Standard Aircraft Characteristics

NAVY MODEL
AV-8B HARRIER II AIRCRAFT

CLEARED FOR
OPEN PUBLICATION
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PUBLIC AFFAIRS OFFICE
NAVAL AIR SYSTEMS COMMAND

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STANDARD AIRCRAFT CHARACTERISTICS

AV-8B HARRIER II

MCDONNELL DOUGLAS

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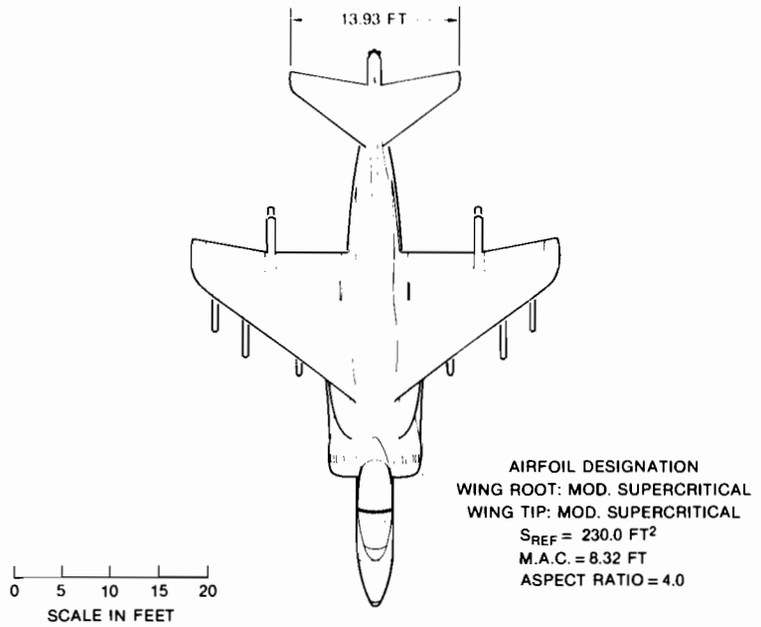
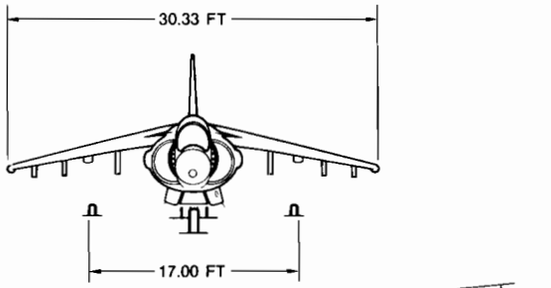
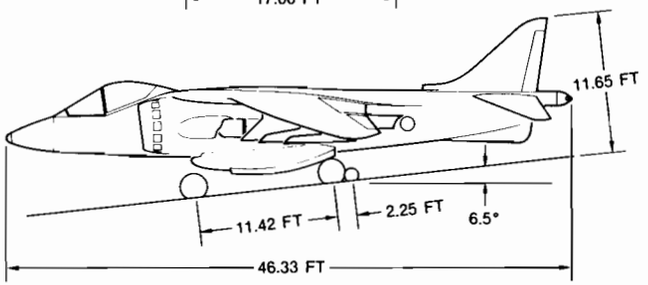
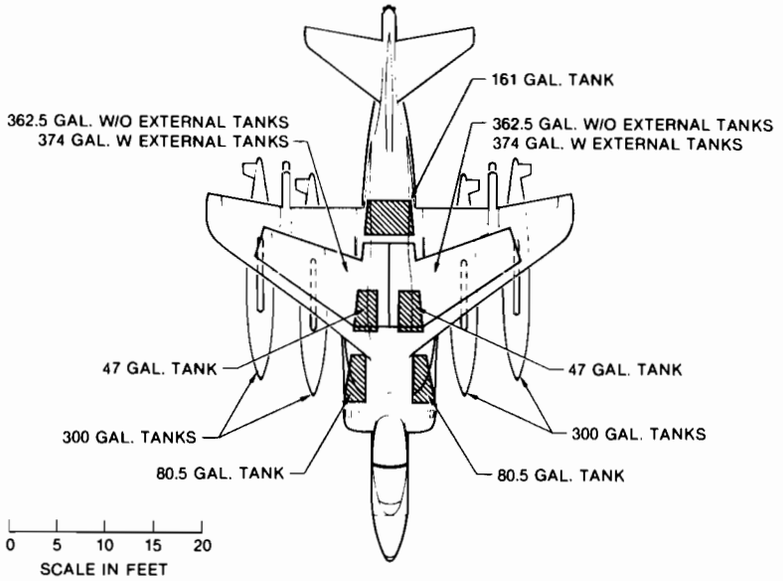
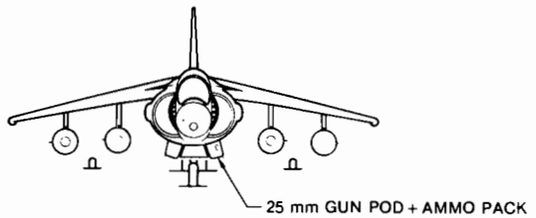


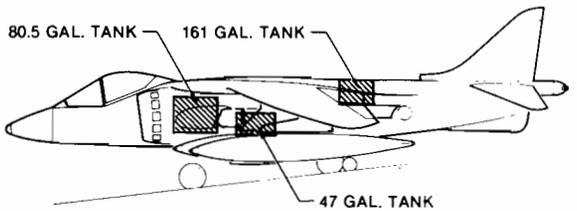




DESCRIPTIVE AND ARRANGEMENT







ARMAMENT AND TANKAGE

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POWER PLANT

Number and model	(1) F402-RR-406
Manufacturer	Rolls-Royce
Specifications	Rolls-Royce Spec. No. 604
Type	Axial flow, non-mixed, vectored thrust, turbofan
Augmentation	Water injection
Length (including nozzles)	137.3 in.
Inlet Diameter	48.05 in.
Dry Weight	(max.) 3887 lb
Nozzle rotation angles	
Front 0° to 98.5°	Rear 0° to 98.5°

RATINGS AND SFC

POWER SETTING (TIME)	UNINSTALLED STATIC THRUST AT SEA LEVEL*	SFC LB/HR/LB	% RPM
Short lift wet (15 sec)	21,550	0.735	107.0
Normal lift wet (1.5 min)	20,780	0.720	104.5
Short lift dry (15 sec)	20,280	0.677	103.5
Normal lift dry (2.5 min)	19,380	0.664	100.5
Combat (10 min)	18,720	0.659	99.0
Maximum (15 min)	17,940	0.652	99.0
Maximum continuous	14,540	0.636	91.0
Idle (Minimum)	1,000	—	26.0

*Includes splay loss (90° nozzle rotation)

ELECTRONICS

Angle Rate Bombing Set	AN/ASB-19(V)2
Stores Management Set	AN/AYQ-13
Mission Computer	AYK-14(V)
Electronic Warfare	
Radar Warning Receiver	AN/ALR-67(V)2
Countermeasures Dispensing System	AN/ALE-39
Interference Blanker	100D0009-4
Communications and Identification	
UHF/VHF Radio	ARC-182(V)
Secure Voice	TSEC/KY-58
IFF	APX-100
Radio Navigation	
TACAN	ARN-118
All-Weather Landing System	ARA-63
Radar Altimeter	APN-194(V)
Radar Beacon	APN-202
Horizontal Situation Indicator	ID-2284/A
CNI Data Converter	CV-3736/A
Auxiliary CNI Panel	AM-7109/A
Controls and Displays	
Head Up Display	SU-128/A
Multipurpose Display	IP-1318/A
Display Processor	CP-1450/A
Up-Front Control Set	AN/ASQ-179
Engine Display Panel	EAU-12/A
Air Data Computer	CP-1471/A
Magnetic Azimuth Detector	OHU-1/A
Angle-of-Attack Indicator	ID-2276/A
Angle-of-Attack Transmitter	TRU-197/A
Stability Augmentation of Attitude Hold Set	AN/ASW-46(V)2
Inertial Navigation Set	AN/ASN-130A

MISSION AND DESCRIPTION

The AV-8B is a single place, close-air support, light attack aircraft with vertical and short takeoff and landing capability. Its primary mission is close-air support, a mission in which the unique basing flexibility of V/STOL allows operation from ships or unprepared short bases in close proximity to the battle area, providing rapid response to the ground commander. Secondary mission capability includes interdiction and combat air patrol or deck launched intercept.

