

AV8B Quick Reference Kneeboard

Startup Checklist

- DECS - ON
- Fuel Shutoff Lever - DOWN
- Oxygen - OXY
- Lights - As Required
- L/R Fuel Pumps - NORM
- STO STOP Lever - SET
- SAS - ALL ON
- Flaps Power - ON
- FLAPS - SET
- H2O - SET
- Left MPCD - ON
- UFC - ON
- Comm 1/2 Volume - Set
- HUD - ON
- HUD ALT Select - RDR
- Right MPCD - ON
- RWR - ON
- EXP - AUT
- ECM - RCV or RPT
- Battery - BATT
- Engine Start - ENG ST
- (Once 9% RPM) Throttle - IDLE
- Canopy - Closed & Latched
- INS - NAV(If Pre Aligned)
- DMT - ON
- FLIR - ON
- AFT Equip - ON
- Seat Ground Safety Lever - DOWN
- TACAN - SET
- ALT - SET



Shutdown Checklist

- Lights - OFF
- Parking Brake - SET
- SAS - ALL OFF
- AFC/ALT HOLD/ Q FEEL - ALL OFF

- **Anti Skid** - ON
- **INS/FLIR/DMT** - OFF
- **RWR** - OFF
- **EXP** - OFF
- **ECM** - OFF
- **Throttle** - CUTOFF
- **Radios** - OFF
- **Oxygen** - OFF
- **L/R Fuel Pumps** - OFF
- **DECS** - OFF
- **MPCDS/UFC/HUD** - OFF
- **Canopy** - OPEN
- **Generator/Battery** - OFF

Conventional Takeoff

- **STO STOP** - FULL AFT
- **Nozzle** - 10 DEGREES
- **FLAPS** - AUTO
- **H20** - TAKEOFF
- **STAB Trim** - 2 DEGREES NOSE DOWN
- **ANTI SKID** - ON

Weight	18,000	20,000	24,000	28,000	30,000	31,000
Lift-off Speed	135 kts	135 kts	139 kts	153 kts	160 kts	164 kts

Short Takeoff

- **STO STOP** - SET (See Chart)
- **Nozzle** - 10 DEGREES
- **FLAPS** - STOL(Or AUTO)
- **H20** - TAKEOFF
- **STAB Trim** - 2 DEGREES NOSE DOWN
- **ANTI SKID** - ON
- **When NRAS Reached** - Nozzle to STO STOP Position
- **Witches Hat** - Aligned With Pitch Caret
- **Gear** - UP
- **Nozzles** - Gradually Up
- **Flaps** - AUTO (Once Nozzles < 25 Degrees)

Weight	18,000	20,000	24,000	28,000	30,000	31,000
NRAS	77 kts	81 kts	88 kts	96 kts	98 kts	101 kts
Nozzle	60 °	60 °	60 °	60 °	55 °	50 °
Distance	550 ft	610 ft	750 ft	850 ft	970 ft	1100 ft

Vertical Takeoff(<20,500 lbs)

- **STO STOP** - SET (See Chart)
- **Nozzle** - 82 DEGREES
- **FLAPS** - STOL
- **H20** - TAKEOFF
- **STAB Trim** - 2 DEGREES NOSE DOWN
- **ANTI SKID** - ON
- **Throttle** - Increase Gradually Until Liftoff
- **When at 20-25 ft** - Decrease Throttle to Hover
- **Gear** - UP
- **Increase Forward Speed**
- **Gradually Decrease Nozzle to 0 Degrees**
- **Flaps** - AUTO (Once Nozzles < 25 Degrees)

Weight lbs	14000	16000	18000	20000	20,755
RPM	100.4 %	104.3 %	108.3 %	113.5 %	116.0 %
JPT	627 °C	667 °C	707 °C	758 °C	780 °

Conventional Landing

- **Anti-Skid** - ON
- **Master Mode** - VSTOL
- **STO STOP** - CLEAR
- **Nozzle** - 0 Degrees
- **Flaps** - AUTO
- **H20** - OFF
- **Gear** - Down Below 180 kts
- **AOA** - 10 to 12 Degrees
- **30 - 50 ft AGL** - Flare (2 Degrees above Horizon)

Weight	18,000	20,000	24,000	28,000	30,000	31,000
Threshold Speed	142 kts	135	135	139	175 kts	183 kts
Distance	5200 ft				8500 ft	

Vertical Landing(<20,500 lbs)

- **Anti-Skid** - ON
- **Master Mode** - VSTOL
- **STO STOP** - CLEAR
- **Nozzle** - 60 Degrees
- **FLAPS** - STOL
- **H20** - LDG
- **STAB Trim** - 4 Degrees Nose Down
- **Gear** - Down Below 180 kts
- **Nozzle** - 82 Degrees
- **130-140 kts** - Level Off At 150 ft

A2A Refueling

- **Master Arm** - OFF
- **A/R Switch** - OUT
- **Probe Light** - ON
- **Flaps** - CRUISE
- **AFC** - ON
- **IAS** - 180-300 kts
- **AOA** - <13

Useful Formulas

Speed/Time/Distance

- **Ground Speed required (knots)**= (Distance/Minutes)x 60
- **Time of Flight (mins)**= (Distance/Ground Speed) x 60

