DCS GUIDE
F-86F SABRE
SERIES 35

LAST UPDATED: 14/04/2019 By Chuck

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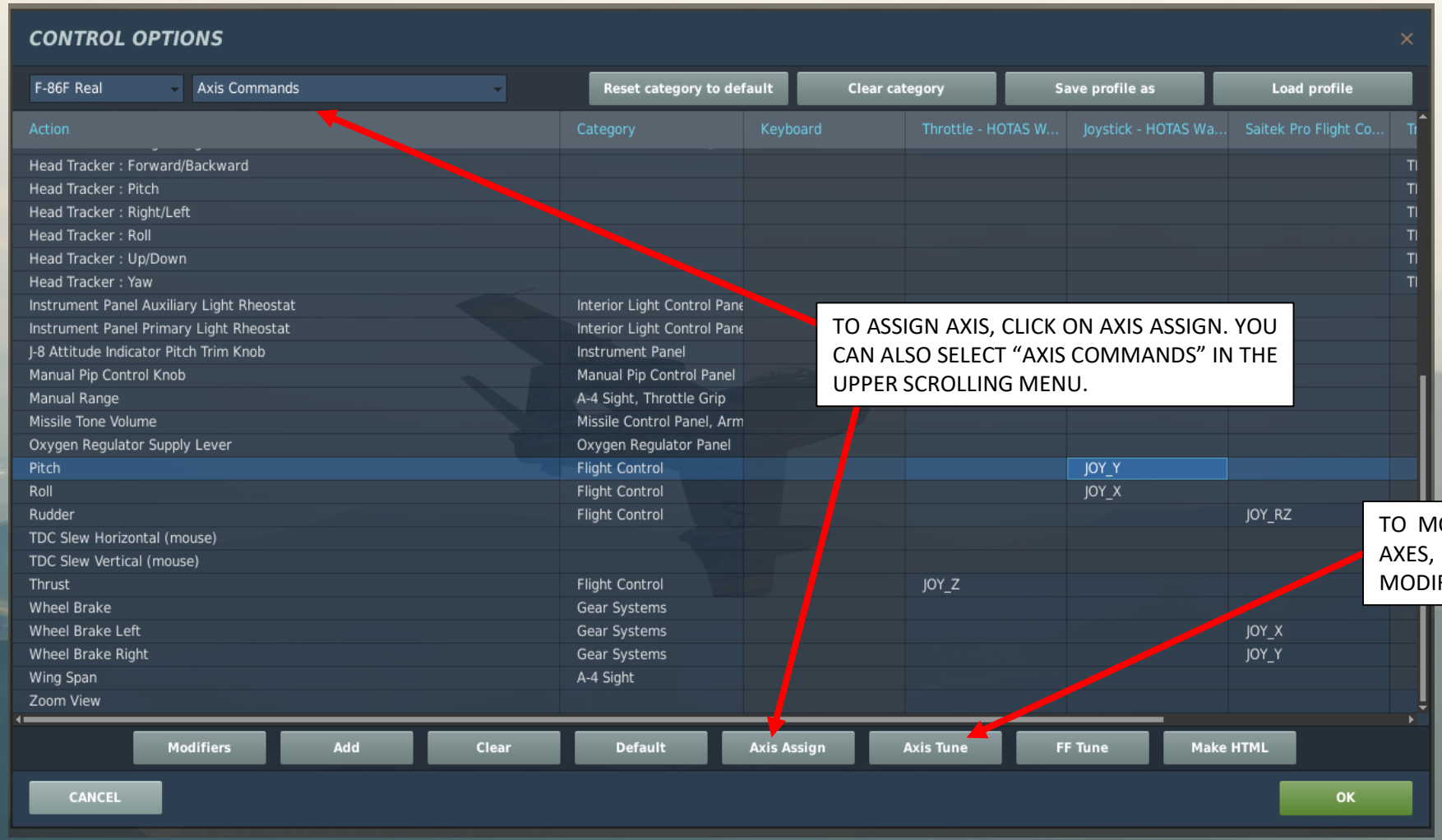
Special thanks to Paul "Goldwolf" Whittingham for creating the guide icons.

These controls should be mapped to your joystick and are essential. Names on the left column are what you should look for in the “ACTION” column of the Controls Setup Menu in DCS. Description of the action is on the right column.

• MICROPHONE BUTTON	ALLOWS YOU TO USE RADIO MENU WHILE FLYING
• FLAPS DOWN	DEPLOYS YOUR FLAPS
• FLAPS UP	RETRACTS YOUR FLAPS
• GUN FIRE	FIRES YOUR .50 GUNS
• WEAPON RELEASE	FIRES ROCKETS OR DROPS ORDNANCE (BOMB/TANK)
• LANDING GEAR UP/DOWN	RAISES OR DEPLOYS YOUR LANDING GEAR
• AIRBRAKE ON	DEPLOYS YOUR AIRBRAKE
• AIRBRAKE OFF	RETRACTS YOUR AIRBRAKE
• A-4 SIGHT ELECTRICAL CAGING BUTTON (ON THROTTLE)	ELECTRICALLY CAGES A-4 GUNSIGHT
• A-4 SIGHT MANUAL RANGING CONTROL (THROTTLE TWIST GRIP) CCW/INCREASE	INCREASES GUNSIGHT RADAR RANGE
• A-4 SIGHT MANUAL RANGING CONTROL (THROTTLE TWIST GRIP) CW/DECREASE	DECREASES GUNSIGHT RADAR RANGE
• NOSEWHEEL STEERING BUTTON	CONTROLS YOUR NOSEWHEEL STEERING
• TRIM DOWN/UP/LEFT/RIGHT (4 BUTTONS)	TRIMS AIRCRAFT IN EACH DIRECTION
• ZOOM IN SLOW	ALLOWS YOU TO ZOOM IN
• ZOOM OUT SLOW	ALLOWS YOU TO ZOOM OUT



TO ASSIGN AXIS, CLICK ON AXIS ASSIGN. YOU CAN ALSO SELECT “AXIS COMMANDS” IN THE UPPER SCROLLING MENU.

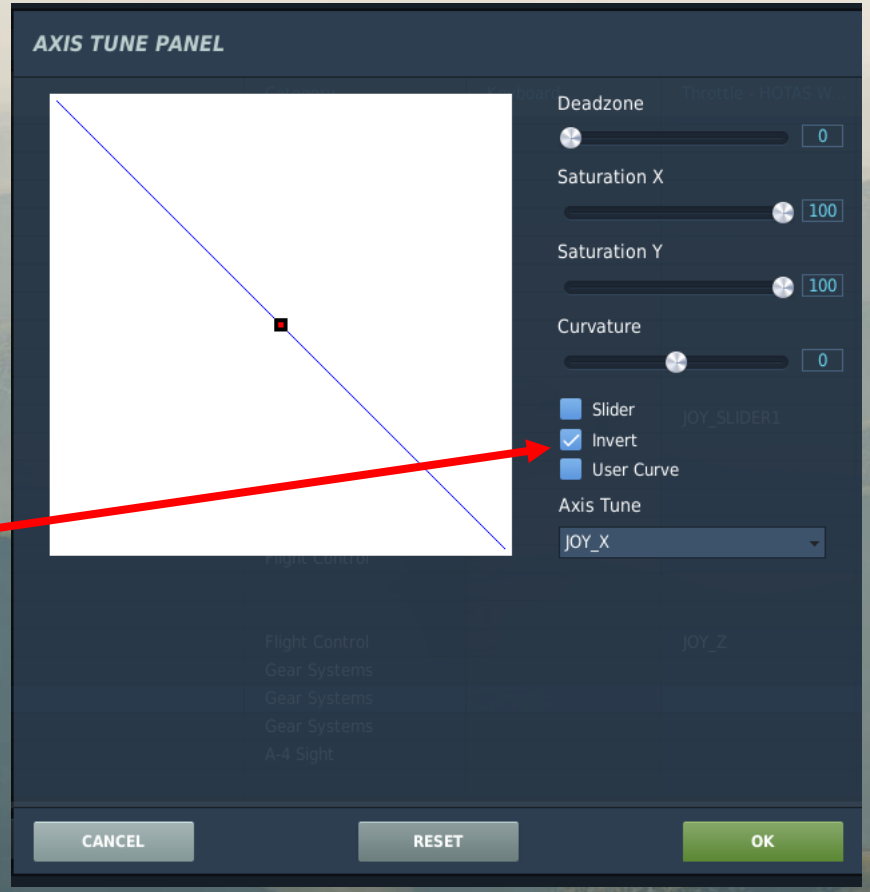
TO MODIFY CURVES AND SENSITIVITIES OF AXES, CLICK ON THE AXIS YOU WANT TO MODIFY AND THEN CLICK AXIS TUNE

BIND THE FOLLOWING AXES:

- PITCH (DEADZONE AT 5, SATURATION X AT 100, SATURATION Y AT 100, CURVATURE AT 20)
- ROLL (DEADZONE AT 5, SATURATION X AT 100, SATURATION Y AT 100, CURVATURE AT 20)
- RUDDER (DEADZONE AT 0, SATURATION X AT 100, SATURATION Y AT 100, CURVATURE AT 0)
- THROTTLE – CONTROLS ENGINE RPM
- WHEEL BRAKE LEFT
- WHEEL BRAKE RIGHT

WHEN SETTING WHEEL BRAKE AXIS, THEY ARE NOT SET TO "INVERT" BY DEFAULT.

YOU NEED TO CLICK ON INVERT IN THE AXIS TUNE MENU FOR EACH WHEEL BRAKE.



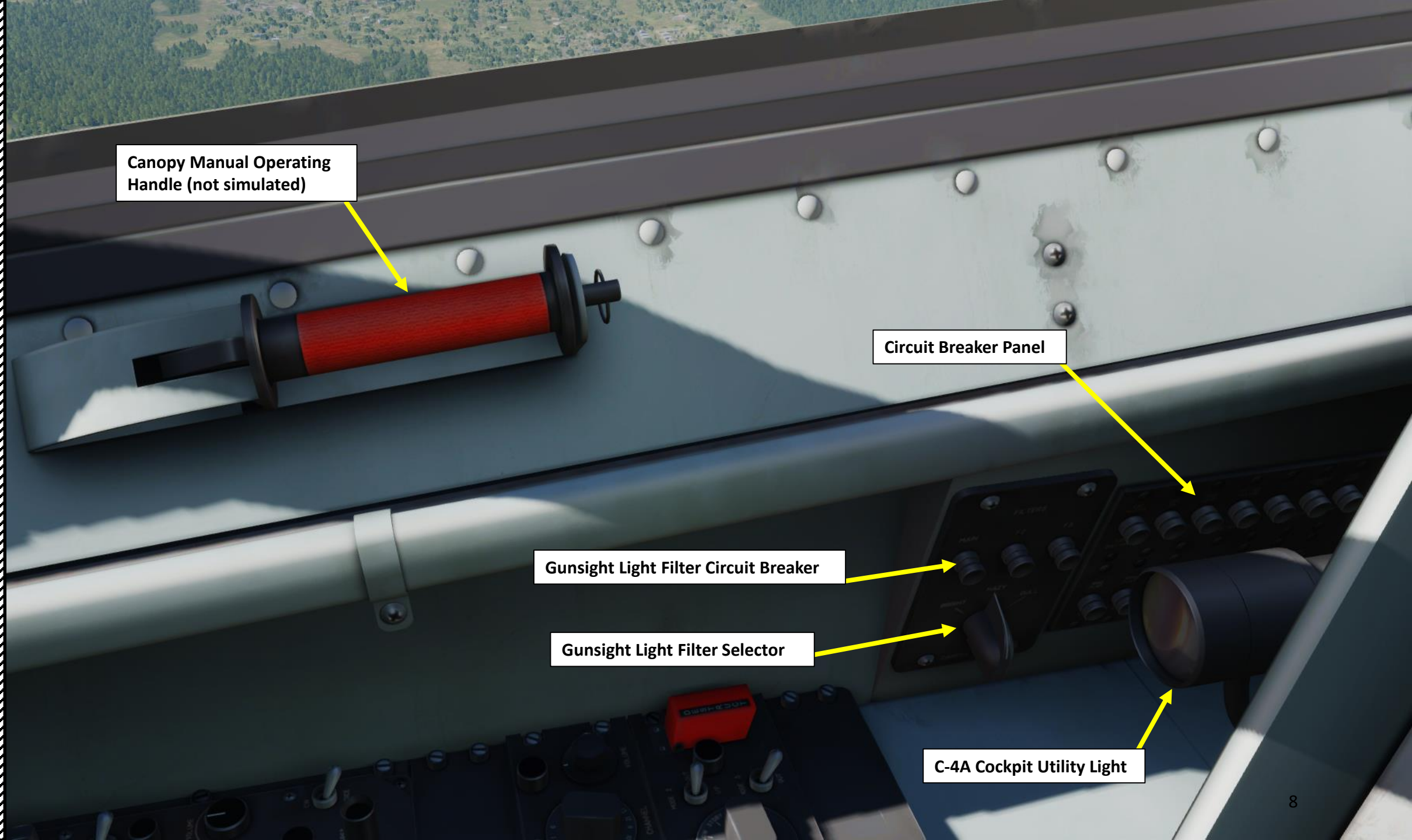
PART 2 – COCKPIT & GAUGES

• SPECIFICATIONS

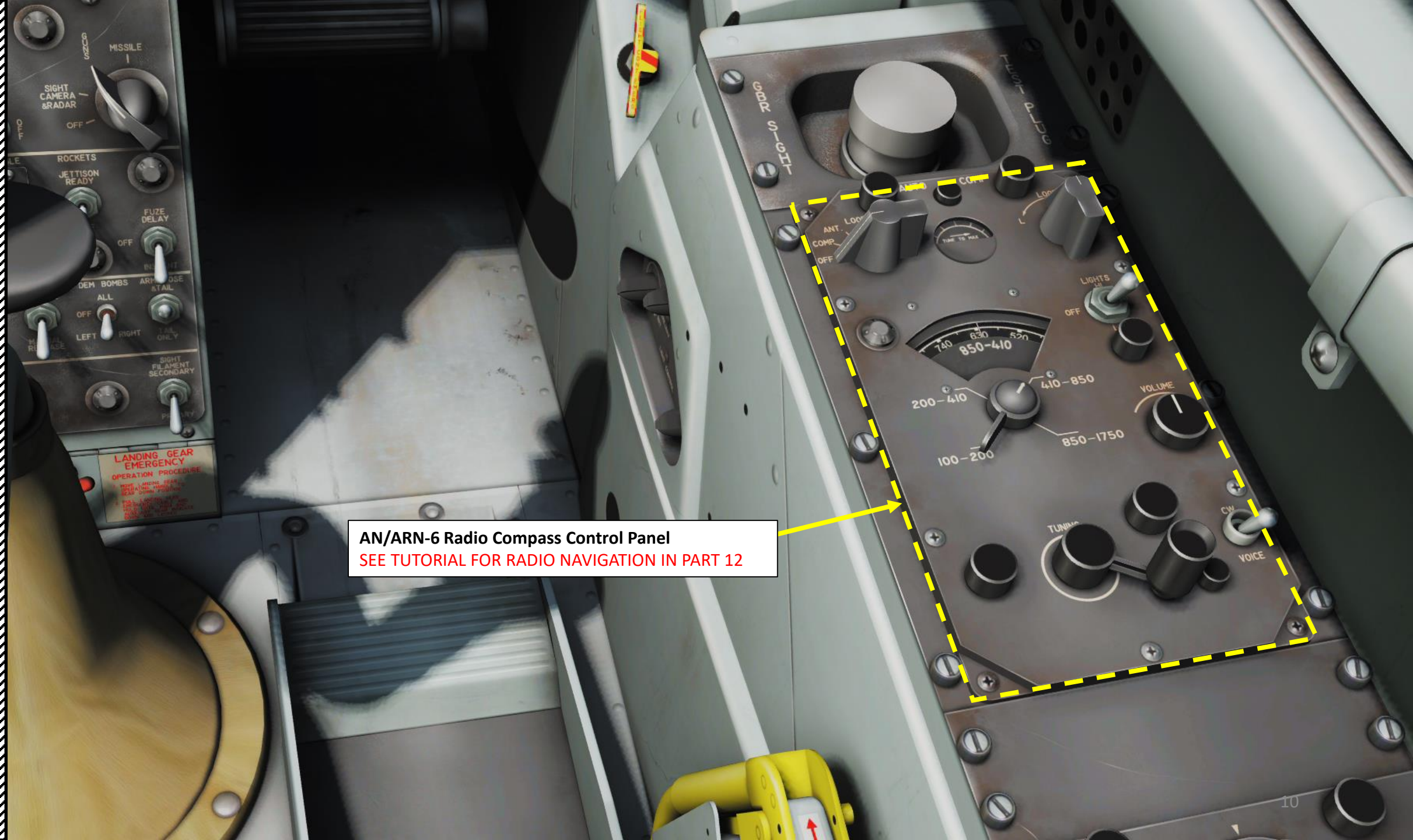
FUEL —JP-4 (MIL-J-5624)
ALTERNATE **
OIL —MIL-O-6081, GRADE 1010
ALTERNATE-MIL-O-6081, GRADE 1005
BELOW —29°C, USE GRADE 1005.
HYDRAULIC
FLUID —MIL-H-5606
ALCOHOL —MIL-A-6091
OXYGEN —BB-O-925

servicing diagram

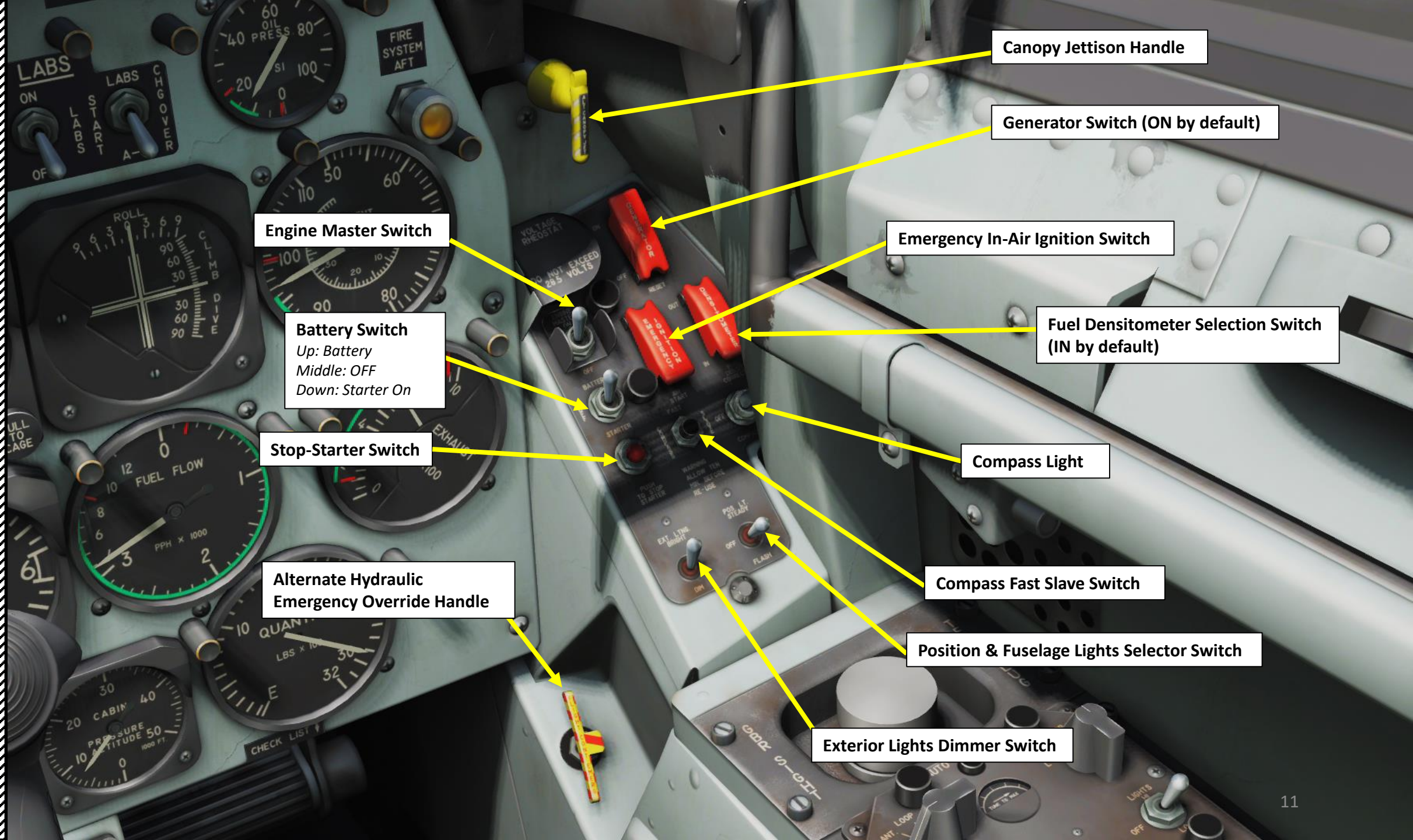
1. Battery
2. External AC Power Receptacle*
3. Nose Gear Emergency Lowering System Accumulator
4. Flight Control Normal Hydraulic System Accumulator
5. Fuel Filter Deicing System Alcohol Tank
6. External DC Power Receptacles
7. Aft Fuselage Fuel Tank Filler
8. Flight Control Alternate Hydraulic System Fluid Level Indicator Access Door
9. Left Wing Fuel Tank Filler
0. Left Drop tank Filler
11. Oxygen Filler Valve
12. Forward Fuselage Fuel Tank Upper Cell Filler (Filled first to utilize full tank capacity)
13. Utility Hydraulic System Reservoir
14. Right Wing Fuel Tank Filler
15. Right Drop Tank Filler
16. Engine Oil Tank
17. Forward Fuselage Fuel Tank Lower Cell
18. Flight Control Alternate Hydraulic System Accumulator (Accumulators*)
19. Flight Control Normal Hydraulic System Fluid Level Indicator Access Door


Canopy Manual Operating Handle (not simulated)
Circuit Breaker Panel
Gunsight Light Filter Circuit Breaker
Gunsight Light Filter Selector
C-4A Cockpit Utility Light

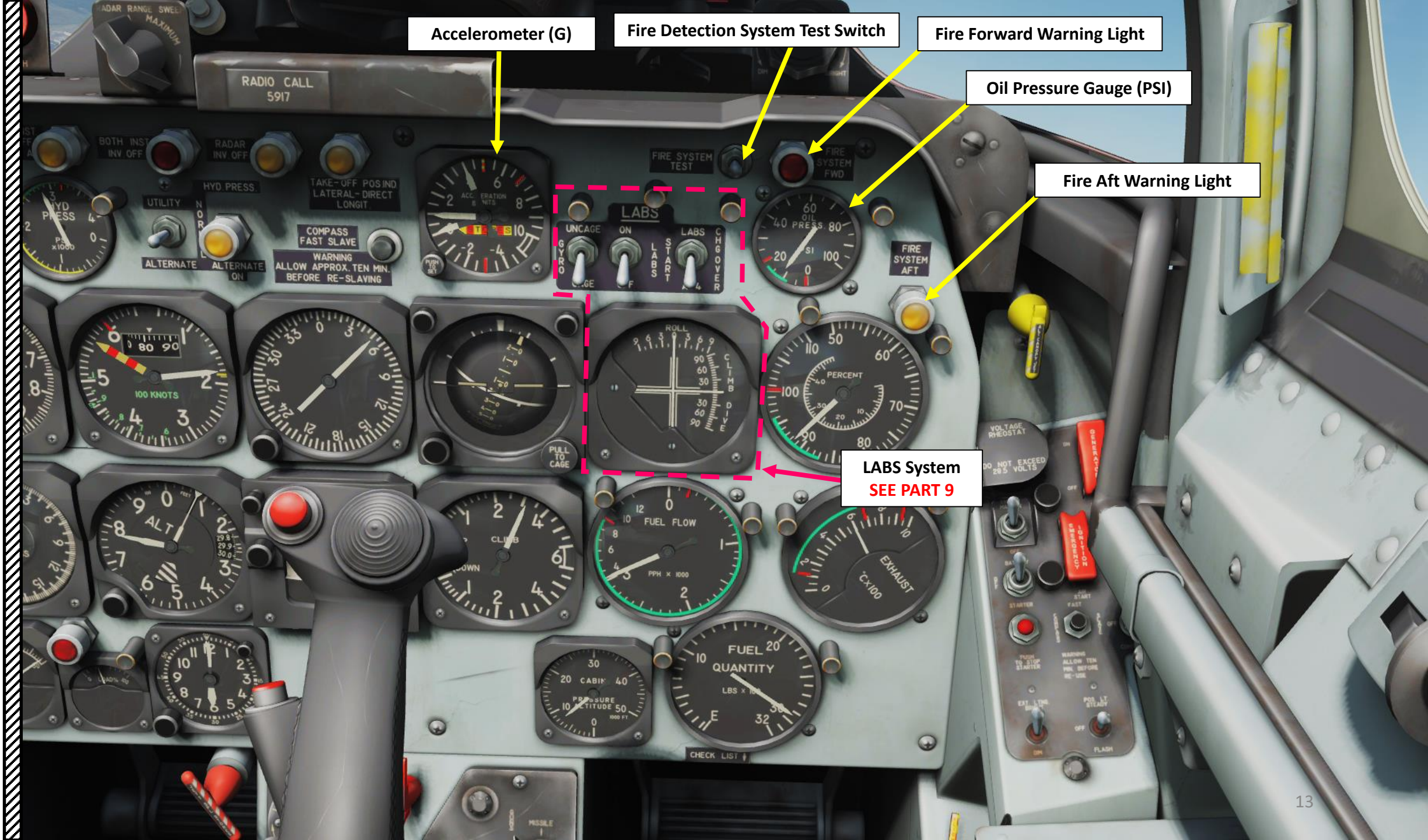

AN/APX-6 IFF Transponder Identification Radar
SEE PART 13 FOR TUTORIAL
NOTE: NOT YET IMPLEMENTED
AN/ARC-27 UHF Radio
SEE PART 11 FOR TUTORIAL
TUNING
VOLUME
CHANNEL
OFF
T/R
T/R+ G REC ADF
UHF
MASTER
MODE 2
I/P
MODE 3
OUT
STDBY
OFF
NORM
LOW
EMERGENCY
IFF



AN/ARN-6 Radio Compass Control Panel
SEE TUTORIAL FOR RADIO NAVIGATION IN PART 12

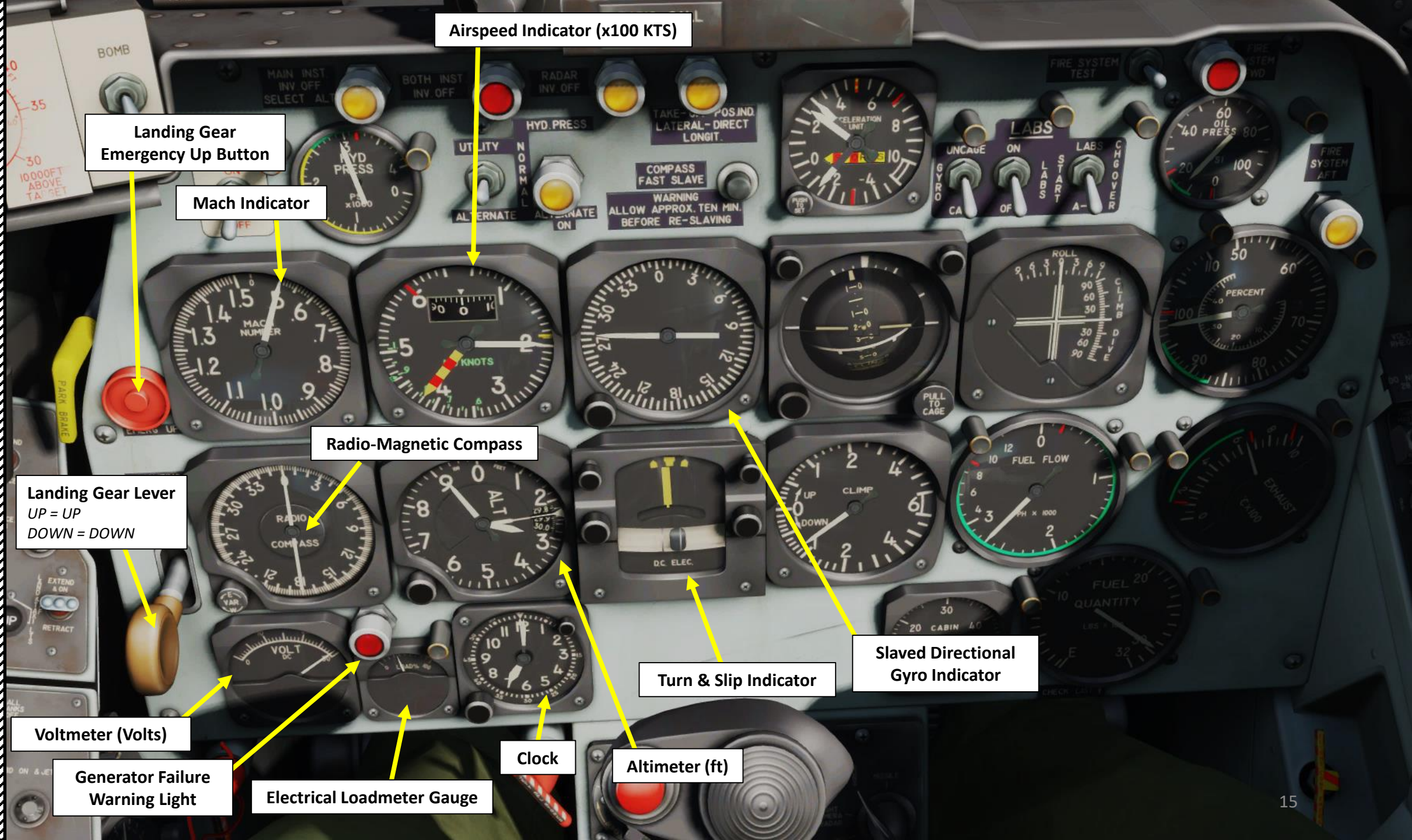

Canopy Jettison Handle
Generator Switch (ON by default)
Engine Master Switch
Emergency In-Air Ignition Switch
Battery Switch
Up: Battery
Middle: OFF
Down: Starter On
Fuel Densitometer Selection Switch (IN by default)
Stop-Starter Switch
Compass Light
Compass Fast Slave Switch
Alternate Hydraulic Emergency Override Handle
Position & Fuselage Lights Selector Switch
Exterior Lights Dimmer Switch


Bank Angle Indicator
Attitude Indicator
LABS – SEE PART 9
LABS Dive & Roll Indicator
Engine Tachometer (%RPM)
Aircraft Pitch (x10 deg)
Attitude Indicator Pitch Trim Knob
Attitude Indicator Caging Knob
EGT (Exhaust Gas Temperature) (x100 deg C)
Fuel Flow Indicator (X 1000 PPH)
Fuel Quantity Indicator (x100 lbs)
Vertical Velocity Indicator (x1000 ft/min)
Cabin Pressure Altitude Indicator (x1000 ft)
ROLL
CLIMB
DIVE
PERCENT
FUEL FLOW
PPH x 1000
EXHAUST
°C x100
FUEL QUANTITY
CLIMB
UP
DOWN
PULL TO CAGE
CABIN PRESSURE ALTITUDE
1000 FT
COMPASS FAST SLAVE
FIRE SYSTEM AFT
VOLTAGE RHEOSTAT
DO NOT EXCEED 28.5 VOLTS
GENERATOR
EMERGENCY IGNITION
WARNING ALLOW TEN MIN. BEFORE RE-USE
CHECK LIST


Accelerometer (G)
Fire Detection System Test Switch
Fire Forward Warning Light
Oil Pressure Gauge (PSI)
Fire Aft Warning Light
LABS System
SEE PART 9
RADIO CALL
5917
LABS
UNCAGE
ON
LABS
FIRE SYSTEM TEST
FIRE SYSTEM FWD
FIRE SYSTEM AFT
COMPASS FAST SLAVE
WARNING ALLOW APPROX. TEN MIN. BEFORE RE-SLAVING
ALTERNATE
ALTERNATE ON
HYD PRESS
UTILITY
TAKE-OFF POS IND
LATERAL-DIRECT
LONGIT
BOTH INST INV OFF
RADAR INV OFF
100 KNOTS
ROLL
CLIMB
DIVE
PERCENT
ALT
CLIMB
FUEL FLOW
PPH x 1000
EXHAUST
FUEL QUANTITY
CABIN PRESSURE ALTITUDE
CHECK LIST
VOLTAGE RHEOSTAT
DO NOT EXCEED 28.5 VOLTS


Hydraulic Pressure Gauge (X1000 PSI)
Main Instrument (3-phase) Inverter Failure Light
Both Instrument (3-phase) Inverter Failure Light
Main Radar (single-phase) Inverter Failure Light
Takeoff Trim Position Indicator
(Illuminates when trimmed for takeoff)
Emergency Fuel Switch
Magnetic Compass Fast Slave Button
Alternate-On Warning Light
Flight control alternate hydraulic system is operating
Hydraulic Pressure Gauge Selector Switch
UP: Utility Hydraulic System Pressure Selected
MIDDLE: Flight Control Normal Hydraulic System Pressure Selected
DOWN: Alternate Hydraulic System Pressure Selected

PART 2 – COCKPIT & GAUGES



Manual Pip Control Unit

Landing Gear Warning Horn Cutout (Push-to-Silence)

Engine Anti-Ice & Screen Switch

Landing Gear Indicator

Landing & Taxi Lights Switch

Pitot Heat Switch

Fuel Tank Selector Switch

- *ALL TANKS OFF = SAFETY (Tanks will not drop, fuel is taken from internal tanks)*
- *OUTBD ON & JETT = Fuel taken from Outboard external tanks, jettison Outboard Tanks Onl*
- *INBD ON & JETT = Fuel taken from Inboard external tanks, jettison Inboard Tanks Only*
- *Other positions are self-explanatory*

Very important note: this switch must be use to choose where the fuel pumps will take fu from. If you leave the switch to "ALL TANKS OFF", your fuel pumps will use your internal tan rather than your external tanks if you have them equipped. Trust me: you will need that ext external tank fuel.

