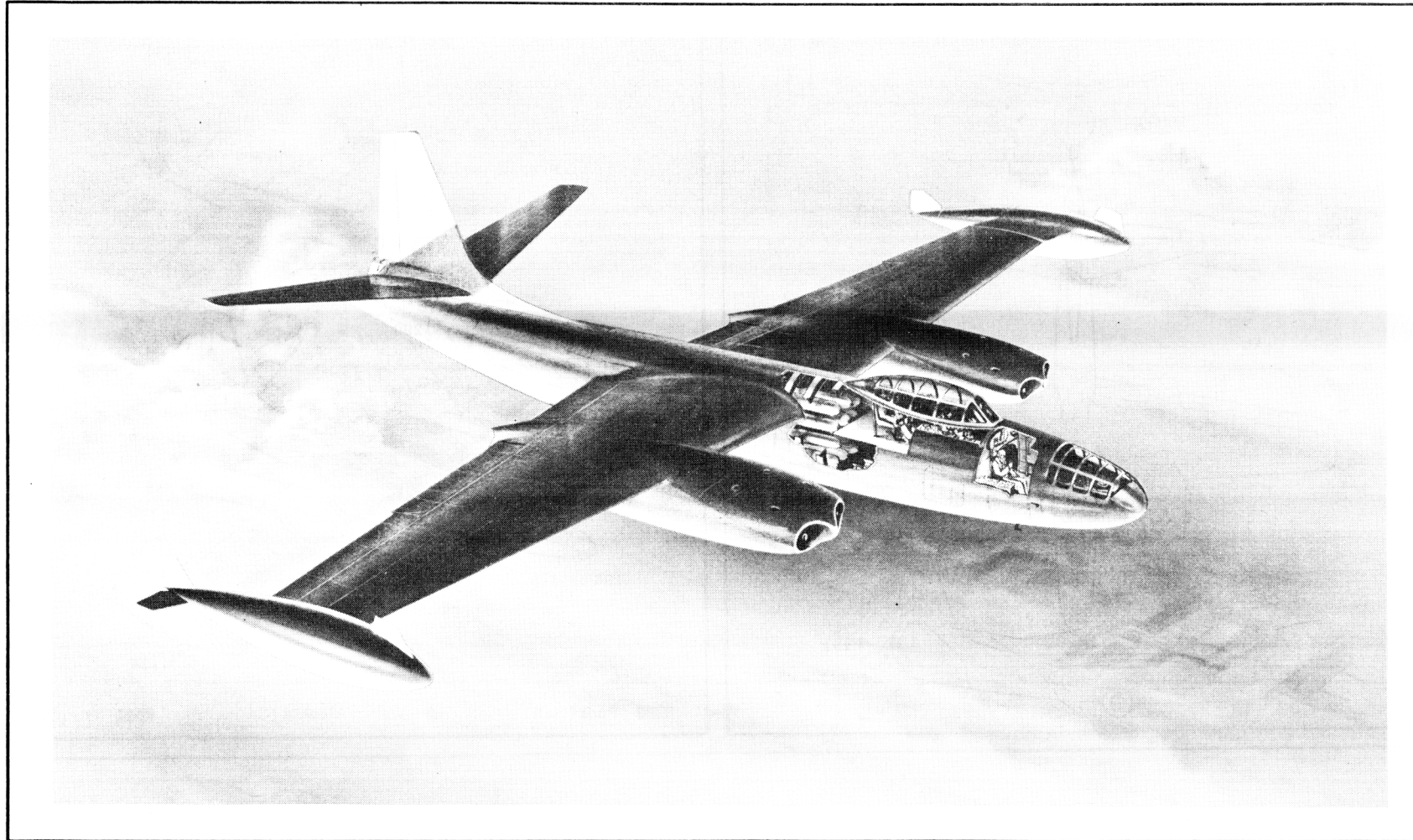


~~R E S T R I C T E D~~

A1
B-45C/char
SERVICE



Standard Aircraft Characteristics

BY AUTHORITY OF
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WRIGHT AIR DEVELOPMENT CENTER
U. S. AIR FORCE

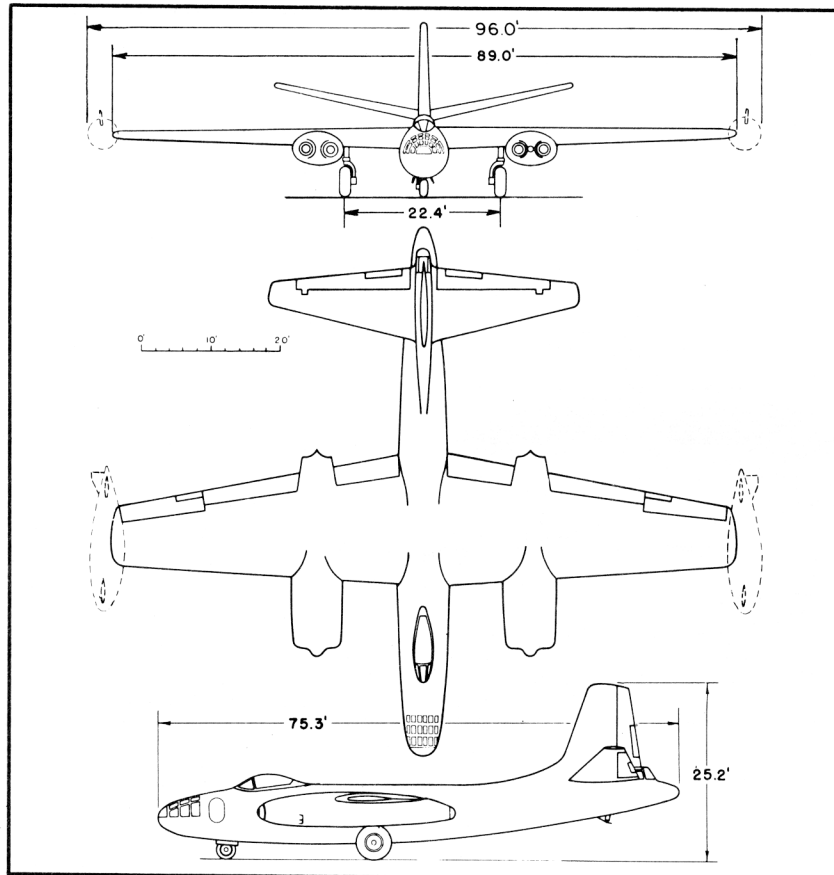
B-45C

TORNADO

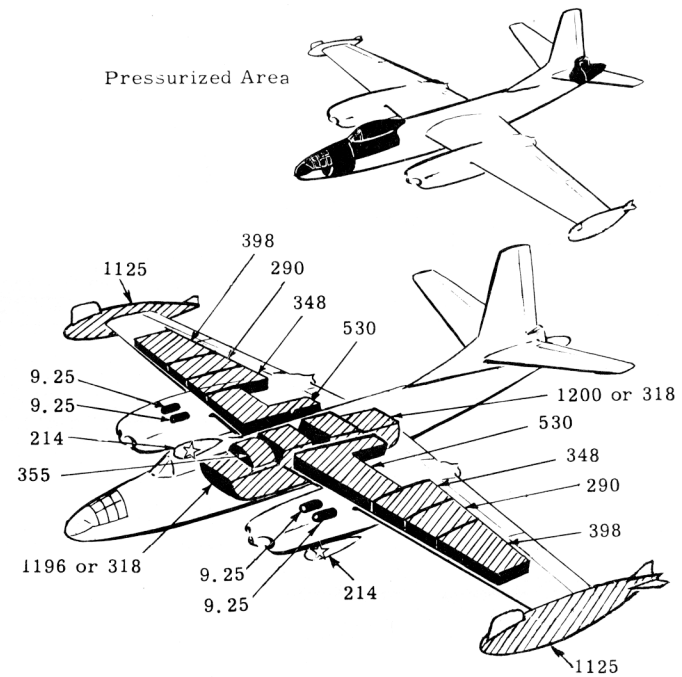
