

A-4E-C - Normal Procedures

Based on the NATOP's Flight Manual 01-40AVC-1

Summarized by Eduardo "Rudel_chw" Ahumada.

In blue those items that can be omitted when on a hurry.

INTERIOR INSPECTION:

2. Emergency speed brake knob – NORMAL

The emergency speed brake control is a push-pull knob located at the aft end of the left-hand console, and can be used to open or close the speed brakes in the event of de electrical failure, or failure of one of the speed brake control valve solenoids.



4. Oxygen switch - ON, CHECK FLOW, THEN OFF.

When the oxygen switch is turned ON, oxygen is delivered from the supply system to the oxygen receptacle located on the oxygen and anti-g panel on the left console.

5. AFCS standby switch – OFF

The automatic flight control system (AFCS), is an Autopilot system, which can maintain heading, altitude and pitch and bank angles, and perform a coordinated turn to a preselected heading.



When the STANDBY switch is placed in the OFF position, all toggle switches on the panel return to their OFF positions.

7. Emergency fuel transfer Switch – OFF

In case of a failure of the transfer pump, the WING FUEL switch located on the engine control panel provides for the transfer of fuel by wing tank pressurization.

Moving the switch to the EMER TRANS position allows engine compressor bleed air to pressurize the wing tank. Fuel is then transferred to the fuselage tank through the pressure fueling line.



9. Drop tanks switch – OFF

Set the Switch to OFF, with a right click.

10. Radar selector switch – OFF

The AN/APG-53A radar system provides search or mapping capabilities for navigational purposes, two modes of terrain clearance for obstacle avoidance, and air-to-ground slant range for weapons delivery. Automatic fire control is not provided.



Operating controls are provided on the radar control panel at the right console; on a small radar switch panel near the bottom-center of the instrument panel, and around the perimeter of the scope mounted in the instrument panel.

12. Fuel control switch – PRIMARY

The engine fuel control is a hydro-mechanical control that has two Modes of Operation:

- PRIMARY, where it senses inlet air temperature, burner pressure, high-pressure compressor speed (N2), and throttle position. When the throttle setting is changed and while accommodating to a new steady-state fuel rate, the fuel control varies the fuel flow between the limiting values established by safe tailpipe temperature and mixture combustibility.



- MANUAL, is a backup Mode, where the fuel control compensates automatically only for variations in altitude and airspeed.

13. Manual fuel shutoff control lever - EMER OFF, THEN NORMAL, (GUARD DOWN)

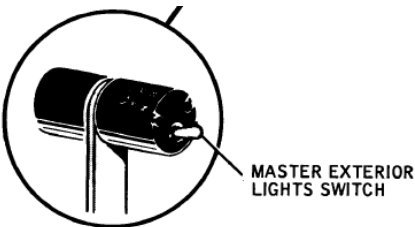
The fuel system incorporates a manually operated fuel shutoff control lever located outboard of the left-hand console. It's EMER OFF position, stops all fuel flow from the fuel system to the engine.

A spring-loaded lift-type guard is provided to prevent inadvertent movement of the lever to EMER OFF. To ensure complete fuel shutoff, the control lever must be moved fully aft into the EMER OFF detent.



19. Master exterior lights switch (on Hotas) – OFF

The master exterior lights switch, on the outboard side of the throttle grip, controls power to the wing, tail, and fuselage lights.



The switch has a forward ON position, a center OFF position, and an aft momentary ON position. The master exterior lights switch is spring loaded from the aft to the center position, providing a means of signaling with the exterior lights.

Action	Category
Master Exterior Lights Switch - MOMENTARY ON else OFF	Throttle Grip, Special For Joystick
Master Exterior Lights Switch - OFF	Throttle Grip
Master Exterior Lights Switch - ON	Throttle Grip
Master Exterior Lights Switch - ON else OFF	Throttle Grip, Special For Joystick
Master Exterior Lights Switch - ON/OFF	Throttle Grip

22. Nose-Wheel STEERING switch – Check that it is set to NORMAL. This switch is not simulated yet, so it can't be moved.



25. Accelerometer – PUSH TO RESET

An accelerometer with three indicating pointers, registers and records positive and negative-g loads. One pointer moves in the direction of the g-load being applied while the other two, one for positive-g loads and one for negative-g loads, follow the indicating pointer to its maximum travel.

The recording pointers remain at the respective maximum positions, providing a record of maximum g loads encountered. Depressing the push-to-reset knob, allows the pointers to return to the normal (1 g) position.



26. Airspeed indicator – 0, SET

A combination airspeed indicator and Mach meter is located on the instrument panel. The airspeed portion of the dial is fixed in position, and is calibrated from 80 to 650 knots.



The Mach meter scale is a rotating disc, marked from 0.50 to 2.9, turning beneath the airspeed dial. Only a portion of the disc can be seen through a cutout in the airspeed dial.

Airspeed and corresponding Mach number are indicated simultaneously by a single needle pointer.

On the Mach number disc is a movable index which is used to set a Mach reference by depressing and turning a set knob on the lower left corner of the instrument case.

On the edge of the airspeed dial is an airspeed index pointer, which is adjustable through a range of 80 to 145 knots merely by turning the set knob.

27. Vertical velocity indicator – 0

A vertical velocity indicator, reflects the rate of change in atmospheric pressure as the aircraft climbs or descends. This rate of change is represented in 100-foot graduations between 0 and 1000 feet, of ascent or descent, and in 500-foot graduations between 1000 to 6000 feet.



