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# DCS GUIDE OV-10 BRONCO

By: MadBomber

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# **DISCLAIMER**

This document has been created for recreational purposes only. Do not use for training or real life flying.

The author of this document has never had access to restricted or classified documentation on the OV-10 Bronco. The author has never had access to OEM (Original Equipment Manufacturer) data related To the OV-10 Bronco, its armament systems nor its defensive systems. All the information within this Document is taken from public documentation (i.e. OV-10 Bronco) and non-official tutorials (player-made videos on Youtube).

The procedures listed in this document are deliberately simplified for game play purposes due to the limitations of the DCS World simulation environment and the limitations of the DCS OV-10 Bronco module By Split-Air.

This document is merely a free, personal project that is used for entertainment. This document is not meant Nor designed to teach someone to fly areal OV-10 Bronco.

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The North American Rockwell OV-10 Bronco is an American twin-turboprop light attack and observation aircraft. It was developed in the 1960s as a special aircraft for counter-insurgency (COIN) combat, and one of its primary missions was as a forward air control (FAC) aircraft. It can carry up to 3,200 lb (1,450 kg) of external munitions and internal loads such as paratroopers or stretchers, and can loiter for three or more hours.

### Specifications (OV-10D)

North American Rockwell OV-10A Bronco

Data from Jane's All the World's Aircraft 1984-85

General characteristics

Crew: 2

Capacity: cargo compartment for personnel (no seats) or 3,200 lb (1,451 kg) of freight

Length: 44 ft 0 in (13.41 m)

Wingspan: 40 ft 0 in (12.19 m)

Height: 15 ft 2 in (4.62 m)

Wing area: 291.0 sq ft (27.03 m<sup>2</sup>)

Airfoil: NACA 64A315

Empty weight: 6,893 lb (3,127 kg)

Gross weight: 9,908 lb (4,494 kg)

Max takeoff weight: 14,444 lb (6,552 kg) (overload)

Fuel capacity: 252 US gal (210 imp gal; 950 L) internal

Powerplant: 2 × Garrett T76-G-420/421 turboprop engines, 1,040 shp (780 kW) each equivalent

Propellers: 3-bladed Hamilton Standard, 8 ft 6 in (2.59 m) diameter constant-speed fully feathering propellers

### Performance

Maximum speed: 250 kn (290 mph, 460 km/h) at sea level

Combat range: 198 nmi (228 mi, 367 km)

Ferry range: 1,200 nmi (1,400 mi, 2,200 km) with auxiliary fuel

Service ceiling: 30,000 ft (9,100 m)

Rate of climb: 3,020 ft/min (15.3 m/s)

Take-off run: 740 ft (226 m)

Take-off distance to 50 ft (15 m): 1,120 ft (341 m)

Take-off distance to 50 ft (15 m): 2,800 ft (853 m) at MTOW

Landing run: 740 ft (226 m)

Landing run: 1,250 ft (381 m) at MTOW

Landing distance from 50 ft (15 m): 1,220 ft (372 m)

### Armament

Guns: 1 × 20 mm (0.79 in) M197 electric cannon (YOV-10D) or 4 × 7.62×51 mm M60C machine guns (OV-10D/D+)

Hardpoints: 5 fuselage and 2 underwing, with provisions to carry combinations of:

Rockets: 7- or 19-tube launchers for 2.75 in (70 mm) FFARs/WAFARs or 2- or 4-tube launchers for 5 in (127 mm) FFARs or WAFARs

Missiles: AIM-9 Sidewinder on wings only

Bombs: up to 500 lb (227 kg)







# CONTROLS SETUP

These controls should be mapped to your hotas and are essential.

