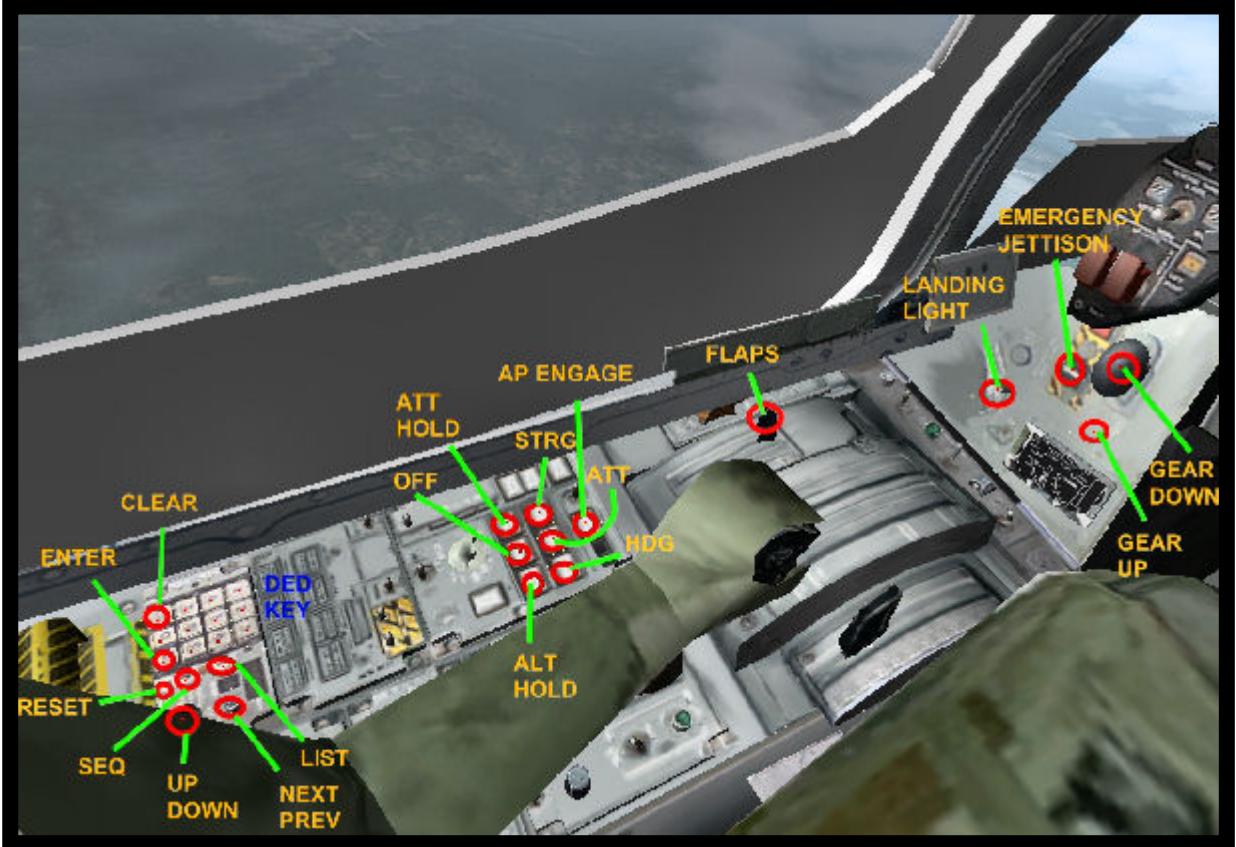


- 1 = Kneeboard steerpoint
- 2 = Kneeboard briefing
- 3 = Kneeboard Map
- 4 = Fuel quantity selector
- 5 = Master fuel
- 6 = Fuel feed
- 7 = Main power
- 8 = JFS
- 9 = MFD power



Tornado3D Pit



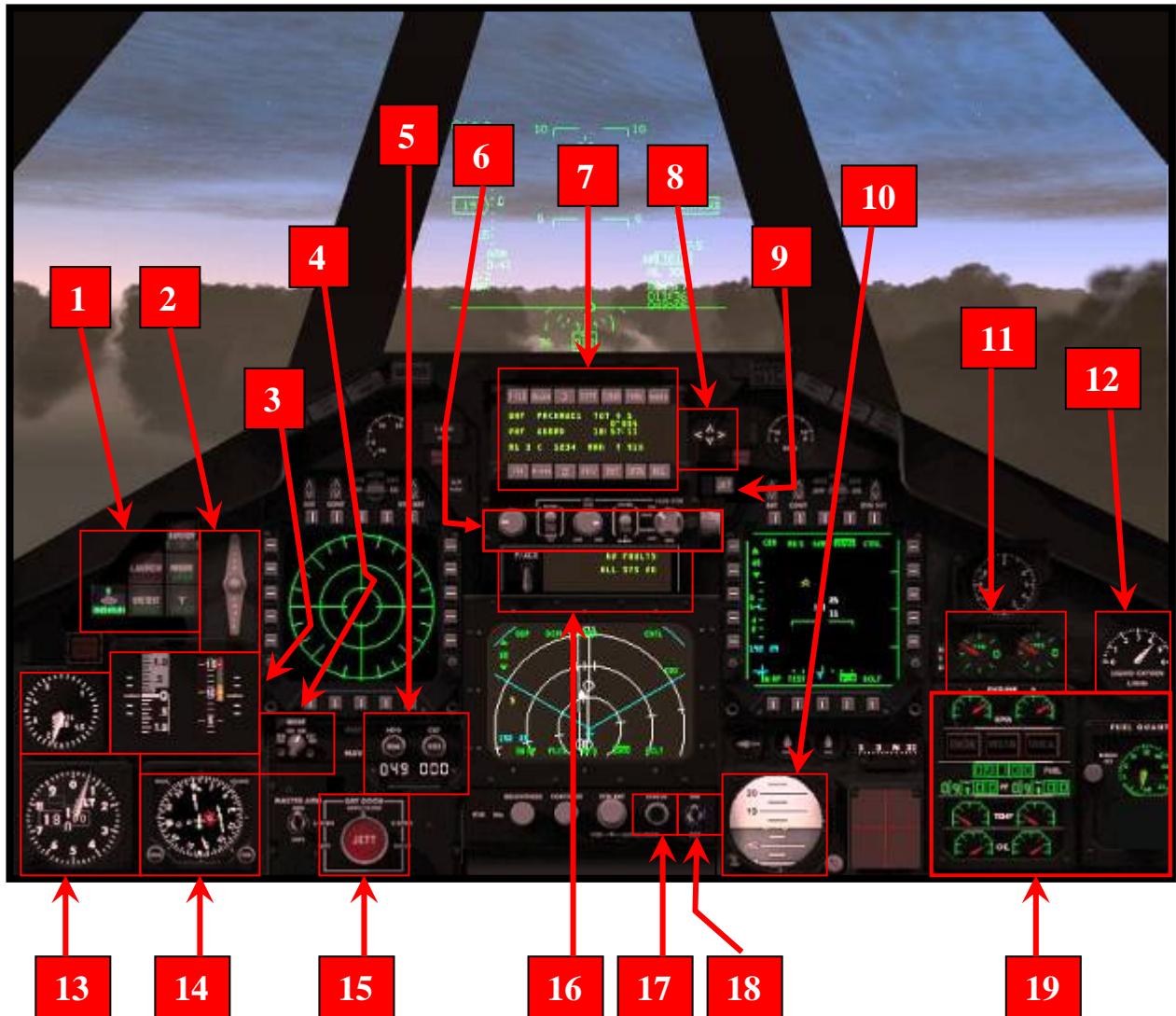


*Track IR required for some views



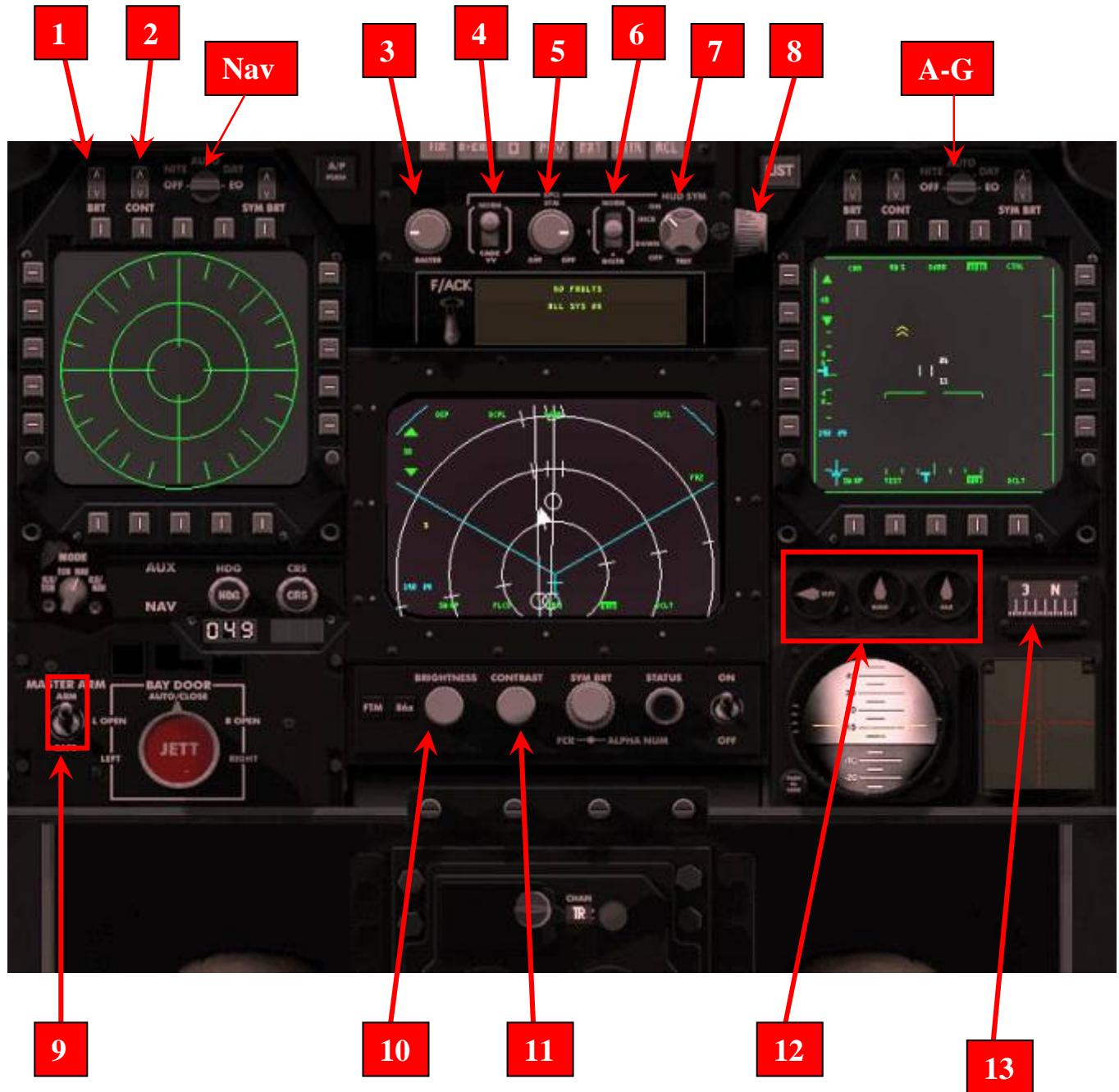
Ara's

F-117A FLIGHT MANUAL



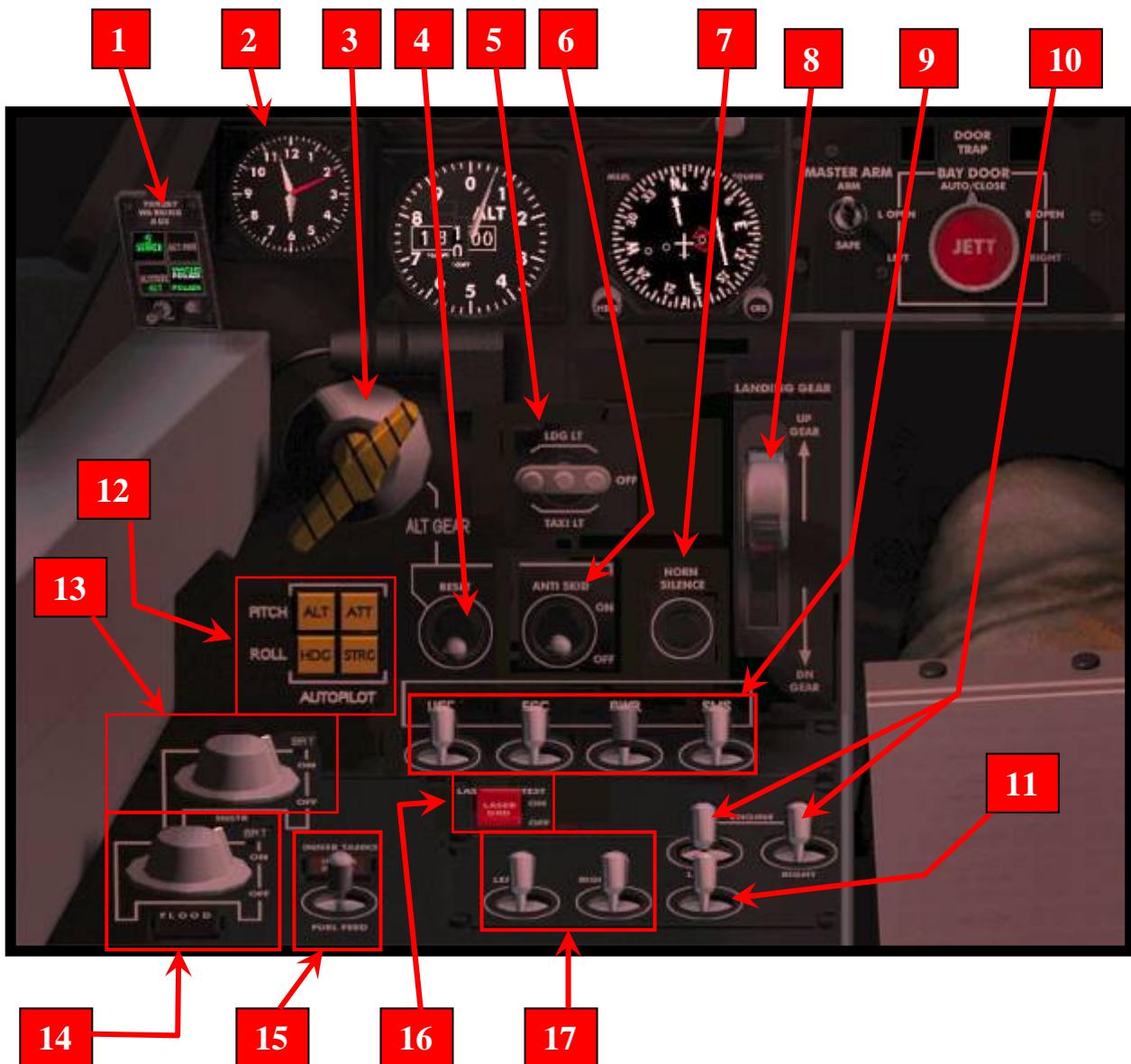
- 1** EWS Panel
- 2** Drag Chute
- 3** AoA + VVI Panel
- 4** Nav Mode Selector
- 5** Course + Heading Selector // Range to Beacon + Course Digits
- 6** HUD Master Panel
- 7** DED // ICP
- 8** CNI
- 9** List Button
- 10** ADI
- 11** Hydraulic Pressure Gauges (Engine 1 + Engine 2)
- 12** Liquid Oxygen Reservoir
- 13** Altimeter
- 14** HSI (+ CRS / HDG Selector)
- 15** Emergency Stores Jettison
- 16** F/ACK Display
- 17** MAL & INDS
- 18** MFD Main Power
- 19** Engines Main Instrument Panel // Warning Panel

NOTES: MFDs have independent Gain/Brightness controls. MFD 2 (*large*) is touch-screen. One MFD is usually configured as RWR.

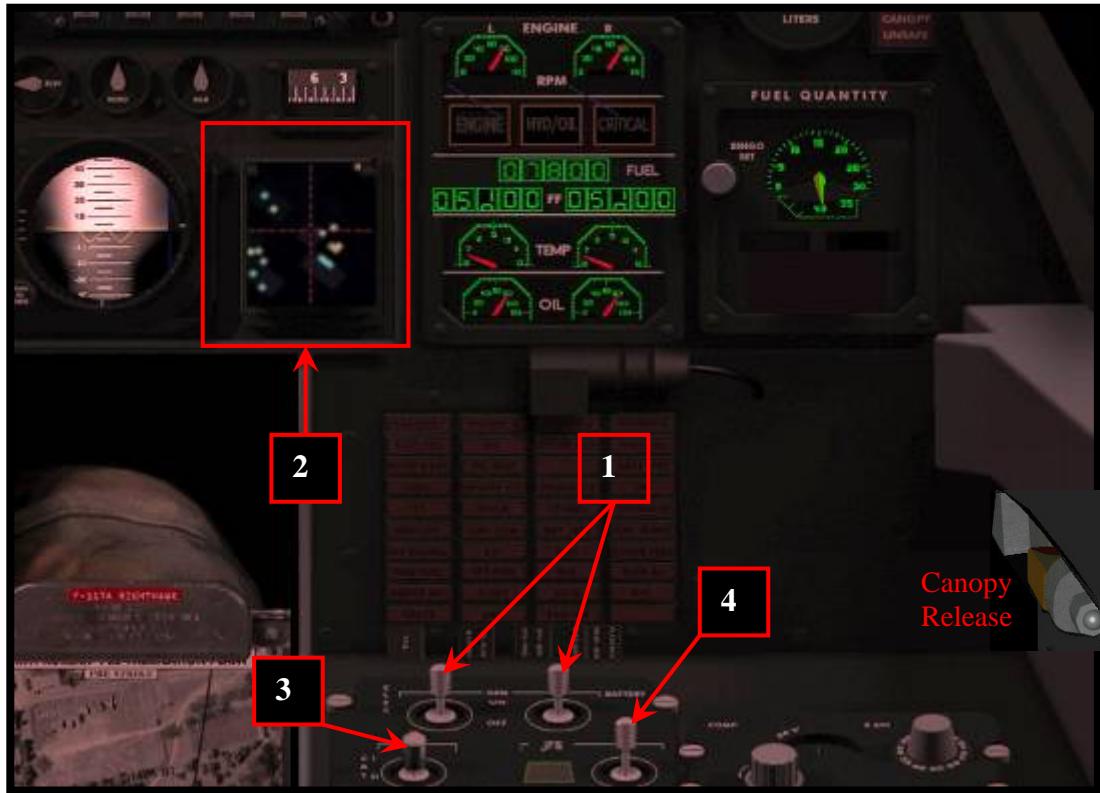


- 1** MFD Brightness
- 2** MFD Contrast
- 3** HUD DED_F/ACK Selector
- 4** HUD Velocity Switch
- 5** HUD FPM Switch
- 6** HUD RADAR Switch
- 7** HUD Scales
- 8** SYM Wheel (HUD Brightness)
- 9** Master ARM
- 10** MFD Brightness
- 11** MFD Contrast
- 12** Pitch + Yaw + Roll TRIM Adjustment
- 13** Magnetic Compass

* 3 ~ 8 comprise the *HUD Master Panel*

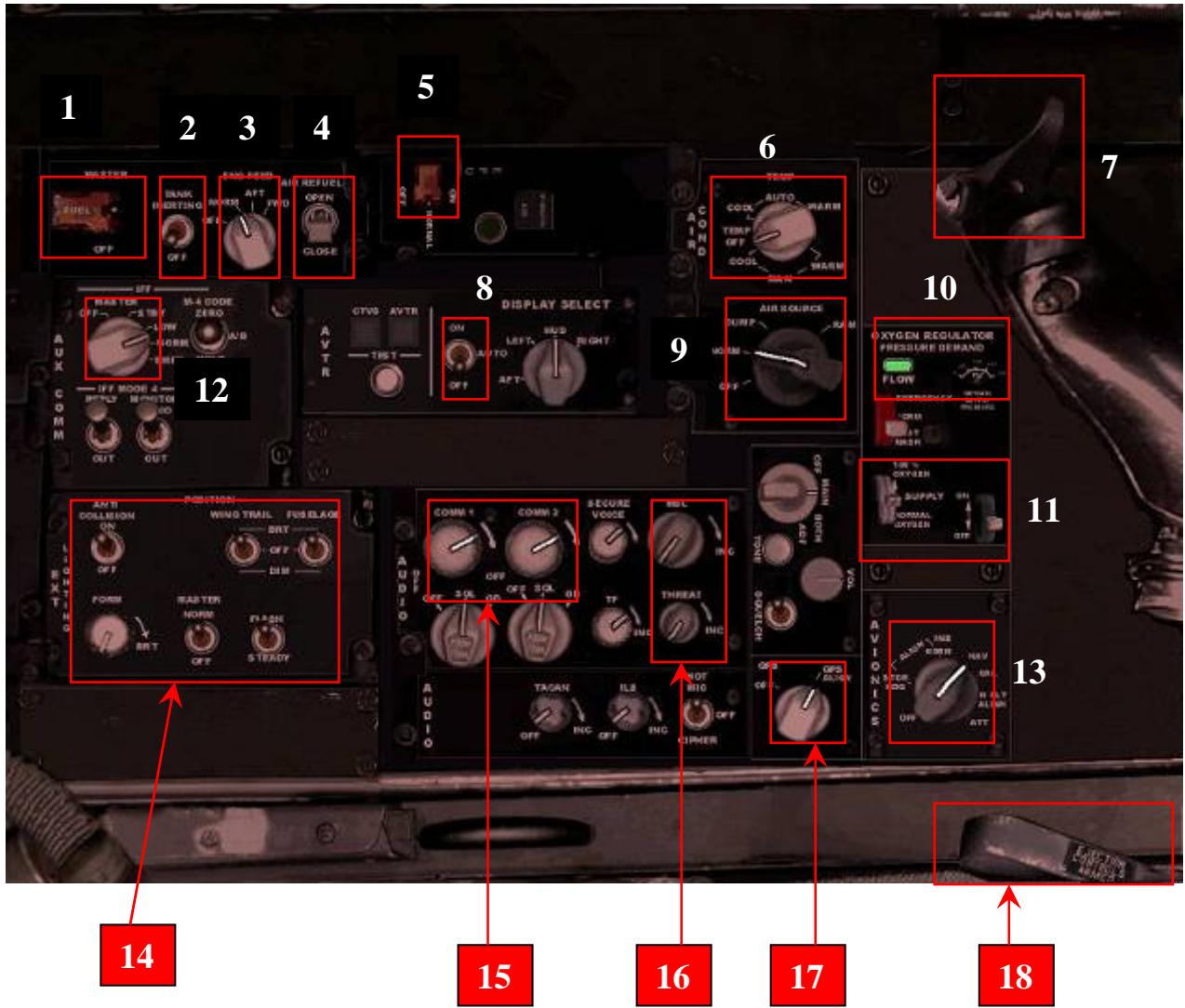


- 1** Threat Aux Warning Panel
- 2** Analogue Clock
- 3** Alt Gear
- 4** Alt Gear Reset
- 5** Taxi / Landing Light
- 6** Parking Brake
- 7** Horn Silence
- 8** Landing Gear Handle
- 9** UFC Power / FCR Power / FCC Power / SMS Power
- 10** Left Engine / Right Engine Power
- 11** Ground Jettison Enable
- 12** Three-Axis Autopilot
- 13** Instrument Lighting
- 14** Flood Lighting
- 15** Fuel Feed - Wing First Selector
- 16** Laser Arm
- 17** Left + Right Hardpoint Power

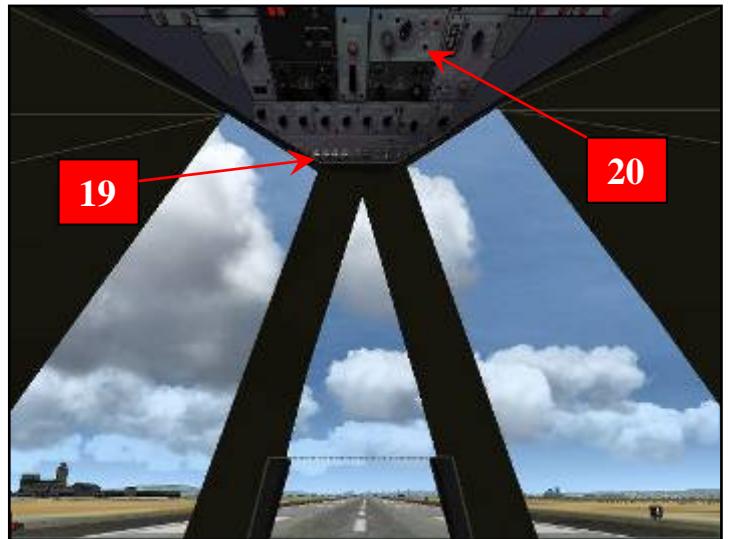


- | | | | |
|----------|---|----------|------------------------|
| 1 | Main Generator (<i>Left Switch → Standby</i>) | 6 | TACAN Channel Selector |
| 2 | Look-Down Video Feed | 7 | Aux COMM Master Select |
| 3 | Cat I/III | 8 | Radar ALT Switch |
| 4 | JFS Switch | 9 | VMS Inhibit |
| 5 | Aux COMM AA/TR Selector | | |





- 1** Master Fuel
2 Tank Inerting System (*Halon Gas*)
3 Fuel Feed
4 Refuel Door
5 EPU Switch
6 Air Conditioning Control
7 Throttle Detent
8 AVTR 3-way toggle
9 Air Source Knob
10 Oxygen Regulator Status
11 Oxygen Flow Panel
12 IFF Master Switch
13 INS Power
14 Ext Lighting Panel
15 Comms Volume
16 Threat Volume
17 GPS Power
18 Ejection Seat Arm



- 19** DRIFT C/O Switch
20 MPO Switch



The F-117A comes with a host of features to increase your Situational Awareness.

The Pilot will notice Warning lights on the front Panel; Eyebrow lights - front, left and right.

The dedicated F/ACK Display can be kept active at all times during flight.

Further, there is an Engine Panel (2); Master Caution Panel (3); and, Generator Panel (4).

A Fuel Warning (5) is also present beneath the Analogue Gauge.

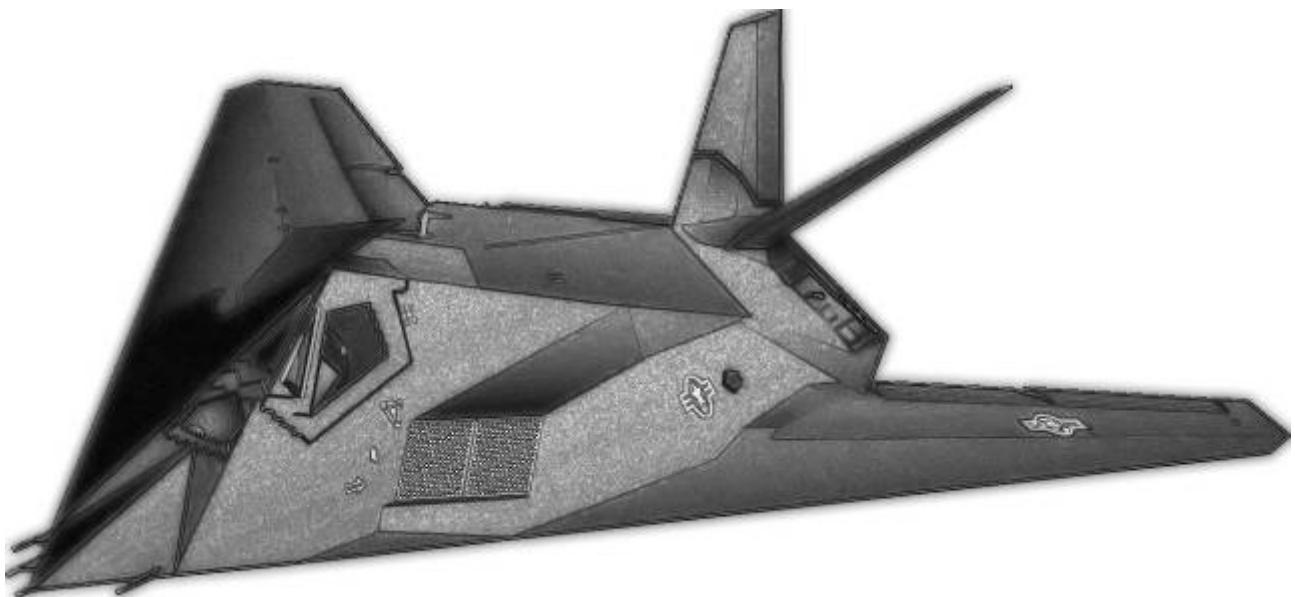
The Video Feed Monitor (1) is linked to a downward pointing camera.

Everything you need to stay safe in the stealthy skies....!

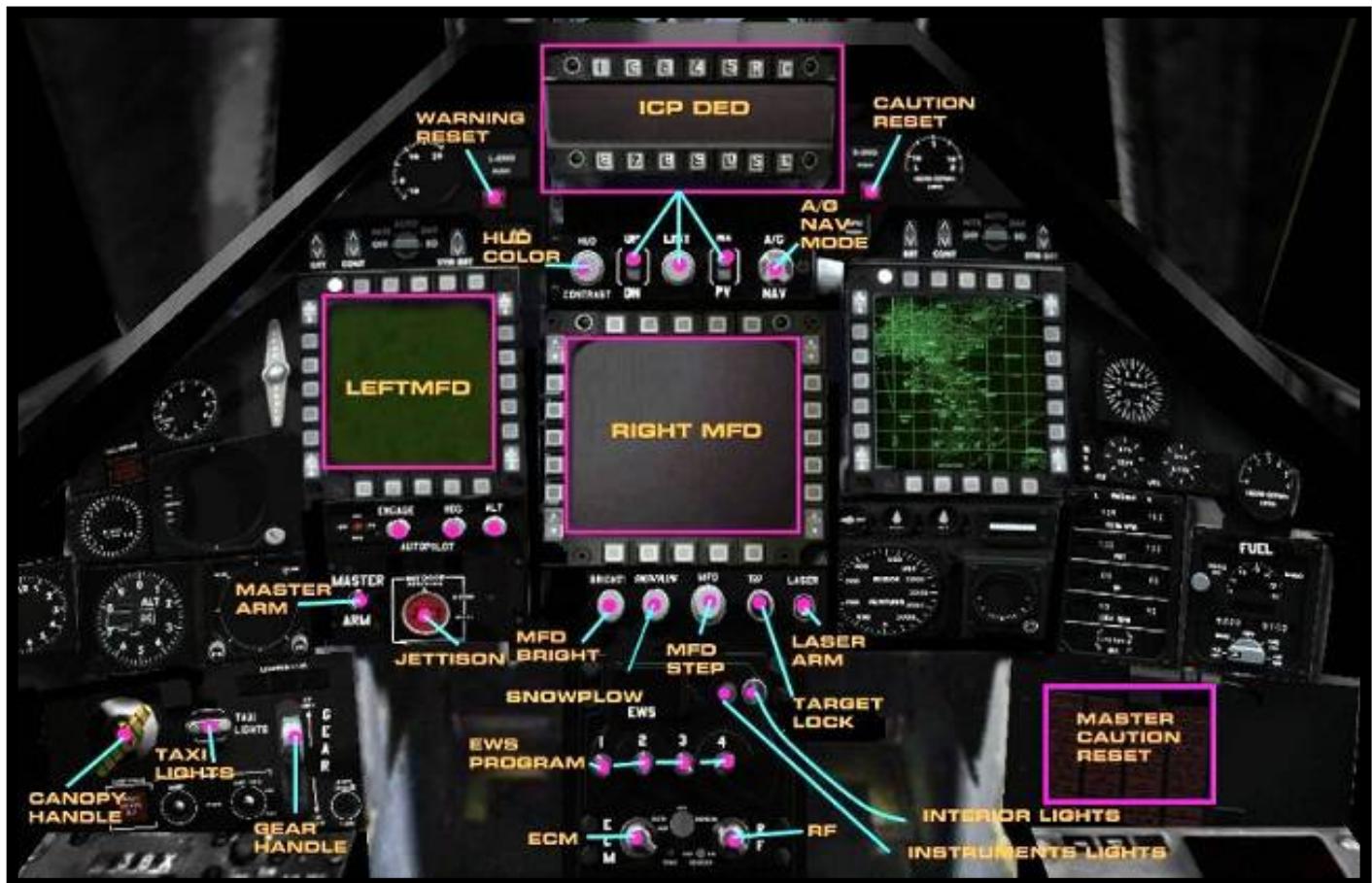
SUGGESTED RAMP-PROCEDURE

1. Enable Engine view (*shft-ctl-h*)
2. Cycle to Left Engine (*ctrl-o*)
3. Apply Parking Brake
4. Battery/Main Power to On
5. Left Engine → On
6. Master Lights → NORM / Anti-Collision Light → ON / Wingtip Lights → BRT
7. Master Fuel → On / Fuel Feed → NORM / Tank Inerting (*halon*) → On
8. Air Source → NORM
9. *[Throttle to Idle.] Engage JFS. [Observe RPM is rising to 20%][Throttle to 50%]*
10. Press Idle Detent. *[Throttle to 70% / Observe RPM is rising to 60% / Throttle back to idle.]*
11. FCC, SMS, UFC → ON // MFD → ON // GPS → ON
12. INS align → NORM.
13. Cycle to Right Engine (*ctrl-o*)
14. Right Engine → On
15. Confirm Air Source → NORM
16. *[Throttle to Idle.] Engage JFS. [Observe RPM is rising to 20%][Throttle to 50%]*
17. Press Idle Detent. *[Throttle to 70% / Observe RPM is rising to 60% / Throttle back to idle.]*
18. Cycle to BOTH engines (*ctrl-o*)
19. *[Go to Ramp View] Left Hardpoint, Right Hardpoint, FCR → ON*
20. Set Radar Alt. → Stby.
21. Adjust HUD brightness / Adjust Instrument lights + Flood Lights
22. F-ACK Display → ON.
23. Adjust HUD settings on Master HUD panel
24. COMM1, COMM2, MSL, THREAT → Adjust Volume
25. Power up Aux Comm Threat Panel
26. *Check INS in DED is rising. When “RDY” flashes, set INS → NAV / Enable Radar Alt.*
27. Close Canopy / Taxi Lights → ON / IFF → NORM / Arm ejection seat
28. Configure MFDs / Configure SMS Page
29. Enable NWS / Press RTN button for DED.
30. Disable engine view (*shf-ctl-h*) / Request Taxi clearance.
31. *(After climb-out) Set RF + Master Arm*
32. Set EWS Panel + Aux Comm Threat Panel as desired.
33. Adjust Air-Conditioning (*as required*)
34. Configure Weapons Systems as applicable.

Ara'



F117 3D Pit



The Dassault Rafale



2 D Flight Manual



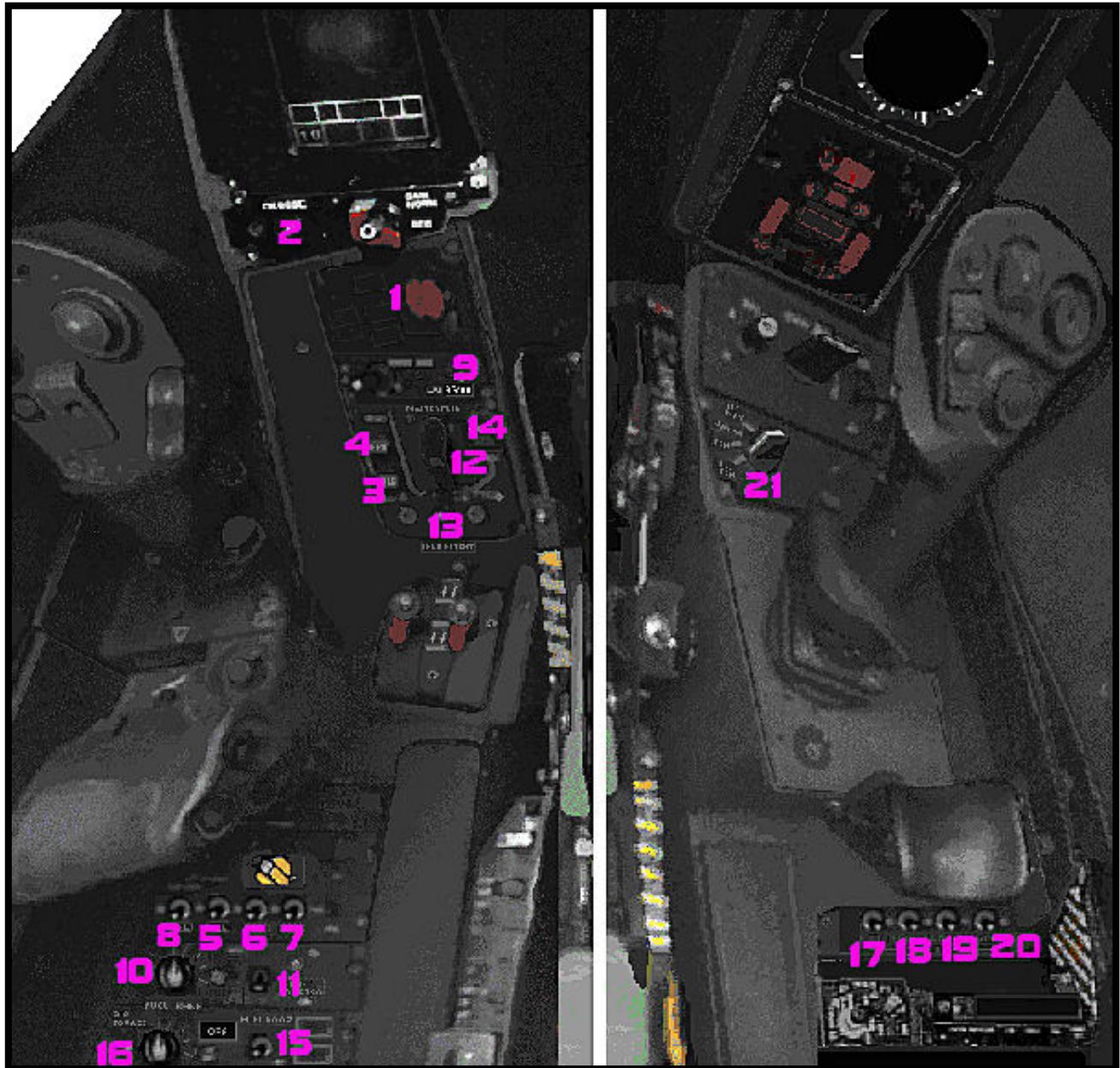
1 – HSI heading
 2 – HSI course
 3 – AUX Warning lights power
 4 – AUX Warning light search
 5 – AUX Warning lights alt
 6 – ECM
 7 – RWR Handoff
 8 – RWR Priority
 9 – RWR Unknown
 10 – RWR Naval
 11 – RWR Tgt sep
 12 – MFD 3
 13 – MFD 4
 14 – NAV mode
 15 – ICP sequence
 16 – AP pitch hold
 17 – Comm2 volume
 18 – ICP Comm1
 19 – ICP Comm2
 20 – AA mode
 21 – AG mode
 22 – ICP IFF

23 – ICP LIST
 24 – ICP Enter
 25 – ICP Previous
 26 – ICP Next
 27 – ICP up
 28 – ICP down
 29 – Master caution
 30 – HUD colour
 31 – HUD Brightness
 32 – ICP Clear
 33 – Laser arm
 34 – HUD Drift c/o
 35 – Warning reset
 36 – RF silent
 37 – Interior lights
 38 – Emergency jettison
 39 – Master arm
 40 – AVTR
 41 – AP roll hold
 42 – MPO
 43 – Kneeboard Briefing
 44 – Kneeboard Waypoint

45 – Kneeboard Map
 46 – EWR RWR power
 47 – EWS program
 48 – EWS mode
 49 – FCR power
 50 – Canopy handle
 51 – MFD power
 52 – MAP power

INSTRUMENTS

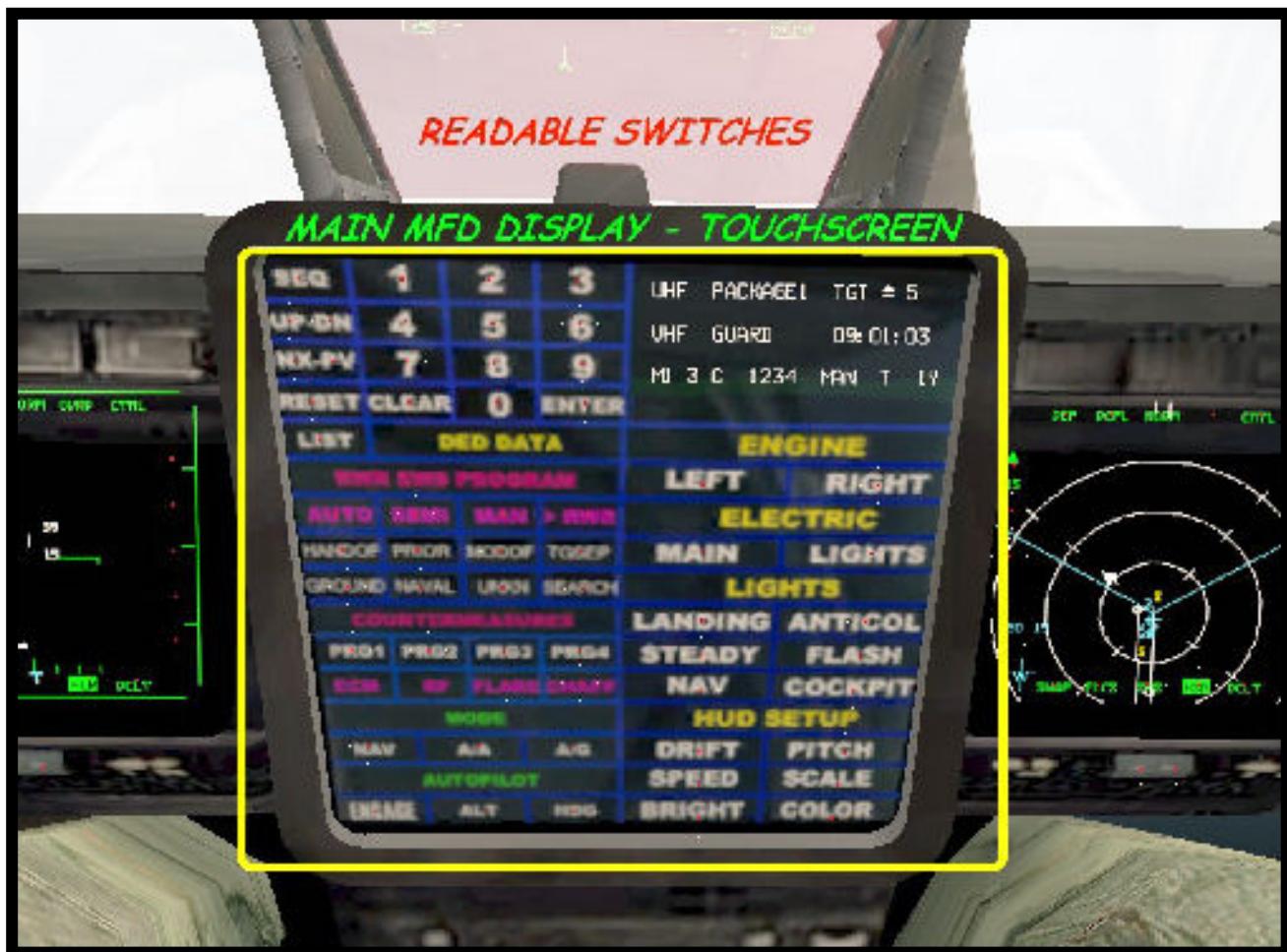
1 – Altitude
 2 – ADI ball
 3 – Mach speed
 4 – HSI
 5 – Total fuel