North American

TWO J47-GE-7 or -13
AND

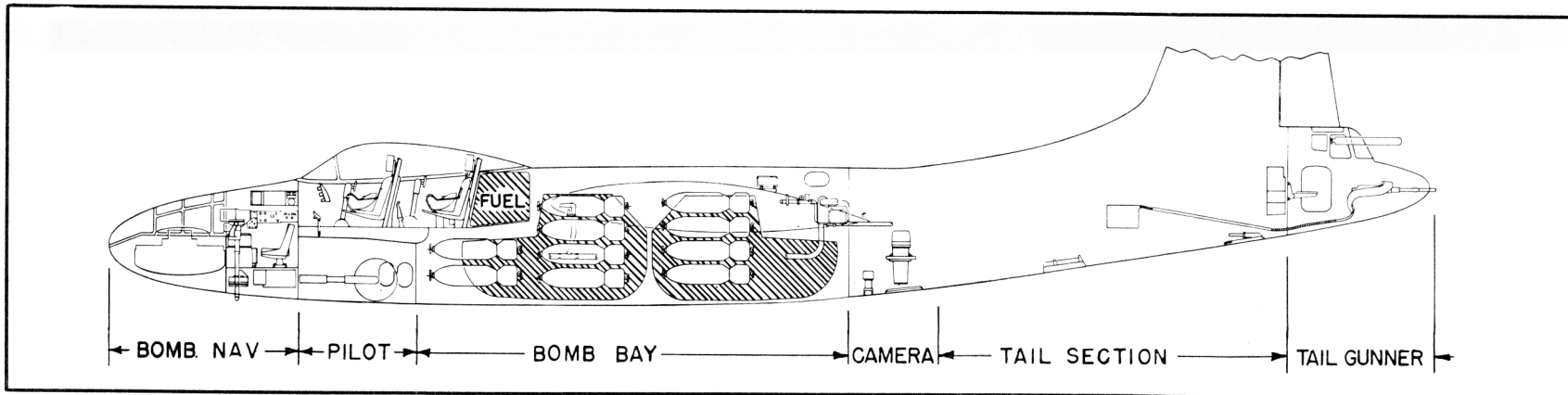
TWO J47-GE-9 or -15
GENERAL ELECTRIC



Wing Area 1175 sq ft Wing Section
 M. A. C. 168.18 in. Root N. A. C. A. 66, 2-215
 Aspect Ratio 6.74 Tip N. A. C. A. 66, 1-212



▨ Fuel (Gal) ☆ Water/Alcohol (Gal) ■ Oil (Gal)