## All But Axis Commands

- Canopy Open/Close
- Eject (3 Times)
- F10 Theater Map View
- Flaps - Step Down
- Flaps - Step Up
- Flaps - Up
- Flashlight
- Kneeboard On/Off
- Kneeboard Next Page
- Kneeboard Previous Page
- Landing Gear Up/Down
- Switch MK 4 Pod On
- Switch KM 4 Pod Off
- Reverse Thrust
- Trim Hat - Nose Down
- Trim Hat - Nose Up
- Trim Hat - Roll Left
- Trim Hat - Roll Right
- Weapon Gun Button
- Weapon Release Button
- Windshield Wiper
- Smoke
- Engine Cutoff Left
- Engine Cutoff Right
- Paratroops Drop

## Axis Commands

- Pitch
- Prop RPM Control
- Roll
- Rudder
- Thrust
- Wheel Brake Left
- Wheel Brake Right
- Zoom View



# CONTROL OPTIONS

OV-10A

Axis Commands

Foldable view

Reset category to default

Clear category

Clear all

Load profile

Save profile as

Action	Category	Keyboard	F16 MFD 1 (456D3B6D-0F...	TWCS Throttle (5FF7821D...	T-Rudder (9893B21D-B59A...	F16 MFD 2 (456D627D-0F...	T.16000M (5967F92D-B59...	Mouse
Absolute Camera Horizontal View								
Absolute Camera Vertical View								
Absolute Horizontal Shift Camera View								
Absolute Longitude Shift Camera View								
Absolute Roll Shift Camera View								
Absolute Vertical Shift Camera View								
Camera Horizontal View								MOUSE_X
Camera Roll View								MOUSE_Y
Camera Vertical View								MOUSE_Z
Pitch								
Prop RPM Control	Flight Control						JOY_Y	
Roll							JOY_SLIDER1	
Rudder				JOY_Z			JOY_X	
TDC Slew Horizontal (mouse)								
TDC Slew Vertical (mouse)								
Thrust			JOY_Z					
Thrust Left								
Thrust Right								
Wheel Brake Left	Flight Control			JOY_Y				
Wheel Brake Right	Flight Control			JOY_X				
Zoom View			JOY_SLIDER1					

Modifiers

Add

Clear

Default

Axis Assign

Axis Tune

FF Tune

Make HTML

Disable hot plug

Rescan devices

CANCEL

OK

To assign Axis, click on Axis Assign,  
You can also select "Axis Commands"  
In the upper scrolling menu.

To assign Axis, click on Axis Assign,  
You can also select "Axis Commands"  
In the upper scrolling menu.

To modify curves and sensitivities of axis,  
Click on the axis yo want to modify and  
Then click "Axis Tune".