- | | |
|---|---|
| <p>1 – Landing gear
2 – Hook
3 – JFS
4 – EPU
5 – FCC power
6 – Datalink power
7 – SMS power
8 – UFC power
9 – Cat I/III
10 – Fuel transfer
11 – Master fuel</p> | <p>12 – Main power
13 – IDLE detent
14 – Parking brake
15 – Fuel door
16 – Air source
17 – Exterior lights power
18 – Flash/Steady
19 – Anti-collision
20 – Wings/Tail
21 – Navigation mode</p> |
|---|---|



Rafale 3D Pit

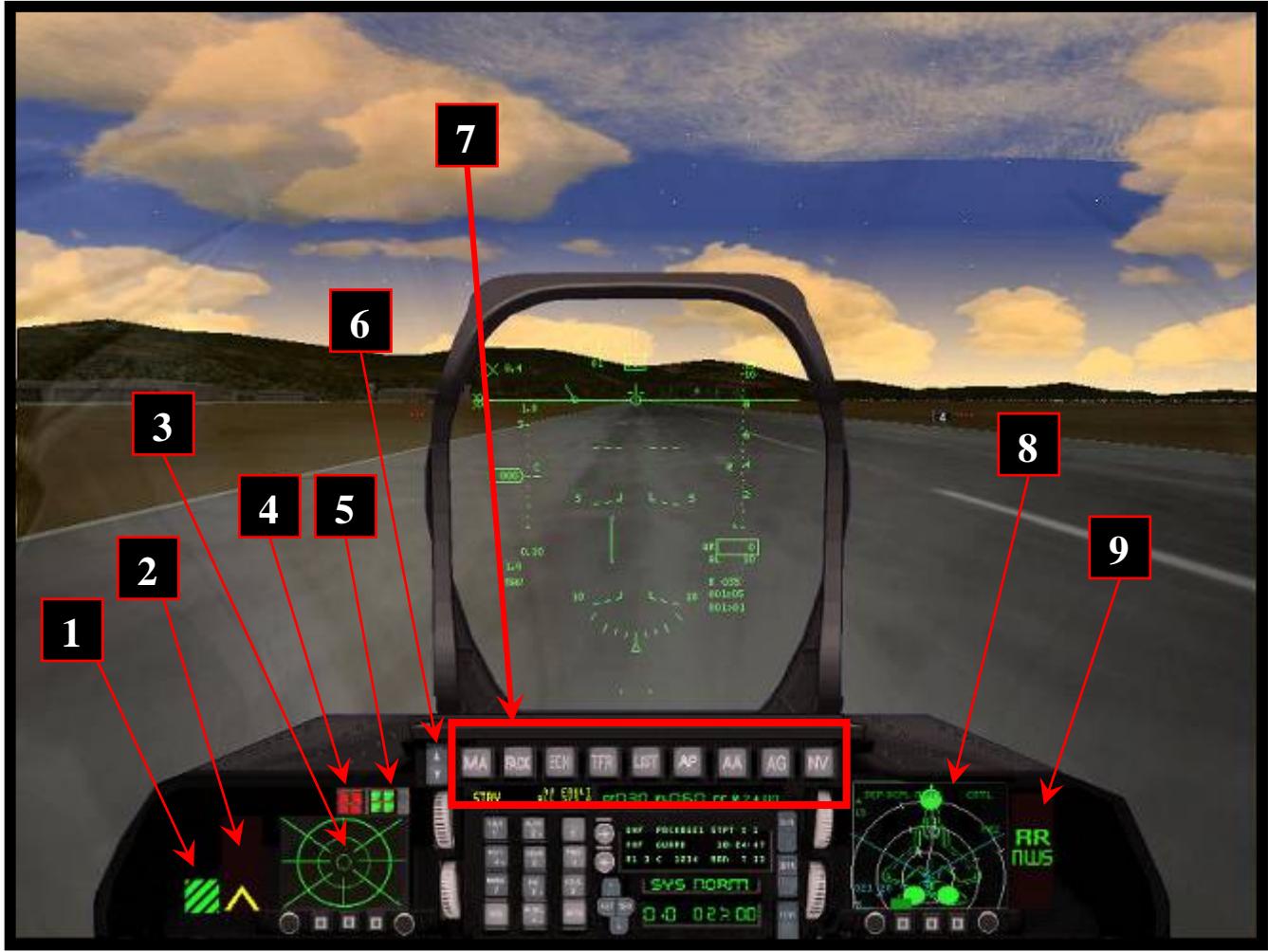






Ara's

F-22 Raptor Flight Manual



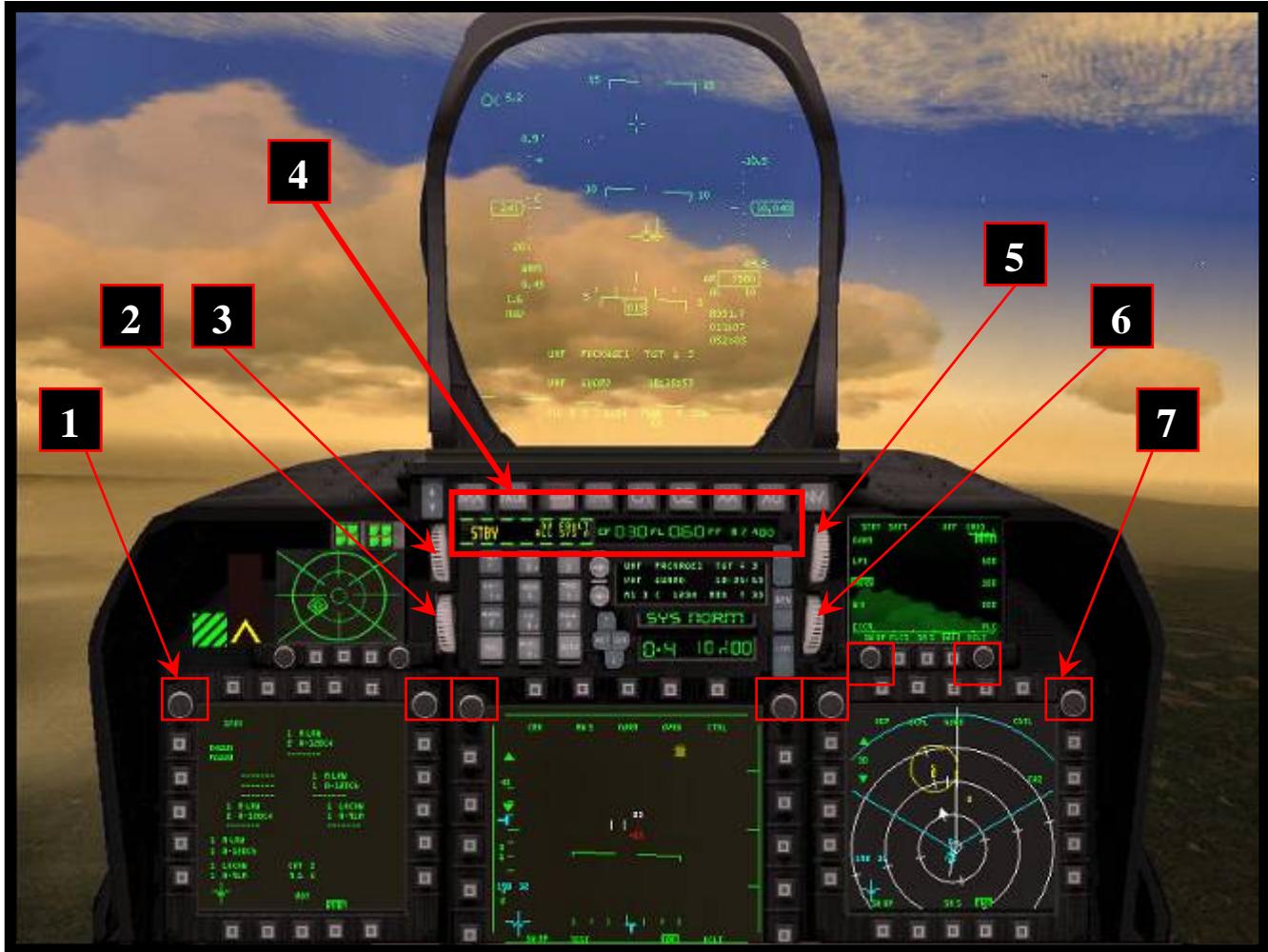
1. Speedbrake Indicator. (*Dimmed upon Power Shutdown*)
2. AOA Indexer
3. RWR (*also selectable in MFD displays*)
4. Master ARM Selector → Active / Sim / Off
5. RF Selector → Active / Standby / Off
6. COMMS Rocker → Comm1 ▲ / Comm2 ▼
7. Master Panel → Master Alert / F-ACK / Jammer / TFR / LIST / AP toggle / AA / AG / NAV
8. Screen_1 → In this view, Screen_1 displays: DSS + Touchscreen MFD
9. AR Status/NWS Indicator

* **Notes →**

Beneath the Master Panel is the Primary Digital Display.

When the jammer is active, a broken line appears across the top and bottom of the PDD.

When changing views, some Screens change what they display. This is not “magic”. It is assumed that – by changing views - the pilot wishes to access different information. Therefore, the appropriate buttons are pushed to CHANGE the information being displayed on the screen. The F-22 Pit simply automates this “button push”. It is assumed that the pilot makes the desired selection as he/she changes the view.



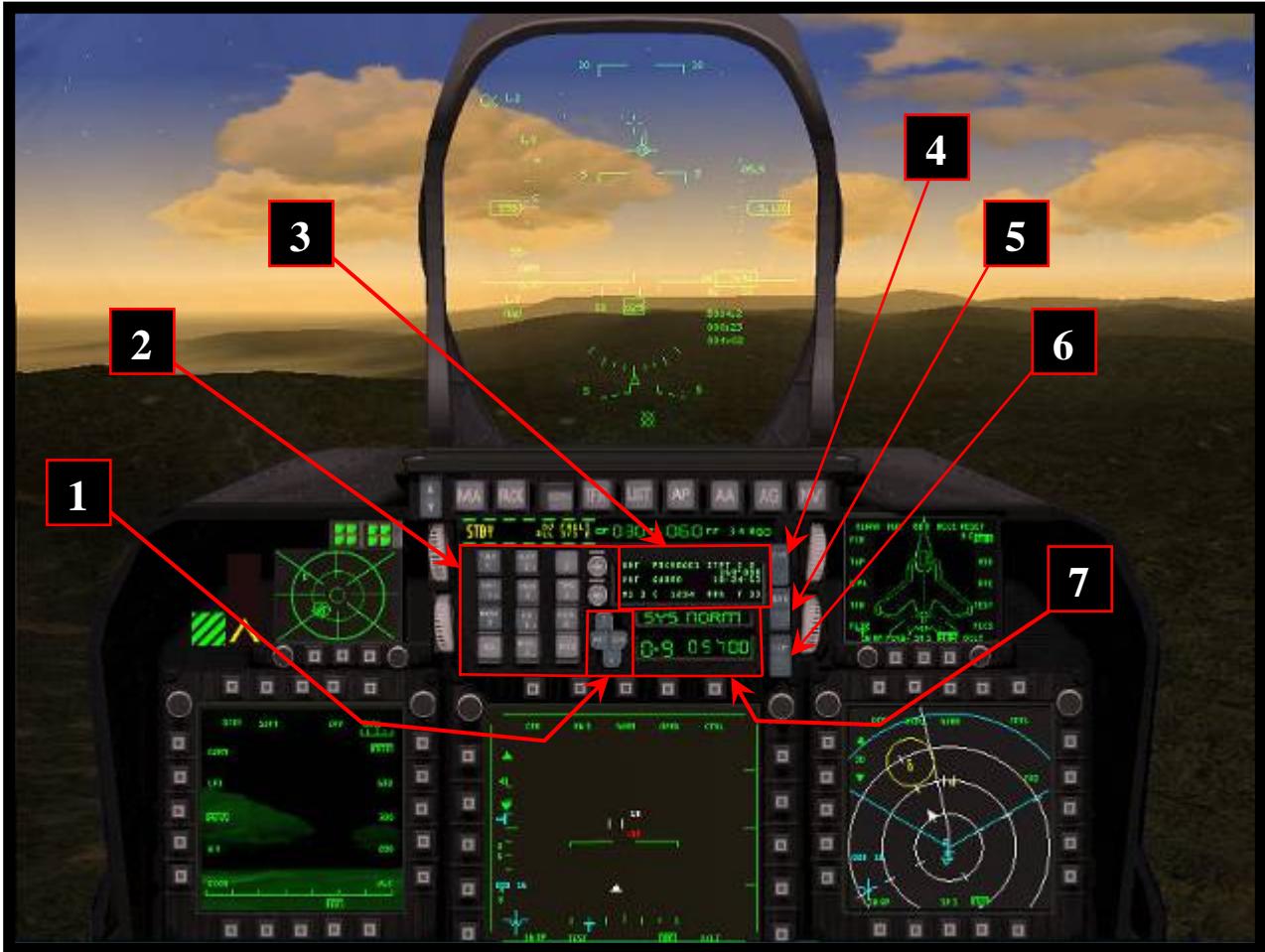
1. MFD Gain UP
2. Pit Flood Lighting → Low Intensity / High Intensity / Off
3. SYM Wheel
4. Primary Digital Display → TFR Status / ECM / PFL / Chaff Stores / Flare Stores / Fuel Flow
5. HUD DED Selector → PFL / DED / Off
6. Instrument Lighting → Low Intensity / High Intensity / Off
7. MFD Gain Down

* **Notes →**

Each MFD has independent Gain Controls.
This is important when adjusting Gain to view Touchscreens.

For Situational Awareness, the F-ACK Display should be active during Flight.

The Primary Digital Display will also display MISSILE LAUNCH warnings.

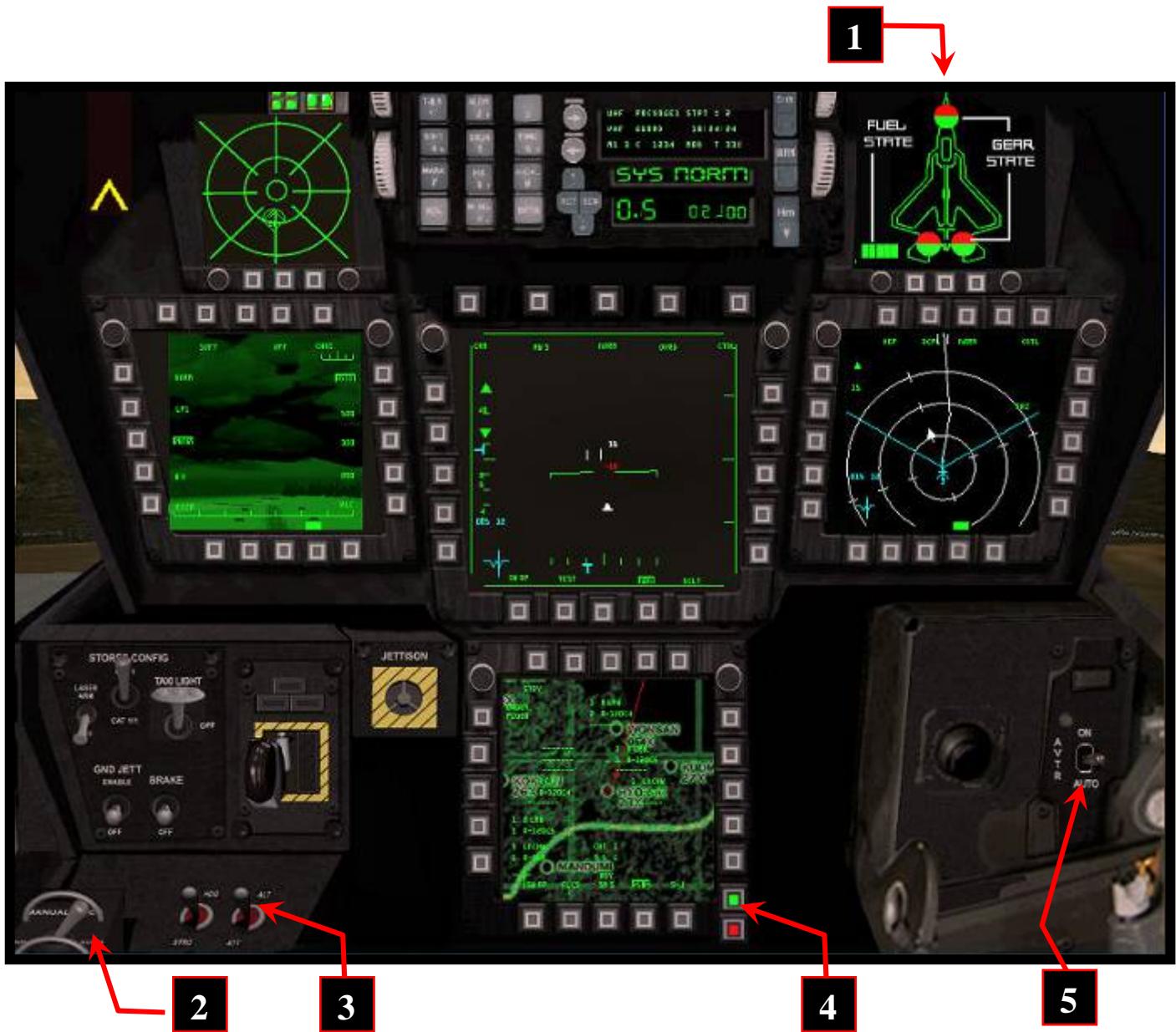


1. CNI Switchology
2. ICP + Previous/Next Switch
3. DED Display Screen
4. Drift Button
5. Warning Reset Button
6. HORN Button
7. Digital Status Display → Systems Status / Mach Speed / Altitude

* **Notes →**

The Digital Status Display will give an ALERT Status when something needs to be called to the pilot's attention; a call to check your DSS (*see below*) for caution lights, or to be aware that something requires attention. Hitting the MA (*Master Alert*) Button will restore the Display to *Systems Normal Status*.

The DED Display Screen will also display EJECT warnings, as appropriate.



Most systems in this view are easily recognisable, and are clearly marked.

1. DSF → (Digital Systems Feedback)

In this view, the Pilot switches Screen_1 to the DSF Screen exclusive.¹

MFD functions are replaced by a three (3) Page Touch-Screen, with both Real-Time information and Pilot Info. System Warnings are shown here.

Remaining Fuel Flow is also shown on your DSF Screen (*real-time mode*).

2. MPO Switch.

3. Auto Pilot (3 axis)

4. Digital Map Display → On (green) + Off (red)

Digital Map Display → You may want to “Gain Down” the MFD whilst viewing the Map.

In any case, the MFD remains fully functional. DMD is controlled by the green and red buttons.

5. AVTR Switch

¹ This is done automatically. It is simply assumed that the Pilot makes the input as he switches views.



Digital Gauge Display

Gauges → The F-22 Gauges are rendered as DIGITAL displays. Be aware: They will black-out during power-failure. In addition to the OIL, NOZZLE, RPM, FTIT, and FUEL gauges, there is also a digital Fuel Readout - showing both Remaining Fuel and current Fuel Flow. There are digital gauges for BOTH engines.

Further, this MFD offers a touch panel beneath the Digital Fuel Gauge. Fuel Flow options are controlled from this touch pad.

You can find the Digital Gauge Display on your Right MFD.

Note that the MFD remains functional during all times.

It is suggested to GAIN DOWN the MFD before accessing the Digital Gauge Display.
(*For best results, one could choose “Blank” mode, before “gaining down”*)

Although the MFD and Digital Gauge Display are able to show simultaneously, it is suggested to deactivate the Digital Gauge Display (touch-activation) for normal MFD operations.

For best results, combine MFD Gain Control and DGD Touch-screen activation/de-activation

Both side panels are quite intuitive and most things are clearly marked.

It should be only a small step for the knowledgeable Viper Pilot.

I've marked some things which may require a heads-up

1. Engine Anti-Ice
2. Manual Reticule
3. Air Con
4. Drag Chute
5. Alt Gear
6. Comms



7. Idle Detent
8. Seat Arm



Special Views

There are four (4) Special Views →

- ☞ The Navigation View
- ☞ The Ramp View
- ☞ ECM Suite
- ☞ The Analog Panel

They do NOT represent different “viewpoints”.

Rather, they simulate the pilot SETTING up his displays differently.
These views simply “automate” the process of setting up the different screens.

Once again – one MFD does not “magically” transform into another.

Rather obviously, it is assumed that the Pilot makes the inputs to change the display/s.





NAV VIEW simulates the Pilot setting up his displays for Navigation.

Perhaps an RTB or a Nav. exercise.

The main features are →

The Digital HSI – The Left MFD has been configured (by the pilot) to display the digital HSI. This can be controlled via the “active” OSBs. Also - Course and Heading are displayed.

The Centre MFD has been configured (by the pilot) to display *Steerpoint + Brief + Digital Map*. These are accessible thru the “active” OSBs

Screen_1 has been configured to display an MFD. Note Screen_1 is an MFD-TOUCHSCREEN. OSBs are not used in Screen_1 configuration.

The Right MFD is fully functional, but ALSO features a three-page TOUCHSCREEN. These pages show the *Stand-by Mode + Two pages of TACAN Information*.

Note the MFD + Touchscreen may function SIMULTANEOUSLY. However – it is often more practical to “Gain Down” the MFD before accessing the Touchscreen.



RAMP VIEW gives the F-22 Pilot FULL Ramp-Start & Shut-down capability.

This view is also very handy for in-flight aircraft tweaking.

The main features are →

The A/C Systems Touchscreen – The Centre MFD has been configured to give access to many of the aircraft's systems through the touchscreen. OSBs are also functional. *Hardpoints; Radar Settings; HUD Scales; HUD settings; Fuel Flow* – all can be adjusted thru ACS Touchscreen Inputs.

[Screen_1](#) – The Pilot sets Screen_1 to Full-Touchscreen MFD.

[Left MFD](#) – the MFD on the left maintains all OSB functions.

TITS – We all love them. The [*Threat Identification Touch Screen*](#).² This is a six (6) page screen which lists all kinds of threats and threat-information. It includes effective range and altitude of SAMS and AAA. It also gives information on RWR Symbology.

*Note that most Touchscreens in the F-22 are both “left-click” and “right-click” functional.

² I PROMISED to have TITS in my ‘pit. I never lie.... – Ara’



The F-22's entire **Electronic Counter Measures Suite** is controlled via the Left MFD.³

When accessing this view, it is assumed the pilot switches his MFD to the ECM Touchscreen Mode. ETM is operated by the OSB's which are lit to indicate ETM Functionality.

When switching back to the “centred” view, it is assumed the pilot re-configures his ETM to MFD.

³ This is only available via the ECM View, which is the Panel pictured above.



Obviously, the F-22 is a very “Digital” Jet. This can become problematic in times of power failure.

The **ANALOG Panel** gives the F-22 Pilot a backup in times of emergency.

It is assumed here, that the Pilot manually opens the Analog Panel to reveal the back-up instruments stored within. As a redundant system - during normal flight, this panel remains secured.

The Analog Instruments – providing information for BOTH engines - are useful in times of Systems-Damage.

By glancing Up and Down, the Pilot can maintain a situational awareness by using both the Navigation Configuration, and his Analog Panel.

RAMP START + F.A.Q.

In order to **RAMP Start**, the Pilot must first cycle to the Left Engine, before cycling to the Right Engine, and finally switch to Both Engines.⁴

- ☞ Use the keystroke → **Shift-Ctrl- h** to bring up the Engine Display.
- ☞ Use the keystroke → **Ctrl- o** to cycle to your Left Engine.
- ☞ Spool the Left Engine
- ☞ Use the keystroke → **Ctrl- o** to cycle to your Right Engine.
- ☞ Spool the Right Engine
- ☞ Use the keystroke → **Ctrl- o** to cycle to BOTH your engines.
- ☞ Complete your Rampstart (*remember to use the RAMP View for some steps*)

Suggested Ramp-procedure:

1. Enable Engine view (*shft-ctl-h*)
2. **Cycle to Left Engine** (*ctrl-o*)
3. Apply Parking Brake
4. Main Power to On
5. Master Lights → NORM / Anti-Collision Light → ON / Wingtip Lights → BRT
6. Master Fuel → On / Fuel Feed → NORM
7. Air Source → NORM
8. *[Throttle to Idle.] Engage JFS. [Observe RPM is rising to 20%][Throttle to 50%]*
9. Press Idle Detent. *[Throttle to 70% / Observe RPM is rising to 60% / Throttle back to idle.]*
10. FCC, SMS, MFD, UFC, GPS, DL, Map → ON
11. INS align → NORM.
12. **Cycle to Right Engine** (*ctrl-o*)
13. Air Source → NORM
14. *[Throttle to Idle.] Engage JFS. [Observe RPM is rising to 20%][Throttle to 50%]*
15. Press Idle Detent. *[Throttle to 70% / Observe RPM is rising to 60% / Throttle back to idle.]*
16. **Cycle to BOTH engines** (*ctrl-o*)
17. *[Go to Ramp View] Left Hardpoint, Right Hardpoint, FCR → ON*
18. Set Radar Alt. → Stby.
19. Adjust HUD brightness / Adjust Instrument lights / F-ACK → ON.
20. COMM1, COMM2, MSL, THREAT → Adjust Volume. MAL/IND Check.
21. EWS Power + Jammer → ON / Chaff & Flares → Activate / EWS → Set Mode + Program
22. *Check INS in DED is rising.* When “RDY” flashes, set INS → NAV / Enable Radar Alt.
23. Close Canopy / Taxi Lights → ON / IFF → NORM / Arm ejection seat / Anti-Ice (*as required*)
24. Set Digital Gauge Display / Set Touchscreens / Configure MFDs / Configure SMS Page
25. Enable NWS / Press RTN button for DED.
26. **Disable engine view** (*shf-ctrl-h*) / Request Taxi clearance.
27. *(After climb-out) Set RF + Master Arm + Air-Con (as required) + Wpns systems as applicable.*

⁴ A Dual-Engine RAMP Start Training Mission is included in your install.

Anti-Ice + Air-conditioning + Immersion

You will notice that both the *Engine Anti-Ice* and the *Air-conditioning Unit* are “clickable” but “N/I” (*not implemented*). Then - why bother...? The answer is – quite simply – immersion.

Some virtual pilots do not RAMP start; they do not taxi to the hangar, before shutting down the jet, and taking a moment to enjoy the silence after the canopy has been opened on the sleeping aircraft.

The Anti-Ice and Air-conditioning may not appeal to this breed of Virtual Pilot.

Some VPs, however, would not dream of committing to “Taxi”; committing to “Take-off”. These virtual pilots do not “save” their cockpit configuration, and use a simple keystroke to set-up their ‘Pit. They RAMP every mission; set up their cockpit system-by-system; NEVER use “accelerated” time; preferring the pleasure of simply flying the jet; watching the view, and; monitoring their aircraft. They will return to base every time; never failing to taxi to the parking ramp, there to shut-down the jet – again – system-by-system.

It is these Virtual Pilots for whom the added switchology was provided.
Simply – if you have to ask “why”... you’ll never understand “why”.... ;)

Perhaps the Virtual Pilot interested in a more immersive experience will judge the use of these systems based on altitude and/or location...? Perhaps in the southern regions – whilst Ramping or flying low, the AC can be switched to “Cool”; in northern regions, and/or at sustained altitudes – switched to “warm”; at other times – “Auto”.

Of course – when shutting down the jet, the VP will remember to switch that system off.

Anti-Ice could be switched to “Auto” when at sustained altitudes; perhaps left “Off” for quick jumps, or low/medium level flight...?

Whatever the Virtual Pilot chooses to do, these systems are there for a more immersive experience.

This ‘Pit has every conceivable clickable switch and button.

More so than any other ‘Pit in the Falcon Skies.

I hope you enjoy them.



Aragorn.

F.A.Q.

My Laser-switch doesn't work

Master Arm must be active....!

My RPM won't move during RAMP Start

Make sure you have cycled to the CORRECT Engine.

I can't see my Digital Gauges properly

Adjust the Gain on your MFD. You can also "Blank" your MFD beforehand.

I can't see my MFD properly, because of Gauges or Touchscreen.

Deactivate the Touchscreen by clicking on it. Check the MFD Gain.

I can't find my ECM Suite on the Left MFD

Make sure you are in ECM View. That's down to the "Centre" View, THEN "Left".

I can't find the LIST Button on the Master Panel.

It's the Rocker-switch to the left of the Master Arm (MA) button.

What should I do if I see an "EJECT" sign on my DED...?

Eject or die.

Will "EJECT" always show on my DED, in every instance; without fail...?

No. But – when it does: Eject. When it doesn't – you'll need to decide.

Some switches seem to be missing.

Check the RAMP view. Some functions have been made digital; not analog.

My Touchscreens aren't working.

Most Touchscreens are both left AND right clickable. Use the other mouse-button.

This 'Pit rocks SO much, that I no longer need sex, and my wife is going to leave me.

This will mean MORE time to fly the 'Pit. Well done.

The F-22 'Pit

features a HUD-ONLY View.

This is good for both A-A engagements, and A-G targeting runs.
(And, also makes for gorgeous night-landings.)

The 'Pit also features a Pilot Head.

For those who do not like this feature, an option is available to disable this view.

Details are in your → *falcon4/Docs/EXTRAS/F22_Pilothead_Option Folder*

360 degree panning is implemented, as this simulates that huge bubble canopy, and the enhanced vision and SA available in the F-22 Raptor 'Pit.

Enjoy.



Aragorn

Raptor 3D Pit



Aragorn's



AN-2 "Colt"

The AN-2 “Colt” is the world’s largest bi-plane; an icon of post-war aviation.

The An-2 was designed by Oleg Antonov; the first prototype being flown in August, 1947. After successful trials, production commenced in 1949. About 5,000 aircraft were produced in the Soviet Union during the 1950s. In the civilian field, the AN-2 proved its worth primarily as a crop-spraying aircraft. Its military applications, however, include roles such as paratroop transport, glider tug, navigation trainer, and utility transport.



In 1960, the production was transferred to PZL in Poland. Between 1960 and 1989, the Poles turned out an incredible 11,650 additional aircraft; thereby cementing the AN-2's iconographic status. 80% of the production was exported back to the Soviet Union. The AN-2 also produced in smaller numbers in East Germany and China.

Despite widespread western doubt at the time of its debut, the AN-2 is now recognised globally, as an outstanding success. This success may largely be due to the many virtues of Antonov's design. But – in addition to its engineering – the AN-2 has also proved its practical worth.



An extremely safe (and extremely heavy) aircraft, its flying characteristics are quite forgiving. Due to the huge wing-surface area, the “Colt” enjoys STOL capability. It has proven to have high reliability in the field, and low maintenance costs. Also, the massive single-bay fuselage provides plenty of room for paratroops, troops, and a good cargo capacity.

VIEW SCHEMES

There are two Schemes – “Wide View” & “Pilot Eye View”

The Pit will default to “Wide”, so one may set Switches easily
“Pilot Eye View” is considered more ‘realistic’.

TO SWITCH VIEW SCHEMES

Pilot Eye View

Wide View



SPECIAL VIEWS

Accessing Co-Pilot Pad + Rear Cabin Electronics Suite + 2nd Kneeboard

Rear Cabin



Rear Cabin accessible from Wideview Scheme.

Enter Wide view Scheme first.

Don't forget your Co-Pilot ;)



2nd Kneeboard



Co-Pilot pad

WIDE VIEWS:





An AN-2 pilot meets his Crew Chief after drinking at the bar.

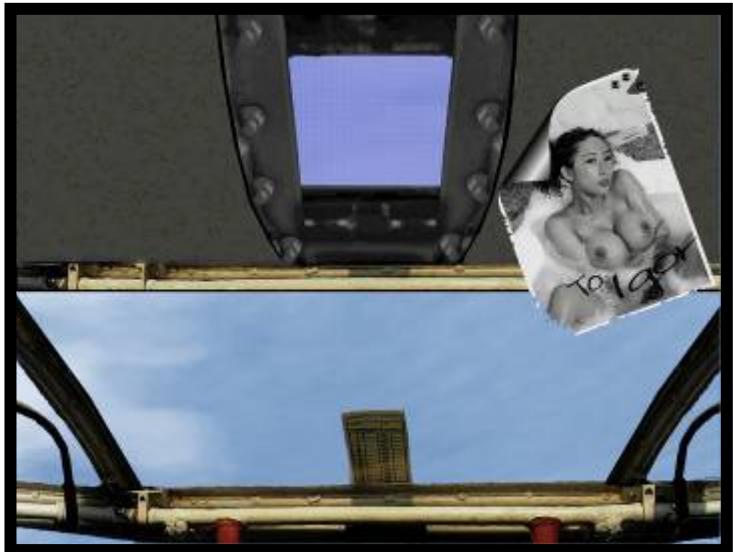
"Hey pal," he says, "I did a bad thing. I met with two Concorde pilots in the bar. I was drunk and I bet \$100, that our An-2 could fly as fast as the Concorde...! What can I do??"

The crew chief thought about it for a minute, and said: "You are an idiot, but I have a good idea. We will connect the two aircraft with a cable...!!"

The next day came, and the Concorde took off. The jet pilots look behind and see that the AN-2 is flying with them; keeping pace. The Concorde pilot increases thrust. The AN-2 still sticks very close; tailing them at the exact same distance. 'Well,' they think – 'the AN-2 is good. But, NOW we'll show the Concorde's capabilities! They engage afterburners, and hit mach 1.5... 1.6... 1.7... The Concorde hits mach 2; the thrusters are roaring; the AC is shaking. The co-pilot looks behind, and then turns to the Captain...

"Captain, we'll have to give up! The AN-2 has just retracted the landing gear and swept back the wings....!!"

PILOT EYE VIEWS:





An interesting note from the AN-2 pilot's handbook reads: *"If the engine quits in instrument conditions (blind flying; unable to see the ground) or at night, the pilot should pull the control column full aft (it won't stall) and keep the wings level. The leading-edge slats will snap out at about 40 mph), and when the airplane slows to a forward speed of about 25 mph, the airplane will sink at about a parachute descent rate until the aircraft hits the ground."*

The An-2 has no stall speed quoted in the operating handbooks. Pilots of the An-2 say one can fly the aircraft in full control at 30 mph...! This slow stall speed makes it possible for the aircraft to **fly backwards** (*if the aircraft is pointed into a headwind of – for example - 35 mph, it will travel backwards at 5 mph whilst under full control*).

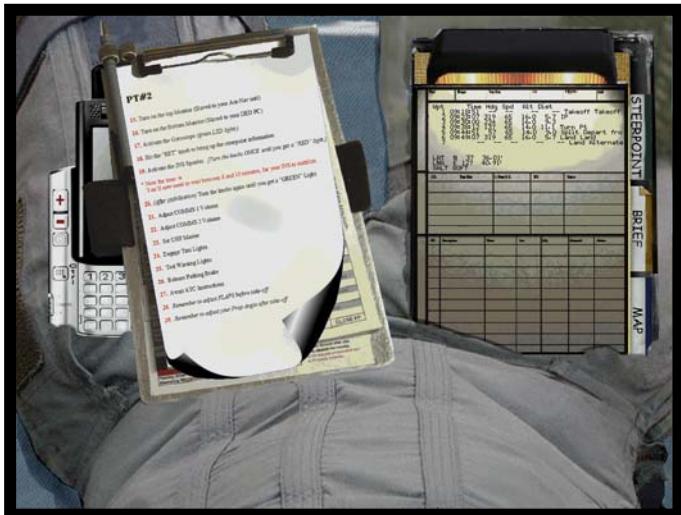
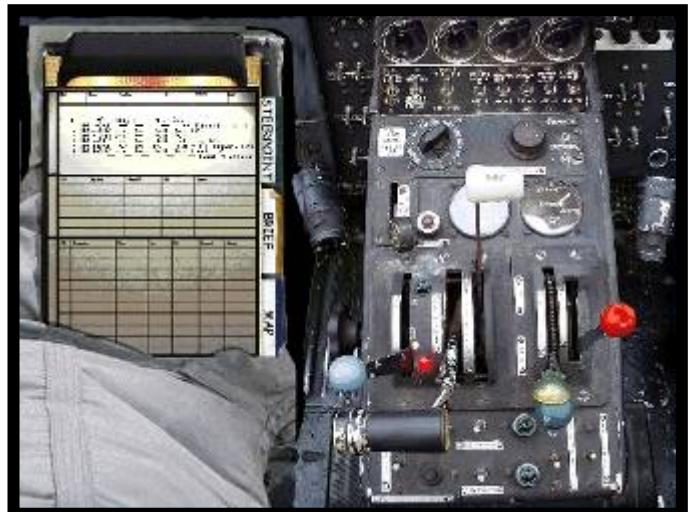
Try it in FreeFalcon. It's modelled... ☺



- **Crew:** 1 - 2
- **Capacity:** 12 passengers
- **Length:** 12.4 m (40 ft 8 in)
- **Wingspan:**
 - **Upper wing:** 18.2 m (59 ft 8 in)
 - **Lower wing:** 14.2 m (46 ft 9 in))
- **Height:** 4.1 m (13 ft)
- **Wing area:** 71.52 m² (ft²)
- **Empty weight:** 3,300 kg (7,300 lb)
- **Loaded weight:** 5,500 kg (12,000 lb)
- **Useful load:** 2,140 kg ()
- **Powerplant:** 1× Shvetsov ASh-62R 9-cylinder supercharged radial engine ~ 1000 hp

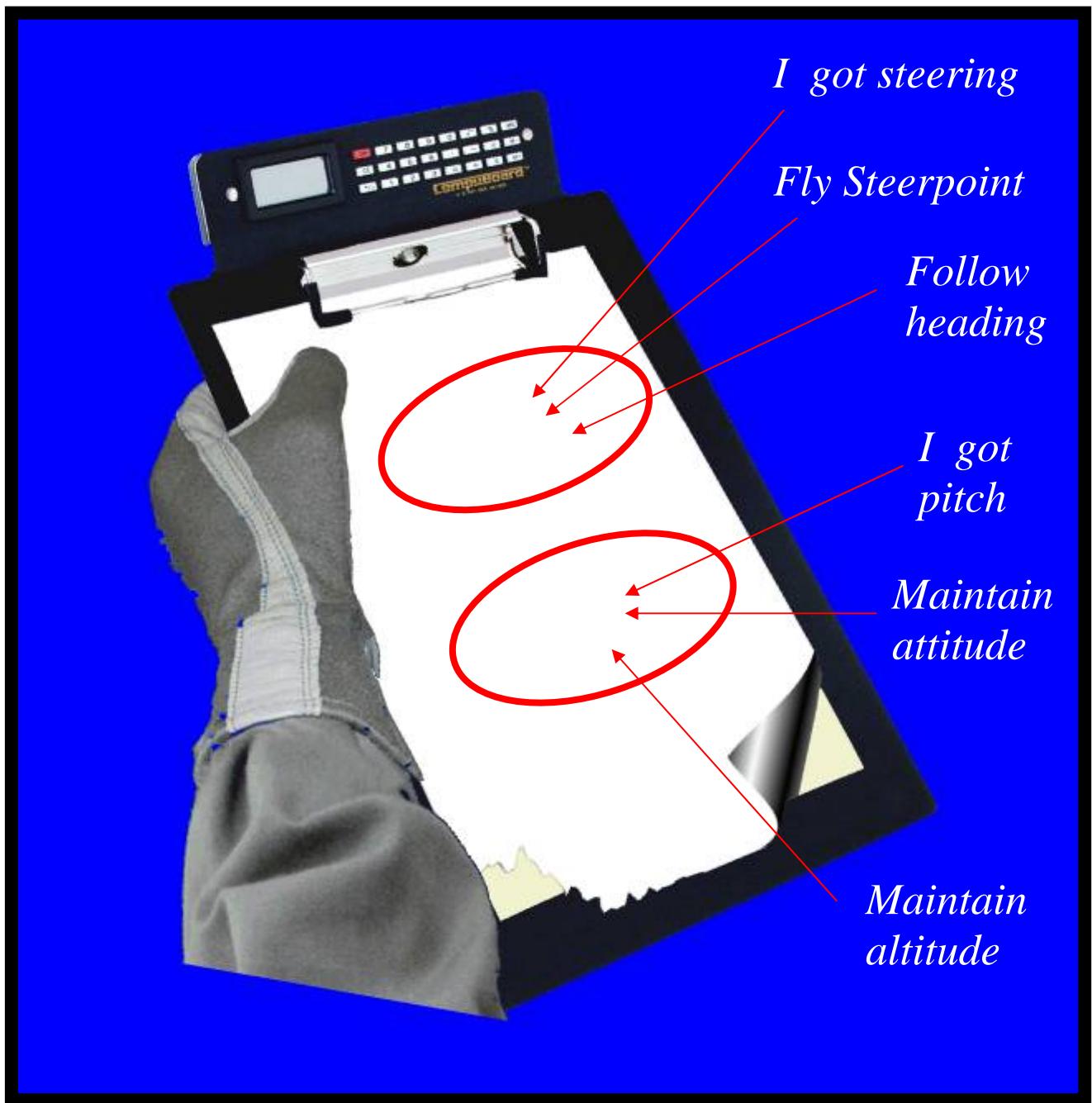


SHARED VIEWS:





CO-PILOT PAD



The Co-Pilot Pad is used to write brief instructional notes for the co-pilot, in case the pilot needs to enter the rear cabin. In a combat environment, it is essential that mistakes are minimized. The pad introduces a redundancy which ensures that ambient cockpit noise, and verbal/aural misunderstandings are no problem. Upon receipt of the notes, the co-pilot will take control of the aircraft, and follow the directions as entered on the Pad.

I got steering + I got pitch → Pilot is in control.

Used to inform the co-pilot that the Pilot is taking control of the aircraft.

Fly Steerpoint → Instructs Co-Pilot to fly to the selected Waypoint

Follow heading → Instructs Co-Pilot to follow the current HSI heading

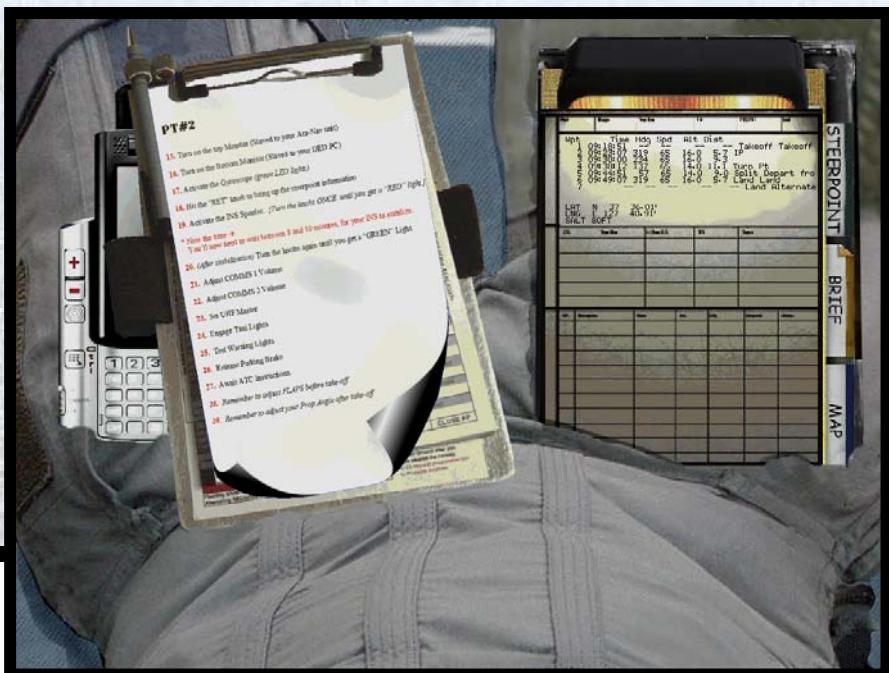
Maintain altitude → Instructs Co-Pilot to maintain the current altitude

Maintain attitude → Instructs Co-Pilot to maintain current pitch and roll.

Be sure to note your instructions on both the Top AND Bottom of the Page...!

Remember to hand control to your co-pilot before entering the Rear Cabin...!

