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NAVAIR 00-110AA4-1

GROUP 4 DOCUMENT

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DOD DIR 5200.10

Standard Aircraft Characteristics

NAVY MODEL

A-4A

AIRCRAFT

(TITLE UNCLASSIFIED)

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**PUBLISHED BY DIRECTION OF THE
COMMANDER OF THE NAVAL AIR SYSTEMS COMMAND**

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1 JULY 1967

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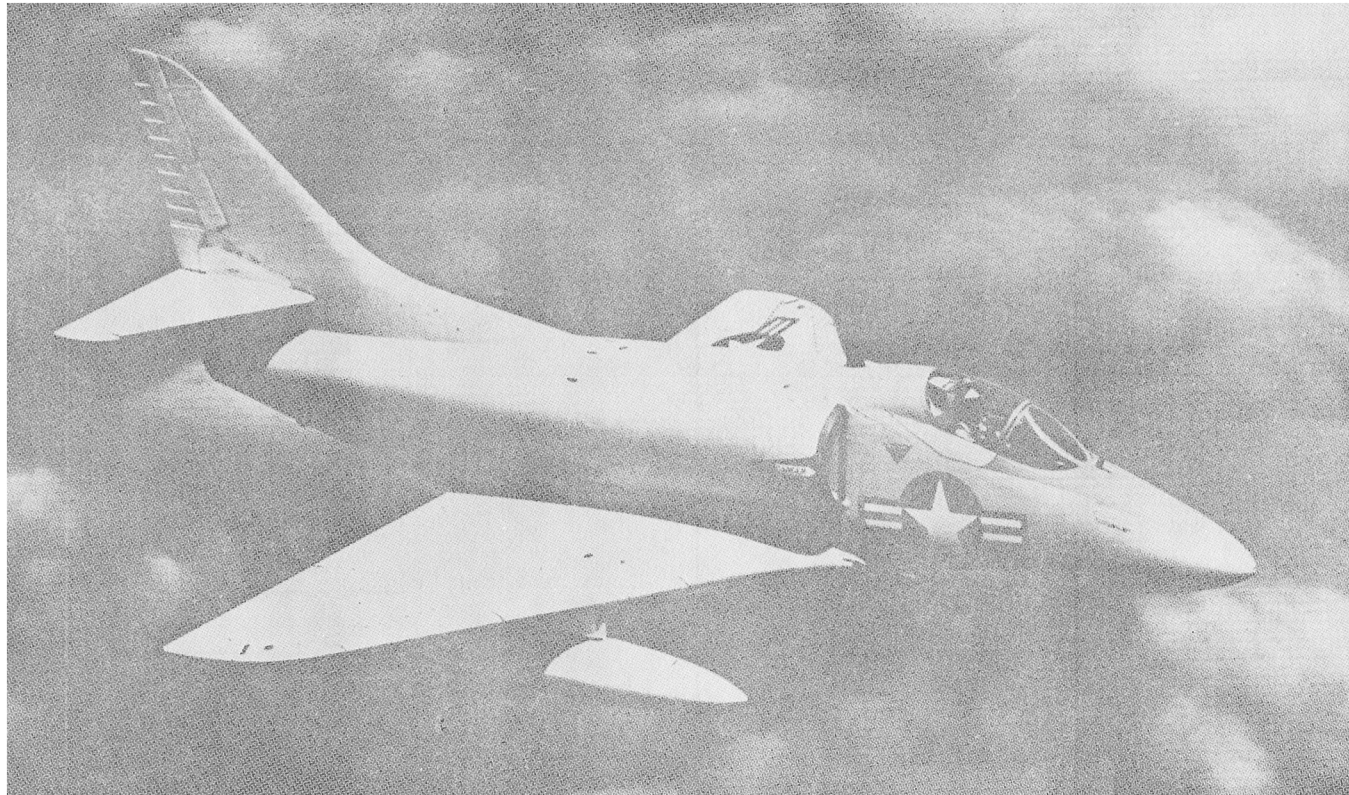
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SERVICE