The AV-8B has a raised cockpit with wraparound windshield and a shoulder mounted, swept wing with marked-negative dihedral. The wing includes a large, single slotted flap, drooped ailerons in the high lift configuration, and a Leading Edge Root eXtension (LERX). Conventional aerodynamic controls are used in wingborne flight and engine bleed air reaction controls are used in jetborne flight with a mix of two systems being used when transitioning betweens modes of flight. The aircraft is powered by a Rolls-Royce Pegasus fan jet engine and has two side inlets and four exhaust nozzles which may be rotated to provide thrust vectoring for V/STOL operations or to enhance inflight maneuvering. The landing gear consists of a nose gear and a single main gear mounted in bicycle or tandem arrangement and two outrigger gear located approximately mid-span on each wing between the flap and aileron. Lift Improvement Devices (LIDS) consisting of two longitudinal strakes and a retractable forward fence mounted on the lower fuselage between the nose and main gear, are provided to improve pertormance in vertical takeoff or landing. The hydraulically operated speedbrake is located on the lower fuselage surface immediately aft of the main landing gear.

The AV-8B has six wing stations and one fuselage station for external stores and may carry an external fuselage mounted 25 mm gun pack and ammo pack. Fuselage strakes are interchangeable with the gun and ammo pack. External fuel may be carried on four of the wing stations. The aircraft is equipped with a Stability Augmentation and Attitude Hold System (SAAHS) with a departure resistance system and pilot relief modes for wingborne flight, an Angle Rate Bombing System (ARBS) and a Head Up Display (HUD). Other features include a self-contained start system, Stencel SJU-4/A ejection seat and an OBOGS system. A retractable inflight refueling probe may be added to the aircraft if required. The wing, forward fuselage and stabilator are fabricated of composite structure.

DEVELOPMENT

First flight prototype	(YAV-8B)	9 November 1978
First flight (flight development program)	(AV-8B)	5 November 1981
Initial Operating Capability (IOC)	(AV-8B)	August 1985
First fleet deployment	(AV-8B)	January 1987

DIMENSIONS

Wing	
Area	230 sq ft
Span	30.33 ft
M.A.C.	8.32 ft
Sweepback (25% chord) (projected)	30.62°
Incidence	3°
Dihedral	−11°
Length	46.33 ft
Height	11.65 ft
Wheelbase	11.42 ft
Tread (outrigger)	17.0 ft
MLG tires	26×7.75
NLG tire	26×8.75
Outrigger tires	13.5×6.0

WEIGHTS

LOADING	LB	L.F.
Empty	12,835	
Operating	13,086	
Basic	22,950	7
Design	29,750	5.4
Combat	20,947	7.6
Maximum takeoff	31,000	5.3
Maximum in-flight	31,000	5.3
Maximum landing	25,000	

FUEL, OIL AND WATER

FUEL

NO. TANKS	GALLONS	LOCATION
5	416	Fuselage, integral
2	725*	Wing, integral
2/4	564/1,164	Wing, external, drop

Grade JP4 or JP5

Specification MIL-J-5624

*Increased to 748 when external fuel is carried

OIL

Integral with engine 2.4 gal.

(Ferry mission – 3.25 gal.)

WATER

1 Flow rate 330 PPM 60 gal.

STORE STATIONS

NO.	LOCATION	LOADING (NOMINAL)
1	Fuselage	Stores up to 1,000 lb
2	Inboard wing	Stores up to 2,000 lb
2	Intermediate wing	Stores up to 1,000 lb
2	Outboard wing	Stores up to 630 lb

GUNS

NO.	LOCATION	LOADING
1	Either side of fuselage centerline pylon	25 mm gun pod + 300 rounds installed in removable pods.

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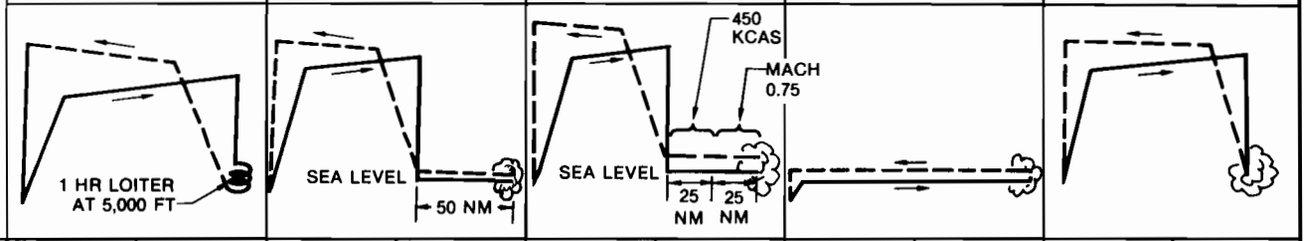
PERFORMANCE SUMMARY (J)

TAKEOFF LOADING CONDITION			① HI-HI-HI	③ CLOSE AIR SUPPORT	⑤ HI-LO-HI	⑦ HI-LO-LO-HI	⑨ COMBAT AIR PATROL	⑪ FERRY
			CLEAN STRAKES NO PYLONS	(6) MK-82SE GUN & AMMO (6) PYLONS	(6) MK-82SE (2) 300 GAL. TANKS GUN & AMMO (6) PYLONS	(6) MK-82SE DECM POD GUN & AMMO (7) PYLONS	(4) AIM-9 GUN & AMMO (6) PYLONS	(4) 300 GAL. TANKS STRAKES (4) PYLONS
Takeoff weight	(A)	lb	21,201	26,525	31,000	26,982	24,311	30,604
Fuel internal/external (JP-5, 6.8 lb/gal.)		lb	7,759/—	7,759/—	7,915/3,669	7,759/—	7,759/—	7,915/7,915
Payload (bombs, missiles, guns, ammo)		lb	—	4,692	4,692	5,067	2,070	—
Wing loading		lb/sq ft	92.2	115.3	134.8	117.3	105.7	133.1
Stall speed - power off/takeoff power		kt	135/92	151/115	163/132	152/117	144/106	162/130
STO takeoff run at S.L.-calm/25 kt wind	(B)	ft	260/110	730/425	1,530/1,030	780/460	510/275	1,460/975
STO takeoff to clear 50 ft - calm/25 kt wind	(B)	ft	925/565	1,815/1,255	3,110/2,330	1,940/1,355	1,425/945	3,005/2,245
CTO maximum effort takeoff calm	(B)	ft	1,030	1,625	2,335	1,695	1,315	2,265
Maximum speed/altitude	(C)	kt/ft	574/S.L.	530/10,000	497/10,000	516/10,000	532/10,000	521/10,000
Rate of climb at S.L.	(C)	fpm	16,000	10,550	7,800	9,900	11,750	8,600
Time: S.L. to 20,000 ft	(C)	min	1.7	2.9	4.5	3.2	2.5	3.8
Time: S.L. to 30,000 ft	(C)	min	3.2	6.7	11.0 (D)	8.1	5.5	10.7 (E)
Service ceiling (100 fpm)	(C)	ft	41,700	33,100	27,500	31,700	34,900	29,500
Combat range		NM	1,351	802	987 (F)	730	898	1,778 (G)
Average cruising speed (TAS)		kt	456	404	381	394	403	398
Cruising altitudes initial/final		ft	40,400/46,800	31,150/36,950	23,300/33,500	29,250/35,400	33,650/39,550	26,050/40,450
Combat radius/mission time	(I)	NM/hr	348/2.9	192/1.9	508/2.6 (H)	254/1.5	150/2.3	—/—
Average cruising speed (TAS)		kt	456	416	400	401	402	—
Cruising altitudes initial/final		ft	40,400/46,800	31,150/42,400	23,300/41,050	29,250/40,800	33,650/39,550	—
Loiter time		min	—	60	—	—	89	—
COMBAT LOADING CONDITION			**② CLEAN**	**④ BOMBS RETAINED**	**⑥ TANKS DROPPED BOMBS RETAINED**	**⑧ BOMBS RETAINED**	**⑩ MISSILES RETAINED**	**⑫ TANKS RETAINED**
Combat weight		lb	17,837	23,161	25,710	23,618	20,947	24,012
Engine power			Combat	Combat	Combat	Combat	Combat	—
Fuel		lb	4,655	4,655	6,950	4,655	4,655	9,498
Combat speed/combat altitude		kt/ft	516/40,000	553/5,000	515/S.L.	536/S.L.	507/30,000	—
Rate of climb at combat altitude	(C)	fpm	1,950	11,700	10,450	12,250	3,100	—
Combat ceiling (500 fpm)	(C)	ft	43,800	36,400	31,650	34,700	36,550	33,150
Rate of climb at S.L.	(C)	fpm	18,950	13,100	10,450	12,250	13,750	11,450
Maximum speed at S.L.	(C)	kt	574	552	515	536	531	518
Maximum speed/altitude	(C)	kt/ft	535/30,000	553/5,000	487/30,000	510/30,000	507/30,000	494/30,000
Landing weight		lb	13,919	15,919	16,377	16,395	17,119	15,719
Fuel		lb	740	791	995	810	827	1,205
Stall speed - power off/approach power		kt/kt	109/90	117/99	118/101	119/101	121/104	116/98
Landing distance - groundroll/over 50 ft obstacle		ft/ft	1,420/2,390	1,680/2,650	1,740/2,710	1,745/2,715	1,840/2,810	1,650/2,620