DUAL KNEEBOARDS



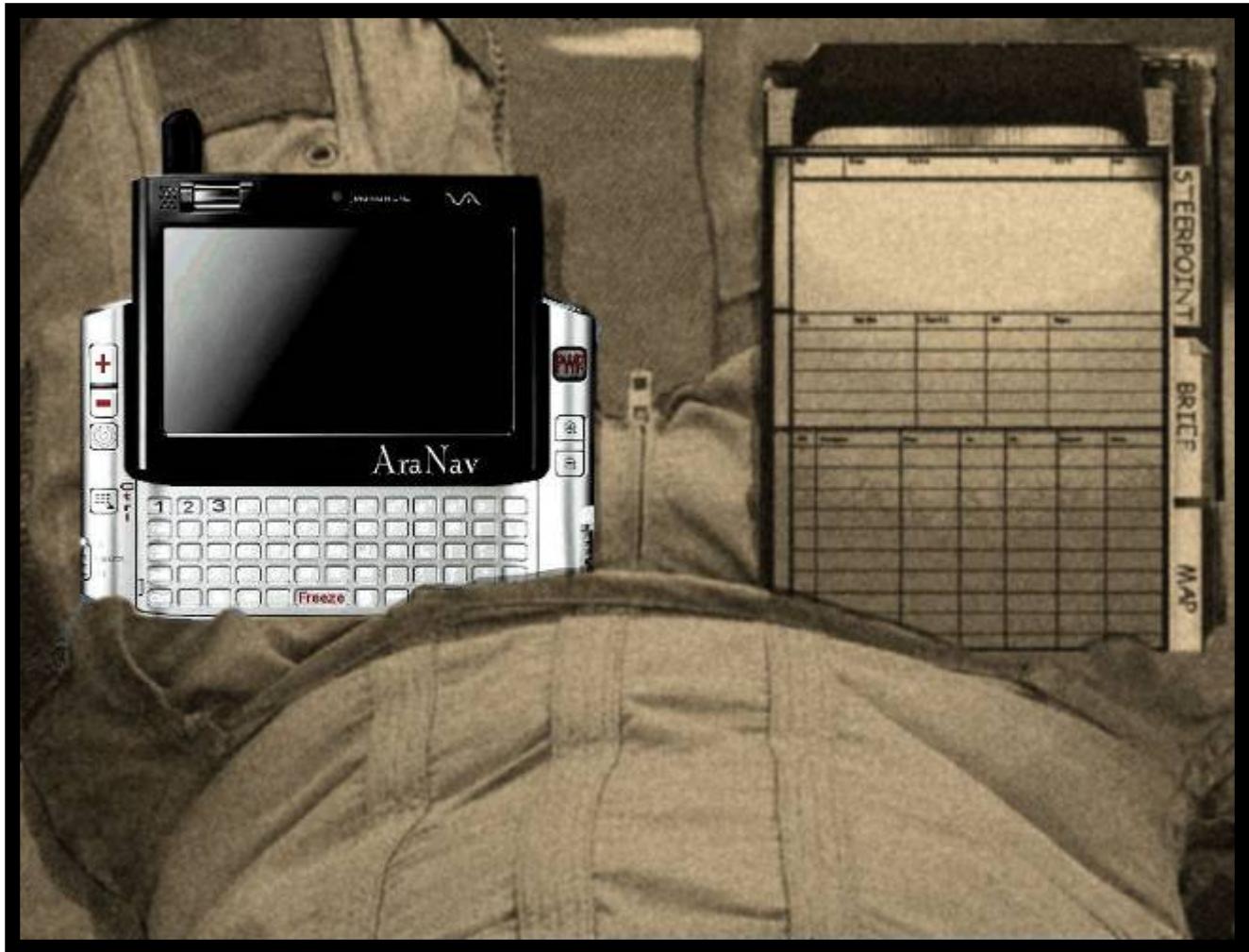
Ara-Nav Operation

RAMP Start

ROK Stations

DPRK Stations

THE ARA-NAV



The Ara-Nav is a portable GPS Device which has been linked to the Electronics Suite in the Rear Cabin.

Whilst not as functional as an integrated HSD, the Ara-Nav is useful for both navigation, and the display of navigational information.

The Ara-Nav has been slaved to the on-board gyroscope (located in the rear cabin)

PWR Powers the Ara-Nav on/off

“+” / “-” Increases/Decreases the LED Brightness

Ctrl Enters the Ara-Nav Control Page

“1” Toggles “CEN” and “DEP” modes.

In DEP Mode, the display view shows your aircraft (ownship) offset from the center. Your aircraft's position is depressed two-thirds down the display to dedicate a larger percentage of the display to your forward quadrants. The display covers a minimum viewable range of 15 miles and a maximum of 240 miles. Three range rings appear in this view and divide the display into four quarters of viewable range (rings at 5 miles, 10 miles, and 15 miles at minimum range). DEP is the default mode.

In CEN Mode, the display view centers the ownship on the MFD. Two range rings appear in this view and divide the display into equal thirds distance (rings at 5 miles and 10 miles at minimum range). The minimum range is 10 miles and the maximum range is 160 miles in this view. This mode can be used as a means to zoom the display slightly since you can get a 10-mile picture.

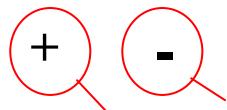
“2” In normal operations, this button disables the  pages.
In Ctrl mode, this button displays pre-planned targets.

“3” Toggles Expanded Views.

“Freeze” This button freezes the Ara-Nav at the current position & orientation of the ownship icon. The AN-2 now moves with the world position fixed on the screen (ownship is free to fly around and off the screen) instead of the world moving with reference to the aircraft. Pressing the Freeze button again unfreezes the Ara-Nav's world position.



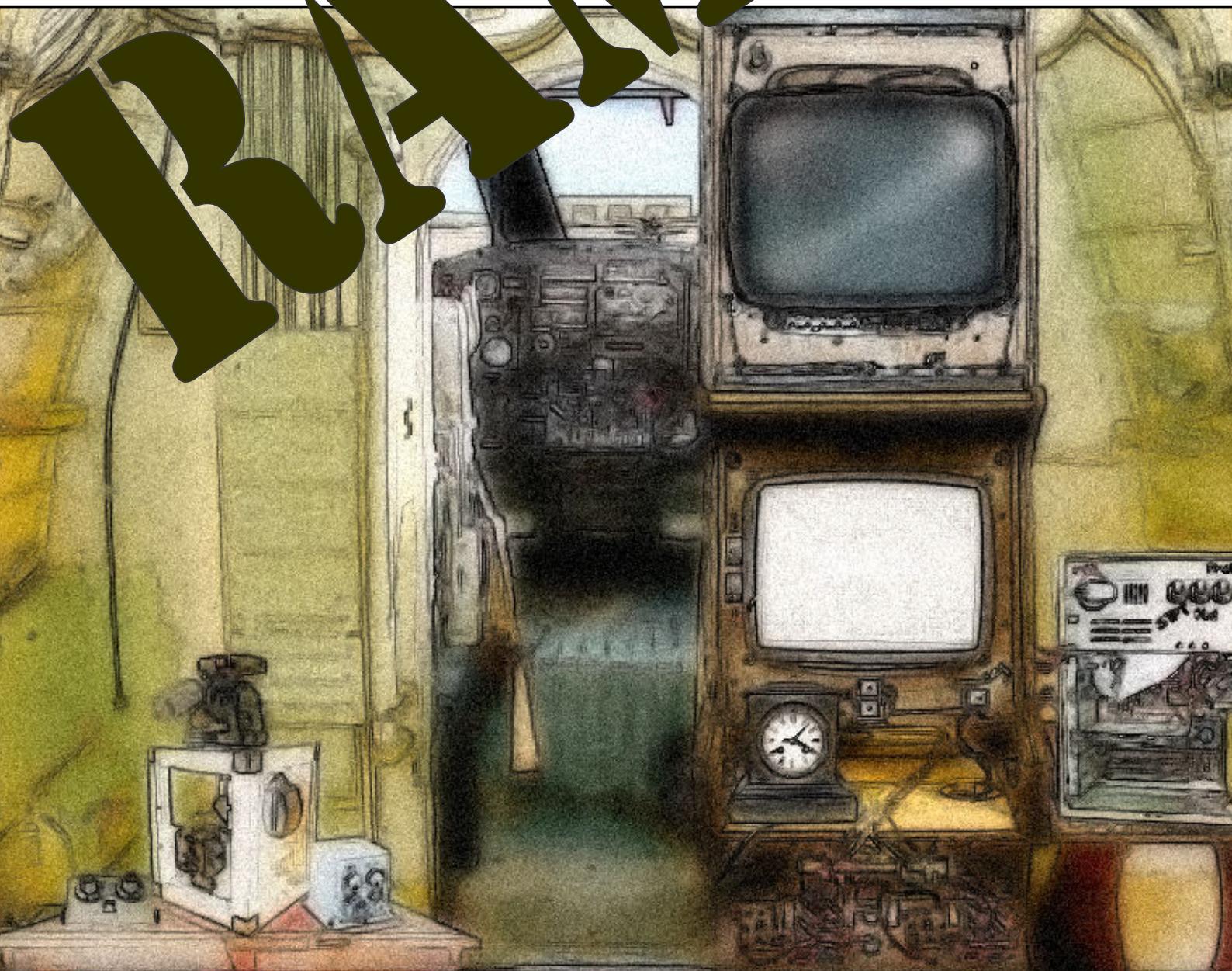
From the Control Page, toggles “range rings” from the display.



Increases/Decreases the RANGE of the Ara-Nav display. (see “2”)

*The Ara-Nav display is ported to a secondary screen on the Yoke-pylon.
The Ara-Nav display can also be viewed on the Upper Monitor in the Rear Cabin.*

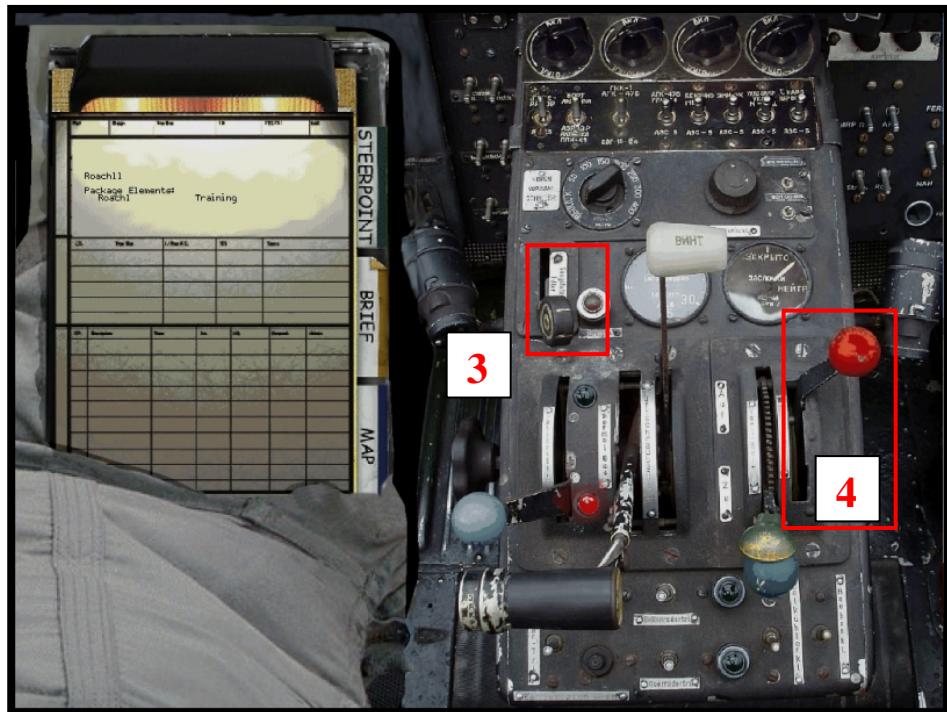
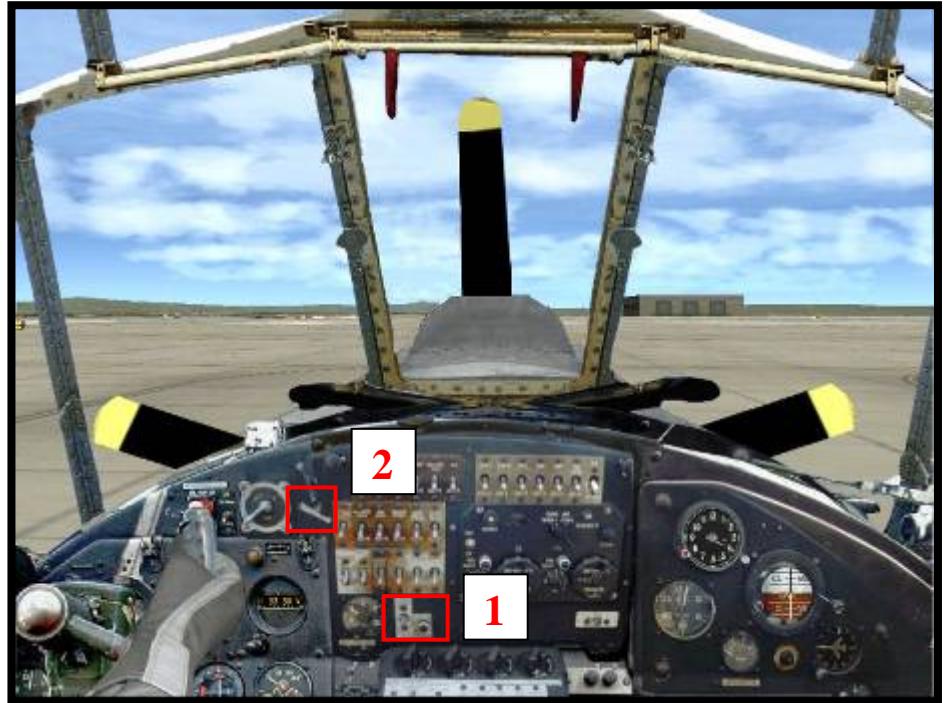
RAMP START



RAMP STARTING THE AN-2 "COLT"

1. Turn on the Battery
(*Green Light*)

2. Turn the Master Start



3. Apply the Park Brake

4. Adjust Fuel Mixture to
“Full Rich”
DOWN position

*(Lever can be stubborn.
May have to hit it a
few times.)*

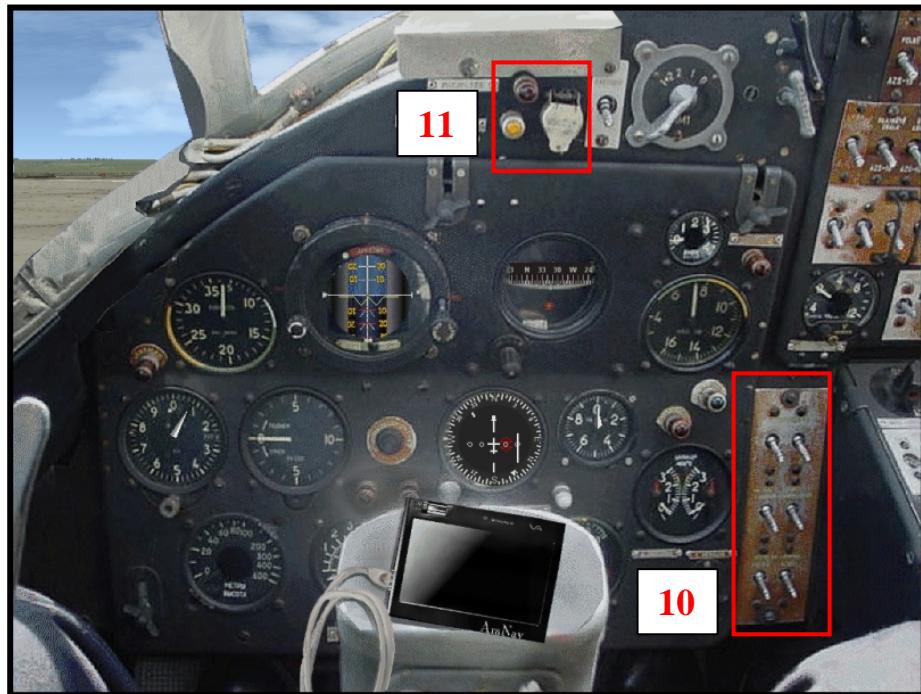
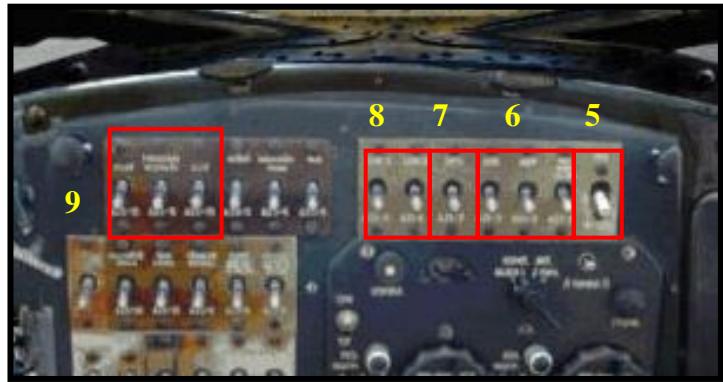
5. External Lighting Power

6. Nav. Lights

7. Strobe

8. Set to Flash

9. Cabin Lights (if required)



10. Adjust Carburetor
(All switches up)

[2 up = Air Dump]

[4 up = Air RAM]

THROTTLE TO IDLE

11. Inertia Starter

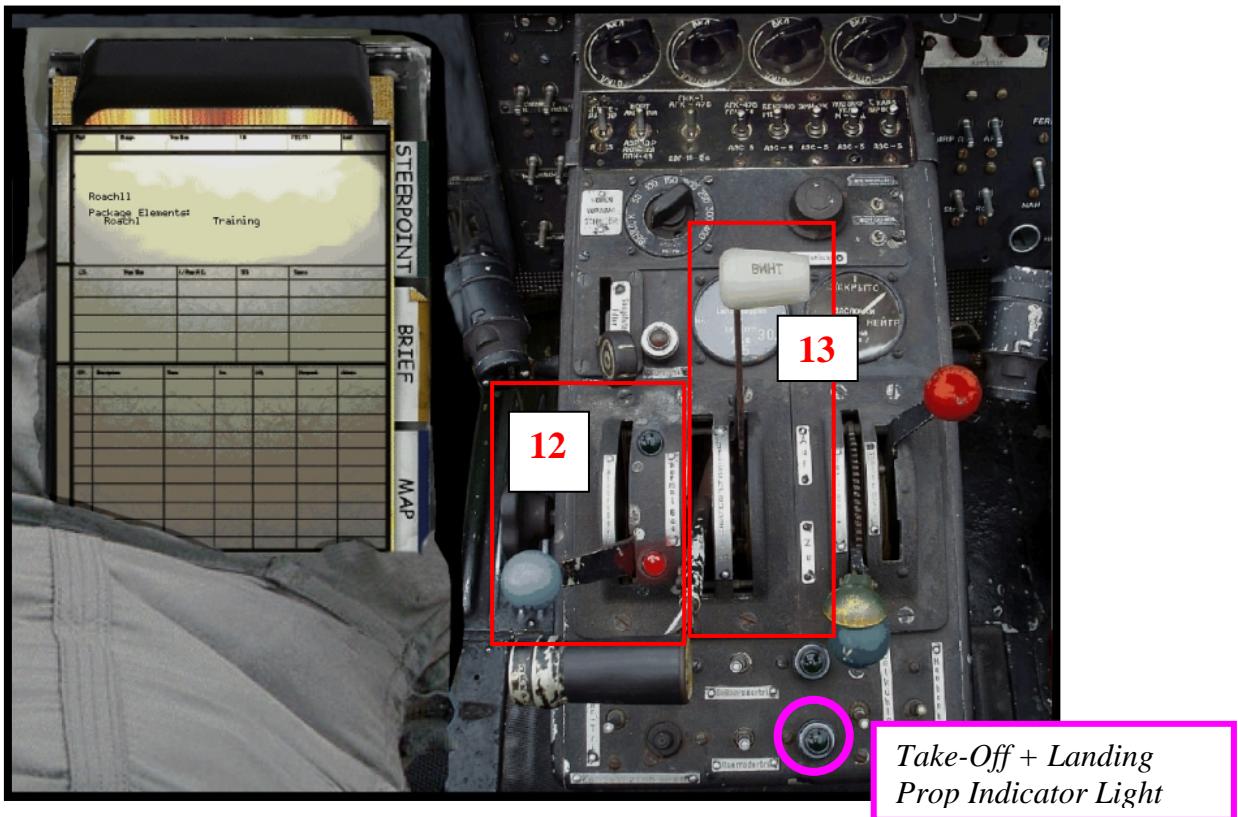
An electric motor winds up (energises) a flywheel in the starter (several thousand RPM). When sufficient speed is reached, the starter drive is meshed, by pulling a lever. [see Step 12] This then turns the engine over.

* Wait 20 seconds to allow the flywheel to come up to speed.

* ADVANCE THROTTLE TO 70%

12. Engage Flywheel-Mesh Starter Lever

You may have to try several times. Try pulling the Throttle back, then forth, or pulling the throttle back slightly as you hit the Starter Lever.



* EASE THROTTLE TO IDLE

13. Check Propeller Angle

Prop Lever should be all the way BACK for Take-Off and Landing Configuration. AFTER TAKE OFF (and about 200'), the Prop Angle should be adjusted to the Cruising Configuration (Lever all the way forward). This is VERY important for flight performance. A Green Light will indicate Take-Off / Landing Configuration.

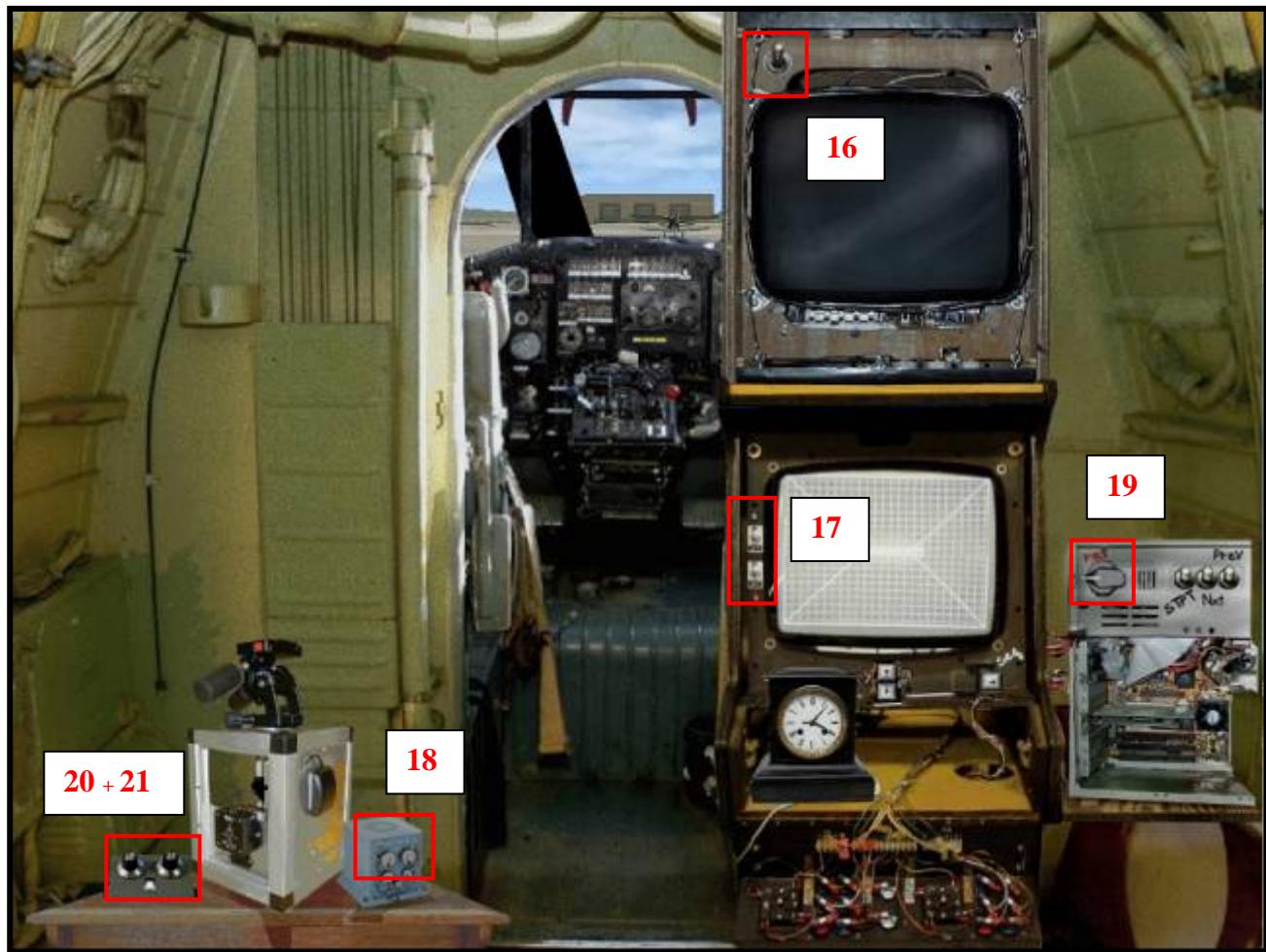
14. Adjust Magneto (to route power to your Electronics Suite)

15. Activate Chip Detector (extremely important for the safe operation of the Aircraft)

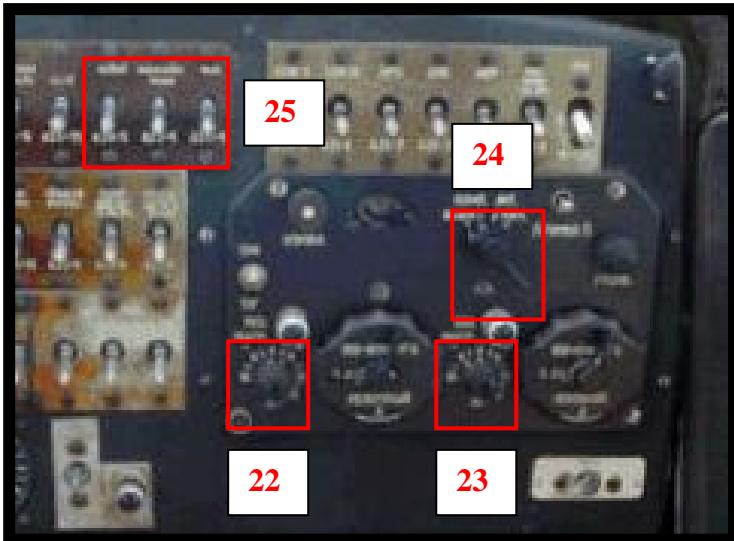


The Chip Detector - is a sensor that detects metal particles in the engine oil and triggers a warning light. As this is an essential safety-system, failure to activate the Chip Detector will mean CONSTANT warnings from Bitching Betty. In order to prevent this, please ensure that your Chip Detector is switched on.)

TRUE STORY: A commercial twin turbo prop, contracted to the government was way out over the ocean on a maritime patrol. The pilot radioed in he had a chip light on, but was monitoring it and was “Ops normal”. About an hour later he called in that he had a chip light on the OTHER engine. He requested further instruction, and asked nervously: “What should I do?” Another Company Pilot, who had been monitoring the conversation radioed up and said: “Can I have your car?”



16. Turn on the top Monitor (Slaved to your Ara-Nav unit)
 17. Turn on the Bottom Monitor (Slaved to your DED PC)
 18. Activate the Gyroscope (*green LED lights*)
 19. Hit the “RET” knob to bring up the steerpoint information
 20. Activate the INS Spooler. [*Turn the knobs ONCE until you get a “RED” light.*]
- * Note the time → You'll now need to wait between 8 and 10 minutes, for your INS to stabilize.
21. (*After stabilization*) Turn the knobs again until you get a “GREEN” Light.



22. Adjust COMMS 1 Volume

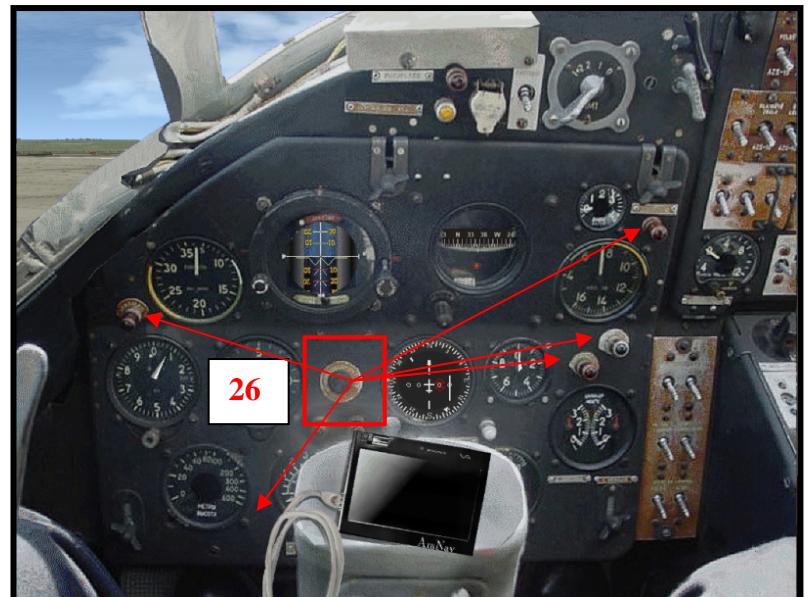
23. Adjust COMMS 2 Volume

24. Set UHF Master

25. Engage Taxi Lights

26. Test Warning Lights

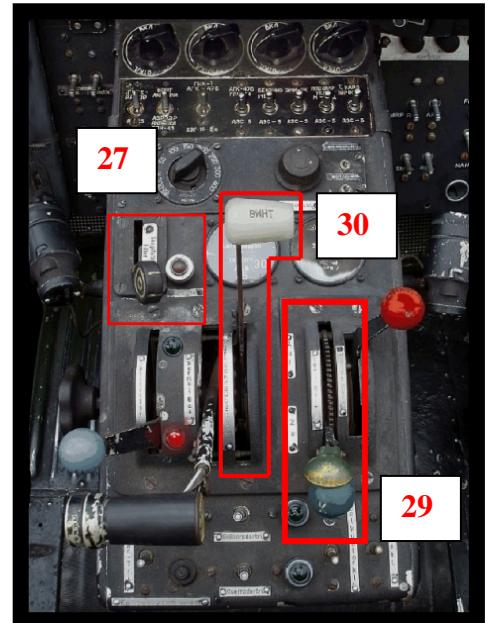
27. Release Parking Brake



28. Await ATC Instructions.

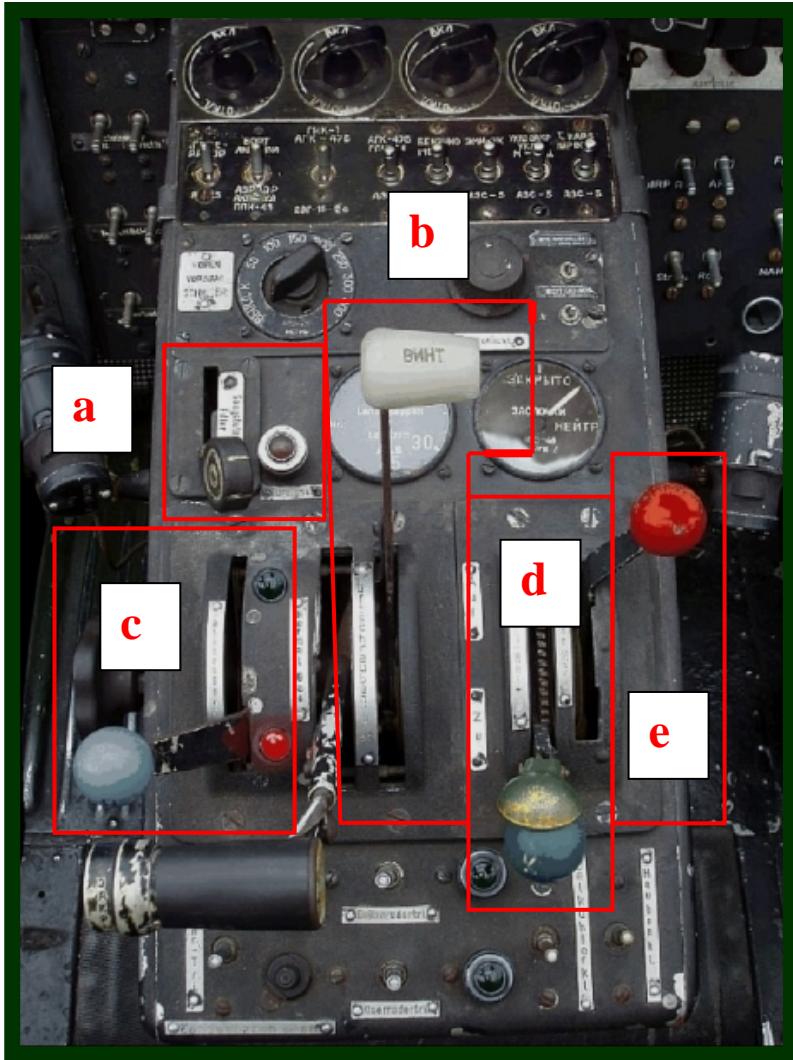
29. Remember to adjust FLAPS before take-off

30. Remember to adjust your Prop Angle after take-off



Good luck, and God Speed.....!!





THE CENTRE CONSOLE

a → Parking Brake

b → Prop Angle (Take-off + Landings = Full forward; Flight = Full Back). Failure to adjust your Prop Angle will result in constant “nose-down” behaviour. Attempting to land the aircraft with the wrong prop-configuration will prove extremely detrimental to the aircraft. Time your adjustments well during approach. Be aware, that the handling characteristics of the AN-2 will change dependant on Prop Angle.

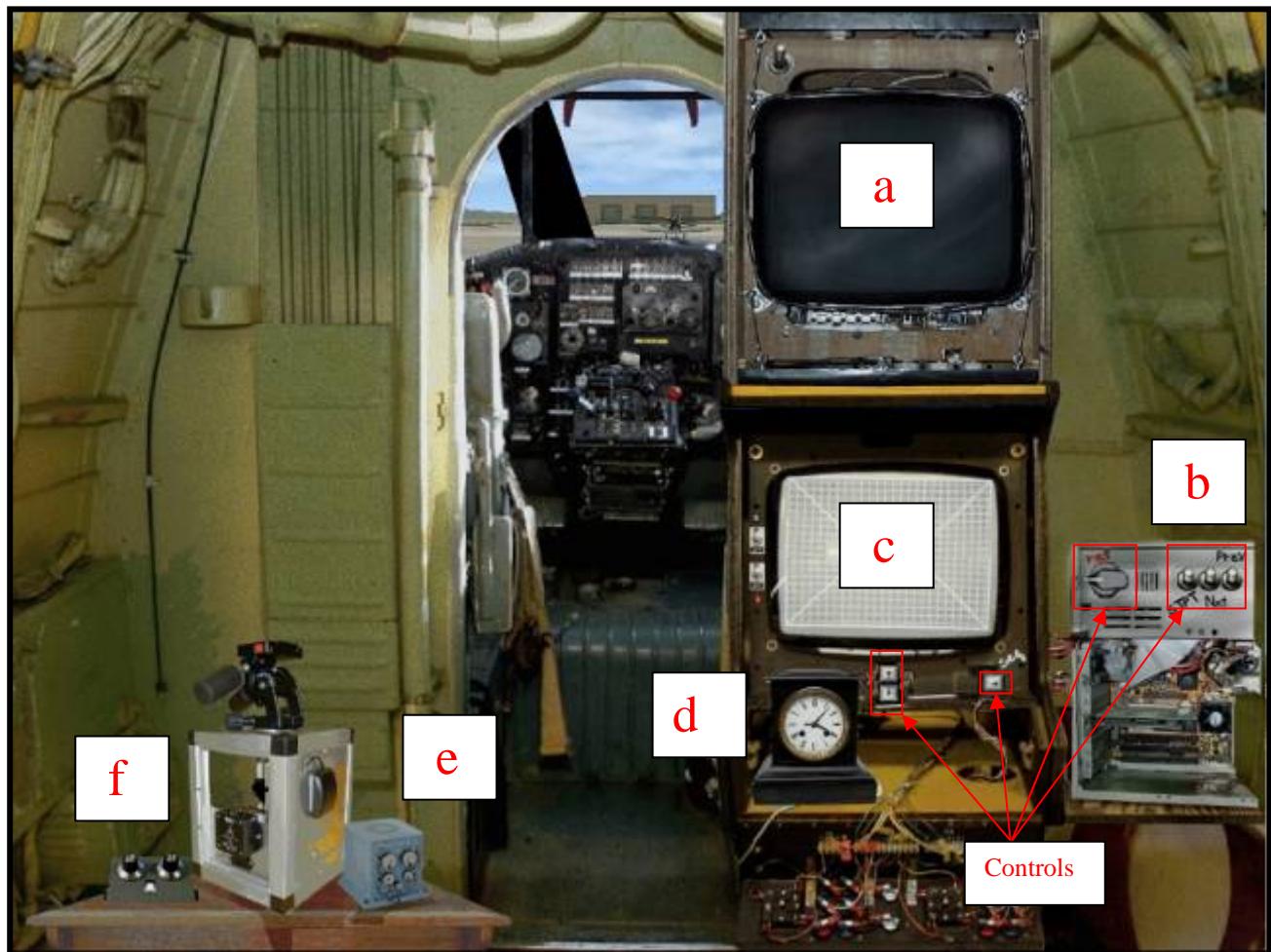
c → Flywheel Mesh Lever

d → Flaps Lever. The flaps and massive wing surface of the AN-2 make for slow speeds with much lift. Full flaps are recommended for landing, but – be aware – a great deal of lift is being generated.

e → Fuel Mixture. Remember to set Fuel to FULL RICH before take-off.

THE REAR CABIN

In an effort to increase the survivability of an older aircraft in a modern theatre of operations, the crew have scavenged various parts, and jerry-rigged a primitive “Electronics Suite” in the rear cabin.



a → Monitor 1 - Slaved to the Ara-Nav GPS unit.

b → A jerry-rigged DED and control unit.

c → Monitor 2 – Slaved to the DED control unit.

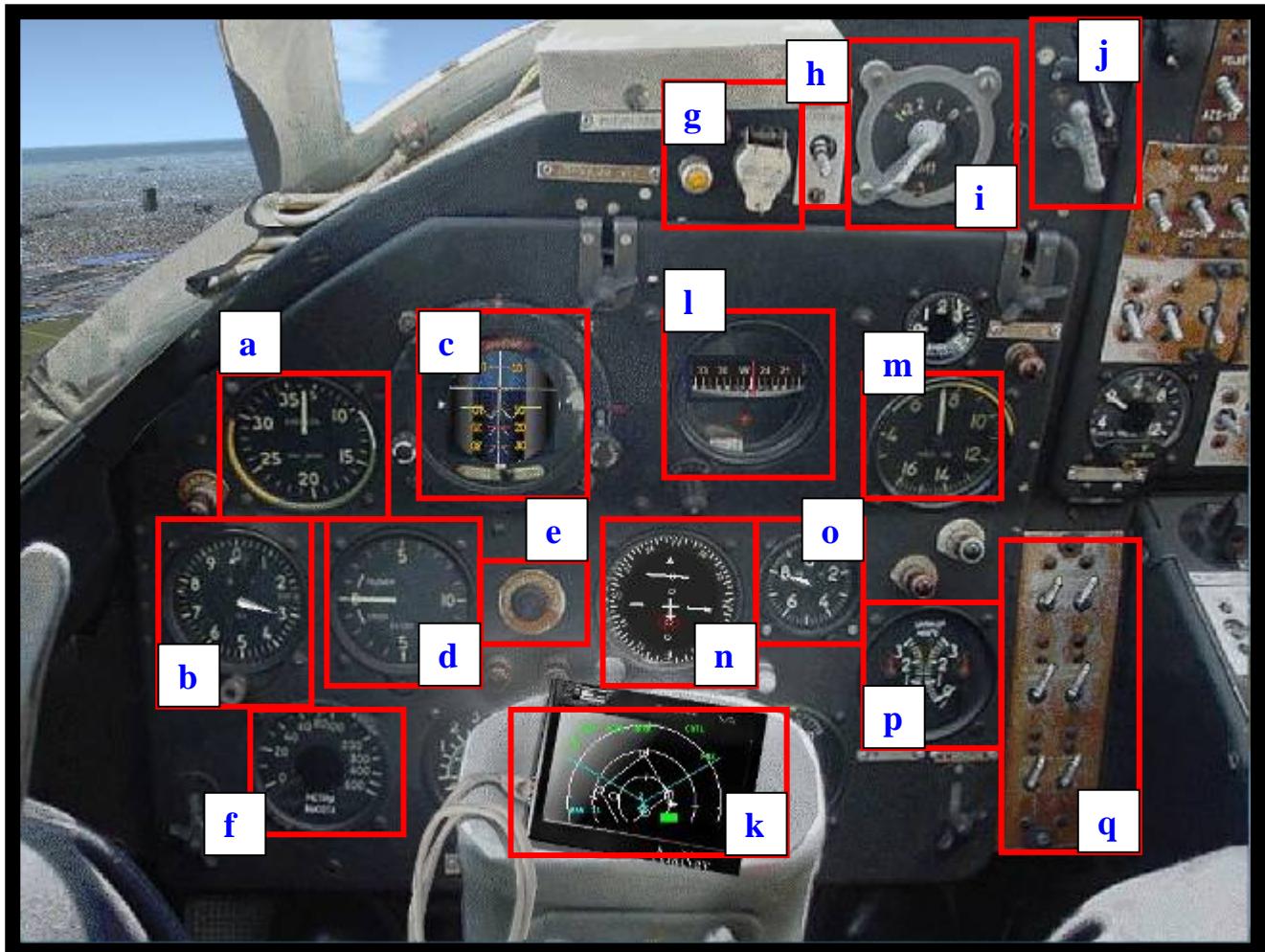
d → Clock. Useful for counting down the INS spool time.

e → Gyroscope/INS interface box.

f → Gyroscope & Control Interface.

(*Red Light = Spooling / Green Light = Operating / Yellow light = In-flight spool*)

THE INSTRUMENTS



a → Airspeed

b → Altitude

c → ADI (Artificial Horizon)

d → Vertical Velocity Gauge

e → Warning Lights Test Switch

f → Fuel Gauge

g → Inertia Starter

h → Chip Detector

i → Magneto

j → Master Start

k → Ara-Nav secondary screen

l → Magnetic Compass

m → Oil pressure Gauge

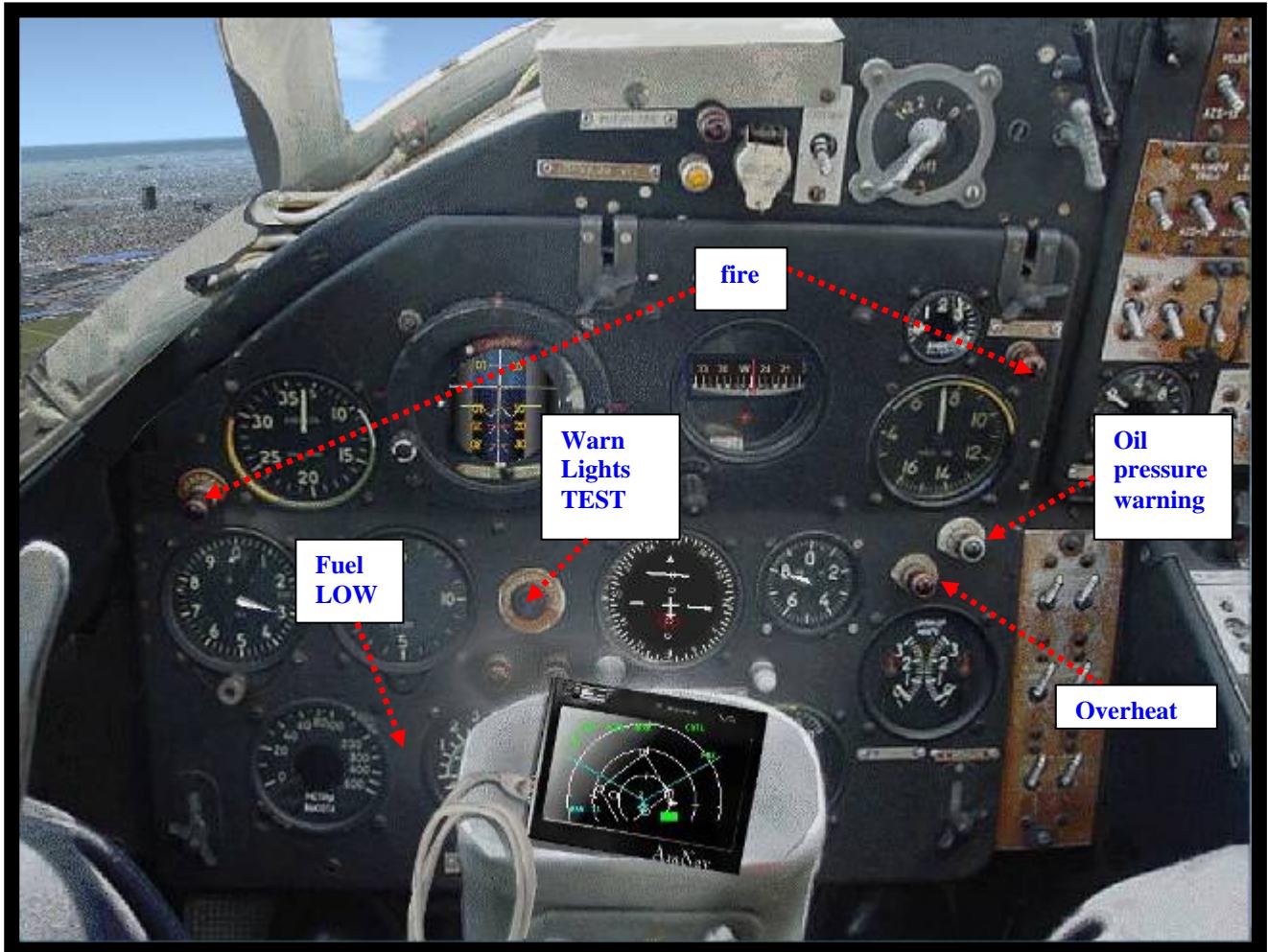
n → Horizontal Situation Indicator

o → RPM

p → Piston Temperature

q → Carburetor and Air Valve

THE WARNING LIGHTS



Getting repeated Warning Messages....? Driving you CRAZY....?!?!