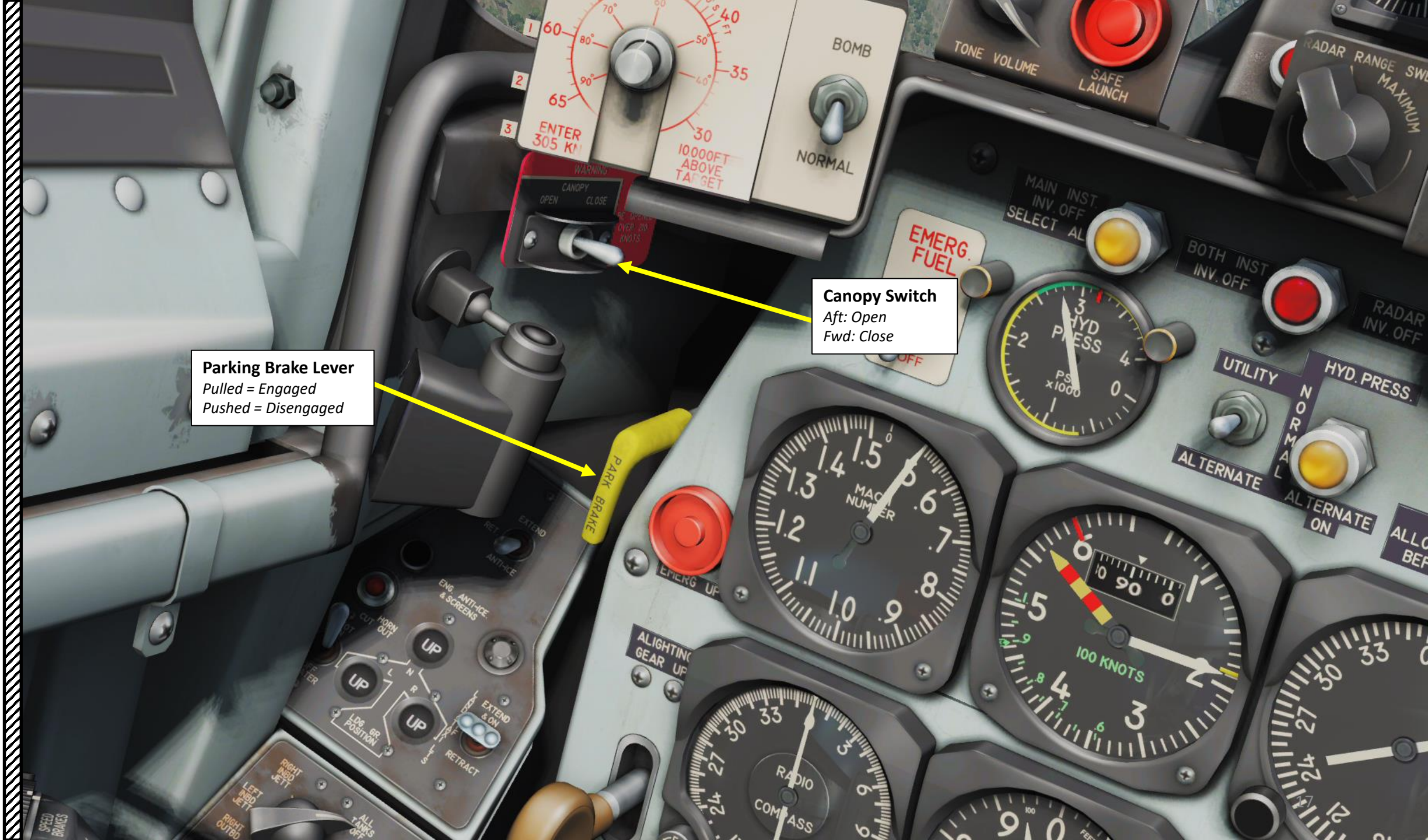
Jettison Fuel Tanks Button

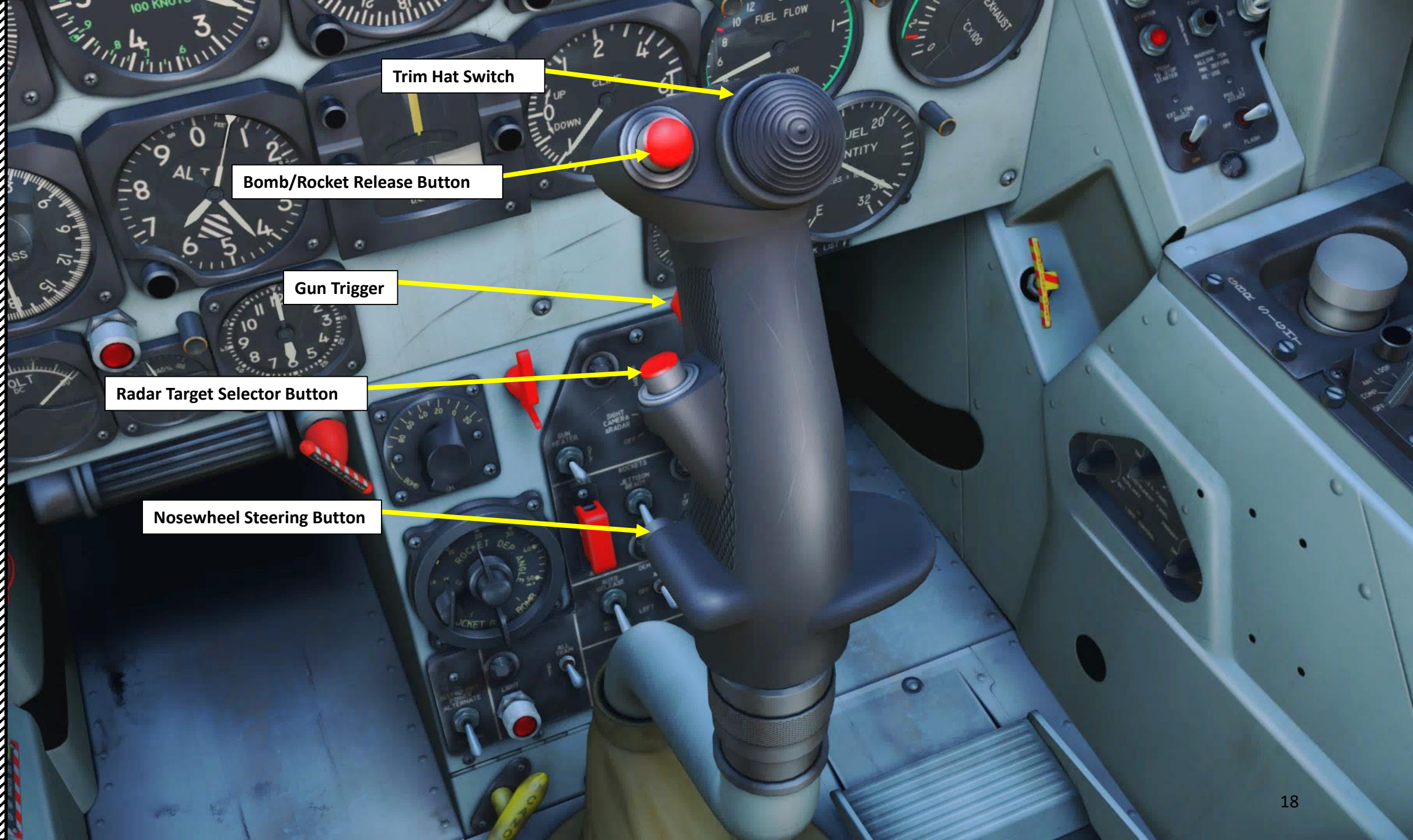
Press this to jettison fuel tanks once the tank(s) you want to drop have been selected by the Fuel Tank Selector Switch.

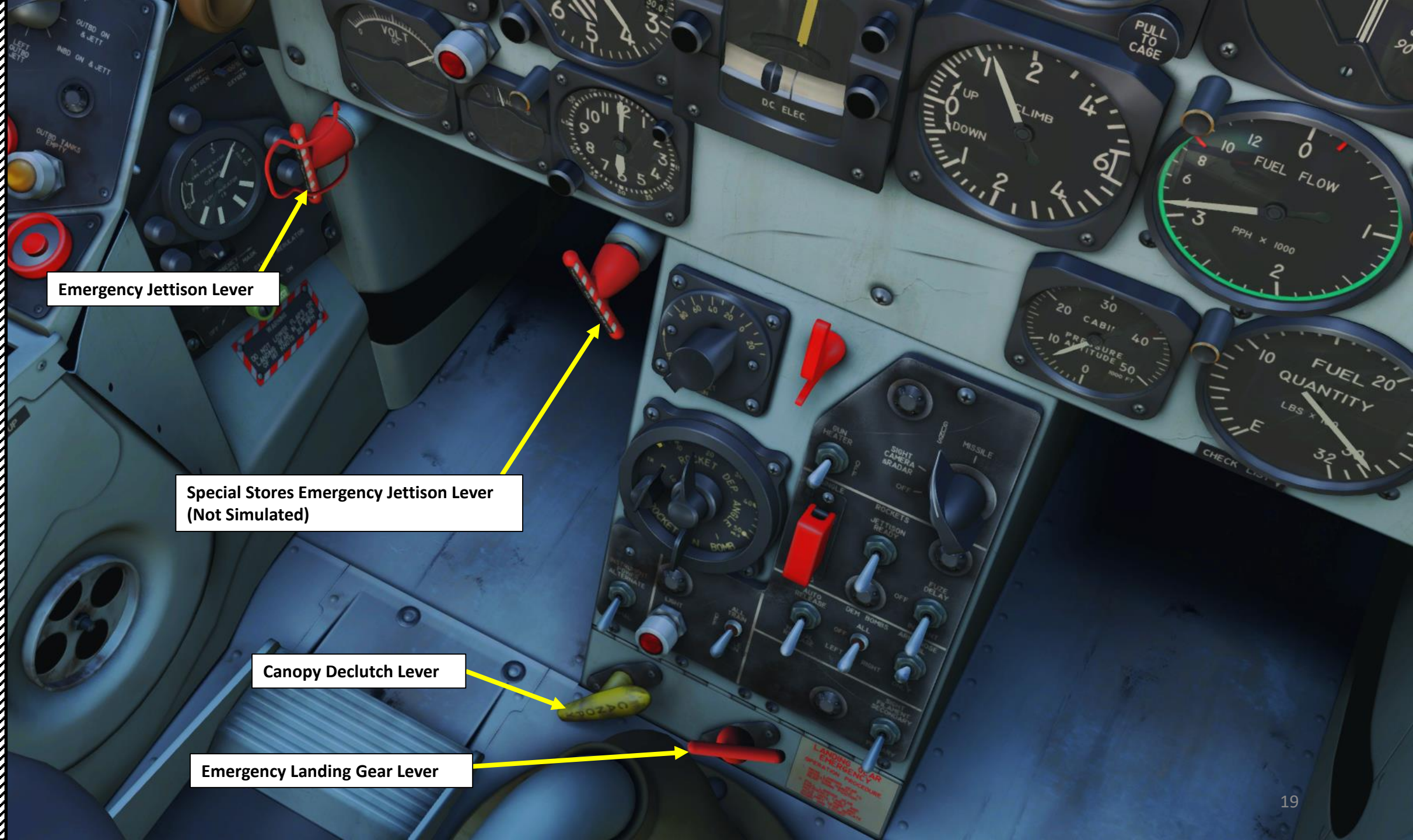
Outboard External Fuel Tanks Empty Light

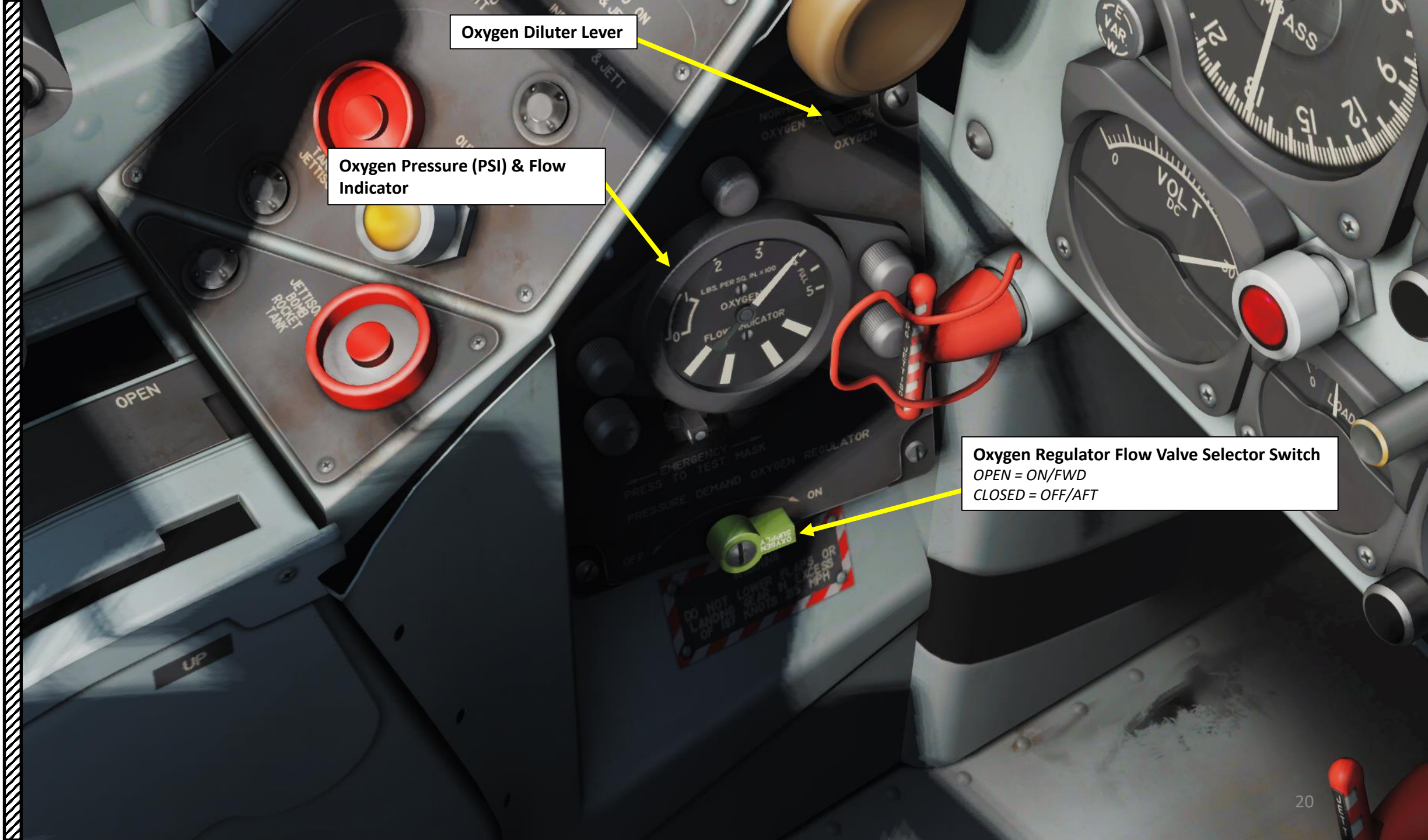
Jettison Bombs, Rockets & Fuel Tanks Button

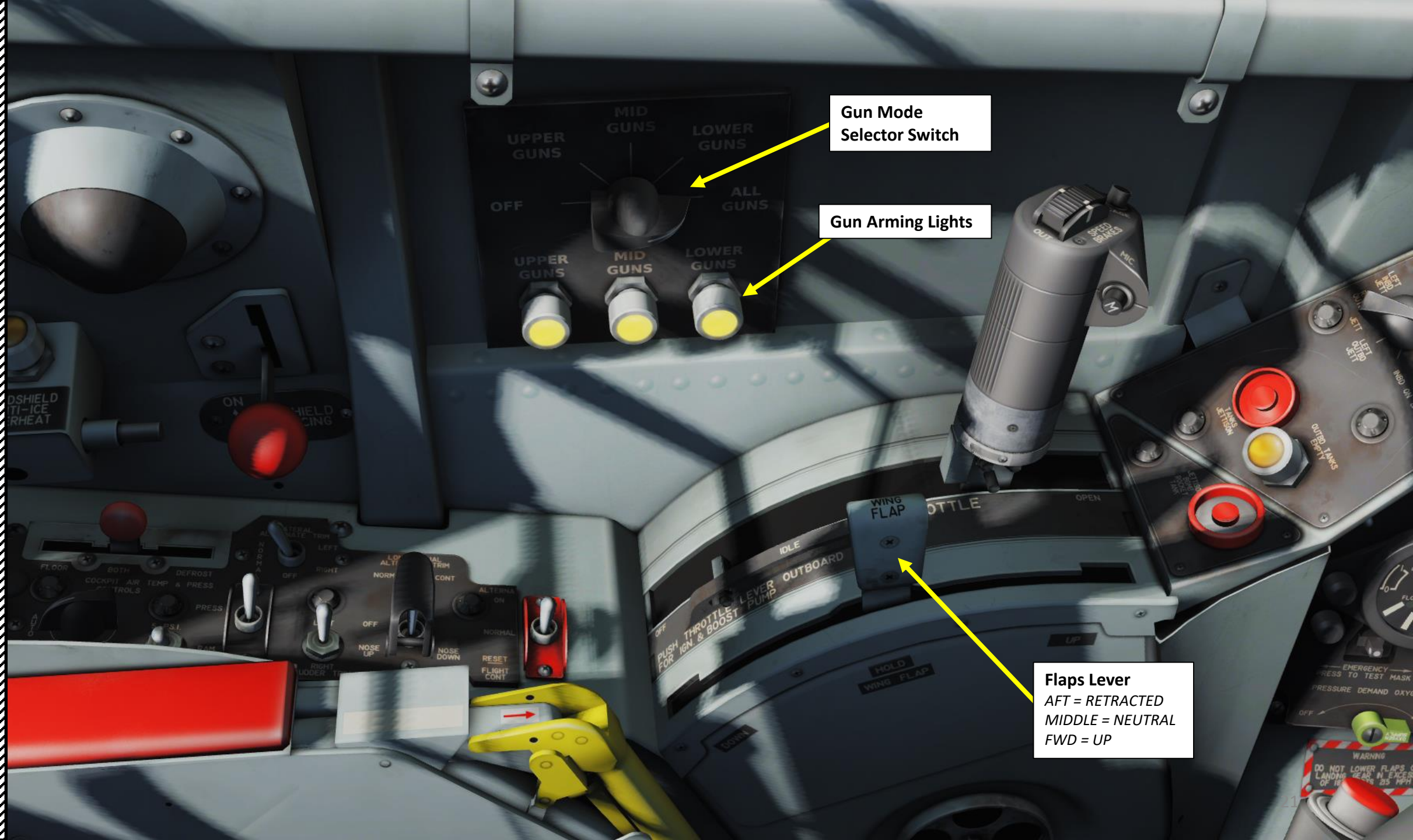
Press to jettison the bombs/rockets/fuel tanks selected

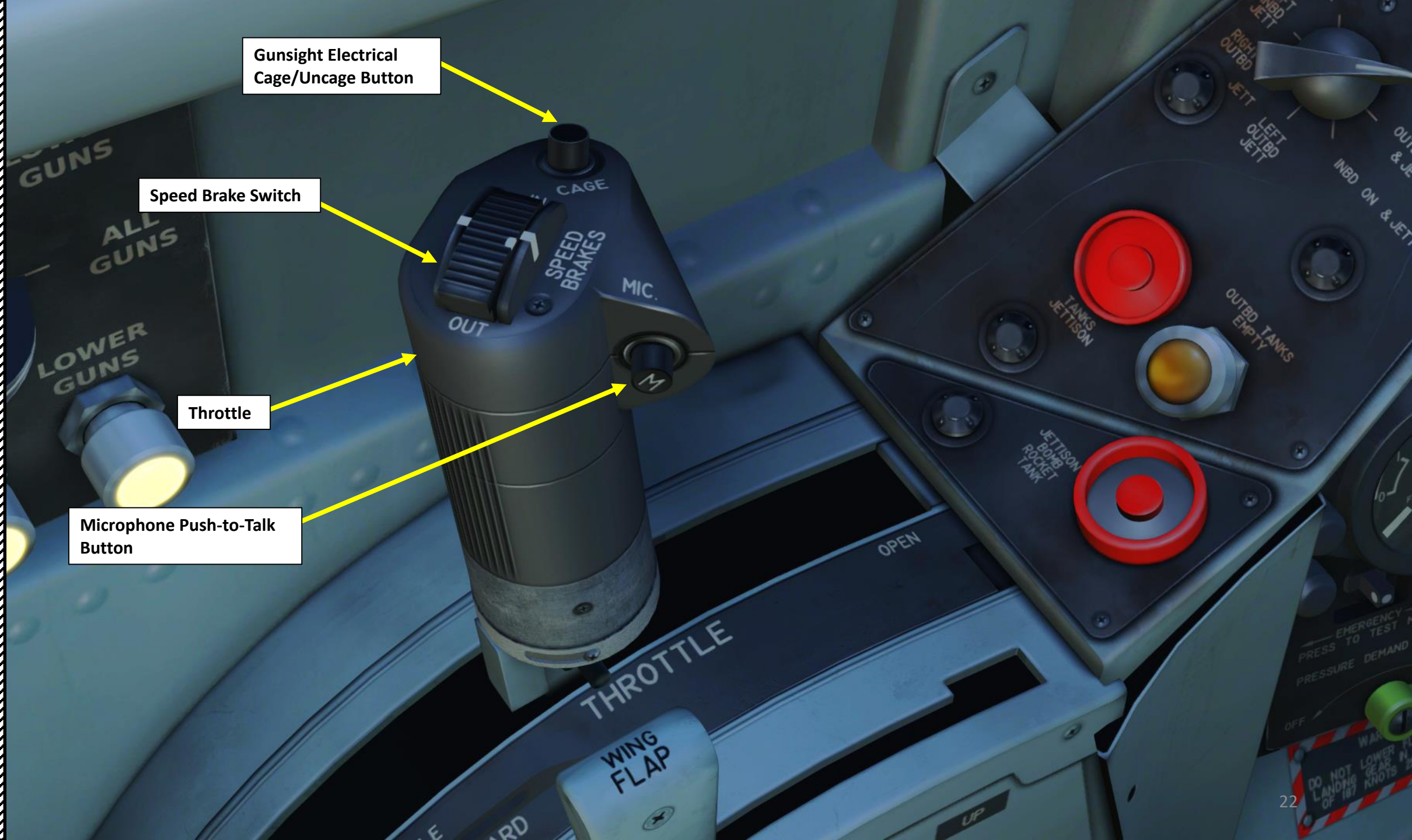

Canopy Switch
Aft: Open
Fwd: Close
Parking Brake Lever
Pulled = Engaged
Pushed = Disengaged
BOMB
NORMAL
TONE VOLUME
SAFE LAUNCH
RADAR RANGE SWP
MAXIMUM
ENTER 305 KI
10000FT ABOVE TARGET
WARNING
CANOPY
OPEN
CLOSE
MAIN INST. INV. OFF SELECT AL
BOTH INST INV. OFF
RADAR INV. OFF
EMERG. FUEL
HYD PRESS
UTILITY
HYD. PRESS.
NORMAL
ALTERNATE
ALTERNATE ON
PARK BRAKE
EXTEND
RETRACT
ENG. ANTI-ICE & SCREENS
HORN CUT OUT
UP
LDG GR POSITION
EXTEND & DN
RIGHT INBD JETT
LEFT INBD JETT
RIGHT OUTBD
ALL TANKS OFF
SPEED BRAKES
MACH NUMBER
100 KNOTS
RADIO COMPASS
ALIGHTING GEAR UP

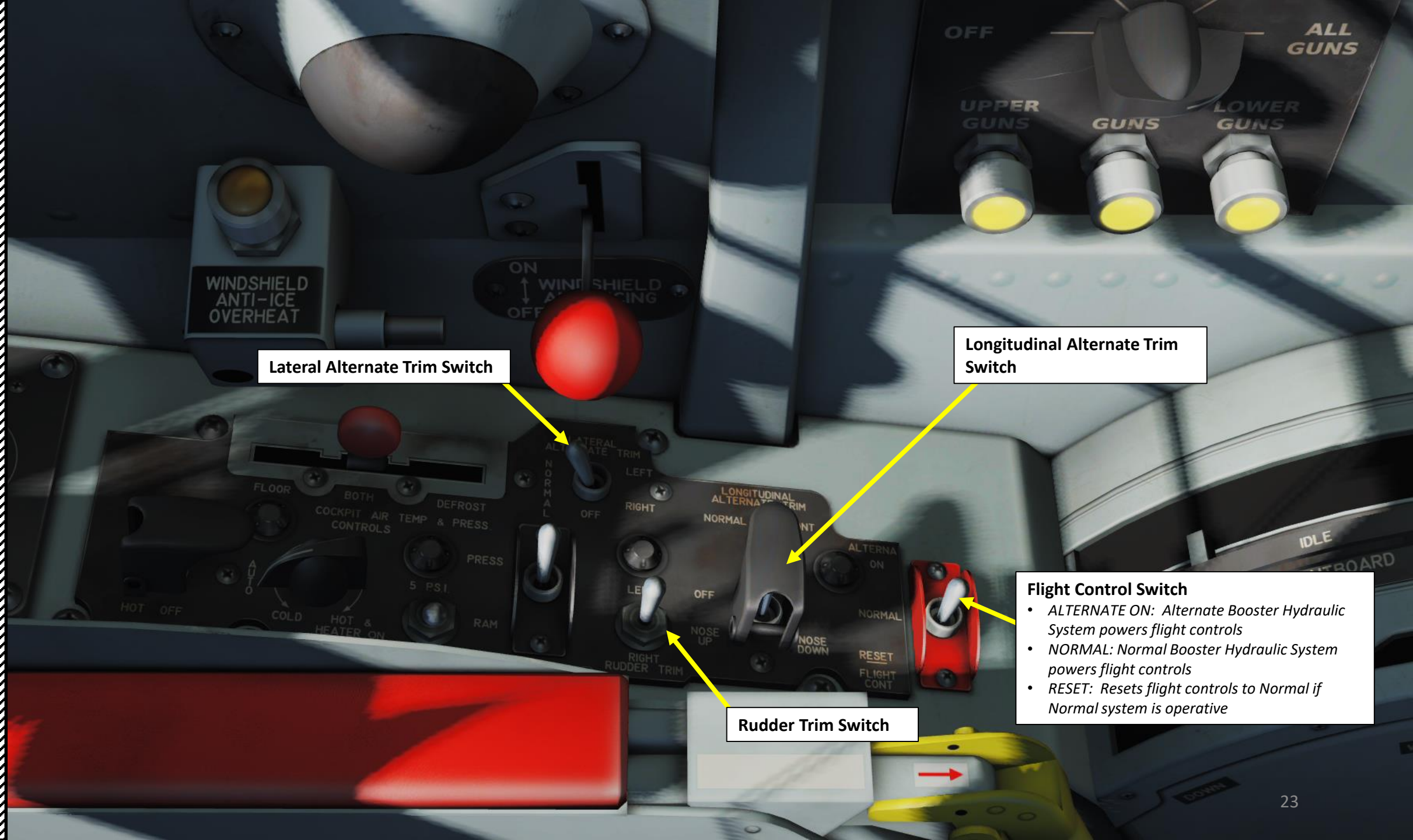

Trim Hat Switch
Bomb/Rocket Release Button
Gun Trigger
Radar Target Selector Button
Nosewheel Steering Button

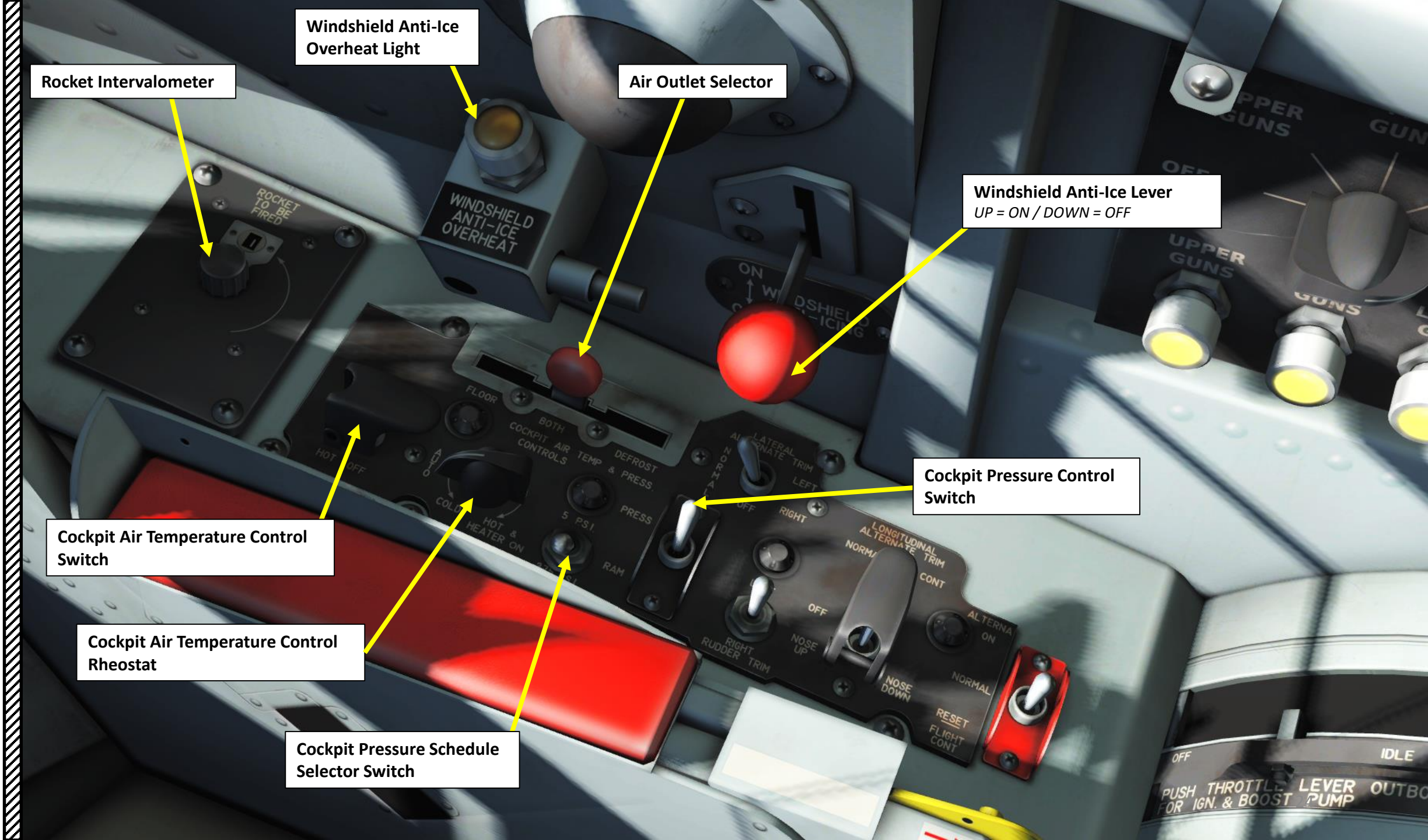

Emergency Jettison Lever
Special Stores Emergency Jettison Lever (Not Simulated)
Canopy Declutch Lever
Emergency Landing Gear Lever


Oxygen Diluter Lever
Oxygen Pressure (PSI) & Flow Indicator
Oxygen Regulator Flow Valve Selector Switch
OPEN = ON/FWD
CLOSED = OFF/AFT
OPEN
UP
ON
OXYGEN
VOLT DC