29. Radar altimeter – OFF

The APN-141 radar altimeter provides accurate altitude from 0 to 5000 feet. The indicator dial face is marked in 10-foot increments up to 200 feet, 50-foot increments from 200 to 600 feet, 100-foot increments from 600 to 2000 feet, and 500-foot increments from 2000 to 5000 feet.



A control knob on the front of the indicator controls power to the indicator and is used for setting the low limit indexer. On the real aircraft this knob also provides a push-to-test feature, but that is not simulated.

30. Emergency stores jettison select switch – AS DESIRED

This switch provides selection of the external stores to be jettisoned when the emergency stores release handle is pulled. WNG selects the wing stations, AL selects all stations.



31. All armament switches – Should be OFF

a) GUNS – On the READY position, electric power is provided to the twin internal 20mm guns, leaving them ready to fire. Set to SAFE.

b) BOMB ARM switch – Arms the bombs fuzes: Nose & Tail or just Tail. Placing the switch in OFF leaves the bombs unarmed and they won't explode if released.

c) STATIONS – Select which stations will be released on the next attack.



d) WEAPON FUNCTION SELECTOR knob – Used to set the Sight according to the weapon type:

- ROCKETS
- GM UNARM
- SPRAY TANK. The A-4E could be fitted with an 85 Gallons tank for spraying chemical weapons. Was never used in combat.
- LABS (Low Altitude Bombing System)
- BOMBS & GUIDED MISSILES (including Sidewinders)
- CMPTR. Enables the CP-741 Bombing Computer.

e) MASTER ARM switch – OFF

All armament circuits are controlled by this switch, with the exception of gun charging and emergency jettisoning of external stores. The MASTER armament switch must be in the ON position to energize armament circuits.

42. Interior lights control panel – AS DESIRED



a) CONSOLES - Set Console Back lighting, by rotating this knob clockwise.

A toggle switch with three positions: BRT, DIM, and MEDIUM, controls the intensity of the red Console floodlights.

b) INST - Set Instruments Back lighting by rotating this knob.

c) White Floodlights can be adjusted with a knob mounted on the right sidewall.

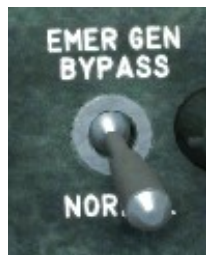


43. Emergency generator bypass switch – NORMAL

The emergency generator, is carried in a compartment in the lower right-hand side of the forward fuselage. When this generator is released into the airstream, a variable pitch propeller drives the generator at approximately 12,000 rpm to provide power to the primary bus.



The emergency generator bypass switch labeled NORMAL-BYPASS is located in the right-hand Console. If the emergency generator is extended, placing this switch in BYPASS allows the pilot to return to main generator operation, provided the main generator power has been regained.



53. Exterior lights control panel – AS DESIRED

The exterior lights control panel, on the right console, contains switches for control of the exterior lights.

a) PROBE Light – OFF. The air refueling probe light is located on the right hand intake outboard lip.

b) TAXI Light – OFF. The taxi light is installed on the right hand main landing gear door.

c) ANTI-COLLision Beacons – Set to ON, as we will be starting the aircraft soon. The aircraft has two flashing red anti-collision beacons, one mounted on the top of the fuselage and the other mounted on the left main gear strut fairing.

d) FUSelage Lights – Set to BRT. These are semi-flush, white, fuselage wing light, located under the leading edge of each wing.

e) Navigation Lights, WING & TAIL – Set to BRT (bright).

f) Navigation Lights Mode – Set to STDY (steady).

The A-4E also has angle-of-attack approach lights, mounted in the leading edge of the left wing. The approach light circuit is controlled by the tail hook switch.



STARTING THE ENGINE:

The A-4E electrical system does not include Batteries. Also, there is no APU to provide starting air. Thus, an external electrical power supply and a source of starter air are required for ground starting the engine.

1. External Ground power – CONNECT

Bring up the Communications Menu, with the PTT button on the HOTAS or the [\] key. Select:

- F8: Ground Crew
- F2: Ground Electric Power
- F1: Turn Power ON

Action	Category	Keyboard
Radio Push to Talk (PTT)	Radio	RCtrl + \

Unfortunately, on DCS the Ground Power does not provide power to the UHF Radio, so it is not possible to contact ATC to request clearance for starting the engines.

2. Master press-to-test – CHECK

Press and hold the Master TEST button to check APC, ECM, angle-of-attack indexer, WHEELS, LABS, LAWS, IFF, FIRE, OBST (radar), pilot advisory, armament advisory, radar altimeter, OIL LOW, lights and circuits.



The fuel quantity and liquid oxygen quantity indicators will rotate counterclockwise. The liquid oxygen warning light will come on as indicator passes through 1 liter.

3. Throttle – OFF

Check that both the virtual aircraft Throttle, and your real HOTAS throttle are at the OFF position.



4. Engine starter switch - DEPRESS TO START

When the switch is depressed to START, the starter air supply solenoid valve opens, allowing compressed air from the gas turbine compressor to rotate the starter. A holding relay retains the switch in the START position.



When engine speed reaches approximately 50 percent rpm, a centrifugal switch opens, allowing the engine starter switch to pop up, thus stopping the air supply to the starter.