Make sure you've switched on your **CHIP DETECTOR**....!!

Green-Light indicates enabled Status...!

THE LIVERY.

There is a BRAND NEW SKIN for the An-2, and Five alternatives are included for your choice of An-2 Livery → Red + US + RAAF + Italian + Rexbian Special.



Choose the livery you desire → Open that folder → Copy the 2 x DDS files → Paste into the [terrdata/objects/koreaobj](#) folder. FLY.

THE MISSIONS.

Mission 1: *Handling & Navigating the Colt. (AN2 Basic.tac)*

Overview: In this mission, you will practice Ramp-starting the “Colt”; learning the systems; how it handles; take-offs & landings; and, Navigation through several steerpoints.

Practice your RAMP start. Use your 2nd Kneeboard to assist you. Take-off and fly the steerpoints. Practice using your Ara-Nav & Co-Pilot Pad (*Make sure you have 3-Axis Autopilot set in the UI*). RTB whenever you please, and practice those full-flaps landings. Don't forget to set the Prop Angle, or you will lawn dart... ;)

Mission 2: *Battling the Elements (AN2 T&G.tac)*

Overview: Practice your Touch & Go.

In this mission, you will experience the amazing response of the An-2 to headwinds, and the effect of it's massive wing-surface area. You will need to navigate, take-off and land in appalling conditions. [Watch that Reverse Gear]

Mission 3: *Search & Rescue (AN2 SAR.tac)*

Overview: Fly the Colt for a rescue mission.

In this mission, you will fly your Colt into a hot area; Land in a field; pick up the downed airman, and return him to your airbase.

Land at **STP4** to rescue the downed pilot...!

A Skyraider will accompany you to clear area of enemy troops.

Mission 4: *AIRMOBILE (AN2 Mobile.tac)*

Overview: Pickup the Infantry at **STP2**, and Airdrop at **STP4**.

Just PRIOR to those STPs, switch to COMBAT AUTOPILOT (*make sure you have it configured in the UI + Config Editor*)

EXCEPT FOR THOSE STPs, autopilot OFF, and GAIN ALTITUDE...!

Mission 5: An-2 Air MOBILE II (AN2 MOBILE II.tac)

Enable Combat Autopilot just prior to Pickup and Airdrop STPs
Fly in holding pattern at STP3 until SEAD Escort attacks and destroys SA-6.

This one you're smack in the middle of a pitched battle for Pyongyang.
STAY HIGH...!

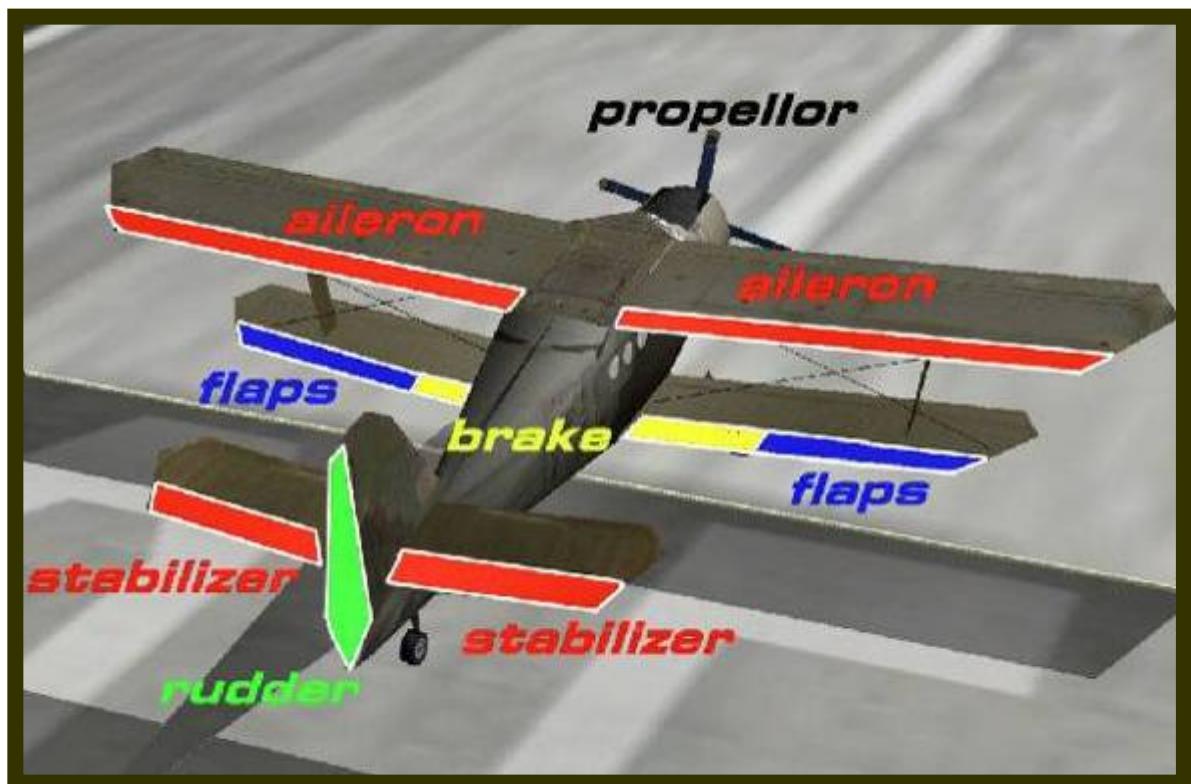
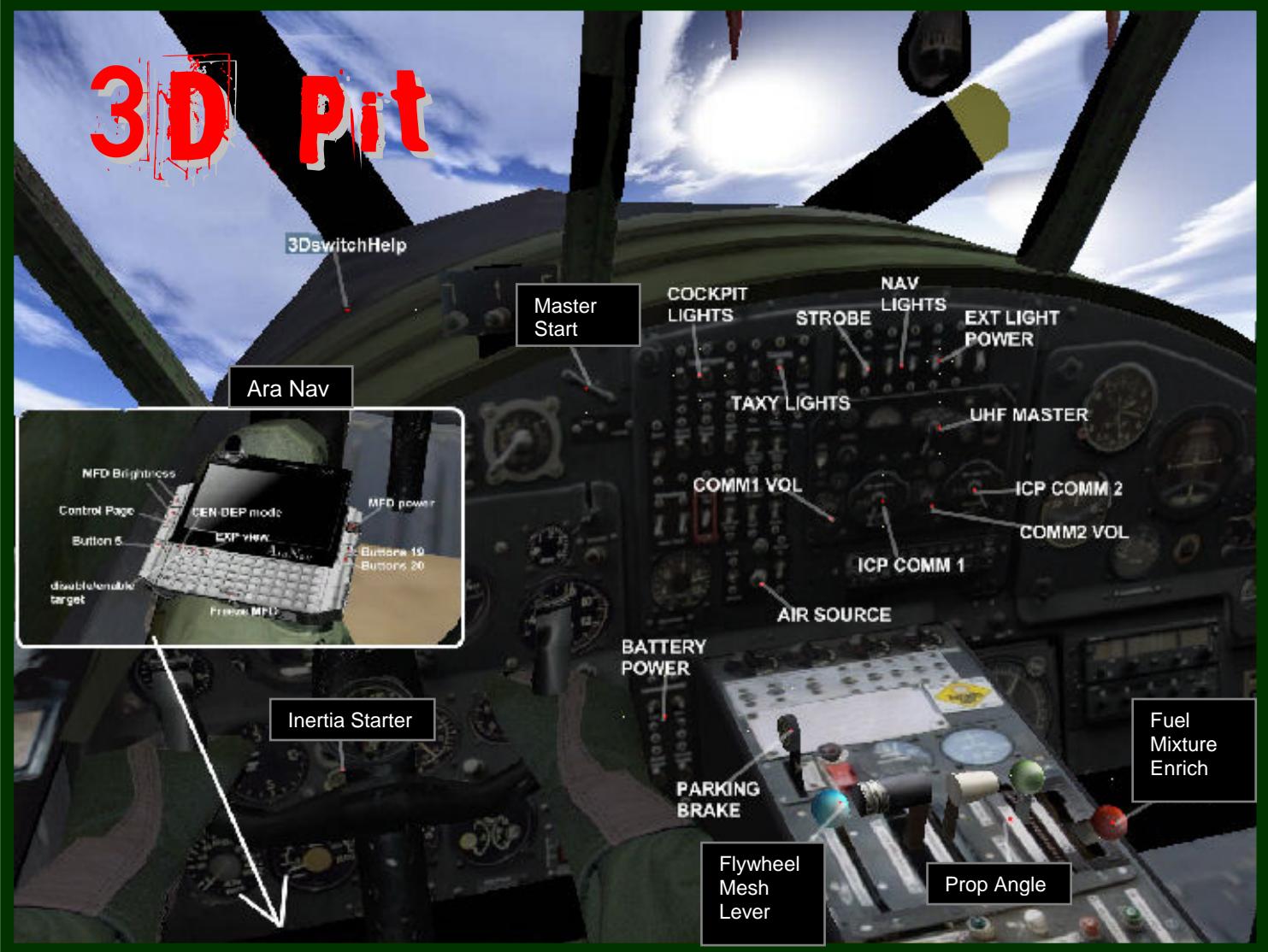
*This Mission has CLEAR and FAIR options also available.
These offer variations in Time, Weather & Support Aircraft.*

You'll find these Missions in a special An-2 Mission Pack.
This can be found in your *falcon4/Docs/EXTRAS/An2 Missions* Folder.



An-2 → A Gift for **T-Rex**

3D Pit



F4 PHANTOM



Ara's

FLIGHT MANUAL

Original 'Pit by AEYES (cockpits.nl)

Upgraded and Rebuilt by ARAGORN for *FreeFalcon* (2008)



HUD Scales

HUD Brightness

MFD GAIN Up/Dn

AG

AA

TWS

Canopy Lever

Gear

Laser Arm

RF Switch

ADI

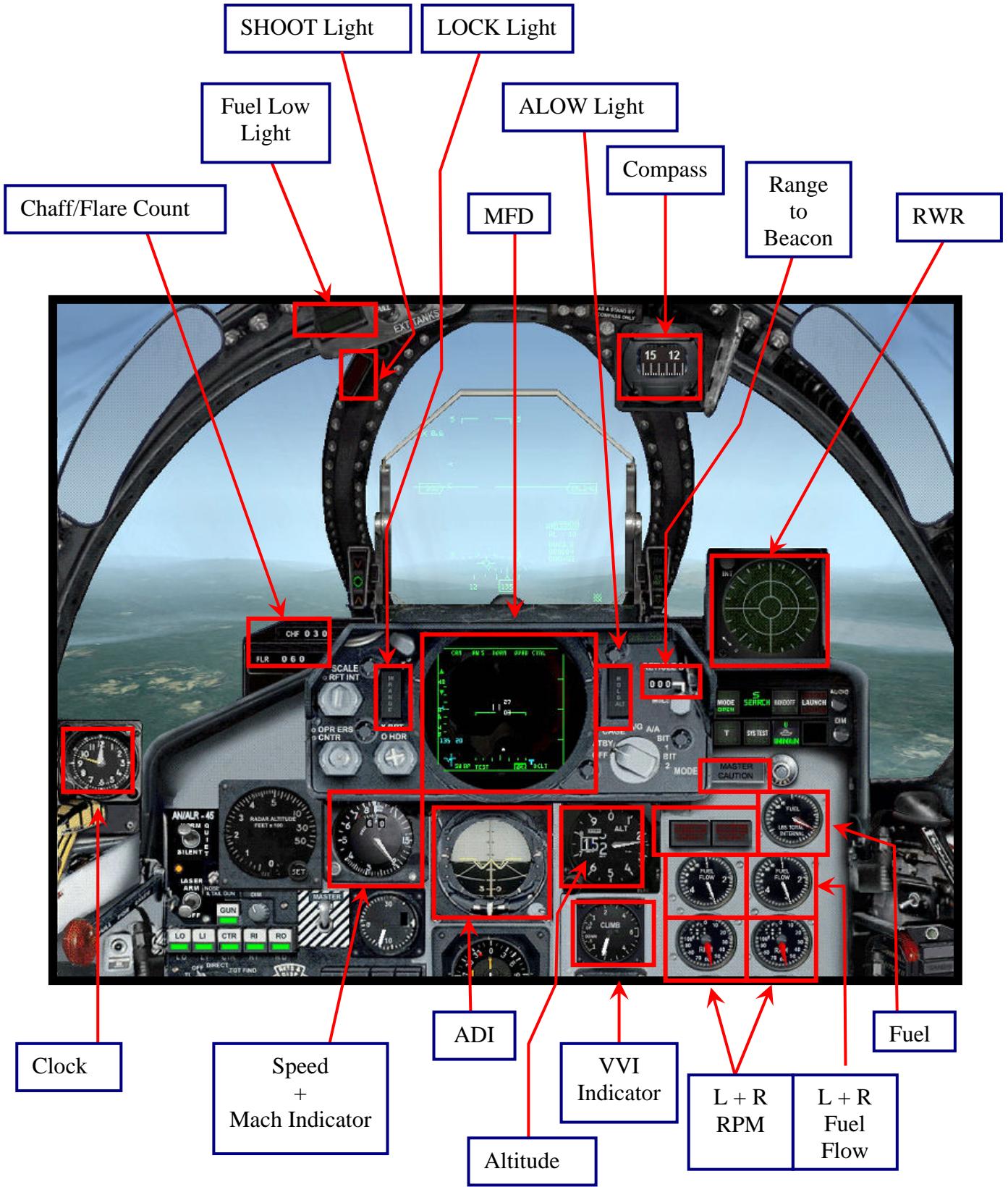
Master Caution

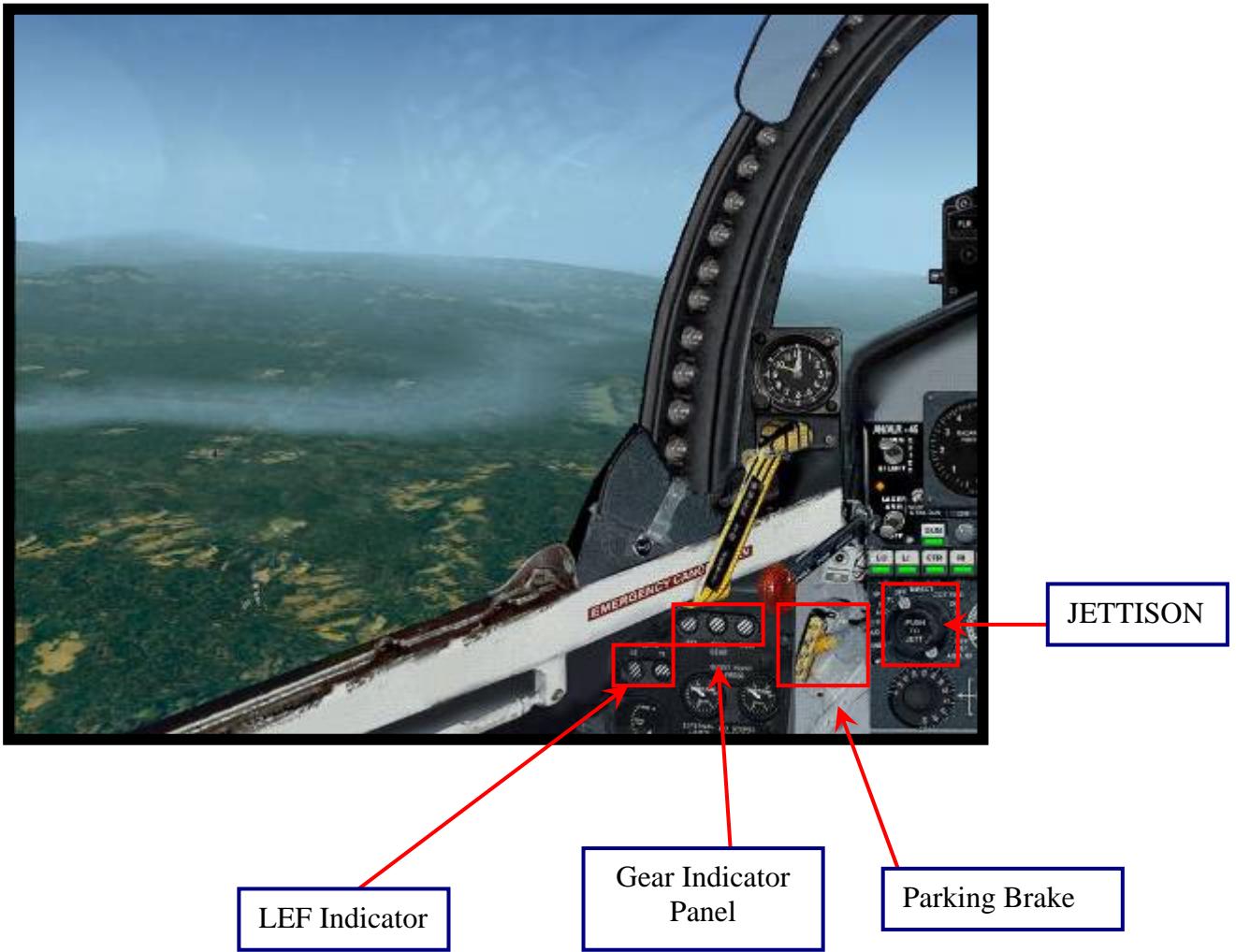
Master Arm

AVTR

MAL/IND

Left Hardpoints On-Line
Right Hardpoints On-Line
Centre Hardpoints On-Line
Gun On-Line





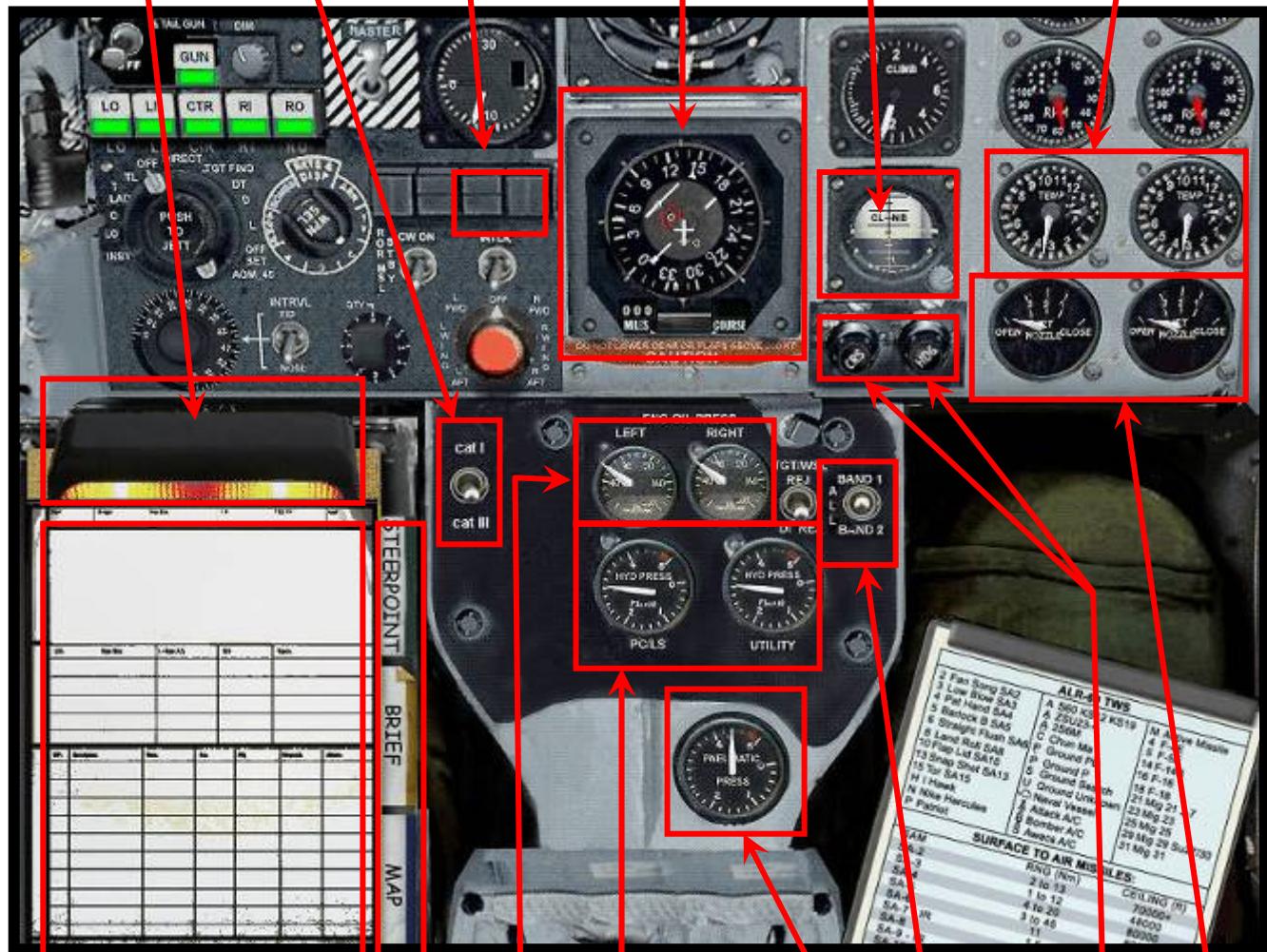
Functional Kneeboard
Lighting.

CatI
CatIII

Launch Warn

HSI

R + L
Eng Temp



Kneemap

Tabs

R + L
Hyd Pressure

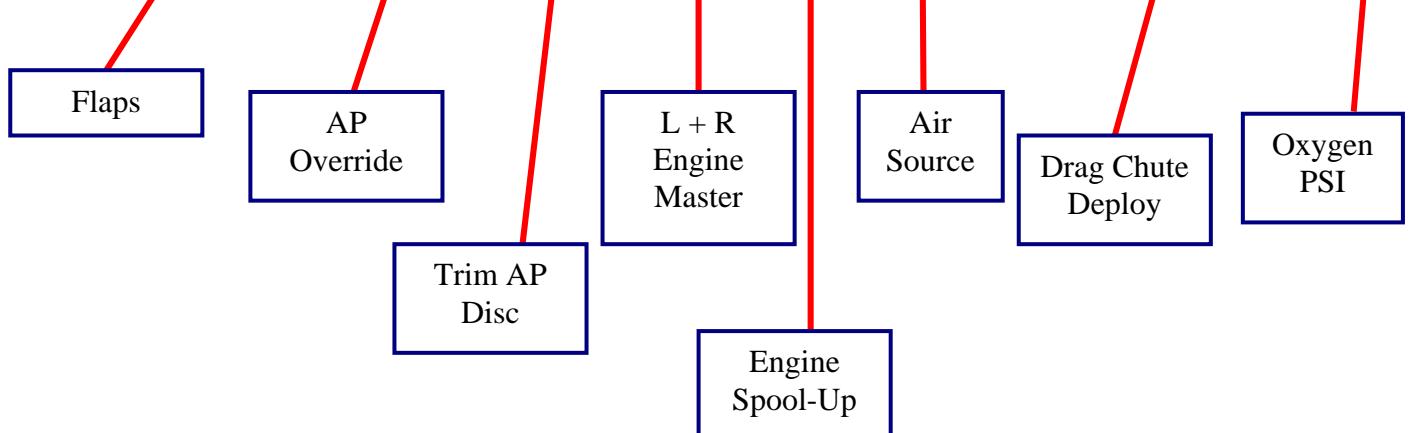
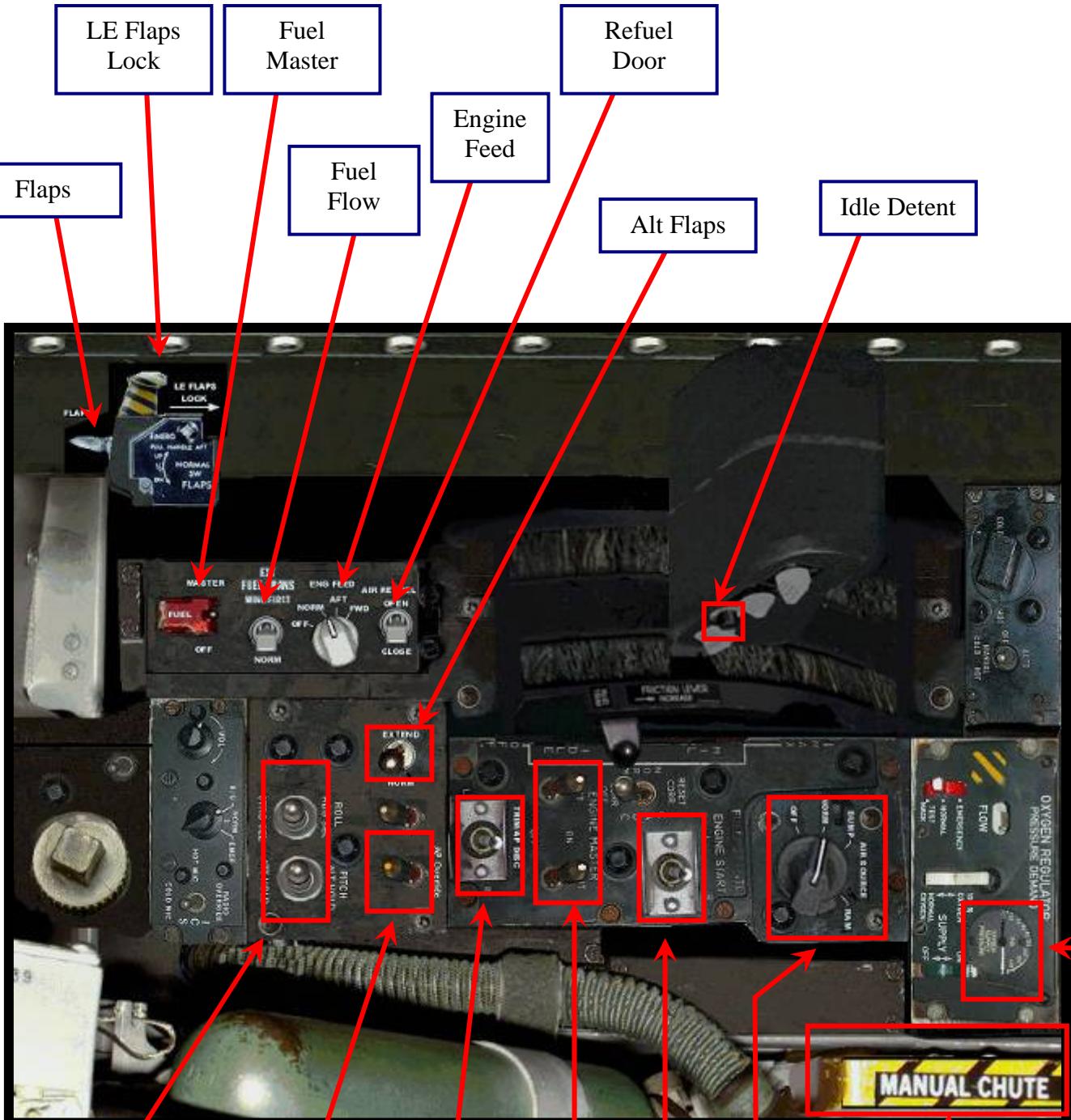
COMM 1
COMM 2

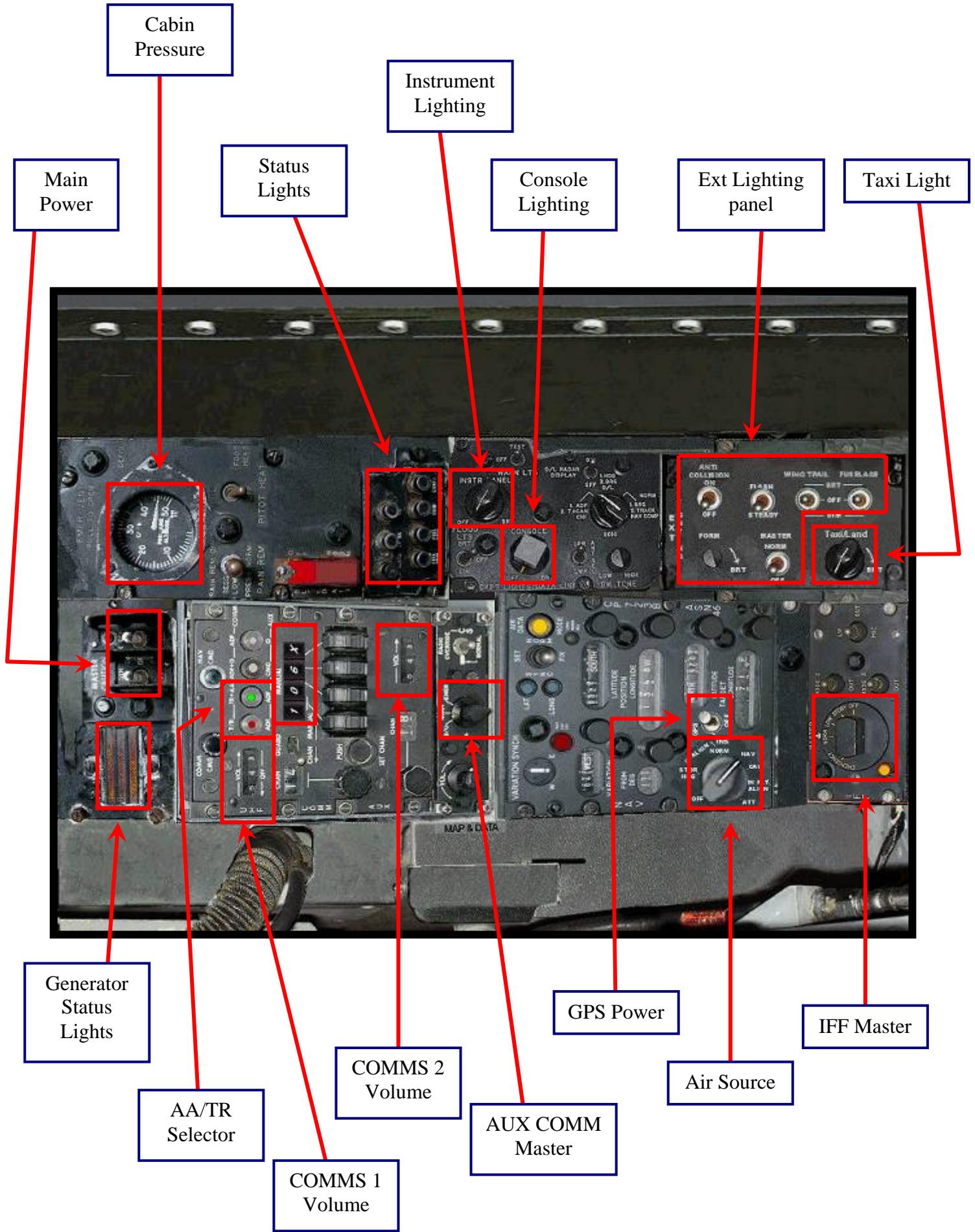
R + L
Nozzle

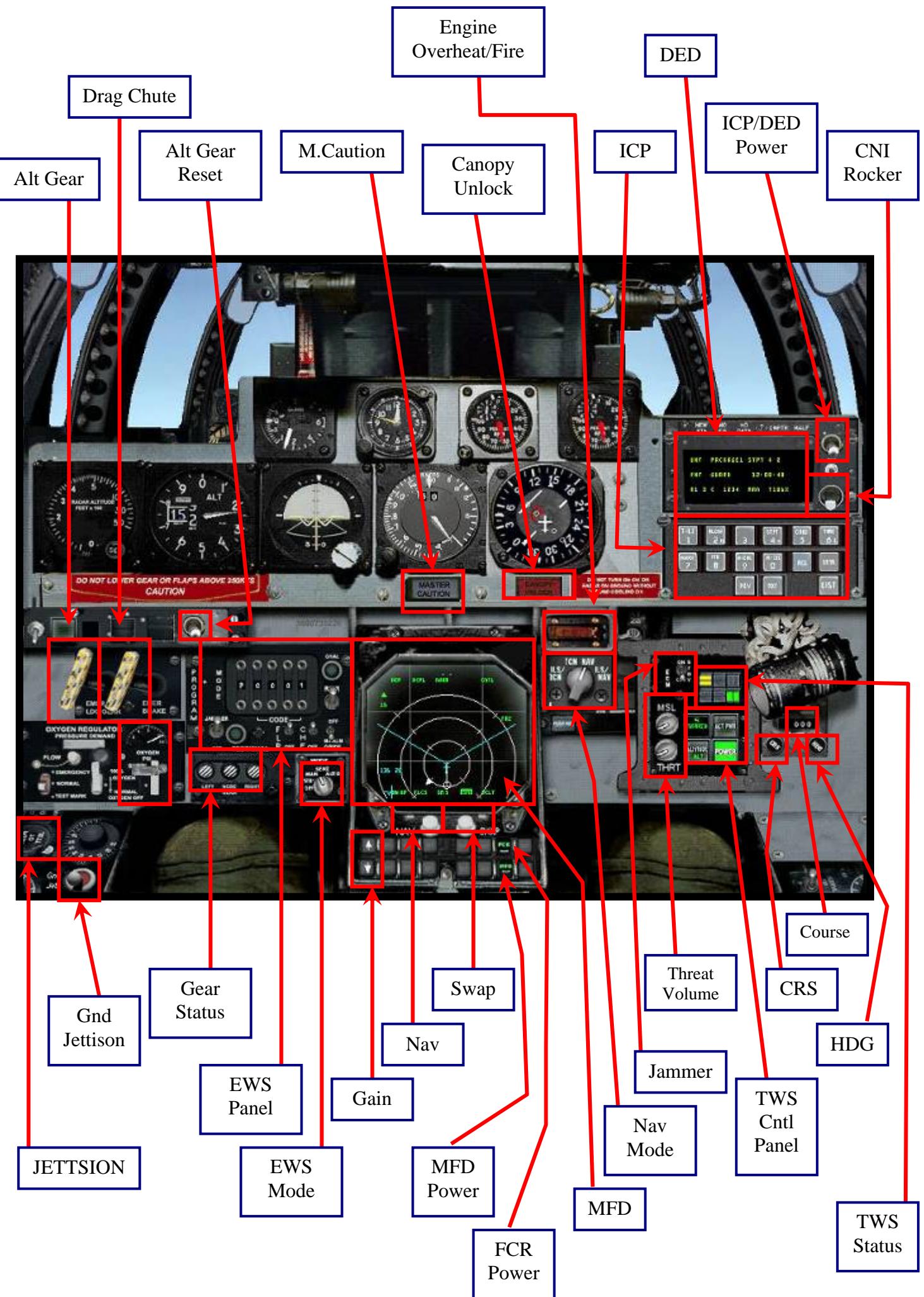
Pnuematic
Pressure

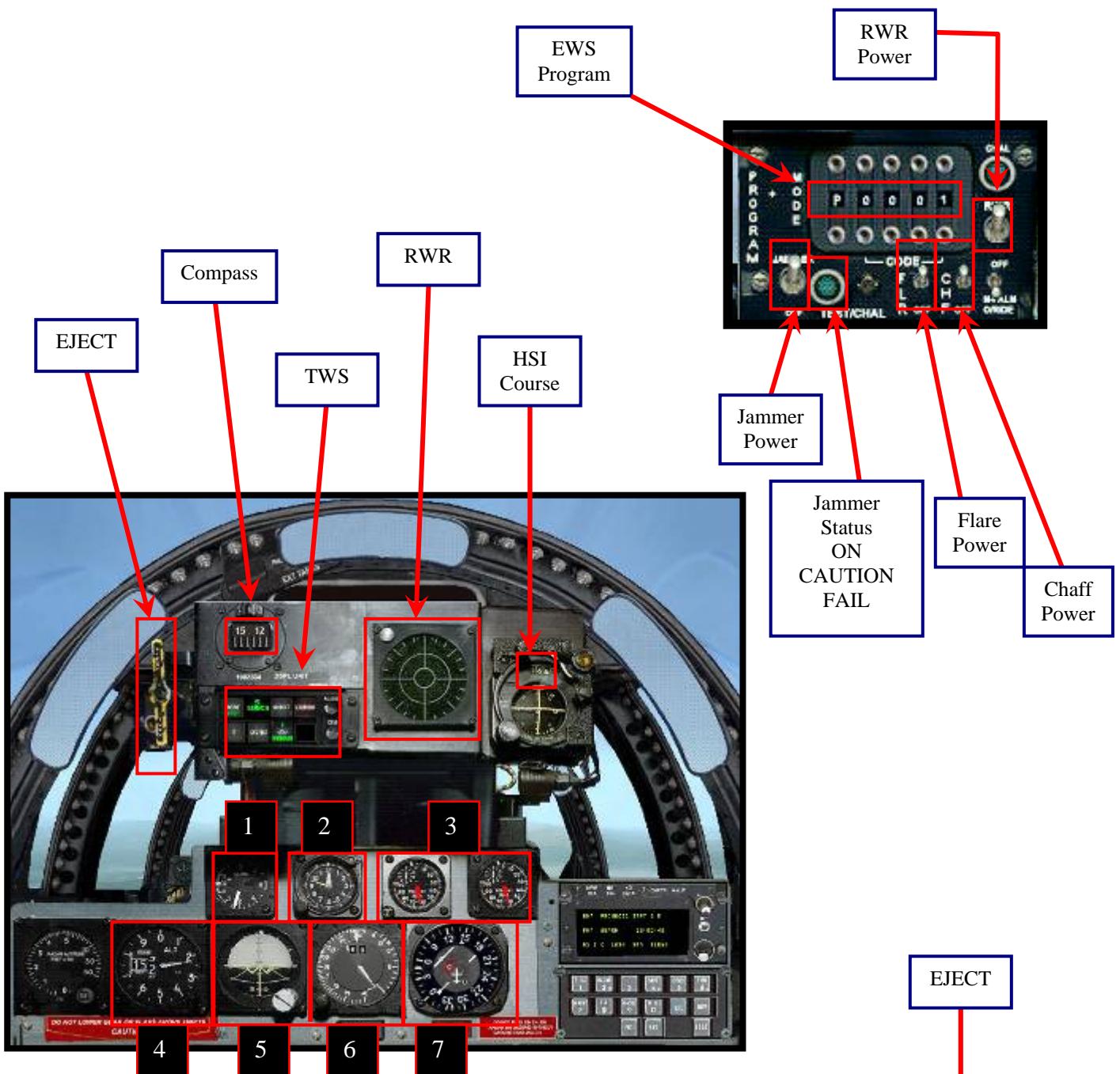
CRS + HDG
Select

R + L
Oil Pressure









1. VVI Indicator Gauge
2. Analogue Clock
3. L Eng + R Eng RPM Gauges
4. Altitude Indicator
5. ADI
6. Speed + Mach Indicator
7. HSI



RAMP START

In order to **RAMP Start**, the Pilot must first cycle to the Left Engine, before cycling to the Right Engine, and finally switch to Both Engines.⁵

- ☞ Use the keystroke → **Shift-Ctrl- h** to bring up the Engine Display.
- ☞ Use the keystroke → **Ctrl- o** to cycle to your Left Engine.
- ☞ Spool the Left Engine
- ☞ Use the keystroke → **Ctrl- o** to cycle to your Right Engine.
- ☞ Spool the Right Engine
- ☞ Use the keystroke → **Ctrl- o** to cycle to BOTH your engines.
- ☞ Complete your Rampstart (*remember to use the RAMP View for some steps*)

SUGGESTED RAMP-PROCEDURE

1. Enable Engine view (**shft-ctl-h**)
2. **Cycle to Left Engine** (**ctrl-o**)
3. Apply Parking Brake
4. Main Power to On
5. Engage Left Engine Master (Right Panel)
5. Master Fuel → On / Fuel Feed → NORM
6. Air Source → NORM
7. [*Throttle to Idle.*] Engage JFS. [*Observe RPM is rising to 20%][Throttle to 50%*]
8. Press Idle Detent. [*Throttle to 70% / Observe RPM is rising to 60% / Throttle back to idle.*]
9. Master Lights → NORM / Anti-Collision Light → ON / Wingtip Lights → BRT
10. DED → ON. MFD → ON. FCR → ON. GPS → ON.
11. INS align → NORM.
12. **Cycle to Right Engine** (**ctrl-o**)
13. Engage Right Engine Master (Right Panel)
13. Air Source → NORM
14. [*Throttle to Idle.*] Engage JFS. [*Observe RPM is rising to 20%][Throttle to 50%*]
15. Press Idle Detent. [*Throttle to 70% / Observe RPM is rising to 60% / Throttle back to idle.*]
16. **Cycle to BOTH engines** (**ctrl-o**)
17. [*Go to Ramp View*] Left Hdpt; Right Hdpt; Centre Hdpt; Gun → ON
18. Adjust HUD brightness / Adjust Instrument lights / Set TACAN Channel.
19. COMM1, COMM2, MSL, THREAT → Adjust Volume
20. EWS Power + Jammer → ON / Chaff & Flares → Activate / EWS → Set Mode + Program
21. Oxygen → ON; Set CAT Switch; MAL/IND Check.
22. *Check INS in DED is rising.* When “RDY” flashes, set INS → NAV / Enable Radar Alt.
23. Close Canopy / Taxi Lights → ON / IFF → NORM / Arm ejection seat / Anti-Ice (*as required*)
24. Configure MFDs / Configure SMS Page
25. Enable NWS / Press RTN button for DED.
26. **Disable engine view** (**shf-ctrl-h**) / Request Taxi clearance.
27. (*After climb-out*) Set RF + Master Arm + Wpns systems as applicable.

⁵ A Dual-Engine RAMP Start Training Mission is included in your install.