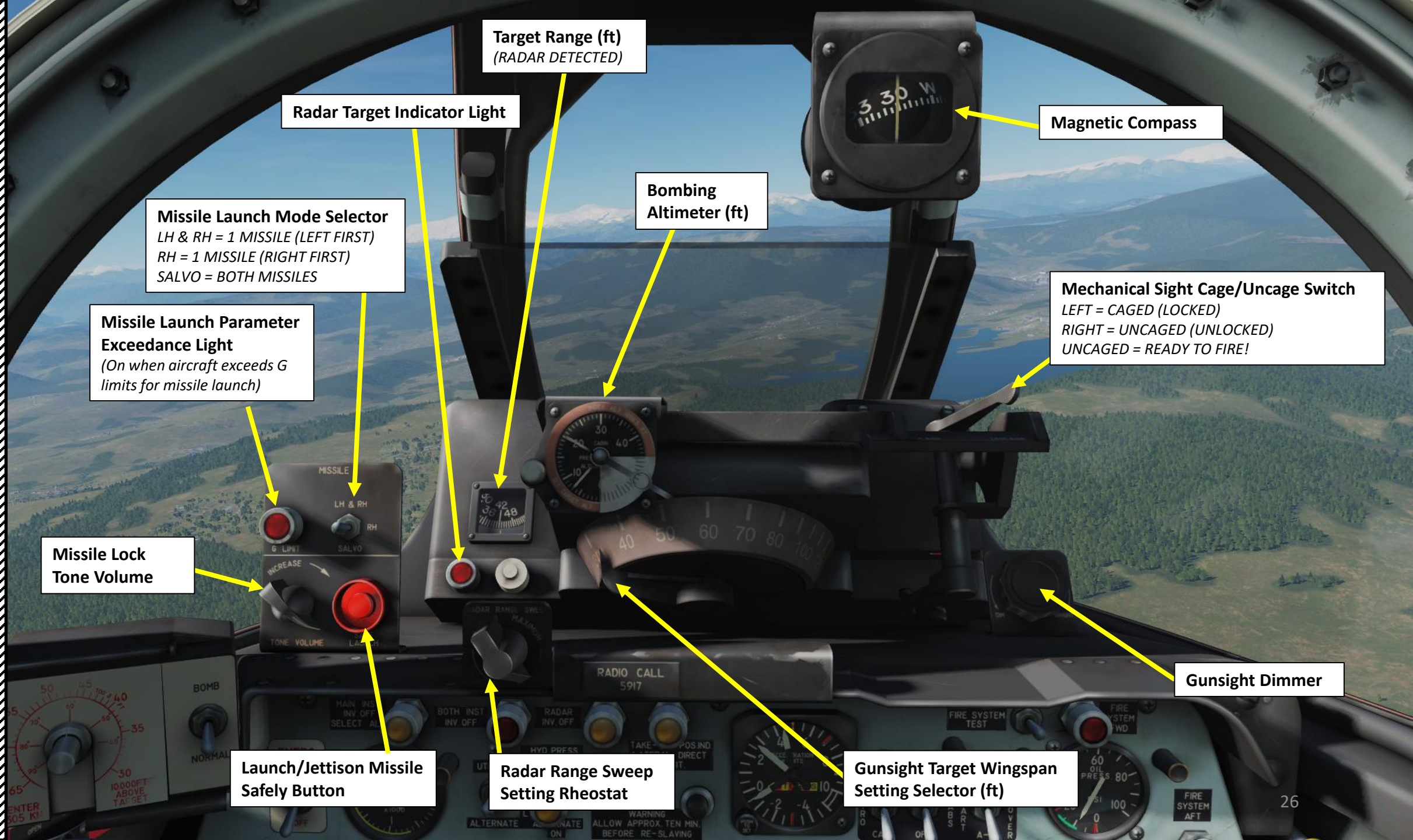

Gun Mode Selector Switch
Gun Arming Lights
Flaps Lever
AFT = RETRACTED
MIDDLE = NEUTRAL
FWD = UP
UPPER GUNS
MID GUNS
LOWER GUNS
OFF
ALL GUNS
WING FLAP
IDLE
OPEN
OUTBOARD
SPEED BRAKES
RESET
FLIGHT CONT
NOSE UP
NOSE DOWN
NORMAL
HOLD WING FLAP


Gunsight Electrical Cage/Uncage Button
Speed Brake Switch
Throttle
Microphone Push-to-Talk Button
CAGE
SPEED BRAKES
MIC.
OUT
THROTTLE
OPEN
WING FLAP
GUNS
ALL GUNS
LOWER GUNS
TANKS JETTISON
OUTBD TANKS EMPTY
JETTISON BOMB ROCKET TANK

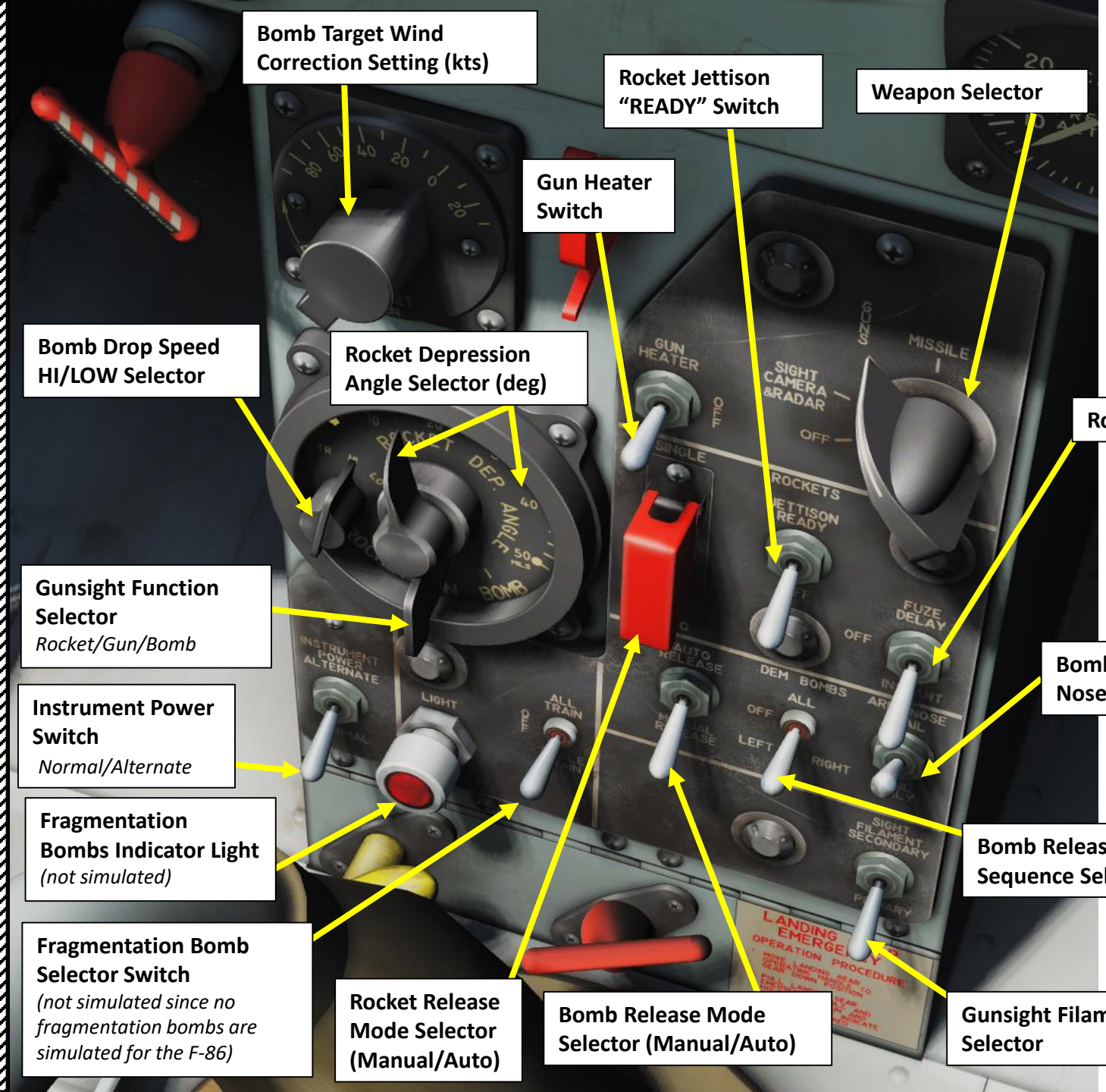

OFF
ALL GUNS
UPPER GUNS
GUNS
LOWER GUNS
WINDSHIELD ANTI-ICE OVERHEAT
ON
OFF
Lateral Alternate Trim Switch
Longitudinal Alternate Trim Switch
FLOOR
BOTH
DEFROST
COCKPIT AIR TEMP & PRESS CONTROLS
PRESS
5 PSI
HOT
OFF
COLD
HOT & HEATER ON
RAM
NORMAL
OFF
RIGHT
LEFT
NORMAL
OFF
NOSE UP
NOSE DOWN
ALTERNA
ON
NORMAL
RESET
FLIGHT CONT
RIGHT RUDDER TRIM
IDLE
Rudder Trim Switch
Flight Control Switch
• ALTERNATE ON: Alternate Booster Hydraulic System powers flight controls
• NORMAL: Normal Booster Hydraulic System powers flight controls
• RESET: Resets flight controls to Normal if Normal system is operative

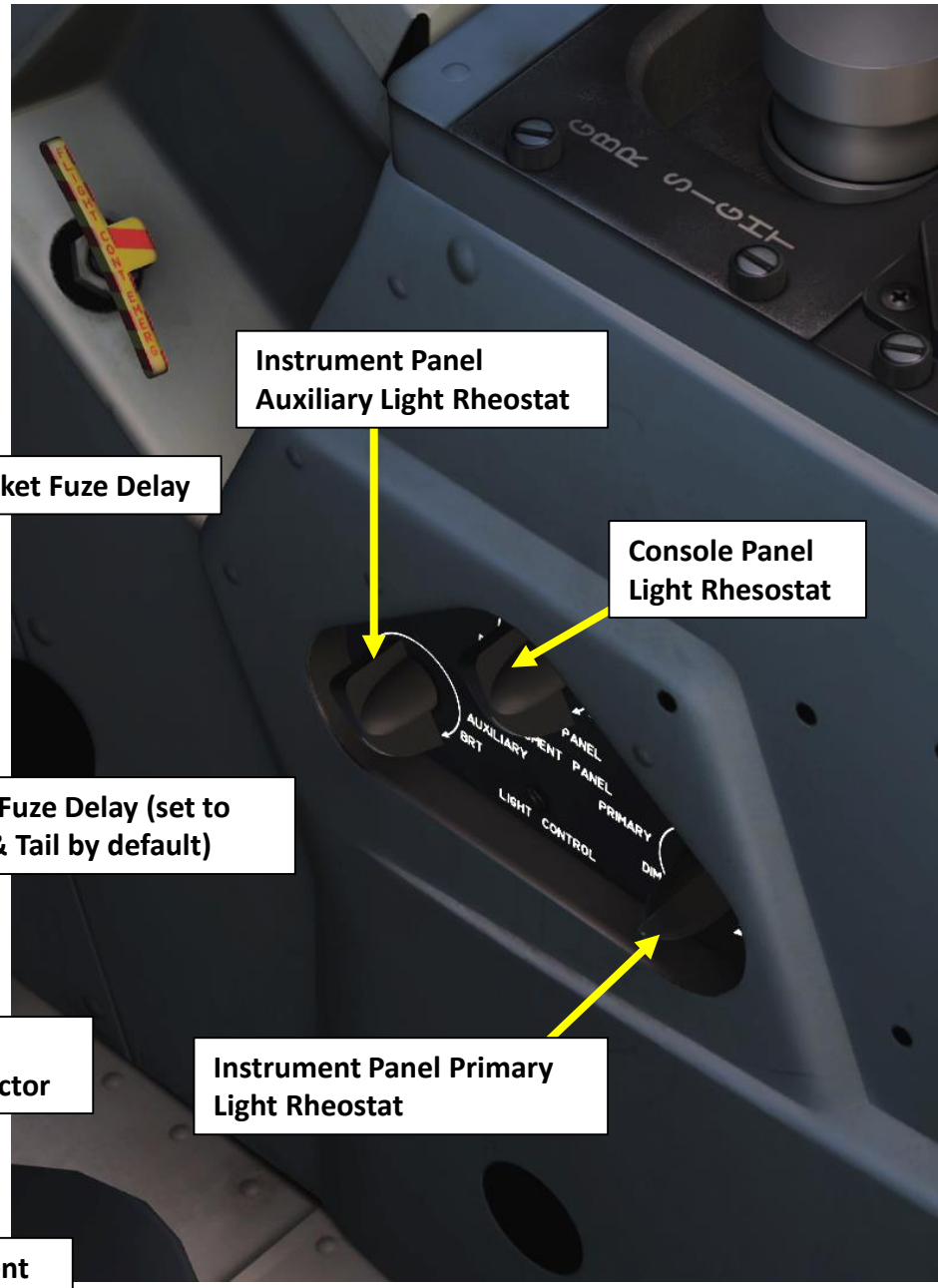

Windshield Anti-Ice Overheat Light
Rocket Intervalometer
Air Outlet Selector
Windshield Anti-Ice Lever
UP = ON / DOWN = OFF
Cockpit Pressure Control Switch
Cockpit Air Temperature Control Switch
Cockpit Air Temperature Control Rheostat
Cockpit Pressure Schedule Selector Switch
ROCKET TO BE FIRED
WINDSHIELD ANTI-ICE OVERHEAT
FLOOR
BOTH
COCKPIT AIR CONTROLS
TEMP & PRESS
DEFROST
HOT
COLD
OFF
HOT & HEATER ON
5 PSI
PRESS
RAM
LATERAL TRIM
LEFT
RIGHT
LONGITUDINAL TRIM
ALTERNATE
NORMAL
CONT
OFF
NOSE UP
NOSE DOWN
RIGHT RUDDER TRIM
ALTERNA
ON
NORMAL
RESET
FLIGHT CONT
UPPER GUNS
OFF
IDLE
PUSH THROTTLE LEVER FOR IGN. & BOOST PUMP


Circuit Breaker Panel
C-4A Cockpit Utility Light
WINDSHIELD ANTI-ICE OVERHEAT
OFF
UPPER GUNS
LOWER GUNS


Target Range (ft)
(RADAR DETECTED)
Radar Target Indicator Light
Magnetic Compass
Bombing Altimeter (ft)
Missile Launch Mode Selector
LH & RH = 1 MISSILE (LEFT FIRST)
RH = 1 MISSILE (RIGHT FIRST)
SALVO = BOTH MISSILES
Missile Launch Parameter Exceedance Light
(On when aircraft exceeds G limits for missile launch)
Mechanical Sight Cage/Uncage Switch
LEFT = CAGED (LOCKED)
RIGHT = UNCAGED (UNLOCKED)
UNCAGED = READY TO FIRE!
Missile Lock Tone Volume
Launch/Jettison Missile Safely Button
Radar Range Sweep Setting Rheostat
Gunsight Target Wingspan Setting Selector (ft)
Gunsight Dimmer
MISSILE
LH & RH
RH
SALVO
INCREASE
TONE VOLUME
RADIO CALL
5917
BOMB
NORMAL
FIRE SYSTEM TEST

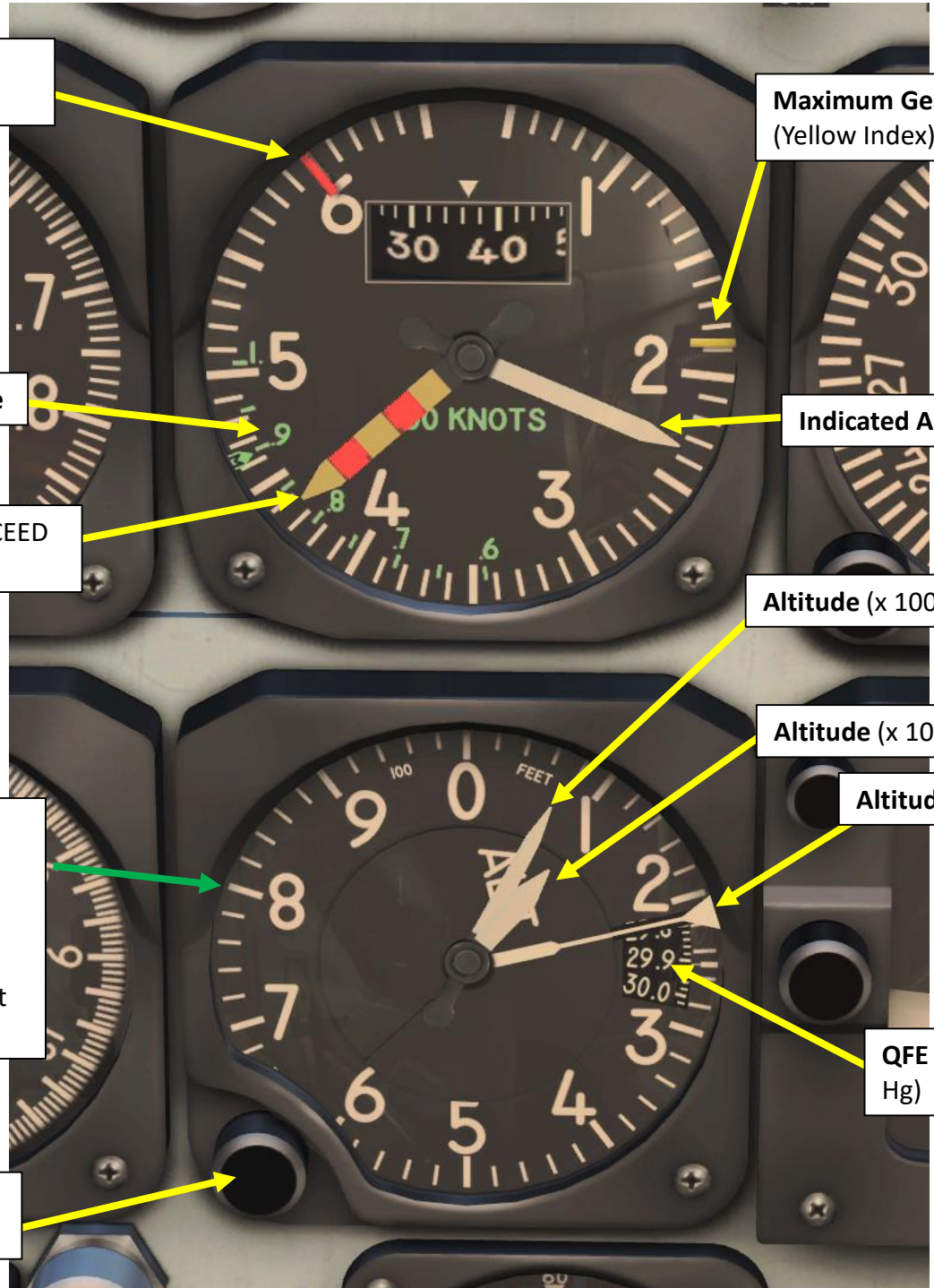
PART 2 – COCKPIT & GAUGES





Maximum Operating Speed Limit (VMO) (KTS)
(Red Index, do not use as a reference)

Maximum Gear/Flap Extension Speed
(Yellow Index)



Mach Scale

Indicated Airspeed (KTS)

Indicated Airspeed Limit (KTS) – DO NOT EXCEED
(This is what you use as a reference)

Altitude (x 100 ft)

Altitude (x 1000 ft)

Altitude (x 10000 ft)

The altimeter reads as follows:
Long Thin Needle: @ 2 = 20000 ft
Short Thick Needle @ 1 = 1000 ft
Long Thick Needle @ approx 1 = 100 ft

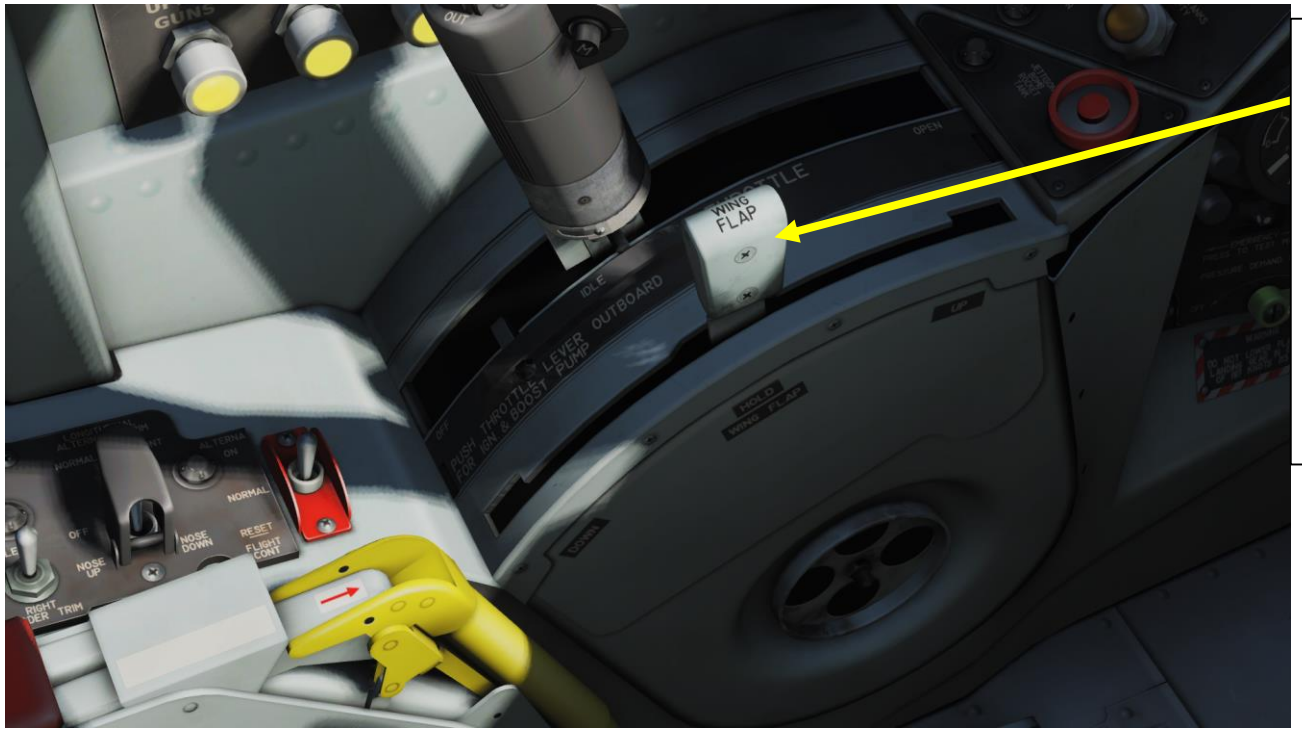
TOTAL ALTITUDE = 20000 + 1000 + 100 ft
= 21100 ft

QFE Altimeter Setting (inches Hg)

Barometric Pressure Setting Knob

Speedbrakes
(Hydraulically actuated)

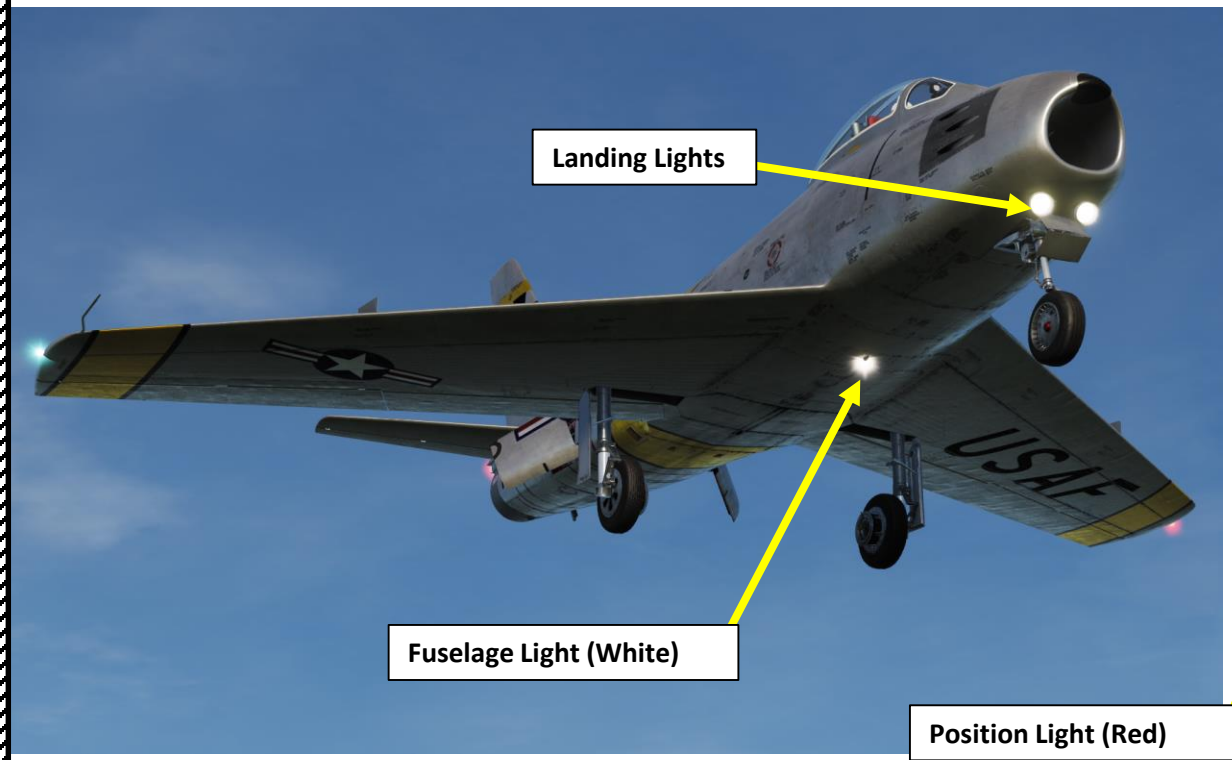
Flaps
(Electrically actuated)

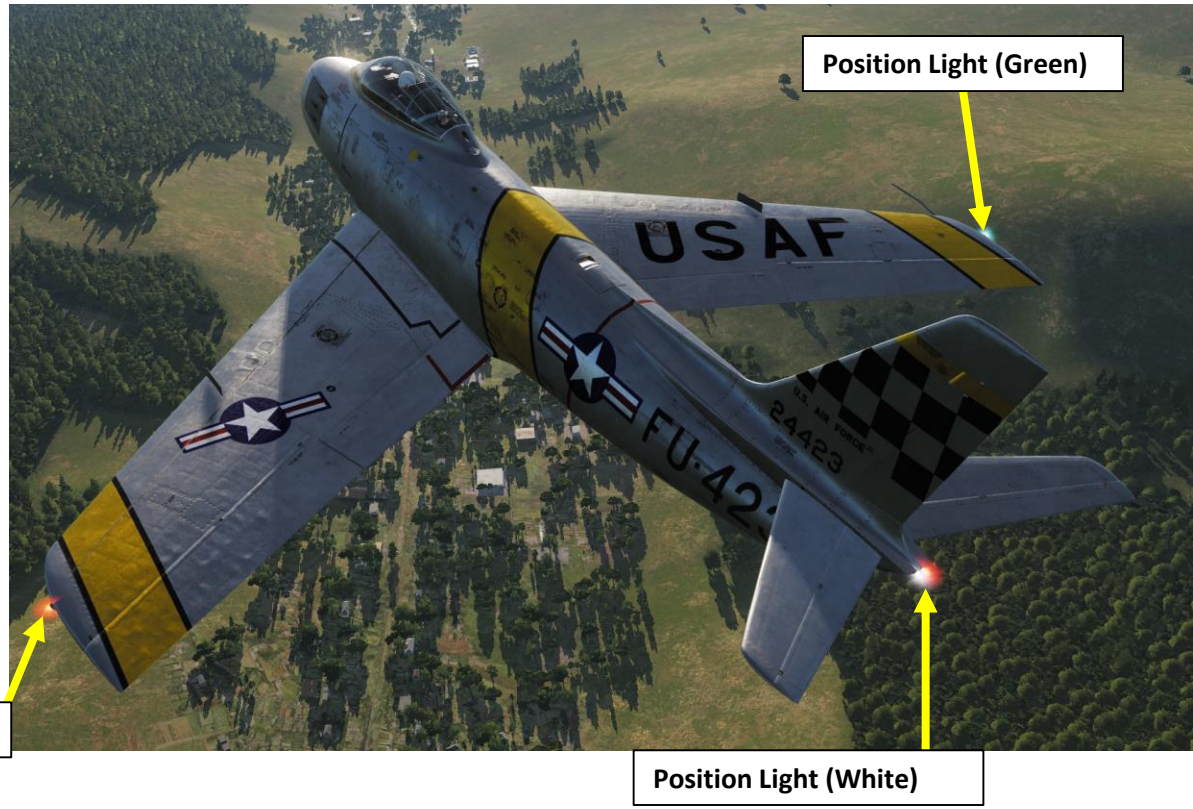


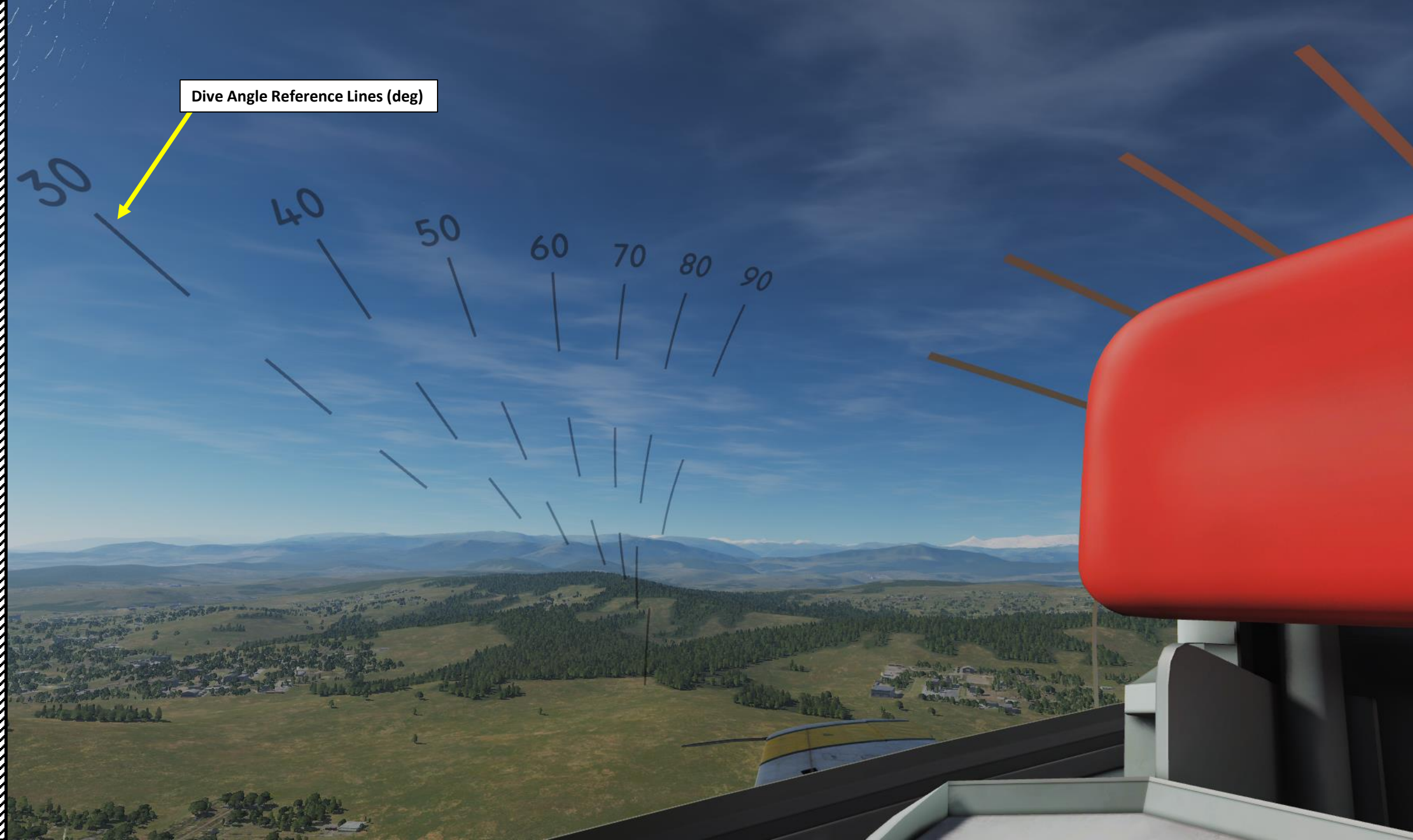
The flaps are controlled with the wing flap lever. It is important to note that the lever has three positions: Up, Neutral (Hold) and Down. To deploy flaps, you need to set the lever to DOWN, wait a few seconds, then set the lever back to Neutral (HOLD). This will prevent the electrical motor from constantly running once the flap is set in the desired position.