5. At 5 percent rpm – THROTTLE to IGN (By right clicking on it)

The ignition switch, is actuated by movement of the throttle outboard from the OFF position, into IGN position.

6. At 15 percent rpm – THROTTLE to IDLE (Right click again)

This opens a fuel cutoff valve in the fuel control unit, providing fuel flow to the engine and allowing it to start.

7. Stabilized idle rpm – 56-58% at 20° C

Light-off should occur within 20 seconds after the throttle is moved outboard to start the ignition cycle and is indicated by a rise in EGT after the throttle is moved to the IDLE position.

Normally, the engine should be stabilized at IDLE rpm within 45 seconds after depressing the engine starting button.



9. External electrical power and starting air – DISCONNECT

Bring up the Communications Menu, with the ‘\’ key. Select:

F8: Ground Crew

F2: Ground Electric Power

F2: Turn Power OFF

AFTER ENGINE START:

If light-off is satisfactory and engine speed is stabilized with the throttle at IDLE, check the following:

1. RPM – IDLE at 56 to 58% (at ambient temperature of 20° C)
2. EGT - 200° to 340° C
3. Fuel boost - LIGHT OUT, on advisories panel.
4. Oil pressure - 35 to 50 psi
5. Oil quantity indicator - LIGHT OUT



ELECTRONIC EQUIPMENT WARMUP:

The electronic equipment need a warmup time, before we are able to do their pre-flight checks. So, we will turn them to Stand-by now, so they can warmup while we do other checks:

- a) Turn the Navigation Computer to STANDBY, for a 2 minutes warmup.
- b) Turn the Doppler Navigation Radar to STANDBY, for a 5 minute warmup.

POST START CHECKLIST:

When electrical power becomes available after starting engine, check following items:

2. UHF function switch – Set to T/R+G



The Skyhawk is equipped with only a single voice radio: an ARC-51A UHF radio provides voice communication between aircraft, ships, or ground-based radio stations.

This Radio is energized by rotating its function selector switch from OFF to T/R or T/R+G. It can tune frequencies between 225.00 and 339.95 MHz.

4. TACAN switch – Set to REC for a 3 minutes warmup, then set to T/R.



5. AFCS – Set to STANDBY

The automatic flight control system (AFCS) is a system designed to provide pilot relief from routine control of the aircraft.

The AFCS will maintain heading, altitude and pitch and bank angles, and perform a coordinated turn to a preselected heading without use of the pilot control stick.



Placing this switch to STANDBY provides electrical power to the AFCS for warmup. The system should be in STANDBY at least 90 seconds prior to engaging the stability augmentation switch or the AFCS main engage switch.

7. Press and hold the Master TEST button to check APC, ECM, angle-of-attack indexer, WHEELS, LABS, LAWS, IFF, FIRE, OBST (radar), pilot advisory, armament advisory, radar altimeter, OIL LOW, lights and circuits.



9. Fuel quantity - Check INT/EXT readings.

The fuel quantity indicator, indicates the total fuel available in pounds multiplied by 1000. The range of indication is from 0 to 6400 pounds.

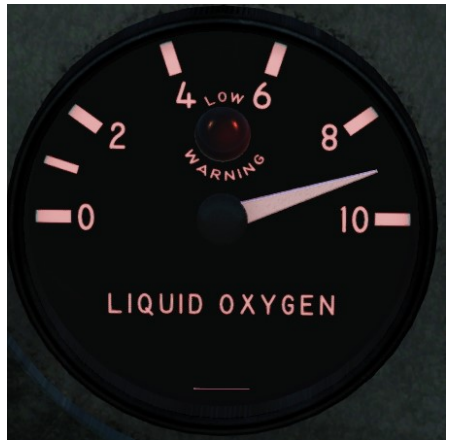


A toggle switch labeled INT-EXT, is located on the instrument panel for checking external fuel load. The switch is spring loaded to the INT position, External fuel quantity will be indicated when the switch is held to the EXT position (with a left click), until the indicator needle stabilizes.

10. Check Oxygen quantity – take note.

Oxygen is supplied by a vacuum bottle liquid oxygen converter mounted in a vented compartment in the aft fuselage section. The bottle contains 10 liters of liquid oxygen when serviced to capacity.

It should be noted that although 100 percent oxygen is used at all times, duration is greater at high altitudes. Ten liters last 60 Hours at 40,000 feet, down to 7 Hours at Sea level.



12. Standby ADI - ERECT OFF FLAG NOT VISIBLE.



Adjust by left click and hold, and then turn the mouse wheel.

Navigation Computer:

The AN/ASN-41 is one of the earliest Doppler navigation computers, used in conjunction with the AN/APN-153 Doppler Navigation Radar. It was used not only on the A-4, but also on the A-6 and A-7. It is a primitive unit that can handle only two waypoints (D1 and D2), and its precision is a bit low (just Degrees and minutes), but it is much better than aircraft of barely a decade earlier.



1. Turn the AN/ASN-41 function selector knob to TEST, the Computer will do a pre-solved navigation solution, and show it on the navigation displays and on the BDHI (Bearing, Distance and Heading indicator).

2. Turn the BDHI switch to the NAV CMPTR position, with a right click, so that its pointers show data from the Navigation Computer instead of the TACAN.

