NAVAIR 00-110AA6-2

Standard Aircraft Characteristics

NAVY MODEL EA-6A AIRCRAFT

(A2F-1H)

(TITLE UNCLASSIFIED)

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1 JULY 1967

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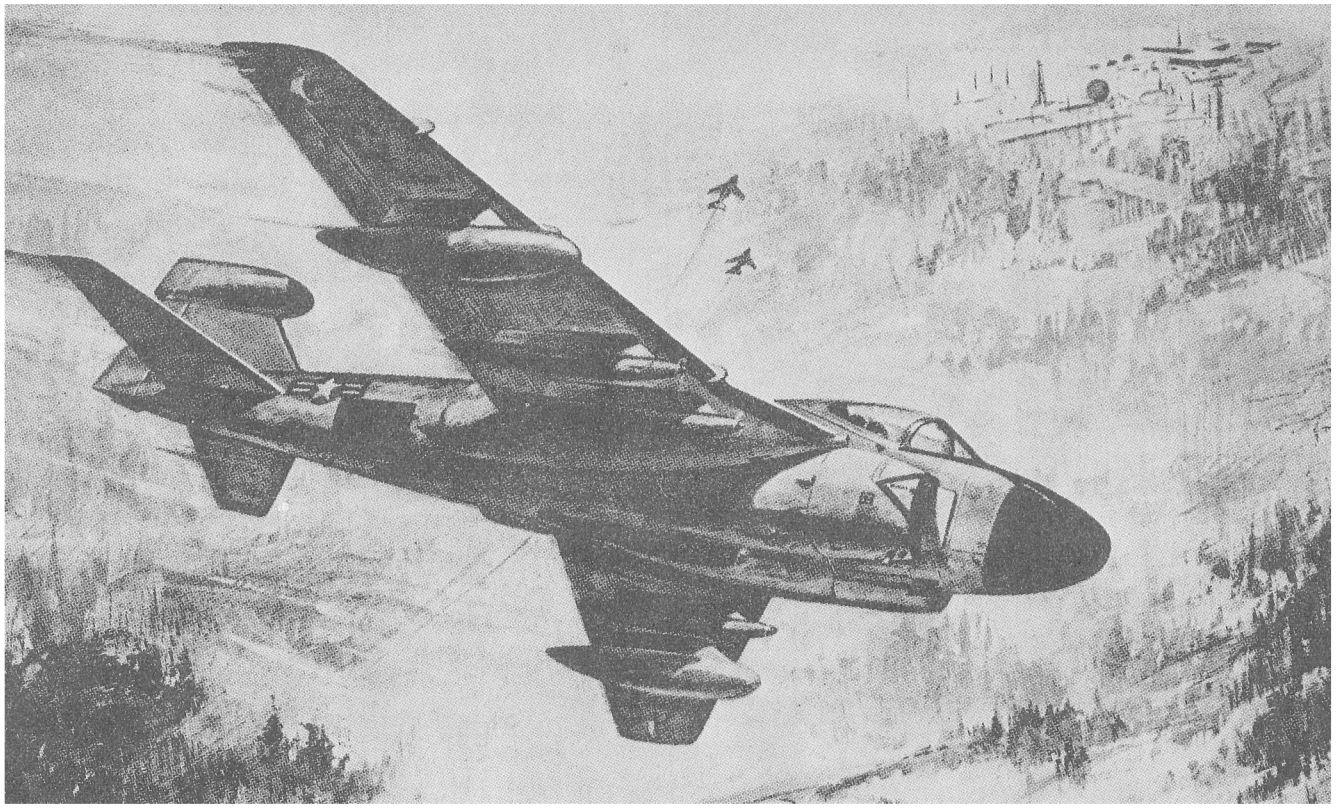
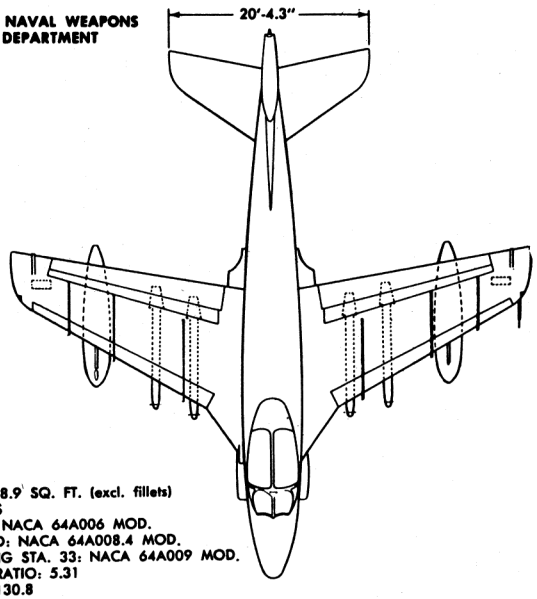