Notes:
(A) Includes 260 lb of water consumed at takeoff
(B) Short lift wet, 15 second rating, standard day
(C) Combat thrust, 10 minute rating
(D) Maximum altitude 27,209 ft
(E) Maximum altitude 29,332 ft
(F) External fuel tanks retained when empty
(G) Ferry range is 2,135 NM if tanks are dropped when empty
(H) External fuel tanks dropped when empty
(I) Mission time excludes warmup, takeoff, and 10 min loiter reserve
(J) Performance basis - flight test (MDC A9847)

GP62-0547-4-0

MISSION SUMMARY - ALTERNATE LOADINGS (ATTACK CONFIGURATIONS) (E)



		CLOSE SUPPORT		HI-LO-LO-HI		MODIFIED HI-LO-LO-HI		LO-LO-LO		HI-LO-HI	
EXTERNAL STORE LOADING (A)	(B) TOGW	COMBAT RADIUS (NM)	MISSION TIME (hr) (C)	COMBAT RADIUS (NM)	MISSION TIME (hr) (C)	COMBAT RADIUS (NM)	MISSION TIME (hr) (C)	COMBAT RADIUS (NM)	MISSION TIME (hr) (C)	COMBAT RADIUS (NM)	MISSION TIME (hr) (C)
3 (6) MK-82 SE Gun & Ammo	26,525	192	1.94	282	1.60	230	1.18	192	1.56	336	1.72
5 (6) MK-82 SE (D) (2) 300 Gallon Tanks Gun & Ammo	31,000	363	2.84	460	2.54	411	2.13	294	2.33	508	2.64
7 (6) MK-82 SE DECM Pod Gun & Ammo + (7) Pylons	26,982	163	1.82	254	1.51	201	1.06	182	1.50	305	1.62
14 (6) MK-82 SE (2) AIM-9 Gun & Ammo	27,337	148	1.76	241	1.46	188	1.01	176	1.47	289	1.56
15 (6) MK-82 SE Strakes	25,307	232	2.11	314	1.73	260	1.30	202	1.65	373	1.86
16 (6) MK-20 Rockeye Gun & Ammo	26,087	184	1.91	274	1.58	220	1.14	189	1.55	327	1.70
17 (4) AGM-65 Maverick Gun & Ammo	26,203	189	1.93	274	1.50	222	1.14	189	1.54	328	1.69
18 (6) MK-77 Gun & Ammo	26,147	187	1.92	276	1.59	223	1.15	190	1.55	331	1.71
19 (4) MK-83 LDGP (D) (2) 300 Gallon Tanks Strakes	30,510	429	3.11	522	2.78	473	2.38	316	2.49	575	2.89

Notes:
(A) All configurations have (6) pylons unless noted
(B) Includes 260 lb of water which is consumed at takeoff
(C) Mission time excludes warmup, takeoff, and 10 min loiter reserve
(D) External tanks dropped when empty
(E) Performance basis - flight test (MDC A9847)

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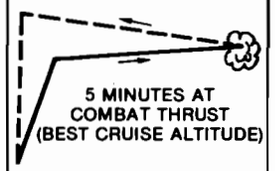
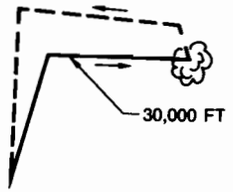
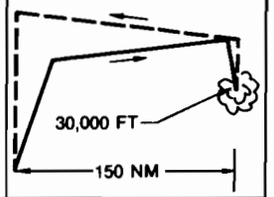
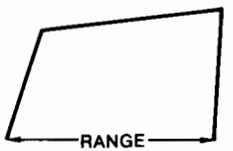
MISSION SUMMARY - ALTERNATE LOADING (AIR-TO-AIR CONFIGURATIONS) (G)







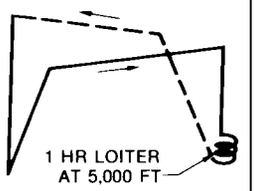


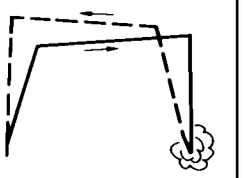
		HI-HI-HI		DECK LAUNCHED INTERCEPT		COMBAT AIR PATROL		FERRY RANGE			
EXTERNAL STORE LOADING (A)	(B) TOGW	COMBAT RADIUS (NM)	MISSION TIME (hr) (C)	COMBAT RADIUS (NM)	MISSION TIME (hr) (C)	LOITER TIME (hr)	MISSION TIME (hr) (C)	RANGE (NM)	MISSION TIME (hr) (C)		
1 Clean Strakes, no pylons	21,201	648	2.93	466	1.96	2.37	3.07	1,351	2.97		
9 (4) AIM-9 Gun & Ammo	24,311	425	2.20	382	1.80	1.49	2.27	898	2.23		
11 (4) 300 Gallon Tanks (retained tanks) Strakes + (4) Pylons	30,604	—	—	—	—	—	—	1,778	4.48		
13 (4) 300 Gallon Tanks (drop tanks) Strakes + (4) Pylons	30,604	—	—	—	—	—	—	2,135	4.98		
20 (4) AIM-9 (F) (2) 300 Gallon Tanks Gun & Ammo	28,698	628	3.22	598	2.86	2.59	3.38	1,189 (D)	3.06 (D)		
21 (2) AIM-9 (F) (2) 300 Gallon Tanks Gun & Ammo	28,092	680	3.40	627	2.91	2.80	3.58	1,286 (E)	3.25 (E)		
22 (2) AIM-9 Gun & Ammo	23,705	461	2.32	399	1.83	1.64	2.41	970	2.36		
23 (4) AIM-9 Strakes	23,093	470	2.38	403	1.86	1.70	2.47	987	2.42		

Notes:
(A) All configurations have (6) pylons unless noted
(B) Includes 260 lb of water which is consumed at takeoff
(C) Mission time excludes warmup, takeoff, and 10 min loiter reserve
(D) For tanks dropped range is 1,305 NM in 3.26 hr
(E) For tanks dropped range is 1,409 NM in 3.44 hr
(F) External tanks dropped when empty except ferry
(G) Performance basis - flight test (MDC A9847)

GP82-0547-6-O

MISSION SUMMARY - ALTERNATE LOADINGS (SPEC. MISSIONS) (H)



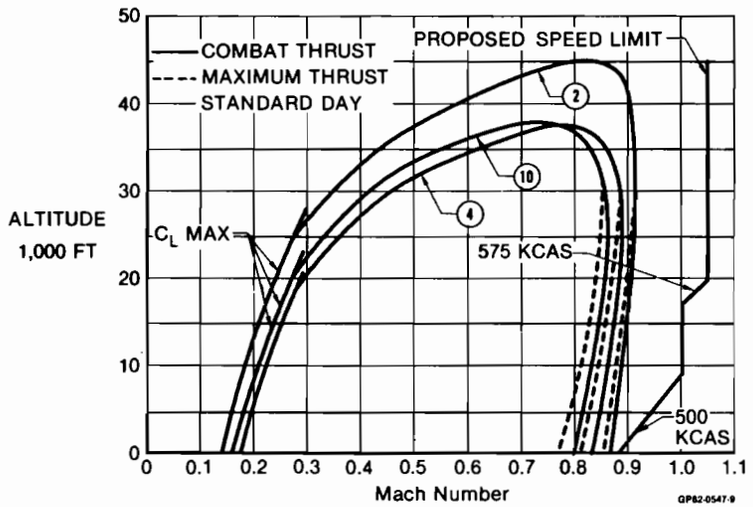


		CLOSE SUPPORT		HI-LO-HI (E)		FERRY RANGE					
EXTERNAL STORE LOADING (A)	(B) TOGW	COMBAT RADIUS (NM)	MISSION TIME (hr) (C)	COMBAT RADIUS (NM)	MISSION TIME (hr)(C)	RANGE (NM)	MISSION TIME (hr) (C)				
24 (7) MK-82 SE Gun & Ammo	27,192	162	1.82	329	1.73	714	1.83				
25 (12) MK-82 SE Strakes	(G) 28,350	86	1.46	263	1.45	521	1.42				
26 (7) MK-82 SE (F) (2) 300 Gallon Tanks Strakes	(G) 28,350	316	2.55	484	2.46	999	2.51				
27 (16) MK-82 SE Strakes + (7) Pylons	(G) 28,350	(D)	(D)	96	0.62	222	0.66				
28 (4) AGM-65 Maverick Gun & Ammo	26,097	194	1.95	355	1.82	819	2.04				
29 (4) 300 Gallon Tanks (drop tanks) Strakes	30,686	—	—	—	—	2,103	4.93				
30 (4) 300 Gallon Tanks (retain tanks) Strakes	30,686	—	—	—	—	1,753	4.44				