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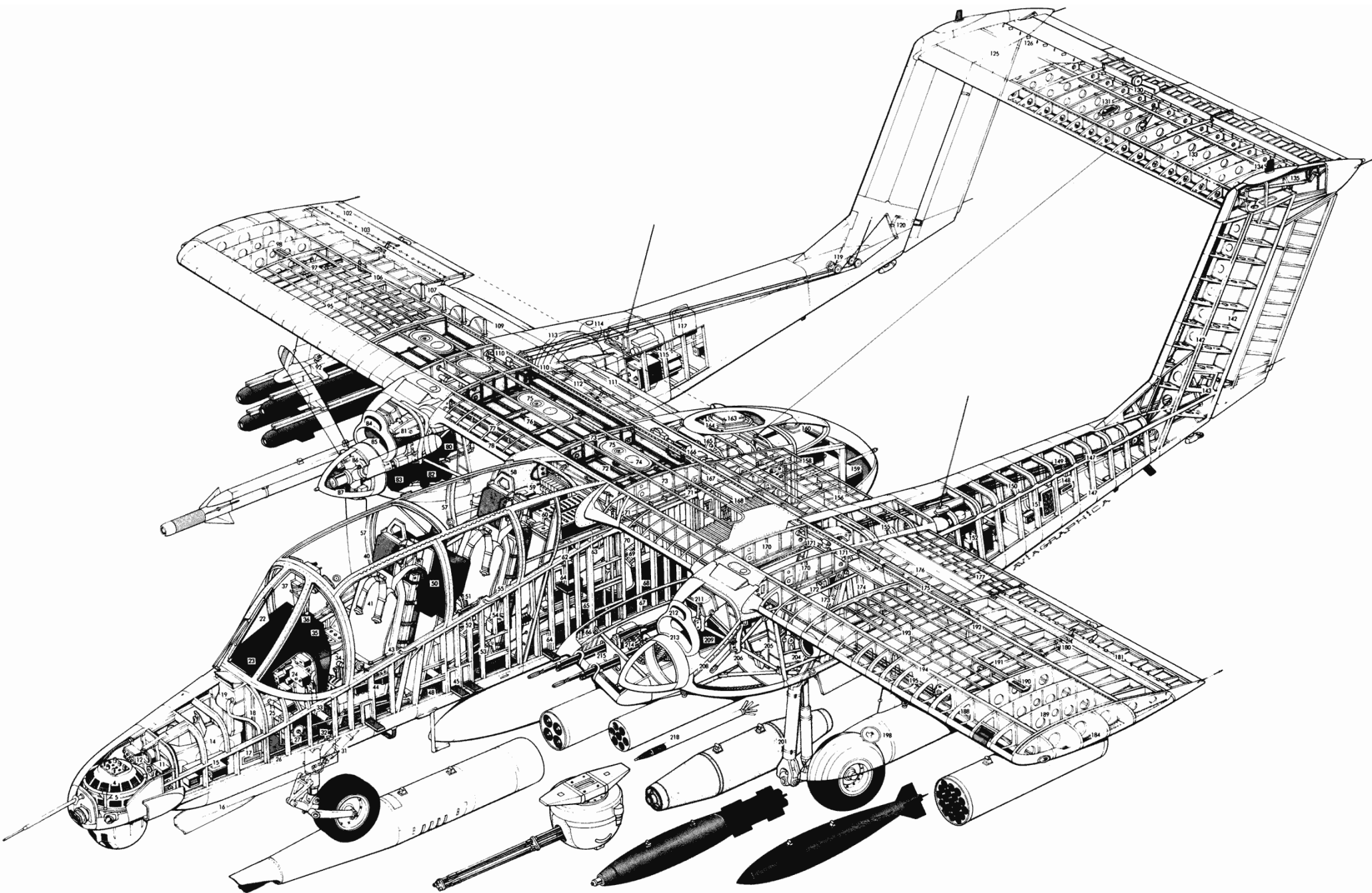
★ MARINES

VFC-617









# INSTRUMENTS

# FRONT PANEL





1. Weapons: Master Control Panel@
2. Weapons: Station Select Panel@
3. Weapons Jettison Button
4. Landing Gear Lever
5. Not in use\*
6. Not in use\*
7. Not in use\*
8. Not in use\*
9. Not in use\*
10. Artificial Horizon: Backup
11. Radio: UHF Radio
12. Acceleration: Info
13. Landing Gear Lights: Gear Status
14. Flaps: Indicator
15. Rudder & Aileron: Indicator
16. Instrument: Info
17. Not in use\*
18. Air Speed Indicator: In Knots
19. Altitude Indicator: In Feet
20. Not in use\*
21. Artificial Horizon: Main

22. Compass Heading: Bearing and Heading
23. Turn / Slip Indicator: Turn and Slip
24. Vertical Velocity Indicator:
25. ID-387 ARN course indicator
26. Not in use\*
27. L&R Engine Torque: In Pounds
28. L&R Engine RPM:
29. L&R Engine Temp:
30. Take Off Check List: Check List
31. Warning Lights\*
32. Fuel Indicator: Shows Fuel Level
33. Oil Pressure: In Pounds
34. Various Fuel Switches\*
35. Various Switches & Resets\*
36. Navigation Lights: On / Off
37. Anti-Collision Lights: On / Off
38. Formation Lights: On / Off
39. Taxi Lights: On / Off
40. TACAN: TACAN Navigation
41. Not in use\*
42. Aircraft Call Sign

@: More info in a later chapter

\*: Non functional

# SPECIFIC INSTRUMENTS

## 11. UHF RADIO



1. Preset Channel Knob
2. Mode Knob
3. Squelch Disable Switch\*
4. Volume Knob
5. UHF Function Knob
6. 2 Digit Channel Knob
7. Frequency Units (Units) Knob
8. Frequency (Tens-Hundreds)Decimal Knob