STANDARD AIRCRAFT CHARACTERISTICS

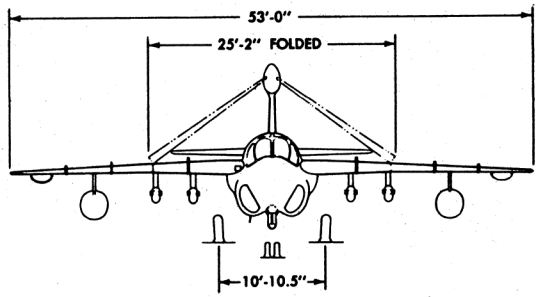
EA-6A

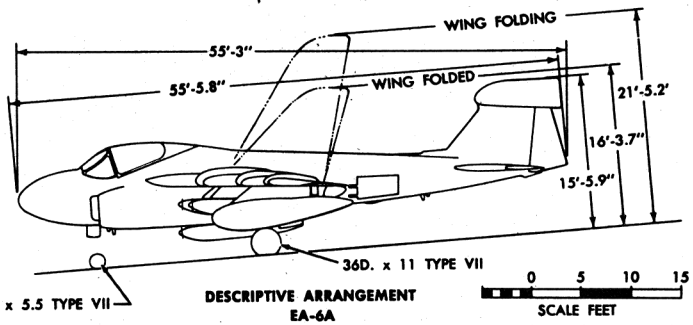
GRUMMAN

BUREAU OF NAVAL WEAPONS
NAVY DEPARTMENT



WING
AREA: 528.9 SQ. FT. (excl. fillets)
SECTIONS
TIP: NACA 64A006 MOD.
FOLD: NACA 64A008.4 MOD.
WING STA. 33: NACA 64A009 MOD.
ASPECT RATIO: 5.31
M.A.C.: 130.8