Notes:
(A) All configurations have (5) pylons unless noted
(B) Includes 260 lb of water which is consumed at takeoff
(C) Mission time excludes warmup, takeoff, and 10 min loiter reserve
(D) Requires an extra 1,167 lb of fuel for mission to balance
(E) Combat at maximum continuous thrust instead of combat thrust
(F) External tanks dropped when empty
(G) TOGW limited to 1,190 ft short takeoff ground roll, tropic day, SLW
(H) Performance basis - flight test (MDC A9847)

GP62-0547-7-O

SPEED



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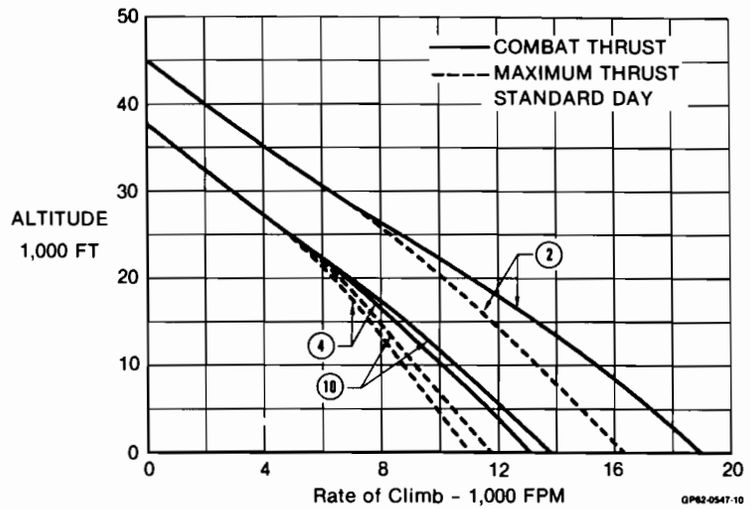
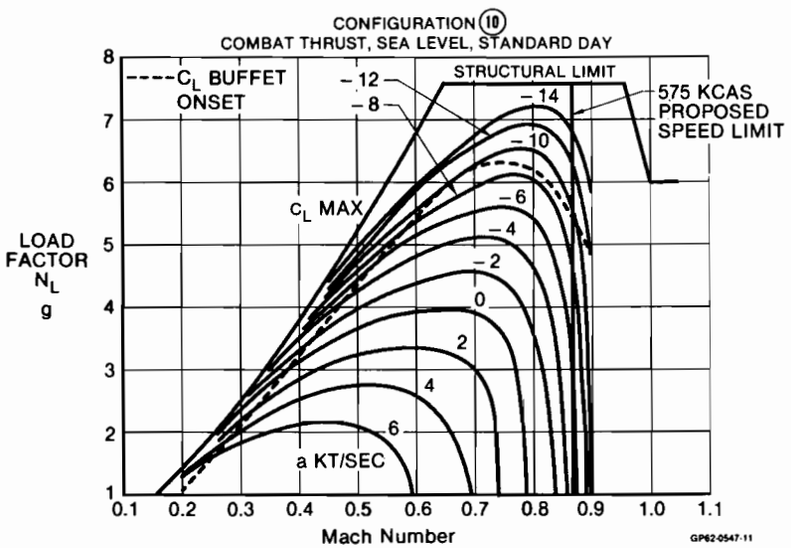
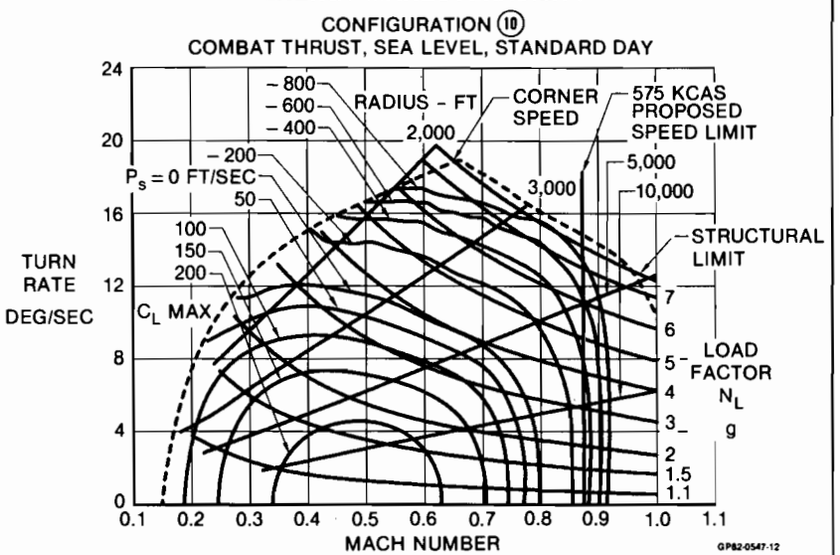


MANEUVERABILITY



ENERGY MANEUVERABILITY

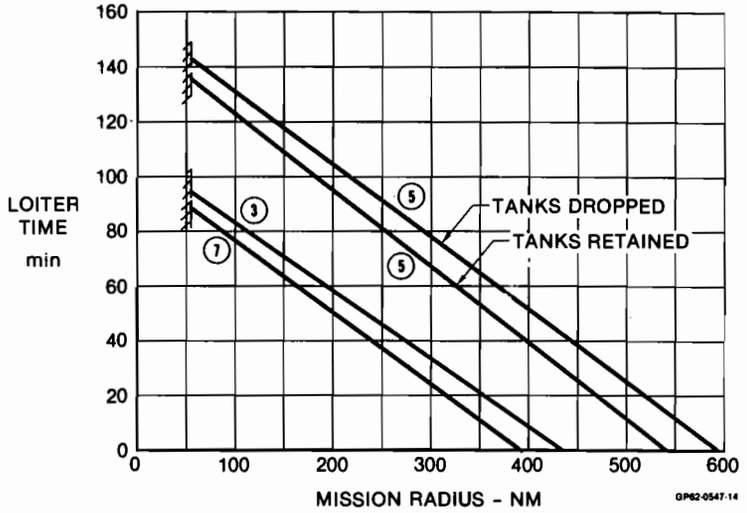


NOTES

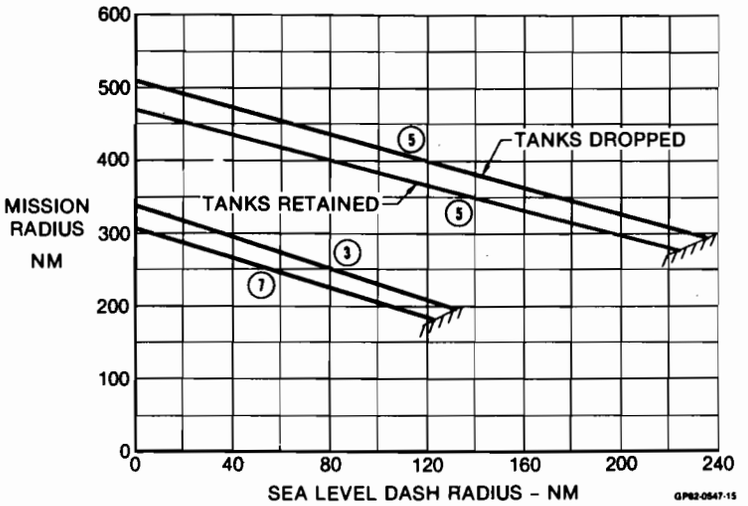
(A) Performance basis - flight test (MDC A9847)