## 40. TACAN



1. Channel Select Knob - (X ONLY) 15X, 50X, 115X
2. Function Knob:
  - Off - Off
  - Rec - Receive only, only Bearing
  - T/R - Transmit and Receive, Bearing and Range
  - A/A - Air to Air\*
3. Volume Knob - Change the receiving Morse Code Volume of the Beacon

# LEFT HAND PANEL



1. Engine Control Panel
2. Power Levers
3. Engine Condition Levers
4. Reverse Thrust (2)
5. Flaps & Trim Panel
6. FM Radio
7. ICS Controls
8. Left Window Lock\*



# SPECIFIC INSTRUMENTS

## 1. ENGINE CONTROL PANEL



1. Air Start Switches
2. Starter Switches
3. Generator Switches
4. Instrument Power Switch
5. Battery Switch

## 5. FLAP & TRIM PANEL



1. Flaps Lever
2. Exterior Lights Master Switch
3. Normal Rudder Trim Switch
4. Alternate Elevator & Aileron Trim Switch
5. Alternate Flaps Switch
6. Trim Select Switch
7. Yaw Damper Switch
8. Alternate Rudder Trim Switch



## 6. FM RADIO & ICS PANELS



Both of these panels are Non functional.

## RIGHT HAND PANEL



1. IFF-SIF Control Panel\*
2. Battery Disconnect Panel\*
3. Compass Control Panel\*
4. VHF-AM Control Panel\*
5. Marker Control Panel\*
6. Bleed Air Panel\*
7. Various Gauges\*
8. Lights Control Panel
9. Right Window Lock\*

NOTE: Only the Light Control Knobs Work on any of the Right Hand Panels. (Section 8).



# HUD



1. Mirrors
2. Smoke On/Off
3. Horn Warning Disable
4. Gun Camera Film Switch\*
5. Gunsight Brightness

6. Backup Compass
7. Slip Indicator (Ball)
8. Zero Mills Show
9. Reticle
10. HUD Shades



# STARTING THE OV-10 BRONCO



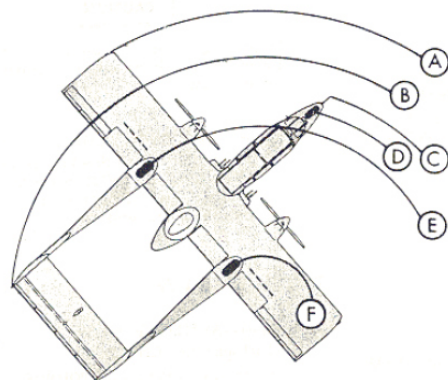
NOTE: Start one engine at a time. Once one engine is fully started, start the other with the same procedure as below.

1. Battery Switch: ON
2. Instrument Power Switch to 1
3. Generator Switch: ON
4. Air Start Switch: ON
5. Starter from ABORT to START
6. RPM to 12%
7. Condition Levers to Idle
8. RPM to 20%
9. Start Switch to RUN
10. Temperature to 900°C

Do the same with the other engine  
But moving the Instrument Power  
Switch to 2.