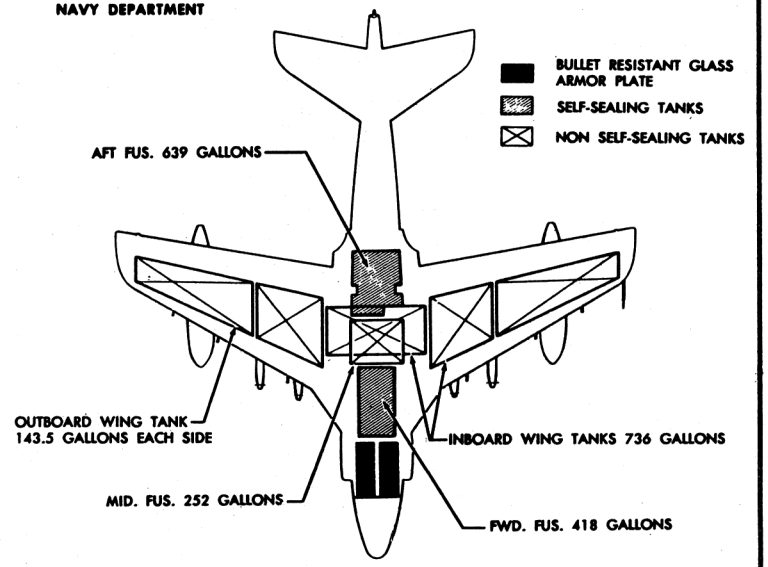


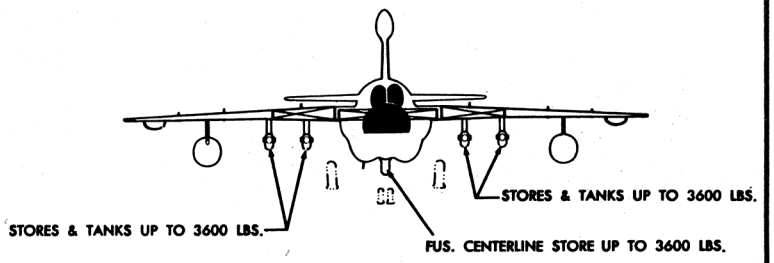


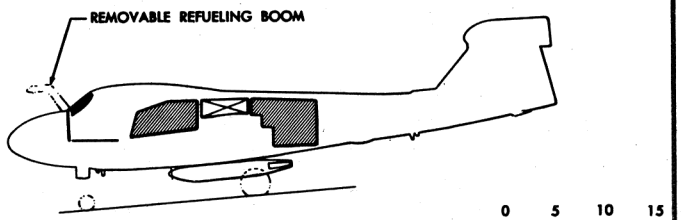
DESCRIPTIVE ARRANGEMENT
EA-6A

0 5 10 15
SCALE FEET

BUREAU OF NAVAL WEAPONS
NAVY DEPARTMENT







ARMAMENT AND TANKAGE
EA-6A

0 5 10 15
SCALE FEET

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POWER PLANT

No. & Model _____ (2) J52-P-6
Mfgr. _____ Pratt & Whitney
Type _____ Twin Spool Axial Flow
Length _____ 127 in.
Diameter _____ 31 in.
Augumentation _____ none

RATINGS

	LBS.	@ RPM
Maximum	8500	11650
T.O. & Military	8500	11650
Normal	7500	11400

Sea Level Static

Spec. No. _____ N-1731B

ELECTRONICS

Electronic Counter Measures
- Warning Receiver — (4) AN/ALR-15
- Detection System — AN/ALQ-53
- Chaff Dispenser — (2) AN/ALE-18
- Repeater Jammer — AN/ALQ-41
- Repeater Jammer — (2) AN/ALQ-51
- Comm. Jammer — AN/ALQ-55
- Self Protective Pod — AN/ALQ-31A
- Jamming Pod — AN/ALQ-31B
- Decoy Pod — AN/ALQ-54
- Recorder-Reproducer (2) AN/UNH-9

Attack Navigation Instruments
- MF-1 Compass System —
- Navigation Computer — AN/ASN-41
- Vertical Ref. System — AN/AJA-( )
- Search Radar — AN/APQ-92
- Doppler Radar — AN/APN-122
- Radar Altimeter — AN/APN-117
- AFCS — AN/ASW-16
- Air Data Computer —
- Integrated Display Subsystem —

Communications
- CNI Package — AN/ASQ-57
- UHF ADF — AN/ARA-50
- UHF Rec. Trans. — AN/ARC-52
- UHF Stand-By Rec. — AN/ARR-40
- IFF — AN/APX-6B
- IFF Coder — AN/APA-89(SIF)
- TACAN — AN/ARN-21A
- ICS — AN/AIC-14
- Data Link — AN/ASW-21

MISSION AND DESCRIPTION

The EA-6A is a two-place tactical electronic counter measures version of the A-6A Intruder all-weather, low-altitude, attack aircraft. Its primary mission is to support strike aircraft and ground troops by suppressing enemy electronic activity and to obtain tactical electronic intelligence within the combat area utilizing detecting, locating, classifying, recording and jamming techniques.

In addition, the EA-6A has limited all-weather attack capability with conventional and special weapons and retains much of the high subsonic performance capability and broad mission versatility of the parent A-6A aircraft, as well as its carrier and advanced base suitability and high payload.

Irreversible hydraulic flight controls are provided. Longitudinal control is effected by an all movable stabilizer. Lateral control is provided by flaperons while a conventional rudder is used for directional control.

High lift devices are slotted flaps, and leading edge slats. Anti-skid brakes on main wheels are provided. Nose wheel tow catapulting is used. A speed brake is located aft on each side of the fuselage. Side by side ground level ejection seats are provided for the pilot and ECM operator.