GP82-0547-8-0

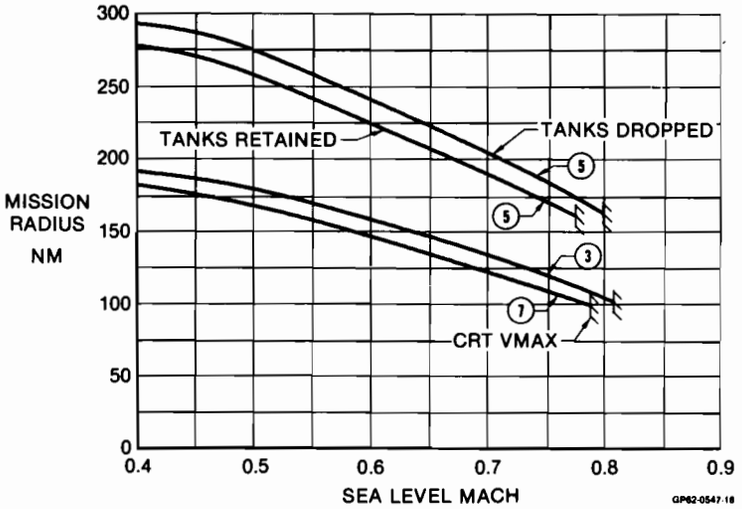
CLOSE-AIR SUPPORT



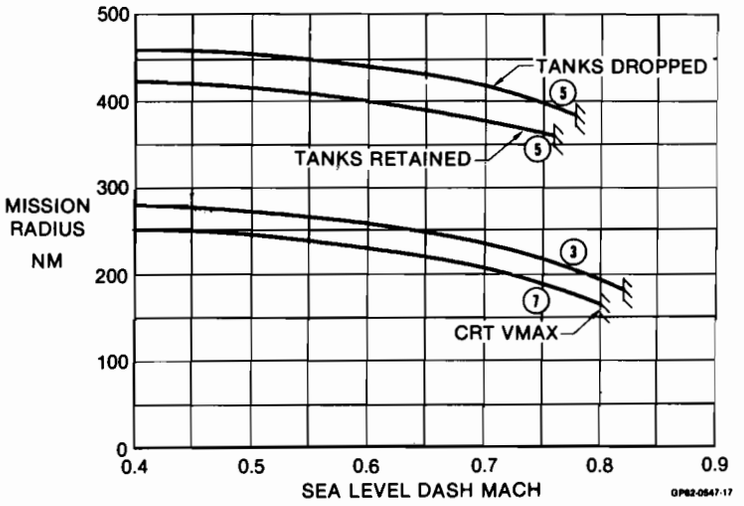
HI-LO-LO-HI



LO-LO-LO



HI-LO-LO-HI

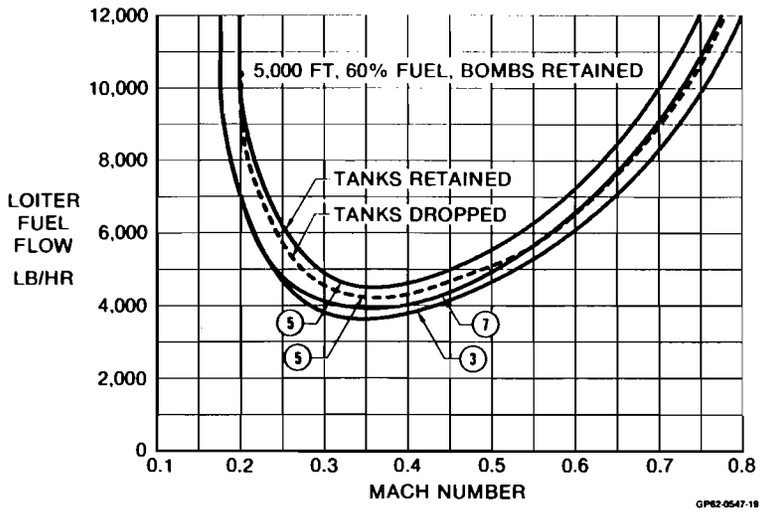


NOTES

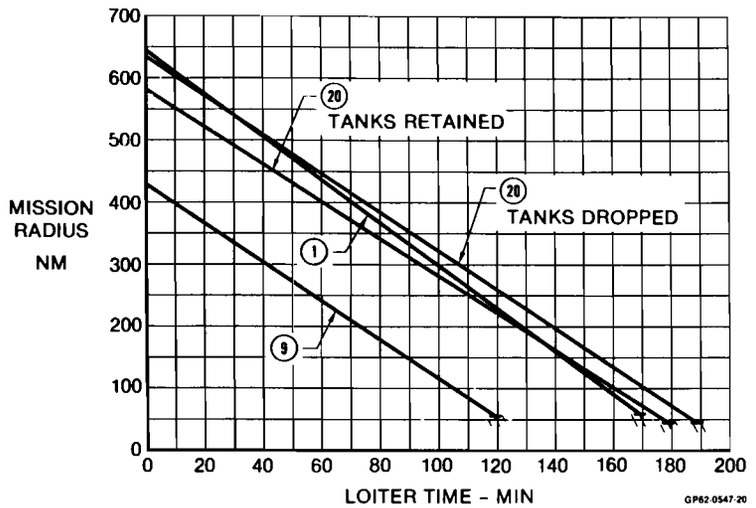
(A) Performance basis - flight test (MDC A9847)

