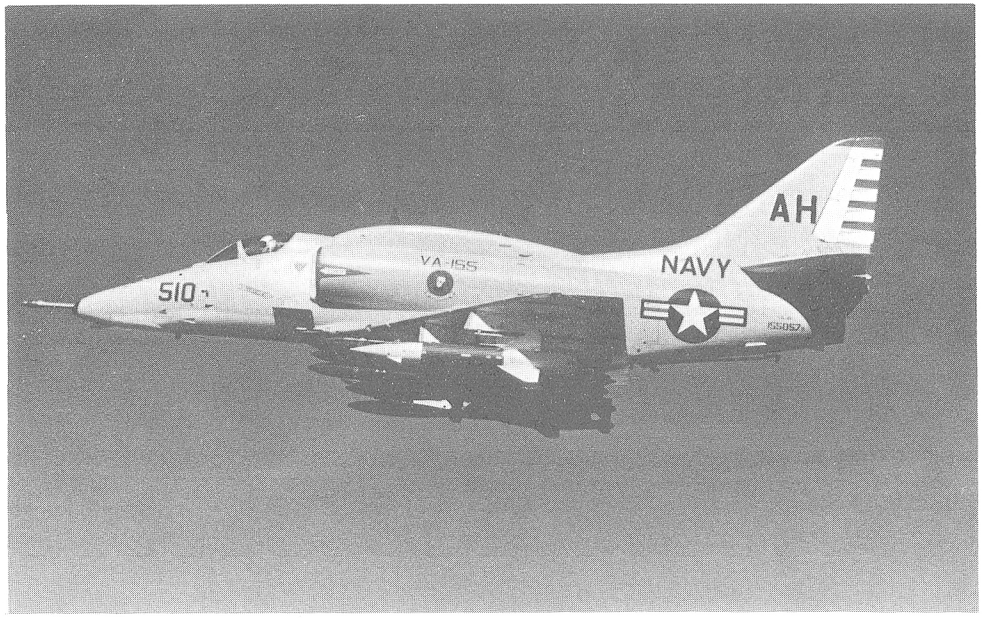
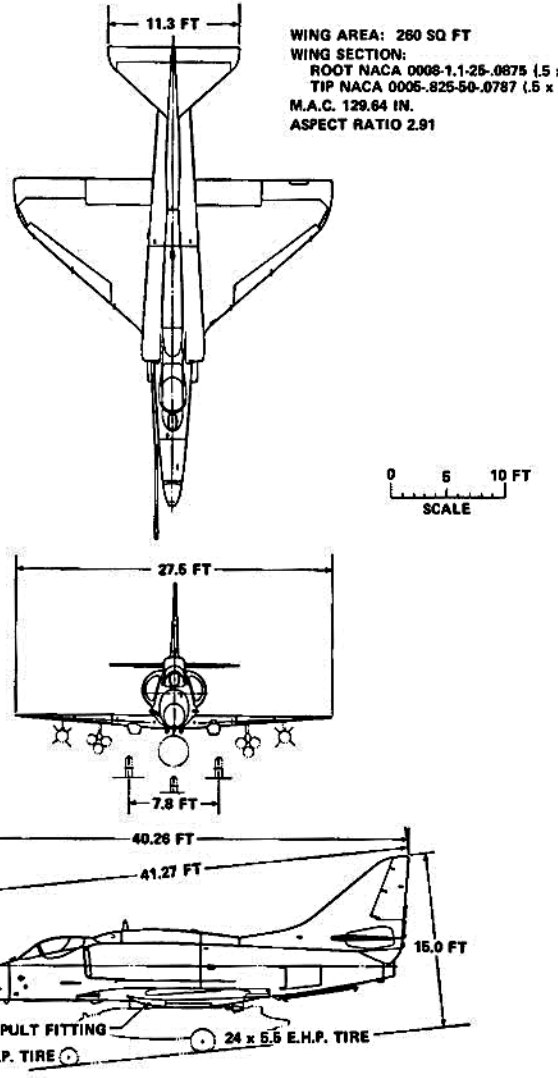