Keep in mind that there are no flap position indicator in the cockpit and deploying the flaps at an airspeed greater than the Max Gear/Flap Extension Speed can jam them (this speed is visible on the airspeed indicator's yellow index). Always make sure that you are below 185 kts before deploying your flaps or landing gear.

Maximum Gear/Flap Extension Speed
(Yellow Index)


Landing Lights
Fuselage Light (White)
Position Light (Red)

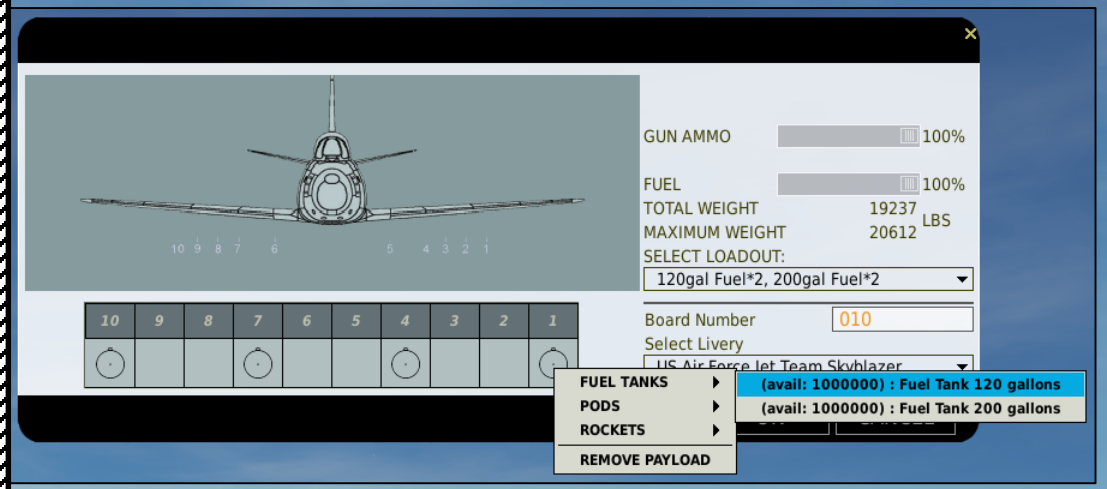

Position Light (Green)
USAF
Position Light (White)


Dive Angle Reference Lines (deg)
30
40
50
60
70
80
90


Mirror

PART 2 – COCKPIT & GAUGES

PART 2 – COCKPIT & GAUGES



Inboard Fuel Tank
120 GAL

Outboard Fuel Tank
200 GAL

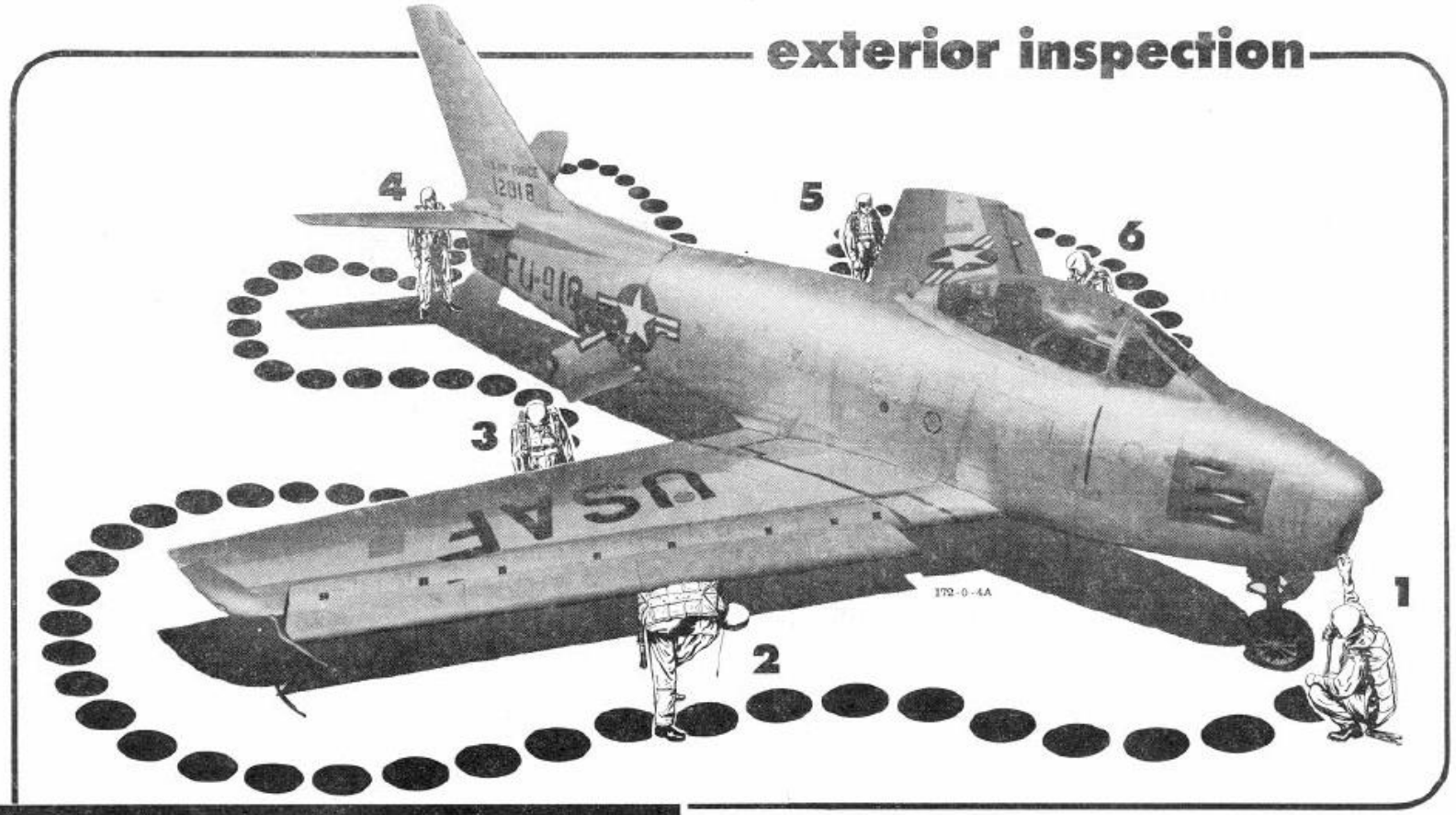
PART 3 – START-UP

* You may rely on your crew chief to check these items if you desire. However, if preflight inspection or servicing was performed at a base where ground personnel are not completely familiar with your airplane, you should check these items yourself.

† Some airplanes (refer to applicable text).

‡ F-86F-1 through F-86F-20 Airplanes, F-86F-25 Airplanes AF51-13170 through -13510 and AF52-5272 through -5386, and F-86F-30 Airplanes AF52-4305 through -5063.

exterior inspection



Check surfaces for cracks, distortions, loose rivets, and indications of damage; check for signs of hydraulic fluid, fuel, and oil leaks; check tires for general condition, and proper inflation; check all access doors and panels secured; check position of gear doors, gear strut extension, and condition of wheels.

1 NOSE

- Nose gear ground safety lock—Removed.
- Tow pin safety cap—Tight.
- Intake duct—Clear.
- Gun port plugs—As required.
- Landing and taxi lights—Retracted.
- Nose gear accumulator gage (in nose wheel well) pressure—1200-1250 psi.
- Emergency nose gear extension control valve—Reset. (pushed full back). *

2 FORWARD FUSELAGE AND RIGHT WING LEADING EDGE

- Slats †—Check.
- External stores—Check installation.
- Pitot head—Uncovered; static ports clean. NEW
- Position light and wing tip—Check.

3 RIGHT WING TRAILING EDGE AND AFT FUSELAGE

- Aileron and flap—Check.
- Drop tanks—Check fuel and caps secure.
- Main gear—Check.
- Right landing gear wheel well—Check.
- Speed brake— Check.
- Flight control alternate accumulator or accumulators‡ gage (in speed brake well) pressure—600-650 psi.
- Flight control normal compensator shaft—Check 1/4 to 1-1/4-inch extension.

4 EMPENNAGE

- Tail-pipe cover—Removed.
- Tail cone and position lights—Check.

5 AFT FUSELAGE AND LEFT WING TRAILING EDGE

- Flight control alternate compensator shaft—Check 1/4 to 1-1/4-inch extension.
- Speed brake—Check.
- Flight control alternate pump circuit breaker (within access door just forward of speed brake)—IN.
- Left landing gear wheel well—Check.
- Flight control normal accumulator gage (in left wheel well) pressure—600-650 psi:
- Landing gear door switch—CLOSE.
- Drop tanks—Check fuel and caps secure.
- Flap and aileron—Check.

6 LEFT WING LEADING EDGE AND FORWARD FUSELAGE

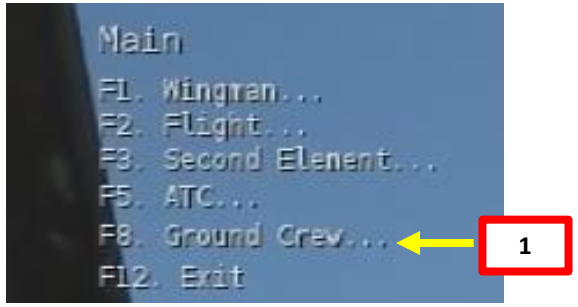
- Position light and wing tip—Check.
- External stores—Check installation.
- Slats † —Check.

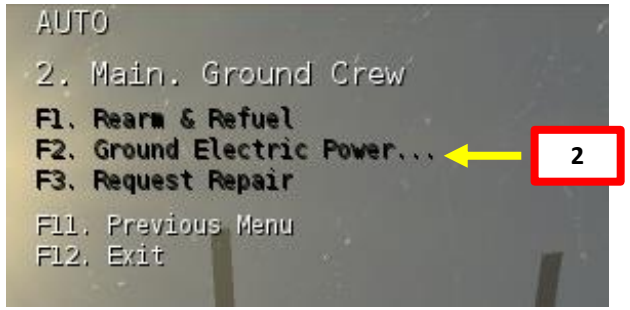
NOTE: THERE ARE NO SLATS ON THE F-86F-35

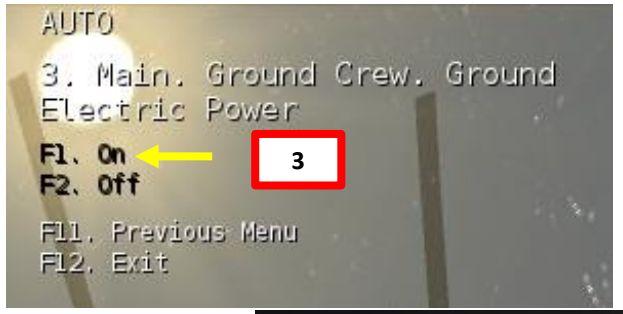
PART 3 – START-UP

Note: You do not need to try to use the parking brake since it is hydraulically-driven. The “Normal System” hydraulic pumps themselves are engine-driven and require engine power to function.

1. Select ground crew by pressing “\” and F8.
2. Select “GROUND ELECTRIC POWER” by pressing F2
3. Select “ON” by pressing F1 to turn on ground power
4. Ensure Flight Control Switch is set to “ALTERNATE ON”, then confirm that the ALTERNATE ON light is illuminated. Set Hydraulic System Indication Selector to ALTERNATE (Down) position and confirm that there is a positive hydraulic pressure.







Flight Control Switch

PART 3 – START-UP

5. Ensure throttle is set to OFF by pressing “END” key (by default)

6. Set Engine Master Switch to ON (UP)

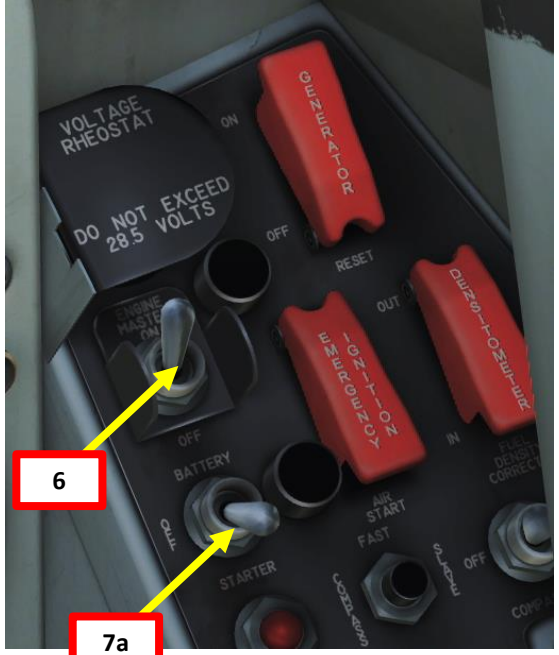
7. Set Battery Switch to STARTER (Left Click, Down Position) for 2 to 3 seconds, then set it to BATTERY (Right Click, Up Position)

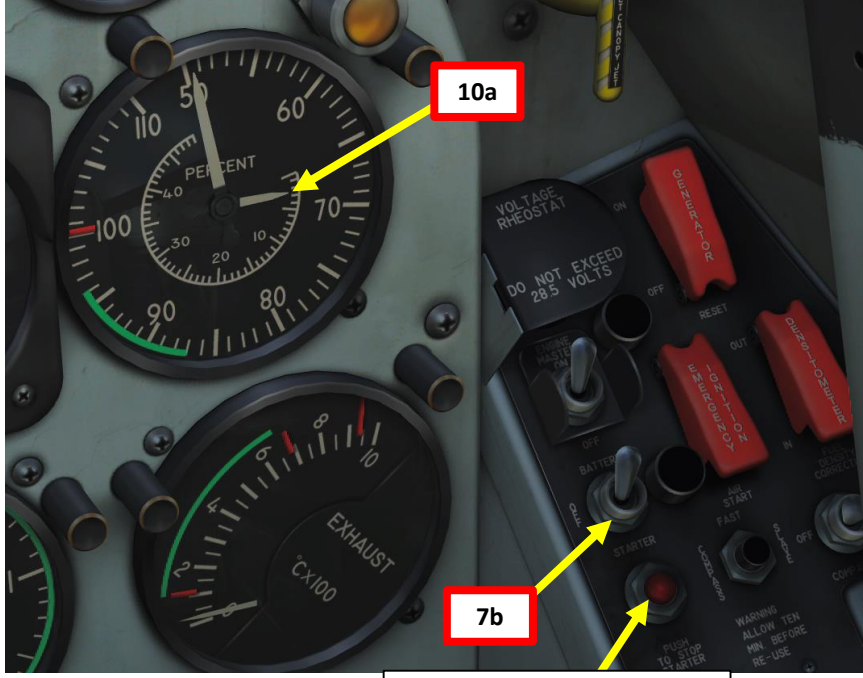
8. Wait for engine RPM to reach 3 %

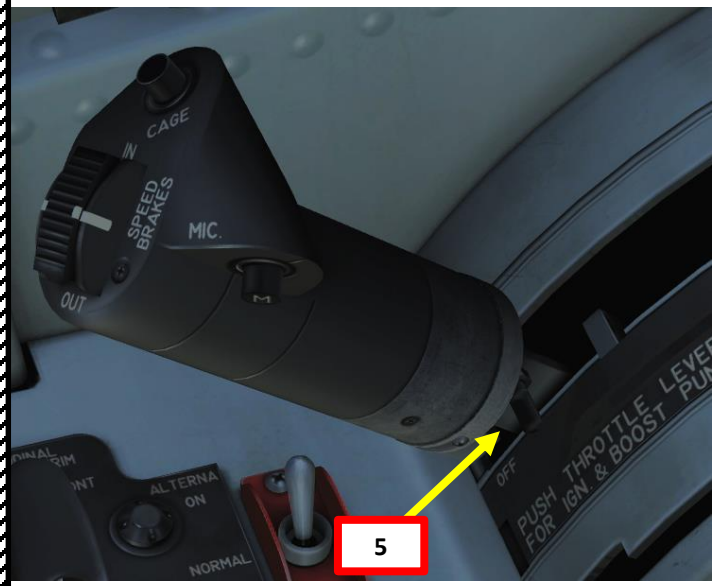
9. If engine does not reach 3 % within 1 minute, press the STOP-STARTER Switch, set Engine Master Switch to OFF and Battery Switch to OFF. Then, repeat steps 5 to 8.

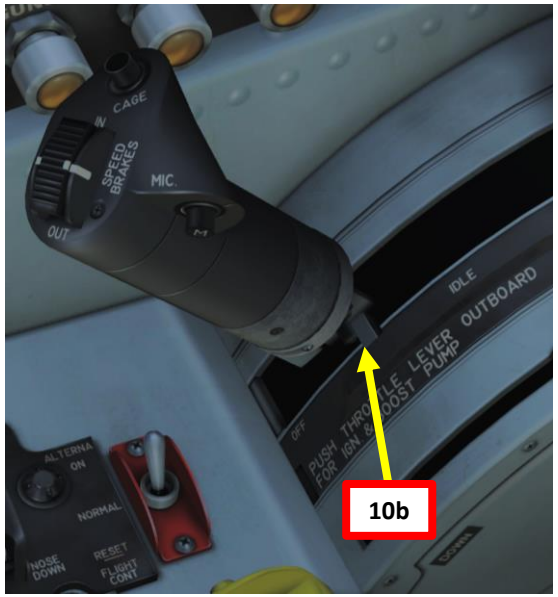
10. Once engine RPM reaches 3 %, set throttle to OUTBOARD by pressing “RALT+HOME” key binding (by default)

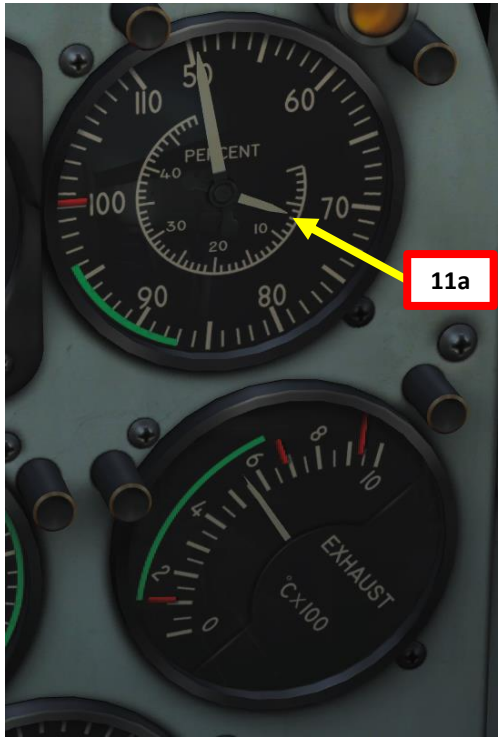
11. Once engine RPM reaches 6 %, set throttle to IDLE by pressing the “RALT+HOME” key binding (by default) a second time.

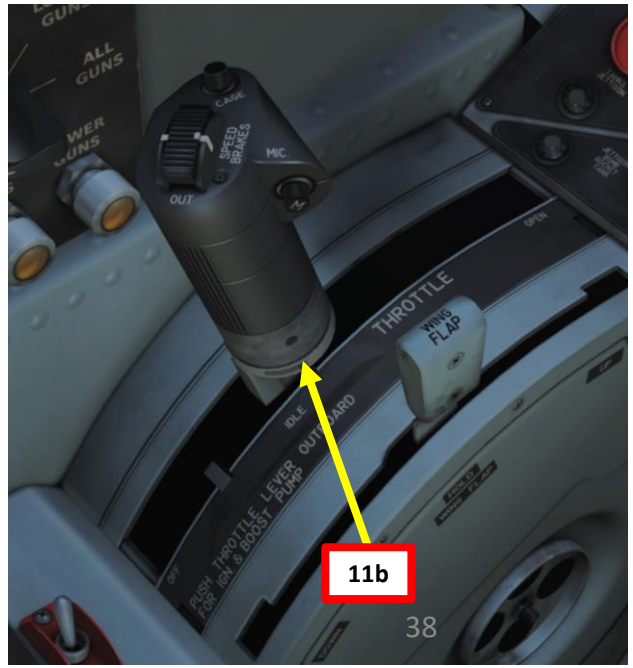












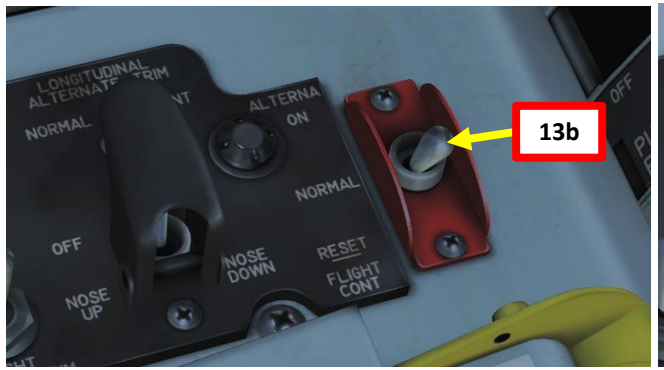
PART 3 – START-UP

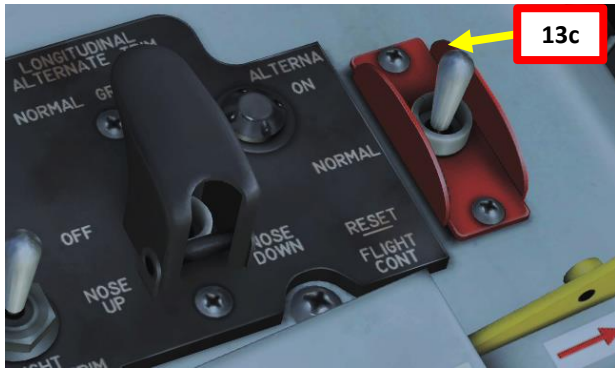
12. The Main (Normal) Hydraulic System pumps are engine-driven and will only kick in around 25 % RPM.

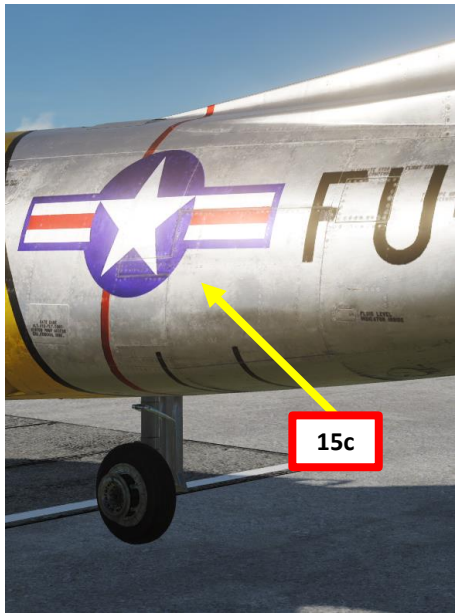
13. Once you have sufficient engine RPM (25+ %), set the Flight Control Switch to RESET for 2-3 seconds, then set it to “NORMAL”. Once the Main (Normal) Hydraulic system pumps is selected, the “ALTERNATE ON” warning light should extinguish.

14. Set Hydraulic System Indication Selector to NORMAL (Middle) and confirm positive hydraulic pressure.

15. Retract airbrakes







PART 3 – START-UP

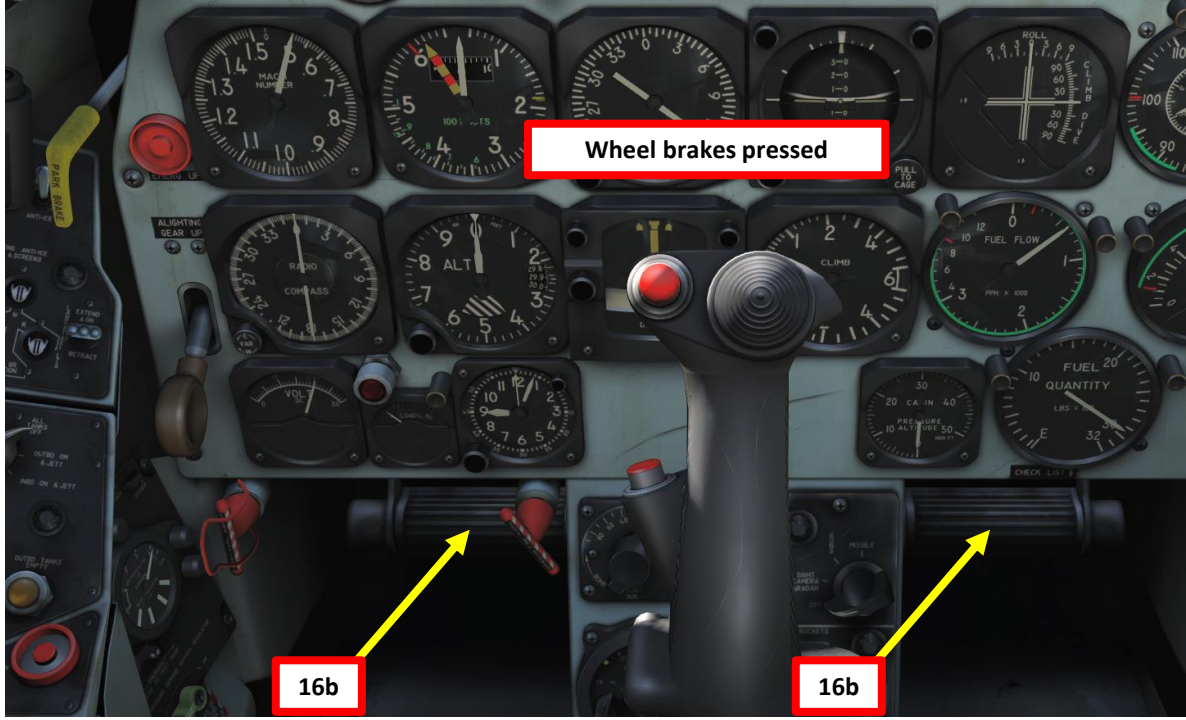
16. Set Parking Brake by:

a) Pulling and holding the parking brake lever

b) Pressing the wheel brake pedals while holding the parking brake lever

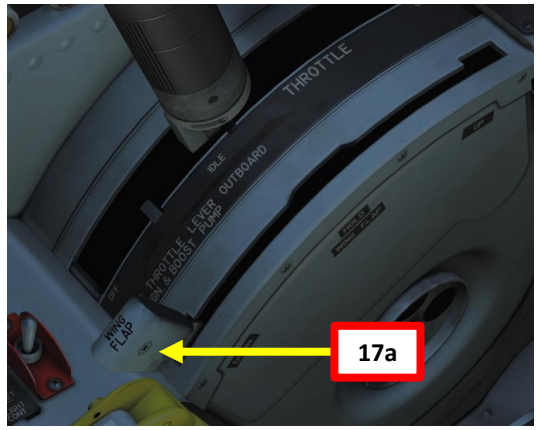
c) Releasing the wheel brakes.

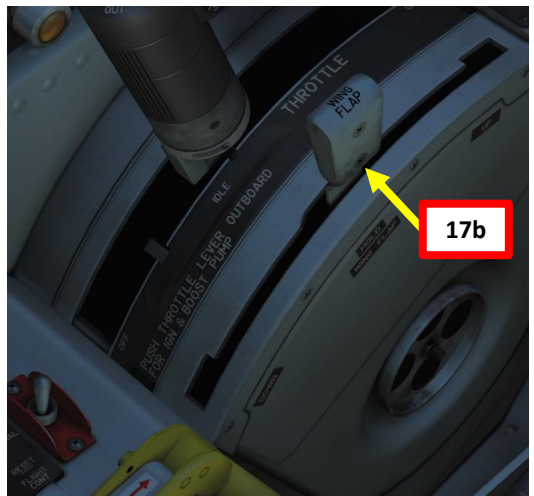
d) You can then let go of the parking brake lever; it will remain in the ENGAGED position (pulled).

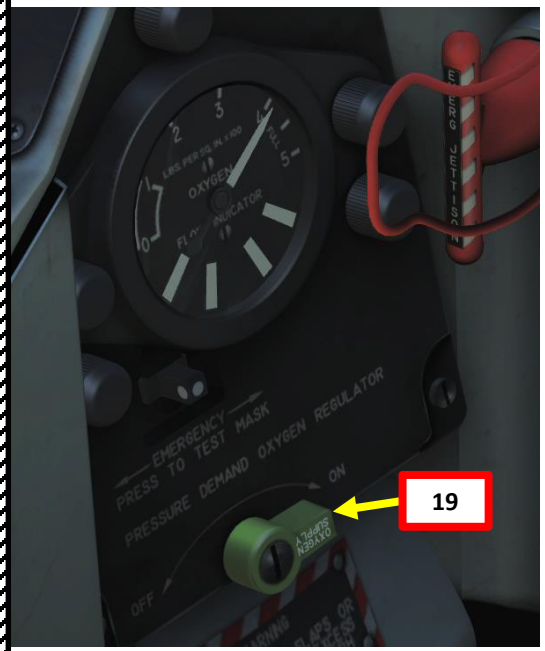


PART 3 – START-UP

17. Set your flaps Fully Down, and then set them to the Neutral position.
18. Set takeoff trim by setting your trim manually until you see the “TAKE-OFF POS.IND. LATERAL–DIRECT LONGIT.” light blink briefly. This light means that you are trimmed for takeoff.
19. Set your Oxygen Flow Valve selector to ON
20. Disconnect Ground Power by following the steps shown in step s 1 to 3
21. Close your canopy
22. Once ready to taxi, release parking brake by tapping your wheel brakes








32
BEWARE
OF BLAST

PART 4 – TAKEOFF

1. Line up on the runway using your nosewheel steering during turns (by holding “S” by default) and your rudder pedals. Toe brakes can be used as well.
    - *Note: The nose wheel steering system will not engage if the nose wheel is more than 21° to either side of center. Should the nose wheel be turned more than this, it must be brought into the steering range by use of the wheel brakes. When the nose wheel steering activation button on the control stick is released, the nosewheel steering system starts to work as a shimmy damper and the nose wheel goes to the self-castering mode.*
2. Check for your flaps (DOWN/DEPLOYED) and your airbrakes (RETRACTED). Ask your wingmen if you have bad visibility.
3. Set your brakes ON
4. Slowly increase throttle to Max Power. Keep in mind that the throttle is slow to respond to input.
5. Release brakes at full power
6. Use rudder to make small adjustments, but do not use the nosewheel steering
7. At 120 kts, rotate and retract your flaps and landing gear
8. Once airborne, set your flaps lever to “NEUTRAL”

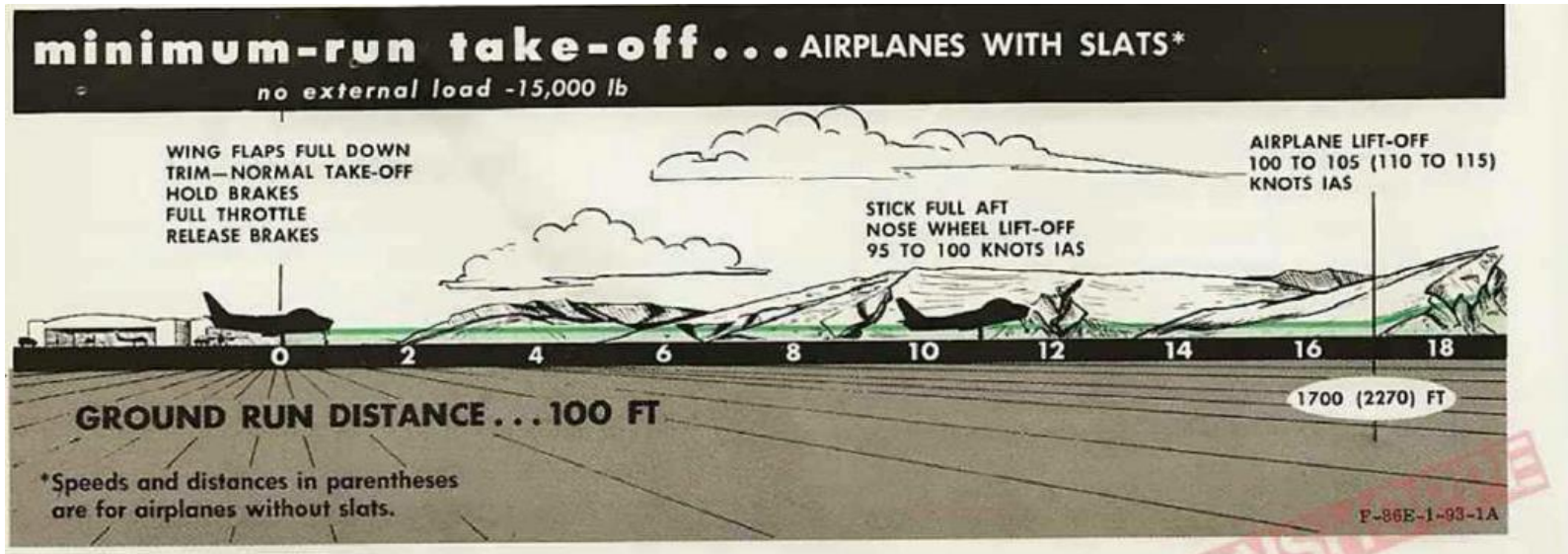

minimum-run take-off . . . AIRPLANES WITH SLATS*
no external load -15,000 lb
WING FLAPS FULL DOWN
TRIM—NORMAL TAKE-OFF
HOLD BRAKES
FULL THROTTLE
RELEASE BRAKES
STICK FULL AFT
NOSE WHEEL LIFT-OFF
95 TO 100 KNOTS IAS
AIRPLANE LIFT-OFF
100 TO 105 (110 TO 115)
KNOTS IAS
0 2 4 6 8 10 12 14 16 18
1700 (2270) FT
GROUND RUN DISTANCE . . . 100 FT
*Speeds and distances in parentheses
are for airplanes without slats.
F-86E-1-93-1A