STANDARD AIRCRAFT CHARACTERISTICS
A-4A SKYHAWK

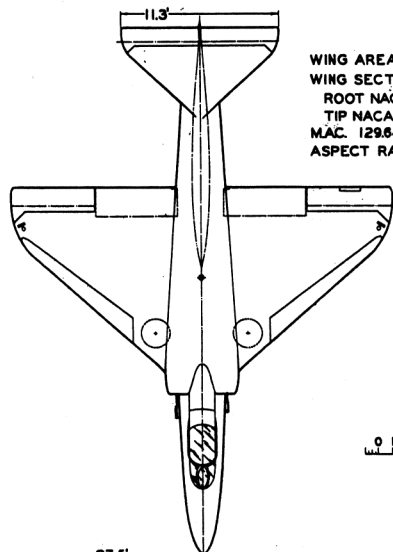
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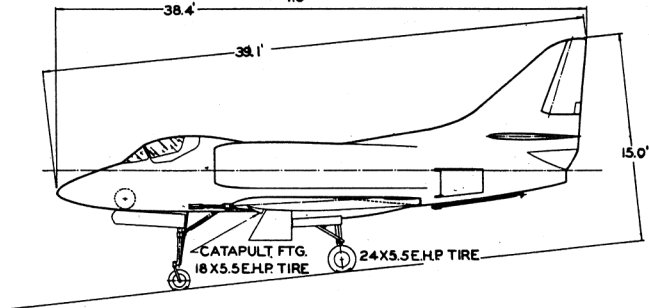
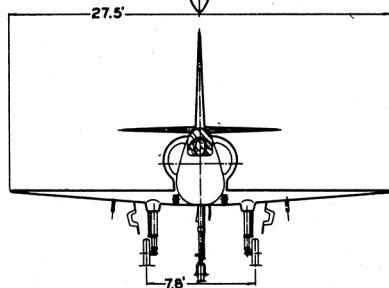
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SCALE

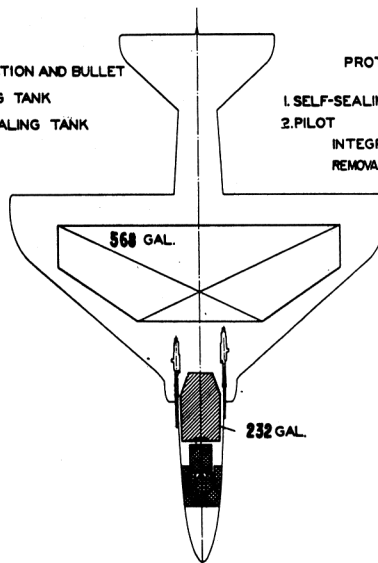


DESCRIPTIVE ARRANGEMENT

- FLAK PROTECTION AND BULLET RES. GLASS
- ▨ SELF-SEALING TANK
- ▤ NON SELF-SEALING TANK

PROTECTION

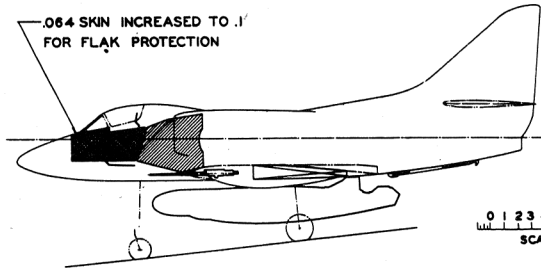
- 1. SELF-SEALING CELL 107 LBS.
- 2. PILOT
- INTEGRAL 29 LBS.
- REMOVABLE (PROV) 125 LBS.



STORES UP TO 3575 LB EACH ON C

DROP TANK OR STORES UP TO 1200LB. ON EACH RACK

2-20MM GUNS 100RDS. PER GUN



0 1 2 3 4 5 6 7 8
SCALE

ARMAMENT & TANKAGE

2

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POWER PLANT

NO. & MODEL (1) J65-W-4B
 MFR.....Wright Aeronautical
 TYPE.....Axial Flow
 LENGTH113 in.
 DIAMETER31 in.
 AUGMENTATION none

RATINGS

	LBS.	RPM
MILITARY	7000	8300
NORMAL	6780	8030

SEA LEVEL STATIC

SPEC. WAD N890-B

MISSION AND DESCRIPTION

The A4D-1 airplane is a light-weight, carrier based, jet attack airplane whose primary mission is the destruction of enemy ground and surface targets.

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. This airplane does not have folding wings nor provisions for inflight refueling.

WEIGHTS

LOADINGS	LBS	L.F.
EMPTY	8400	
BASIC	8835	
DESIGN	12504	7.0
COMBAT	14826	5.9
MAX. T.O. (Field)	20000	4.2
(Cat.)	20000	4.2
MAX. LAND (Field)	16000	5.5
(Arrest)	12000	7.0

All weights are actual

ORDNANCE

Maximum Bomb Capacity: 5975 lbs.