STANDARD AIRCRAFT CHARACTERISTICS

A-4F SKYHAWK

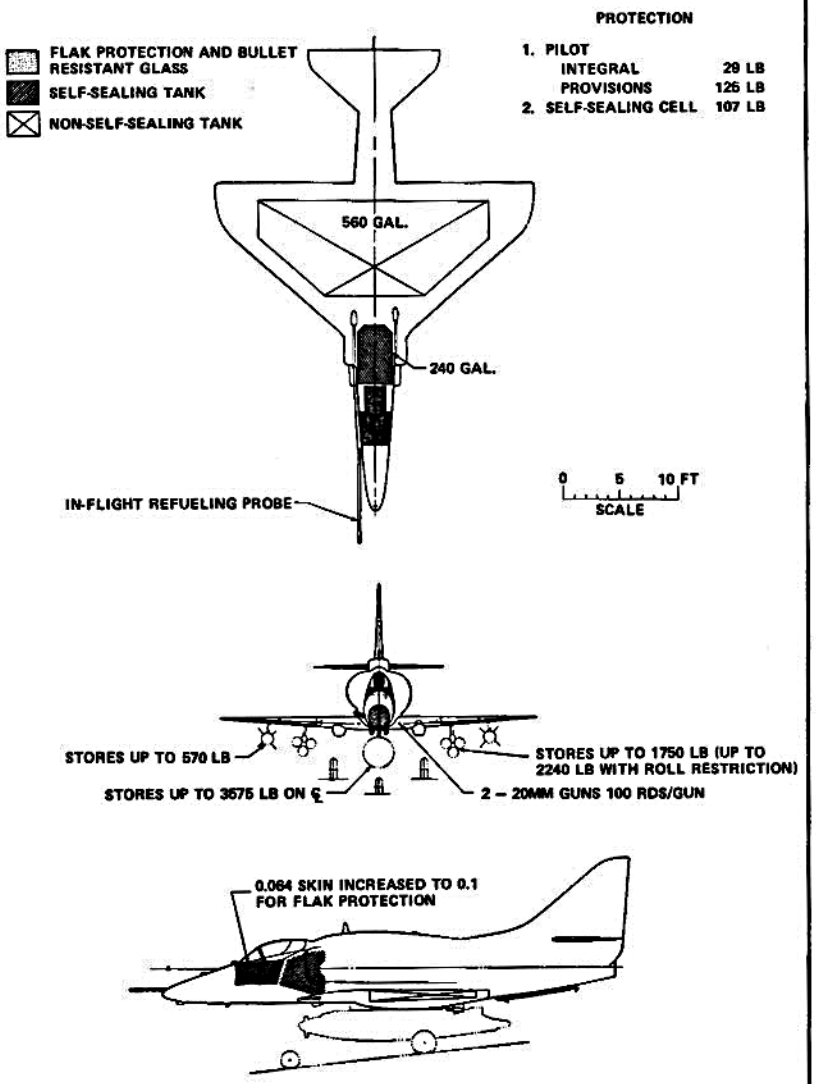
MCDONNELL DOUGLAS

BUREAU OF NAVAL WEAPONS
NAVY DEPARTMENT



DESCRIPTIVE ARRANGEMENT

BUREAU OF NAVAL WEAPONS
NAVY DEPARTMENT



ARMAMENT AND TANKAGE

POWER PLANT

Number and Model (1) J52-P-8A
Axial Flow Twin Spool Turbojet without Afterburner
MFR: Pratt & Whitney Aircraft
Spec No. N-1844-B
Length . . . . . 116.9 in.
Diameter . . . . . 30.2 in.

RATINGS

Military	12,060 rpm	9300 lb
Normal	11,660 rpm	8200 lb

ELECTRONICS

Electronics Central AN/ASQ-17B consisting of:

Function	Equivalent to:
Communications Radio	AN/ARC-51
Direction Finding	AN/ARA-50
High Altitude Identification System	AN/APX-64
Standby Communication Radio	AN/ARR-69
TACAN	AN/ARN-52(V)
Bearing-Distance-Heading Indicator	ID-663/U
Radar Altimeter	AN/APN-141
Radar Navigation	AN/APN-153
Radar	AN/APG-53A
Navigation Computer	AN/ASN-41
LABS	AN/AJB-3A
Autopilot	Douglas
Store Arming	AN/AWW-1

Shrike and Bullpup Provisions

MISSION AND DESCRIPTION

The Model A-4F is a single-place, carrier-based, light-attack or close-support airplane. It is an improved version of the Model A-4E. The J52-P-6A engine, used in the A-4E, is replaced by the more powerful J52-P-8A engine. Other improvements include nose wheel steering, wing landing spoilers, a zero-zero ejection seat, upper avionics pod, and more advanced avionics equipment. The A-4F can operate from all types of carriers carrying a wide variety of conventional and special weapons. It is capable of in-flight fueling (tanker or receiver).

The arrangement is conventional with all-metal semi-monocoque structure and three-spar low-aspect-ratio wing. Landing gear, flaps and speed brakes are hydraulically operated. An electrically operated, fully adjustable stabilizer is used to trim throughout the normal flight range. The aileron, elevator, and rudder systems are hydraulic-power operated. Manual control is provided for emergencies. An automatic flight control system is provided for pilot relief.

The small size of the airplane precludes the need for folding wings. The aft fuselage is readily removable to permit quick engine change.

Spotting: A total of 175 airplanes can be accommodated in a landing spot on the flight and hangar decks of a CVA-59 class carrier.

DEVELOPMENT

Authority to Proceed	December 1965
First Flight	August 1966
First Fleet Delivery	January 1967

DIMENSIONS

Span	27.5 ft
Length	41.3 ft*
Height	15.0 ft
Max Tread	7.8 ft
Turning Radius	20.5 ft*
Wing Area	260 sq ft

*Without in-flight fueling probe

WEIGHTS

LOADINGS	LBS.	L.F.
Empty	10,169	—
Basic	10,938	—
Flight Design	12,504	7.0
Combat	17,180	5.1
Max Takeoff	24,500	3.6
Max Landing		
Arrest	14,500	6.0
Airfield	16,000	5.5

FUEL AND OIL

Gal.	No. Tanks	Location
560	1	Wing
240	1	Fuselage

In-flight fueling is installed.
Fuel Spec . . . . . MIL-J-5624 (latest issue)

OIL

5.0 gal. mounted on engine
Oil Spec MIL-L-23699

ORDNANCE

No.	Location	Loading
1	Fuselage Center Line	Up to 3575 lb
2	Inboard Wing	*Up to 1750 lb
2	Outboard Wing	Up to 570 lb

*No Roll Restriction.
Up to 2240 lb with Roll Restriction.

GUNS

2	Lower Wing Outboard of Fuselage	MK-12 20mm Guns with 100 rounds per gun

PERFORMANCE SUMMARY

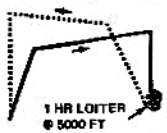
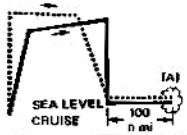
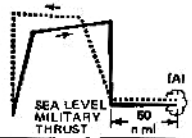
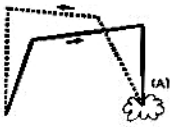
TAKE-OFF LOADING CONDITION			(1) Hi-Hi-Hi Clean Airplane	(3) S.L. Store Delivery 1-MK 28 Store	(5) Close Support 1-300 Gal Tank 12-MK 81 Snakeyes	(7) Close Support 3-AGM 12B (Bullpup A) 2-300 Gal Tanks	(9) Ferry 3-300 Gal Tanks
TAKE-OFF WEIGHT		lb.	16,576	19,356	23,572	23,814	23,999
Fuel internal/external (JP-5)		lb./ lb.	5440/NONE	5440/NONE	5440/2040	5440/4080	5440/6120
Payload		lb.	NONE	2040	3600	1710	NONE
Wing loading		lb./sq. ft.	63.8	74.4	90.7	91.6	92.3
Stall speed—power-off		kn.	116	125	141	141	142
Take-off run at S.L.— calm	(A)	ft.	1900	2570	4110	4210	4280
Take-off run at S.L.— 25 kn. wind	(A)	ft.	1280	1780	2980	3060	3120
Take-off to clear 50 ft.— calm	(A)	ft.	2870	3740	5750	5880	5970
Max. speed/altitude	(A)	kn./ft.	589/3500	561/7500	478/10,000	496/5000	539/6000
Rate of climb at S.L.	(A)	fpm.	10,300	7900	4750	5250	5650
Time: S.L. to 20,000 ft.	(A)	min.	2.6	3.6	7.1	6.0	5.4
Time: S.L. to 30,000 ft.	(A)	min.	4.3	6.5	—	15.4	12.0
Service ceiling (100 fpm)	(A)	ft.	41,900	37,300	28,000	30,200	31,500
Combat range (tanks and stores retained)		n.mi.	1100	780	695	1175	1735 (C)
Average cruising speed		kn.	418	409	388	390	401
Cruising altitude(s)		ft.	34,800-40,500	30,600-35,500	23,500-29,300	24,600-33,400	25,200-36,900
Combat radius/mission time		n.mi./hr.	515/2.6	185/0.9 (B)	210/2.1	435/3.2	—
Average cruising speed		kn.	418	410	382	398	—