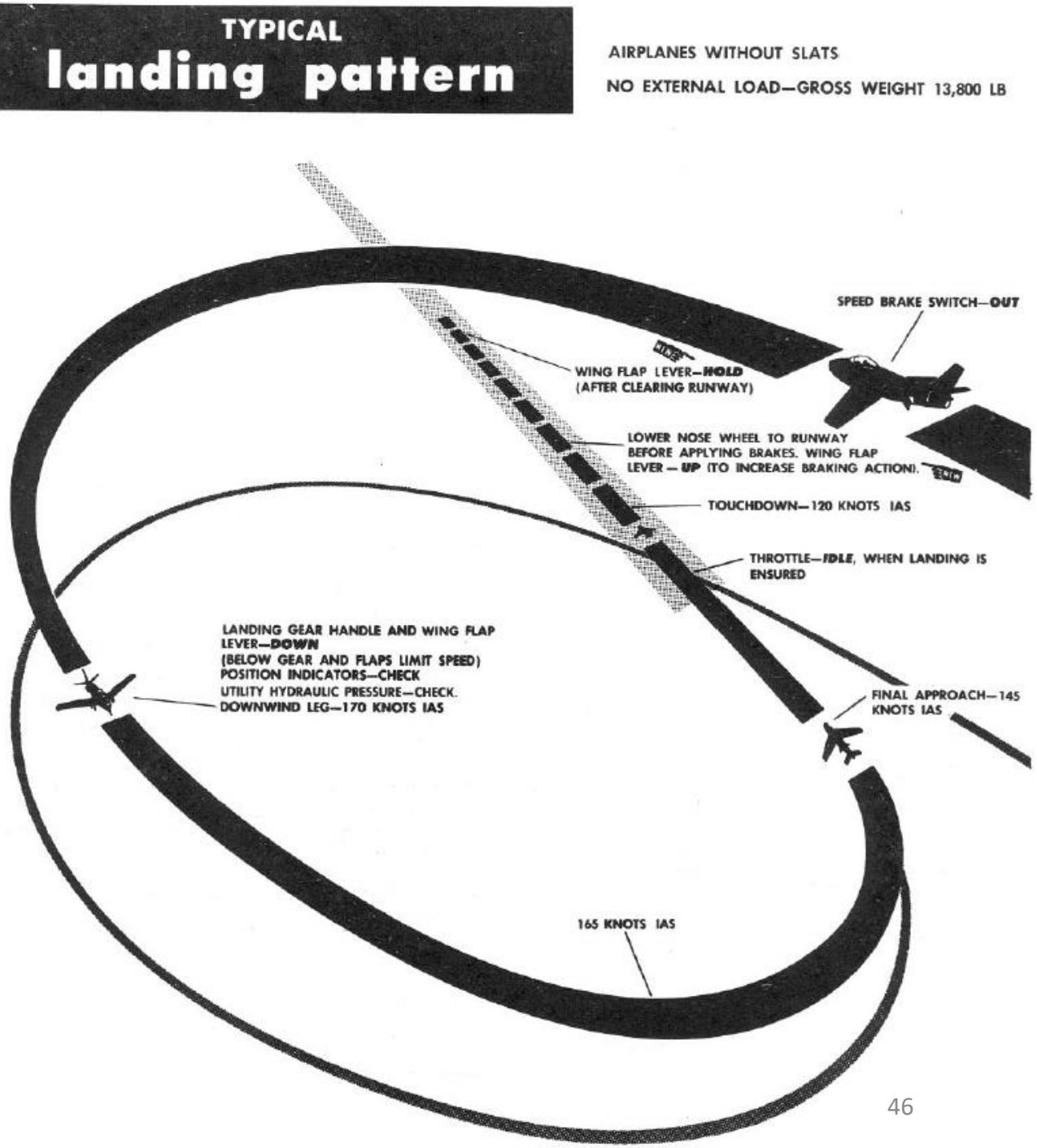
Figure 2-5


WING FLAPS UP AT 155
KNOTS IAS; ACCELERATE
TO BEST CLIMB SPEED.
NORMAL
CLIMB OUT
HOLD AIRSPEED BELOW
120 TO 125 KNOTS IAS.
20 22 24 26 28 30
2770 (3600) FT
OVER 50 FT OBSTACLE
WITH 120 GAL DROP TANKS
NOSE WHEEL LIFT-OFF 100-105 KNOTS IAS
AIRPLANE LIFT-OFF 105-110 (115-120) KNOTS IAS
GROUND RUN 2210 (2930) FEET
OVER 50 FT OBSTACLE 3510 (4300) FEET
F-86E-1-93-2A

PART 4 – TAKEOFF

PART 5 – LANDING

1. Deploy airbrakes and line up on the runway
2. Deploy flaps and landing gear (Check for yellow speed limit index on airspeed indicator)
3. Final approach is performed at 145 kts
4. Touchdown at 120 kts (Throttle at IDLE)
5. Gently tap your brakes to slow down
6. Once runway is cleared, retract flaps and airbrakes and taxi to the parking area



PART 5 – LANDING

PART 5 – LANDING

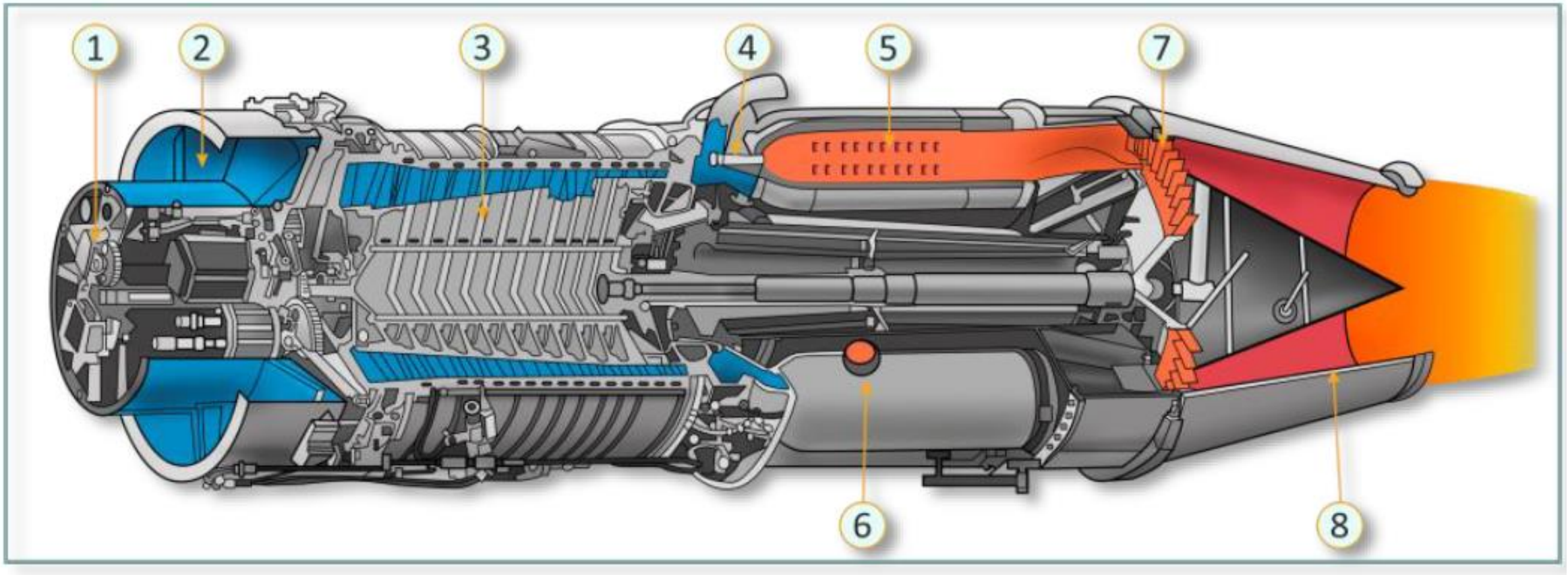
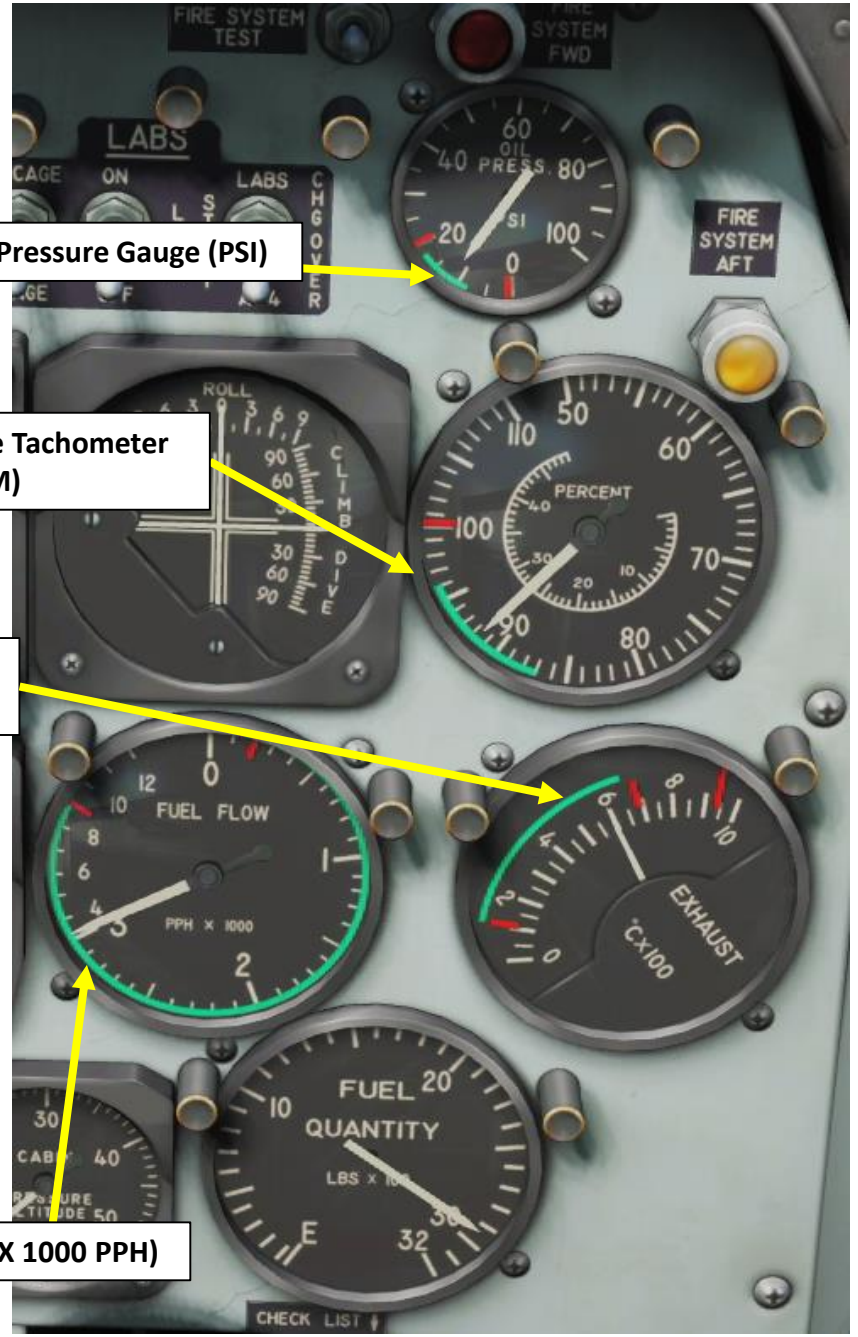


Figure 3.12. J47-GE-27 engine scheme

1. Gearbox
2. Air flow channel
3. Compressor
4. Fuel nozzle
5. Combustion chamber
6. Ignition system
7. Turbine
8. Exhaust nozzle

PART 6 – ENGINE & FUEL MANAGEMENT

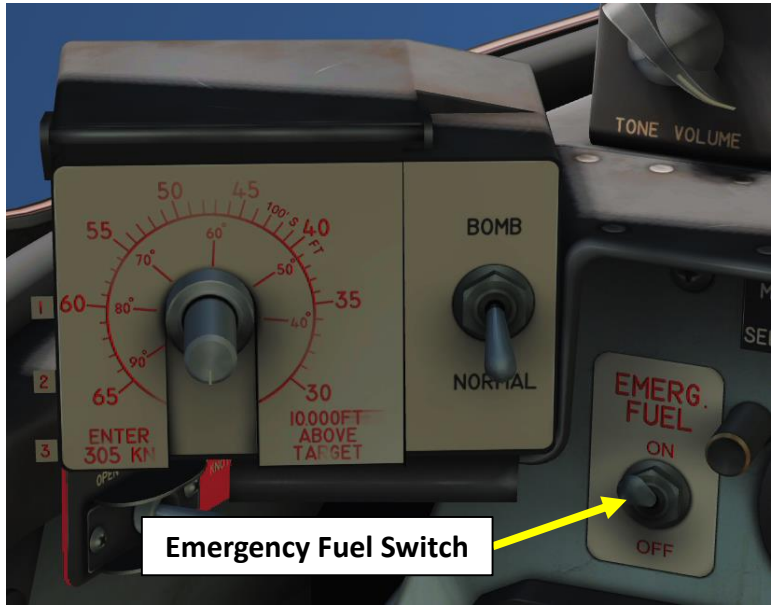
- The General Electric J47 engine has a 12-stage axial compressor and a single-stage axial turbine
- The only temperature you need to keep an eye on is the exhaust gas temperature (EGT). Make sure the temperature is within serviceability and safety limits (green). Engine temperature can only be controlled by reducing or augmenting engine RPM with the throttle.
- Max EGT should be **685 DEG C** at all times
- Recommended engine RPM setting during normal flying is between **85 % and 95 % RPM**.
- Keep an eye for exhaust temperature during combat, especially if you go full throttle (100 % RPM) for an extended period of time. Prolonged overheating of the engine will result in catastrophic engine failure.
- Compressor stall may occur when you move the throttle too quickly. You will notice a sudden loss in engine RPM. The J47 engine is slow to respond to throttle input, so it should be treated gently. In case of compressor stall, pull back the throttle to IDLE and slowly throttle up. Major compressor failure may result in an engine flameout.
- A **compressor stall** is a local disruption of the airflow in the compressor of a gas turbine or turbocharger. A stall that results in the complete disruption of the airflow through the compressor is referred to as a **compressor surge**. The severity of the phenomenon ranges from a momentary power drop barely registered by the engine instruments to a complete loss of compression in case of a surge, requiring adjustments in the fuel flow to recover normal operation.
- Compressor stall was a common problem on early jet engines with simple aerodynamics and manual or mechanical fuel control units, but has been virtually eliminated by better design and the use of hydromechanical and electronic control systems such as Full Authority Digital Engine Control (FADEC). Modern compressors are carefully designed and controlled to avoid or limit stall within an engine's operating range.

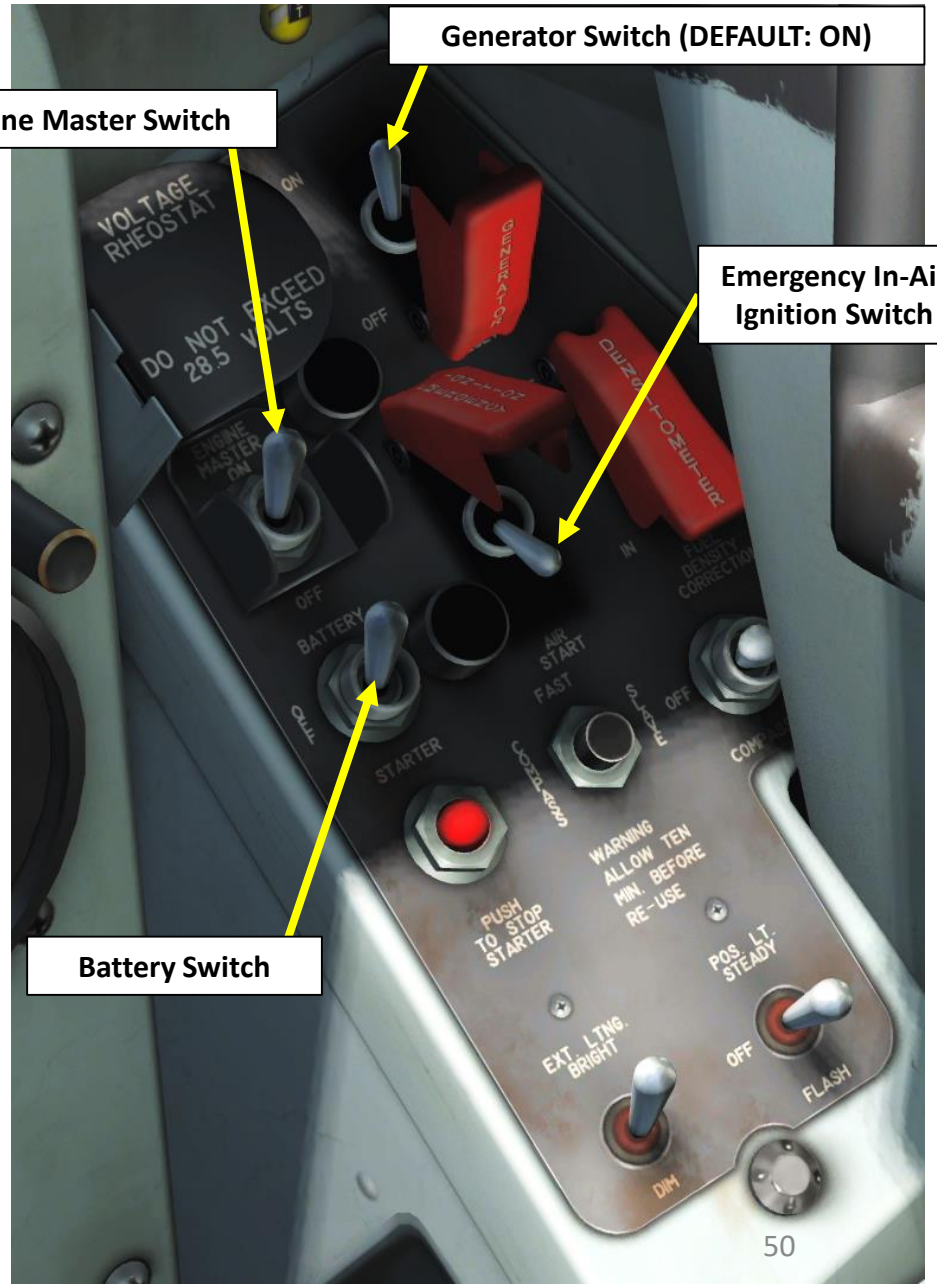


PART 6 – ENGINE & FUEL MANAGEMENT

IN CASE OF ENGINE FLAME-OUT

1. Do not panic
2. Cut throttle and set it to “OFF” (Press “END” key twice)
3. Put the Sabre’s nose down and increase speed between 185 and 225 kts
4. Make sure the Master Switch and Battery Switch are both ON
5. Switch ON Emergency In-Air Ignition Switch (lift red cover)
6. Switch ON Emergency Fuel Switch
7. Set throttle to IDLE position (Press “HOME” key twice)
8. Once engine is spooling up (90+ % RPM), Switch off Emergency In-Air Ignition Switch
9. Once smooth engine operation is established, switch OFF the Emergency Fuel Switch





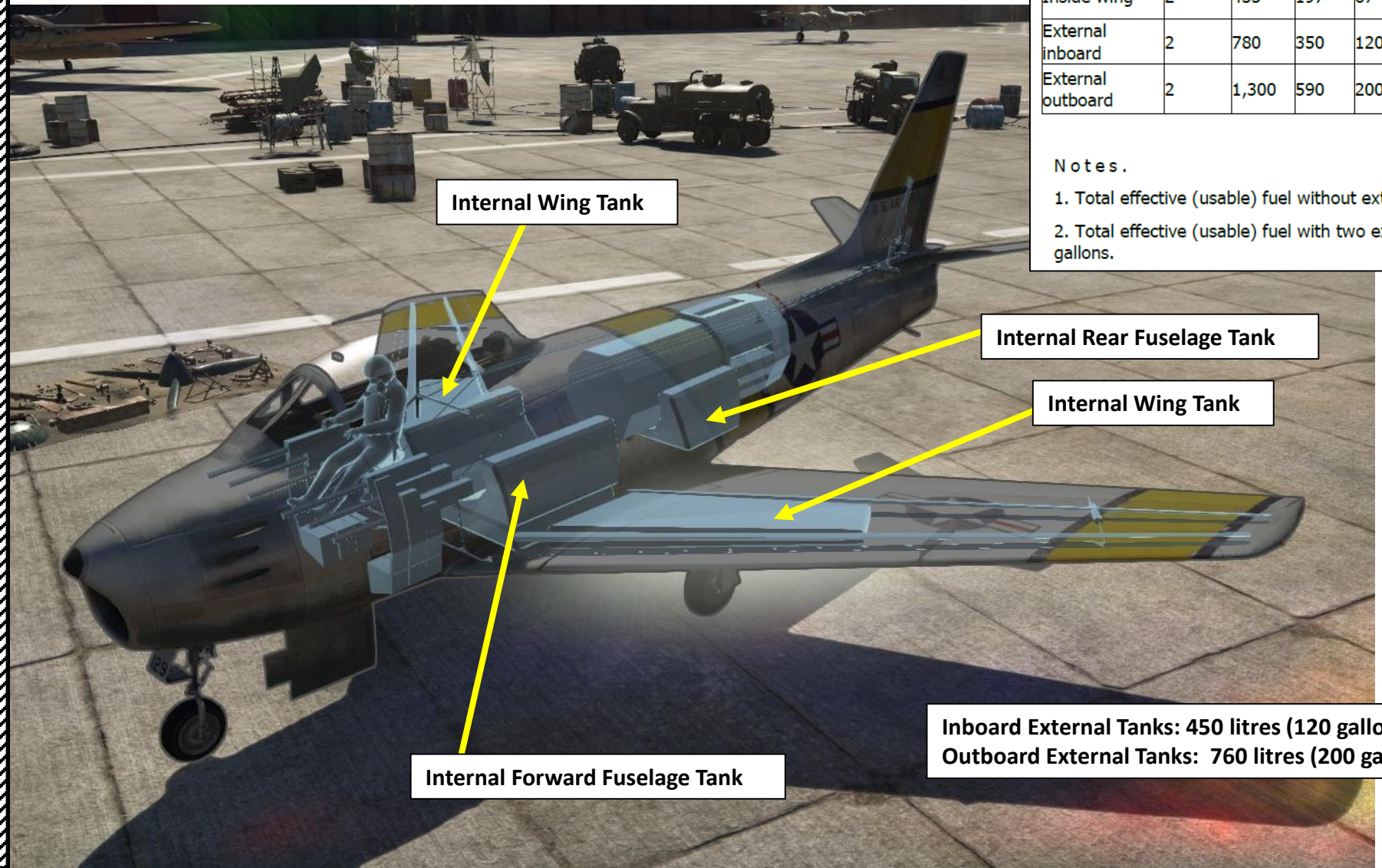
PART 6 – FUEL MANAGEMENT

Table 5.1

Tank	Number of tanks	Effective (usable) fuel (for each tank)				Full fuel (for each tank)			
		pounds	kg	gallons	liters	pounds	kg	gallons	liters
Forward fuselage	1	1,274	580	196	740	1,306	592	201	760
Rear fuselage	1	682	310	105	400	689	312	106	402
Inside wing	2	435	197	67	250	442	200	68	257
External inboard	2	780	350	120	450	780	350	120	450
External outboard	2	1,300	590	200	760	1,306	592	201	760

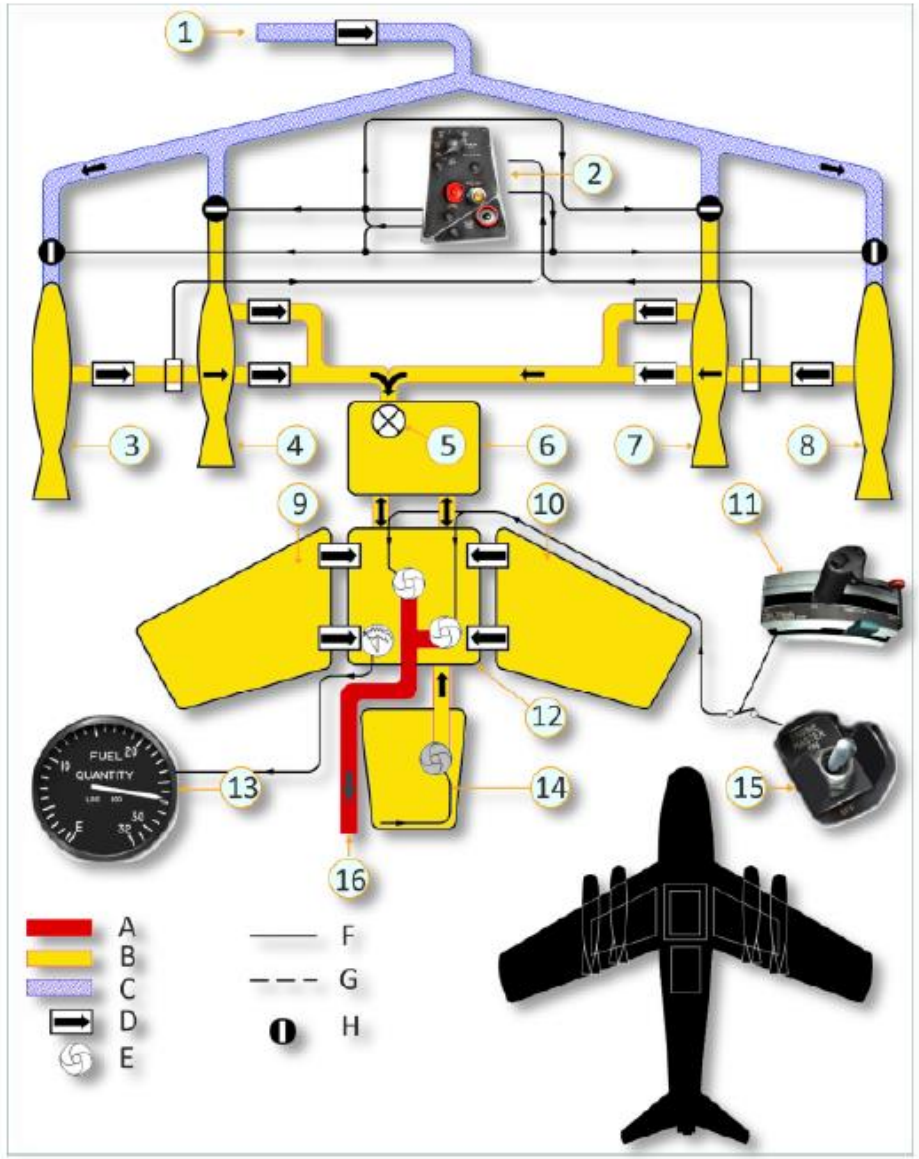
Notes.

1. Total effective (usable) fuel without external fuel tanks: 2,827 pounds/435 gallons.
2. Total effective (usable) fuel with two external 120 gallon fuel tanks: 4,287 pounds/675 gallons.



Inboard External Tanks: 450 litres (120 gallon)
Outboard External Tanks: 760 litres (200 gallon)

PART 6 – FUEL MANAGEMENT



A. High-pressure fuel line
B. Fuel transfer
C. Air pressurization
D. Regulator valves
E. Booster / transfer pump
F. Electrical coupling
G. Mechanical coupling
H. Shutoff valve

1. Air downstream of compressor
2. Drop tank control panel
3. Left outboard external tank
4. Left inboard external tank
5. Fuel level metering valve
6. Forward (upper) fuselage tank
7. Right inboard external tank
8. Right outboard external tank
9. Left wing tank
10. Right wing tank
11. Engine throttle
12. Forward (lower) fuselage tank
13. Fuel quantity indicator
14. Rear fuselage tank
15. Fuel control switch
16. Fuel control system power supply

Figure 5.4. Scheme of aircraft fuel system

Fuel Tank Selector Switch

- *ALL TANKS OFF = SAFETY (Tanks will not drop, fuel is taken from internal tanks)*
- *OUTBD ON & JETT = Fuel taken from Outboard external tanks, jettison Outboard Tanks Only*
- *INBD ON & JETT = Fuel taken from Inboard external tanks, jettison Inboard Tanks Only*
- *Other positions are self-explanatory*

Very important note: this switch must be use to choose where the fuel pumps will take fuel from. If you leave the switch to "ALL TANKS OFF", your fuel pumps will use your internal tanks rather than your external tanks.