# GROUND OPERATIONS

## GROUND OPERATION

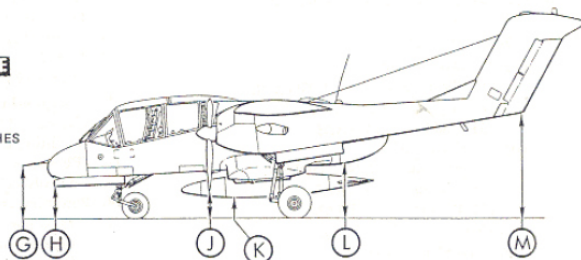


### TURN RADIUS

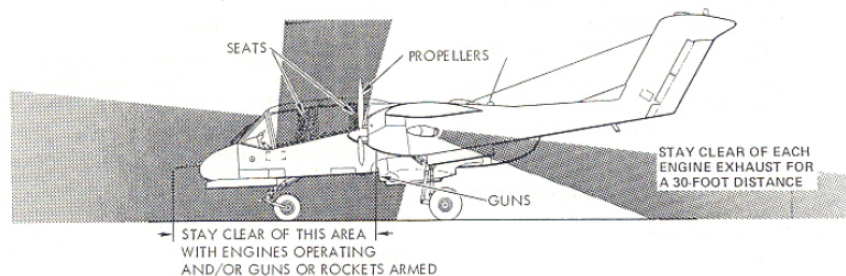
- (A) WING TIP - 33.2 FEET
- (B) VERTICAL - 28.6 FEET
- (C) PITOT BOOM - 25.8 FEET
- (D) NOSE WHEEL - 22.7 FEET
- (E) LEFT MAIN WHEEL - 20.6 FEET
- (F) RIGHT MAIN WHEEL - 5.6 FEET

### GROUND CLEARANCE

- (G) PITOT BOOM - 47 INCHES
- (H) NOSE WHEEL DOORS - 28 INCHES
- (J) PROPELLERS - 23.5 INCHES
- (K) DROP TANK - 18 INCHES
- (L) CARGO DOOR - 52 INCHES
- (M) RUDDERS - 94 INCHES



### DANGER AREAS



### CAUTION

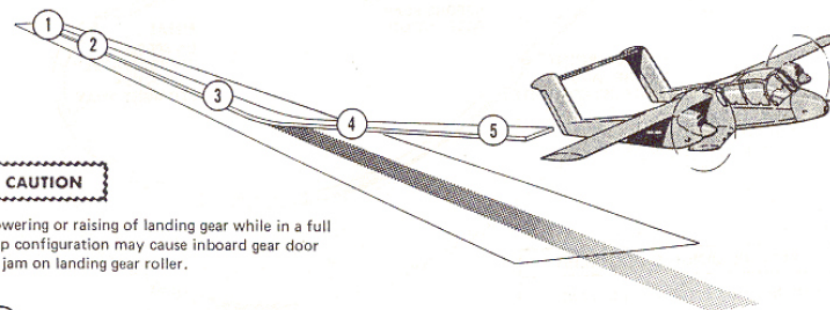
Check engine torque and temperature indications during take-off, retarding the power levers as necessary to avoid exceeding limits as speed increases.

### AFTER TAKE-OFF

1. Landing gear—UP.  
When safely airborne, retract the gear. Ensure the gear is fully retracted before exceeding 158 KIAS.
2. FLAP handle—UP.  
Above 110 KIAS, retract flaps. Ensure flaps are fully retracted before exceeding 158 KIAS.

## TAKE-OFF

### NORMAL PERFORMANCE



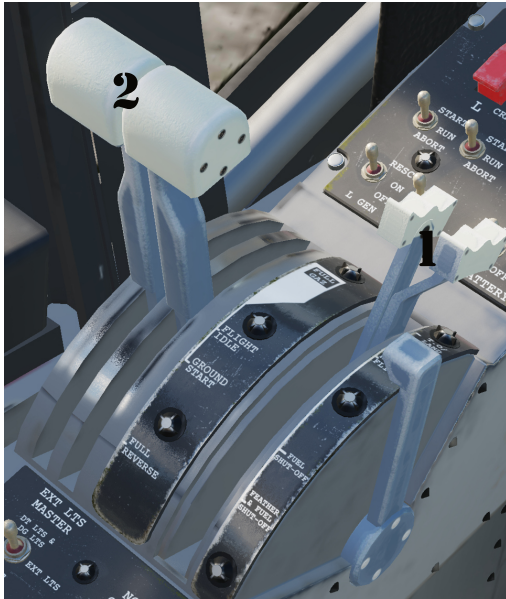
### CAUTION

Lowering or raising of landing gear while in a full flap configuration may cause inboard gear door to jam on landing gear roller.

- 1 Advance power to maximum available within limits, check engine instruments, and release brakes.
- 2 Use rudder and/or nose wheel steering as required.
- 3 When speed approaches 5 Kias below recommended take-off speed, use positive back stick pressure to rotate to lift-off attitude.
- 4 When safely airborne, retract landing gear.
- 5 Above 110 KIAS, retract flaps, if used.