Phantom 3D Pit

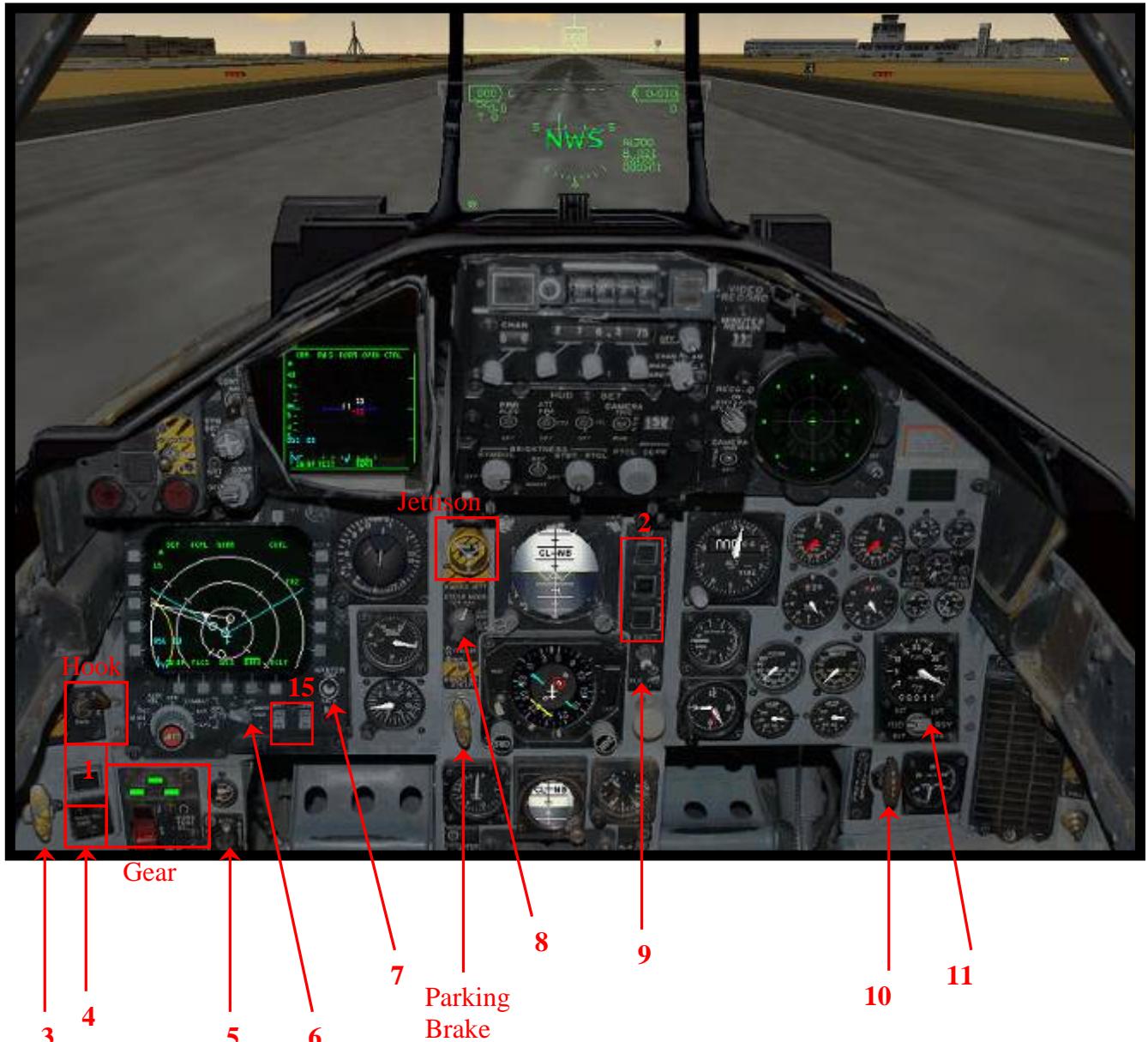




T h e F - 1 5 E a g l e



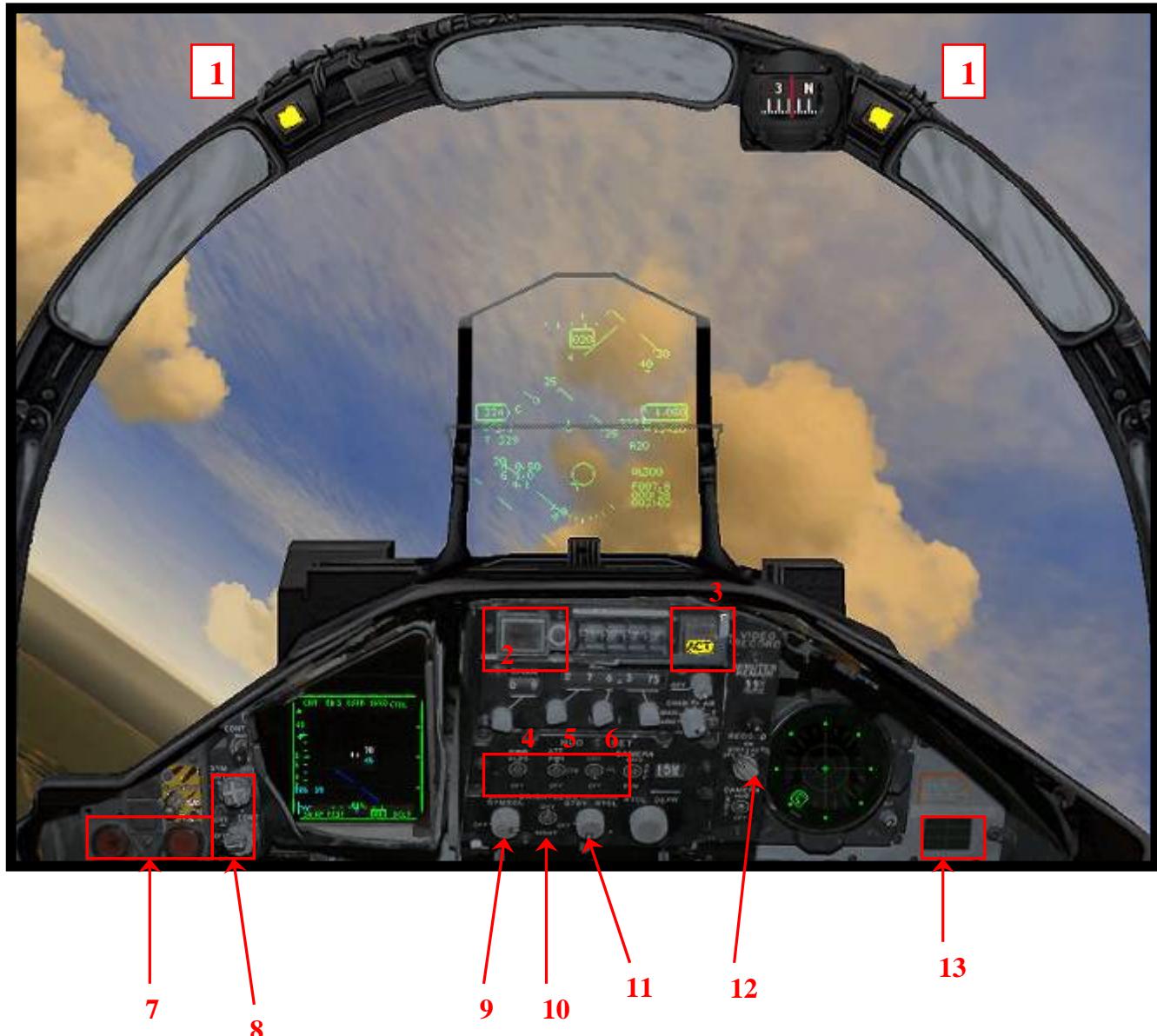
2 D Flight Manual



1. LEF Lock Light
2. AG / AA / NAV
3. Alt Gear
4. Alt Gear Reset
5. LEF Lock
6. MFD Power
7. Master ARM
8. Instrument Mode
9. Drift C/O
10. JFS Starter
11. Fuel Display
12. Fuel Display (labeled 'Jettison' in red)
13. SMS Power
14. Gnd Jett Enable
15. MFD Luminance



13. SMS Power
14. Gnd Jett Enable
15. MFD Luminance

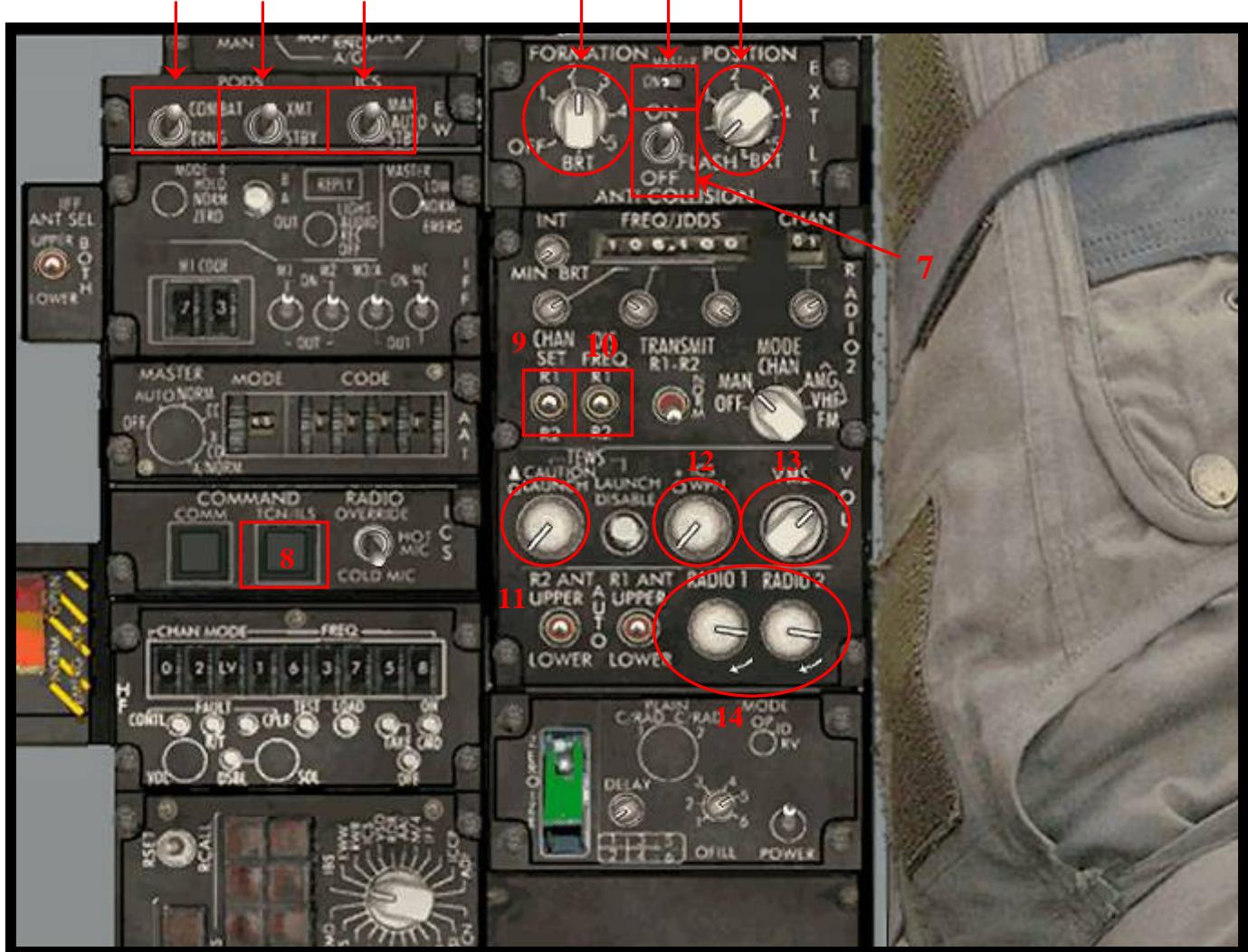


- | | |
|-----|---|
| 1. | Lock Light (Yellow) / Shoot Light (Red) |
| 2. | Master Caution |
| 3. | Launch Warning / Aux Warning ACT |
| 4. | HUD Power Toggle |
| 5. | HUD FPM Switch |
| 6. | HUD DED Switch |
| 7. | Fire Warning (Left + Right) |
| 8. | MFD Brightness + Contrast |
| 9. | HUD Scales |
| 10. | HUD Brightness Switch |
| 11. | HUD Luminance Control |
| 12. | AVTR - On/Auto/Off |
| 13. | ECM Indicator / AVTR Indicator |



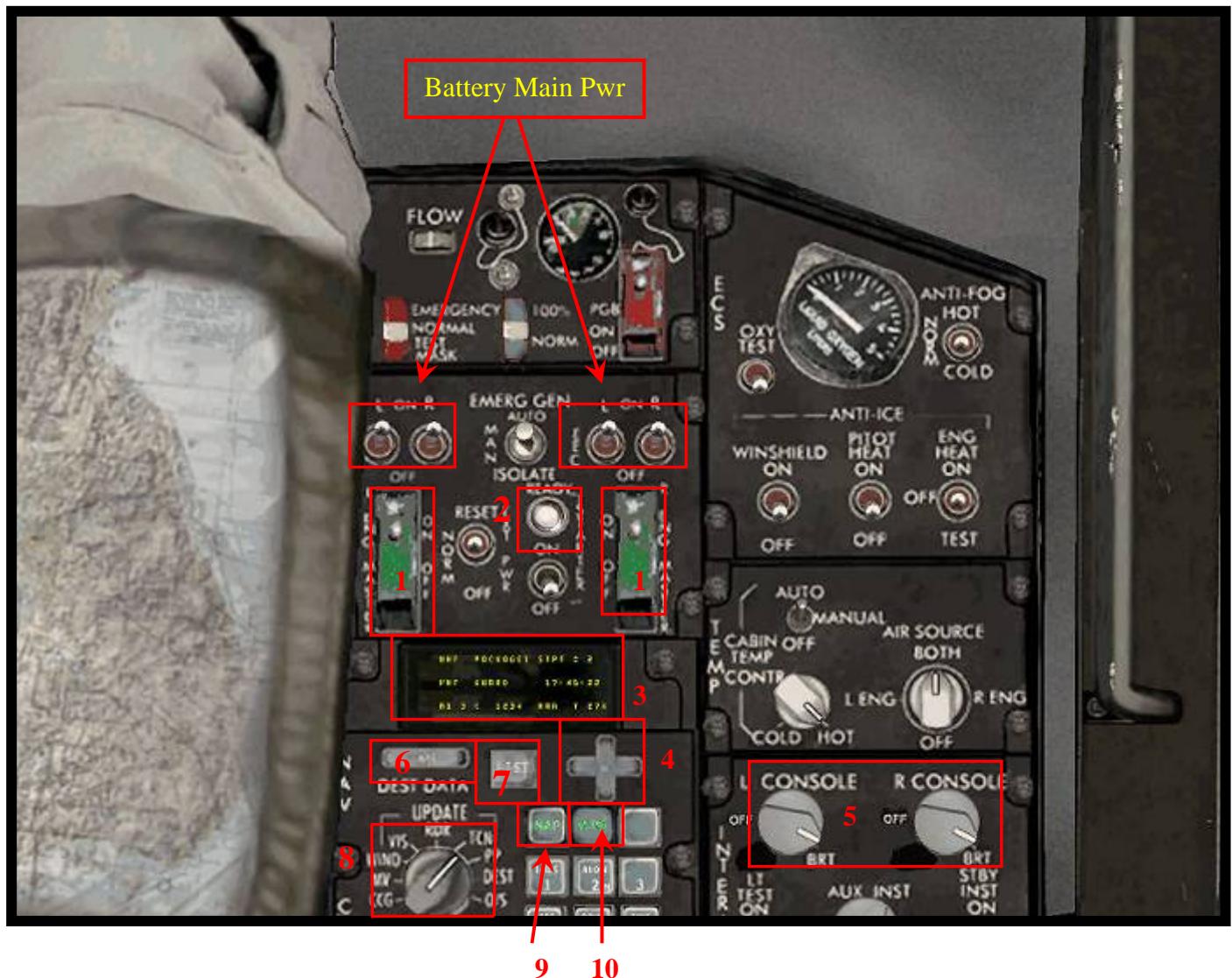
1. IFF Master Power
2. MPO
3. Anti-Skid (left switch)
4. Taxi/Lndg Light
5. Wing First Fuel Switch
6. Refuel Door Switch
7. Air Source
8. EPU Fuel
9. Fuel Transfer

10. Aux COMM Master
11. Aus COMM AA/TR Select
12. TACAN Channel Select
13. 3-Axis Autopilot
14. CAT I/III



1. Hardpoints - Combat
2. Hardpoints - XMT
3. FCC Power
4. Formation Lights
5. Ext Lights PWR
6. Ext Flash / Steady
7. Strobe Switch

8. TCN/ILS Indicator Light
9. COMM 1
10. COMM 2
11. MSL Warning Volume
12. Threat Warning Volume
13. VMS Toggle
14. Radio 1 / Radio 2 Volume



Battery Main Pwr →

1st Click on Primary (*Left switches*)

2nd Click on Secondary (*Right switches*).

1. Master Fuel

2. JFS Light

3. DED

4. CNI Rocker Switch

5. Console Lighting

6. ICP Previous / ICP Next

7. LIST

8. GPS Power

9. MAP Power

10. DATALINK Power



1. ICP
2. INS Power
3. Instrument Lighting
4. DED (ufc) Power
5. EWS Programme Switch

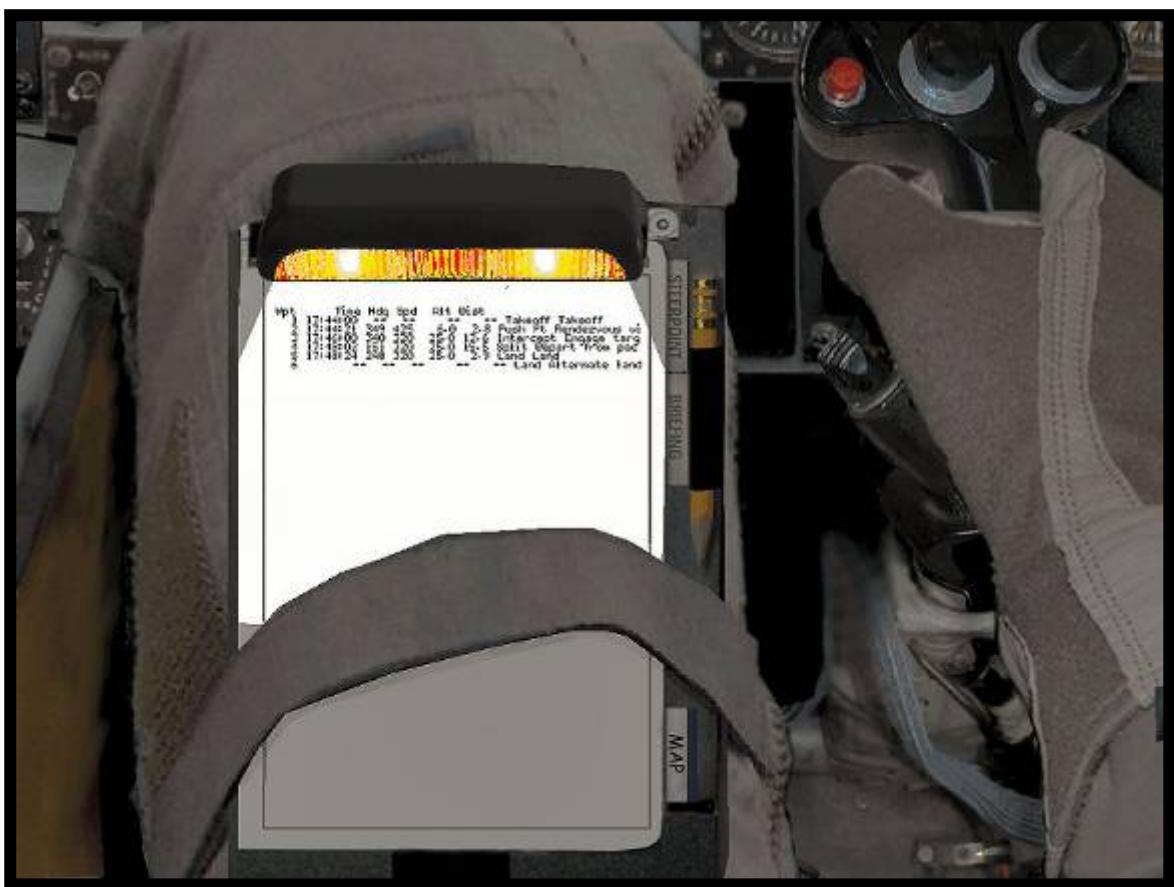


1. ECM Caution Light
2. ECM Fail Light
3. RWR Power
4. ECM Power
- 4b. ECM Indicator Light
5. Jammer Toggle
6. EWS Mode
7. EW/RWR System
8. Aux Panel

9. Flare Power
10. Chaff Power
11. FCR Power
12. RDR ALT Toggle
13. HUD RADAR Switch
14. PFL Display
15. F/ACK



SA VIEW / KNEEBOARD





Idle Detent

OBlique VIEWS



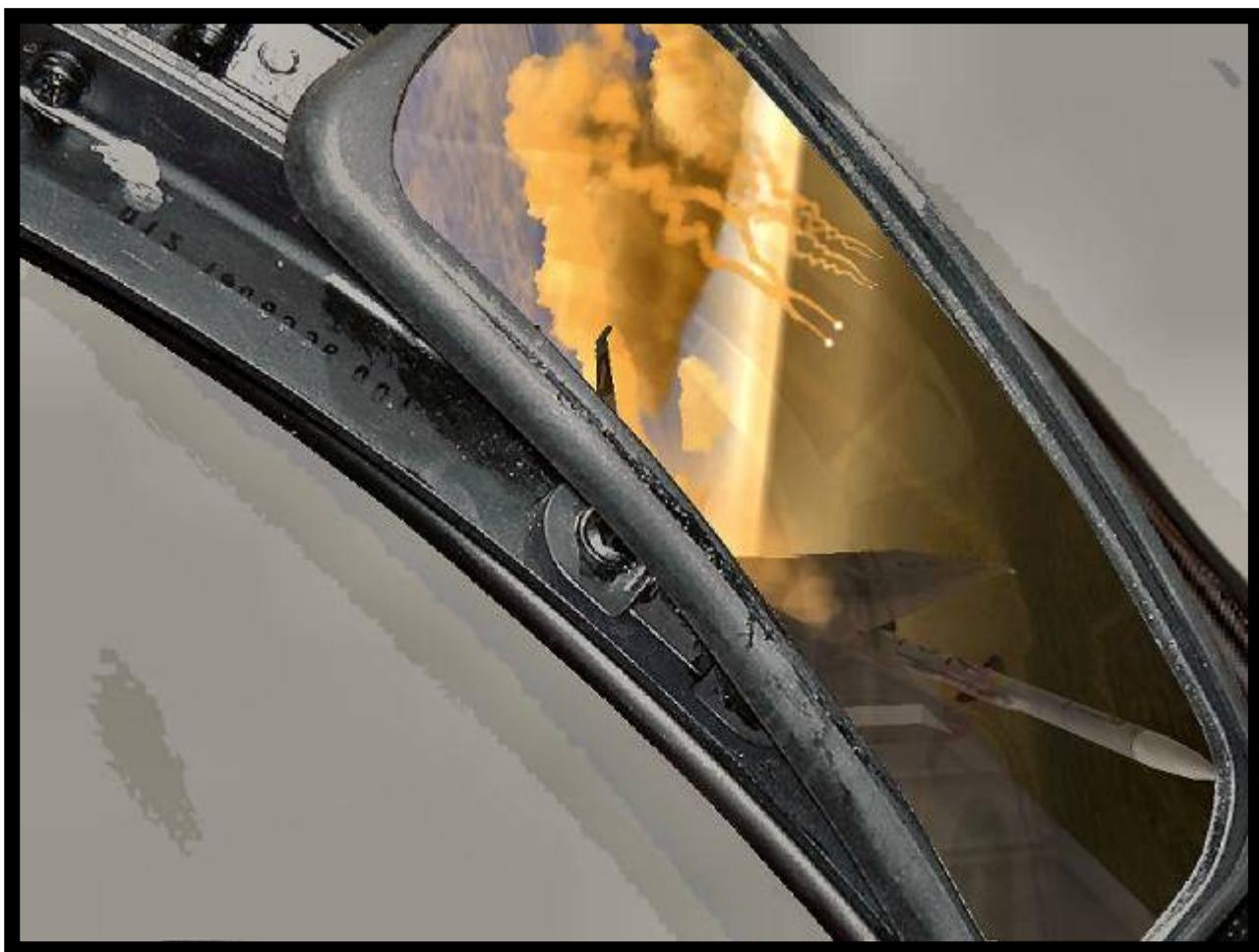


HUD + PILOT VIEWS





MIRROR VIEWS



Rampstart The F-15 Manual

In order to **RAMP Start**, the Pilot must first cycle to the Left Engine, before cycling to the Right Engine, before finally switching to Both Engines.

Suggested Ramp Procedure:

1. Enable Engine view (*shft-ctl-h*)
2. **Cycle to Left Engine** (*ctrl-o*)
3. Apply Parking Brake
4. Main Power to On (Left Switch, then Right Switch)
- 5a. External Lights Power → ON
5. Master Lights → NORM / Anti-Collision Light → ON / Wingtip Lights → BRT
6. Master Fuel → On
7. Air Source → NORM
8. *[Throttle to Idle.] Engage JFS. [Observe RPM is rising to 20%][Throttle to 50%]*
9. Press Idle Detent. *[Throttle to 70% / Observe RPM is rising to 60% / Throttle back to idle.]*
10. FCC, SMS, MFD, UFC, GPS, DL, Map → ON
11. INS align → NORM.
12. **Cycle to Right Engine** (*ctrl-o*)
13. Main Power to On
14. *[Throttle to Idle.] Engage JFS. [Observe RPM is rising to 20%][Throttle to 50%]*
15. Press Idle Detent. *[Throttle to 70% / Observe RPM is rising to 60% / Throttle back to idle.]*
16. **Cycle to BOTH engines** (*ctrl-o*)
17. Combat Hardpoint, XLT Hardpoint, FCR → ON
18. Set Radar Alt. → Stby.
19. Adjust HUD brightness / Adjust Instrument lights.
20. COMM1, COMM2, MSL, THREAT → Adjust Volume. MAL & IND Check
21. EWS Power + Jammer → ON / Chaff & Flares → Activate / EWS → Mode + Program
22. *Check INS in DED is rising.* When “RDY” flashes, set INS → NAV / Enable Radar Alt.
23. Close Canopy / Taxi Lights → ON / IFF → ON
24. Enable NWS / Press RTN button for DED / Release Parking Brake
25. **Disable engine view** (*shf-ctl-h*) / Request Taxi clearance.



F-15 3D pit





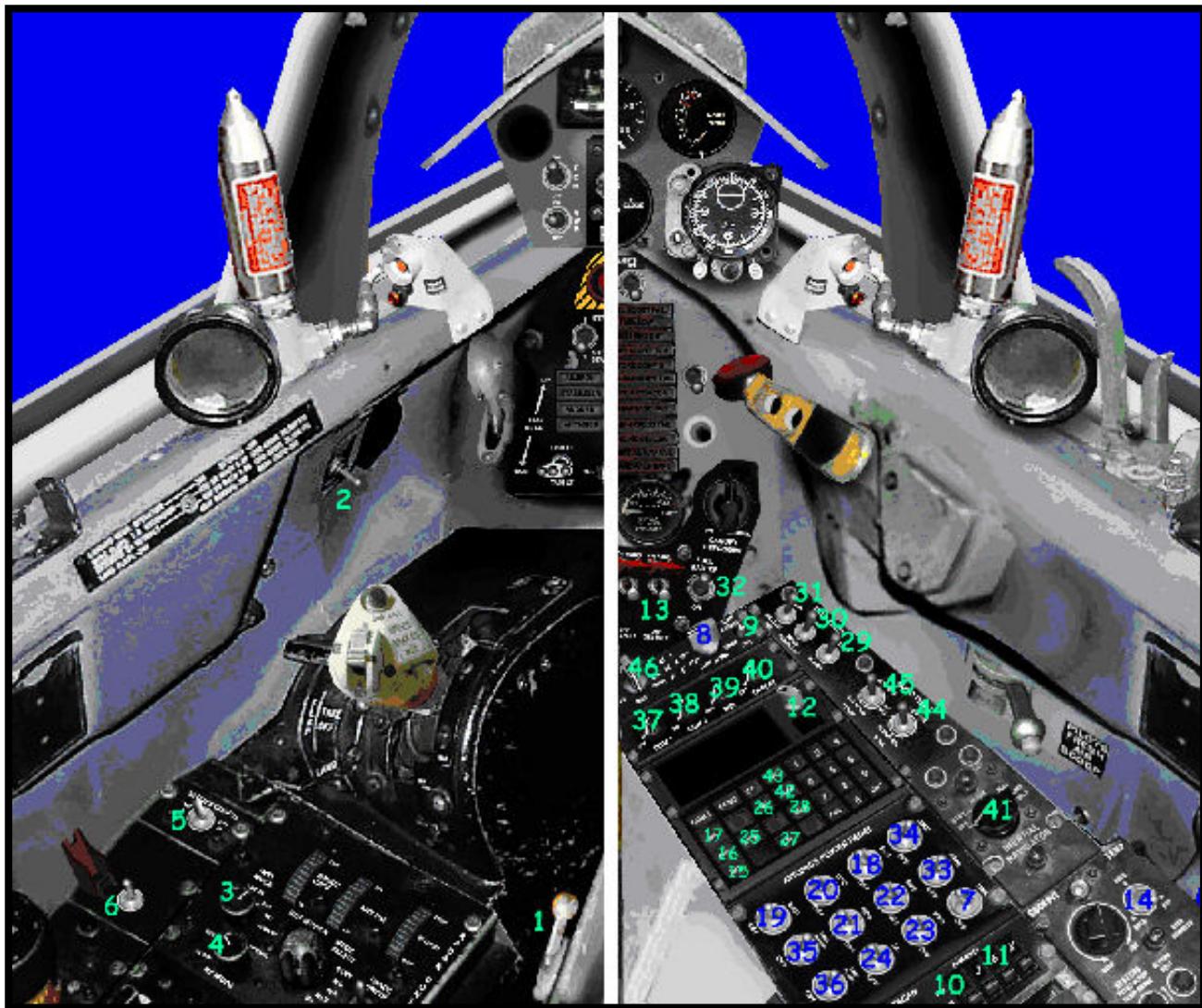
The F - 104 Starfighter



2 D F l i g h t M a n u a l

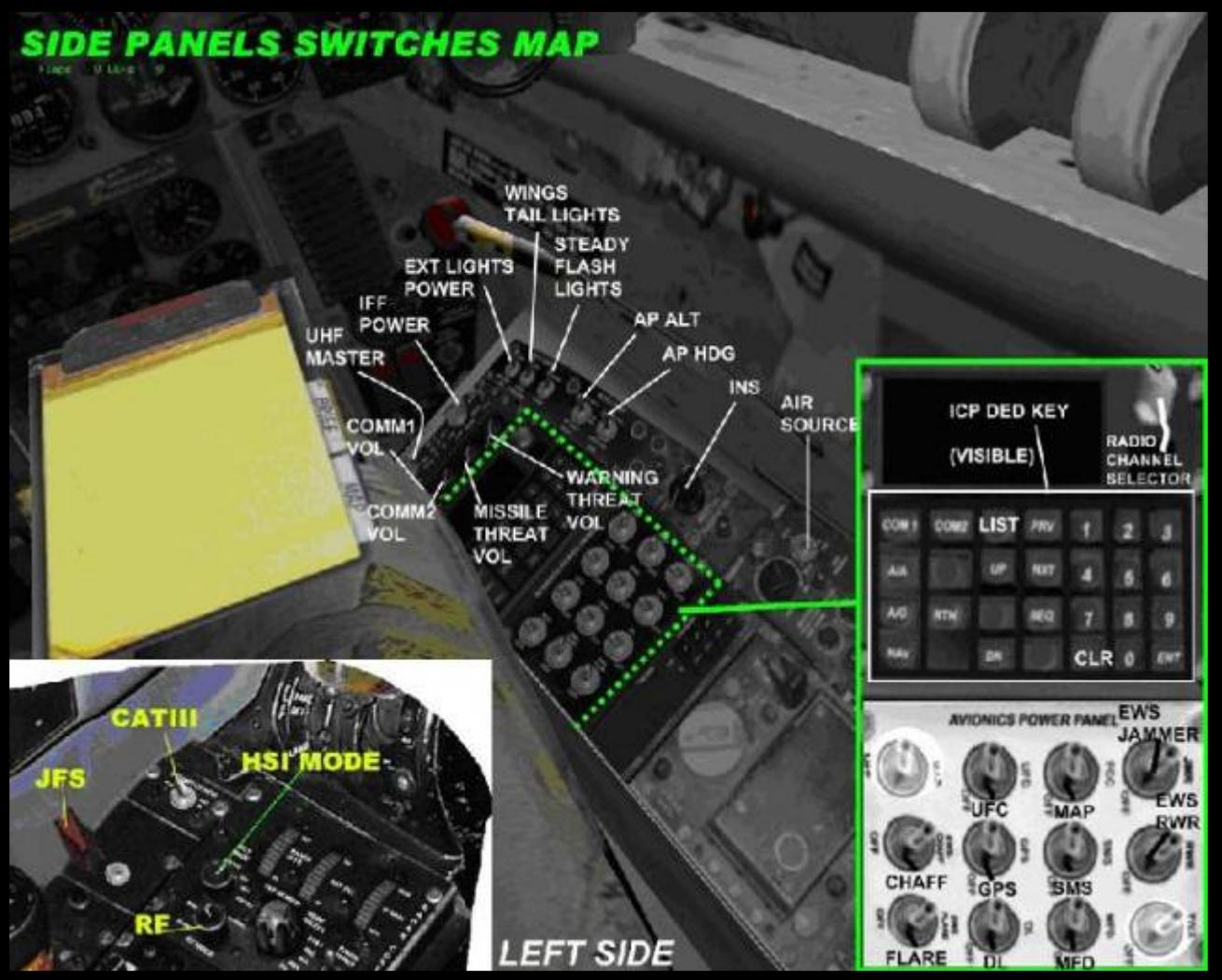


1 = Eject handle 2 = Gear handle 3 = Emergency jettison 4 = RF silent 5 = Alternate gear 6 = Landing lights 7 = Manual reticule 8 = Laser Arm 9 = MFD Gain up 10 = MFD gain down 11 = MAL and IND test 12 = Drift c/o 13 = HUD DED 14 = HUD Radar 15 = MPO 16 = Kneeboard Steerpoint 17 = Kneeboard Briefing 18 = Kneeboard Map 19 = Canopy handle 20 = Master Arm 21 = Main power	22 = ECM 23 = HUD brightness 24 = Fuel transfer 25 = Master arm 26 = Master fuel 27 = Left Hardpoint power 28 = Right Hardpoint power 29 = Parking brake 30 = Anti-collision lights 31 = ICP next 32 = ICP previous 33 = ICP Up 34 = ICP down 35 = ICP reset 36 = ICP sequence 37 = Parking brake 38 = Autopilot roll hold 39 = Autopilot pitch hold 40 = A/A mode 41 = A/G mode 42 = Nav mode 43 = EWS RWR POWER	INSTRUMENTS 1 = CLock 2 = G dial 3 = Fuel quantity 4 = ADI baclup 5 = Altitude 6 = G dial 7 = Temperature 8 = RPM 9 = Oil 10 = Nozzle 11 = EPU fuel 12 = Fuel flow 13 = Exhaust 14 = FTIT 15 = Magnetic compass 16 = HSI 17 = ADI ball 18 = Mach indicator
--	--	---



- 1 = Seat arm
- 2 = Idle detent
- 3 = Instruments mode
- 4 = RF silent
- 5 = CAT I/III
- 6 = JFS
- 7 = Aux Warn Light Pwr
- 8 = IFF power
- 9 = AuxComm Master Select
- 10 = AuxComm AA/TR Select
- 11 = AuxComm channel
- 12 = UHF backup
- 13 = Main power
- 14 = Air source
- 15 = Nav mode
- 16 = A/G mode
- 17 = A/A mode
- 18 = FCC power
- 19 = MAP power
- 20 = UFC power
- 21 = GPS power
- 22 = SMS power

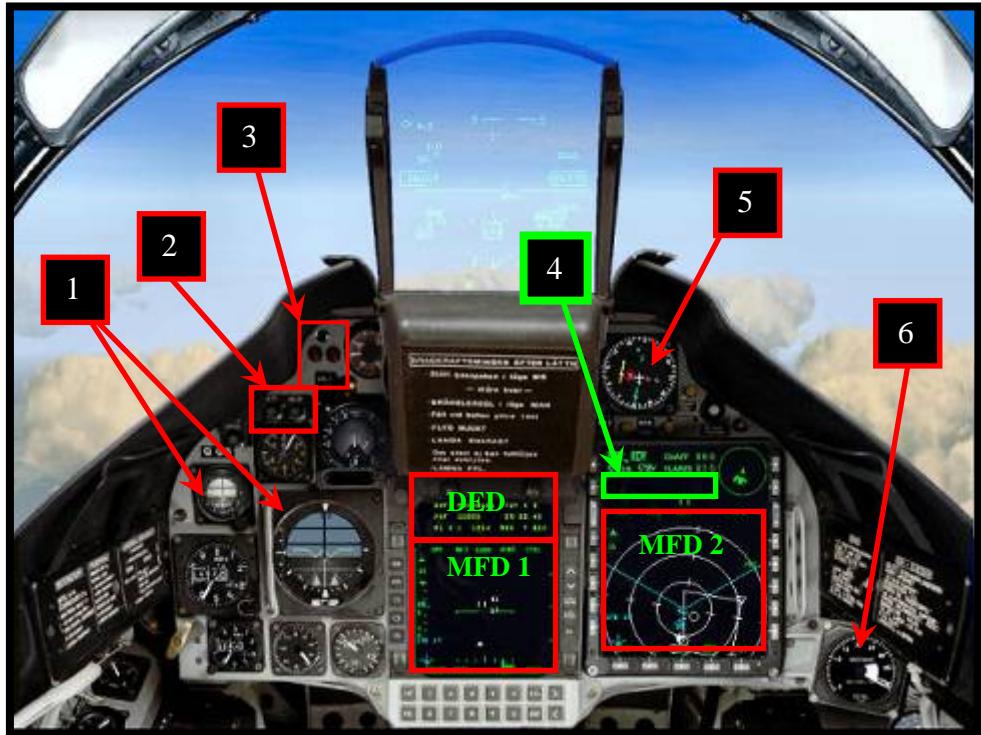
- 23 = MFD power
- 24 = DL power
- 25 = ICP reset
- 26/27 = ICP up/down
- 28 = ICP sequence
- 29 = Flash/Steady ext lights
- 30 = Wing/Tail ext lights
- 31 = External lights power
- 32 = Master fuel
- 33 = EWS RWR power
- 34 = EWS jammer power
- 35 = EWS Chaff power
- 36 = EWS Flare power
- 37 = Comm1 volume
- 38 = Comm2 volume
- 39 = Missile warning volume
- 40 = Threat warning volume
- 41 = Avionics power
- 42/43 = ICP next/previous
- 44 = Autopilot roll hold
- 45 = Autopilot pitch hold
- 46 = UHF master select



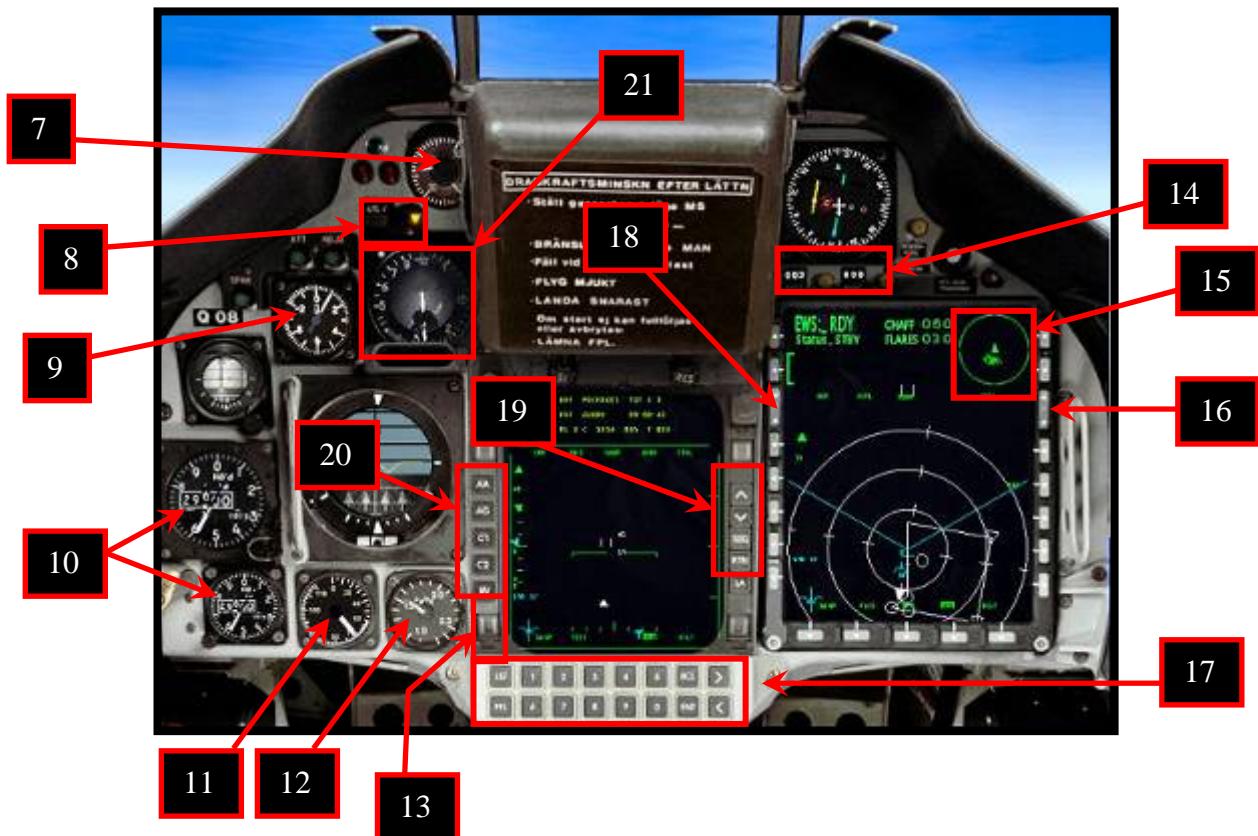
JA-37 VIGGEN

FLIGHT MANUAL





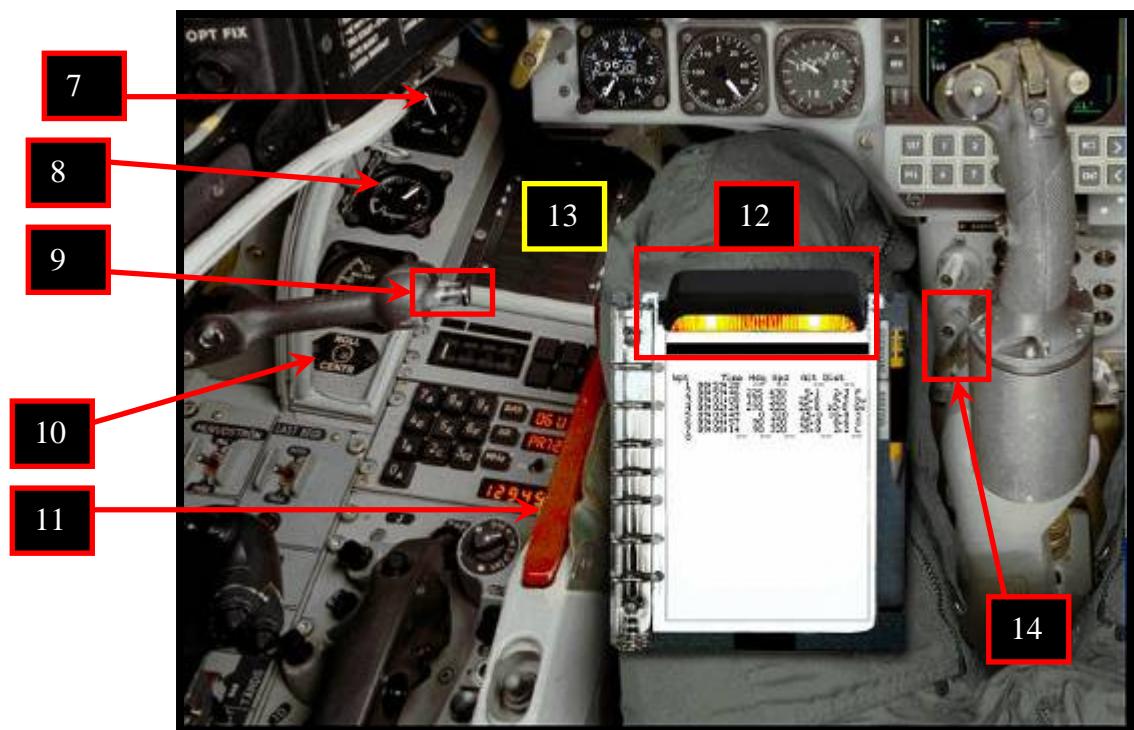
1. ADI	10. Alt Indicator	19. CNI
2. Auto Pilot	11. RPM	20. Master Modes
3. Master Caution	12. Oil Pressure	21. Kts/Mach Ind.
4. PFL	13. Launch Lights	
5. HIS	14. Hdg + Crs	
6. Fuel Gauge	15. RWR	
7. VVI	16. R. Gain +/-	
8. AoA	17. ICP	
9. G Meter	18. L. Gain +/-	
* 2, 4, 13 – See Notes		