COMBAT LOADING CONDITION		(2)	(4) Store Retained	(6) Tank Dropped Stores Retained	(8) Tanks Dropped Missiles Retained	(10) Tanks Retained
COMBAT WEIGHT	lb.	14,400	17,180	21,349	19,337	17,879
Engine power		MILITARY	MILITARY	MILITARY	MILITARY	MILITARY
Fuel	lb.	3264	3264	5440	5440	5440
Combat speed/combat altitude	kn./ft.	530/36,600	556/S.L.	486/5000	507/5000	533/S.L.
Rate of climb/combat altitude	fpm/ft.	3150/35,000	9100/S.L.	4750/5000	6300/5000	8200/S.L.
Combat ceiling (500 fpm)	ft.	43,900	38,600	29,200	34,500	36,800
Rate of climb at S.L.	fpm.	12,000	9100	5800	7300	8200
Max. speed at S.L.	kn.	568	556	477	506	533
Max. speed/altitude	kn./ft.	590/3500	562/8000	491/12,000	507/5000	540/7000
LANDING WEIGHT	lb.	11,942	12,734	13,324	13,282	13,867
Fuel	lb.	806	858	1015	1095	1228
Stall speed—power-off/approach power	kn./kn.	98/94	101/97	104/99	103/99	107/102
Landing distance-ground roll/over 50 ft. obst.	(D) ft./ft.	3300/4015	3450/4165	3555/4270	3550/4265	3620/4335

NOTES

(A) Military Thrust, takeoff weight, stores and tanks retained.
(B) With 2-300 gallon tanks, the combat radius is 540 nautical miles.
(C) Ferry range is 1880 nautical miles if tanks are dropped when empty.
(D) With spoilers open after touchdown.
NOTE: All loadings except clean airplane include guns, ammunition, and pylons on all stations.
Performance Basis: NATC and DAC flight tests of the Models A-4F and TA-4F.

MISSION SUMMARY — ALTERNATE LOADINGS

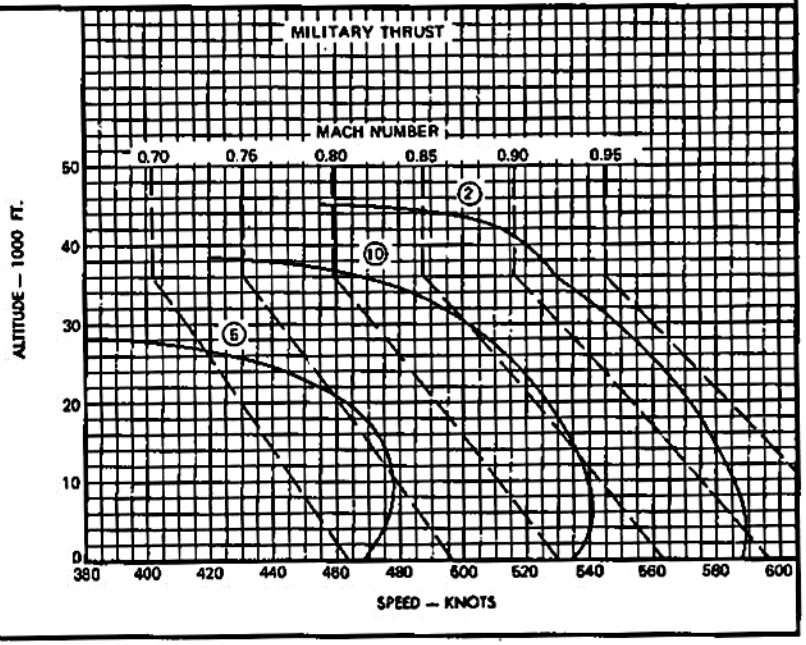
		CLOSE SUPPORT		HI-LO-LO-HI		S.L. STORE DELIVERY		HI-HI-HI		LO-LO-LO		HI-LO-HI	
													
	EXTERNAL STORE LOADING (B)	T.O.G.W. lb	COMBAT RADIUS n mi	MISSION TIME hr	COMBAT RADIUS n mi	MISSION TIME hr	COMBAT RADIUS n mi	MISSION TIME hr	COMBAT RADIUS n mi	MISSION TIME hr	COMBAT RADIUS n mi	MISSION TIME hr	COMBAT RADIUS n mi	MISSION TIME hr
1	Clean Airplane	16,576	270	2.3	280	1.6	250	1.2	515	2.5	215	1.6	405	2.0
3	(1) MK 28 STORE	19,356	160	1.8	205	1.3	185	0.9	400	2.0	185	1.4	310	1.6
5	(1) 300 GAL DROP TANK (12) MK 81 SNAKEYES	23,572	210	2.1	280	1.8	275	1.5	425	2.3	235	1.8	365	2.0
7	(3) AGM 12B (BULLPUP A) (2) 300 GAL DROP TANKS	23,814	435	3.2	500	2.8	480	2.5	660	3.4	350	2.5	590	3.0
9	(3) 300 GAL DROP TANKS	23,999	690	4.4	735	3.9	725	3.6	905	4.5	470	3.2	830	4.2
11	(1) MK 28 STORE (2) 300 GAL DROP TANKS	23,833	495	3.4	555	3.0	540	2.7	730	3.7	375	2.6	650	3.3
12	(6) MK 81 SNAKEYES	19,324	130 (C)	1.7	185 (C)	1.3	165 (C)	0.9	350	1.9	170	1.3	275	1.5
13	(6) MK 81 SNAKEYES (2) 300 GAL DROP TANKS	23,801	425	3.2	490	2.8	475	2.4	645	3.4	345	2.5	575	3.0
14	(6) MK 82 SNAKEYES	20,914	105 (C)	1.6	175 (C)	1.2	155 (C)	0.9	325	1.7	165	1.3	250	1.4
15	(6) MK 82 SNAKEYES (2) 300 GAL DROP TANKS	24,500 (D) (-891)	320	2.7	395	2.3	385	2.0	550	2.9	300	2.2	480	2.5
18	(6) MK 82 SNAKEYES (12) MK 81 SNAKEYES	24,500 (D) (-464)	15 (C)	1.1	115 (C)	1.0	95 (C)	0.6	195	1.2	115	1.0	145	0.9
○														
○														