GP62-0547-13-O

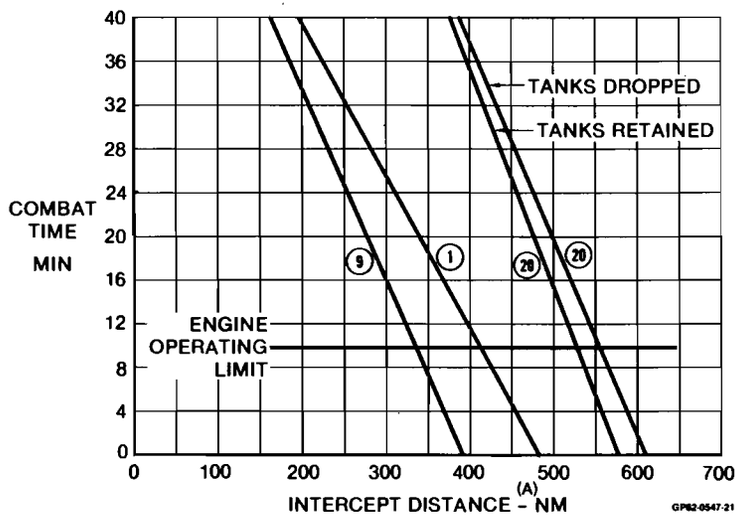
LOITER FUEL FLOW



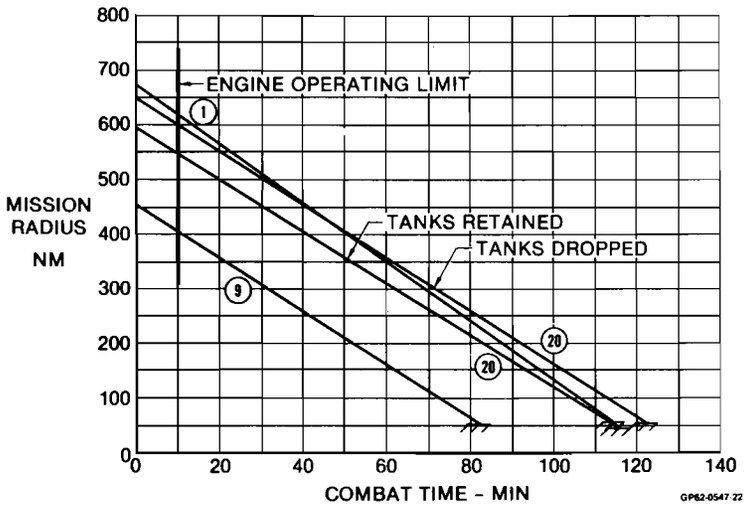
COMBAT AIR PATROL



DECK LAUNCHED INTERCEPT



HI-HI-HI

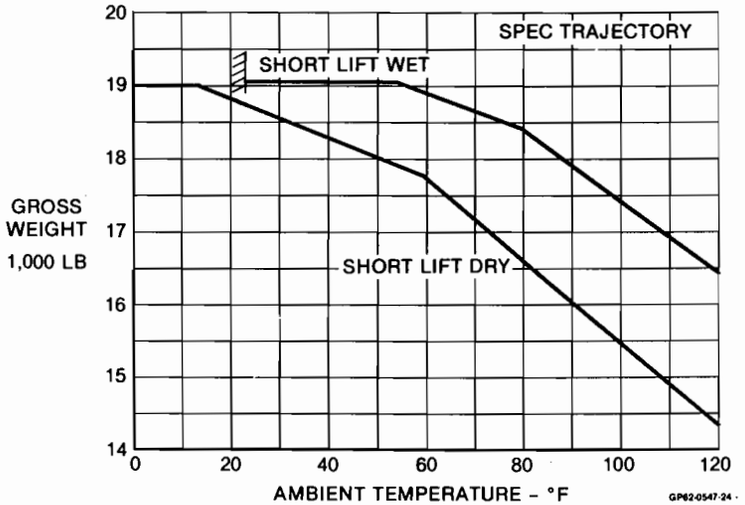


NOTES

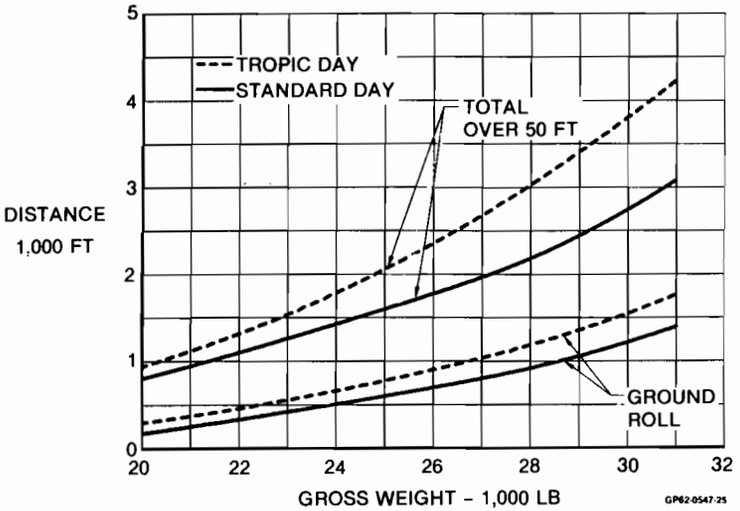
(A) Climb & Cruise Distance to Target
(B) Performance basis - flight test (MDC A9847)

GP62-0547-18-O

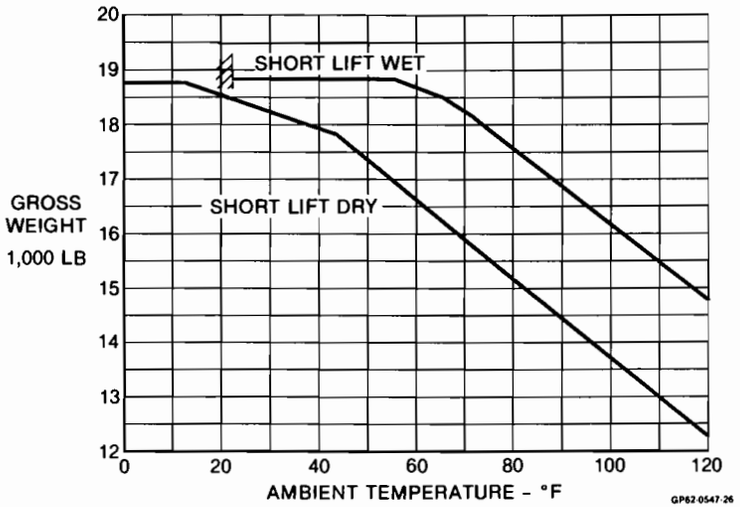
VERTICAL TAKEOFF



FIELD SHORT TAKEOFF

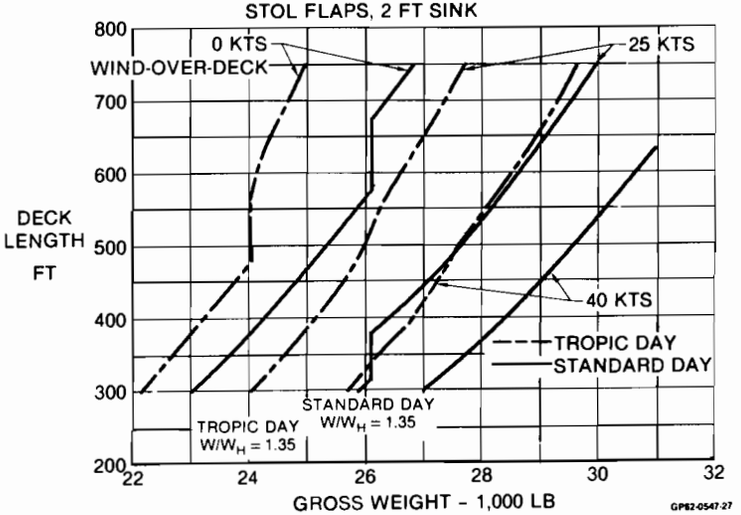


VERTICAL LANDING



DECK TAKEOFF (B)

SHORT LIFT WET THRUST
STOL FLAPS, 2 FT SINK



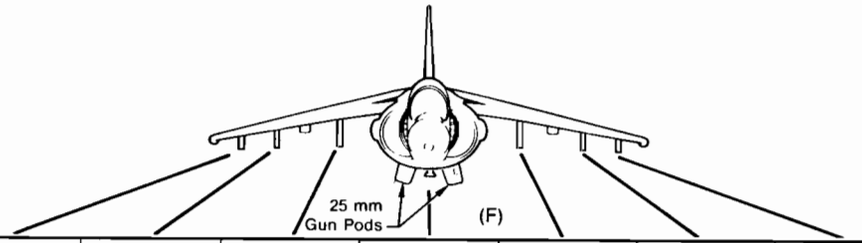
NOTES

(A) Performance basis - flight test (MDC A9847)

(B) Carrier operations are prescribed by the Shipboard Operating Bulletins and appropriate NATOPS manuals.

GP62-0547-23-O

EXTERNAL STORE LOADING (C)



STORE	7	6	5	4	3	2	1
GENERAL PURPOSE BOMBS (B)							
MK-81 LDGP Conical Fin	1	3	3	1 (D)	3	3	1
MK-81 Snakeye	1	3	3	1 (D)	3	3	1
MK-82 LDGP Conical Fin	1	3 (A)	3	1 (D)	3	3 (A)	1
MK-82 Snakeye	1	3 (A)	3	1 (D)	3	3 (A)	1
MK-83 LDGP Conical Fin	—	1	2	—	2	1	—
LASER GUIDED BOMBS							
MK-82 LGB GBU-12B/B	—	2 (A)	3	—	3	2 (A)	—
MK-83 LGB GBU-16/B	—	1	1	—	1	1	—
PRACTICE BOMBS (PMBR)							
MK-76 (PMBR A/A37B-3)	—	6/1	—	—	—	6/1	—
MK-106 (PMBR A/A37B-3)	—	6/1	—	—	—	6/1	—
CLUSTER BOMBS (B)							
Rockeye II Mods 2/3/4/6	1	2	3	—	3	2	1
FIRE BOMBS (B)							
MK-77 (Mod 2/4)	1	2	2	—	2	2	1
ROCKET LAUNCHERS (B)							
LAU-10A/A, B/A	—	2 (A)	3	—	3	2 (A)	—
LAU-61A/A	—	2 (A)	3	—	3	2 (A)	—
LAU-68B/A	—	2	3	—	3	2	—
MISSILES							
AIM-9L Sidewinder	1	1	—	—	—	1	1
AGM-65/E Laser Guided Maverick	—	1	1	—	1	1	—
MISCELLANEOUS							
300 Gallon External Tank (JP-5)	—	1 (A)	1	—	1	1 (A)	—
ADU-299A/A Adapter (Sidewinder)	—	1	—	—	—	1	—
LAU-7A-4 Launcher (Sidewinder)	1	1	—	—	—	1	1
LAU-117A Launcher (Maverick)	—	1	1	—	1	1	—
BRU 42/A (ITER)	—	1	1	1 (E)	1	1	—
AN/ALQ-164 DECM Pod	—	—	—	1	—	—	—

(A) Carriage at reduced load factor
(B) Multiple carriage on BRU-42/A (ITER)
(C) See NWP 55-3-AV8B, Vol. 1 (Rev. A) for store configuration cleared for release
(D) Two stores can be carried in the deep strake configuration
(E) An ITER with stores cannot be carried when gun pods installed
(F) Deep strakes when guns not installed