FUSELAGE

- Bombs
 1-Mk.81 Mod. 1 (250 lb.)
 1-Mk.82 Mod. 1 (500 lb.)
 1-Mk.83 Mod. 2 or 3
 (1000 lb.)
 1-Mk.84 Mod. 1 (2000 lb.)
- Stores
 1-1660 lb.
 1-3250 lb.
 1-1050 lb.
 1-2025 lb.
 1-3500 lb.
- Spray Tank 1-Aero L4B
- Fire Bomb 1-Mk.79 Mod. 0 (1000 lb.)
 or 1-150 gal. DAC
- Fuel Tank
 Pyrotechnics 1-Aero 5A Flare Dispenser
- Radio 1-NAV PAC unit
- Rockets 1-pkg. (7) 2.75" Aero 3A
 1-pkg. (19) 2.75" Aero X7A
 1-pkg. (4) 5.00" Aero X10A
- Prac. Bombs 1-Aero 5A prac. bomb cont.
- Drop Tanks 1-150 gal. (DAC) (2 fins)
 1-300 gal. (DAC) (no fins)

(Continued on NOTES page)

DEVELOPMENT

First Flight.....August 1954
 Service Use October 1956

FUEL AND OIL

NO. TANKS	TOL. GALS	LOCATION
1	568	Wing
1	232	Fuselage
2	300	Wing Flyons

FUEL GRADEJP-4 or 5
 FUEL SPEC (applicable).....MIL-F-5624

OIL

CAPACITY (gals).....2.8
 SPEC (applicable).....MIL-L-7808

DIMENSIONS

WING AREA.....	260 sq. ft.
SPAN.....	27' - 6"
MAC.....	10' - 9.6"
SWEEPBACK (1/4 chord).....	33.2°
LENGTH.....	39' - 1"
HEIGHT.....	15' - 0"
TREAD.....	7' - 9.6"

ELECTRONICS

Electr. Cont..... AN/ASQ-17
 Integrated Package consisting of:
 UHF CommunicationAN/ARC-27A
 IFF.....AN/AFB-6B
 Coder.....AN/AFB-89
 Direction FinderAN/ARA-25
 TACANAN/ARN-21

External Stores

Marker-Beacon
 Rec. AN/ARM-12
 VOR Rad. AN/ARN-14B

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SERVICE

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION	(1) LOW ALT. ATTACK 1-1050 LB. STORE 2-150 GAL. EXT. TANKS	(3) SEA LEVEL STORE DELIVERY 1-1050 LB. STORE 2-150 GAL. EXT. TANKS	(5) SEA LEVEL STORE DELIVERY 1-2025 LB. STORE	(7) SEA LEVEL STORE DELIVERY 1-3500 LB. STORE 2-150 GAL. EXT. TANKS	(9) SEA LEVEL STORE DELIVERY 2-500 LB. STORES 1-1000 LB. STORE
TAKE-OFF WEIGHT	18,128	18,128	16,851	20,578	16,826
Fuel Internal/External (JP-5)	5440/2040	5440/2040	5440/None	5440/2040	5440/None
Fayload	1050	1050	2025	3500	2000
Wing loading	69.7	69.7	64.8	79.1	64.7
Stall speed - power-off	121	121	115	129	117
Take-off run at S.L. - calm (A)	3050	3050	2550	4270	2550
Take-off run at S.L. 25 kn. wind (A)	2150	2150	1850	3100	1845
Take-off to clear 50 ft. - calm (A)	3840	3840	3350	5420	3340
Max. speed/altitude (A)	545/6000	545/6000	565/S.L.	544/6000	564/S.L.
Rate of climb at S.L. (A)	6740	6740	7800	5750	7805
Time: S.L. to 20,000 ft. (A)	3.9	3.9	3.3	4.6	3.3
Time: S.L. to 30,000 ft. (A)	7.1	7.1	5.8	8.7	5.8
Service ceiling (100 fpm) (A)	38,500	38,500	40,450	35,850	40,450
Combat range	1365	1365	890	1150	890
Average cruising speed	410	410	405	410	405
Cruising altitude(s)	33,100-40,700	33,100-40,700	34,400-39,300	30,300-36,700	34,400-39,300
Combat radius/ Mission time (B)	575/2.9	410/2.1	175/0.8	385/1.9	175/0.8
Average cruising speed	410	410	410	410	410
15,000 ft. store delivery radius/mission time	625/3.1	625/3.1	395/2.0	575/2.9	395/2.0
COMBAT LOADING CONDITION	(2) TANKS OFF STORE RETAINED	(4) TANKS OFF STORE RELEASED	(6) STORE RETAINED	(8) TANKS OFF STORE RETAINED	(10) STORES RETAINED
COMBAT WEIGHT	15,876	14,826	14,675	18,326	14,650
Engine power	MILITARY	MILITARY	MILITARY	MILITARY	MILITARY
Fuel	FULL INTERNAL	FULL INTERNAL	60% INTERNAL	FULL INTERNAL	60% INTERNAL
Combat speed/combat altitude	566/.86/S.L.	577/.87/S.L.	565/.85/S.L.	567/.86/S.L.	565/.85/S.L.
Rate of climb/combat altitude	8400/S.L.	9350/S.L.	9145/S.L.	7120/S.L.	9150/S.L.
Combat ceiling (500 fpm)	40,800	42,450	42,350	37,800	42,200
Rate of climb at 15,000 ft.	5850	6620	6400	4880	6405
Max. speed at 15,000 ft.	558/.89	566/.90	557/.89	557/.89	557/.89
Max. speed/altitude	566/.86/S.L.	577/.87/S.L.	565/.85/S.L.	567/.86/S.L.	565/.85/S.L.
Max. speed at 35,000 ft.	516/.89	525/.91	518/.90	506/.88	518/.90
LANDING WEIGHT	10,548	10,548	10,445	10,548	10,445
Fuel	1162	1162	1059	1162	1059
Stall speed - power-off /appr. pwr.	90.9/86.7	90.9/86.7	90.5/86.3	90.9/86.7	90.5/86.3
Distance-grnd.run/over 50 ft. obstacle	2520/3235	2520/3235	2490/3205	2520/3235	2490/3205