NOTES

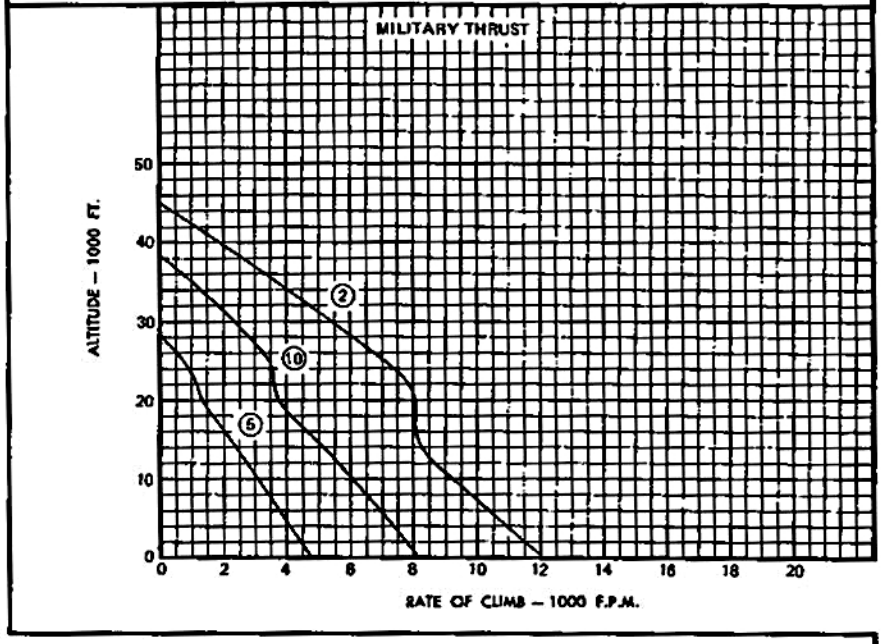
(A) 5 minutes at military thrust at sea level.
(B) All loadings include guns, ammunition and five pylons. Mission times do not include times for warm-up and takeoff, or 20 minutes loiter at sea level.
(C) Based on cruise at intermediate altitude instead of optimum cruise altitude to obtain maximum climb plus cruise distance.
(D) Fuel offloaded to meet maximum takeoff weight limit.

Data Basis: NATC and DAC flight tests of the Models A-4F and TA-4F.