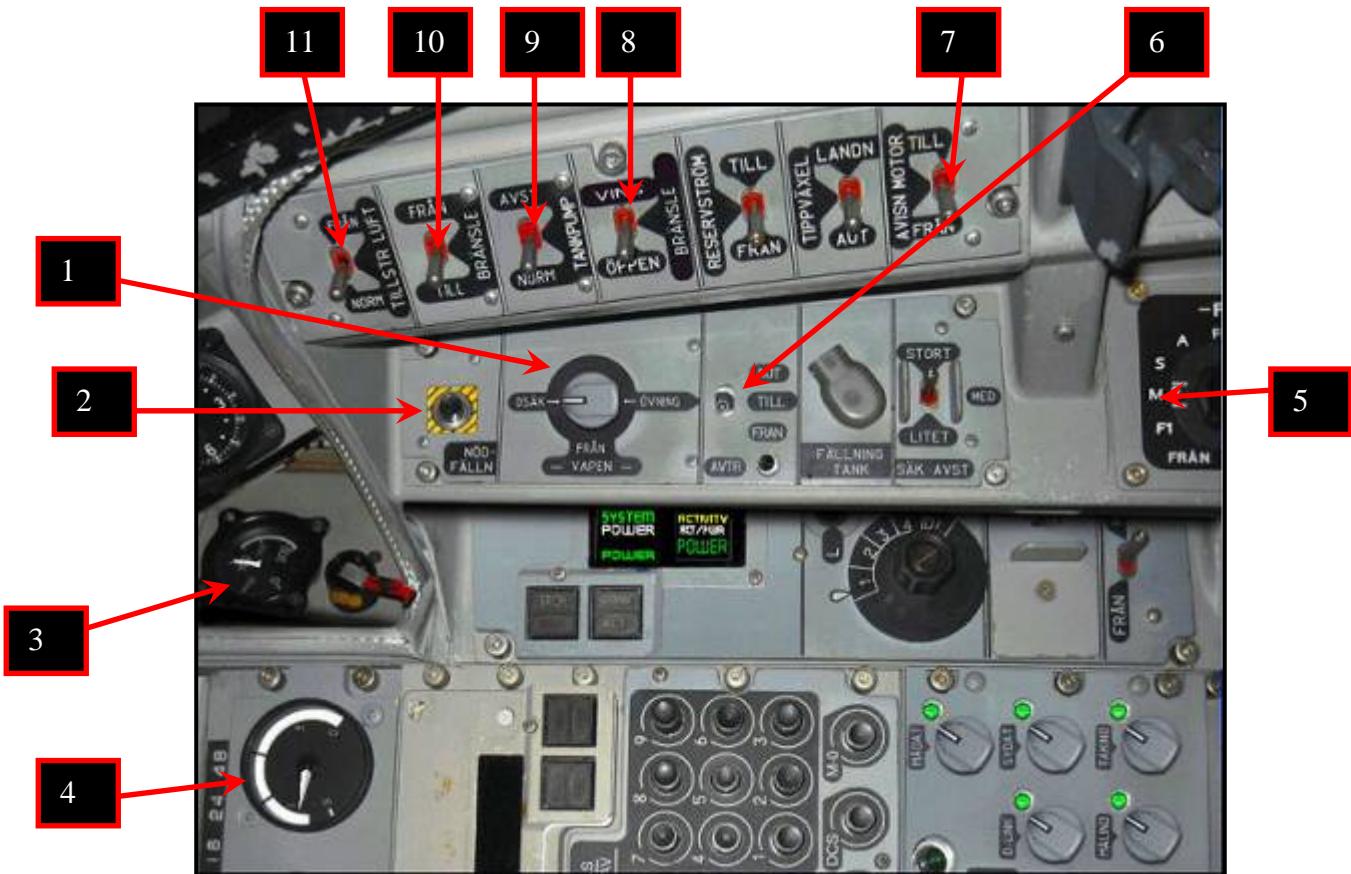




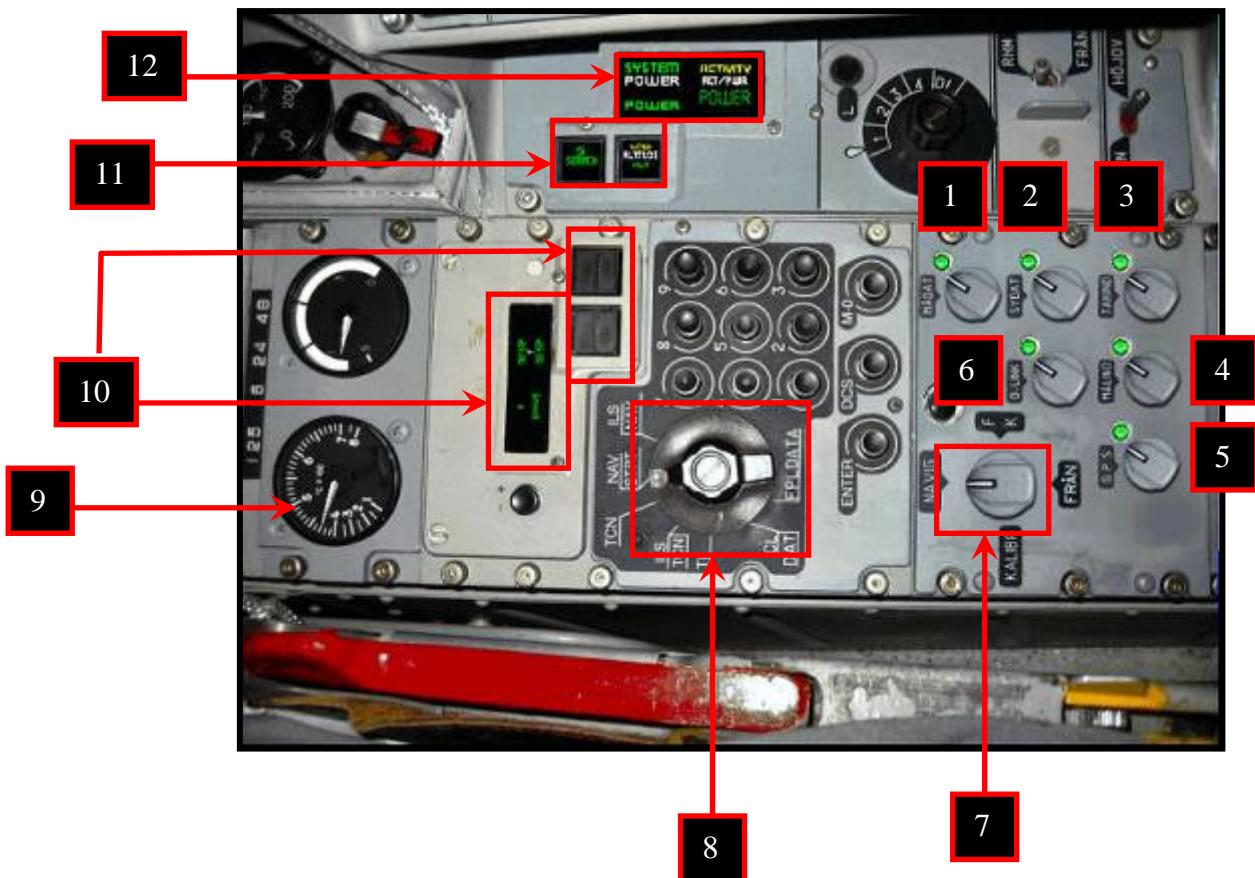
- | | |
|---|--|
| 1. Digital Map On
2. PFL On/Off
3. EWS Status
4. Chaff/Flare Count
5. Digital Map Off
6. Refresh
7. Cabin Pressure
8. Oxygen Pressure
9. Canopy Release | 10. MPO
11. Eject Lever
12. Kneeboard Light
13. Warning Lights
14. Parking Brake

<i>*1,2,5,6,12 – see Notes</i> |
|---|--|





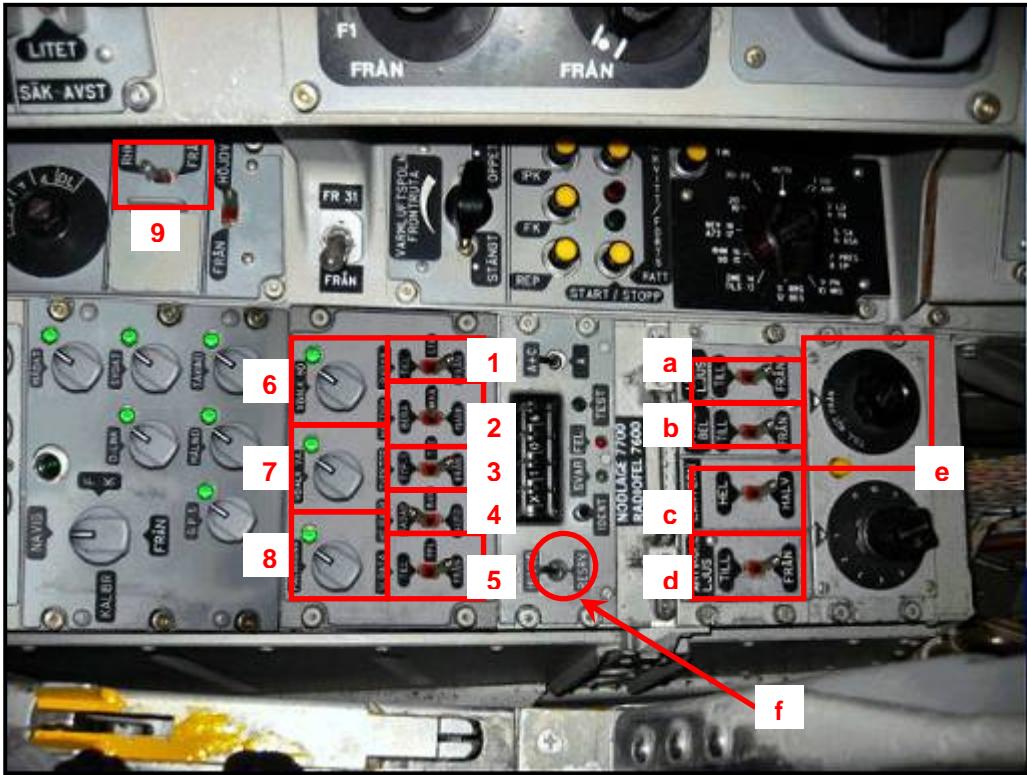
- | | |
|------------------------------|--|
| 1. Master Arm | <i>Fran = Off / Osak = On / Ovning = Stby</i> |
| 2. Emergency Stores Jettison | |
| 3. Oxygen Pressure | |
| 4. Nozzle Position | |
| 5. EWS Program | <i>Fran = Off / F1 = Stby / Manual; Semi; Auto</i> |
| 6. AVTR (3-way Toggle) | <i>Aut = Auto / Till = On / Fran = Off</i> |
| 7. Anti-Ice | <i>Till = On</i> |
| 8. Wing First Fuel Feed | <i>Ving = Wing First</i> |
| 9. Fuel Transfer | <i>Avst = Off / Norm = Norm</i> |
| 10. Master Fuel | <i>Till = On / Fran = Off</i> |
| 11. Air Source | <i>Norm = Norm / Fran = Off</i> |



- | | |
|--------------|---------------|
| 1. FCC Pwr | <i>Madat</i> |
| 2. SMS Pwr | <i>Sydat</i> |
| 3. MFD Pwr | <i>Takind</i> |
| 4. UFC Pwr | <i>Malind</i> |
| 5. GPS Pwr | <i>GPS</i> |
| 6. Dlink Pwr | <i>Dlink</i> |

7 INS Pwr *Kalibr = Calibrate / Navig = On / FK = In Flight / Fran = Off*

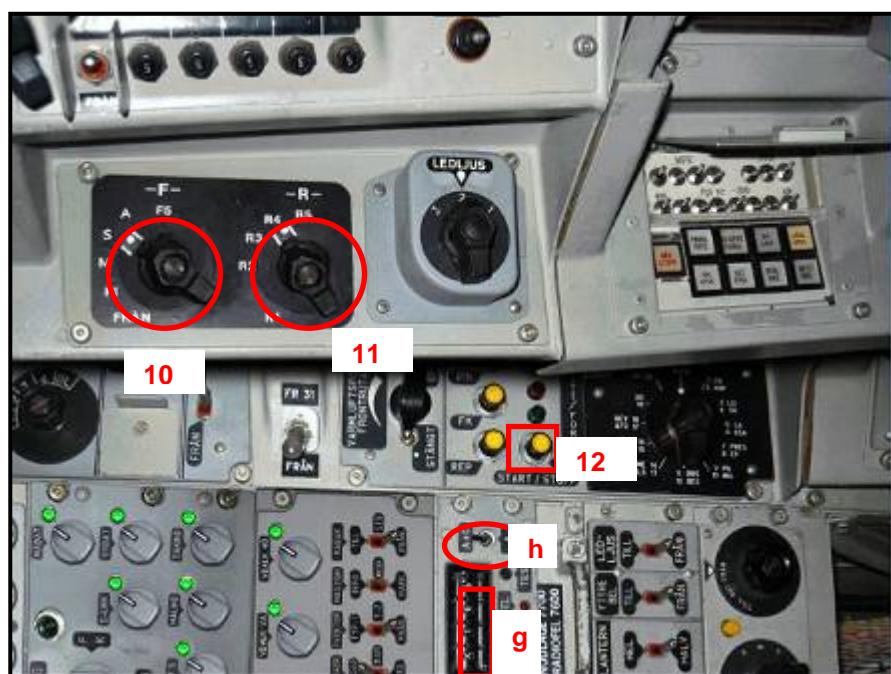
- | |
|-------------------------------------|
| 8. Instrument Mode Select |
| 9. Exhaust Gas Temperature |
| 10. EWS Threat Warning Lights Panel |
| 11. Aux. Warning Lights |
| 12. Aux EWS Panel |

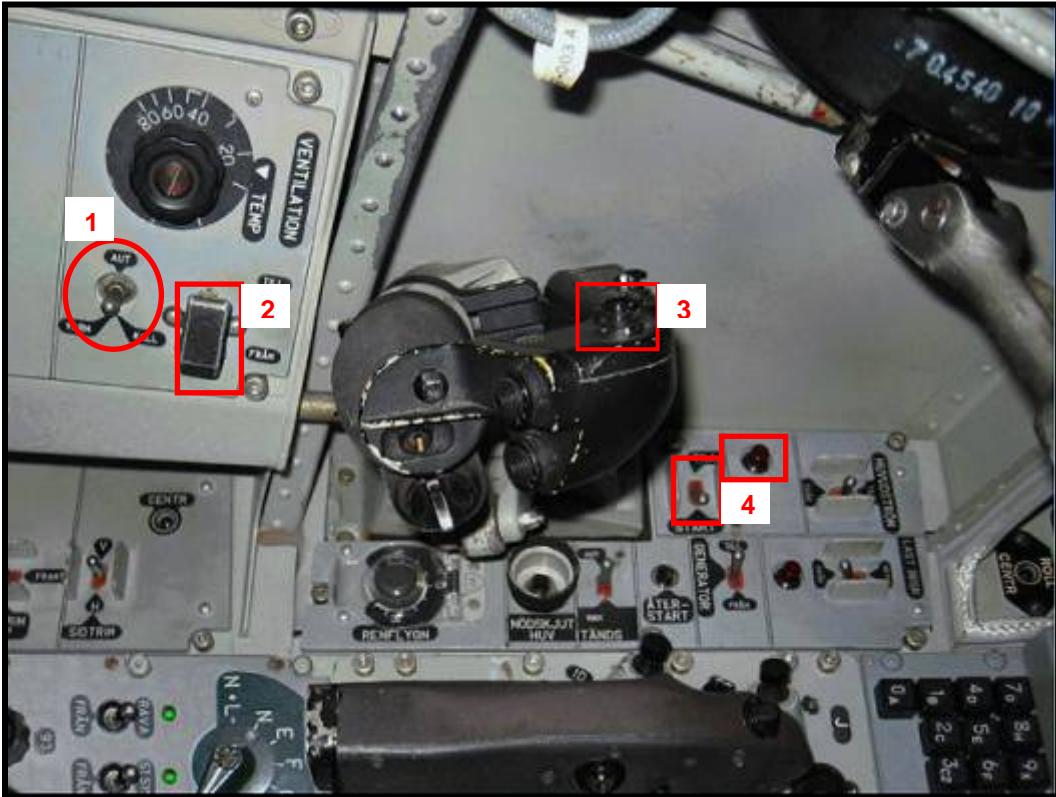


1. HUD Radar
2. HUD Velocity
3. HUD FPM
4. Radar Alt Toggle
5. HUD DED
6. Right HP Power
7. Left HP Power
8. FCR Power

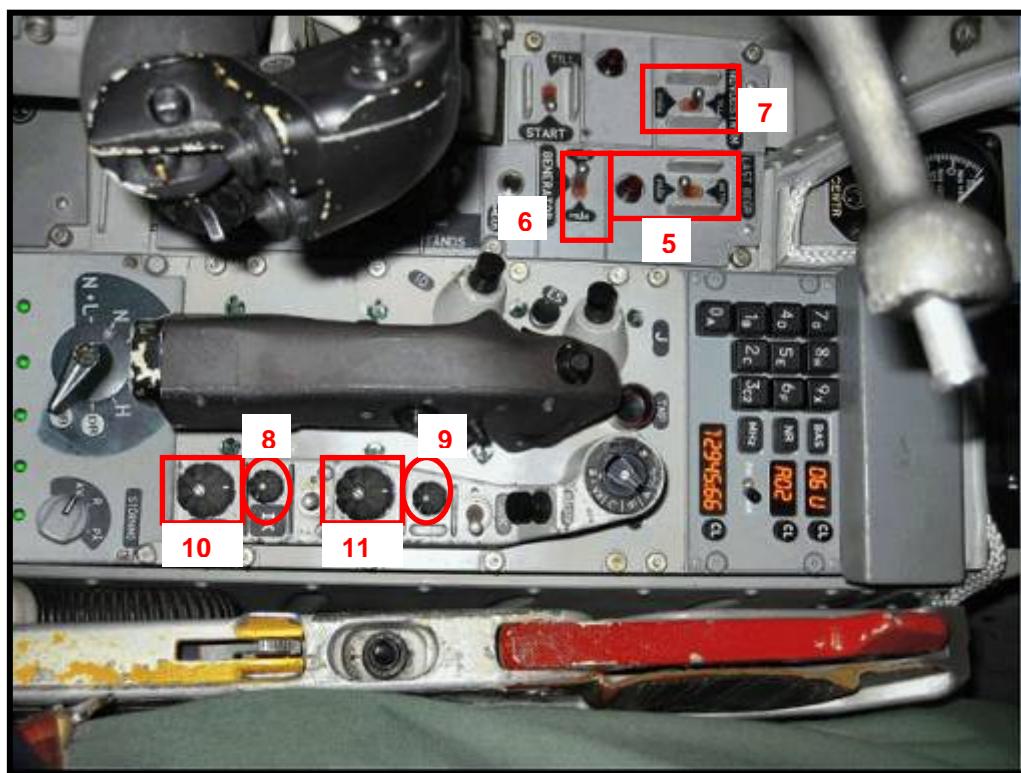
9. IFF Master
10. EWS Mode
11. EWS Program
12. Mal & Ind Test

- a. Wing Lights
- b. Landing Lights
- c. Steady/Flash
- d. Strobe
- e. Ext Lighting Power
- f. Aux Com Master Select
- g. Comm Digits
- h. AA/TR Select





- | | |
|--|---|
| 1. Air-Con Temp Select (<i>Aut-Auto Kall-Cool Varm-Warm</i>)
2. Air-Con Master
3. Idle Detent
4. JFS Start + Indicator
5. CatI/III + Stores Warning Light
6. Generator (<i>Before Main Battery</i>)
7. Main Battery (<i>After Generator</i>) | 8. Threat Volume
9. Missile Volume
10. Comms 1 Volume
11. Comms 2 Volume |
|--|---|





Dedicated Manuals for both the

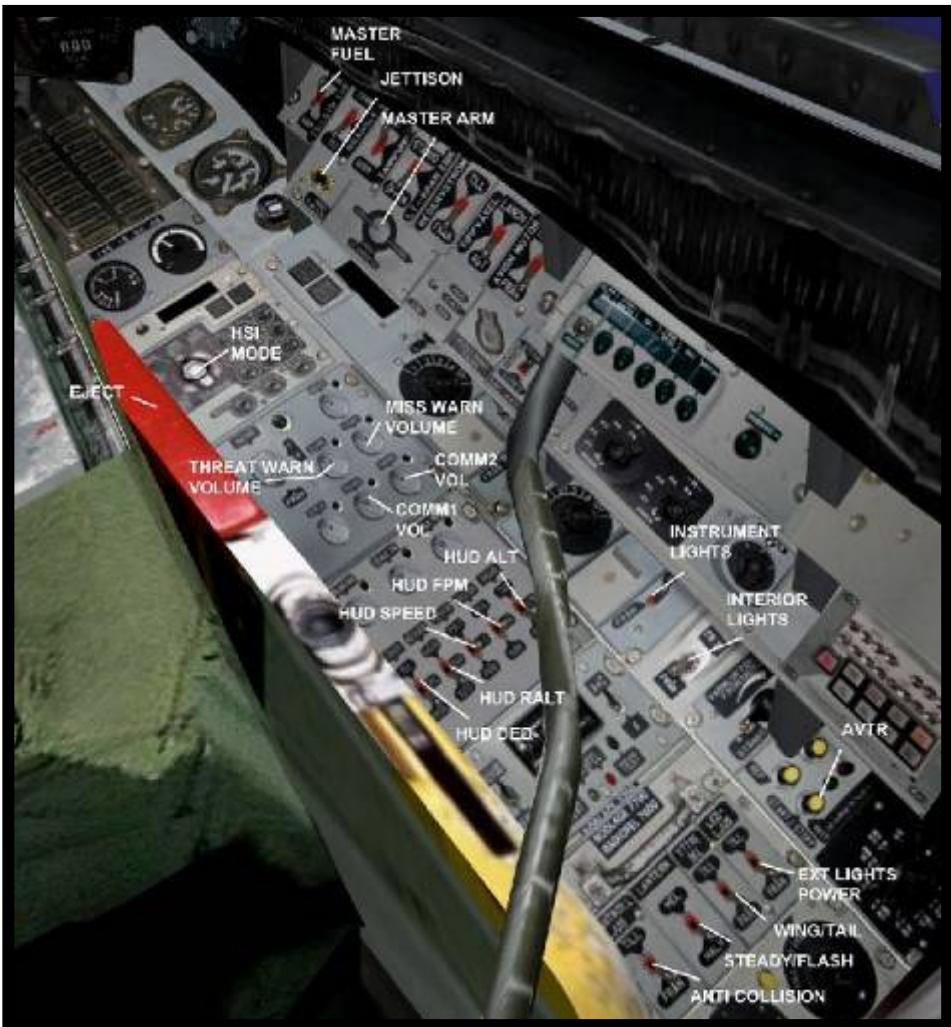
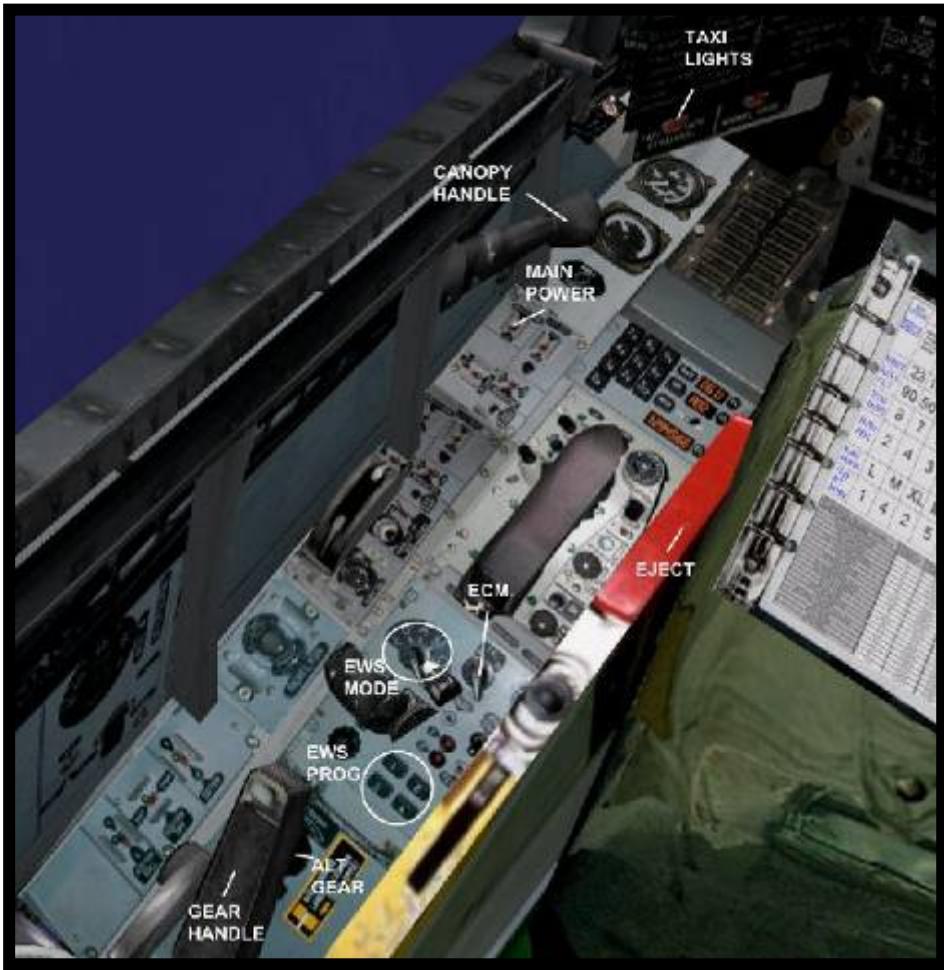
JA-37 Viggen
&
AJS-37 Viggen

can be found in [*the MANUAL/Flight Manuals*](#)



Viggen 3D Pit



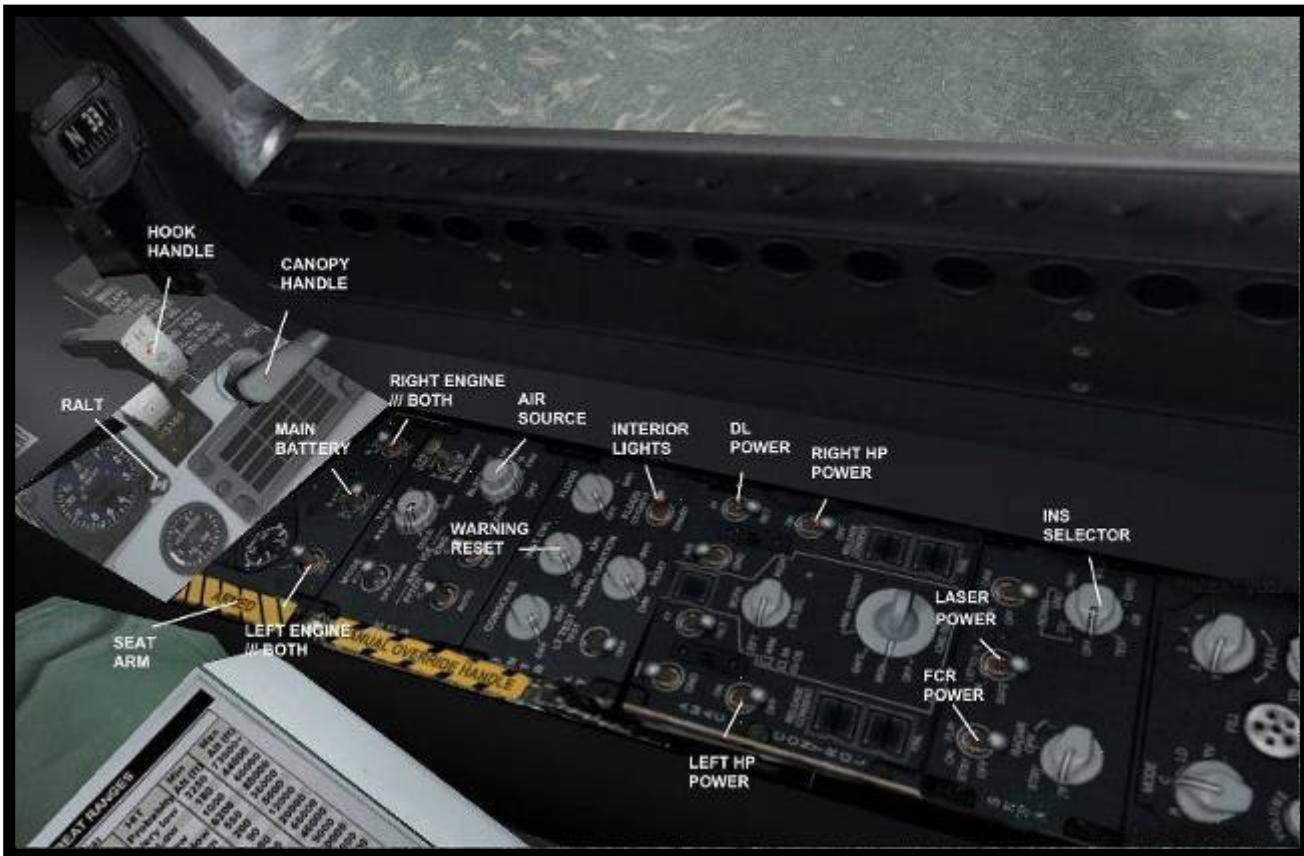
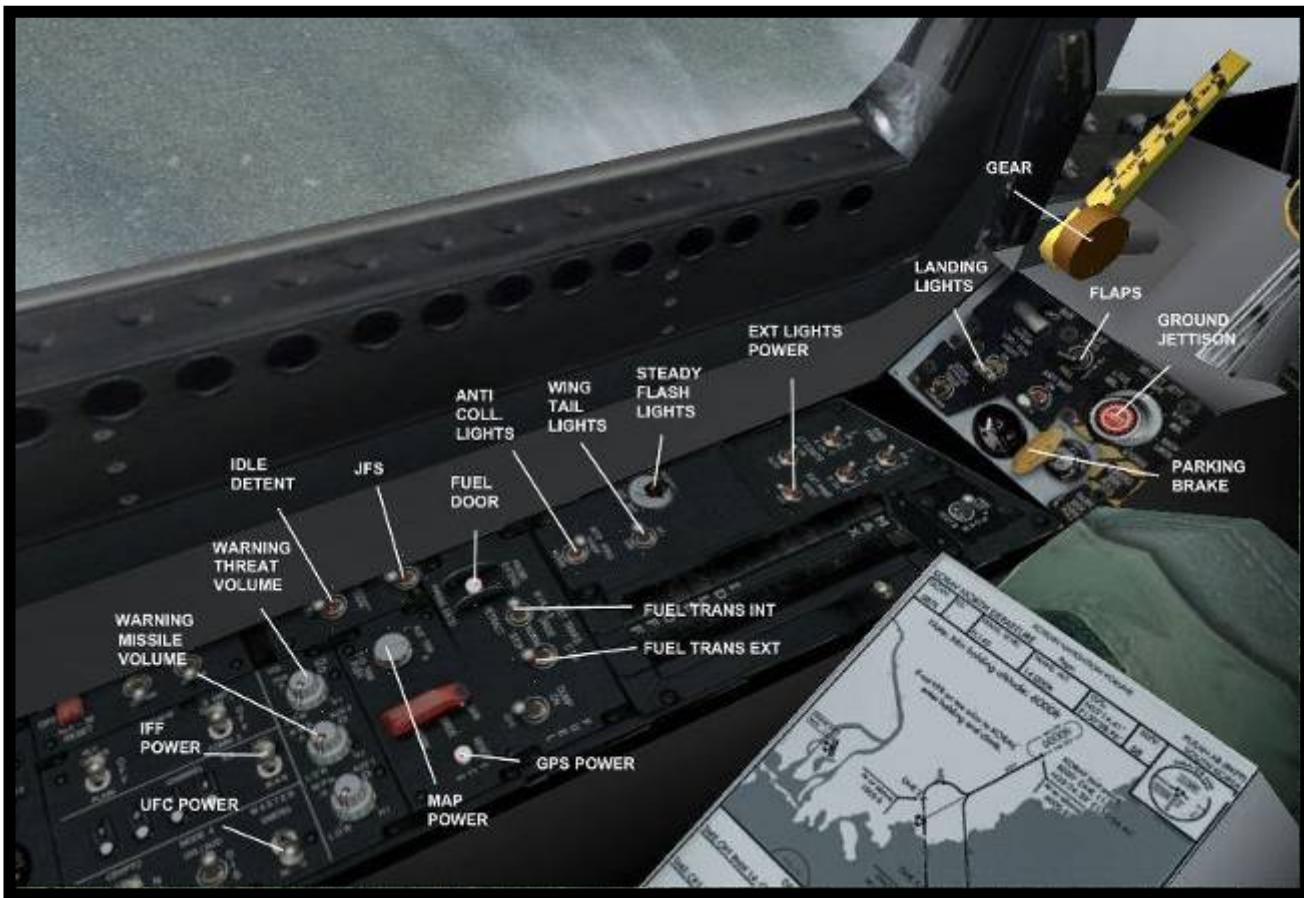


RIGHT PANEL

T h e F - 1 8 H o r n e t







T h e F - 1 4 T o m c a t



2 D F l i g h t M a n u a l



1 – Drift c/o
2 – Warning reset
3 – Master caution
4 – Master arm
5 – Cat I/III
6 – Eject handle
7 – Gear handle
8 – Interior lights
9 – Emergency jettison
10 – TFR mode
11 – RF silent
12 – Autopilot
13 – HSI course
14 – AP roll hold
15 – AP pitch hold
16 – MPO
17 – Fuel transfer
18 – Refuelling door
19 – Alt gear reset
20 – Alt gear
21 - Landing lights
22 – ICP FACK
23 – Air source
24 - Hook handle
25 – HUD colour
26 – HUD brightness

27 – Manual reticule
28 – HUD radar
29 – Laser arm
30 – AG mode+
31 – AA mode
32 – Nav mode
33 – ECM
34 – EWS mode
35/36 – L MFD Gain
37/38 – R MFD Gain

INSTRUMENTS
1 - Magnetic compass
2 – adi ball
3 - HSI
4 – Altimeter
5 – Mach speed
6 – Clock
7 – Fuel quantity
8 – RPM gauge
9 – Airspeed



1 – Eject button
 2 – Interior lights
 3 – Master caution
 4 – Cat I/III
 5 – HUD ded
 6 – NWS activate
 7 – RF silent
 8 – ICP Comm1
 9 – ICP Comm2
 10 – ICP IFF
 11 – ICP list
 12 – ICP Previous
 13 – ICP next
 14 – HSI Course
 15 – ICP Sequence
 16 – ICP Reset
 17 – ICP Up
 18 – ICP Down
 19 – ICP Enter
 20 – ICP Clear
 21 – R MFD gain Up
 22 – R MFD Gain down
 23 – L MFD gain Up

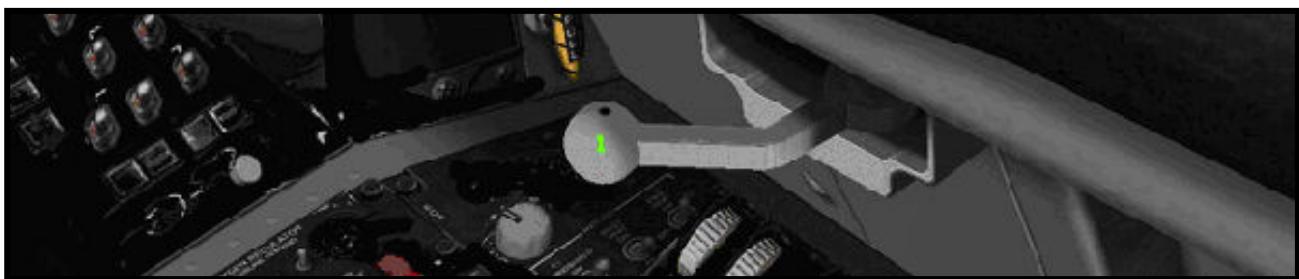
24 – L MFD gain down
 25 – Warning reset
 26 – EWS mode
 27 – ECM
 28 – RWR Priority
 29 – RWR Naval
 30 – RWR Tgp Sep
 31 – RWR Handoff
 32 – RWR Unknown
 33 – AA mode
 34 – AG mode
 35 – Nav mode
 36 – ICP FACK

INSTRUMENTS

1 – ADI ball
 2 – HSI
 3 – Altimeter
 4 – Mach speed
 5 – Clock
 6 – Fuel indicator

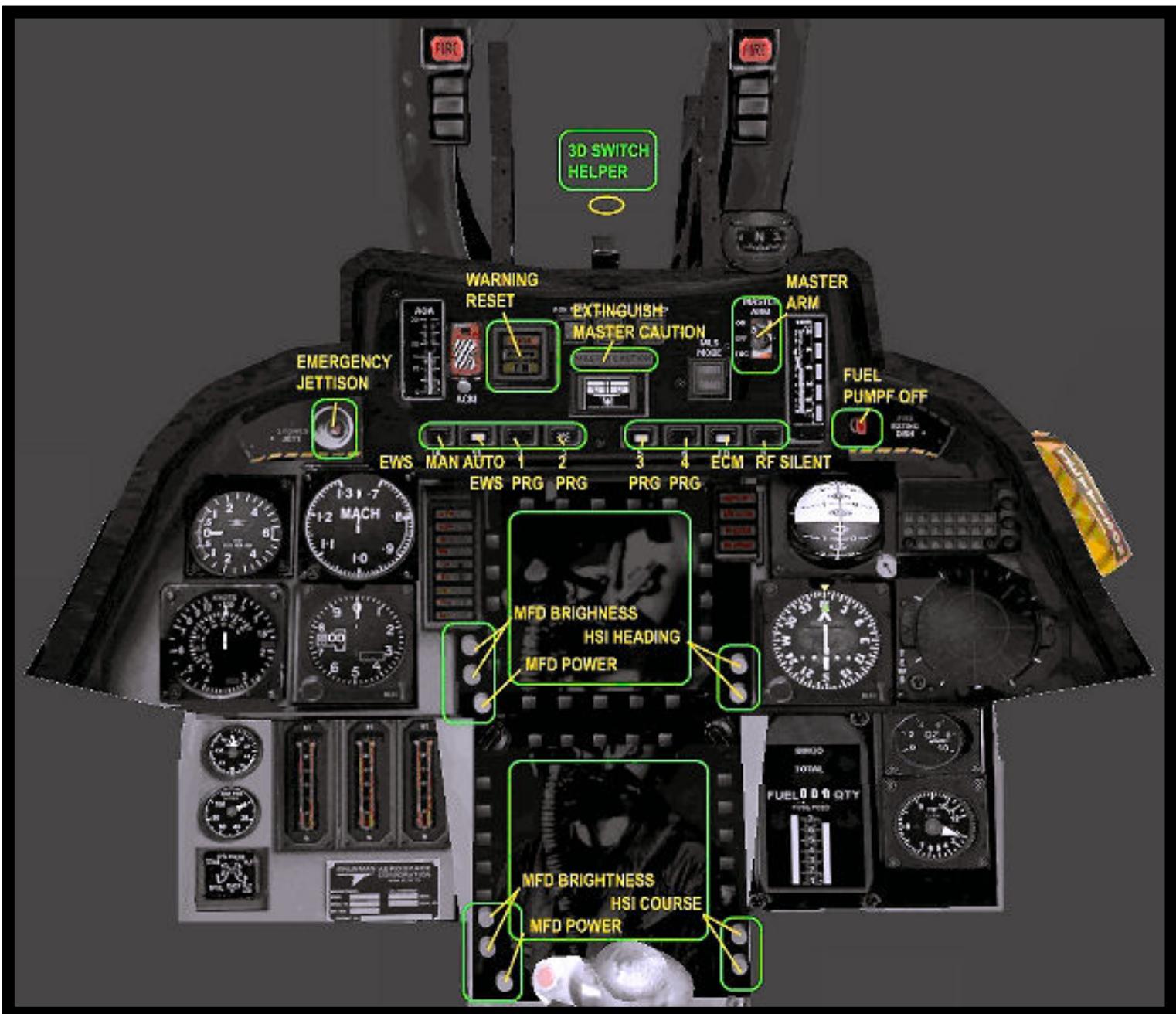


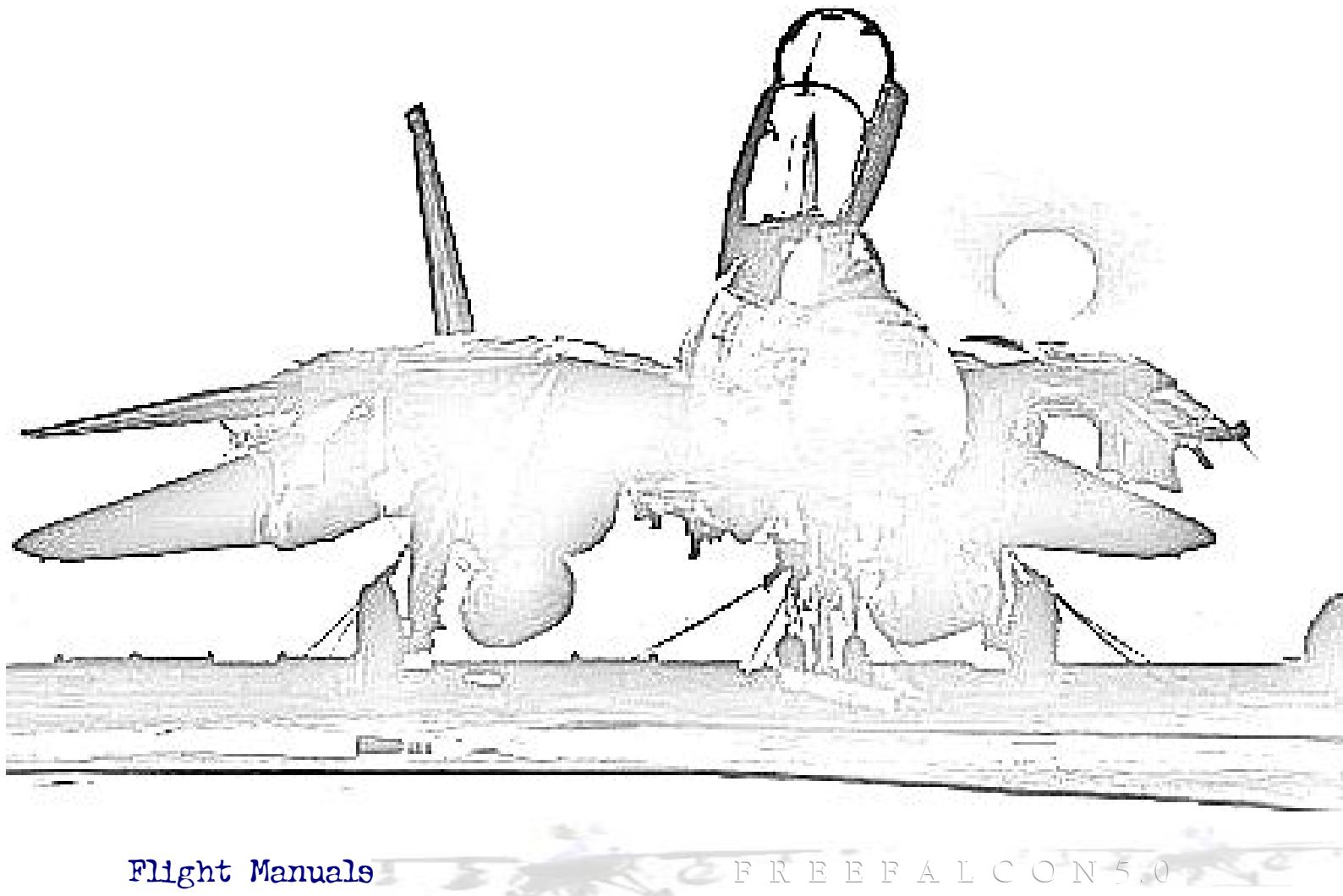
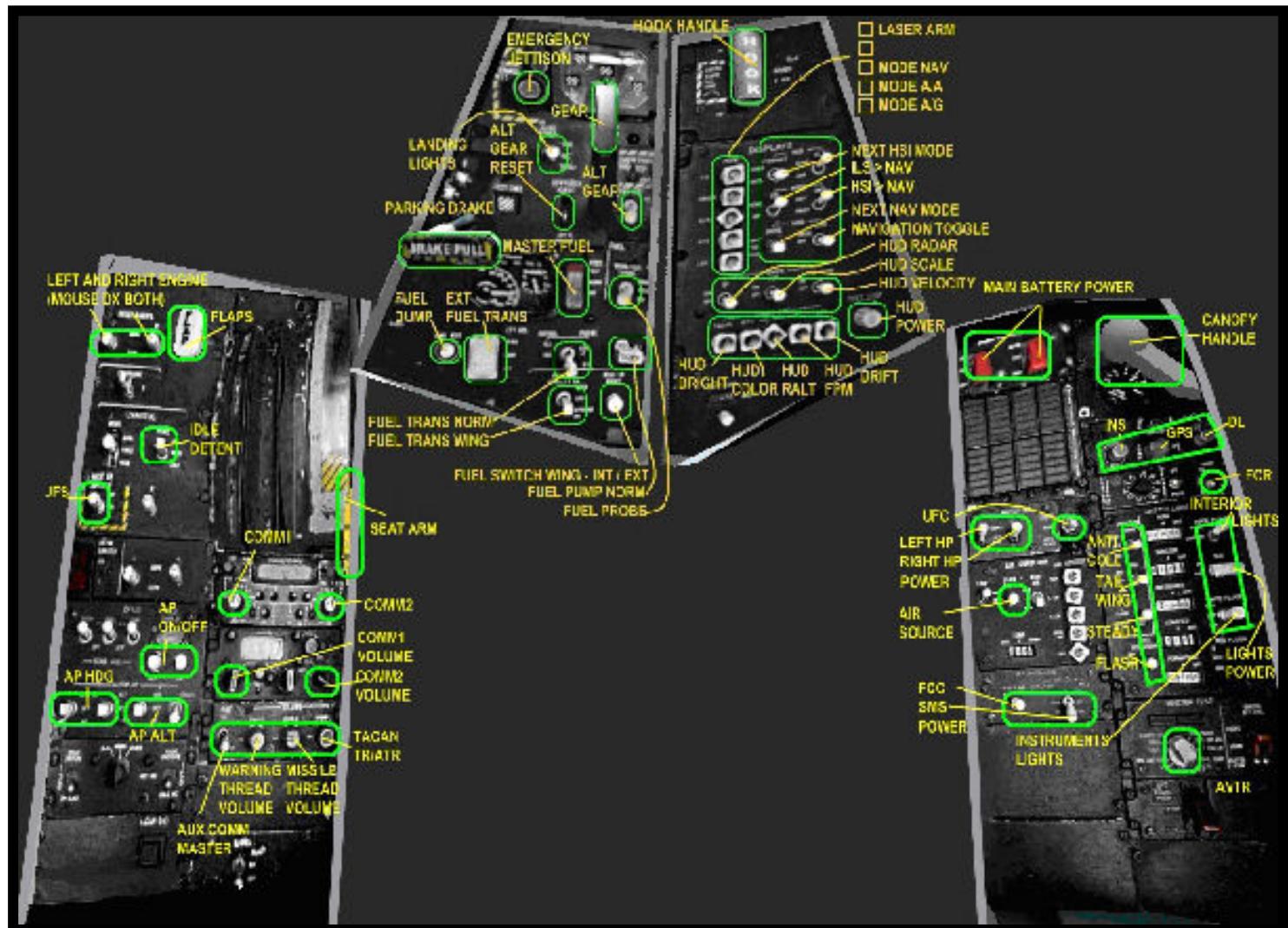
- 1 – Ground jettison enable
- 2 – ICP Enter
- 3 – ICP Clear
- 4 – Parking brake
- 5 – Landing gear