NOTES

PERFORMANCE BASIS: Contractor and NATC Flight Test Results

RANGE AND/OR RADIUS are based on NATC Flight test fuel consumption data.

A. Military Rated Thrust

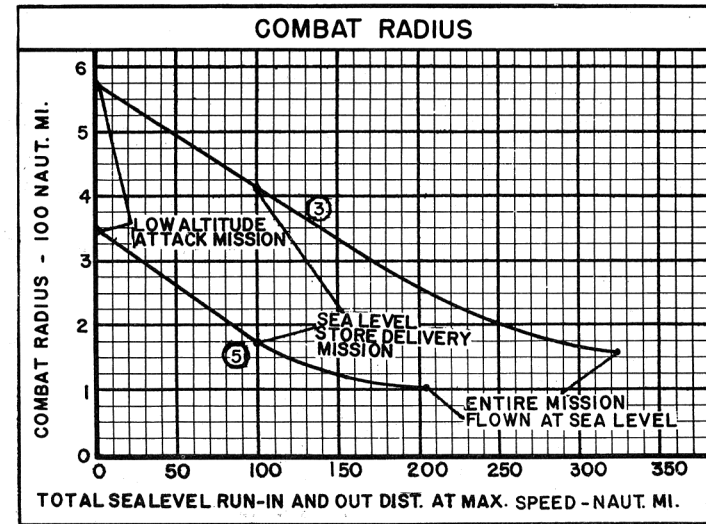
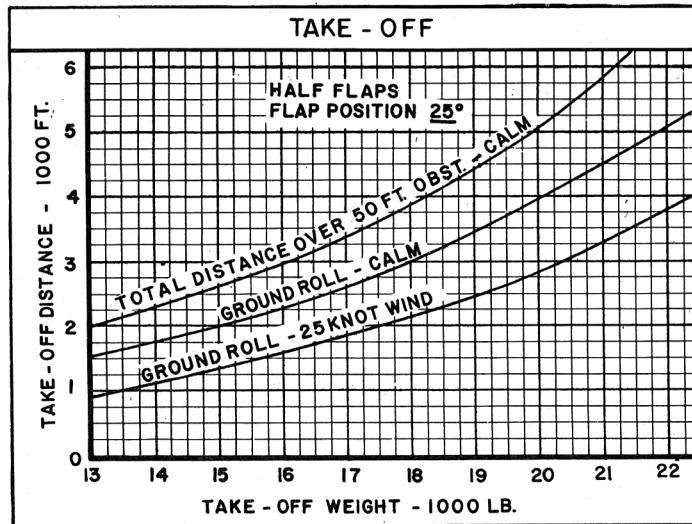
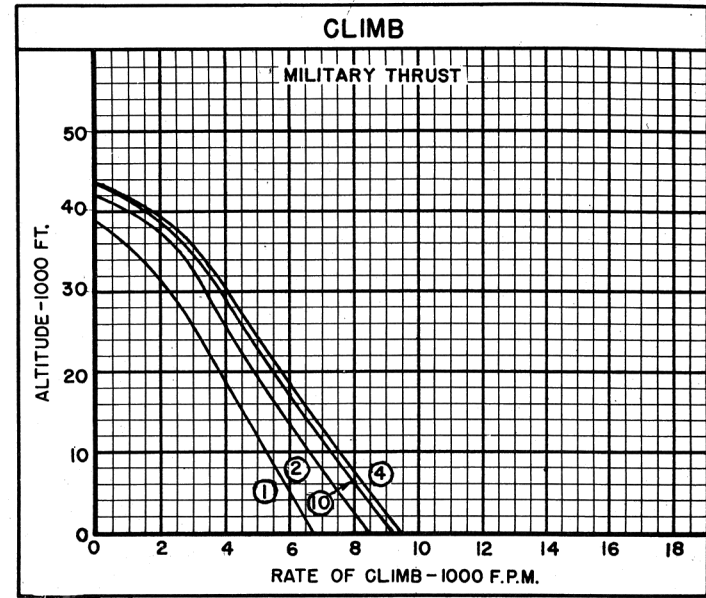
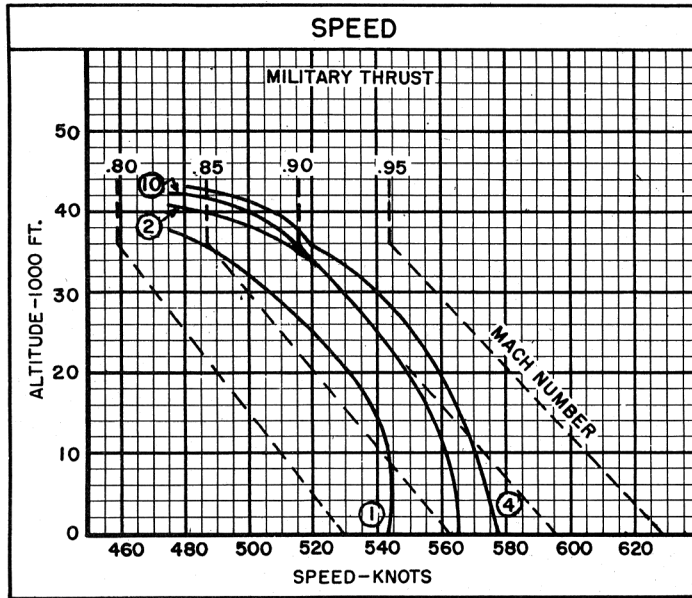
B. For Effect of JP-4 Fuel on Combat Radius and Mission Time see Notes Page

All configurations include wing pylons, Guns and Ammunition

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

SPOTTING: A total of 106 aircraft can be accommodated in a landing spot on the flight and hanger decks of a CVA-19 class angled deck carrier.

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○ LOADING CONDITION COLUMN NUMBER

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NOTES

LOADING
(All data based on JP-4 fuel)

1-1050 lb. store plus 2-150 gal.ext.tanks
1-3500 lb. store plus 2-150 gal.ext.tanks
2-500 + 1-1000 lb. stores

TAKE-OFF WEIGHT	15,000 FT. STORE DELIVERY	
	Combat Radius	Mission Time
17,798 lb.	590 n.mi.	3.0 hrs.
20,248 lb.	540 n.mi.	2.7 hrs.
16,586 lb.	365 n.mi.	1.9 hrs.

SEA LEVEL STORE DELIVERY	
Combat Radius	Mission Time
375 n.mi.	1.9 hrs.
345 n.mi.	1.8 hrs.
145 n.mi.	0.7 hrs.