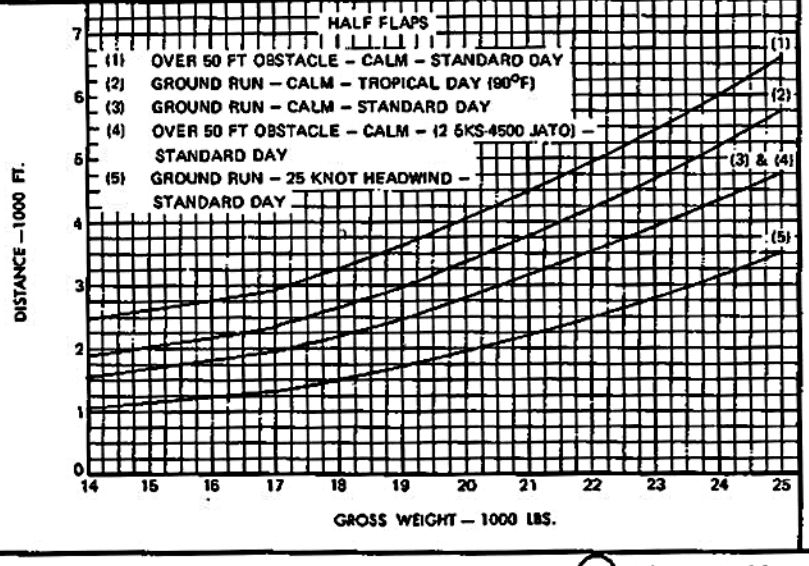
SPEED



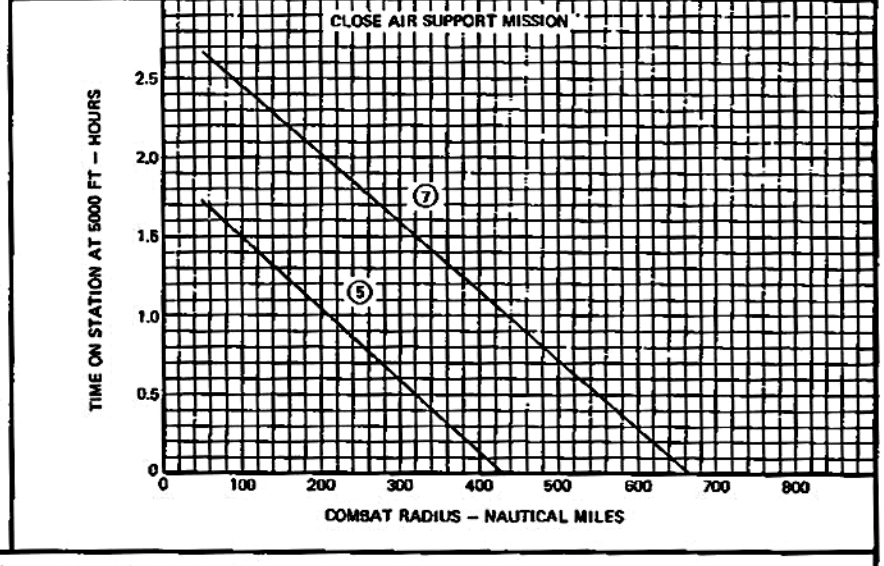
CLIMB



TAKE-OFF

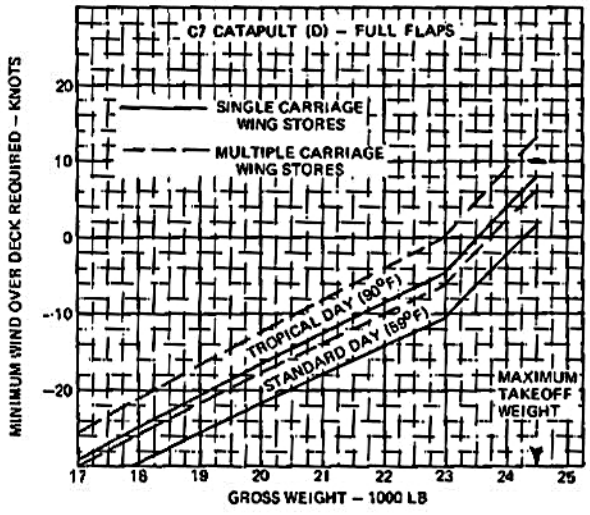


COMBAT RADIUS

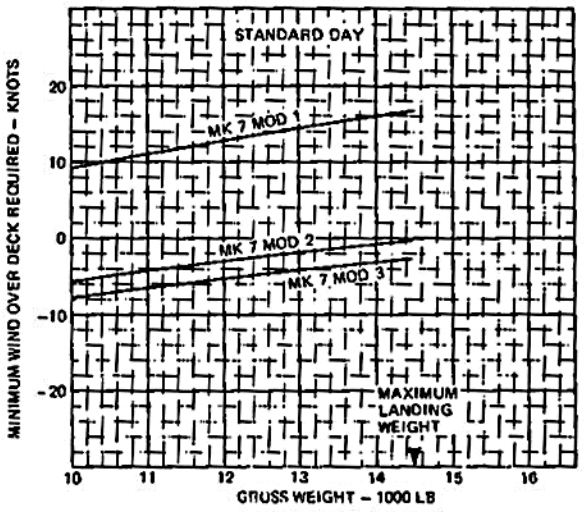


◯ LOADING CONDITION COLUMN NUMBER

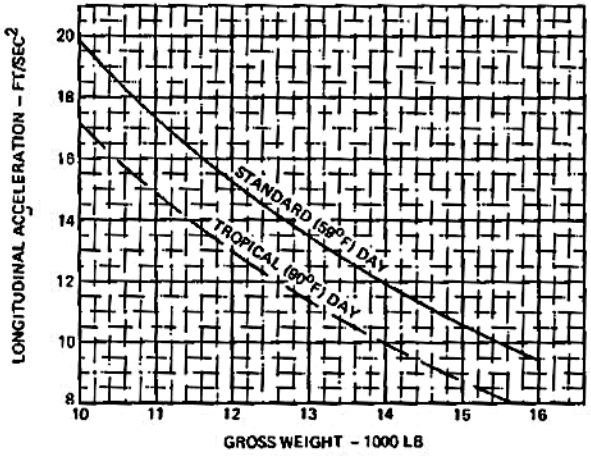
MINIMUM WIND OVER DECK REQUIRED FOR CATAPULTING VS. GROSS WEIGHT (A) (B) (C)



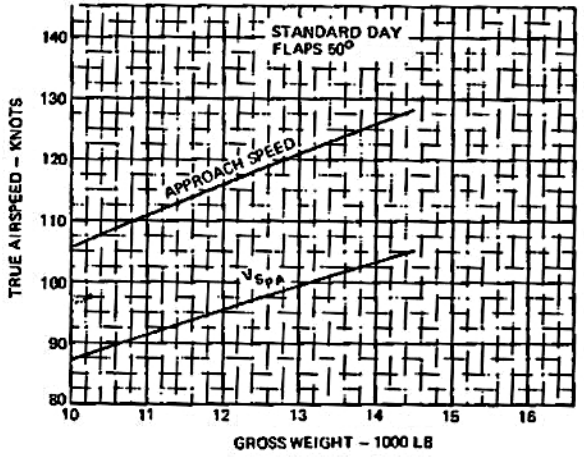
MINIMUM WIND OVER DECK REQUIRED FOR ARRESTING VS. GROSS WEIGHT (E)



WAVE-OFF ACCELERATION (F)



CARRIER APPROACH SPEEDS (G)



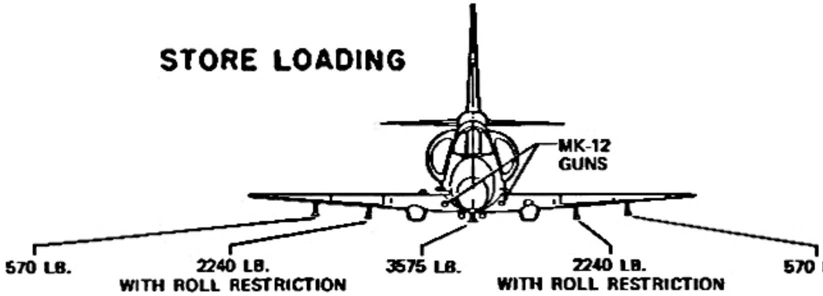
NOTES

(A) CATAPULT TAKEOFF SPEEDS ARE DERIVED FROM A CORRELATION OF NATC MINIMUM ON A-4A, A-4B, A-4E, A-4F AND TA-4F.
(B) CATAPULT END-SPEED IS LIMITED BY A MAXIMUM LONGITUDINAL ACCELERATION OF 5.47g OR A MAXIMUM TOW FORCE OF 120,000 LB.
(C) CATAPULT END-SPEEDS CORRESPOND TO METERING ROD CATAPULT SERVICE CHANGES (CSC 253 FOR C7; CSC 271 FOR C11-1).
(D) MINIMUM WIND OVER DECK REQUIRED FOR C11-1 CATAPULT IS C7 REQUIREMENT PLUS 13 KNOTS. NOTE: CURRENT OPERATIONAL RESTRICTION FOR CATAPULT FROM C11-1 LIMITS MODEL A-4 MAXIMUM WEIGHT TO 22,800 POUNDS.
(E) ENGAGING SPEED LIMITED BY 5.14g MAXIMUM HORIZONTAL LOAD FACTOR.
(F) WAVE-OFF ACCELERATION BASED ON LONGITUDINAL ACCELERATION AT APPROACH SPEED.
(G) APPROACH SPEEDS BASED ON FLEET OPERATIONAL SPEEDS AND CORRESPOND TO A 4° GLIDE SLOPE AT 17-1/2 UNITS ON THE PILOT'S ANGLE OF ATTACK INDICATOR.