Power wing folding is provided. The engines may be removed and serviced by removal of fuselage fairing panels.

DEVELOPMENT

First Flight Electronic Prototype _____ April 1963
First Flight Production Prototype _____
Scheduled First Service Availability _____

DIMENSIONS

Wing
- Area _____ 528.9 sq. ft.
- Span _____ 53 ft.
- MAC _____ 130.8 in.
- Sweepback ($\frac{1}{4}$ chord) _____ 25°

Length _____ 55 ft. 5.8 in.
Height _____ 15 ft. 5.9 in.
Tread _____ 10 ft. 10.5 in.

WEIGHTS

LOADINGS	LBS.	L.F.
Empty	27,769	
Basic	48,058	
Design	40,950	5.0
Combat	41,715	
Max. Take-Off		
Field	54,571	
Catapult	54,571	
Max. Landing		
Field	36,061	
Arrested	36,061	

All weights are estimated

FUEL AND OIL

No. TANKS	GALS.	LBS.	LOCATION
3	1309	8900	Fuselage
5	1023	6857	Wings
5(300 gal.)	1482	10,075	Drop Tanks

Fuel Grade _____ JP-5
Fuel Spec.(applicable) MIL-F-5624C-1

OIL

Capacity — 5 gals./engine 10 gals.
Spec. (applicable) — MIL-L-7808

ORDNANCE

Maximum Bomb Capacity: 18,000 lbs.

Bombs: Mk 81, Mk 82, Mk 83, Mk 84, Fire Bomb Mk 79 Mod-1

Special Weapons: Mk 28 Ex Mod-1 B43-0/N43-1, Tx 57

Rocket Package: Aero 7D, Aero 6A1, LAU-10/A

In addition, the following may be carried:
ECM Pods: AN/ALQ-31A, -31B, -54
Practice Bomb Containers, Aero 8A (Mk 76, Mk 89); CBU-1/A1 Dispenser, Shrike Provisions

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PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION			(1) TACTICAL ECM (5) AN/ALQ-31B Pods	(4) TACTICAL ECM (3) AN/ALQ-31B Pods (2) 300 Gal. Tanks	(7) TACTICAL ECM (1) AN/ALQ-31B Pod (4) 300 Gal. Tanks	(10) SEA LEVEL STORE DEL. ATTACK CONFIG. (1) Mk 28 (4) 300 Gal. Tanks
TAKE-OFF WEIGHT		lb.	48,058	51,337	54,571	55,060
Fuel internal/external (JP-5)		lb.	15,857/0	15,857/4018	15,857/8036	15,857/8036
Payload		lb.	3000	1800	600	2040
Wing loading		lb./sq. ft.	90.8	97.1	103.2	104.1
Stall speed—power-off		kn.	119.6	123.5	127.4	128.0
Take-off run at S.L.—standard day		ft.	3650	4400	5210	5350
Take-off run at S.L.—tropical day		ft.	4530	5390	6370	6510
Take-off to clear 50 ft.—standard day		ft.	4360	5100	5920	6070
Max. speed/altitude	(A)	kn./ft.	517/S.L.	510/S.L.	508/S.L.	522/S.L.
Rate of climb at S.L.	(A)	fpm.	5450	5000	4600	5050
Time: S.L. to 20,000 ft.	(A)	min.	5.0	5.4	6.2	5.6
Time: S.L. to 30,000 ft.	(A)	min.	10.2	11.3	13.0	11.4
Service ceiling (100 fpm)	(A)	ft.	36,200	34,500	32,700	33,800
Combat range		n.mi.	1254	1756	2239	2442
Average cruising speed cr. dist./cr. time		kn.	407	410	412	418
Cruising altitude(s)		ft.	34,500/40,200	33,000/41,300	31,600/42,400	32,000/44,000
Combat radius/Mission time		n.mi./hr.	343/2.69	594/3.91	825/5.02	800/4.5
Average cruising speed		kn.	408	411	413	345
IFR radius/Mission time		n.mi./hr.	-	-	(B) 1251/7.29	(C) 1288/6.99
COMBAT LOADING CONDITION			(2) STORES RETAINED	(5) TANKS OFF STORES RETAINED	(8) TANKS OFF STORE RETAINED	(11) TANKS OFF STORE RETAINED
COMBAT WEIGHT		lb.	41,715	42,971	45,703	46,192
Engine power			Military	Military	Military	Military
Fuel		lb.	9514	11,925	15,857	15,857
Combat speed/combat altitude		kn./ft.	518/S.L.	524/S.L.	533/S.L.	548/S.L.
Rate of climb/combat altitude		fpm/ft.	6400/S.L.	6550/S.L.	6300/S.L.	6900/S.L.
Combat ceiling (500 fpm)		ft.	37,700	37,800	36,800	37,600
Rate of Climb at S.L.		fpm.	6400	6550	6300	6900
Max. Speed at S.L.		kn.	518	524	533	548
Max. speed/altitude		kn./ft.	518/S.L.	524/S.L.	533/S.L.	548/S.L.
LANDING LOADING CONDITION			(3) STORES RETAINED	(6) TANKS OFF STORES RETAINED	(9) TANKS OFF STORE RETAINED	(12) TANKS OFF STORE OFF
LANDING WEIGHT		lb.	34,361	33,116	31,839	30,163
Fuel		lb.	2160	2070	1993	1868
Stall speed—power-off/approach power		kn./kn.	101/96.4	96.6/92.3	92.1/88	89.6/85.6
Landing distance-ground roll/over 50 ft. obst.		ft./ft.	1809/2491	1720/2373	1631/2256	1555/2165