LOW ALTITUDE ATTACK

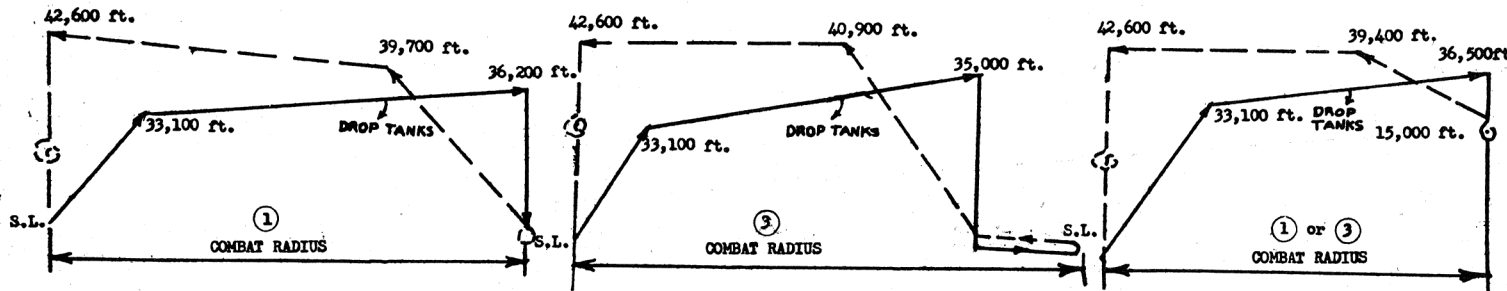
START ENGINE, TAKE-OFF AND ACCELERATE: 5 minutes, with normal power at sea level.
CLIMB-OUT: Maximum rate of climb, military power on course to optimum cruise altitude.
CRUISE-OUT: Maximum range airspeeds at optimum cruise altitude. (Drop tanks when empty).
DESCEND: To S.L. (no fuel consumed - no distance covered) drop bombs, fire rockets.
COMBAT: At S.L. 5 minutes, military power. No distance made good.
CLIMB-BACK: At max. rate of climb, military power on course to optimum cruise altitude.
CRUISE-BACK: At maximum range airspeeds at optimum cruise altitude.
DESCEND: To sea level (no fuel consumed - no distance covered)
RESERVE: 5% initial fuel plus 20 min. at speed for maximum endurance at sea level.

SEA LEVEL STORE DELIVERY

START ENGINE, TAKE-OFF AND ACCELERATE: 5 minutes, normal power at sea level
CLIMB-OUT: Maximum rate of climb, military power on course to optimum cruise altitude.
CRUISE-OUT: Maximum range airspeeds at optimum cruise altitude. (Drop tanks when empty).
DESCEND: To S.L. (no fuel consumed - no distance covered).
RUN-IN: At S.L. for 50 n.mi. at max. speed with military power. Drop bombs, fire rockets.
COMBAT: At S.L. 5 minutes, military power. No distance made good.
RUN-OUT: At S.L. for 50 n.mi. at maximum speed with military power.
CLIMB-BACK: At maximum rate of climb, military power on course to optimum cruise altitude.
CRUISE-BACK: At maximum range airspeeds at optimum cruise altitude.
RESERVE: 5% initial fuel plus 20 minutes at speed for maximum endurance at sea level.

15,000 FT. STORE DELIVERY

START ENGINE, TAKE-OFF AND ACCELERATE: 5 minutes with normal power at sea level
CLIMB-OUT: Maximum rate of climb, military power on course to optimum cruise altitude
CRUISE-OUT: Maximum range airspeeds at cruise altitude. (Drop tanks when empty).
DESCEND: To 15,000 ft. (no fuel consumed - no distance covered) drop bombs, fire rockets.
COMBAT: 15,000 ft. for 5 min. with mil. power. No dist. made good.
CLIMB-BACK: Maximum rate of climb, military power on course to optimum cruise altitude.
CRUISE-BACK: Maximum range airspeeds at optimum cruise altitude.
DESCEND: To S.L. (no fuel consumed - no distance covered)
RESERVE: 5% initial fuel plus 20 minutes at speed for maximum endurance at sea level.



ORDNANCE (Continued)

WING		FIXED GUNS/RDS. AMM.	
Bombs	2-Mk.81 Mod. 1 (250 lb.) 2-Mk.82 Mod. 1 (500 lb.) 2-Mk.83 Mod. 2 or 3 (1000 lb.)	Pyrotechnics	2 Mk.12 Mod.0 20mm/100 rds. per gun
Drop Tank	2-150 gal. DAC (2 fins)	Rockets	2-Aero 5A Flare Dispensers 2-pkgs. (7) 2.75" Aero 3A 2-pkgs. (19) 2.75" Aero X7A 2-pkgs. (4) 5.00" Aero X10A
Fire Bomb	2-Mk. 79 Mod. 0 or 2-150 gal. DAC fuel tanks	Mines	2-XG-3A (1000 lb.) 2-Mk.50 (500 lb.)

○ LOADING CONDITION COLUMN NUMBER

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