# TAXI



1. Set the Engine Condition Levers to the Flight (Full Forward).
2. With the throttle set the Engine torque to 1600 Lb. Ft. on the Engine Torque gauges.

At this state, the Bronco will start taxiing.

The Bronco does not have nose wheel steering, the ground control is done by differential braking.

Operate the right or left brake to turn in the direction you desire.

## TAKE-OFF

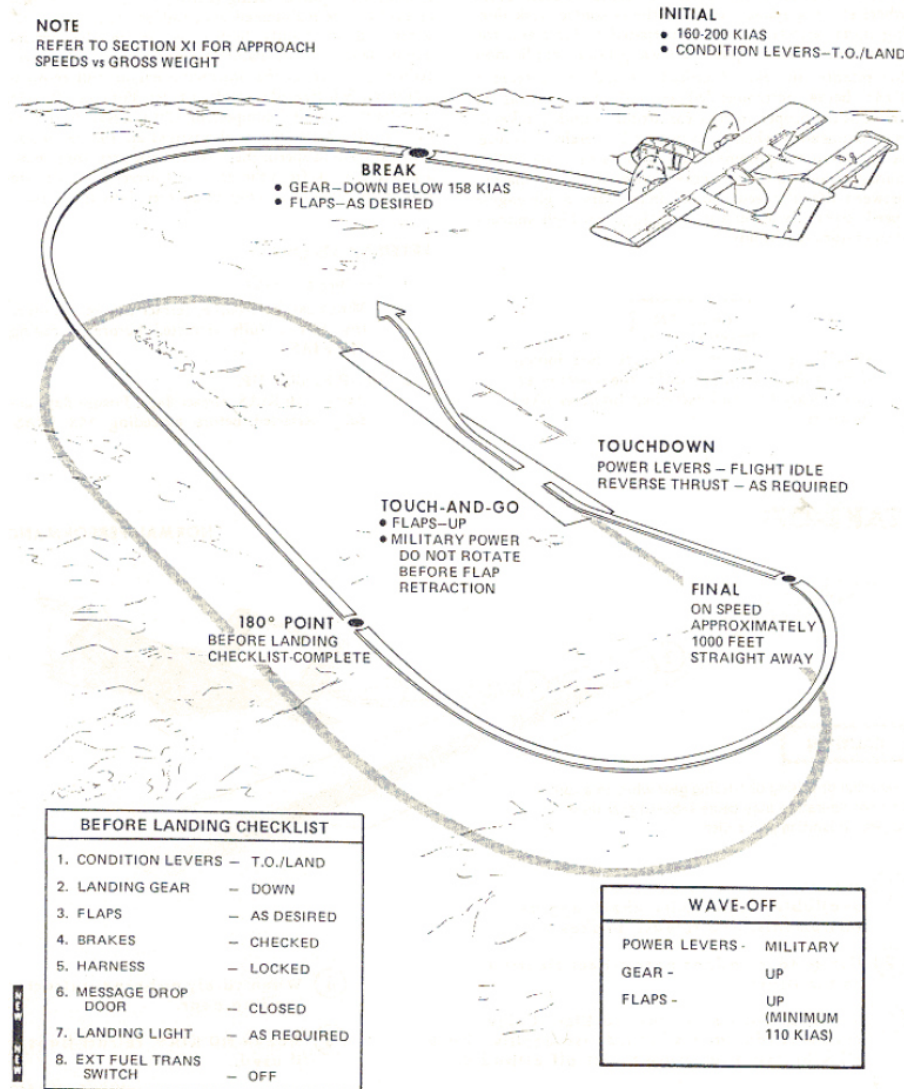


1. Set the Flaps to the Middle position.
2. Apply pressure on the brakes
3. Be sure the Engine Condition Levers are fully forward.
4. Slowly push the throttle to the forward position.
5. You will start accelerating forward.
6. At 100kts, you can start rotating the aircraft.  
Climb out is at 120kts.



