

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		1	2	3	4
LOADING CONDITION		ATTACK 10500# BOMB NO TIP TANKS	ATTACK 10500# BOMB NO TIP TANKS	ATTACK 10500# BOMB NO TIP TANKS	ATTACK 10500# BOMB TIP TANKS
GROSS WEIGHT	LBS.	47630	47630	47630	51580
EMPTY WEIGHT	ESTIMATED LBS.	28307			
FUEL / OIL	GALS.	1217/65	1217/65	1217/65	1817/65
FIXED GUNS/AMMUNITION		None			
FLEXIBLE GUNS/AMMUNITION		None			
ENGINE POWER USED FOR PERFORMANCE		MILITARY † JET	MILITARY	NORMAL	NORMAL
WING LOADING	LBS./SQ.FT.	57.0	57.0	57.0	61.7
POWER LOADING ①	LBS./BHP.		21.5	26.5	28.6
V-MAX. SEA LEVEL.	KN	329	264	239	234
V-MAX. / CRITICAL ALT.	KN/FT.	405/35000	341/30000	299/30000	281/30000
V-STALL GROSS WEIGHT ②	KN	92.8	92.8	92.8	96.6
V-STALL WITHOUT FUEL ②	KN	85.4	85.4	85.4	85.7
TIME-TO-CLIMB -10000 FT.-	MIN.	3.8	7.0	11.1	13.5
TIME-TO-CLIMB -20000 FT.-	MIN.	8.0	15.4	25.5	32.7
SERVICE CEILING	FT.	41100	36100	34700	30100
TAKE-OFF DISTANCE (4) -CALM-	FT.	(1050)	1428	1428	1758 (1269)
TAKE-OFF DISTANCE (4) -15 KN-	FT.	(727)	988	988	1238 (894)
TAKE-OFF DISTANCE (4) -25 KN-	FT.	(540)	734	734	932 (673)
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF TIME	SECONDS				
RATE OF CLIMB -SL-	FT./MIN.	2690	1530	990	820
MAX. RANGE / V-AV. ③	NMI. / KN			1340/165	1930/164
RANGE / V-AV. -60%NSP-③-	NMI. / KN				
SEARCH RADIUS / V-AV. -20%R-	NMI. / KN.				
A.S.W. RADIUS / V-AV. -20%R-	NMI. / KN.				
SCOUT RADIUS	N MI.				
COMBAT RADIUS	N MI.				695

ENGINE / PROP GEAR RATIO 2 - P & W R-2800-44/35

ENGINE RATING BHP/RPM/ALT.	MILITARY	NORMAL	TAKE-OFF
	BHP/RPM/ALT.	BHP/RPM/ALT	BHP/RPM/ALT
	2300/2800/SL 2215/2800/30000	1800/2600/SL-34000	2300/2800/SL

1 - Allison J -33 -19 Turbo Jet
Military Rating (T.O. Dry) = 4000# / S.L.

	TANKAGE IN GALLONS	OIL	FUEL	ARMAMENT
FIXED	PROTECTED	65	1217	Fuselage Bomb Bay (Internal)
	UNPROTECTED (5)	80	1500	
	TOTAL - FIXED INTERNAL	145	2717	
AUX.	DROPPABLE -On Wings - 2 at			1 - 10500 lb. Bomb
	DROPPABLE 300 gals. each		600	
TOTAL	145	3317		

NOTE	
①	BHP AT MAX. CRIT. ALT.
②	STALL-WITHOUT POWER
③	AT 1500' ALTITUDE
④	FIG. IN PARENTHESIS DENOTE EFFECT OF TAKE-OFF POWER PLUS JET

(5) 2 TANKS AT ESTIMATED 750 GALS. EACH, ALTERNATE WITH BOMB.

8032

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Combat Radius: Condition No. (4);