Loading and Performance—Typical Mission

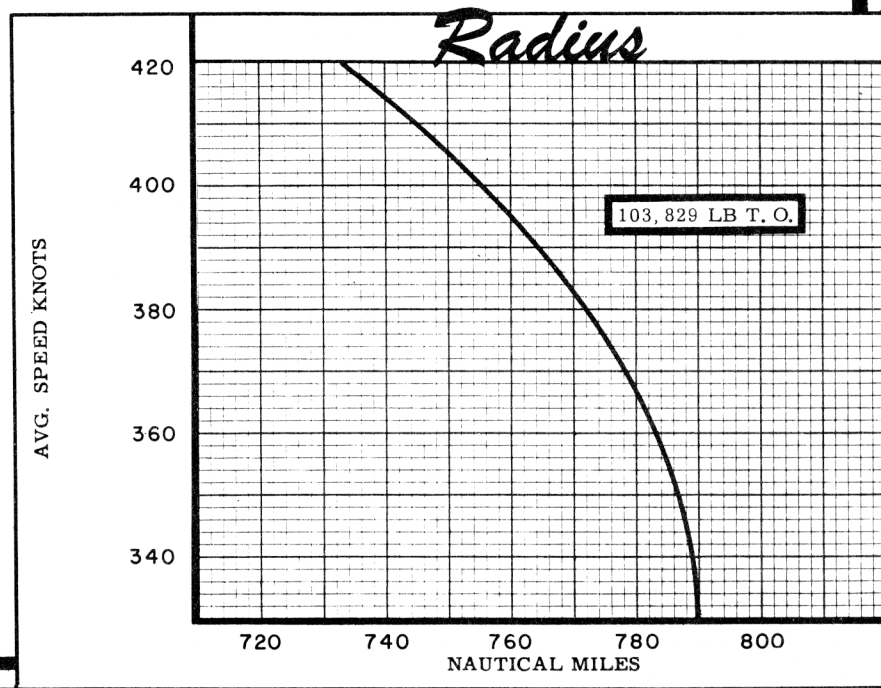
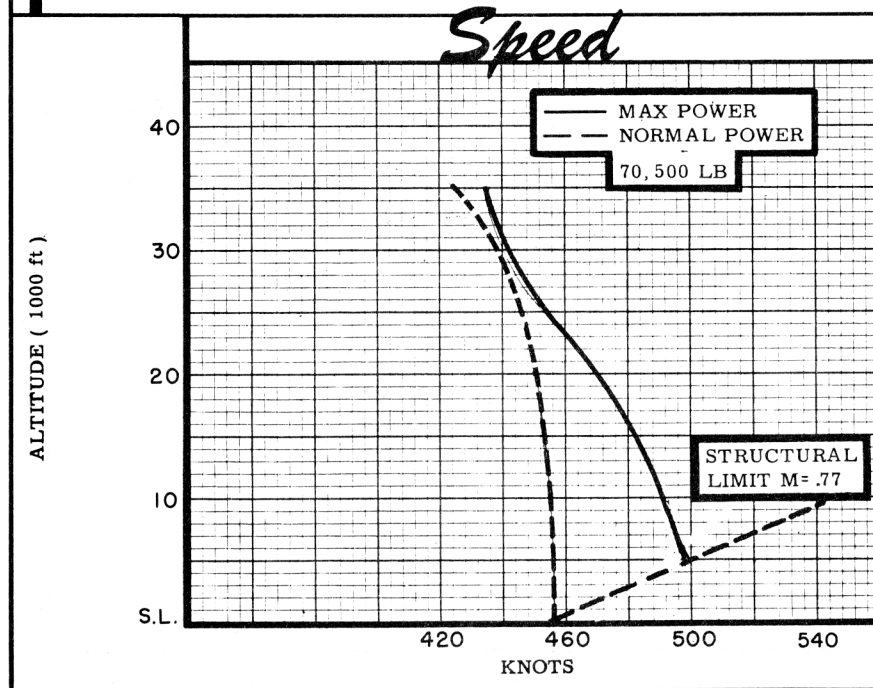
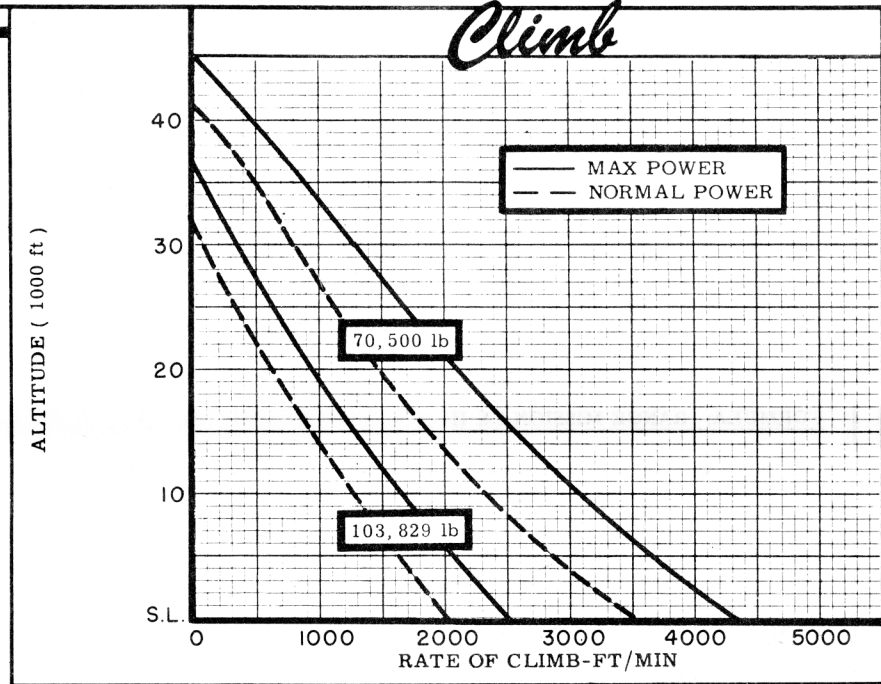
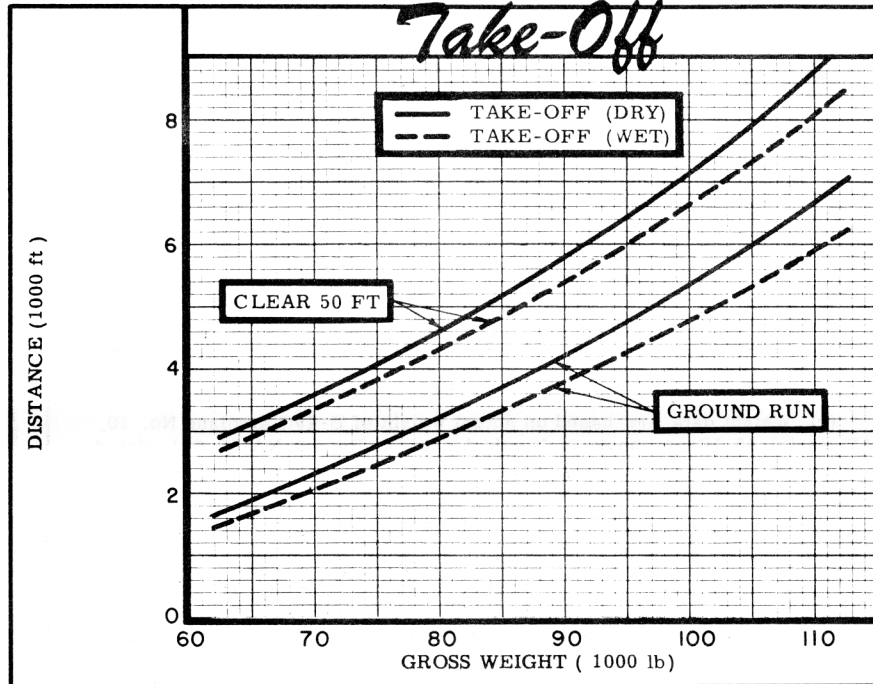
C O N D I T I O N S		BASIC MISSION	MAXIMUM BOMBS	FERRY RANGE
		I	II	III
TAKE-OFF WEIGHT	(lb)	103,829	112,965	107,390
Fuel at 6.5 lb/gal (grade JP-3)	(lb)	38,500	35,893	51,700
Military load (bombs)	(lb)	10,000	22,000	_____
Military load ()	(lb)	_____	_____	_____
Wing loading	(lb/sq ft)	88.3	132.5	126.3
Stall speed (power off, landing configuration)	(kn)	129.0	135.0	131.0
Take-off ground run at SL	① (ft)	5750	7200	6200
Take-off ground run (wet)	① (ft)	5000	6300	5500