The TEST values should be:

- WIND SPEED indicates 223.6 +/- 2.5 knots.
- WIND DIRECTION indicates 0914 +/- 1.5 degree.
- LATITUDE PRESENT POSITION shows South integration.
- LONGITUDE PRESENT POSITION shows East integration.
- BDHI No. 2 pointer (the one with double bar) indicates 30 +/- 1 degrees right.
- BDHI No. 1 pointer (single bar) indication depends on present position and destination data set in.

3. Turn function selector switch knob to STBY.

4. Turn function selector switch knob to D2.

Using the slew knobs, set in latitude and longitude destination counters to a destination. If the destination is the starting point, insert present position coordinates.

Turn the knobs by left click holding, and then turn the mouse wheel. (Yes, it may take two hands to do this).

5. Now, turn function selector switch knob to D1.

Using the slew knobs, set in latitude and longitude destination counters to the D1 destination.

6. Set in latitude and longitude of present position on present position counters using push-to-set knobs. On DCS, these coordinates are already entered.

7. Set in Magnetic Variation with mechanical knobs. Variations in degrees and tenths of a degree. For DCS, the value for MV are:

- 6° E for Caucasus
- 12° E for Nevada
- 8° E for Normandy
- 1.6° E for Persian Gulf.
- 5.6° E for Syria.

8. Set in wind direction and velocity. Use climb winds.

NOTE: If the AN/APN-153 Doppler radar is to be used alongside the AN/ASN-41 Navigation Computer, then step 8 need not be set in. This function will be automatically computed during flight.

9. Leave function selector knob in STBY.

Navigation Radar Check:



1. Turn selector switch knob to the TEST position.

- The memory light should illuminate.
- The groundspeed dial should read 121 +/- 5 knots, and the drift angle dial should read 0 +/- 2 degrees.

2. Turn selector knob to STBY.

PRIOR TO TAKEOFF:

Turn selector knob to the ON-LAND or ON-SEA position, depending upon the terrain to be flown over.

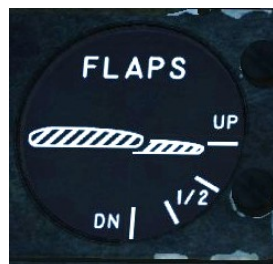
16. All flight controls - FREE, FULL TRAVEL PROPER MOVEMENT

Move the control Stick Left to right and front to back, checking that the control surfaces move accordingly.

Move the rudder pedals left and right and confirm that the rudder moves accordingly.

17. Check flight devices operation:

(a) FLAPS - FULL OPEN. Check the extension looking at the gauge. Use the HOTAS or the F key.



(b) SPEED BRAKES – OPEN. Use the HOTAS or the B key.

c) HOOK – DOWN. Click on the Hook lever or use either your HOTAS or the Left Alt + G keys.

(d) SPOILERS – UP, then CYCLE WITH THROTTLE

The Spoilers are wing-top deployable surfaces used to reduce landing distance. They retract automatically when RPM is over 70%, to cater for a bolter trap.

To perform this check, extend the spoilers with the engine at IDLE, then hold the wheel brakes and increase rpm to 70%, to check the automatic retraction. Use the HOTAS or the S key.



18. Retract flight devices:

(a) FLAPS - SET AT ½

Check the extension looking at the gauge. Use the HOTAS or the F key.

(b) SPEED BRAKES – CLOSED. Use the HOTAS or the B key.

c) HOOK – UP

The cockpit lever is not clickable, so use either your HOTAS or the Left ALT + G keys.

(d) SPOILERS – DOWN. Use the HOTAS or the S key.



19. Rudder trim -- CHECK AND SET AT ZERO.

Turn the knob while checking the left gauge.

21. Horizontal stabilizer – SET

Adjust using the Trim Hat on the HOTAS, as follows:

(a) For carrier launch, basic trim:

- Full flaps: 7.5 DEGREES
- Half Flaps: 7.0 DEGREES

(b) For Shore take-off:

- Full or half flaps: 6.0 DEGREES



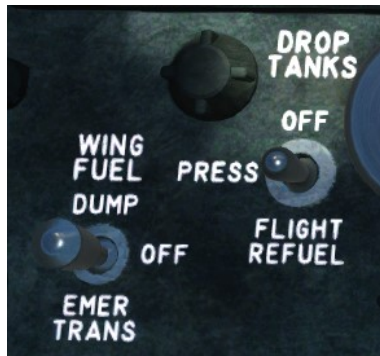
22. Aileron - STICK CENTERED, CHECK BOTH LEFT AND RIGHT TRIM

Adjust using the Trim Hat on the HOTAS.

23. Drop tank pressure - ON

Fuel transfer from the drop tanks to the integral wing tank and fuselage tank is effected by means of drop tank pressurization.

Placing the drop tank transfer switch on the engine control panel in PRESS, directs engine compressor bleed air to the drop tanks. Once the tanks are pressurized, the flow of fuel from the drop tanks to the wing tank is controlled by the dual float pilot valve in the wing tank, which stops the transfer of fuel when the wing tank is full or allows it to continue when space is available.



24. Drop tank pressure – OFF

Placing the drop tank transfer switch in OFF de-energizes the drop tank air

25. Emergency Transfer – CHECK

Emergency transfer of fuel from the wing tanks to the fuselage tank is possible. A WING FUEL switch provides for the transfer of fuel by wing tank pressurization.

Moving the switch to the EMER TRANS position closes the wing tank pressure and vent valves allowing engine compressor bleed air to pressurize the wing tank. Fuel is then transferred to the fuselage tank through the pressure fueling line.