# LANDING

## TYPICAL LANDING AND TOUCH-AND-GO PATTERN



Some people says that the landing is the most dangerous part of the flight, but with the Bronco, it's different. With such a low-speed maneuverable aircraft you will find the landing very pleasant.

With its short terrain landing capability, thanks to its thrust reverse, it is up to you now to find the shortest and narrowest green to land in field.

Watch out for the wing tips!

Diagram shows a full landing pattern (Break procedure).

# WEAPONS AND ARMAMENT

## WEAPONS STATIONS



NOTE:

Station 8: Paratroopers are loaded in the rear of the aircraft.

Station 9: Smoke (good for air shows and Marking your position).



## WEAPONS CONTROL PANEL



MK4 Gun Pod:  
RDY: On  
SAFE: Off  
CLEAR: Unknown

1. Jettison Button
2. Fire Left Hand Guns Only
3. Fire Right Hand Guns Only
4. MK 4 Pod
5. Interval
6. Master Arm

To jettison any or all ordinance:  
Select the station(s), (Must be  
In the **DOWN** position), then  
press the jettison button.

## WEAPONS SELECT PANEL



1. Air to Air Missile Station
2. Air to Ground Station
3. Air to Ground Station
4. Air to Ground Station
5. Air to Ground Station
6. Air to Ground Station
7. Air to Air Missile Station

### NOTE:

Stations 1 & 7 MUST be in the SAFE position for stations 2-6 To work.

All buttons:

Fire: Fires / Drops the Selected Station(s) Weapon.

Safe: All Stations are NOT ready to fire.

Drop: Any Station in this position will be dropped when the Jettison Button is pushed.

# WEAPONS STATIONS AVAILABLE WEAPONS

## Stations 1 & 7:

AA MISSILES	▶	✗ LAU-7 with AIM-9B Sidewinder IR AAM
ROCKETS	▶	✗ LAU-7 with AIM-9P Sidewinder IR AAM
REMOVE PAYLOAD		

AA MISSILES	▶	
ROCKETS	▶	∞ LAU-33A
REMOVE PAYLOAD		

## Stations 2, 3, 5 & 6: Air to Ground Weapons

BOMBS	▶	⊙ M117 - 750lb GP Bomb LD
ROCKETS	▶	⊙ Mk-82 - 500lb GP Bomb LD
REMOVE PAYLOAD		⊗ Mk-82 Snakeye - 500lb GP Bomb HD
		⊙ Mk-83 - 1000lb GP Bomb LD

BOMBS	▶	
ROCKETS	▶	# LAU-10 pod - 4 x 127mm ZUNI, UnGd Rkts Mk71, HE/FRAG
REMOVE PAYLOAD		# LAU-10R pod - 4 x 127mm ZUNI, UnGd Rkts Mk71, HE/FRAG
		⊙ LAU-3 pod - 19 x 2.75" Hydra, UnGd Rkts M151, HE
		⊙ LAU-3 pod - 19 x 2.75" Hydra, UnGd Rkts M156, Wht Phos
		⊙ LAU-3 pod - 19 x 2.75" Hydra, UnGd Rkts Mk5, HEAT
		⊙ LAU-3 pod - 19 x 2.75" Hydra, UnGd Rkts Mk61, Practice
		⊙ LAU-3 pod - 19 x 2.75" Hydra, UnGd Rkts WTU-1/B, Practice
		⊙ LAU-61 pod - 19 x 2.75" Hydra, UnGd Rkts M151, HE
		⊙ LAU-61 pod - 19 x 2.75" Hydra, UnGd Rkts M156, Wht Phos
		⊙ LAU-61R pod - 19 x 2.75" Hydra, UnGd Rkts M151, HE
		⊙ LAU-68 pod - 7 x 2.75" FFAR, UnGd Rkts M156, Wht Phos
		⊙ LAU-68 pod - 7 x 2.75" FFAR, UnGd Rkts Mk1, HE
		⊙ LAU-68 pod - 7 x 2.75" FFAR, UnGd Rkts Mk5, HEAT
		⊙ LAU-68 pod - 7 x 2.75" Hydra, UnGd Rkts M151, HE
		⊙ LAU-68 pod - 7 x 2.75" Hydra, UnGd Rkts M156, Wht Phos
		⊙ LAU-68 pod - 7 x 2.75" Hydra, UnGd Rkts M257, Para Illum
		⊙ LAU-68 pod - 7 x 2.75" Hydra, UnGd Rkts M274, Practice Smk
		⊙ LAU-68 pod - 7 x 2.75" Hydra, UnGd Rkts Mk1, Practice
		⊙ LAU-68 pod - 7 x 2.75" Hydra, UnGd Rkts Mk5, HEAT
		⊙ LAU-68 pod - 7 x 2.75" Hydra, UnGd Rkts Mk61, Practice
		⊙ LAU-68 pod - 7 x 2.75" Hydra, UnGd Rkts WTU-1/B, Practice
		⊙ M260 pod - 7 x 2.75" Hydra, UnGd Rkts M156, Wht Phos
		⊙ M260 pod - 7 x 2.75" Hydra, UnGd Rkts Mk5, HEAT