- 1 – Canopy handle

F-14 3D Pit

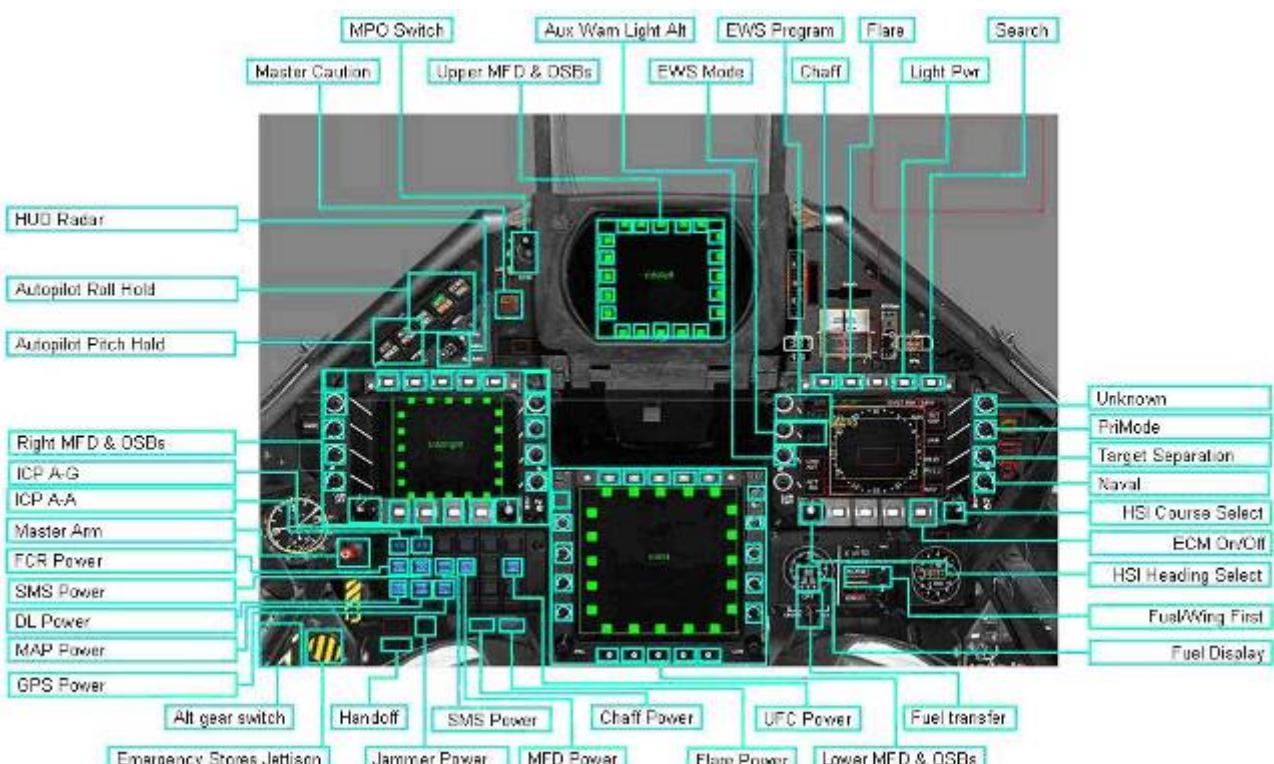
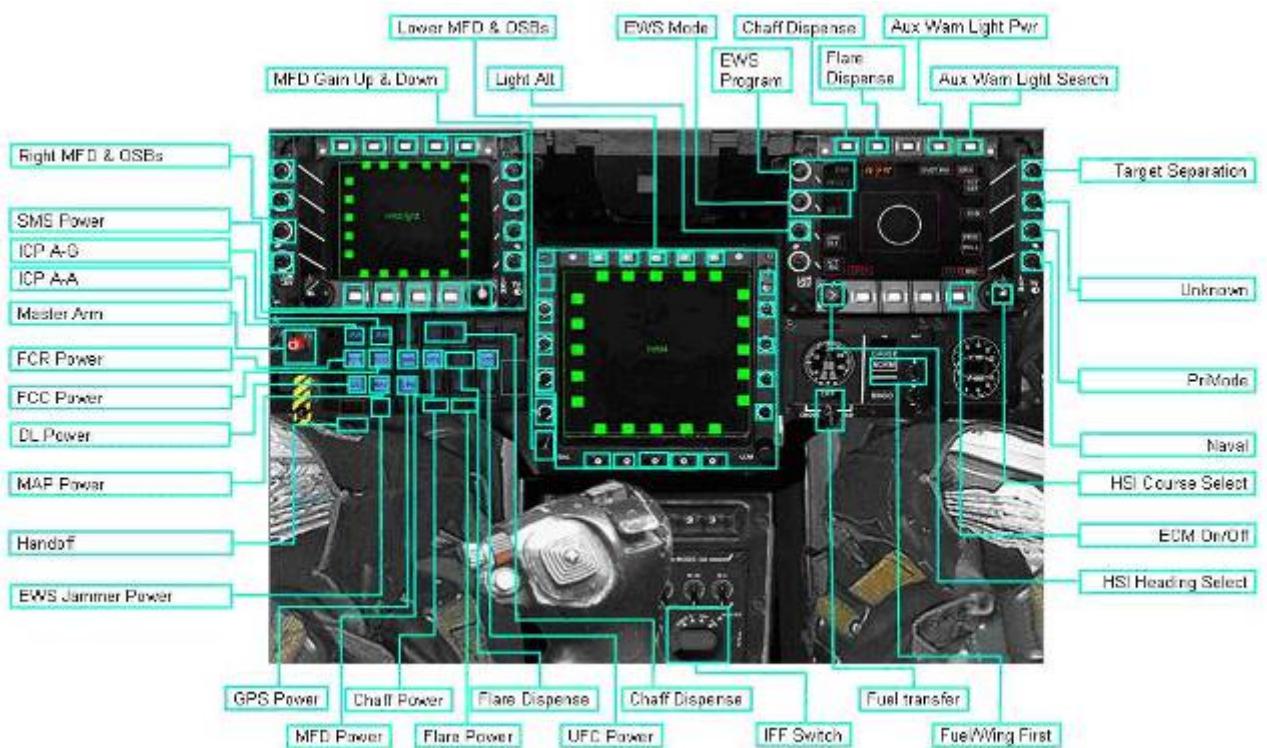


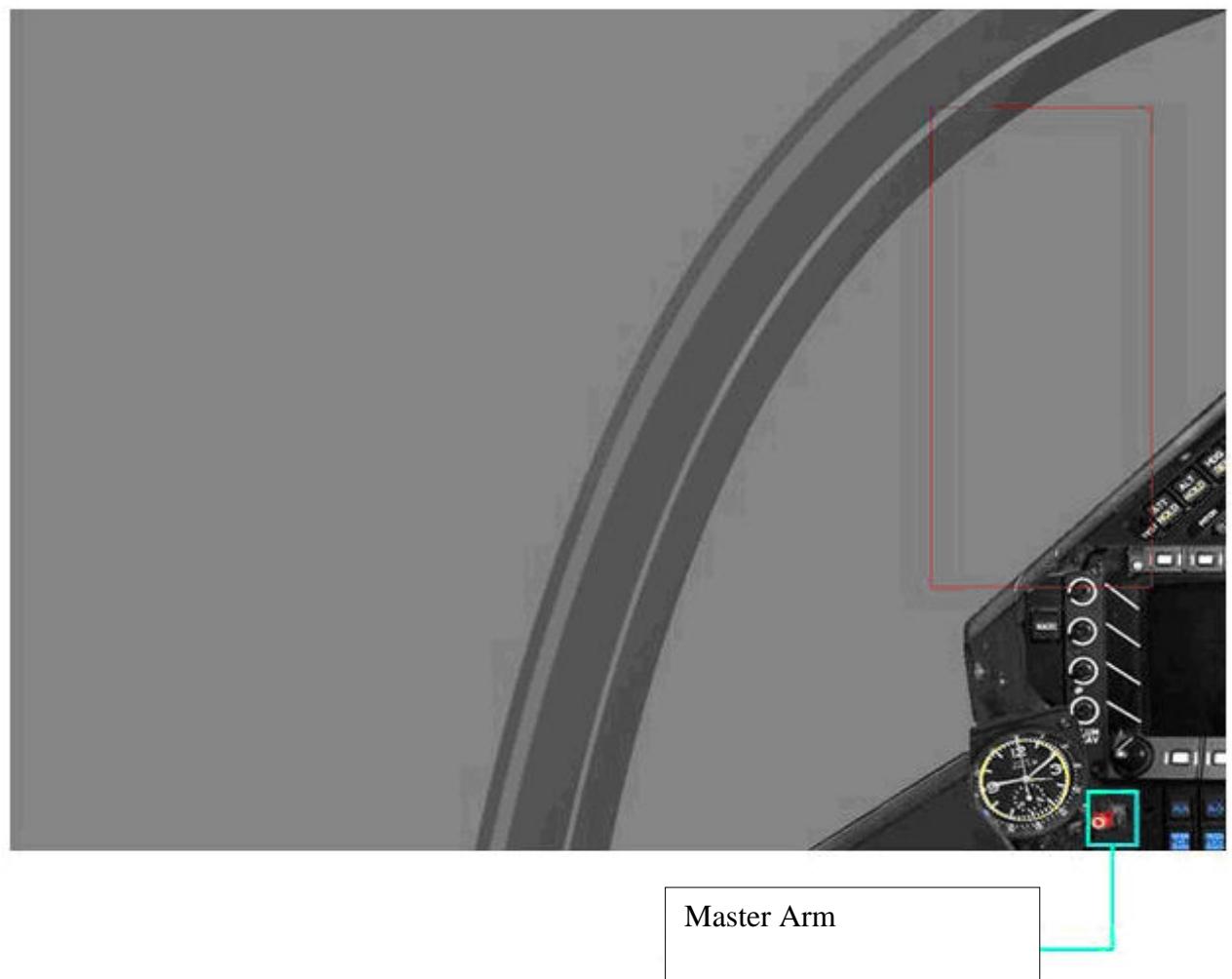
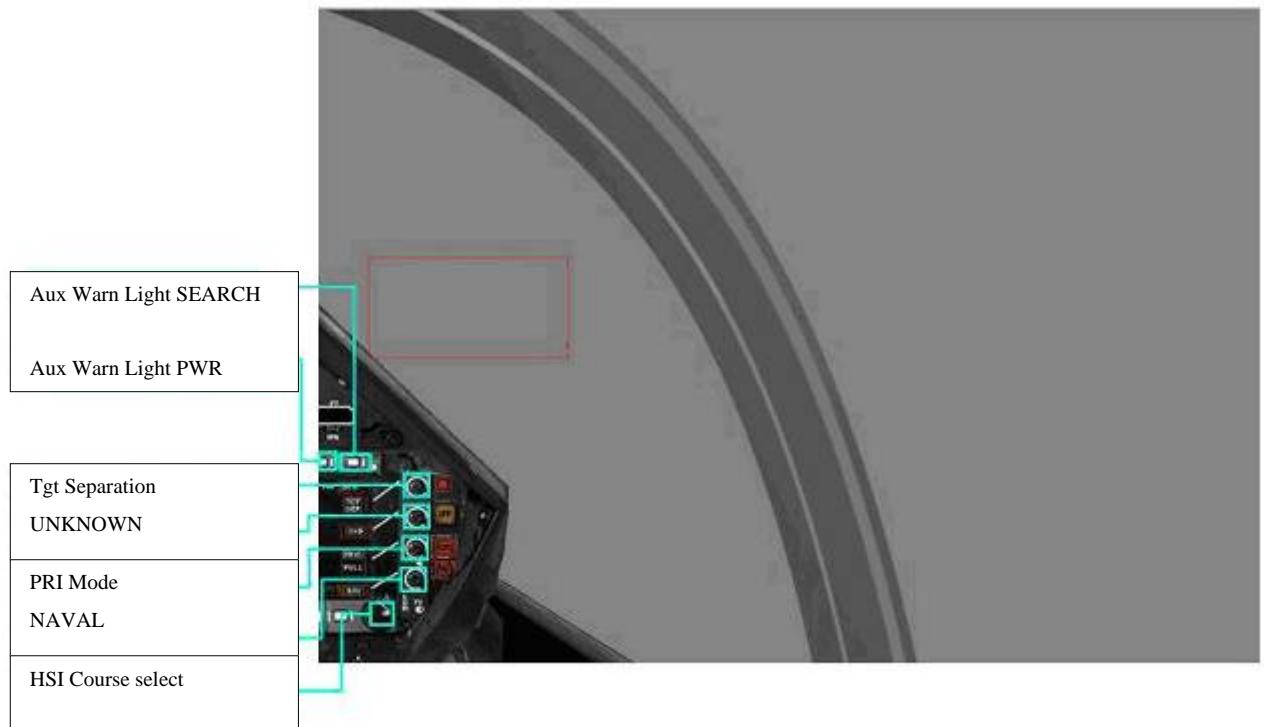


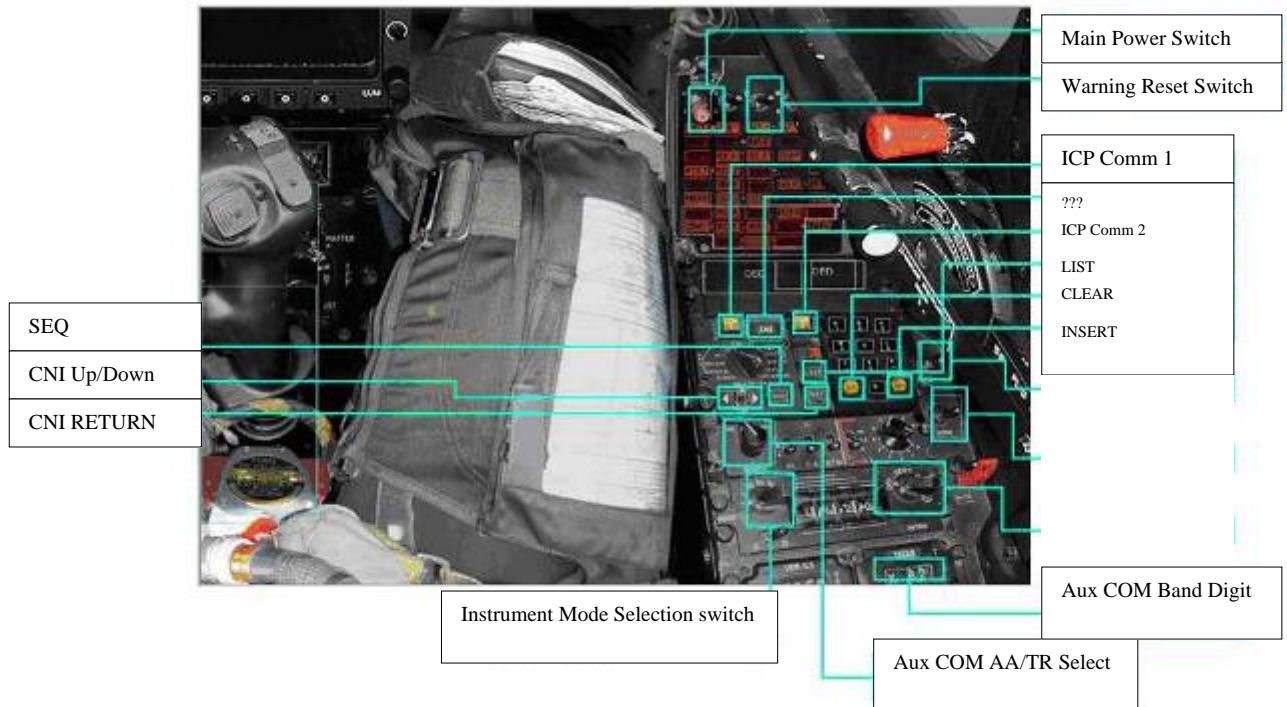
The Mirage Family

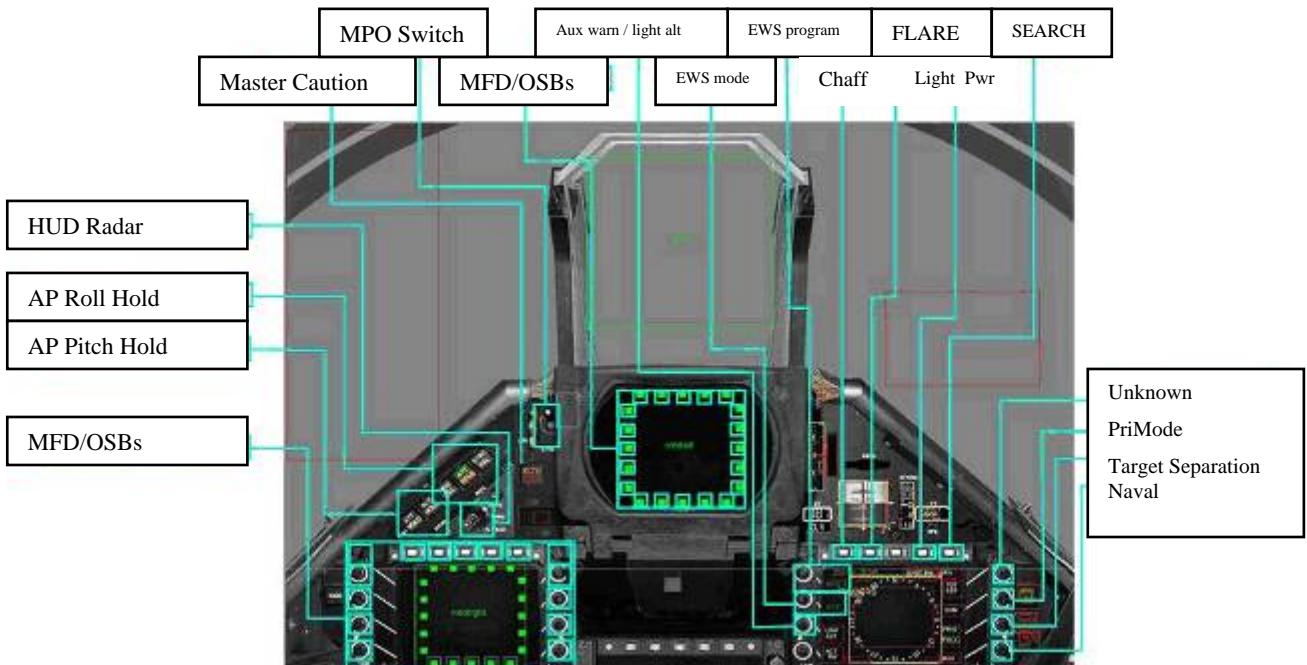
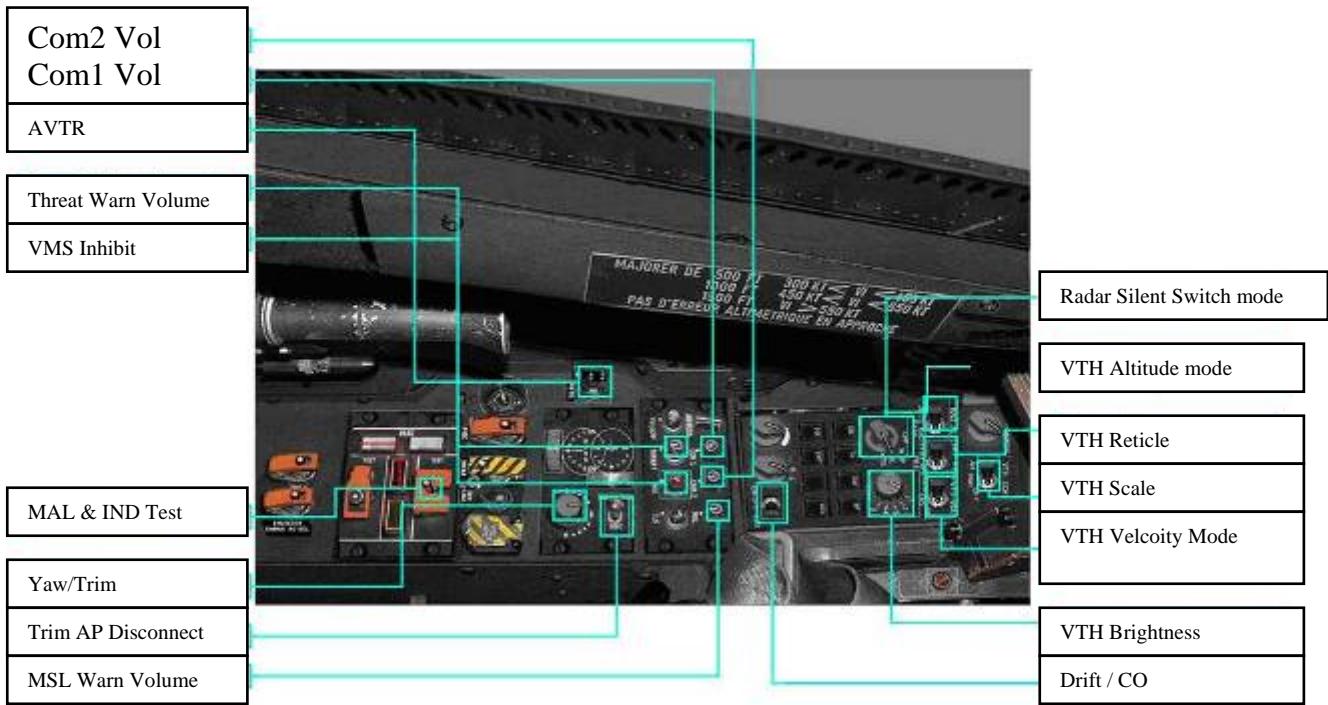


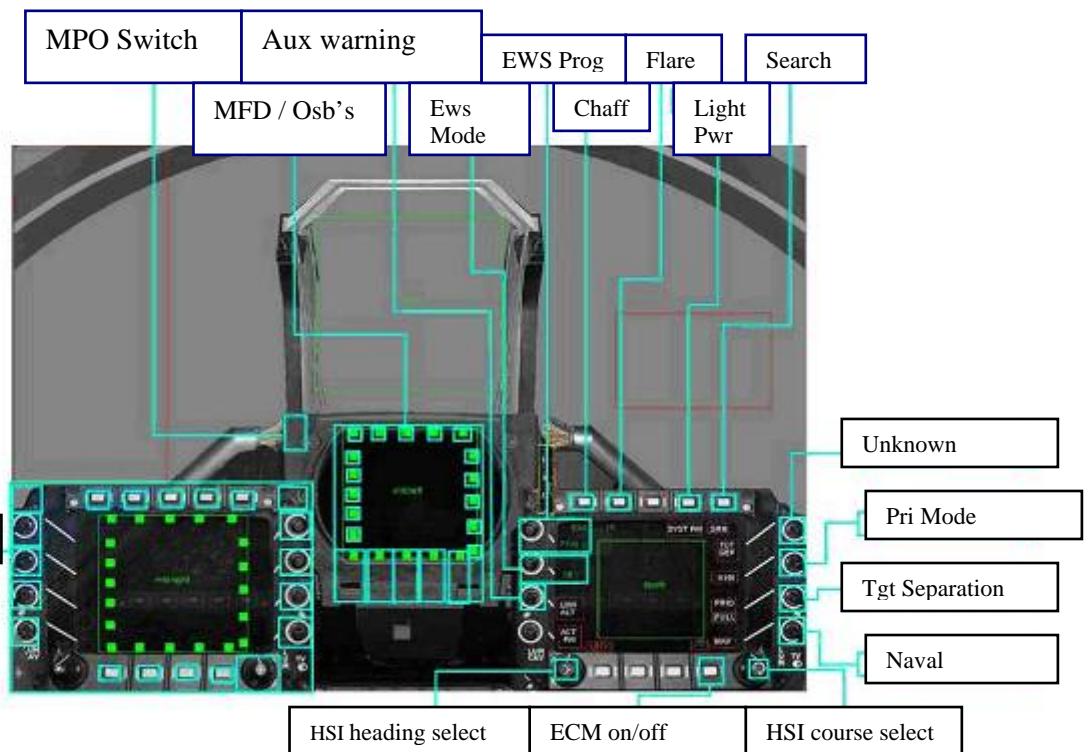
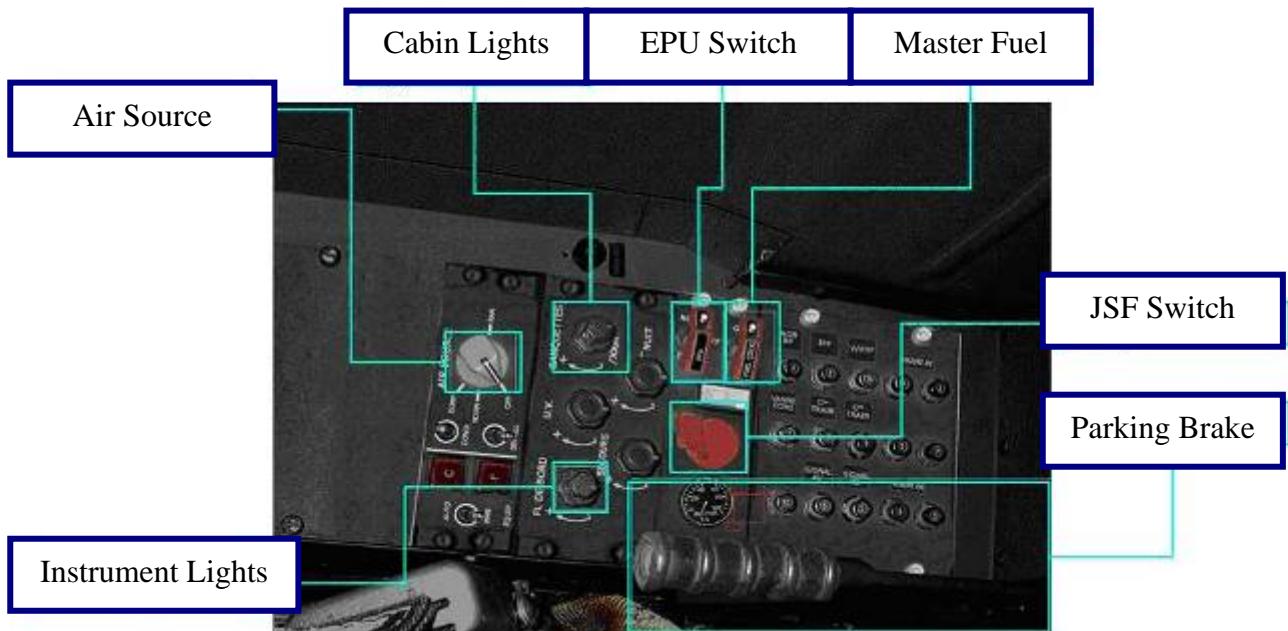
2D Flight Manual













2k-C 3D Pit



2k-D 3D Pit



T h e J A S - 3 9 G r i p e n



2 D Flight Manual





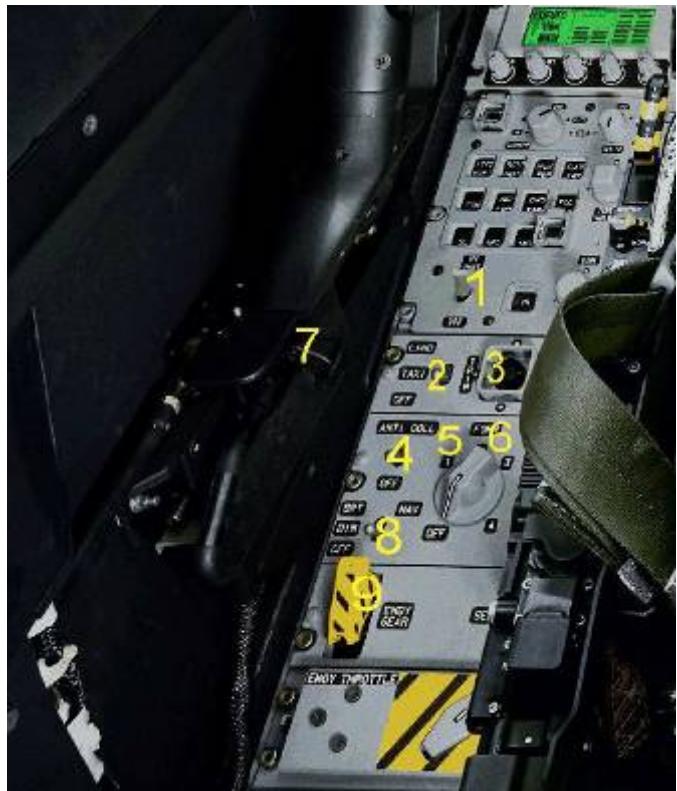
1 = HUD brightness
 1a = Master caution
 2 = MFD on/off
 3 = MFD gain up
 4/5 = Autopilot functions
 6 = Emergency jettison stores
 7 = Gear
 8 = MFD gain down
 9 = ICP functions
 10 = ICP reset
 11 = CNI down
 12 = ICP seq
 13 = RDR switch
 14 = HUD rpm
 15 = Depr. switch
 16 = HUD radar
 17 = HUD velocity

18 = Kneeboard: mission
 19 = Kneeboard: brief
 20 = Kneeboard: map
 21 = NAV mode TCN ILS
 22 = ECM
 23 = RF silent
 24 = Inst mode fuel
 25 = Lase target
 26 = RWR
 27 = HSI
 27a = HSI heading
 27b = HSI course
 28 = MFD gain down
 29 = MFD gain up
 30 = Canopy handle

* Some readily-known functions have been excluded from this Flight Manual



1 = Parking brakes	20 = ICP reset (return)
2 = ICP: CNI up	21 = ICP seq
3 = ICP: CNI down	22 = ICP next
4 = AUX comm band digit	23 = UHF master select
5 = EWS program switch	24 = COM1 vol
6 = ICP COM1	25 = COM2 vol
7 = ICP COM2	26 = WARN vol
8 = ICP IFF	27 = Threat warn vol
9 = ICP List	28 = AuxComm master select
10 = ICP AA	29 = AuxComm AA/TR select
11 = ICP AG	30 = Avionics power
12 = ICP CNI up	31 = Warning panel
13 = ICP CNI down	32 = Seat arm switch
14 = AUX comm. band digit	
15 = EWS program switch	
16 = ICP prev	
17 = AUX comm left digit	
18 = AUX comm center digit	
19 = AUX comm right digit	



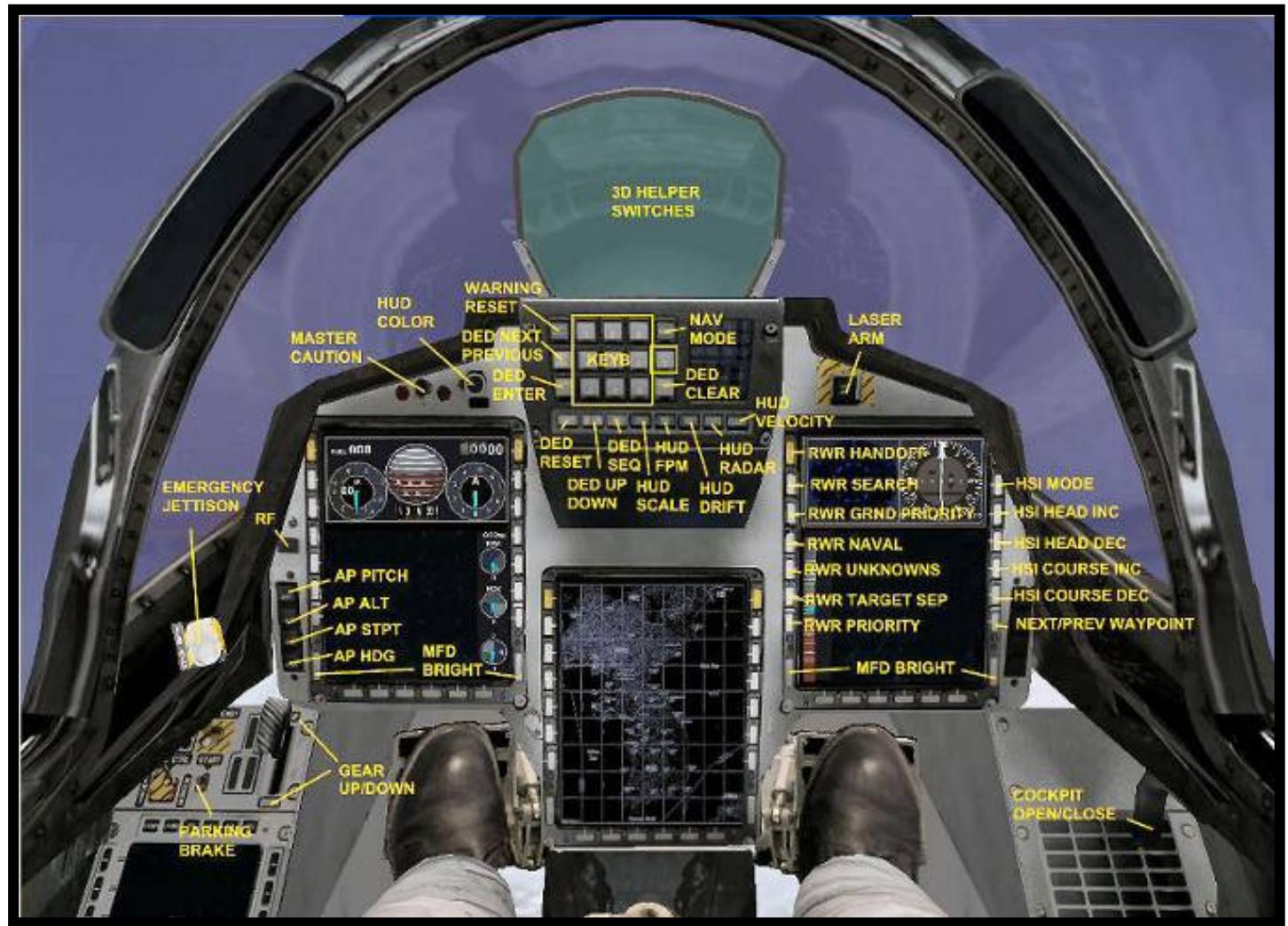
- 1 = IFF switch
- 2 = Landing lights
- 3 = Trim switches
- 4 = Anti Collision lights
- 5 = Steady lights switch
- 6 = Wing/tail/fuselage lights switch
- 7 = Throttle idle detent
- 8 = External lights power switch
- 9 = Alt. landing gear

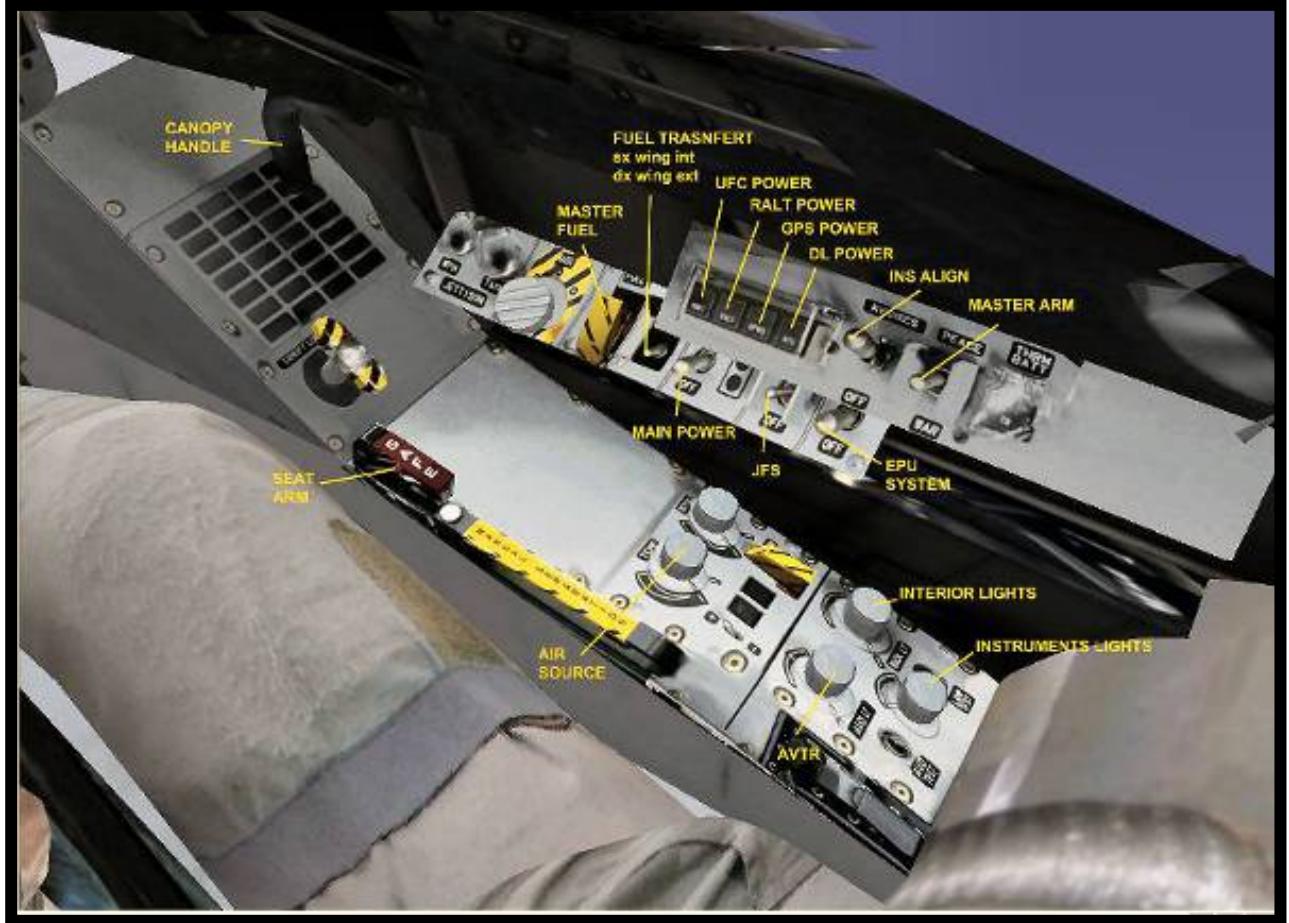
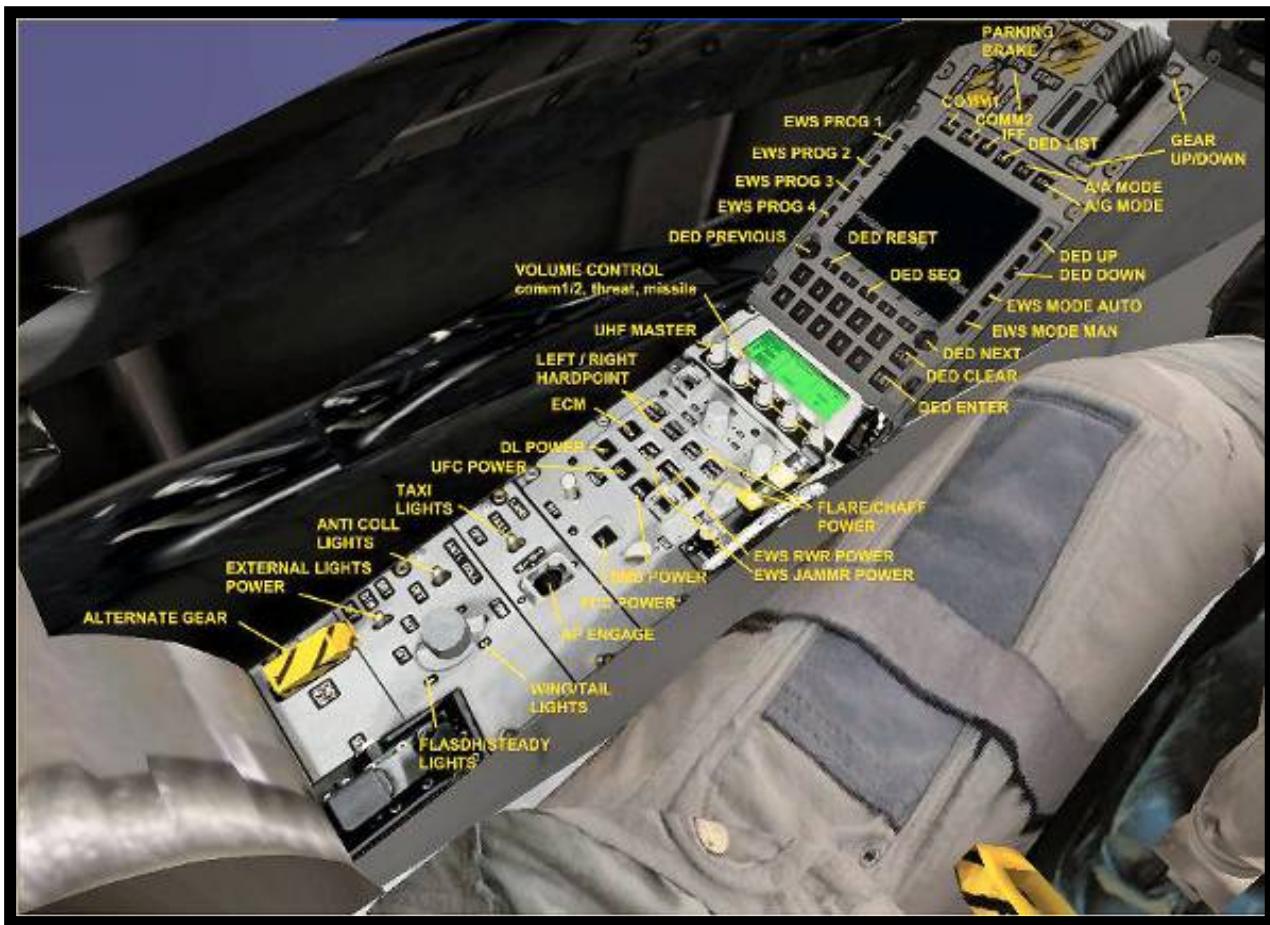