PERFORMANCE BASIS: A-6A Flight Test & EA-6A Wind Tunnel Tests

NOTES

(A) Military Rated Thrust

(B) Inflight Refueling: One outbound inflight refueling 657 n.mi. out. 10,667 lb. fuel transferred from Buddy Tanker.

(C) Inflight Refueling: One outbound inflight refueling 688 n.mi. out. 10,200 lb. fuel transferred from Buddy Tanker.

MISSION TIME: Any time where fuel is used and distance gained including loiter and combat time.

SPOTTING: A total of 63 airplanes can be accommodated in the safe parking area on the flight and hangar decks of a CVA-19 class angled deck carrier.

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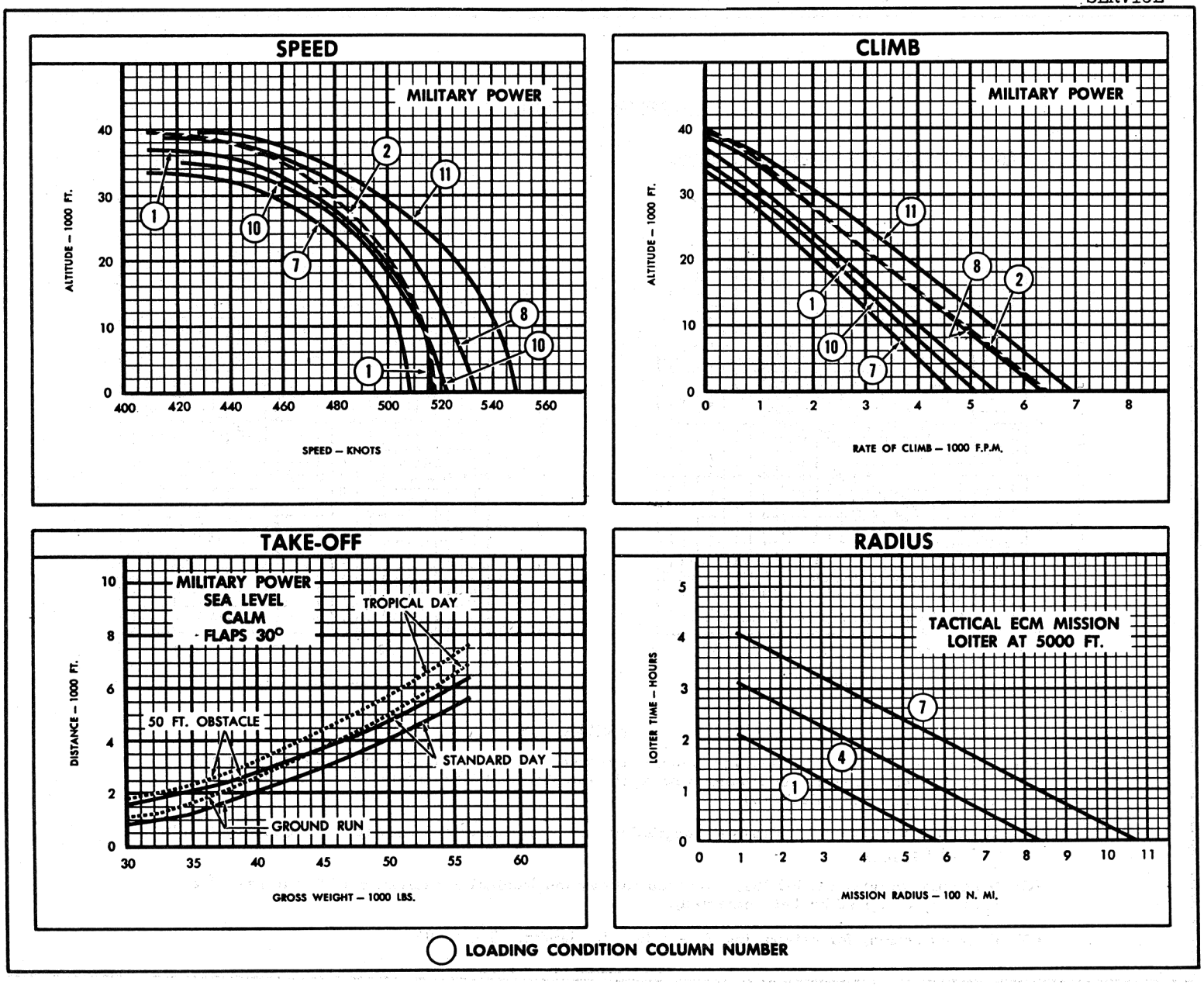
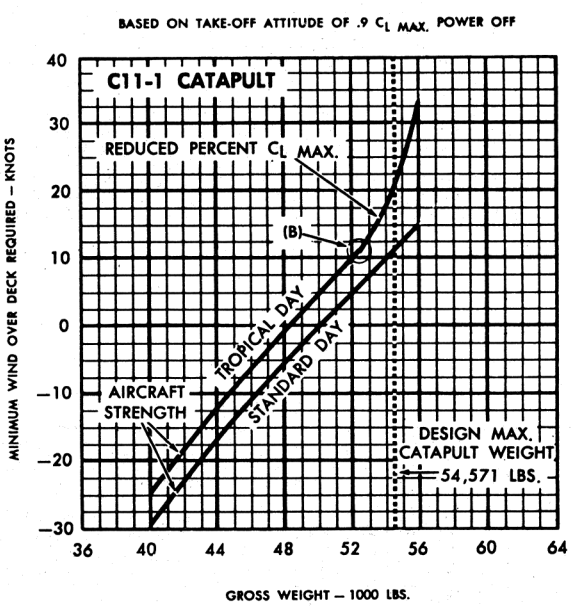
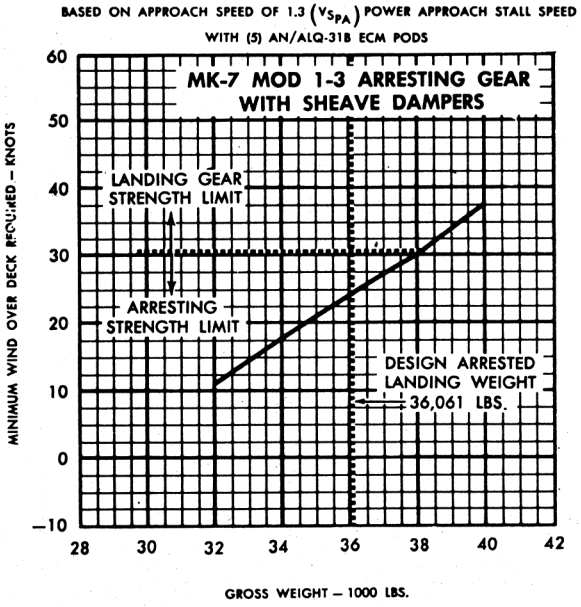


CARRIER SUITABILITY

MINIMUM WIND OVER DECK REQUIRED FOR CATAPULTING VS. GROSS WEIGHT



MINIMUM WIND OVER DECK REQUIRED FOR ARRESTING VS. GROSS WEIGHT



NOTES

(A) These curves should be used for planning purposes only. Actual catapult and arresting gear operation should be in accordance with applicable Aircraft Technical Orders, and Catapult and Arresting Gear Bulletins.