GP62-0547-28-O

NOTES:

HI-HI-HI MISSION

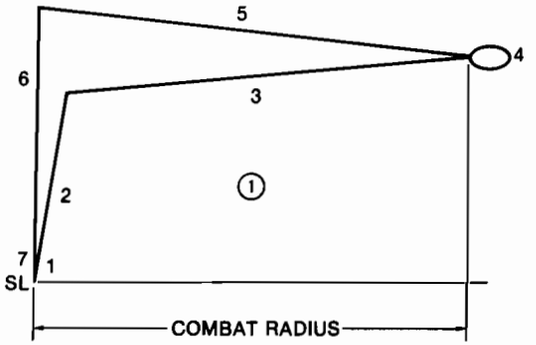
1. WARM-UP. TAKEOFF AND ACCELERATE: (2½) minutes at maximum continuous thrust plus (15) seconds at short lift wet rating.
2. CLIMB: On course to optimum cruise altitude at maximum thrust.
3. CRUISE OUT: At altitudes and speeds for maximum range. External tanks dropped when empty.
4. COMBAT FUEL ALLOWANCE: (5) minutes at M_{max} at combat thrust. Drop stores after combat.
5. CRUISE BACK: At altitudes and speeds for maximum range.
6. DESCENT: To sea level. No fuel, time or distance credited.
7. RESERVE: 5% of total initial fuel plus fuel for 10 minutes loiter at sea level at speeds for maximum endurance.

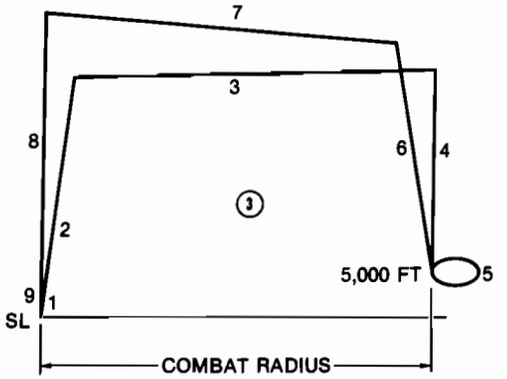
CLOSE-AIR SUPPORT MISSION

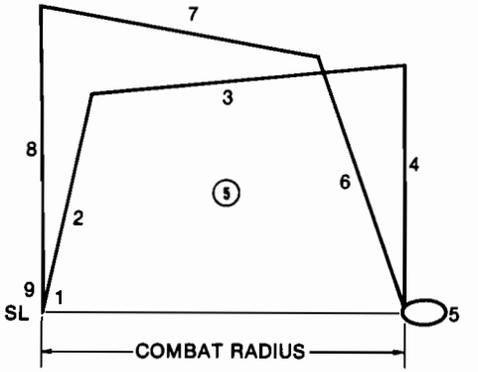
1. WARM-UP. TAKEOFF AND ACCELERATE (2½) minutes at maximum continuous thrust plus (15) seconds at short lift wet rating.
2. CLIMB: On course to optimum cruise altitude at maximum thrust
3. CRUISE OUT: At altitudes and speeds for maximum range. External tanks dropped when empty.
4. DESCENT: To 5,000 feet. No fuel, time or distance credited.
5. LOITER: One hour at 5,000 feet at maximum endurance speed. Drop stores after loiter.
6. CLIMB: On course to optimum cruise altitude at maximum thrust.
7. CRUISE BACK: At altitudes and speeds for maximum range.
8. DESCENT: To sea level. No fuel, time or distance credited.
9. RESERVE: 5% of total initial plus fuel for 10 minutes loiter at sea level at speeds for maximum endurance.

HI-LO-HI MISSION

1. WARM-UP. TAKEOFF AND ACCELERATE: (2½) minutes at maximum continuous thrust plus (15) seconds at short lift wet rating.
2. CLIMB: On course to optimum cruise altitude at maximum thrust.
3. CRUISE OUT: At altitudes and speeds for maximum range. External tanks dropped when empty.
4. DESCENT: To sea level. No fuel, time or distance credited.
5. COMBAT FUEL ALLOWANCE: (5) minutes at M_{max} at combat thrust at sea level. Drop Stores after combat.
6. CLIMB: On course to optimum cruise altitude at maximum thrust.
7. CRUISE BACK: At altitudes and speeds for maximum range.
8. DESCENT: To sea level. No fuel, time or distance credited.
9. RESERVE: 5% of total initial fuel plus fuel for 10 minutes loiter at sea level at speeds for maximum endurance.







GP62-0647-29-O

NOTES:

DECK LAUNCHED INTERCEPT MISSION

1. WARM-UP, TAKEOFF AND ACCELERATE: (2½) minutes at maximum continuous thrust plus (15) seconds at short lift wet rating.
2. CLIMB: On course to 30,000 feet at maximum thrust.
3. DASH OUT: At 30,000 feet at maximum continuous thrust.
4. COMBAT FUEL ALLOWANCE: (2) minutes at M_{max} at combat thrust. Retain missiles after combat.
5. CLIMB: On course from 30,000 feet to optimum cruise altitude at maximum thrust.
6. CRUISE BACK: At altitudes and speeds for maximum range.
7. DESCENT: To sea level. No fuel, time or distance credited.
8. RESERVE: 5% of total initial fuel plus fuel for 10 minutes loiter at sea level at speeds for maximum endurance.

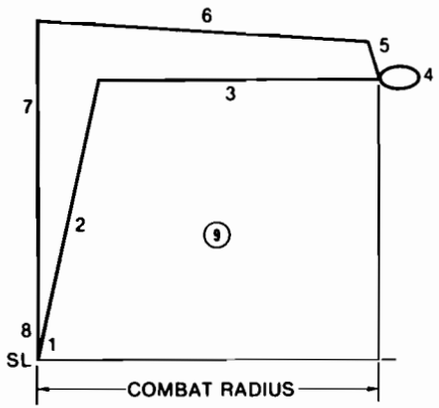
COMBAT AIR PATROL

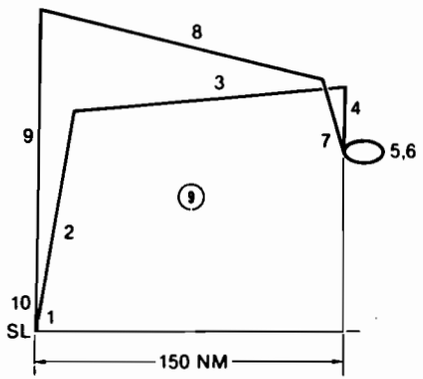
1. WARM-UP, TAKEOFF AND ACCELERATE: (2½) minutes at maximum continuous thrust plus (15) seconds at short lift wet rating.
2. CLIMB: On course to optimum cruise altitude at maximum thrust.
3. CRUISE OUT: To 150 nautical mile radius at altitudes and speeds for maximum range. External tanks dropped when empty.
4. DESCENT: From optimum cruise altitude to 30,000 feet. No fuel, time for distance credited.
5. LOITER: On station at 30,000 ft and speed for maximum endurance.
6. COMBAT FUEL ALLOWANCE: (2) minutes at M_{max} at combat thrust at 30,000 feet. Retain missiles after combat.
7. CLIMB: From 30,000 feet to optimum cruise altitude at maximum thrust.
6 CRUISE BACK: 150 nautical miles at altitudes and speeds for maximum range.
9. DESCENT: To sea level. No fuel, time or distance credited.
10. RESERVE: 5% of total initial fuel plus fuel for 10 minutes loiter at sea level at speeds for maximum endurance.

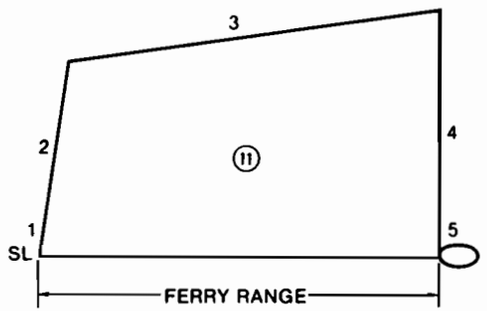
FERRY MISSION

1. WARM-UP, TAKEOFF AND ACCELERATE: (2½) minutes at maximum continuous thrust plus (15) seconds at short lift wet rating.
2. CLIMB: On course to optimum cruise altitude at maximum thrust.
3. CRUISE OUT: At altitudes and speeds for maximum range.
4. DESCENT: To sea level. No fuel, time or distance credited.
5. RESERVE: 5% of total initial fuel plus fuel for 10 minutes loiter at sea level at speeds for maximum endurance.