STORE LOADING

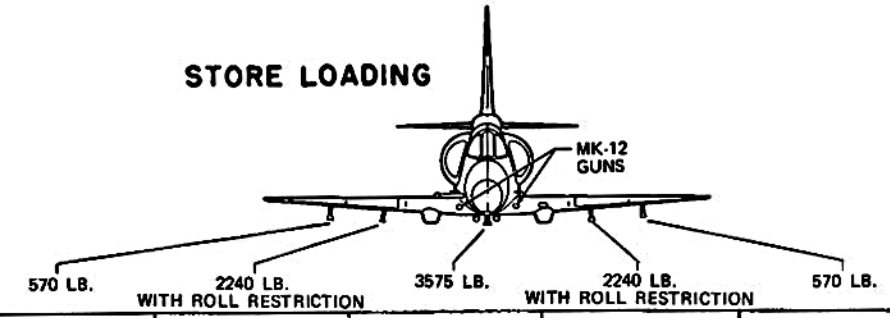
Ordnance		Station No. 5 Right Outboard	Station No. 4 Right Inboard	Station No. 3 Fuselage Centerline	Station No. 2 Left Inboard	Station No. 1 Left Outboard	
Suspension Equipment		1) Aero 20A Rack-Pylon 1) Aero 5A-1 Launcher Adapter 1) Aero 5A Pylon-Launcher 1) A/A 37B-1 MBR	1) Aero 20A Rack-Pylon 1) Aero 1A Adapter 1) MK-44 Missile Cluster Adapter (Lazy Dog) 1) Aero 3A Launcher 1) Aero 5A-1 Launcher Adapter 1) Aero 5A Pylon-Launcher 1) A/A 37B-1 MBR 1) A/A 37B-3 PMBR 1) MER-7 1) TER-7	1) Aero 7A Rack-Pylon 1) MK-44 Missile Cluster Adapter (Lazy Dog) 1) Aero 5A-1 Launcher Adapter 1) Aero 5A Pylon-Launcher 1) A/A 37B-1 MBR 1) A/A 37B-3 PMBR 1) MER-7 1) TER-7	1) Aero 20A Rack-Pylon 1) Aero 1A Adapter 1) MK-44 Missile Cluster Adapter (Lazy Dog) 1) Aero 3A Launcher 1) Aero 5A-1 Launcher Adapter 1) Aero 5A Pylon-Launcher 1) A/A 37B-1 MBR 1) A/A 37B-3 PMBR 1) MER-7 1) TER-7	1) Aero 20A Rack-Pylon 1) Aero 5A-1 Launcher Adapter 1) Aero 5A Pylon-Launcher 1) A/A 37B-1 MBR	
Bombs		1) MK-81 1) MK-81 Snakeye 1) MK-82 1) MK-82 Snakeye 1) AN-M81 (260 lb Frag.) 1) AN-M88 (220 lb Frag.) 1) AN-M57A (250 lb GP) 1) AN-M64A1 (500 lb GP) 1) AN-M30A1 (100 lb GP) 1) MK-94 Chemical 1) MK-77 Fire Bomb 1) Aero 7A (Lazy Dog)	6) MK-81 6) MK-81 Snakeyes 3) MK-82 3) MK-82 Snakeyes 1) MK-83 1) M117 Demolition 5) AN-M81 (260 lb Frag.) 5) AN-M88 (220 lb Frag.) 5) AN-M57A (250 lb GP) 1) AN-M64A1 (500 lb GP) 1) AN-M65A1 (1000 lb GP) 1) AN-M30A1 (100 lb GP) 1) MK-94 Chemical 3) MK-77 Fire Bombs 1) MK-79 Fire Bomb 2) CBU-1A/A 2) CBU-2A/A 1) Aero 7A (Lazy Dog) 1) MK-44 Cluster Adapter (Lazy Dog)	6) MK-81 6) MK-81 Snakeyes 6) MK-82 6) MK-82 Snakeyes 3) MK-83 1) MK-84 1) M117 Demolition 6) AN-M81 (260 lb Frag.) 6) AN-M88 (220 lb Frag.) 6) AN-M57A (250 lb GP) 1) AN-M64A1 (500 lb GP) 1) AN-M65A1 (1000 lb GP) 1) AN-M66A2 (2000 lb GP) 1) AN-M30A1 (100 lb GP) 6) MK-94 Chemical 4) MK-77 Fire Bombs 1) MK-79 Fire Bomb 1) MK-44 Cluster Adapter (Lazy Dog)	6) MK-81 6) MK-81 Snakeyes 3) MK-82 3) MK-82 Snakeyes 1) MK-83 1) M117 Demolition 5) AN-M81 (260 lb Frag.) 5) AN-M88 (220 lb Frag.) 5) AN-M57A (250 lb GP) 1) AN-M64A1 (500 lb GP) 1) AN-M65A1 (1000 lb GP) 1) AN-M30A1 (100 lb GP) 1) MK-94 Chemical 3) MK-77 Fire Bombs 1) MK-79 Fire Bomb 2) CBU-1A/A 2) CBU-2A/A 1) Aero 7A (Lazy Dog) 1) MK-44 Cluster Adapter (Lazy Dog)	1) MK-81 1) MK-81 Snakeye 1) MK-82 1) MK-82 Snakeye 1) AN-M81 (260 lb Frag.) 1) AN-M88 (220 lb Frag.) 1) AN-M57A (250 lb GP) 1) AN-M64A1 (500 lb GP) 1) AN-M30A1 (100 lb GP) 1) MK-94 Chemical 1) MK-77 Fire Bomb 1) Aero 7A (Lazy Dog)	