Take-off to clear 50 ft	① (ft)	7600	9500	8100
Take-off to clear 50 ft (wet)	① (ft)	7000	8500	7600
Rate of climb at SL	② (fpm)	2000	1650	1920
Time: SL to 30,000 ft	② (min)	47.5	_____	_____
Time: SL to 20,000 ft	② (min)	17.5	21.8	19.5
Service Ceiling (100 fpm)	② (ft)	30,500	22,000	27,000
COMBAT RANGE	② (n. mi.)	1415	1192	2453
Average Speed	(kn)	344	356	385
Initial cruising altitude	(ft)	27,000	25,000	26,800
Final cruising altitude	(ft)	40,000	39,800	43,300
Total mission time	(hr)	4.11	3.35	6.38
COMBAT RADIUS	(n. mi.)	783	715	_____
Average speed	(kn)	358	363	_____
Initial cruising altitude	(ft)	27,000	25,000	_____
Bombing altitude	(ft)	36,000	35,000	_____
Bomb run speed	② ④ (kn)	370	420	_____
Final cruising altitude	(ft)	44,000	43,800	_____
Total mission time	(hr)	4.38	3.83	_____
COMBAT WEIGHT	(lb)	68,749	64,000	59,200
Combat altitude	(ft)	36,000	35,000	43,300
Combat speed	(kn)	434	446	506
Combat climb	① (fpm)	880	970	500
Combat ceiling (500 fpm)	① (ft)	39,500	41,000	43,300
Service ceiling (100 fpm)	① (ft)	44,000	45,500	49,900
Service ceiling (one engine out)	(ft)	_____	_____	_____
Max rate of climb at SL	① (fpm)	4400	4650	5550
Max speed at 5900 ft	① (kn)	495	495	495
LANDING WEIGHT	③ (lb)	57,519	57,001	59,200
Ground roll at SL	(ft)	3450	3400	3700
Ground roll (auxiliary brake)	(ft)	_____	_____	_____
Total from 50 ft	(ft)	4400	4350	4700
Total from 50 ft (auxiliary brake)	(ft)	_____	_____	_____