Note: For the Ferry Mission external tanks are retained unless noted otherwise







GP82-0547-30-O

NOTES:

HI-LO-LO-HI MISSION

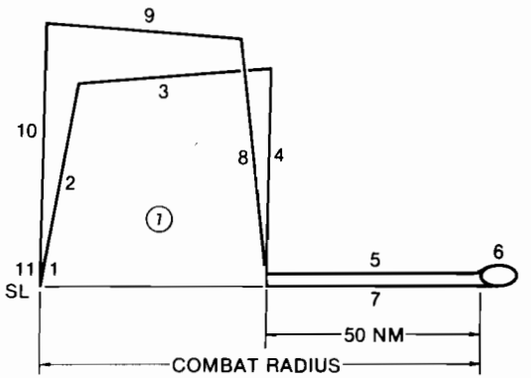
1. WARM-UP, TAKEOFF AND ACCELERATE: (2½) minutes at maximum continuous thrust plus (15) seconds at short lift wet rating.
2. CLIMB: On course to optimum cruise altitude at maximum thrust.
3. CRUISE OUT: At altitudes and speeds for maximum range. External tanks dropped when empty.
4. DESCENT: To sea level. No fuel, time or distance credited.
5. CRUISE: 50 nautical miles at sea level, at speed for maximum range.
6. COMBAT FUEL ALLOWANCE: (5) minutes at M_{max} at combat thrust at sea level. Drop stores after combat.
7. CRUISE: 50 nautical miles at sea level, at speed for maximum range.
8. CLIMB: On course to optimum cruise altitude at maximum thrust.
9. CRUISE BACK: At altitudes and speeds for maximum range.
10. DESCENT: To sea level. No fuel, time or distance credited.
11. RESERVE: 5% of total initial fuel plus fuel for 10 minutes loiter at sea level at speeds for maximum endurance.

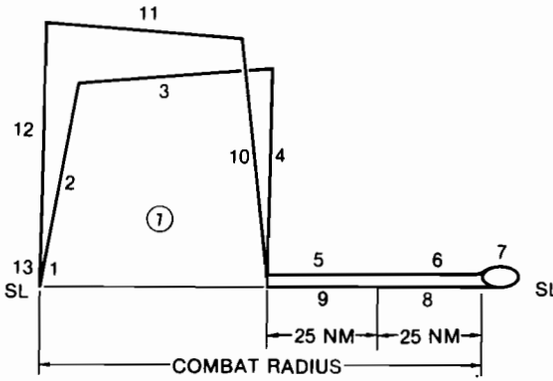
MODIFIED HI-LO-LO-HI MISSION

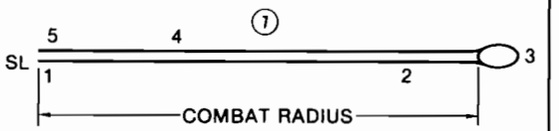
1. WARM-UP, TAKEOFF AND ACCELERATE: (2½) minutes at maximum continuous thrust plus (15) seconds at short lift wet rating.
2. CLIMB: On course to optimum cruise altitude at maximum thrust.
3. CRUISE OUT: At altitudes and speeds for maximum range. External tanks dropped when empty.
4. DESCENT: To sea level. No fuel, time or distance credited.
5. DASH: 450 KCAS at sea level for 25 nautical miles.
6. DASH: Mach 0.75 at sea level for 25 nautical miles.
7. COMBAT FUEL ALLOWANCE: (5) minutes at M_{max} at combat thrust at sea level. Drop stores after combat.
8. DASH: Mach 0.75 at sea level for 25 nautical miles.
9. DASH: 450 KCAS at sea level for 25 nautical miles.
10. CLIMB: On course to optimum cruise altitude at maximum thrust.
11. CRUISE BACK: At altitudes and speeds for maximum range.
12. DESCENT: To sea level. No fuel, time or distance credited.
13. RESERVE: 5% of total initial fuel plus fuel for 10 minutes loiter at sea level at speeds for maximum endurance.

LO-LO-LO-MISSION

1. WARM-UP, TAKEOFF AND ACCELERATE: (2½) minutes at maximum continuous thrust plus (15) seconds at short lift wet rating.
2. CRUISE OUT: At sea level, at speed for maximum range. External tanks dropped when empty.
3. COMBAT FUEL ALLOWANCE: (5) minutes at M_{max} at combat thrust at sea level. Drop stores after combat.
4. CRUISE BACK: At sea level at speed for maximum range.
5. RESERVE: 5% of total initial fuel plus fuel for 10 minutes loiter at sea level at speeds for maximum endurance.







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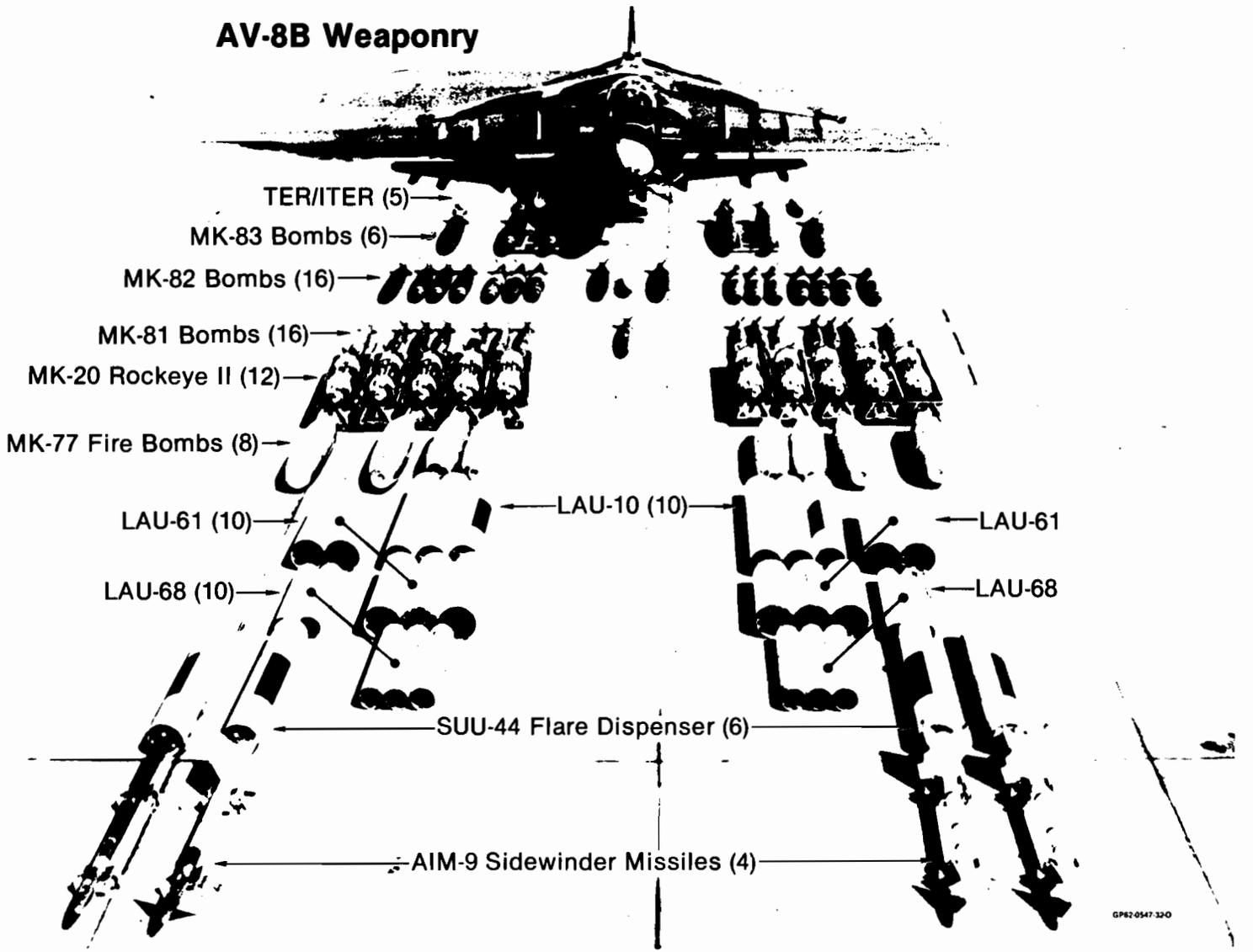
AV-8B Weaponry