STORE LOADING



Ordnance		Station No. 5 Right Outboard	Station No. 4 Right Inboard	Station No. 3 Fuselage Centerline	Station No. 2 Left Inboard	Station No. 1 Left Outboard	
Guided Missiles		1) AGM-45A Shrike 1) AGM-12A, -12B Bullpup A	1) AGM-45A Shrike 1) AGM-12A, -12B Bullpup A 1) AGM-12C Bullpup B 1) Sidewinder 1A	1) AGM-12A, -12B Bullpup A	1) AGM-45A Shrike 1) AGM-12A, -12B Bullpup A 1) AGM-12C Bullpup B 1) Sidewinder 1A	1) AGM-45 Shrike 1) AGM-12A, -12B Bullpup A	
Rocket Launchers		1) LAU-32A/A 1) LAU-3A/A 1) LAU-10/A	2) LAU-32A/A 2) LAU-3A/A 2) LAU-10/A	3) LAU-32A/A 3) LAU-3A/A 3) LAU-10/A	2) LAU-32A/A 2) LAU-3A/A 2) LAU-10/A	1) LAU-32A/A 1) LAU-3A/A 1) LAU-10/A	
Mines		1) MK-50 with MK-15 Parapack	1) MK-36 with MK-27 Parapack 1) MK-36 Drill Mine with MK-4 Drill Kit 1) MK-50 with MK-15 Parapack 1) MK-52 with MK-20 Parapack or MK-35 Parapack	1) MK-25 with MK-26 Parapack or MK-34 Parapack 1) MK-25 Drill Mine with MK-4, -5 Drill Kit 1) MK-36 with MK-27 Parapack 1) MK-36 Drill Mine with MK-4 Drill Kit 1) MK-50 with MK-15 Parapack 1) MK-52 with MK-20 Parapack or MK-35 Parapack 1) MK-55 with MK-24 Parapack or MK-36 Parapack 1) MK-56 or 1) MK-56 Drill Mine with MK-28, Mod 1 Parapack	1) MK-36 with MK-27 Parapack 1) MK-36 Drill Mine with MK-4 Drill Kit 1) MK-50 with MK-15 Parapack 1) MK-52 with MK-20 Parapack or MK-35 Parapack	1) MK-50 with MK-15 Parapack	
Special Weapons				1) MK-28/MK-104 1) MK-43/BDU-8B /BDU-18 1) MK-57/BDU-12 /BDU-19 1) BDU-11E			
Pyrotechnics		6) MK-5 Mods 7, 10 Parachute flares 6) MK-6 Mods 5, 6 Parachute flares 6) MK-24 Mods 2A, 3 Parachute flares 6) MK-6 Mod 3 Float Light	6) MK-5 Mods 7, 10 Parachute flares 6) MK-6 Mods 5, 6 Parachute flares 6) MK-24 Mods 2A, 3 Parachute flares 6) MK-6 Mod 3 Float Light	6) MK-5 Mods 7, 10 Parachute flares 6) MK-6 Mods 5, 6 Parachute flares 6) MK-24 Mods 2A, 3 Parachute flares 6) MK-6 Mod 3 Float Light	6) MK-5 Mods 7, 10 Parachute flares 6) MK-6 Mods, 5, 6 Parachute flares 6) MK-24 Mods 2A, 3 Parachute flares 6) MK-6 Mod 3 Float Light	6) MK-5 Mods 7, 10 Parachute flares 6) MK-6 Mods 5, 6 Parachute flares 6) MK-24 Mods 2A, 3 Parachute flares 6) MK-6 Mod 3 Float Light	

STORE LOADING



Ordnance		Station No. 5 Right Outboard	Station No. 4 Right Inboard	Station No. 3 Fuselage Centerline	Station No. 2 Left Inboard	Station No. 1 Left Outboard	
Tanks and Pods		1) LM-119A Film Delivery Container 1) LAU-10/A Leaflet Dispenser 1) GTC-85 Pod-Mounted	1) 150 Gal Ext Tank 1) 300 Gal Ext Tank 1) MK-12 Mod 0 Chemical Tank 1) ALQ-31 ECM Pod 1) ALQ-31A Pod 1) MX-900 Chaff Dispenser 1) LM-119A Film Delivery Container 1) LAU-10/A Leaflet Dispenser 1) GTC-85 Pod-Mounted	1) 150 Gal Ext Tank 1) 300 Gal Ext Tank 1) 400 Gal Ext Tank 1) 300 Gal Buddy Tank 1) Aero 14B Spray Tank 1) ALQ-31 ECM Pod 1) ALQ-31A Pod 1) MX-900 Chaff Dispenser 1) LAU-10/A Leaflet Dispenser 1) NAVPAC 1) GTC-85 Pod-Mounted	1) 150 Gal Ext Tank 1) 300 Gal Ext Tank 1) MK-12 Mod 0 Chemical Tank 1) ALQ-31 ECM Pod 1) ALQ-31A Pod 1) MX-900 Chaff Dispenser 1) LM-119A Film Delivery Container 1) LAU-10/A Leaflet Dispenser 1) GTC-85 Pod-Mounted	1) LM-119A Film Delivery Container 1) LAU-10/A Leaflet Dispenser 1) GTC-85 Pod-Mounted	
Training Stores		1) MK-86 WSF 1) MK-87 WSF 6) MK-76, Mod 4, 5 (With MK-10 Lug) 6) MK-89 6) MK-106 Mod 3 6) MK-76 Mod 5 (With MK-14 Lug) 1) Aero 6A-1, 6A-2 1) Aero 7D	6) MK-86 WSF 6) MK-87 WSF 1) MK-88 WSF 6) MK-76 Mod 4, 5 (With MK-10 Lug) 6) MK-89 6) MK-106 Mod 3 6) MK-76 Mod 5 (With MK-14 Lug) 1) Aero 6A-1, 6A-2 2) Aero 7D 1) FAGU Pipe Organ 1) MK-26 Mod 0 Sidewinder target rocket	6) MK-86 WSF 6) MK-87 WSF 1) MK-88 WSF 6) MK-76, Mod 4, 5 (With MK-10 Lug) 6) MK-89 6) MK-106 Mod 3 6) MK-76 Mod 5 (With MK-14 Lug) 1) Aero 8A PBC (MK-76, MK-89, MK-106) 1) Aero 6A-1, 6A-2 3) Aero 7D 1) FAGU Pipe Organ 1) Aero 6A, or LAU-32 and A/A37B-3 PMBR with MK-76, Mod 5 or MK-106 Mod 3 1) Banner Tow Target	6) MK-86 WSF 6) MK-87 WSF 1) MK-88 WSF 6) MK-76 Mod 4, 5 (With MK-10 Lug) 6) MK-89 6) MK-106 Mod 3 6) MK-76 Mod 5 (With MK-14 Lug) 1) Aero 6A-1, 6A-2 2) Aero 7D 1) FAGU Pipe Organ 1) MK-26 Mod 0 Sidewinder target rocket	1) MK-86 WSF 1) MK-87 WSF 6) MK-76 Mod 4, 5 (With MK-10 Lug) 6) MK-89 6) MK-106 Mod 3 6) MK-76 Mod 5 (With MK-14 Lug) 1) Aero 6A-1, 6A-2 1) Aero 7D	