Fuel/Endurance

- **Bingo Fuel (lbs)**= (Time of Flight/60) x Fuel Burn (lb/hr)
- **Objective Time (mins)**= ([Total Fuel - Bingo] ÷ Fuel lb/hr) x 60

9-Line Assistant

1. IP/BP:____- Initial Point or Battle Point
2. Heading:____Offset:L____R____- HDG(mag) from IP to TGT
3. Distance:____ - From IP to BP given in NM
4. Target Elevation:____- In feet above MSL
5. Target Description:____- Detailed description of area
6. Target Location:____- UTM/MGRS/LatLong/Navaid/Visual
7. Mark Type:____Code:____LTL:____- LTL= Laser Target Line
8. Friendlies:____- Location of nearest friendlies
9. Egress:____- Direction to depart after attack
- Remarks:____
 - Troops in contact or danger close
 - Airspace coordination: final attack heading (FAH) or altitude restrictions
 - Threat
 - SEAD support in effect
 - Active gun target lines
 - Ordnance Requested
 - Hazards
 - Weather
- TOT:____ or TTT:____
 - Time Over Target- Specific time ordnance will hit target
 - Time To Target- Countdown timer started with "HACK!"

SSS / STORES

Equipment

TANK 300lb Fuel Tank
GUN GAU-12 Gunpod
DECM AN/ALQ-164 DECM
TPOD AN/AAQ-28 Litening II

HUD: INS / MAV

Short: LTIP
Long: Select LMV2

Unguided Bombs

81 Mk-81
82 Mk-82
82HL Mk-82 SE
82HL Mk-82 AIR
83 Mk-83
20 Mk-20 Rockeye

EHSD:
CTR / DCTR / EW

Short: FOV
Long: LSS

Long:
HUD Scene Reject

2x:
TPOD HTS Mode

FLIR:
BHOT / WHOT

Short: BH / WH
Long: FLIR / CCD

Rockets & Missiles

10S 4 x ZUNI
68S 7 x 2.75" Hydra
20S 7 x 2.75" APKWS
25S 8 x SUU-25/LUU-2
LMAV AGM-65E LMAV
LMV2 AGM-65E2/L LMAV
IRMV AGM-65F IRMAV
SA AGM-122 Sidarm
9M AIM-9M Sidewinder

DMT: TV / LST

Short: AR / PT / MT
Long: INR Track

Precision Guided Munitions

12 GBU-12 LGB
16 GBU-16 LGB
J82 GBU-38 JDAM
J83 GBU-32(V)2/B JDAM
J82L GBU-54B LJDAM

LANDING XWIND LIMITS

App \geq 140 kts 20 kts (15 kts night)
App $<$ 140 kts 15 kts (10 kts night)
GWt $>$ 19,550 lbs 10 kts

MAX WEIGHT

CL: 26,000 lbs
VL: 20,500 lbs
RVL: 24,500 lbs

Wet runway: reduce by 5 kts

TAKEOFF DATA

		VTO*	RVTO	STO	CTO
1 Finger Checks	NRAS	–	–	VREST	Calc
	PC	14°	14°	14°	14°
	STO Stop	Clear	70°	VREST	Clear
	Trim**	0°,0°,2°ND	0°,0°,2°ND	0°,0°,2°ND	0°,0°,2°ND
	Flaps	STOL	STOL	STOL***	AUTO
	Wrn/Caut	Out	Out	Out	Out
2/5 Finger Checks	Noz 50° or STO: Flaps Check				
	Noz 10°: Engine ACCEL (2.4–3.1s), IGV 11–22° at 60%				
	Water: As required, reset to 60%				
	Noz 30°: Duct Pressure at 60% (45psi)				
Takeoff	Nozzles	82°	30°	10°	10°
	NWS	–	Engage	Engage	Engage
	Throttle	FULL	FULL	FULL	FULL
	Brakes	Hold	Release	Release	Release
	Noz Rot	–	RPM>110%	NRAS	–
	Aft Stick	–	–	–	NRAS
Attitude		Accelerating Transition to PC			PC

*VTO Limit from VREST Page

**Shore trim; LHA trim from Tote Board

***AUTO permitted if FOD risk but VREST data invalid

LANDING TYPES

	Nozzles	Flaps	AoA	Attitude
VL	82°	STOL	<15°	WH: 0°
RVL	82°	STOL	<15°	WH: 0°
SFNSL	60°	STOL	10-12°	WH: +2°
AFNSL	60°	AUTO	10-12°	WH: +2°
SVNSL	40-60°	STOL	8-10°	WH: +2°
AVNSL	40-60°	AUTO	8-10°	WH: +2°
HSSL	82° 10-12ft	STOL	10-12°	WH: +2°
BSSL	98° 2-3ft	STOL	10-12°	WH: +2°
CL	0°	AUTO	10-12°	WH: +2°

PNB: 70% rpm at 98° noz to <60kt

CTO ROT SPEED

GWT	Rotate
18,000 lbs	135 kts
20,000 lbs	135 kts
22,000 lbs	135 kts
24,000 lbs	139 kts
26,000 lbs	146 kts
28,000 lbs	153 kts
30,000 lbs	160 kts
31,000 lbs	164 kts

RVL SPEED

Speed	Max Weight
≤45kt	VL
50kt	VL + 2,300lb
55kt	VL + 2,700lb
60kt	VL + 3,100lb
65kt	VL + 3,500lb
70kt	VL + 4,000lb

VL Weight:
VREST Page