## Station 4: Air to Ground / Fuel Tank

BOMBS	▶	⊙ M117 - 750lb GP Bomb LD
FUEL TANKS	▶	⊙ Mk-82 - 500lb GP Bomb LD
PODS	▶	⊗ Mk-82 Snakeye - 500lb GP Bomb HD
REMOVE PAYLOAD		⊙ Mk-83 - 1000lb GP Bomb LD

BOMBS	▶	
FUEL TANKS	▶	⊙ Fuel Tank 150 gallons
PODS	▶	
REMOVE PAYLOAD		

BOMBS	▶	
FUEL TANKS	▶	
PODS	▶	⊙ Mk4 mod 0
REMOVE PAYLOAD		

## Station 8: Paratroopers x5

PODS	▶	↑ Paratrooperx5
REMOVE PAYLOAD		

## Station 9: Smoke

PODS	▶	⊙ OV10_SMOKE
REMOVE PAYLOAD		

## Internal Guns 4 7.62 Internal Guns - 2 per side



## USING THE INTERNAL GUNS



- 4 7.62 Internal Guns - 2 per side
1. Turn MASTER ARM to ON
  2. Put Guns LH & RH to RDY (Flip Up)
  3. Pull the trigger to fire

## USING THE MK-4 EXTERNAL GUN POD



### MK 4 20mm Gun POD

1. Turn MASTER ARM to ON
2. Put MK 4 POD to RDY (Flip Up)
3. Pull the trigger to fire



# USING ROCKETS



Any Type of Rockets

1. Turn MASTER ARM to ON
2. Set your Weapon Stations (Flip Up)
3. Press Weapons Release Button to fire





# USING BOMBS



Any Type of Bombs

1. Turn MASTER ARM to ON
2. Set your Weapon Stations (Flip Up)
3. Set your INTERVAL
4. Set your Inclination
5. Press and hold the Weapons Release Button to release the weapon(s)



Side Note:  
Long term project, we can make the  
Depression tables for a future update.



# USING AIR TO AIR MISSILES

## AtA Missiles

1. Turn MASTER ARM to ON
2. Set your Weapon Station (Flip Up)
3. You will hear a tone that the missile is seeking
4. You will get a different tone when the missile is locked on
5. Press the Weapons Release Button to release the missile



# PARATROOPER DROP



1. Drop paratroopers no higher than 1000' above ground
2. Speed should be no faster than 140
3. Drop paratroopers

## NOTE:

You must load the Paratroopers on the weapons armament screen in DCS.



## USING SMOKE



1. Using Smoke is simple, just have your Key / Button bound for Smoke
2. Press the button and smoke will come out of the Left engine

### NOTE:

You must load the Smoke on the weapons armament screen in DCS.



# THANKS

Special thanks to Dikennek for making this amazing and FREE Mod for DCS..  
Also my personal thanks for making not one but two liveries for me.  
NASA and CalFire.  
Thank you!



Thanks to Chuck for his amazing guides and  
okaying my blatant rip-off.