- 10 = Refuel switch
- 11 = Master fuel switch
- 12 = Main power switch
- 12a = JFS run light
- 12b = Main power switch
- 13 = JFS switch
- 14 = EPU switch
- 15 = UFC
- 16 = RDR Switch
- 17 = GPS
- 18 = DL
- 19 = INS align
- 20 = Master Arm switch
- 21 = Cabin air switch
- 22 = Interior light switch
- 22a = Instrument light switch
- 23 = AVTR switch



3D Pit

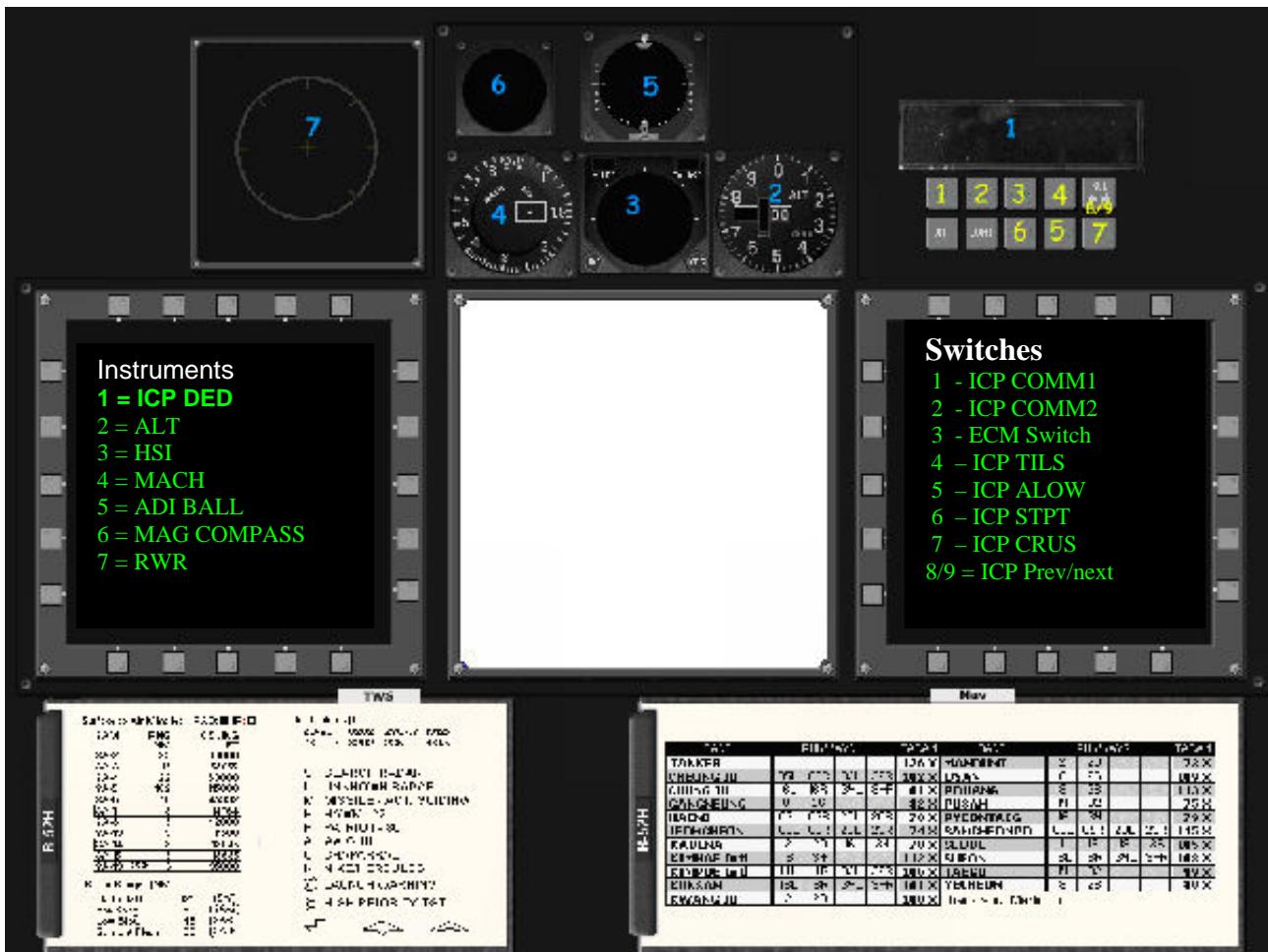


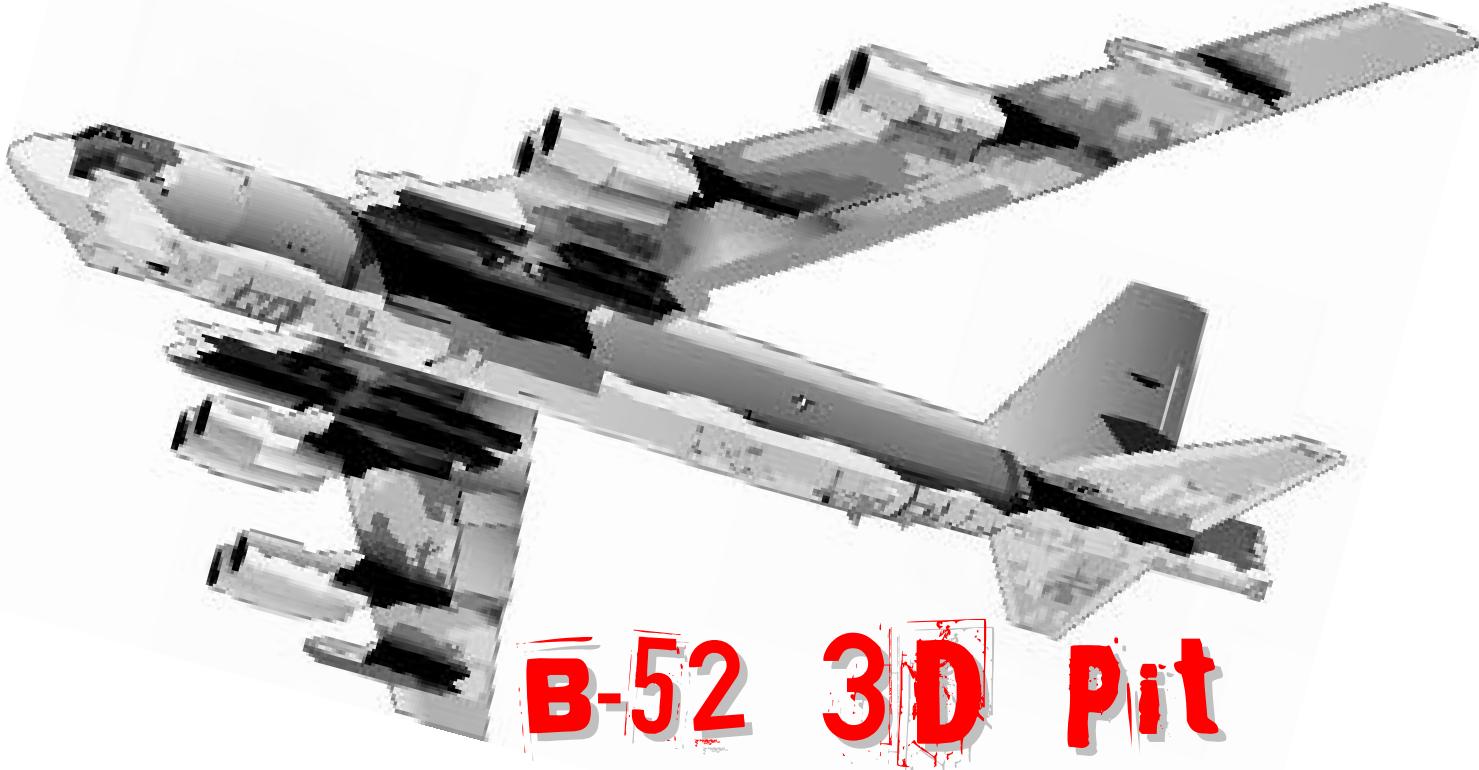


T h e B - 5 2



2 D F l i g h t M a n u a l





B-52 3D Pit

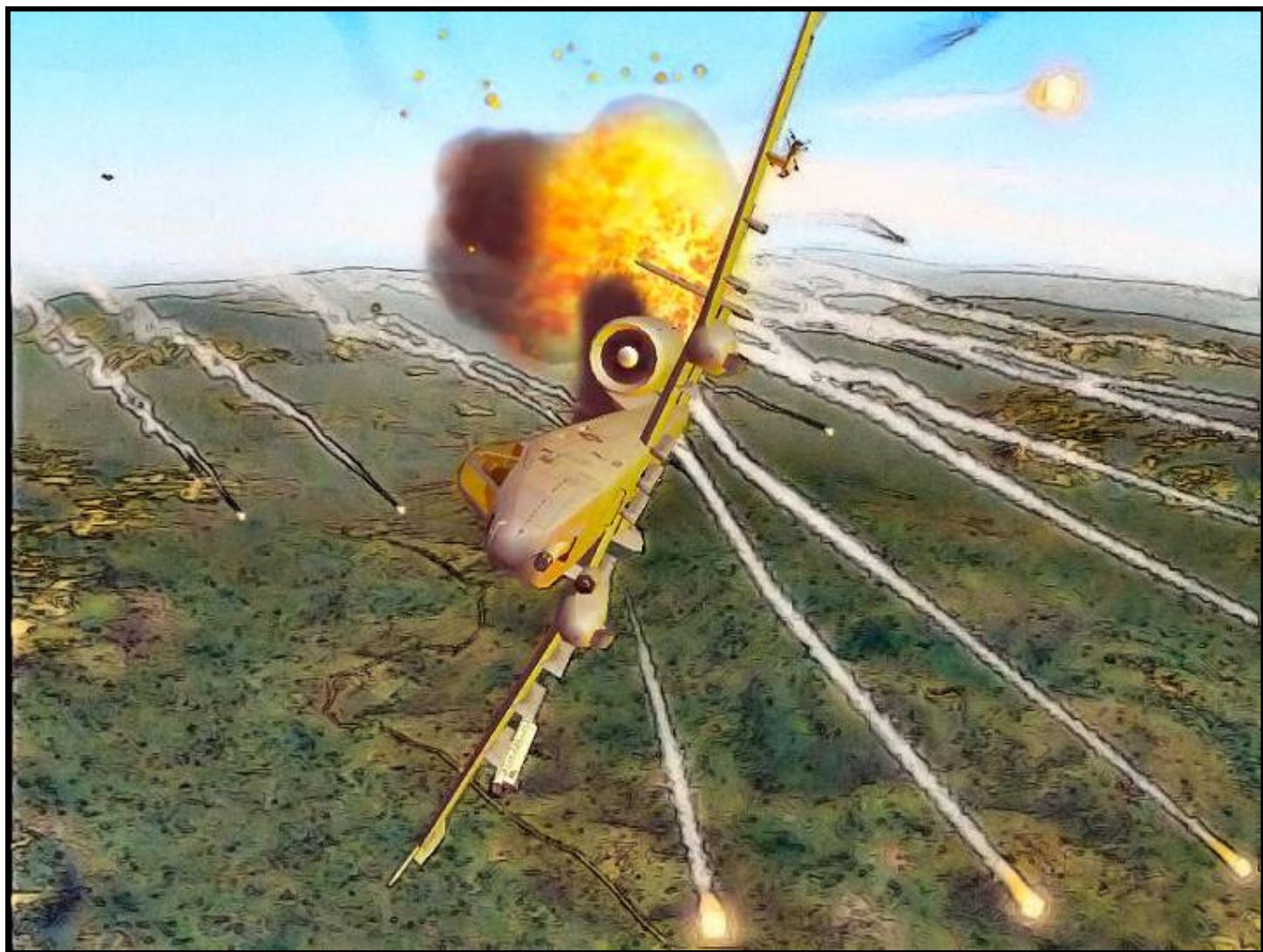


1. NAV. Mode	4. Left MFD Touchscreen
2. A/G Mode	5. ICP + DED
3. A/A Mode	6. Landing Gear Handle



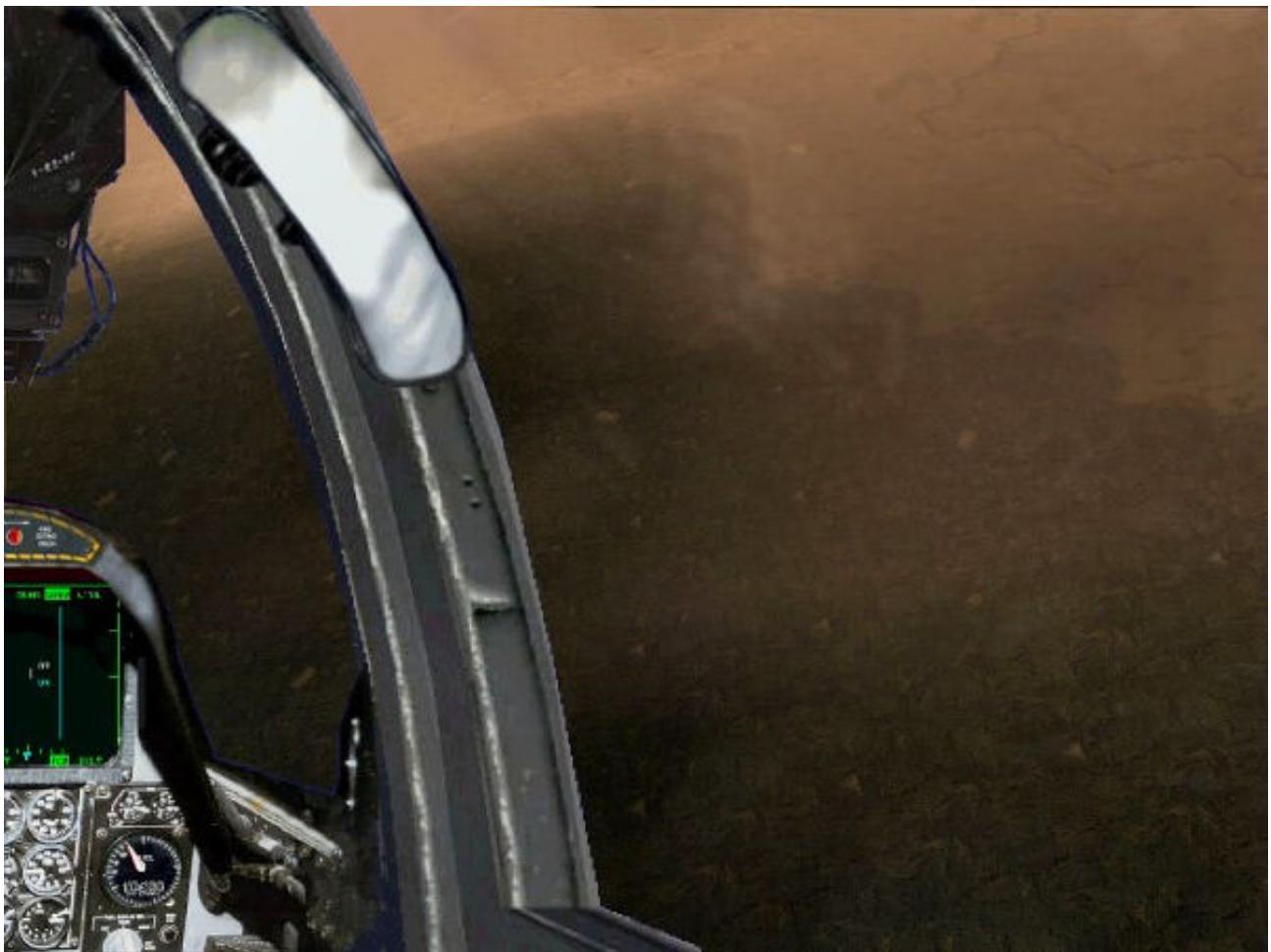
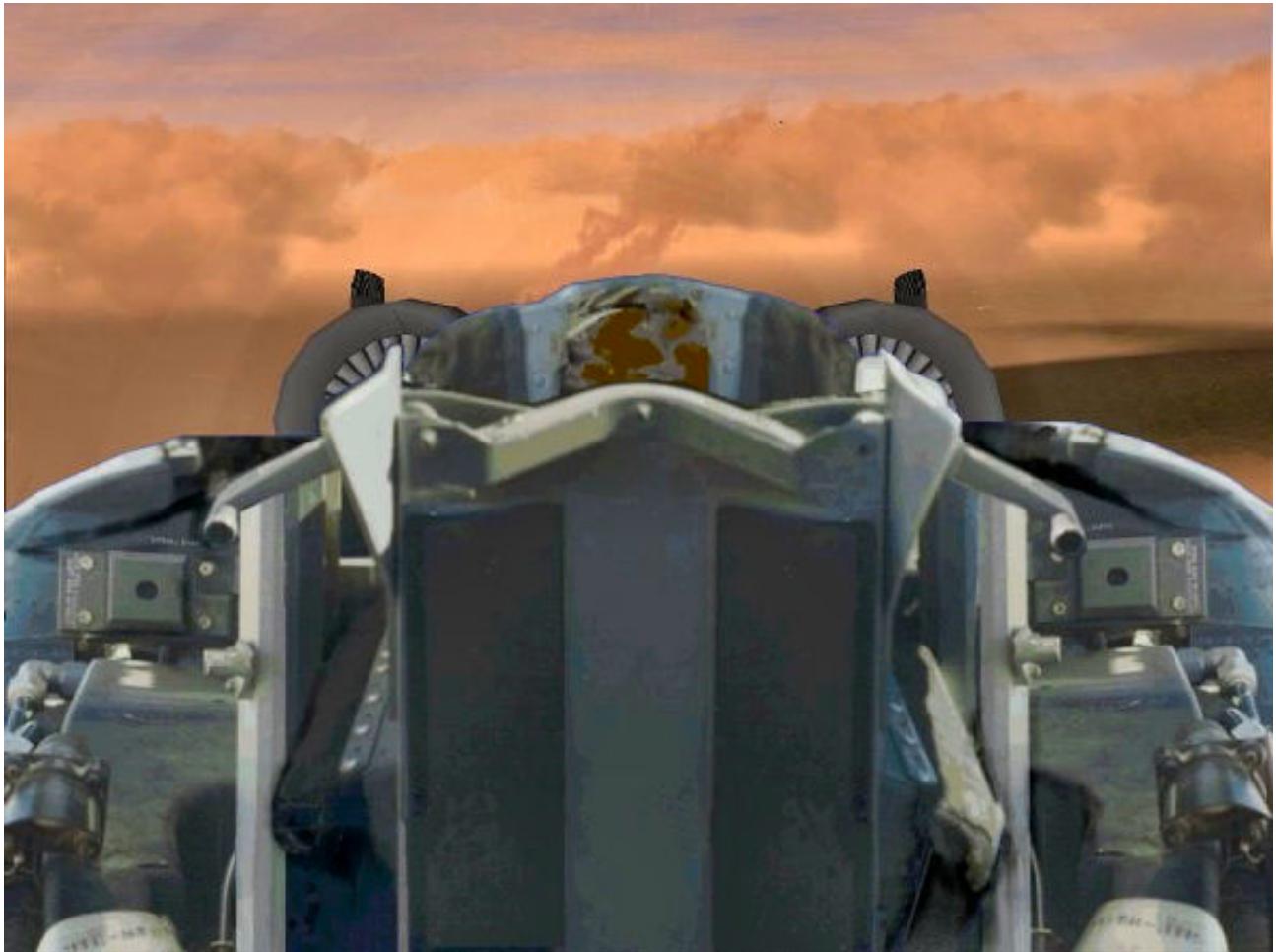
1. Ext Lights Power	10. Steerage Autopilot
2. Main Power	11. Autopilot Engage/Disengage
3. Fuel Master	12. Attitude/Altitude Autopilot
4. Master Arm	13. Warning Reset
5. Anti-Collision Lights	14. EWS Mode Auto
6. Ext/Wings/Tail	15. EWS Mode Semi
7. Landing Lights	16. EWS Mode Manual
8. Lights Steady/Flash	17. RF Silent
9. Laser Arm	18. ECM Emitter
0. Internal Light	

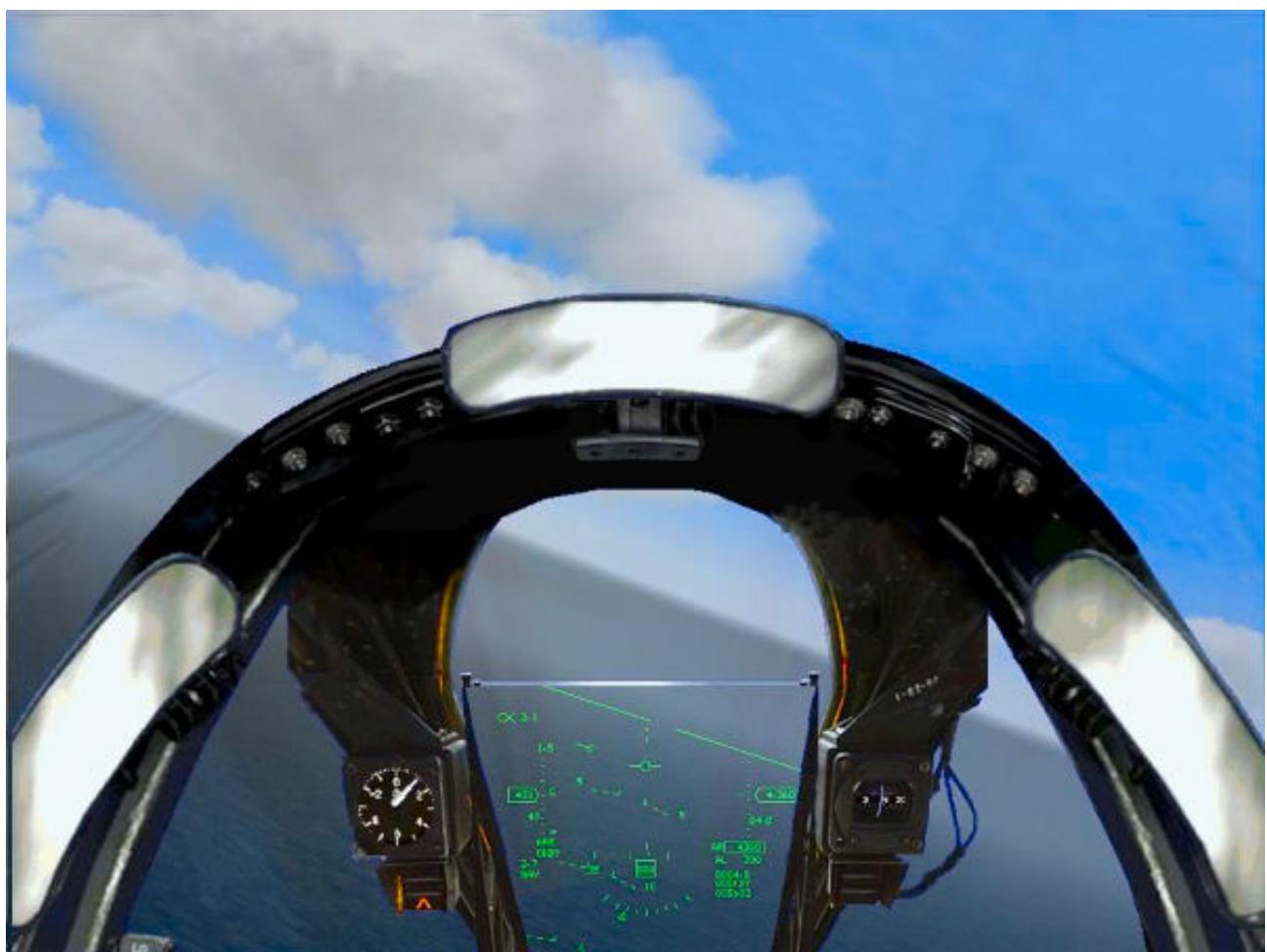
T h e A - 1 0



2 D F l i g h t M a n u a l





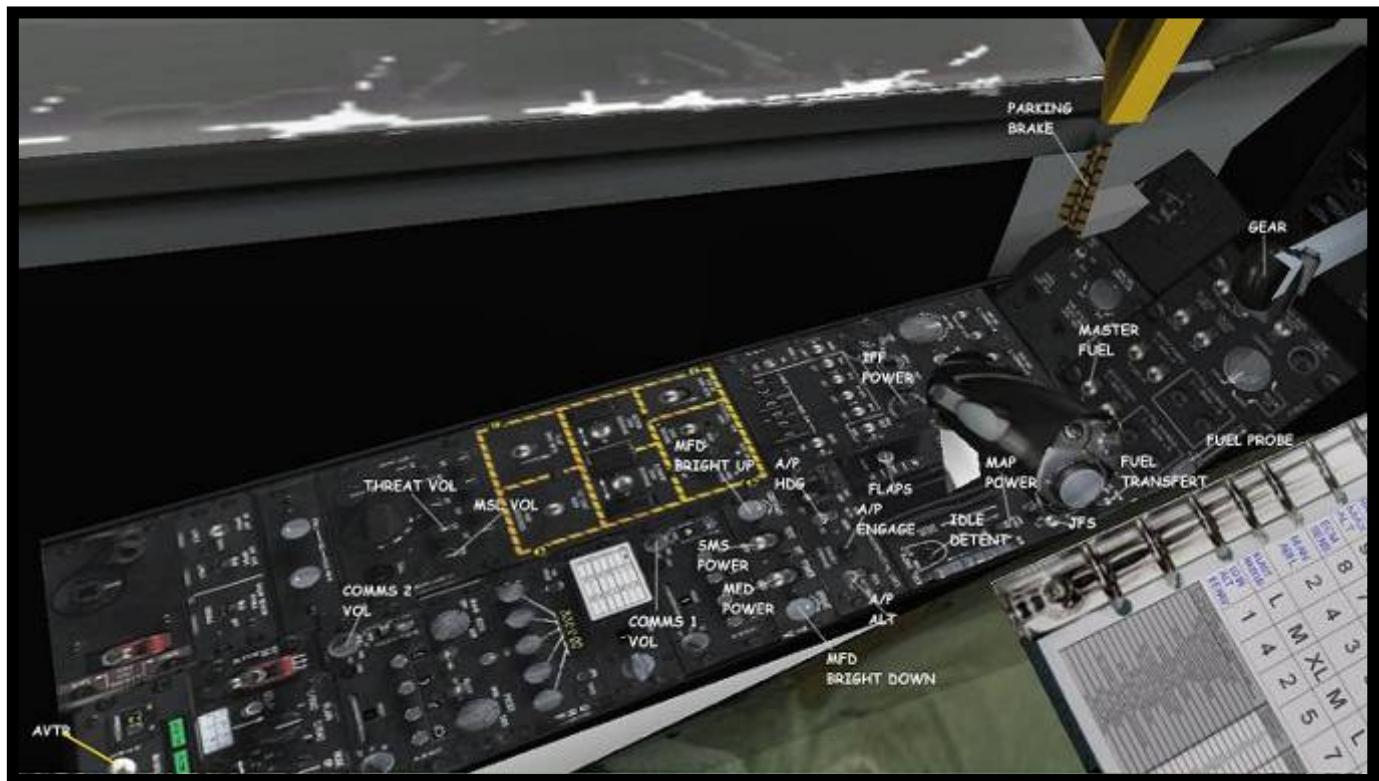


A-10

3D

Pit





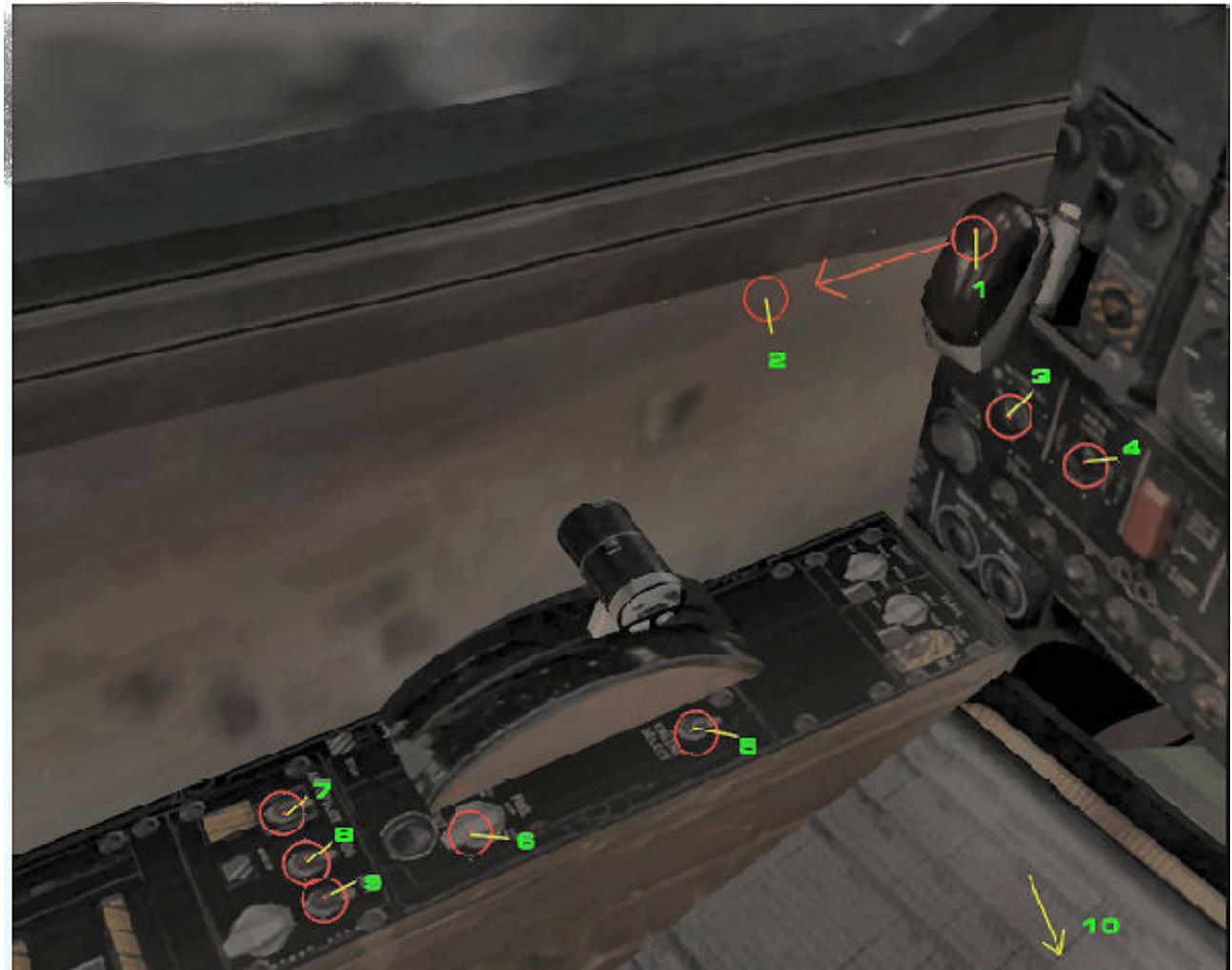
T h e F - 5 T i g e r



STAGGOLEE's dedicated Manual for the
F-5 Tiger

can be found in [*the MANUAL/Flight Manuals*](#)

F-5 3D Pit



1. Landing Gear Down	6. Master Fuel
2. Landing Gear Up	7. Autopilot Engage/Disengage
3. Warning Reset	8. Steering Autopilot
4. Master Arm	9. Attitude/Altitude Autopilot
5. Select Engine (cycle)	10. Ejection Handle



1. Nav Mode	13. EWS + RWR On/Off
2. A/G Mode	14. RWR Search
3. A/A Mode	15. RWR Unknown
4. HUD Colour	16. RWR Naval
5. HUD Brightness	17. RWR Ground Priority
6. Drift C/O	18. RWR Target Sep.
7. EWS mode AUTO	19. MFD Brightness Up
8. EWS mode SEMI	20. MFD Brightness Down
9. EWS mode MAN	21. Left MFD Touchscreen
10. RWR Handoff	22. Emergency Jettison
11. RWR Priority	23. Master Arm
12. EWS Mode Off	24. Warning Reset



1. Canopy Handle	9. Cockpit Lighting
2. Master Power	10. EWS Program 1
3. RF Silent	11. EWS Program 2
4. Ext Lighting Power	12. EWS Program 3
5. Anti-Collision Lights	13. EWS Program 4
6. Taxi/Landing Lights	14. ECM Jammer
7. Wings Tail Nav Lights	15. AVTR Toggle
8. Flash/Steady POS lights	16. Ejection Handle

The Mitsubishi F-1



2 D Flight Manual











F-1 3D Pit



The SR-71 Blackbird



2D Flight Manual





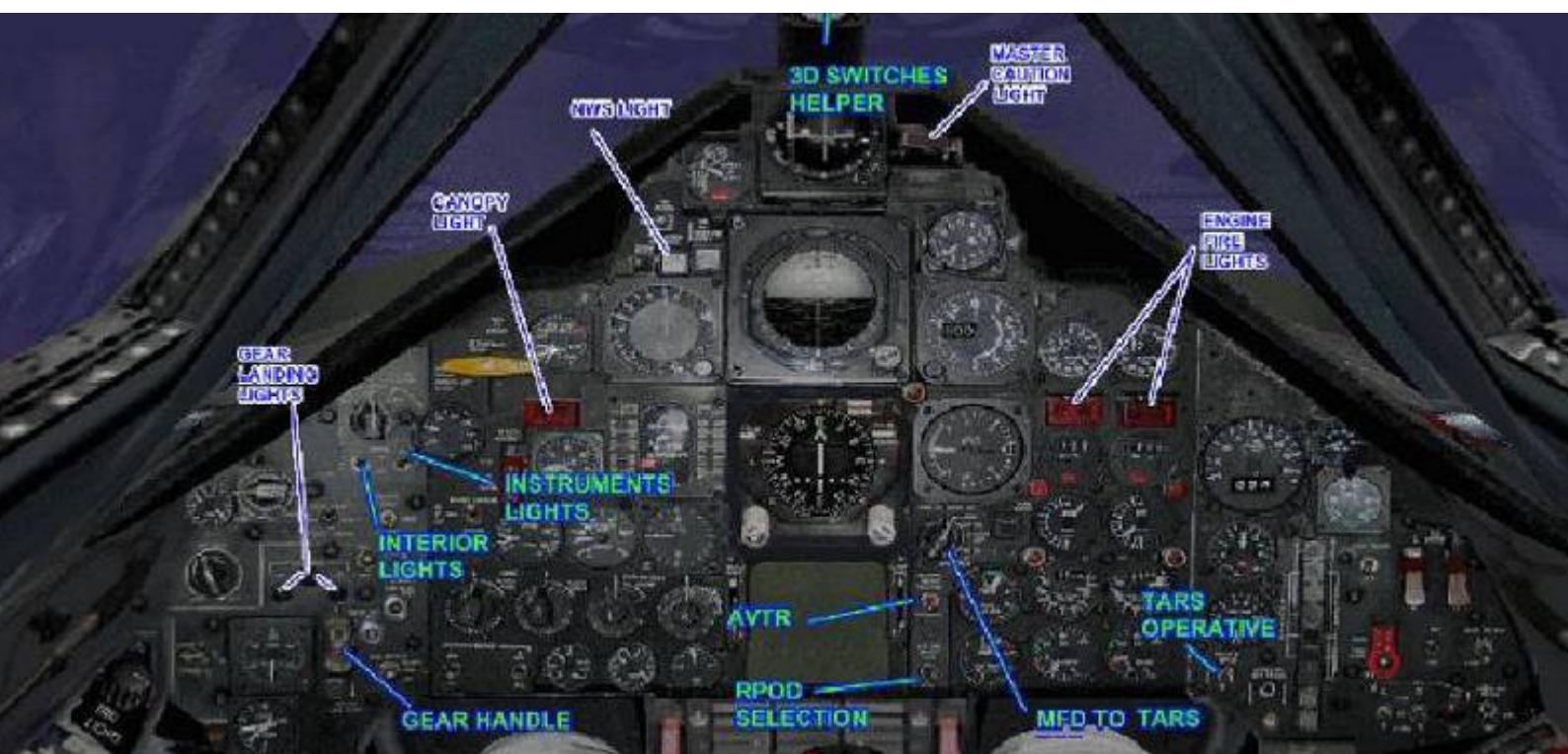








SR-17 3D Pit





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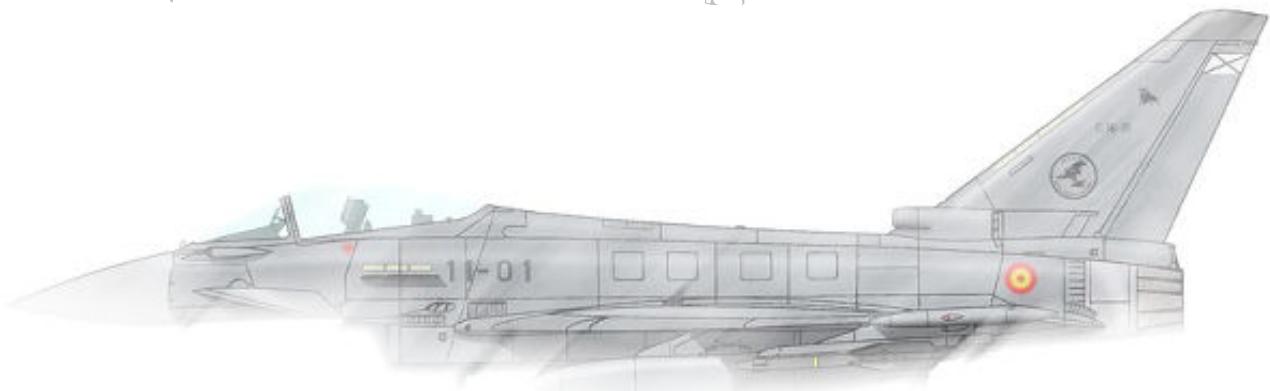


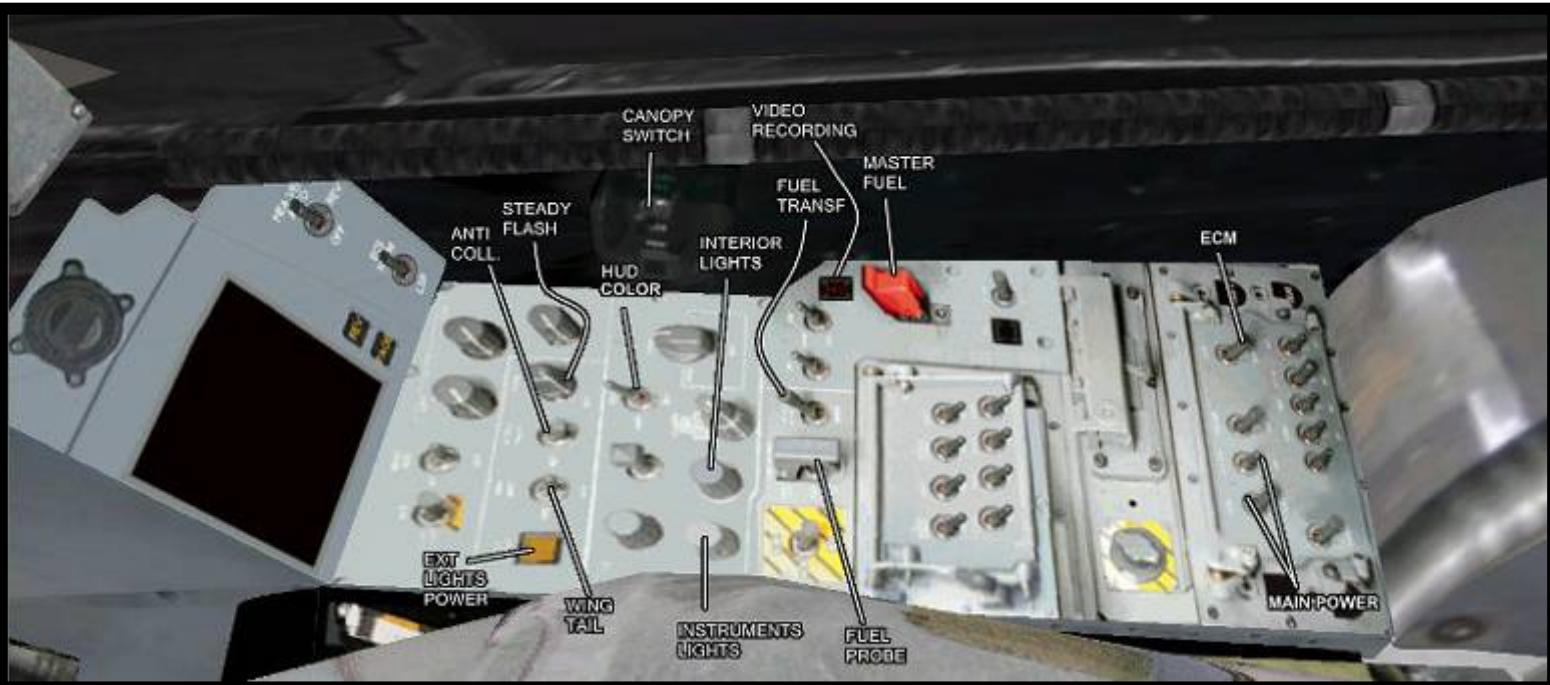
2 D F l i g h t M a n u a l





EF-2000 3D Pit





The Jaguar GR.3



2 D Flight Manual

STAGGOLEE's dedicated Manual for the
Jaguar

can be found in [the MANUAL/Flight Manuals](#)

F - 16 A F i g h t i n g F a l c o n



Dedicated Manual for the

F-16A Fighting Falcon

can be found in [*_the_MANUAL/Flight Manuals*](#)

Check Six...



Aragorn

Thanks to QAWA for all of his help with this Manual.