BEFORE TAXI

Previous to Taxi, you should complete the final checks. On the lower right side of the Cockpit there is a concise Checklist to remind you of the steps:

1. Check Trim:

- a) Aileron Trim - Confirm Stick is centered.
- b) Rudder Trim - Confirm that it is set to 0°
- c) Elevator Trim – Check that it is set to 6° NOSE UP.

2. Seat Harness - SHOULDER HARNESS LOCKED.

Click on its handle, to adjust.



3. Canopy – CLOSE before moving the aircraft, using the highlighted lever.

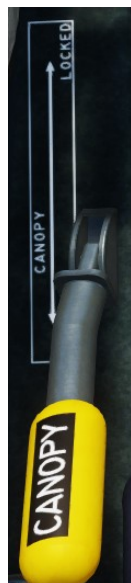
4. Flaps – Confirm that they are RETRACTED for taxiing.

5. Speed brakes – Check that they are on the CLOSED position.

6. Armament – Confirm ALL SWITCHES OFF, EMERGENCY SELECTOR SWITCH AT APPROPRIATE SETTING.

7. SPOILERS – Check that they are ARMED, for shore operations.

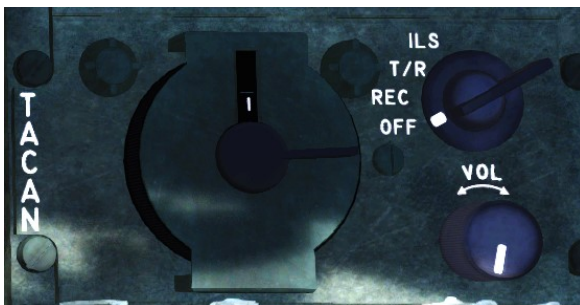
8. Nose-Wheel STEERING switch – Check that it is set to NORMAL. This switch is not simulated yet, so it can't be moved.



Confirm nose-wheel operation, by pressing the NSW button on the HOTAS (or the [N] key) while using the rudder to steer. Use [F2] to check it from outside view.

TACAN setup:

a) Set the TACAN Mode to Transmit-Receive (T/R).

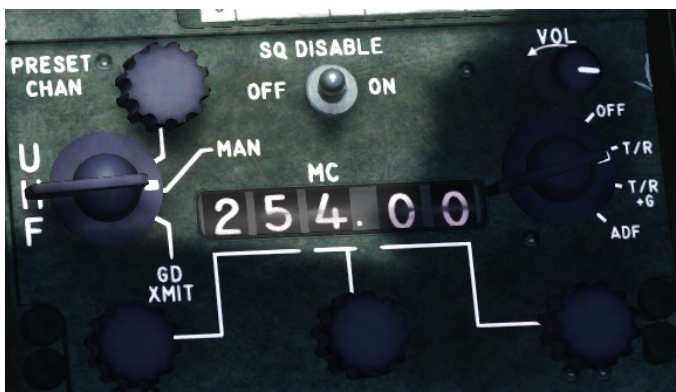


b) To tune a TACAN channel, right click on the center of the tuning dial to select the trailing digit. Right click on the outer part of the tuning dial to select the leading digits of the.

c) Adjust the Volume knob until you can hear the TACAN station's Morse code, to confirm that it is correctly tuned.

UHF Radio Setup:

a) The ARC-51A UHF Radio is energized by turning its Function Selector knob from OFF to T/R or T/R+G.



With T/R +G, the separate guard frequency should be monitored in addition to the selected channel or frequency, but this is not simulated in DCS.

b) The Radio can be tuned in one of two Modes:

- PRESET. The Mode Selector knob is placed in this position if one of the 20 preset channels (that were programmed by the Ground Crew, i.e. the Mission Editor) is to be used.
- MANual. Used when the desired frequency is not preset. The mode selector knob is placed in MAN, and the frequency is set manually by using the three manual select knobs.

c) On the Kneeboard, there is a Page titled RADIO PRESETS, which contains the current Preset frequencies stored on the Radio.

RADIO PRESETS - UHF AM	
CHN	FREQ
01	254.000
02	265.000
03	256.000
04	254.000
05	250.000
06	270.000
07	257.000
08	258.000
09	262.000
10	259.000
11	268.000
12	269.000
13	260.000
14	263.000
15	261.000
16	267.000
17	251.000
18	253.000
19	266.000
20	252.000

d) The Radio knobs are turned, with right or left mouse clicks.

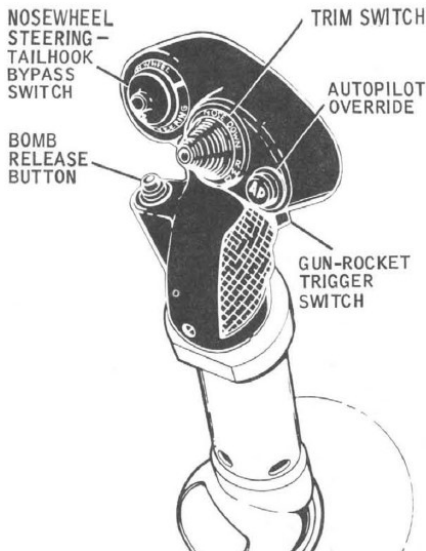
TAXI:

Contact ATC by pressing the HOTAS PTT button or the [\] key, and Request Taxi to Runway. Take note of the Runway that has been assigned.