Outboard External Fuel Tanks Empty Light

HOW TO JETTISON DROP TANKS

1) Set Fuel Tank Jettison Selector to the desired position

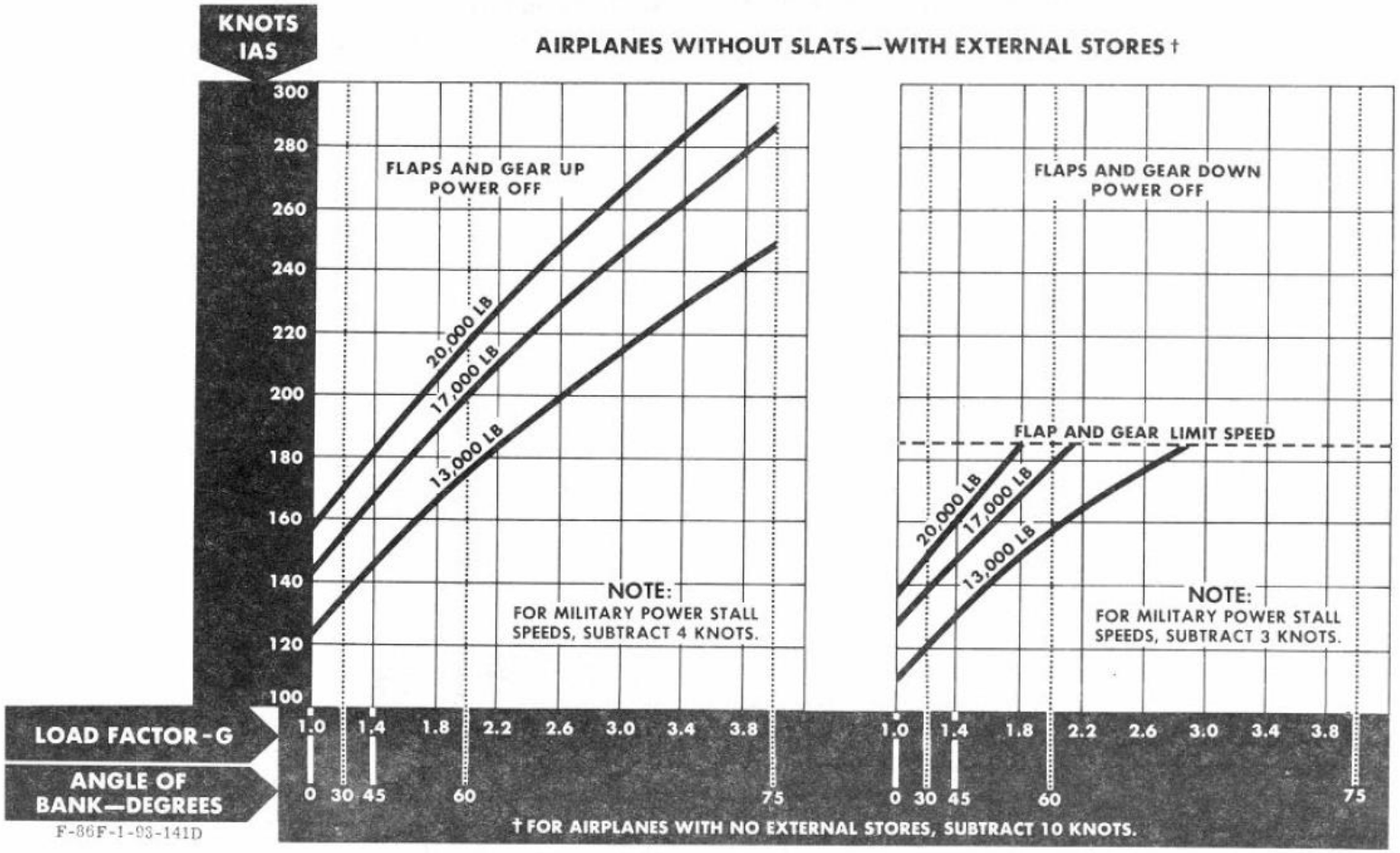
2) Press “JETTISON FUEL TANKS” button

FUEL TANK JETTISON SELECTOR
ALL TANKS OFF = SAFETY (TANKS WILL NOT DROP)
OUTBD ON & JETT = JETTISON OUTBOARD TANKS
INBD ON & JETT = JETTISON INBOARD TANKS
OTHER POSITIONS ARE SELF-EXPLANATORY

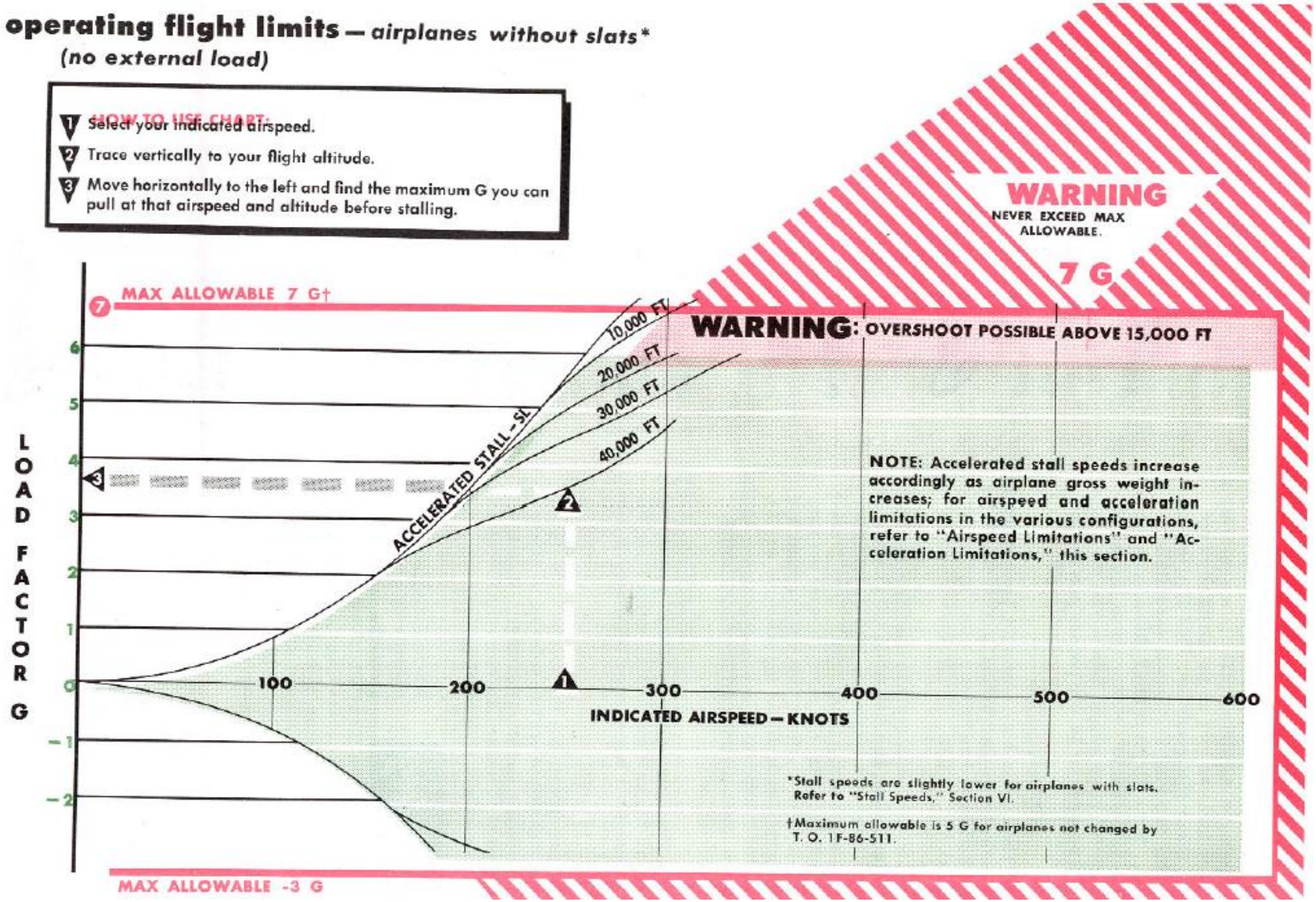
JETTISON FUEL TANKS BUTTON
(PRESS THIS TO JETTISON FUEL TANKS ONCE THE TANK(S) YOU WANT TO DROP HAVE BEEN SELECTED)

PART 7 – AIRCRAFT LIMITATIONS

stall speeds



PART 7 – AIRCRAFT LIMITATIONS



PART 7 – AIRCRAFT LIMITATIONS

airspeed and acceleration limitations

ONLY THE CONFIGURATIONS LISTED ARE APPROVED FOR FLIGHT.

F-86F-25 AND LATER AIRPLANES

OUTBOARD STATION	INBOARD STATION	INBOARD STATION	OUTBOARD STATION	AIRSPEED LIMITATIONS	G-LIMITS
120 Gal Drop Tank	B37K-1 Bomb rack	B37K-1 Bomb rack	120 Gal Drop Tank	IF BOTH TANKS ARE TYPE I OR III Below 25, 000 feet: 500 knots IAS or Mach .90, whichever is lower. Above 25, 000 feet: Maximum attainable except avoid buffet regions.	TANKS WITH FUEL +5.0 -2.0 TANKS EMPTY +6.0* -2.0
				IF EITHER TANK IS TYPE II OR IV 500 knots IAS or Mach .90, whichever is lower. No abrupt maneuvers, no continuous rolls, rate of roll limited to 90 degrees per second.	+4.0 -2.0
120 Gal Drop Tank	INBOARD ROCKET STATIONS: MA-2A, MA-2A	INBOARD ROCKET STATIONS: MA-2A, MA-2A	120 Gal Drop Tank	IF BOTH TANKS ARE TYPE I OR III Below 25, 000 feet: 500 knots IAS or Mach .90, whichever is lower. Above 25, 000 feet: Maximum attainable except avoid buffet regions.	TANKS WITH FUEL +5.0 -2.0 TANKS EMPTY +6.0* -2.0
				IF EITHER TANK IS TYPE II OR IV 500 knots IAS or Mach .90, whichever is lower. No abrupt maneuvers, no continuous rolls, rate of roll limited to 90 degrees per second.	+4.0 -2.0

PART 7 – AIRCRAFT LIMITATIONS

airspeed and acceleration limitations

ONLY THE CONFIGURATIONS LISTED ARE APPROVED FOR FLIGHT.

F-86F-25 AND LATER AIRPLANES

OUTBOARD STATION	INBOARD STATION		INBOARD STATION		OUTBOARD STATION	AIRSPEED LIMITATIONS	G-LIMITS
120 Gal Drop Tank	MA-3	MA-3	MA-3	MA-3	120 Gal Drop Tank	IF BOTH TANKS ARE TYPE I OR III Below 20, 000 feet: Mach .80 Above 20, 000 feet: Mach .90	TANKS WITH FUEL +5.0 -2.0 TANKS EMPTY +6.0* -2.0
						IF EITHER TANK IS TYPE II OR IV Below 20, 000 feet: Mach .80 Above 20, 000 feet: 500 knots IAS or Mach .90, whichever is lower. No abrupt maneuvers, no continuous rolls, rate of roll limited to 90 degrees per second.	+4.0 -2.0
120 Gal Drop Tank	ROCKET STATION MA-2A	B37K-1 Bomb Rack	MA-2A	MA-2A	120 Gal Drop Tank	IF BOTH TANKS ARE TYPE I OR III Below 25, 000 feet: 500 knots IAS or Mach .90, whichever is lower. Above 25, 000 feet: Maximum attainable except avoid buffet regions.	TANKS WITH FUEL +5.0 -2.0 TANKS EMPTY +6.0* -2.0
						IF EITHER TANK IS TYPE II OR IV 500 knots IAS or Mach .90, whichever is lower. No abrupt maneuvers, no continuous rolls, rate of roll limited to 90 degrees per second.	+4.0 -2.0

* Positive G-limits for airplanes not changed by T.O. 1F-86F-544 are 5.0 G for straight pull-outs and 3.3 G for rolling pull-outs. NEW

PART 7 – AIRCRAFT LIMITATIONS

AIRSPEED AND ACCELERATION LIMITATIONS

ONLY THE CONFIGURATIONS LISTED ARE APPROVED FOR FLIGHT

NOTE

- The missile rollerons must be pinned to prevent buffet.
- Positive G-limits for rolling pull-outs are two thirds of limits shown.
- Negative G-limit for rolling push-down is 1 G.

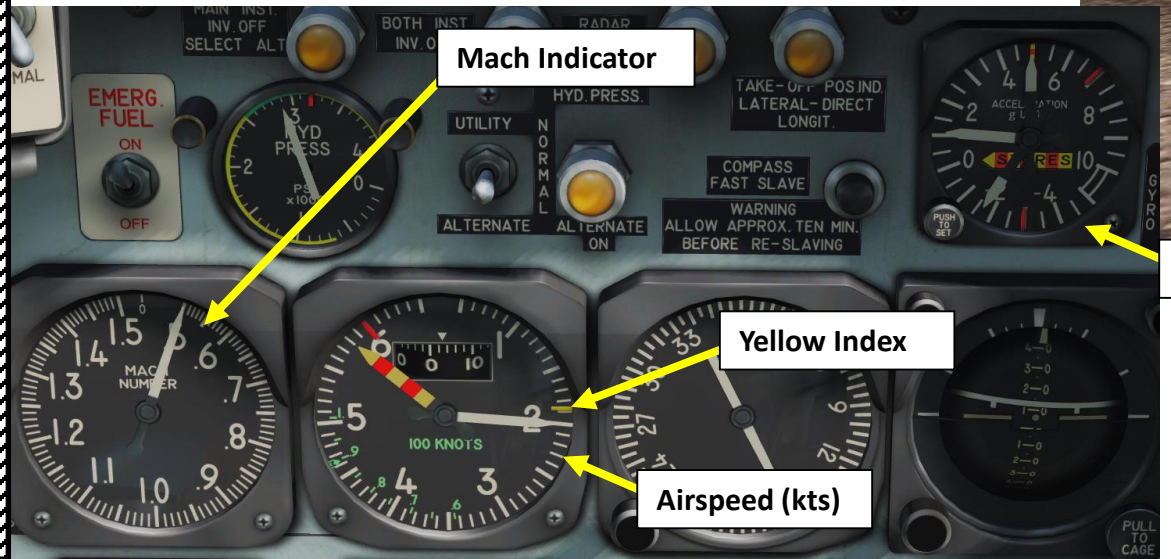
OUTBOARD STATION	INBOARD STATION	MISSILE STATION	MISSILE STATION	INBOARD STATION	OUTBOARD STATION	AIRSPEED LIMITATIONS	G-LIMITS
		AIM-9B MISSILE	AIM-9B MISSILE*			600 knots IAS or where wing roll is excessive.	+5.0 −2.0
NAA 200 GAL DROP TANK		AIM-9B MISSILE	AIM-9B MISSILE *		NAA 200 GAL DROP TANK	600 knots IAS or where wing roll is excessive. Avoid buffet regions. No continuous rolls.	TANKS WITH FUEL +5.0 −2.0 TANKS EMPTY +5.0 −2.0
NAA 200 GAL DROP TANK	120 GAL DROP TANK	AIM-9B MISSILE	AIM-9B MISSILE *	120 GAL DROP TANK	NAA 200 GAL DROP TANK	IF BOTH 120 GAL TANKS ARE TYPE I OR III Above 25,000 feet: Maximum attainable, except avoid buffet regions. Below 25,000 feet: 500 knots IAS or Mach .90 whichever is lower.	+4.5 −2.0
						IF EITHER 120 GAL TANK IS TYPE II OR IV Above 25,000 feet: Mach .85 Below 25,000 feet: Mach .82 No abrupt maneuvers, no continuous rolls, rate of roll limited to 90 degrees per second.	+4.0 −2.0

* or TDU-11/B target rocket

Figure 5-3A

PART 8 – AIRCRAFT OPERATION

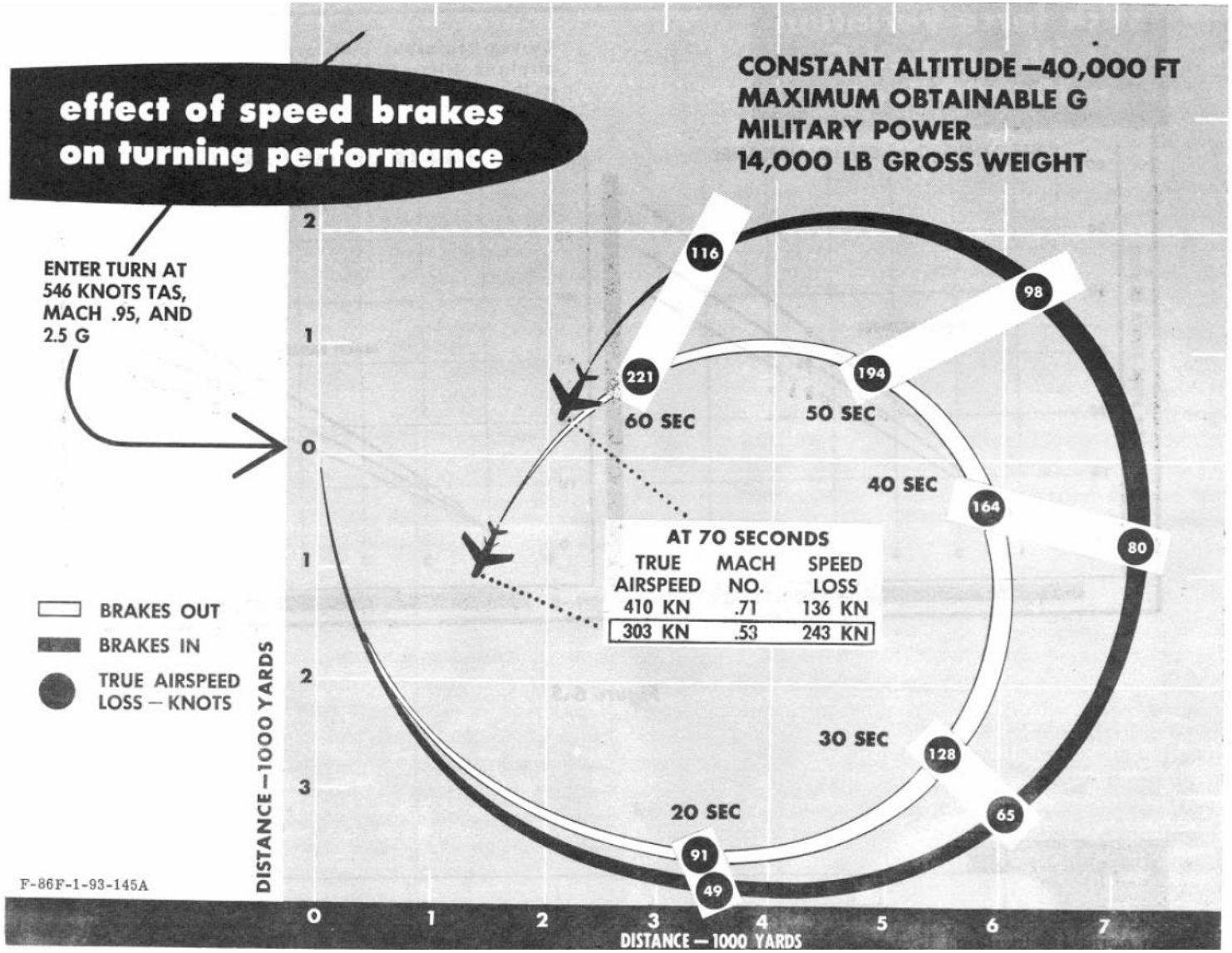
- Your aircraft can easily go more than 400 kts in level flight, which means that you can very easily black out if you do not pay attention to your speed and accelerometer in turning manoeuvres. Be gentle with the stick.
- Speed is very important in combat, but also during landing. Pay attention to the yellow index on the airspeed indicator to know when you can safely deploy your flaps and landing gear. Deploying those at high speeds will make them jam in inconvenient positions, as shown in the picture on the right.
- During a normal patrol, you do not need to go full throttle all the time. It needlessly wears the engine down and can create problems with formation flying.
- At high Mach numbers (between Mach 0.95 and Mach 1.0), you can lock up your controls easily (especially ailerons). If you want to remain in full of your plane at all times, it is better to fly a little bit slower (Mach 0.7 - 0.8) but keep full authority over your controls. This can prevent unfortunate mid-air collisions with your wingmen (true story).



PART 8 – AIRCRAFT OPERATION

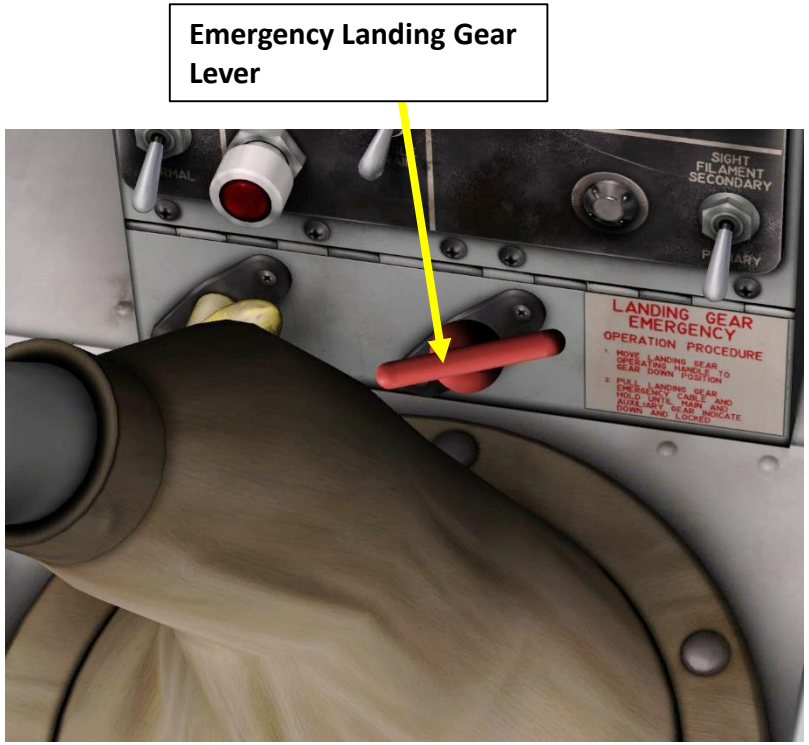
- Typically in World War II fighters, flaps were used to make tighter turns in combat. However, use of flaps during combat is strictly prohibited in the Sabre.
- Use of airbrakes can help you turn much tighter if you need to bleed airspeed quickly. They come in very handy in dive bombing and defensive manoeuvres, especially when you have a MiG-15 on your tail that you just can't shake off.
- Use airbrakes only when you need to. Bleeding off too much speed in the Sabre can quickly become fatal. Take note that:

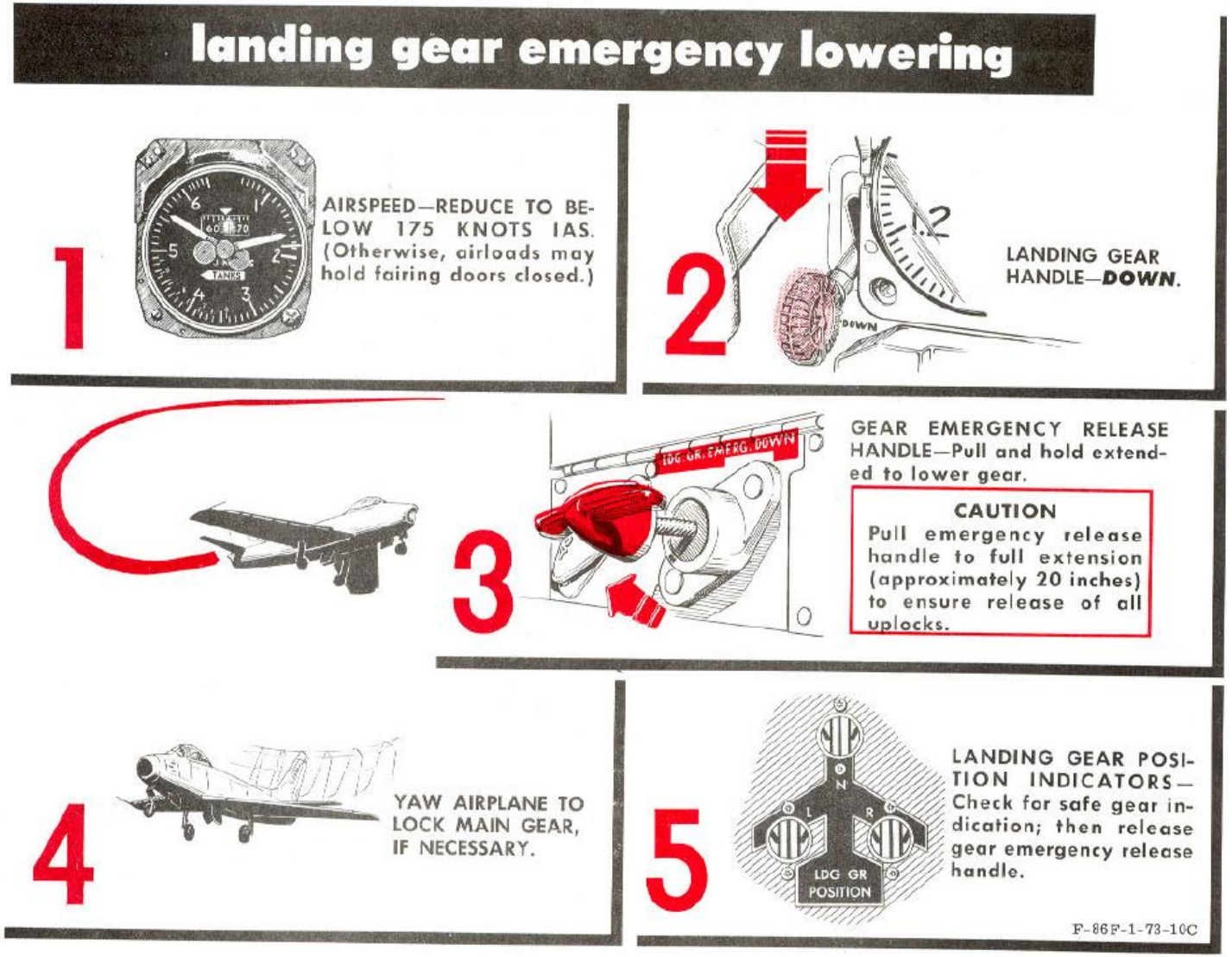
1. The MiG-15 outclimbs the F-86
2. The F-86 outperforms the MiG-15 in a dive
3. The F-86 is generally slightly more maneuverable than the MiG-15
4. The F-86 is very vulnerable at low speed



PART 8 – AIRCRAFT OPERATION

- In the case of a landing gear failure, here is the procedure for emergency landing gear deployment



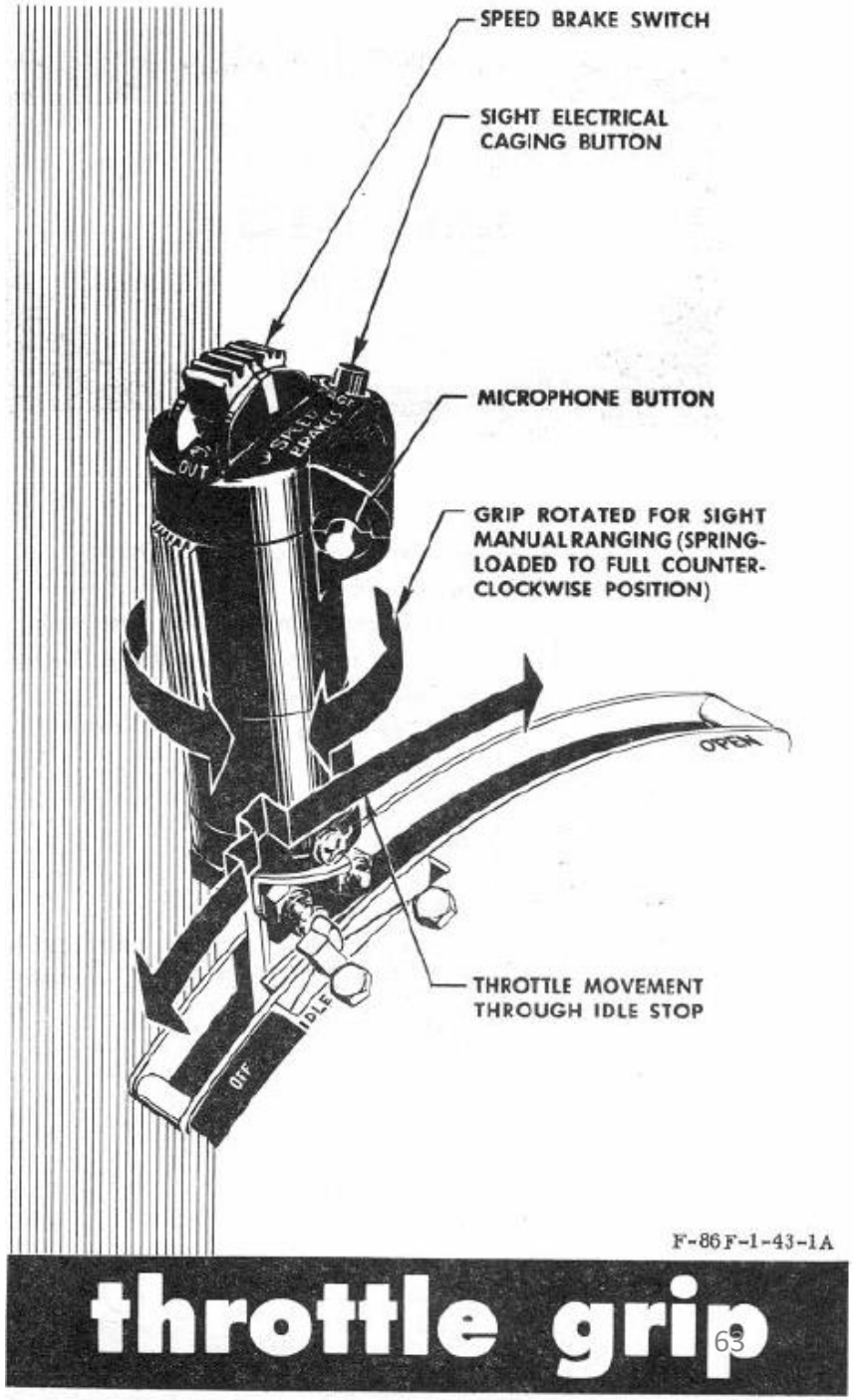


PART 9 – WEAPONS: INTRODUCTION

Before we start, I need to make something clear:

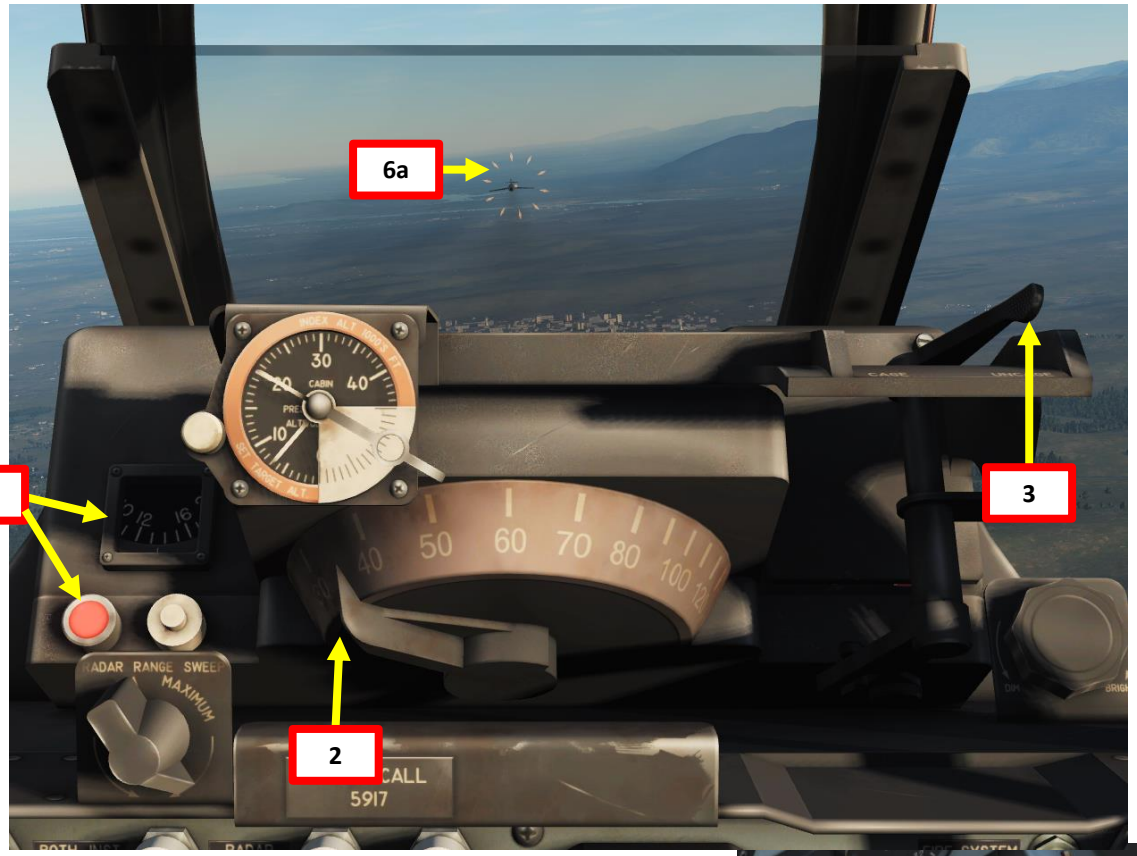
- The electrical caging switch and the mechanical caging switch are NOT the same thing. They have different functions.
- The following terminology will be used:
  - "RELEASE ELECTRICAL CAGE SWITCH" (Gunsight will be moving)
  - "HOLD ELECTRICAL CAGE SWITCH" (Gunsight will not be moving)
  - "UNCAGE MECHANICAL SIGHT" (Right Position = Gunsight will be moving)
  - "CAGE MECHANICAL SIGHT" (Left Position = Gunsight will not move)

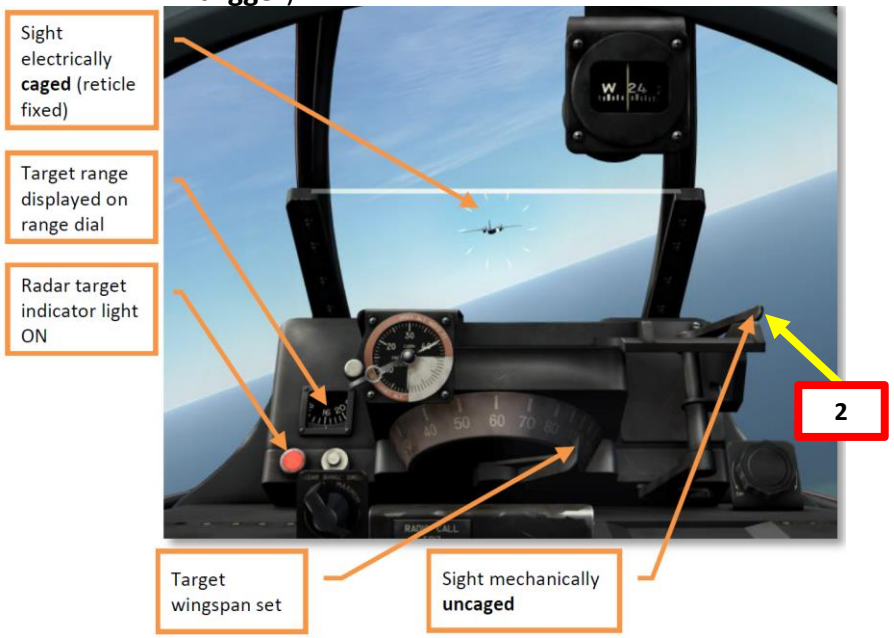
WINGSPAN OF A MIG-15BIS
10 m = 32 ft (VALUE TO ENTER IN GUNSIGHT WINGSPAN)

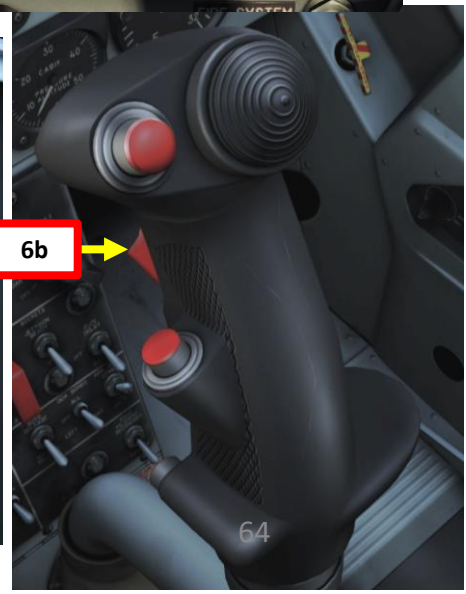


PART 9 – WEAPONS: 0.50 CAL GUNS

1) Set weapon selector to “GUNS”. Do it 10 minutes in advance to let the A-4 Gunsight System warm up, then set the Gun Selector to “ALL GUNS”.
2) Set Target Wingspan to about 30 ft (wingspan of a MiG-15)
3) Uncage Mechanical Sight before engaging air target
4) Current max radar range is 1600 ft. Radar light will become red once a target is spotted and it might suffer interference under an altitude of 6000 ft because of ground clutter. Continuous light means continuous radar tracking, while flickering light means that radar is spotting something but not actively tracking it.
5) Hold the Electrical Caging switch for a few seconds (gunsight will stop moving) and release it (gunsight will begin tracking). Target range on the range dial will start tracking the target’s range.
6) When target’s wingspan fits the gunsight, fire on the target (**GUN FIRE trigger**).