NOTES

HI-HI-HI

Warmup, Taxi, Takeoff: Five minutes at sea level static with normal power
Climb: On course to optimum cruise altitude with military power
Cruise out: At maximum range speed at optimum cruise altitude (drop external fuel tanks when empty)
Combat: Five minutes at optimum cruise altitude with military power (stores on, no distance gained) Stores dropped after combat
Cruise back: At maximum range speed at optimum cruise altitude
Reserve: 5% of initial fuel plus 20 minutes at maximum endurance speed at sea level

SEA LEVEL STORE DELIVERY

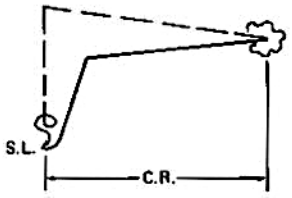
Warmup, Taxi, Takeoff: Five minutes at sea level static with normal power
Climb: On course to optimum cruise altitude with military power
Cruise out: At maximum range speed at optimum cruise altitude (drop external fuel tanks when empty)
Descend: To sea level when fifty nautical miles from target (no fuel used, no distance gained)
Run in: Fifty nautical miles at sea level at maximum speed with military power
Combat: Five minutes at sea level with military power (stores on, no distance gained) Stores dropped after combat.
Run out: Fifty nautical miles at sea level at maximum speed with military power
Climb: On course to optimum cruise altitude with military power
Cruise back: At maximum range speed at optimum cruise altitude
Reserve: 5% of initial fuel plus 20 minutes at maximum endurance speed at sea level

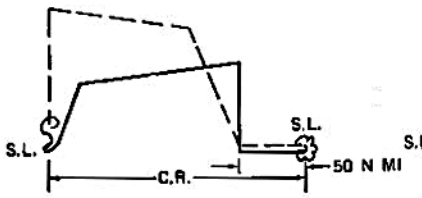
CLOSE AIR SUPPORT

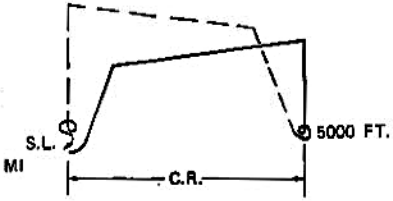
Warmup, Taxi, Takeoff: Five minutes at sea level static with normal power
Climb: On course to optimum cruise altitude with military power
Cruise out: At maximum range speed at optimum cruise altitude (drop external fuel tanks when empty)
Descend: To 5000 feet (no fuel used, no distance gained)
Loiter: One hour at maximum endurance speed at 5000 feet (stores on, no distance gained) Stores dropped at end of loiter
Climb: On course to optimum cruise altitude with military power
Cruise back: At maximum range speed at optimum cruise altitude
Reserve: 5% of initial fuel plus 20 minutes at maximum endurance speed at sea level

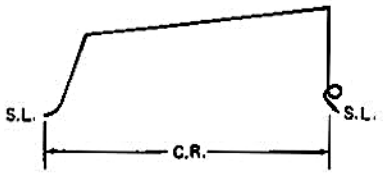
FERRY OR COMBAT RANGE

Warmup, Taxi, Takeoff: Five minutes at sea level static with normal power
Climb: On course to optimum cruise altitude with military power
Cruise out: At maximum range speed at optimum cruise altitude
Reserve: 5% of initial fuel plus 20 minutes at maximum endurance speed at sea level





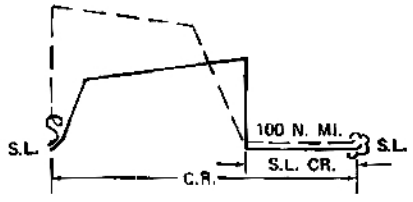




NOTES

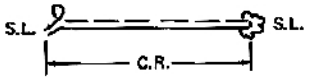
HI-LO-LO-HI

Warmup, Taxi, Takeoff: Five minutes at sea level static with normal power
Climb: On course to optimum **cruise altitude with military power**
Cruise out: At maximum range speed at optimum cruise altitude (drop external fuel tanks **when empty)**
Descend: To sea level when 100 nautical miles from target (no fuel used, no distance gained)
Cruise out: At sea level at maximum range speed to target
Combat: Five minutes at sea level with military power **(stores on, no distance gained) Stores dropped after combat**
Cruise back: At sea level at maximum range speed to a **point 100 nautical miles from target**
Climb: On course to optimum cruise altitude with military power
Cruise back: At maximum range speed at optimum cruise altitude
Reserve: 5% of initial fuel plus 20 minutes at maximum **endurance speed at sea level**



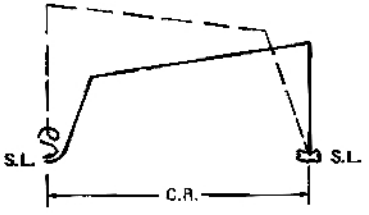
LO-LO-LO

Warmup, Taxi, Takeoff: Five minutes at sea level static with normal power
Cruise out: At maximum range speed at sea level (drop external fuel tanks when empty)
Combat: Five minutes at sea level with military power (stores on, no distance gained) **Stores dropped after combat**
Cruise back: At maximum range speed at sea level
Reserve: 5% of initial fuel plus **20 minutes at maximum endurance speed at sea level**



HI-LO-HI

Warmup, Taxi, Takeoff: Five minutes at sea level static with normal power
Climb: On course to optimum **cruise altitude with military power**
Cruise out: At maximum range speed at optimum cruise **altitude (drop external fuel tanks when empty)**
Descend: To sea level (no fuel used, no distance gained)
Combat: Five minutes at sea level with military power **(stores on, no distance gained) Stores dropped after combat**
Climb: On course to optimum cruise altitude with military power
Cruise back: At maximum range speed at optimum cruise altitude
Reserve: 5% of initial fuel plus **20 minutes at maximum endurance speed at sea level**



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