Steer the aircraft using your rudder pedals while pressing the Nose Wheel Steering button on the Flight Stick. Alternatively, you can also steer using differential wheel braking (keys [LShift + W] and [LAlt + W]).

Advance throttle to a little over 70 percent, release brakes if held and let the aircraft move. Do not exceed 15 knots while taxiing, or the aircraft can tip-over when turning.

Stop before entering a runway, to contact ATC to Request Take-Off clearance.



Once ATC has given clearance, increase Throttle, turn right to enter the Runway, align with its center line, and stop the aircraft for a final check.

BEFORE TAKE-OFF:

1. Manual fuel control check:

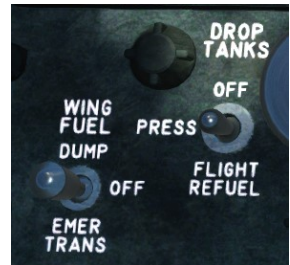
- a. Throttle - 85 PERCENT RPM while holding wheel brakes.
- b. Fuel control – Switch to MANUAL, while keeping RPM at 85%.
- c. Fuel control light – Check ON, AND ENGINE INDICATION THAT SWITCHOVER HAS OCCURED.
- d. Fuel control – Switch to PRIMARY, while keeping RPM at 85%
- e. Fuel control light – Check that it goes OFF. Reduce RPM to Idle.



2. Check for takeoff flaps, they should be set to Half Flaps. Use of full flaps delays nose wheel lift-off.

3. Recheck the attitude gyro, RMI, engine instruments, trim indicators, and flap setting.

4. Ensure drop tank switch in pressure position if external fuel carried and ensure emergency wing transfer switch off.



Take Off:

a) Press Wheel brakes, increase throttle to MIL Power. As the engine accelerates through 90 percent, release brakes to prevent skidding the tires.

b) Use nose wheel steering or differential wheel brakes to maintain directional control until rudder becomes effective at about 70 Knots.

c) At 135 knots, pull back on the Control Stick to raise the nose to a takeoff attitude and allow the aircraft to fly itself off the ground.

d) Once on the Air, retract the Landing Gear, with the [G] key or by clicking the Gear handle.

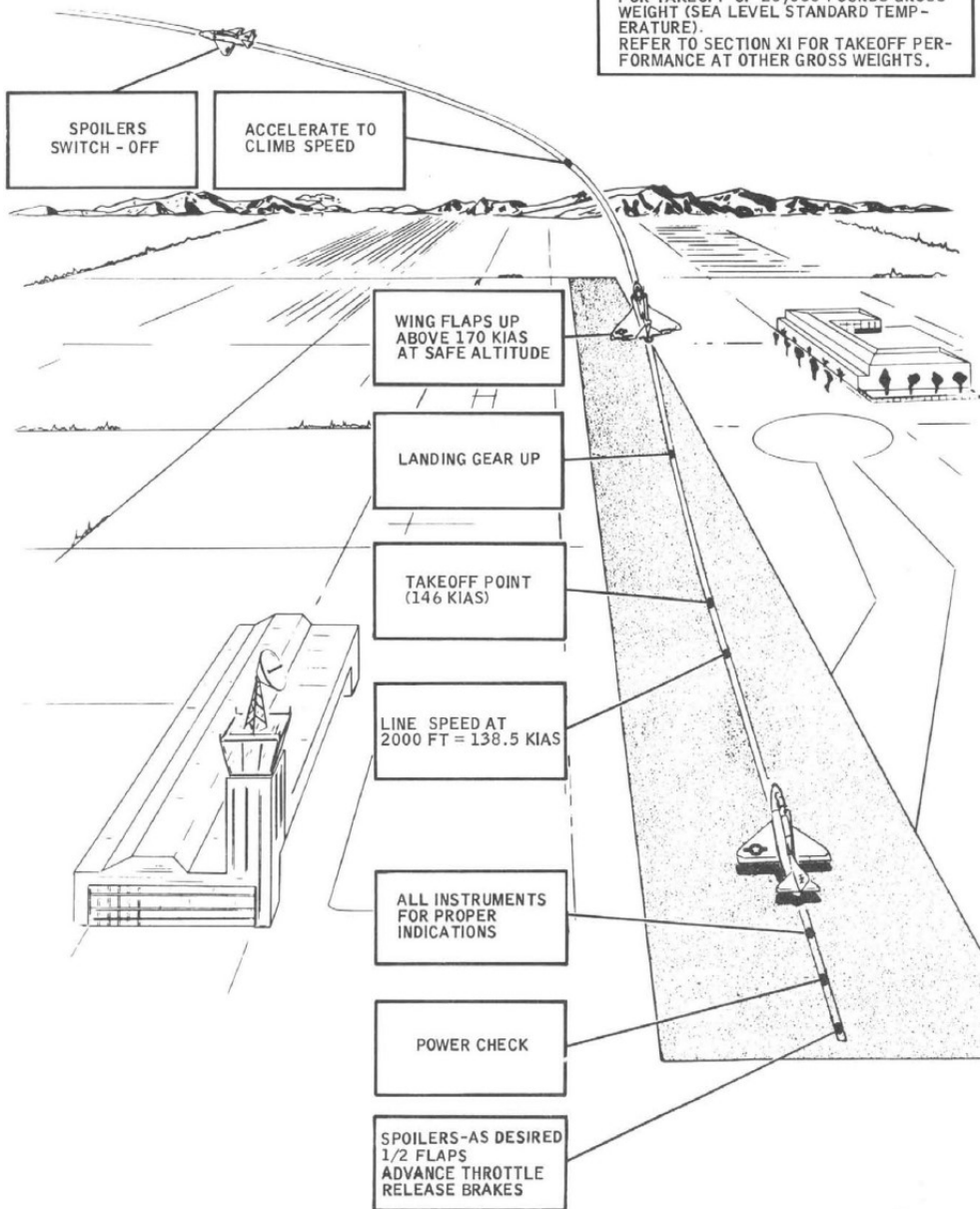
e) Retract the Flaps before reaching 170 knots, by clicking on their handle, or using the HOTAS or the [F] key.

f) Deactivate the Spoilers.