NOTES

- ① Max power (dry)
- ② Normal power
- ③ For Radius Mission if radius is shown.
- ④ Max power and max bomb load

PERFORMANCE BASIS:

- (a) Data source: Flight test
- (b) Performance is based on powers shown on page 6.



N O T E SFORMULA: RADIUS MISSION I & II

Start engines, take-off, climb on course to cruise ceiling at max power, cruise at long range speeds at cruise ceiling (see note f), (wing tip tanks are dropped when empty, bomb bay tanks are self-sealing and are retained), make bomb run at constant altitude for 6 minutes at normal power, drop bombs, conduct normal power evasive action, climb on course to cruise ceiling at maximum power, start cruise to home base at long range speeds at cruise ceiling. Range free allowances include 5 minutes normal power fuel consumption for starting engines and take-off, 6 minutes for normal power evasive action, plus 10% of initial fuel for reserve.

FORMULA: RANGE MISSION I & II

Start engines, take-off, climb on course to cruise ceiling at max power, cruise at long range speeds at cruise ceiling (see note f) until 90% of initial fuel has been used, (wing tip tanks are dropped when empty, bomb bay tanks are self-sealing and are retained). Range free allowances include 5 minutes normal power fuel consumption for starting engines and take-off, plus 10% of initial fuel for reserve.

FORMULA: RANGE MISSION III

Start engines, take-off, climb on course to cruise ceiling at max power, cruise at long range speeds at cruise ceiling (see note f) until 90% of initial fuel has been used, (bomb bay tanks are carried the entire distance but wing tip tanks are dropped when empty). Range free allowances include 5 minutes normal power fuel consumption for starting engines and take-off, plus 10% of initial fuel for reserve.

GENERAL DATA:

(a) Performance data are calculated from flight test results of service model.

(b) Performance data are based on average engine ratings obtained

from flight test:

S. L. Static	LB	RPM	MIN
Max(wet)	5700	7950	5
Max(dry)	5000	7950	30
Normal	4300	7370	Cont

(c) Weight data are based on actual weight of B-45C airplane No. 10, AF Serial 48-10 as shown in North American Report NA-50-361, dated 27 January 1950, "Actual Weight and Balance Report for Model B-45C Airplane NAA Model NA-153", with the exception that weight corrections for self-sealing aft bomb bay tanks and conversion to JP-3 fuel have been incorporated.

(d) The actual capacity of the water/alcohol injection system is 428 gallons, providing supply for 2 minutes operation at take-off power. For the maximum bomb mission (Loading II), this capacity has been reduced to 302 gallons providing supply for approximately 1 1/2 minutes operation at take-off power. This condition is necessary to prevent exceeding the maximum take-off power weight as determined by gear strength. The fluid injection system is droppable after take-off.

(e) Recommended fuel - spec. MIL-F-5624, JP-3, alternate fuel - spec. MIL-C-5616, JP-1; or gasoline (not to exceed grade 100/130) MIL-F-5572.

(f) Cruising ceiling as used herein is defined as the altitude at which the rate of climb is 300 FPM with normal power at momentary weight.

(g) For detailed planning, refer to Technical Order AN01-60GFA-1.

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