

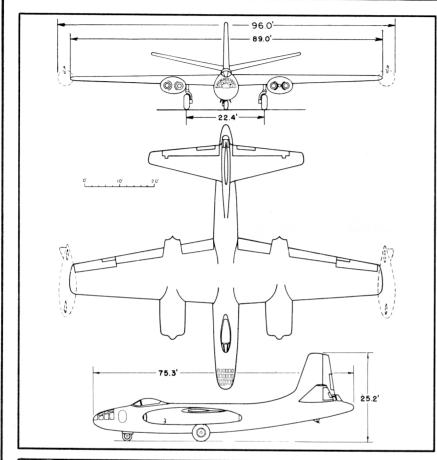
Standard Aircraft Characteristics OF B-45C TWO J47-GE AND

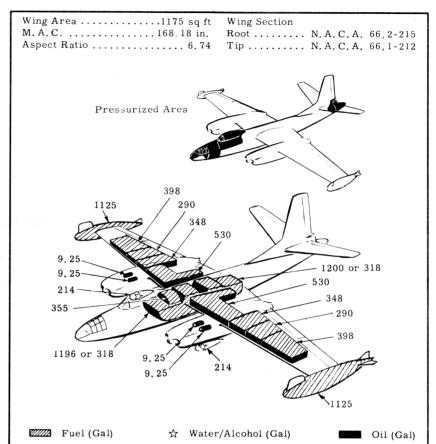
BY AUTHORITY OF COMMANDING GENERAL WRIGHT AIR DEVELOPMENT CENTER U.S. AIR FORCE

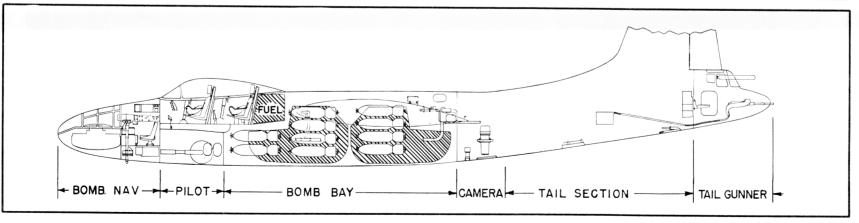
TORNADO

North American

TWO J47-GE-7 or -13 TWO J47-GE-9 or -15 GENERAL ELECTRIC







B-45C

RESTRICTED

POWER PLANT

No. & Model (2)J47-GE-7 or -13 and (2)J47-GE-9 or -15
(2)347-GE-9 OF -13
Mfr General Electric
Engine Spec No E-581 & E-582
Type Axial
Length 144"
Diameter 39"
Weight (dry) 2525 lb
Augmentation Water/alcohol
ATO
No. & Model (2)XLR13-AJ-1
Mfr Aerojet
Spec X60-ALD-4000
Weight (dry) 800 lb ea

ENGINE RATINGS

Max: (wet)	mad Grad	n stustieds				
(wet)	S. L. S.	LB - RPM - MIN				
Mil:	Max: (wet)	*6000 - 7950 - 5				
**5000 - 7950 - 30 Nor: *4320 - 7370 - Cor **4250 - 7370 - Cor *13 and -15 engines **-7 and -9 engines ATO Thrust (lb ea)	(wet)	**5820 - 7950 - 5				
Nor:	Mil:	*5200 - 7950 - 30				
**4250 - 7370 - Con *13 and -15 engines **-7 and -9 engines ATO Thrust (lb ea)		**5000 - 7950 - 30				
*13 and -15 engines **-7 and -9 engines ATO Thrust (lb ea)	Nor:	*4320 - 7370 - Cont				
**-7 and -9 engines ATO Thrust (lb ea)		**4250 - 7370 - Cont				
Thrust (lb ea) 400						
*	ATO					
D	Thrust (lb ea) 4000					
Duration (sec.) 6	Duration (sec.)					

Mission and Description

Navy Equivalent: None

Mfr's Designation: NA-153

The primary mission of the B-45C airplane is the destruction by bombs of land or naval materiel objectives.

The crew of four consists of the pilot, co-pilot-radio operator, bombardier-navigator and tail gunner.

Special features provided in the B-45C consist of wing tip tanks, thermal anti-icing, cabin pressurization, heating and cooling, ejection type seats for pilot and co-pilot and emergency escape hatches for the bombardier-navigator and tail gunner. Communication equipment, emergency flight controls and instruments are installed at the copilot's station.

A type E-4 Auto Pilot, bombing-navigation radar, A-1 Fire Control System and a tail turret are installed as standard equipment.

Power agumentation for take-off may be provided by a 428 gallon water/ alcohol system or by ATO.

Development

Design initiated:	Sep 47
First flight:	May 49
First acceptance:	May 4 9
Production completed:	Apr 50

WEIGHTS

Loading	Lb	L.F.
Basic Operating Design Combat Max T.O	82,600 *70,500 .+112,965 .+112,965	2.00
		Maria de la Contra del la Contra del la Contra del la Contra del la Contra de la Contra de la Contra de la Contra del la Contra de la Contra del la Contra de la Contra de la Contra del la

	F U E L
	Location No. Tanks Gal
	Wing* 8 3132
	Fus. * 1
	Bomb bay 2 2396
	Wg, drop 2 2250
	*s. s. Total 8133
	Grade JP-3
	See General Data, note e, page 6
١	
	OIL
ı	Cap. (gal) 37.0

DIMENSIONS

Wing	
Span	
(with tip tanks)	96.01
Incidence (root)	
(tip)	
Dihedral	1º
Sweepback (LE)	3 ^O 30'
Length	
Height	25.21
Tread	22.4'