PART 9 – WEAPONS: 0.50 CAL GUNS

PART 9 – WEAPONS: MISSILES

1) Set weapon selector to “MISSILE”. Do it 10 minutes in advance to let the A-4 gunsight system warm up.

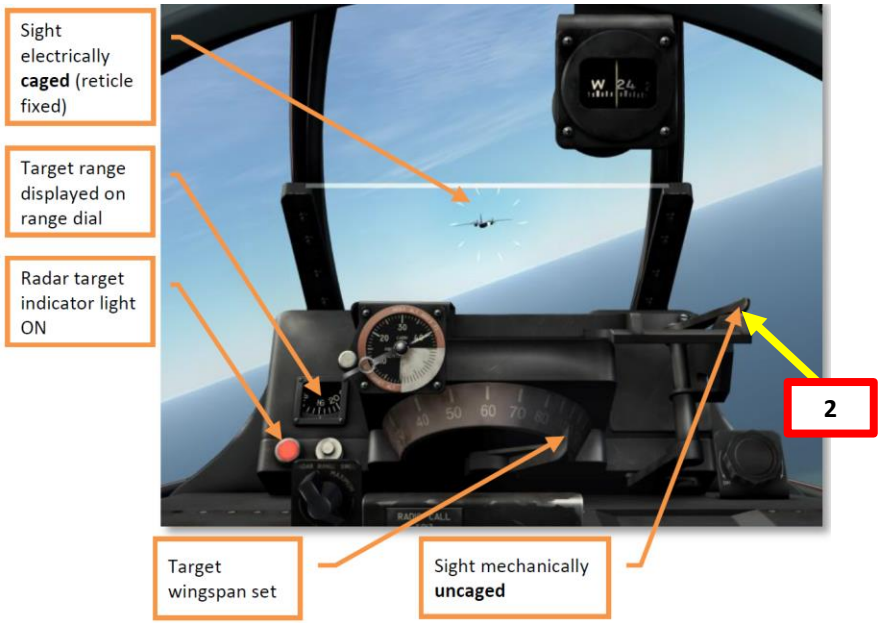
2) Uncage Mechanical Sight before engaging the air target

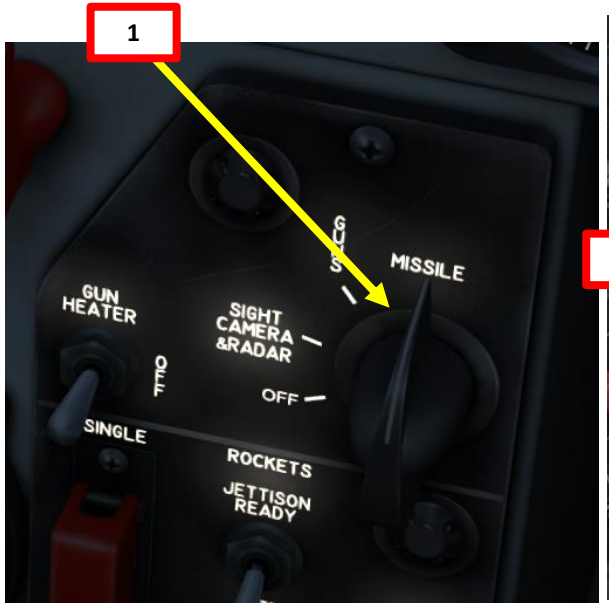
3) Select Missile Launch Mode (Typically I use RH, but it is really up to your personal preference). You will start hearing the missile seeker’s low-pitch growl.

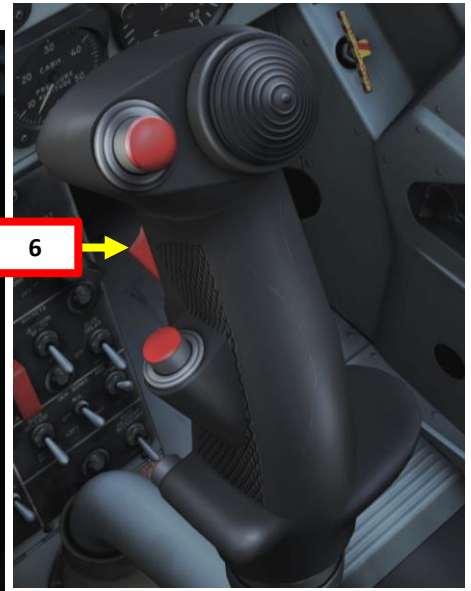
4) Current max radar range is 1600 ft. Radar light will become red once a target is spotted and it might suffer interference under an altitude of 6000 ft because of ground clutter. Continuous light means continuous radar tracking, while flickering light means that radar is spotting something but not actively tracking it.

5) Hold the Electrical Caging switch for a few seconds (gunsight will stop moving) and release it (gunsight will begin tracking). Target range on the range dial should stop wobbling and the gunsight will start tracking the target’s range.

6) Fire on the target (**GUN FIRE** trigger) when you have a solid lock (high-pitch seeker growl is audible once it tracks a heat signature). You should fire your missile at less than 2000 ft.







PART 9 – WEAPONS: MISSILES

PART 9 – WEAPONS: ROCKETS

1) Set Weapon Mode to “GUNS”

2) Set Gunsight Mode to “ROCKET”

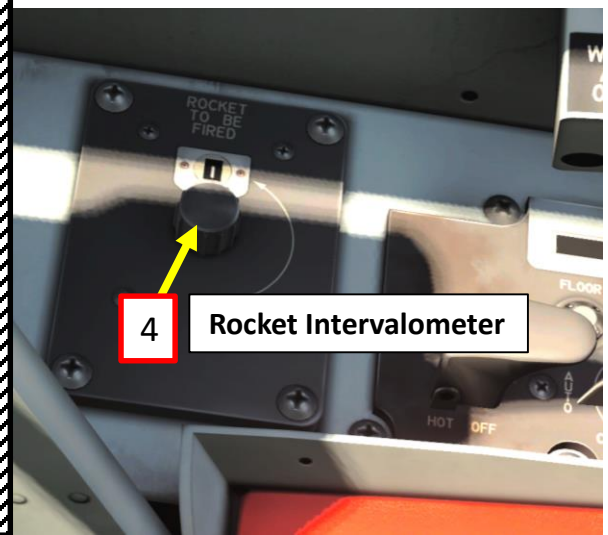
3) Flip the Rocket Mode safety guard

4) Click switch under the Rocket Mode Safety Guard
   - MIDDLE = OFF (default position)
   - UP (RIGHT CLICK) = SINGLE ROCKET
   - DOWN (LEFT CLICK) = AUTO ROCKET

NOTE: First rocket to be fired is set with the rocket intervalometer on the left panel

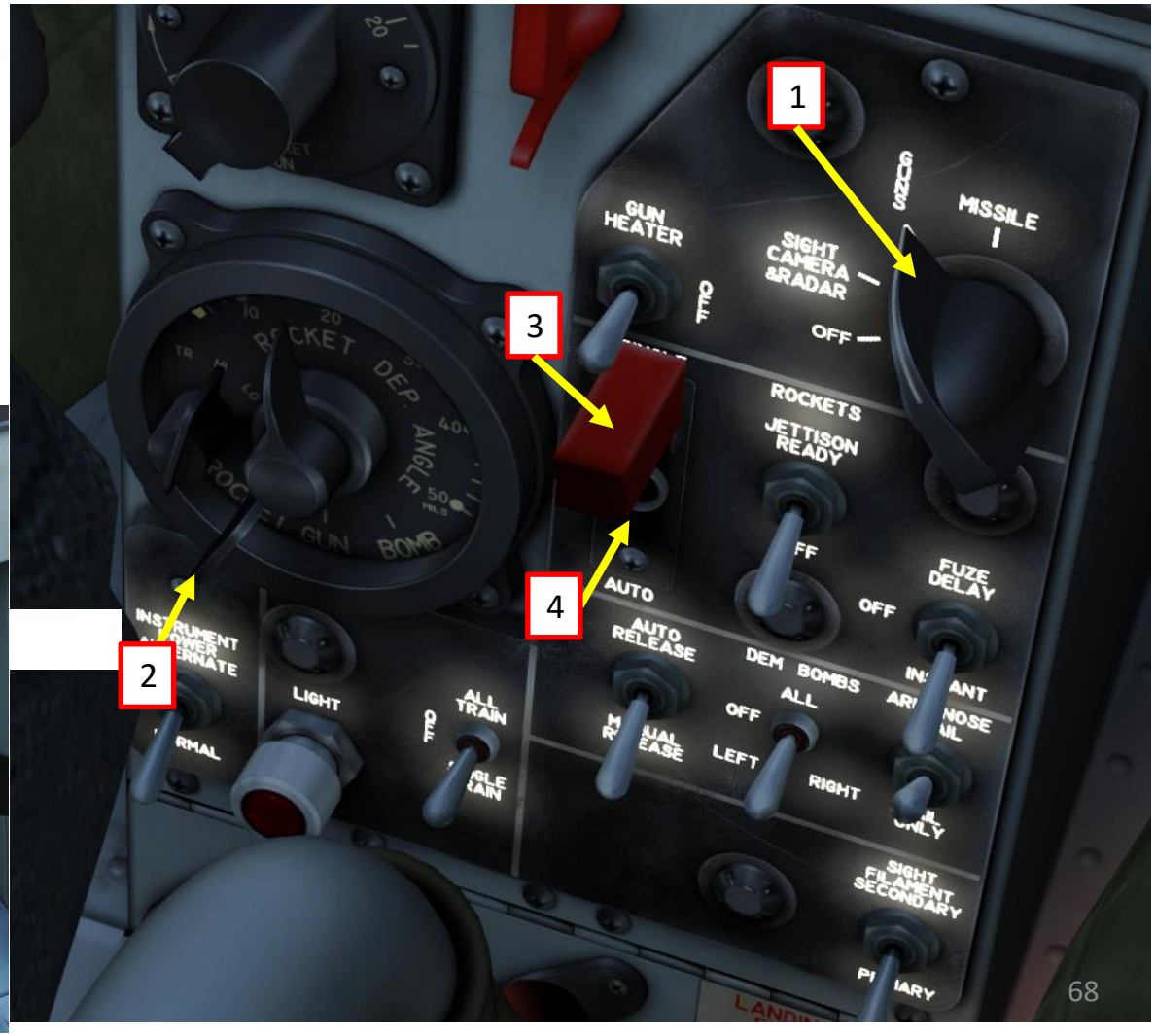
5) Use Gunsight and Electrical Caging switch to aim as shown in the “GUNS” section

6) Fire your rockets by pressing the “WEAPON RELEASE” Button



4 **Rocket Intervalometer**

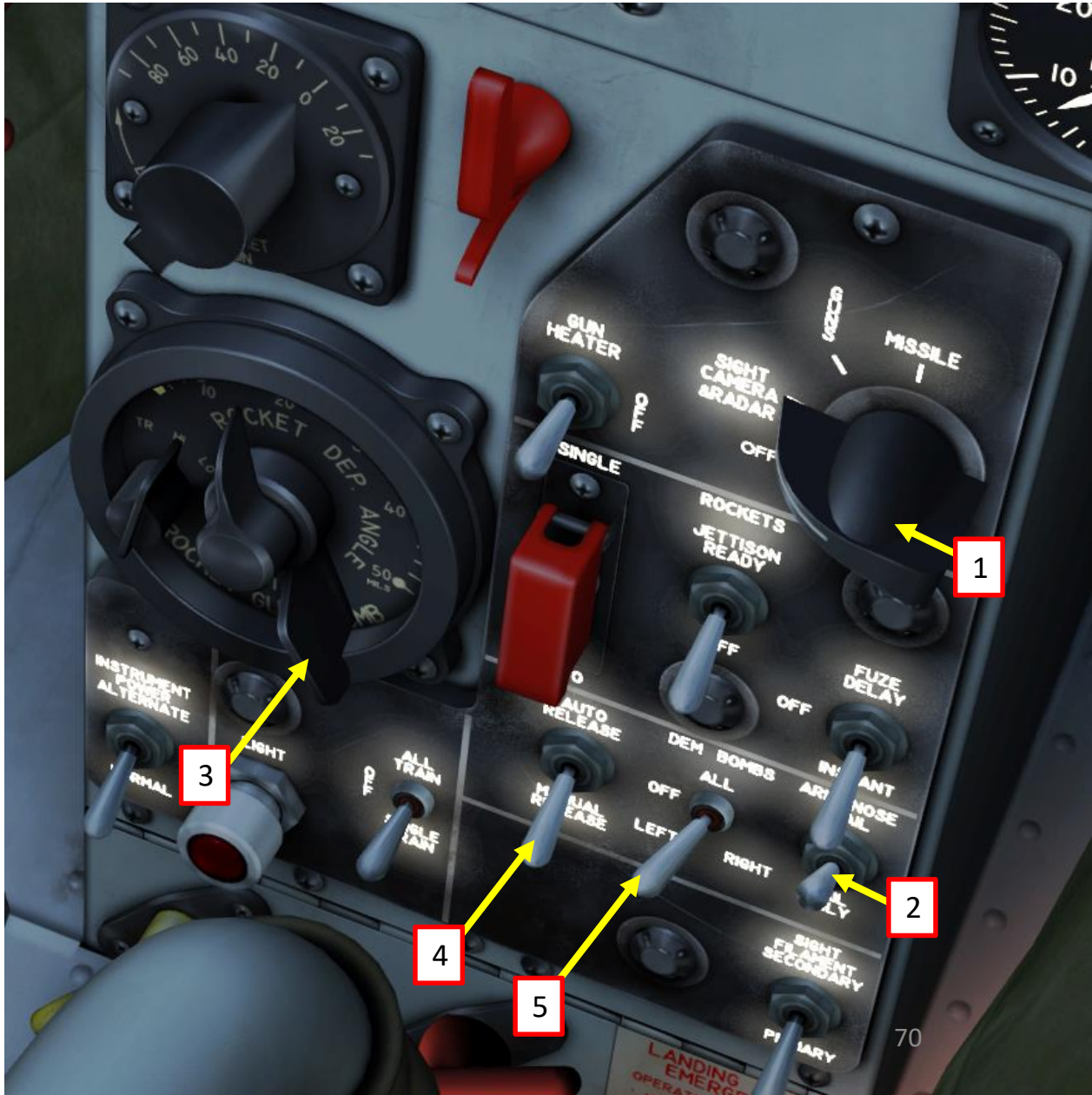
6 **Bomb/Rocket Release Button**



PART 9 – WEAPONS: ROCKETS

PART 9 – WEAPONS: DIVE BOMBING (MANUAL MODE)

1) Set Weapon Mode to “SIGHT CAMERA & RADAR”
2) Set Fuze Mode to “ARM NOSE & TAIL”
3) Set Gunsight Mode to “BOMB”
4) Set Release Mode to “MANUAL”
5) Select Bomb Loadout to Drop (ALL/LEFT/RIGHT)
6) Deploy Airbrakes and dive for your target
7) Drop your ordnance by pressing the “WEAPON RELEASE” Button



PART 9 – WEAPONS: DIVE BOMBING (AUTOMATIC MODE)

1) Set Weapon Mode to “SIGHT CAMERA & RADAR”
2) Set Fuze Mode to “ARM NOSE & TAIL”
3) Set Gunsight Mode to “BOMB”
4) Set Release Mode to “AUTO”
5) Select Bomb Loadout to Drop (ALL/LEFT/RIGHT)
6) Uncage Mechanical Sight (Reticle will be moving)

PART 9 – WEAPONS: DIVE BOMBING (AUTOMATIC MODE)

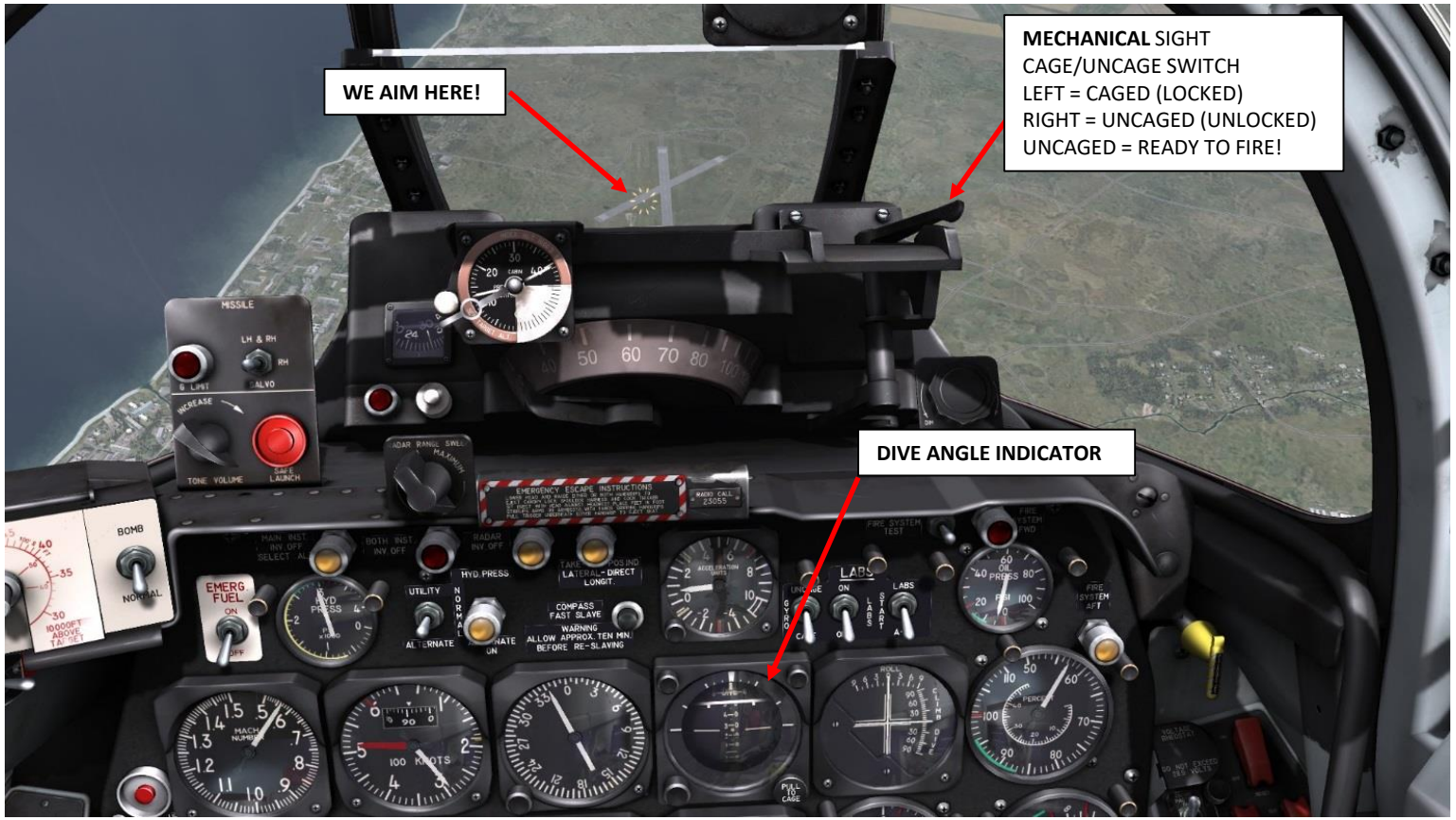
7) Deploy Airbrakes

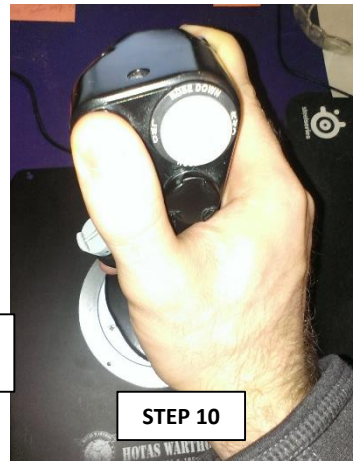
8) Enter a 45-deg dive and aim the pipper on the target

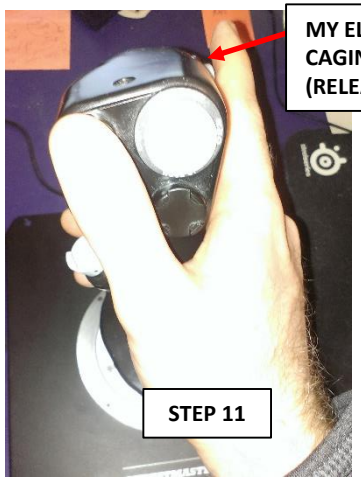
9) Hold Electrical Caging switch for about 3 seconds

10) While holding the Electrical Caging switch, hold your Weapon Release button. Keep the pipper on the target.

11) Release the Electrical Caging Switch, but keep holding the Weapon Release button. You should hear a “shlonk” once your bombs are dropped automatically.

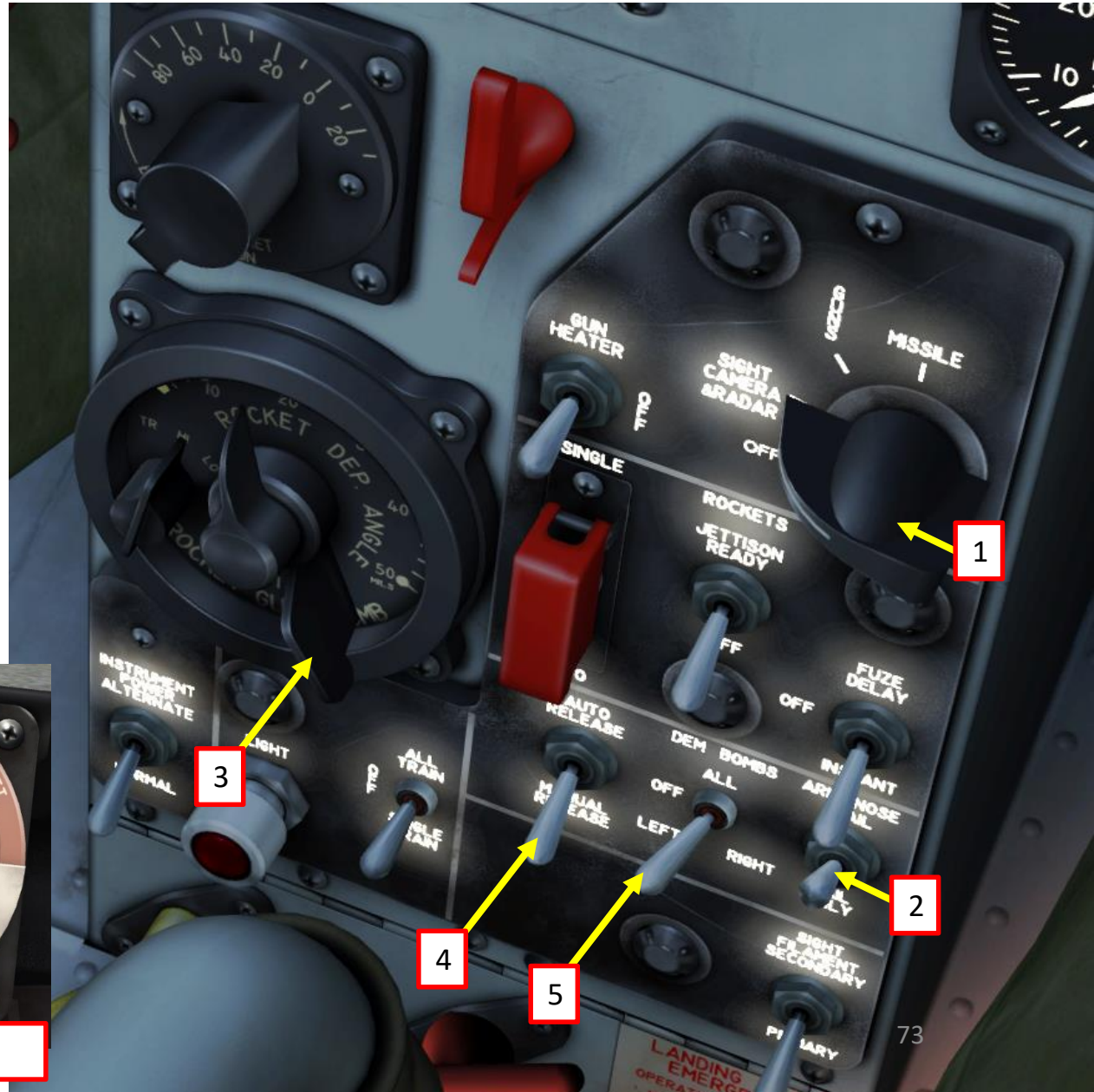






PART 9 – WEAPONS: DIVE BOMBING (MANUAL PIP BOMBING MODE)

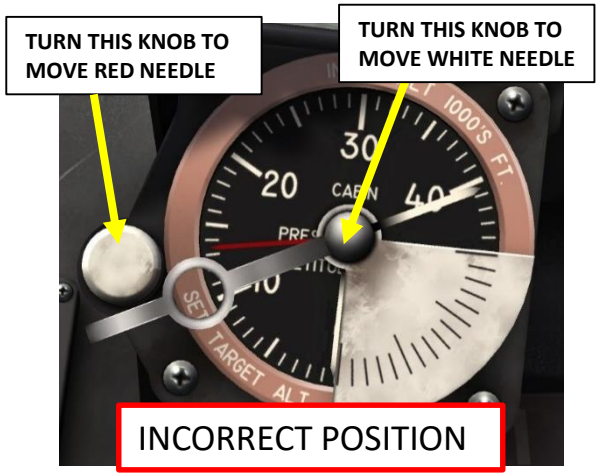
1) Set Weapon Mode to “SIGHT CAMERA & RADAR”
2) Set Fuze Mode to “ARM NOSE & TAIL”
3) Set Gunsight Mode to “BOMB”
4) Set Release Mode to “MANUAL”
5) Select Bomb Loadout to Drop (ALL/LEFT/RIGHT)
6) Uncage Mechanical Sight (Reticle will be moving)
7) Set Manual Pip Switch Control to “BOMB”
8) Decide your starting altitude and speed. In our case, we will pick a 288 kts entry speed at 15000 ft over the target, as suggested by the Manual Pip Chart.

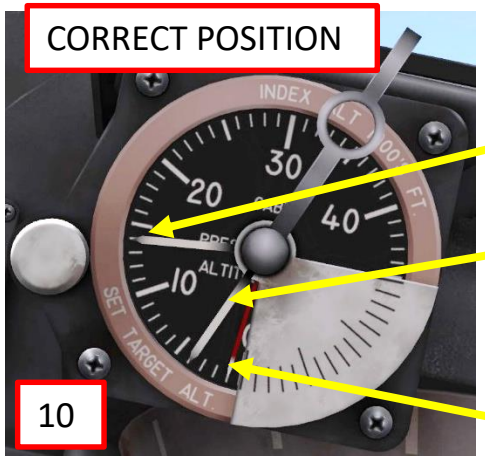


BOMBING ALTIMETER

PART 9 – WEAPONS: DIVE BOMBING (MANUAL PIP BOMBING MODE)

9) Click on the center knob of the manual pip control and set the dive angle you intend to take. I usually tkaoe a dive angle of 50 deg. Check the associated number on the external circle, and we can deduce that for a 50-deg dive angle, starting our dive from 15000 ft at 288 kts, our bomb should be release at 4000 ft (release parameter).





10) Since our eyes are glued on the pipper and not on the altimeter during the dive, someone had the brilliant idea to include a bombing altimeter. Set the bombing altimeter as shown in the picture titled “CORRECT POSITION” and track the altitude needle.

11) Cut throttle, deploy airbrakes and dive for your target at a dive andle of 50 deg. Check your dive angle indicator for reference. Place the pipper on the target.

12) While aiming with the pipper, wait for the altimeter needle to meet the bomb release needle as shown in step 10. When both needles meet, drop your ordnance by pressing the “WEAPON RELEASE” button and enjoy the fireworks.

PART 9 – WEAPONS: DIVE BOMBING (MANUAL PIP BOMBING MODE)

PART 9 – WEAPONS: L.A.B.S.

PART 9 – WEAPONS: L.A.B.S.

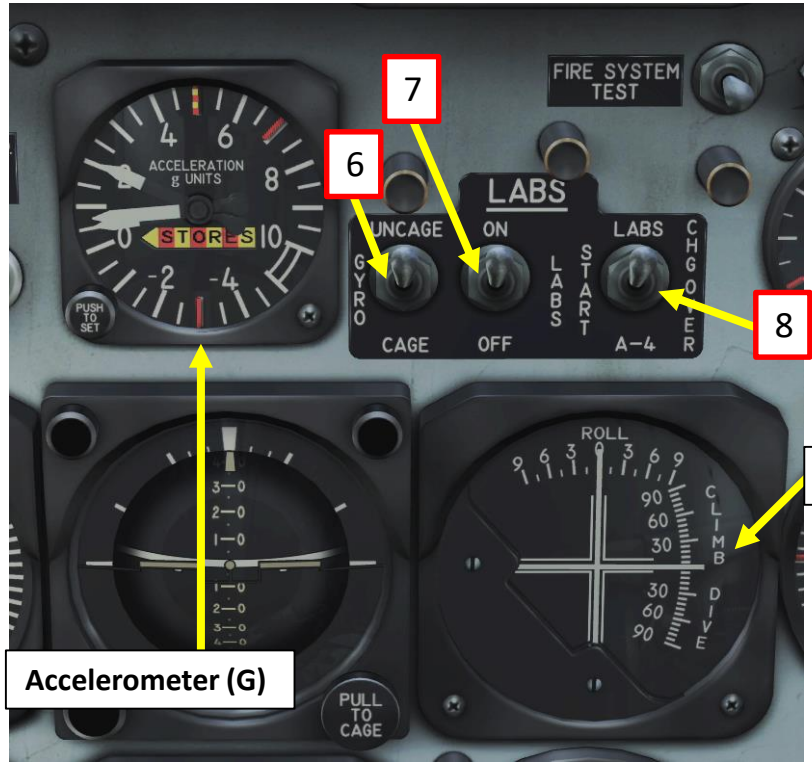
Toss bombing (sometimes known as loft bombing, and by the U.S. Air Force as the Low Altitude Bombing System, LABS) is a method of bombing where the attacking aircraft pulls upward when releasing its bomb load, giving the bomb additional time of flight by starting its ballistic path with an upward vector.