(B) Maximum weight for tropical day longitudinal acceleration of 2.1 ft./sec.^{2} for C11-1 catapult with .9 C_L max.

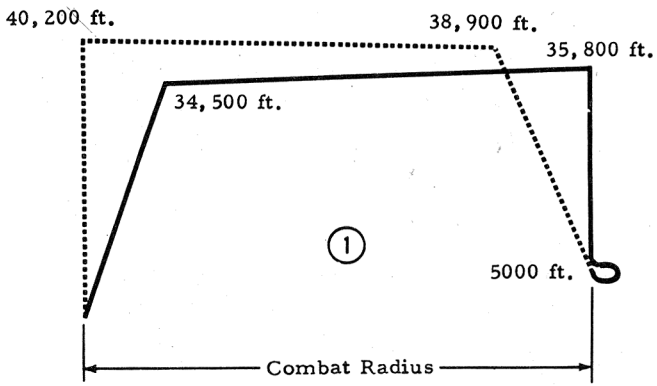
(C) Maximum weight, 41,500 lbs., for tropical day longitudinal acceleration of 5.0 ft./sec.^{2} at 1.15 V_{SPA} (speed brakes retracted).

(D) Flap deflection, for catapulting $\delta_F = 30°$, for landing $\delta_F = 40°$.

NOTES

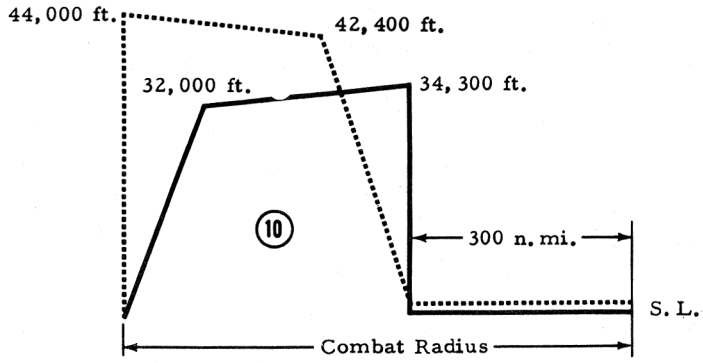
TACTICAL ECM MISSION

Warm-up, Taxi, Take-Off; 5 min. SSL NRP
Climb: On course to optimum cruise altitude with military power
Cruise-out: At max. range speed at optimum cruise altitude
Descend: To 5000 ft. (no fuel used, no distance gained)
Loiter: 1 hour at max. end. speed (no distance gained)
Climb: On course to optimum cruise altitude with military power
Cruise-back: At max. range speed at optimum cruise altitude
Reserve: 5% initial internal fuel +20 min. @ max. end. speed at S. L (all engines operating)



SEA LEVEL STORE DELIVERY MISSION — Modified (ATTACK CONFIGURATION)

Warm-up, Taxi, Take-Off: 5 min. SSL NRP
Climb: On course to optimum cruise altitude with military power
Cruise-out: At max. range speed at optimum cruise altitude
Descend: To S. L. when 300 n. mi. from target (no fuel used, no distance gained)
Cruise: At max. range speed at S. L. (all engines operating)
Dash: 3 min. to target with military thrust, tanks dropped prior to dash. (All engines operating)
Drop Store(s)
Dash: 2 min. from target with military thrust (all engines operating)
Cruise: At max. range speeds at S. L. to a point 300 n. mi. from target
Climb: On course to optimum cruise altitude with military power
Cruise-back: At max. range speed at optimum altitude
Reserve: 5% initial internal fuel +20 min. @ max. end. speed at S. L. (all engines operating)



◯ LOADING CONDITION COLUMN NUMBER

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