<u> </u>		
No.	Size	Type
$ \begin{array}{c} 1 \dots \\ 2 \dots \\ 4 \dots \end{array} $	22,000 Gr 12,000 4000 2000	Tall Boy G.P G.P.
	500	
16*	500	G. P.
Max E	Somb Size:	22,000 lb
*Load	ing allows for one bom	ıb bay

G		U	Ţ	N	•	S
	~					

No.	Cal.	R	ds ea.	Location
2	.50.	•	600	Tail,tur

ELECTRONICS

VHF Command AN/ARC-3 Liaison *AN/ARC-8 Radio Compass AN/ARN-6 Interphone USAF Combat I, F, F *SCR-695B Marker Beacon RC-193A Localizer RC-103A Glide Path AN/ARN-5A Bomb -Nay Radar AN/APQ-24
Bomb Nav. Radar

*On 1st 7 airplanes; provisions thereafter.

** Provisions only

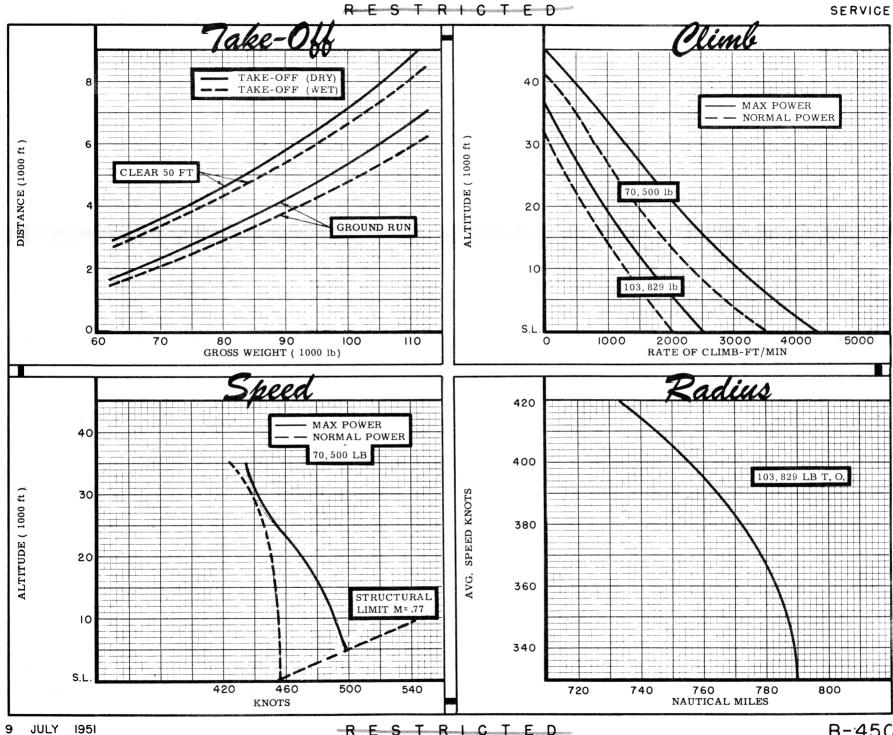
Loading and	Derfo	rmane	x-7	ypical Mission
CONDITIONS	BASIC MISSION	MAXIMUM BOMBS	FERRY RANGE	
	1	11	III	
TAKE-OFF WEIGHT (lb) Fuel at 6.5 lb/gal (grade JP-3) (lb) Military load (bombs) (lb) Military load (bombs) (lb)	103,829 38,500 10,000	112,965 35,893 22,000	107, 390 51, 700	
Wing loading Stall speed (power off, landing configuration) Take-off ground run at SL Take-off ground run (wet) Take-off to clear 50 ft Take-off to clear 50 ft (wet) Time: SL to 20,000 ft Time: SL to 30,000 ft Time: SL to 20,000 ft Time: SL to 30,000 ft Ti	88. 3 129. 0 5750 5000 7600 7000 2000 47. 5 17. 5 30, 500 1415 344 27, 000 40, 000 4. 11 783 358 27, 000 36, 000	132.5 135.0 7200 6300 9500 8500 1650 21.8 22,000 1192 356 25,000 39,800 3.35 715 363 25,000 35,000	126.3 131.0 6200 5500 8100 7600 1920 19.5 27,000 2453 385 26,800 43,300 6.38	
Bomb run speed ② ④ (kn) Final cruising altitude (ft) Total mission time (hr)	370 44,000 4.38	420 43,800 3.83		
COMBAT WEIGHT Combat altitude Combat speed Combat climb Combat ceiling (500 fpm) Service ceiling (100 fpm) Service ceiling (one engine out) (1b) (ft) (ft) (ft)	68,749 36,000 434 880 39,500 44,000	64,000 35,000 446 970 41,000 45,500	59, 200 43, 300 506 500 43, 300 49, 900	O E SMOISMEM
Max rate of climb at SL ① (fpm) Max speed at 5900 ft ① (kn) ANDING WEIGHT ③ (lb) Ground roll at SL (ft) Ground roll (auxiliary brake) (ft) Total from 50 ft (ft) Total from 50 ft (auxiliary brake) (ft)	4400 495 57,519 3450 4400	4650 495 57,001 3400 4350	5550 495 59,200 3700 	

N (1) Max power (dry)
O (2) Normal power
T (3) For Radius Missi shown.
(4) Max power and m ② Normal power ③ For Radius Mission if radius is

(4) Max power and max bomb load

PERFORMANCE BASIS:

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



NOTES

FORMULA: 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 27January 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.