TAKEOFF

FOR TAKEOFF OF 20,000 POUNDS GROSS WEIGHT (SEA LEVEL STANDARD TEMPERATURE).
REFER TO SECTION XI FOR TAKEOFF PERFORMANCE AT OTHER GROSS WEIGHTS.

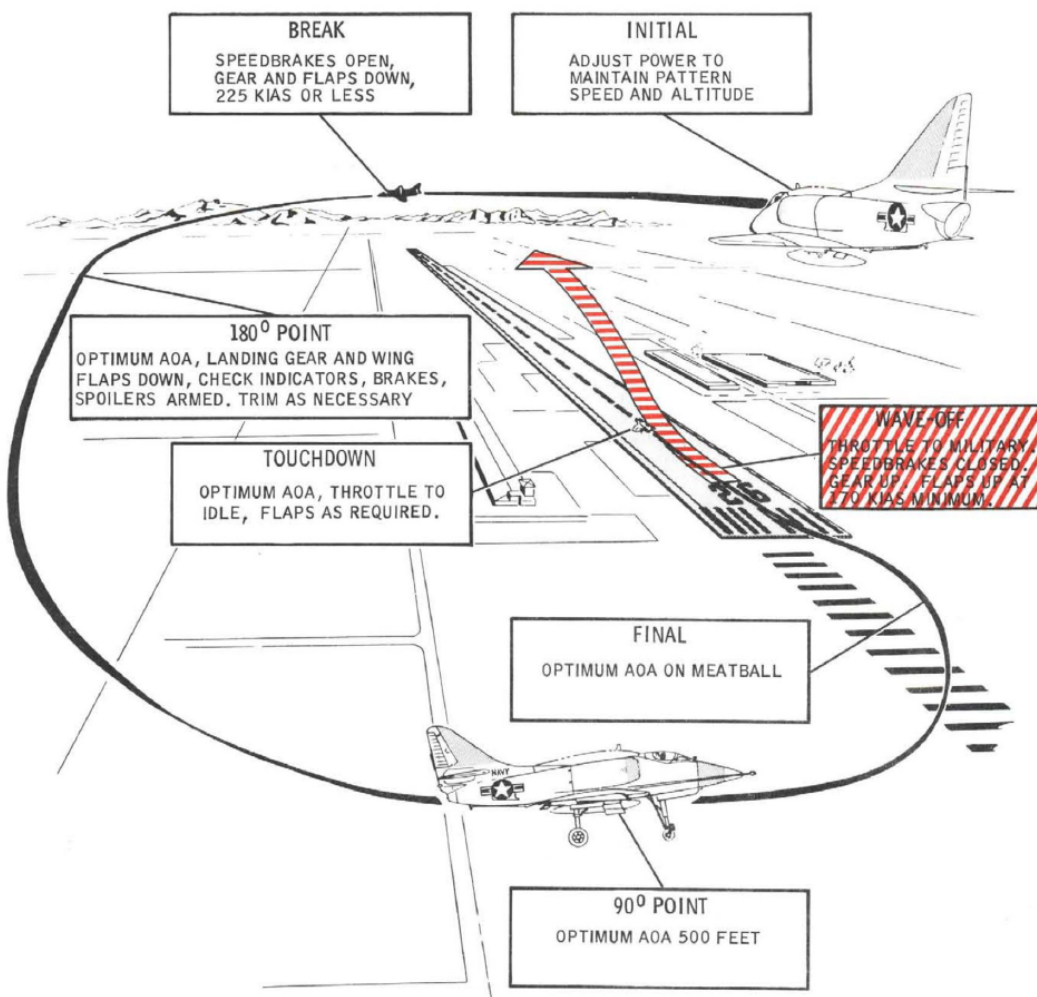


SHORE LANDING:

a) Activate Radar Altimeter:

Activate the Radar Altimeter, and set its index warning to 1,000 feet. Then begin a shallow descent and try to arrive at the airbase's initial point at a height of 1,000 feet and a speed of 250-300 knots.

b) Once at INITIAL, adjust power to maintain pattern speed and altitude.