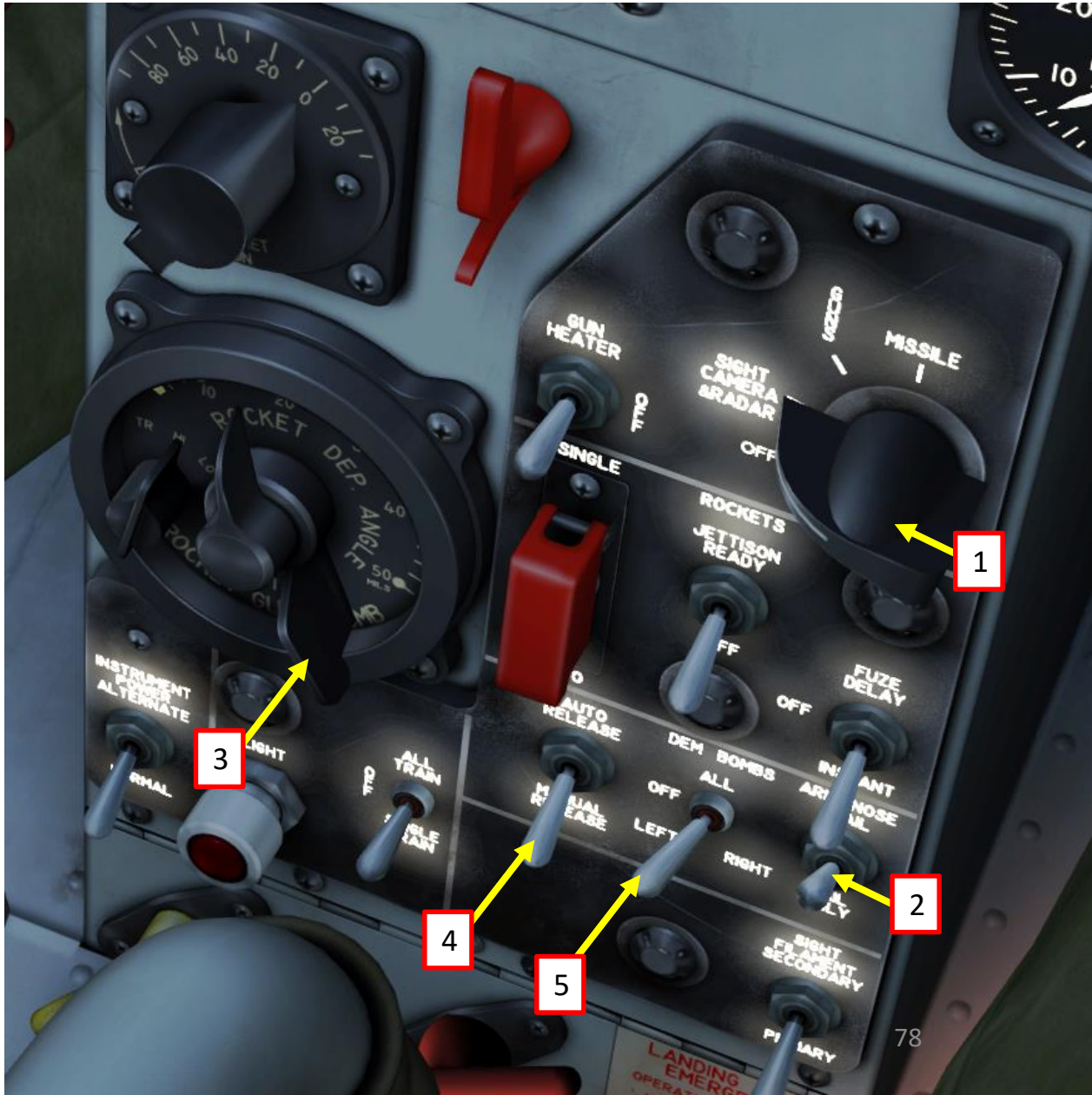
The purpose of toss bombing is to compensate for the gravity drop of the bomb in flight, and allow an aircraft to bomb a target without flying directly over it. This is in order to avoid overflying a heavily defended target, or in order to distance the attacking aircraft from the blast effects of a **nuclear** (or conventional) bomb.

However, the Sabre in DCS is not equipped with nuclear ordnance yet, so the use of the LABS system is rather impractical as the method is better suited for nuclear blasts than for precision bombing. Still, it's a cool feature so I thought I would talk about it nonetheless.

PART 9 – WEAPONS: L.A.B.S.

1) Set Weapon Mode to “SIGHT CAMERA & RADAR”
2) Set Fuze Mode to “ARM NOSE & TAIL”
3) Set Gunsight Mode to “BOMB”
4) Set release mode to “MANUAL”
5) Select Bomb Loadout to drop (ALL/LEFT/RIGHT)
6) Uncage LABS Gyro (switch in the UP position)
7) Set LABS Power switch to ON (UP)
8) Set LABS Start Switch to “LABS”





F-86F SABRE

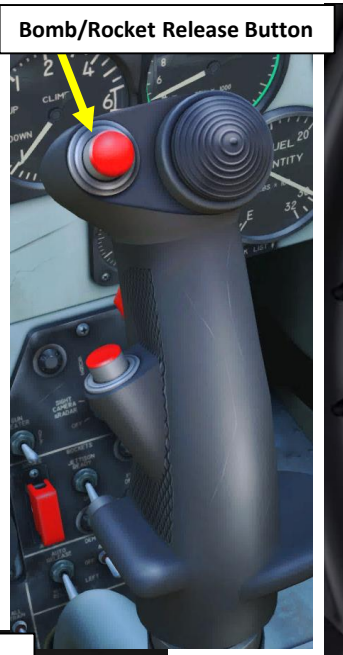
PART 9 – WEAPONS

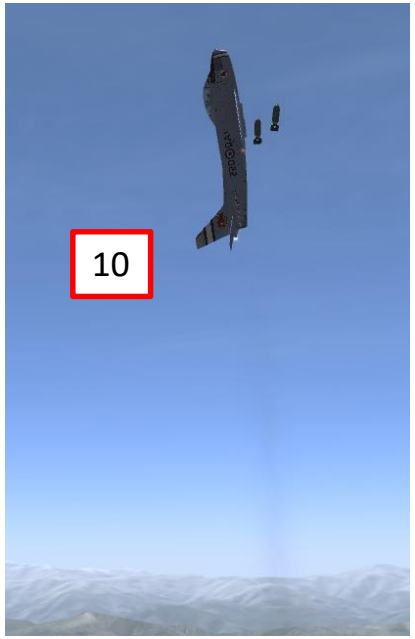
PART 9 – WEAPONS: L.A.B.S.

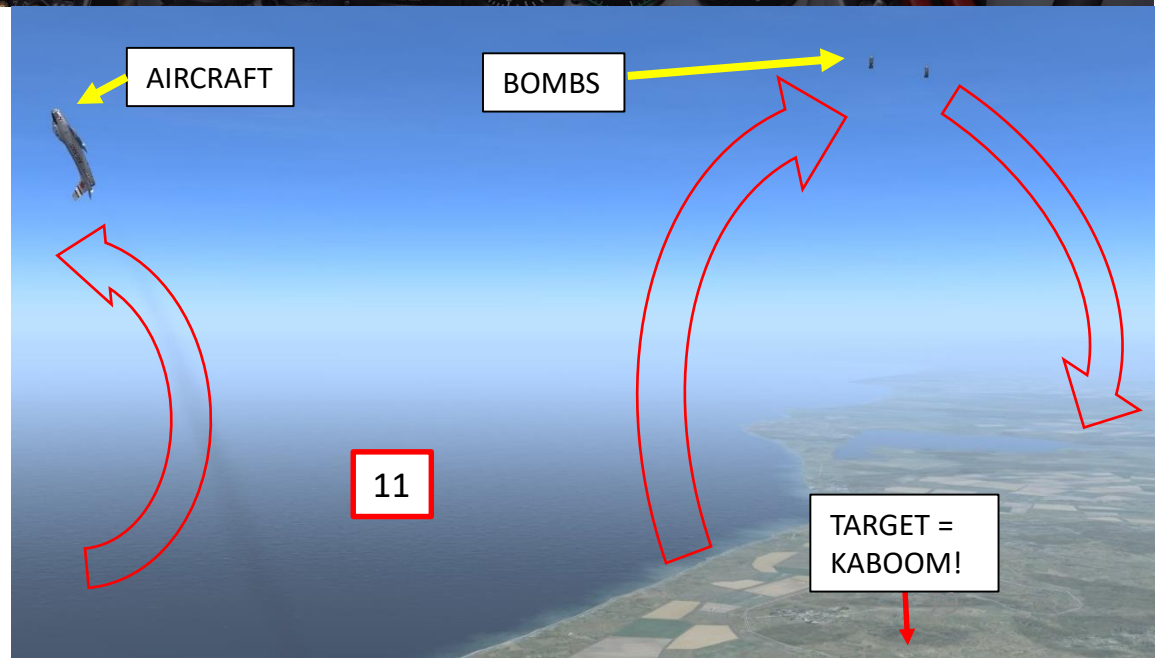
9) Fly low until you reach your target

10) Hold "WEAPON RELEASE" button and start pulling up at a steady +4G while checking the accelerometer and the LABS gyro to avoid lateral movement as much as possible.

11) Your bombs should be released automatically if you keep holding the Weapons Release button while maintaining +4G.

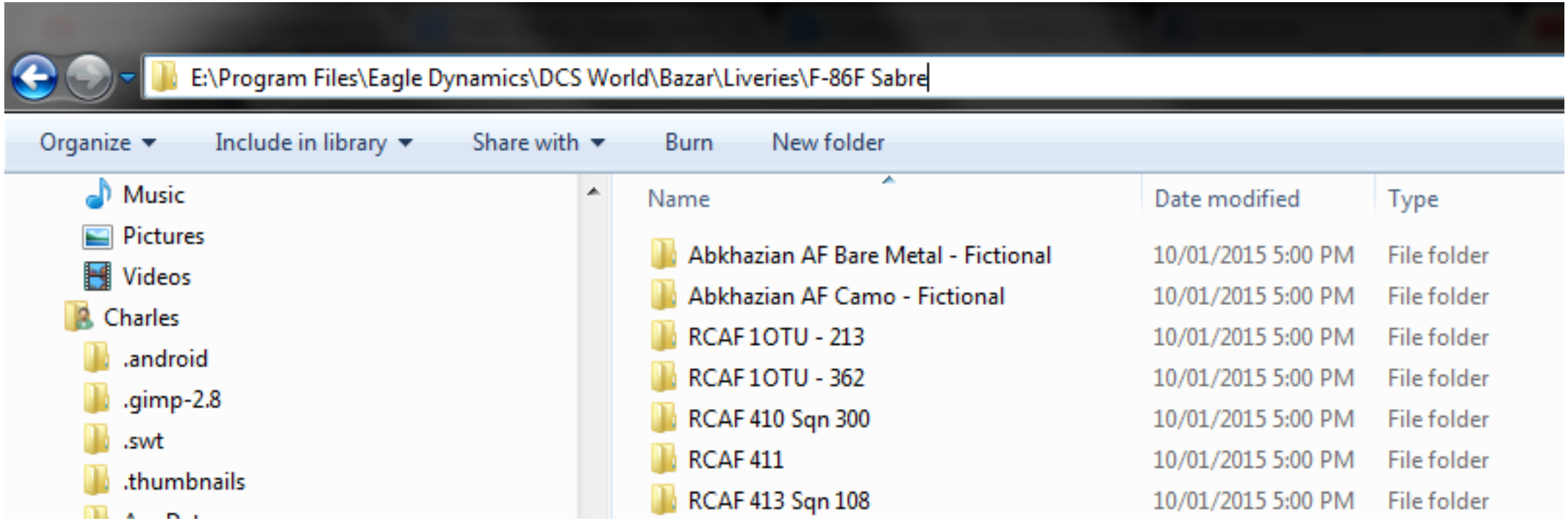






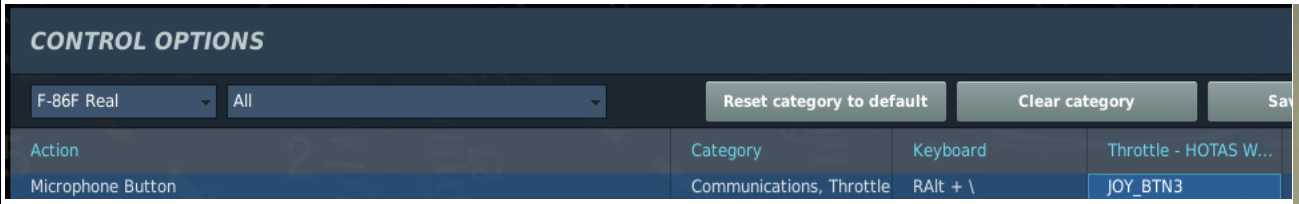
PART 10 – SKINS

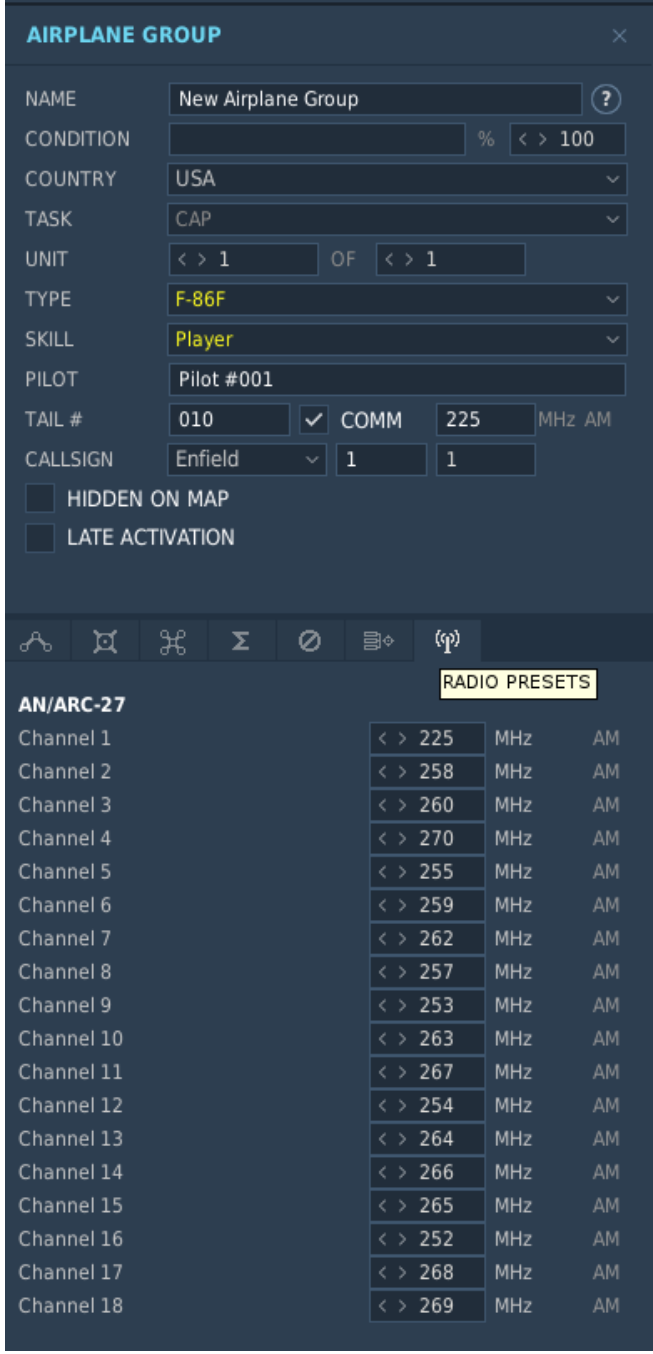
- Skins must be installed in the directory shown in the picture below.
- Sometimes the folder is not there. Create one manually called “F-86F Sabre” to be able to stock these sweet skins.



PART 11 – AN/ARC-27 UHF RADIO TUTORIAL

- The AN/ARC-27 UHF radio of the Sabre has 19 preset channels going from 225 to 400 MHz. Each frequency is mapped individually and manually by the mission builder. The channel frequencies should be available in the Mission Briefing or mission description if the mission builder wanted to make your life easier.
- You can receive and communicate with a frequency by setting your radio to “T/R” (TRANSMIT-RECEIVE) or “T/R+G” (TRANSMIT-RECEIVE including “Guard” frequency)
- The “G” (Guard) channel is an emergency guard frequency (also known as Channel 0).
- For instance, this picture shows that I can transmit and receive information from Channel 10 and receive information from the Emergency Guard Frequency.
- You can control your radio volume if it is too loud or too low by rotating the “VOLUME” knob.
- To communicate with other aircraft, flight or control towers, use your “MICROPHONE BUTTON” control mapped earlier





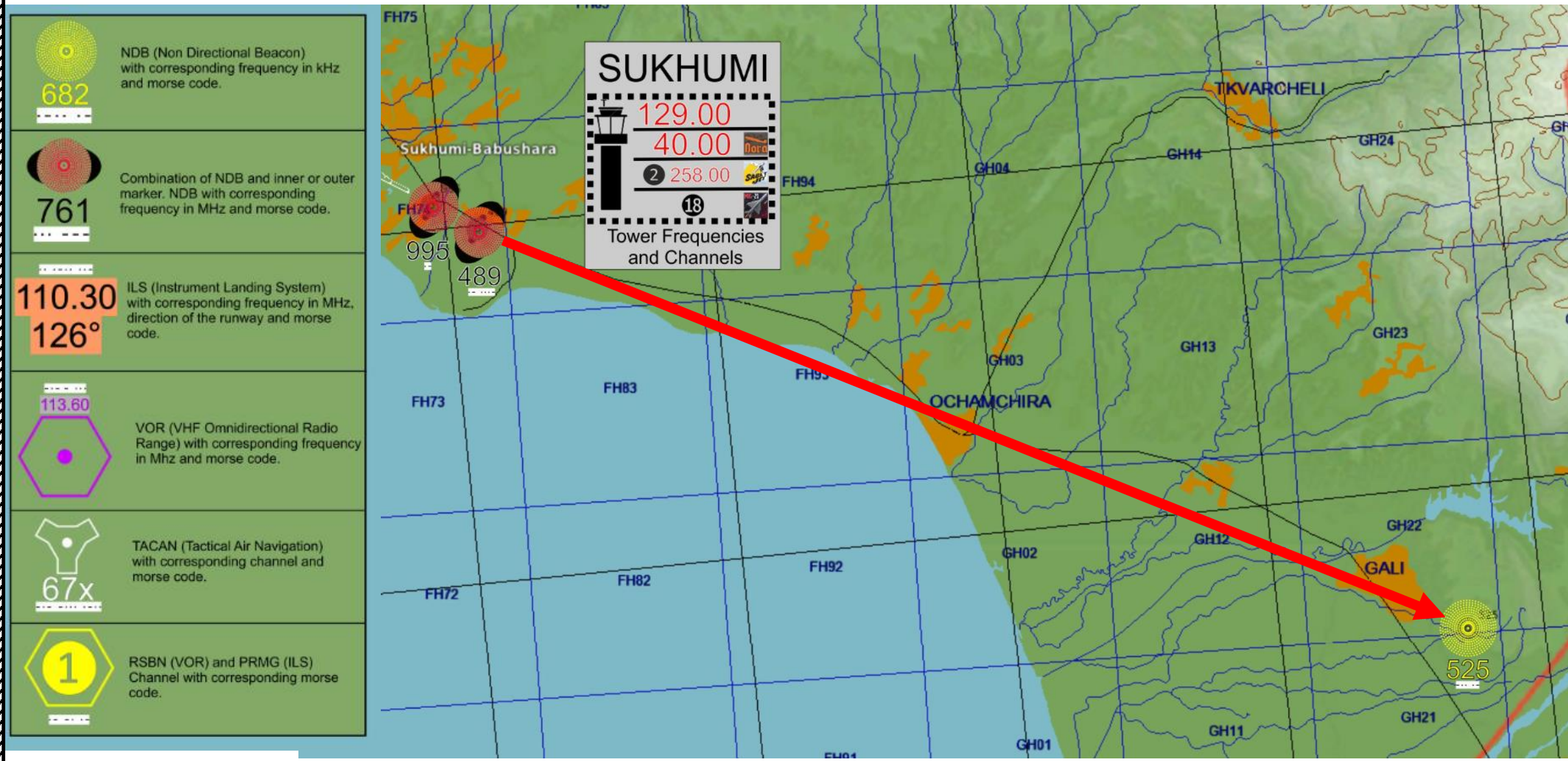
PART 12 – AN/ARN-6 RADIO NAVIGATION

- We will use a "NDB" (Non-Directional Beacon) for radio compass navigation. These NDBs are located at various airfields and certain places. Take note that they are hardcoded in the map.
- NDBs transmit a morse code on a set frequency that can be heard with the AN/ARN-6 Radio Compass. The source of the signal can be detected with the radio compass on the main instrument panel (its arrow will tell you where the signal you are receiving is coming from).
- There can be many NDBs transmitting at frequencies that are very close to one another, so it can be easy to follow another signal by mistake.
- Radio tuning is very precise and sensitive. The only reliable way to know if you are tracking the good signal is to listen to the morse code signal emitted by the beacon and verify that it matches.
- All Beacons and their respective morse codes are listed in **LINO GERMANY'S BEACON MAP** available here:

DIRECT DOWNLOAD: https://drive.google.com/open?id=0B-uSpZROuEd3YWJBUmZTazBGajQ&authuser=0

- In the following example, I will fly from Sukhumi Airfield (which already has 2 NDBs next to it transmitting other signals on their own frequencies).
- The signal I will track is a NDB near the small town of Gali. The beacon map tells me that the beacon is transmitting on a frequency of 525.00 MHz and that the morse code is – . . . –
- I can associate the morse code with one long beep, followed by two short beeps, followed by a pause, followed by a short beep and followed by a long beep.
- Take note that if you fly under 6000 ft, there might be interferences from ground clutter.

PART 12 – AN/ARN-6 RADIO NAVIGATION



STEP 1
Set to “COMP” (Compass)

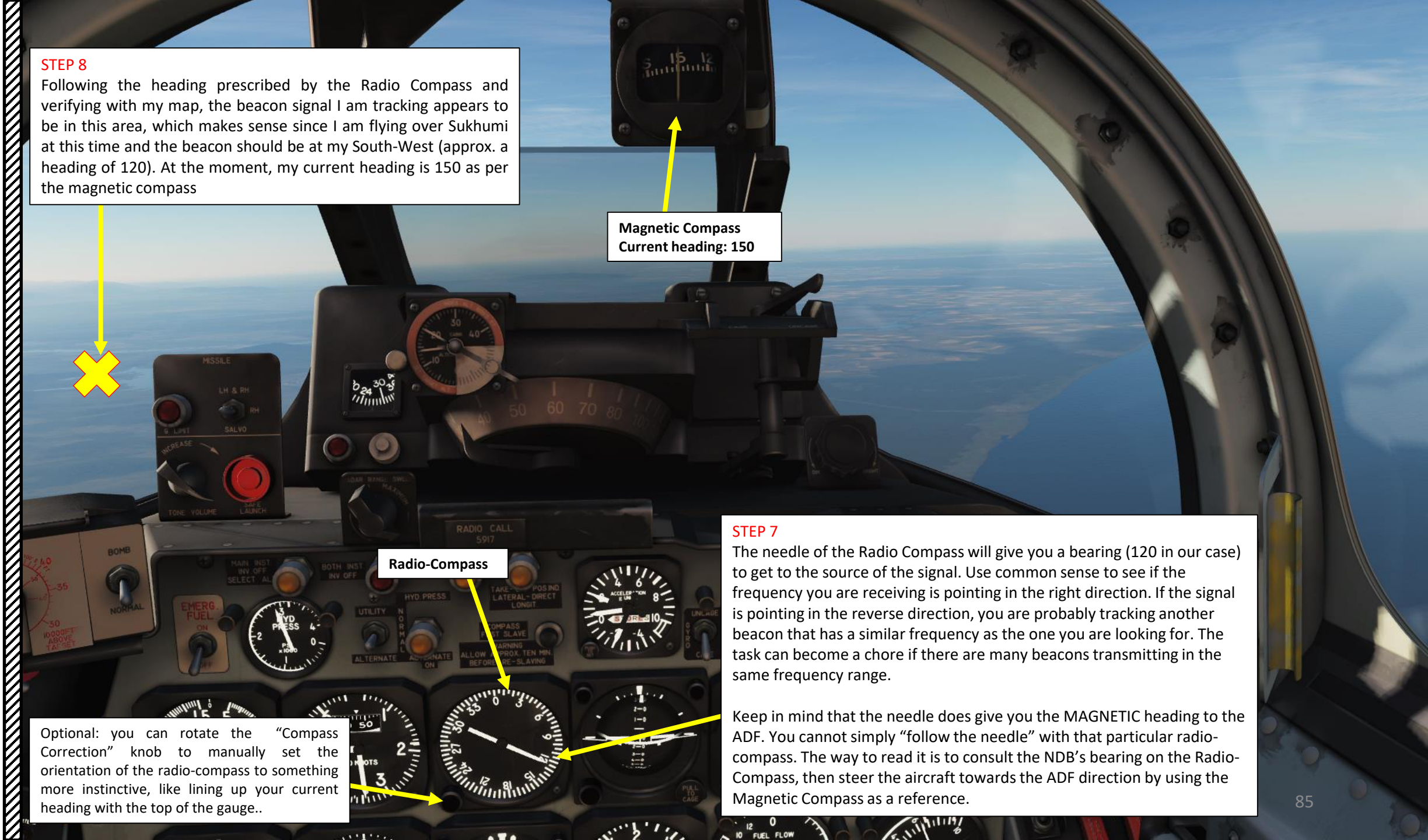
STEP 2
Set frequency range to 410-850 since we are looking for 525 MHz.

STEP 3
Fine tune frequencies by using the mousewheel. Be careful: it is very sensitive.

STEP 4
Find emitting frequencies by checking the Signal Strength needle.

STEP 5
Signal found!

STEP 6
Adjust volume and listen to the morse code signal to verify that you are tracking the right signal. Keep tuning if the signal is wrong.



STEP 8

Following the heading prescribed by the Radio Compass and verifying with my map, the beacon signal I am tracking appears to be in this area, which makes sense since I am flying over Sukhumi at this time and the beacon should be at my South-West (approx. a heading of 120). At the moment, my current heading is 150 as per the magnetic compass

STEP 7

The needle of the Radio Compass will give you a bearing (120 in our case) to get to the source of the signal. Use common sense to see if the frequency you are receiving is pointing in the right direction. If the signal is pointing in the reverse direction, you are probably tracking another beacon that has a similar frequency as the one you are looking for. The task can become a chore if there are many beacons transmitting in the same frequency range.

Keep in mind that the needle does give you the MAGNETIC heading to the ADF. You cannot simply "follow the needle" with that particular radio-compass. The way to read it is to consult the NDB's bearing on the Radio-Compass, then steer the aircraft towards the ADF direction by using the Magnetic Compass as a reference.

Optional: you can rotate the "Compass Correction" knob to manually set the orientation of the radio-compass to something more instinctive, like lining up your current heading with the top of the gauge..

IFF SYSTEM

The AN/APX-6 IFF (Identify-Friend-or-Foe) Transponder system is fairly simple: it detects whether or not a nearby aircraft is friendly. This system has not been simulated by Belsimtek, therefore we will not spend too much time on it.

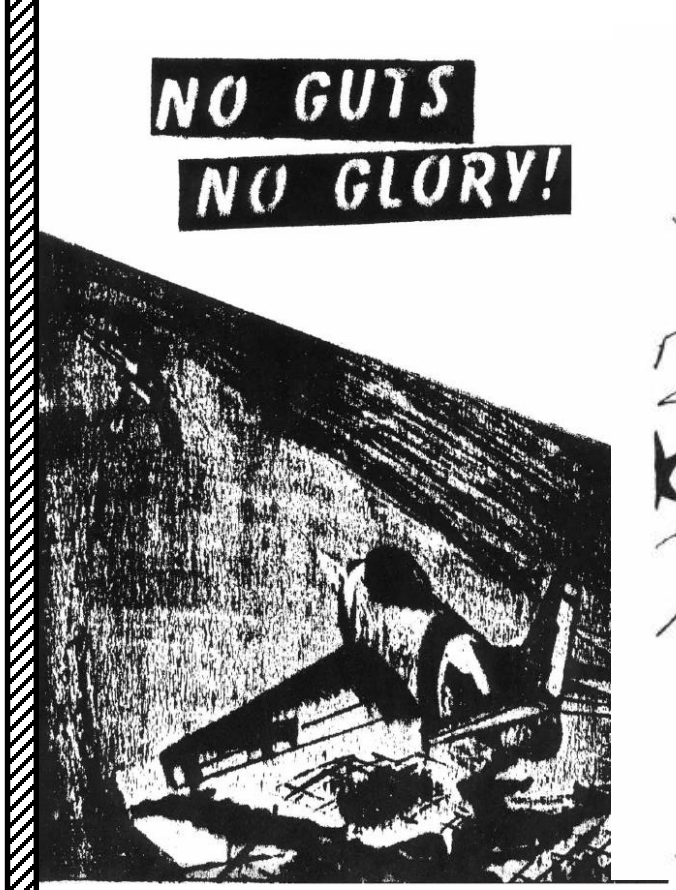
AN/APX-6 Self-Destruct Button

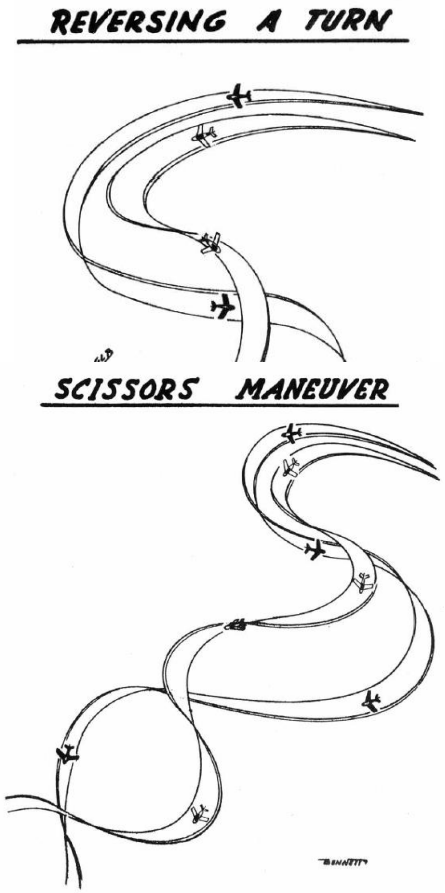
COMBAT TIPS & TRICKS

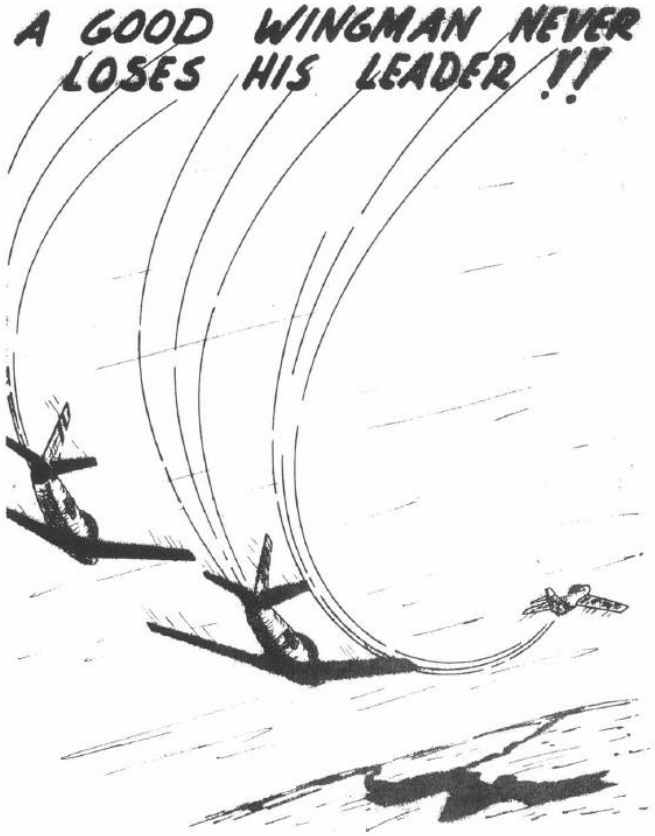
COMBAT TIPS & TRICKS

You should consult “No Guts, No Glory”, an excellent textbook written by USAF Major General Frederick C. Blesse (Ret.). It has excellent insight on how the Sabre should be flown in combat scenarios.

LINK: https://drive.google.com/open?id=0B-uSpZROuEd3T1RudnlMWGZ6OVE&authuser=0







RESOURCES:

- **BUNYAP SIMS YOUTUBE CHANNEL**
  - MAIN CHANNEL: https://www.youtube.com/user/4023446/videos
  - RADIO COMMS TUTORIAL: https://www.youtube.com/watch?v=xa6TsnbG5pI
  - MANUAL PIP BOMBING SYSTEM: https://www.youtube.com/watch?v=tbDON_t_FZw

- **XXJOHNXX YOUTUBE CHANNEL**
  - MAIN CHANNEL: https://www.youtube.com/user/4023446/videos
  - SABRE TUTORIALS: https://www.youtube.com/playlist?list=PLs4yzB9MM2Sx_BSiYcQkTNtY4Ei2vtxUy
  - LABS TUTORIAL: https://www.youtube.com/watch?v=uXWOb_B5zpM

- **504SMUDGE YOUTUBE CHANNEL**
  - https://www.youtube.com/user/504smudge/featured

- **LABS TUTORIAL: “Nuclear War: "Delivery of Atomic Weapons by Light Carrier Aircraft" 1959 US Navy Training Film”**
  - https://www.youtube.com/watch?v=3dIqfN_aPtY

- **LINO_GERMANY BEACON MAP**
  - https://drive.google.com/open?id=0B-uSpZROuEd3YWJBUmZTazBGajQ&authuser=0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MISSION EDITOR
CAMPAIGN BUILDER
EXIT
F-86F 1.5.5
FC3 1.5.5
Fw 190 D-9 1.5.5
Hawk 1.5.5 Beta
Ka-50 1.5.5
L-39 1.5.5
M-2000C 1.5.5 Beta
Mi-8MTV2 1.5.5
MiG-15bis 1.5.5
MiG-21bis 1.5.4
P-40F 1.5.4 Beta
P-51D 1.5.5
SA342 1.5.5 beta
Spitfire IX 1.5.5 beta
Su-25T 1.5.5
TF-51D 1.5.5
UH-1H 1.5.5
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