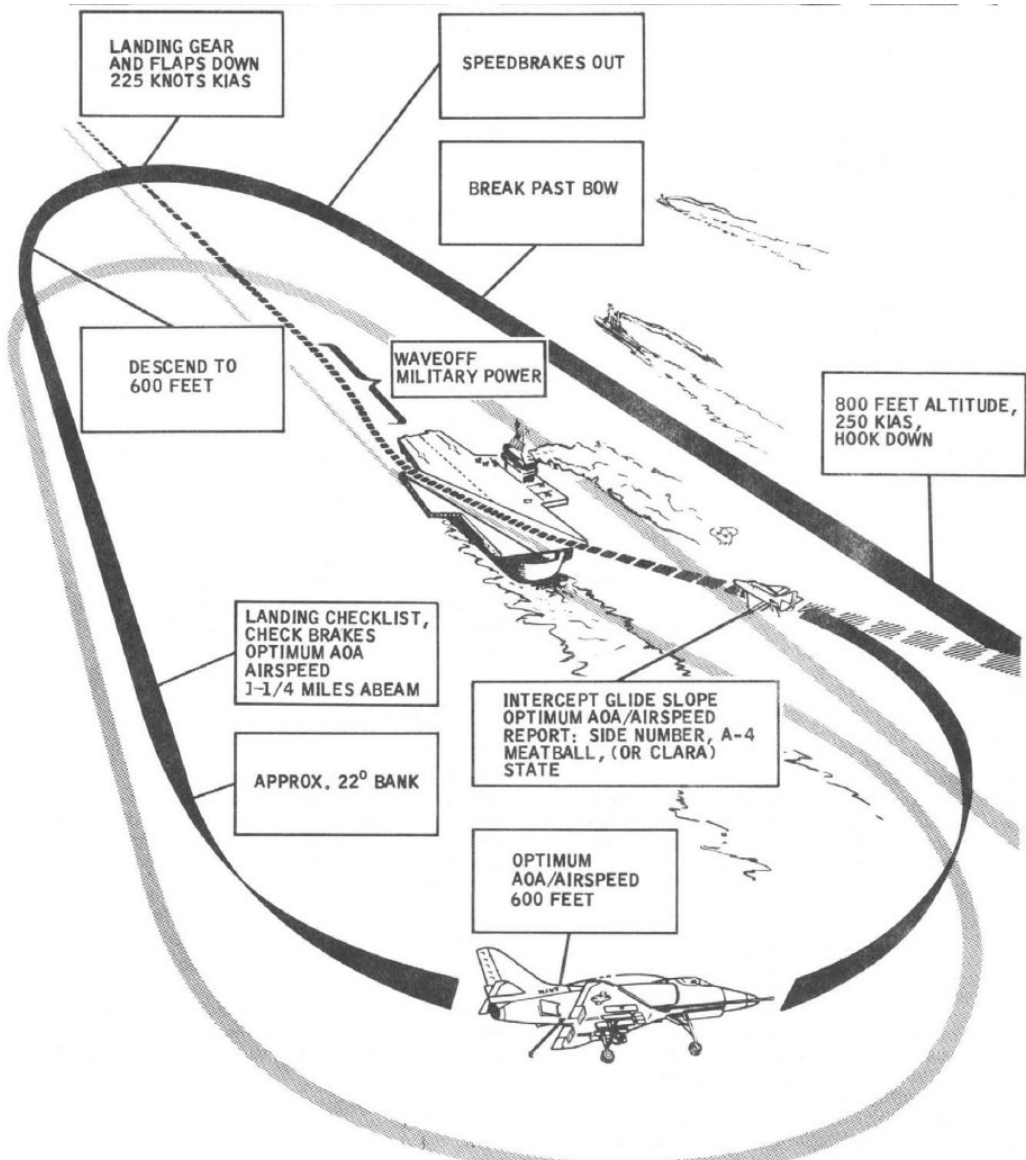


- c) BREAK. Roll into a 45-degree banked turn to the left. Open the Speed brakes, they will remain extended throughout approach and landing.
- d) As the aircraft decelerates to 225 knots or less, lower the landing gear and extend full flaps.
- e) DOWNWIND. Maintain 600 feet AGL at a comfortable airspeed, but no faster than 150 knots on the downwind leg. The heading should be the opposite of the runway's heading.
- f) Arm the Spoilers. Check Landing Gear and Flaps down, trim as necessary to achieve optimum AOA.
- g) Switch Landing Lights ON, maintain 600 feet AGL.
- h) Turn into BASE leg. Altitude should be 600 feet AGL with the aircraft at optimum angle-of-attack.
- i) Turn to FINAL. Turn towards the runway, for final approach. Maintain optimum AOA.

ON TOUCH DOWN:

1. Power to IDLE.
2. Allow the nose of aircraft to fall through by itself. Once the nose wheel is on the ground, apply full forward stick. Apply rudder as required to maintain directional control.
3. Use wheel brakes as necessary, but do not skid the tires.
4. Reduce speed and exit on the first available taxiway.

CARRIER LANDING:



SECURING ENGINE:

1. Flaps - Confirm UP.
2. Speed brakes - Retract if still open.
3. Spoilers - Confirm they are CLOSED and its switch is OFF.
4. Horizontal stabilizer Trim – Set to Zero degrees.
5. Drop tank switch - Set to OFF, with a right click.

6. Turn Off Radios and all electrical Equipment:

- a) Terrain Radar – OFF.
- b) Counter Measures – OFF.
- c) APR/25 and APR/27 ECM devices - Confirm OFF.
- d) APN-153 Doppler Radar - Set to OFF.
- e) ASN-41 Navigation Computer - Confirm that it's OFF.
- f) UHF Radio - OFF.
- g) TACAN receiver - Set to its OFF position.



11. Canopy – OPEN.by pulling the lever.
12. Ask the Ground Crew to place wheel chocks.
14. With engine stabilized at IDLE - Set the Throttle OFF, by clicking on it twice.
15. Oxygen switch - Confirm it is OFF.