- (a) Warm-up and idle using both types of engines and internal protected fuel as follows:
- (1) Conventional engines -- 20 min. at $\frac{1}{2}$ rated R.P.M. on propeller load curve.
 - (2) Turbo-jet engine -- 30 sec. at rated take-off thrust.
- (b) Take-off using both types of engines and internal protected fuel as follows:
- (1) Conventional engines -- 1 min. at rated T.O. power.
 - (2) Turbo-jet engine -- 30 sec. at rated T.O. thrust.
- (c) Climb to 25000 ft., using conventional engines only, at normal rated power, with normal mixture and unprotected fuel, at speed for maximum rate of climb.
- (d) Cruise-out at 25000 ft. at speed for maximum range using conventional engines only with normal mixture and unprotected fuel.
- (e) Drop unprotected droppable tanks.
- (f) Climb to 30000 ft., using conventional engines only, at normal rated power, with normal mixture, at speed for maximum rate of climb, so that climb is completed when distance to target is 100 statute miles.
- (g) Cruise-out at 30000 ft. at speed for maximum range using conventional engines only, with normal mixture, for 50 statute miles; for remaining 50 statute miles cruise-out using military rated power of the conventional engines and rated thrust of the turbo-jet engine.
- (h) Drop bomb and cruise-back at 30000 ft. for 50 statute miles using military rated power of the conventional engines and rated thrust of the turbo-jet engine.
- (i) Descend to 10000 ft. assuming no fuel consumed or distance gained.
- (j) Cruise-back at 10000 ft. at speed for maximum range using conventional engines only with normal mixture.
- (k) 60 min. cruise at 1500 ft. at speed for maximum endurance using conventional engines only with normal mixture.

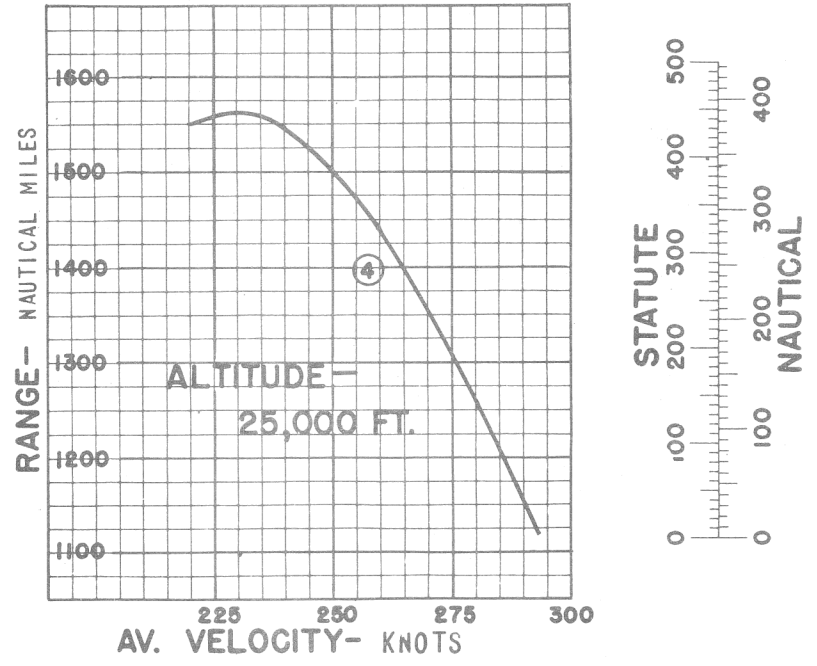
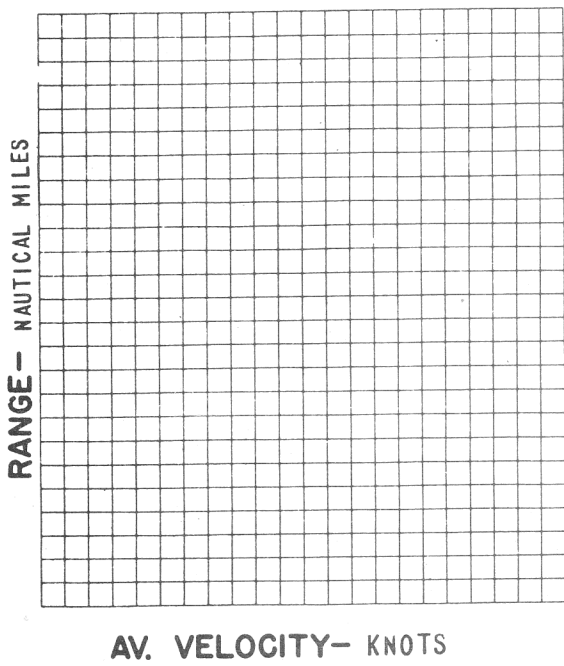
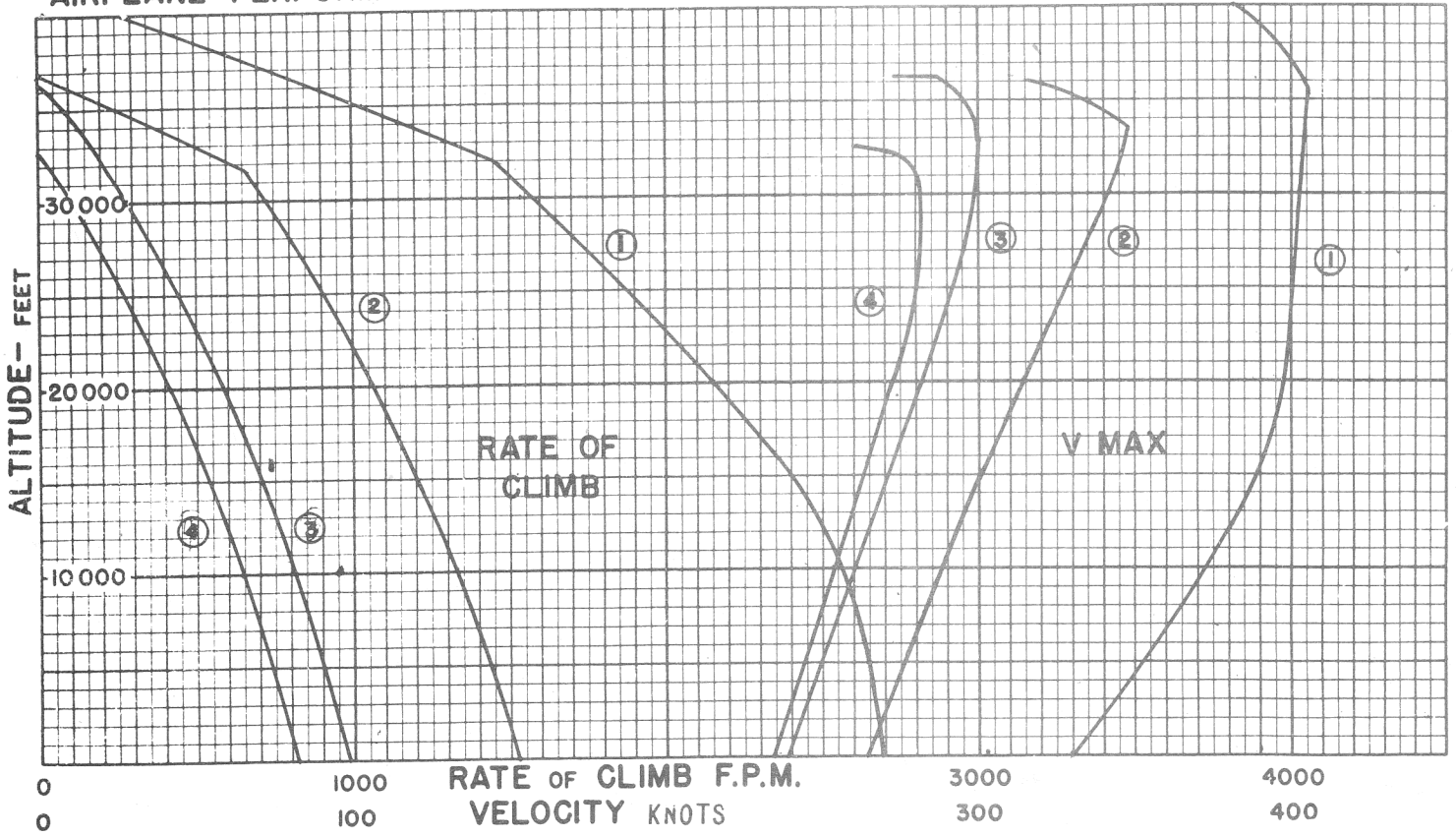
Notes:

Performance is based on calculations. Range and radius are based on conventional engine specification fuel consumption data increased 15 percent and turbo-jet preliminary engine specification fuel consumption data increased 7.5 percent to conform with past experience.

AIRPLANE PERFORMANCE

NAVAER - 1335 C

BUREAU OF AERONAUTICS, NAVY DEPT.



○ LOADING CONDITION COLUMN NUMBER

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

The XAJ-1 airplane is a high wing, two place (single cockpit) bomber, propelled by two turbo-supercharged conventional engines and one turbo-jet engine. It is carrier based, has folding wings and vertical stabilizer, tricycle landing gear, bomb bay in the fuselage, and has provisions for catapulting and wing-tip tanks.

Span (without tip tanks)	71'-5"
Span (with tip tanks)	75'-0"
Span (folded)	49'-4"
Height (3 pt.)	20'-5"
Height (3 pt.-vert. stab. folded)	16'-0"
Length (3 pt.)	62'-0"
Wing area	835.5 sq. ft.
Airfoil section	NACA 64-212
Propeller - Hamilton Std. C.S.-	15'-1" dia, 4 blades
	Blade design No. 2H17A3-24

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

WING AREA - 835.45 SQ. FT.
WING SECTION -
N.A.C.A. 64, -212
M.A.C. -149.14

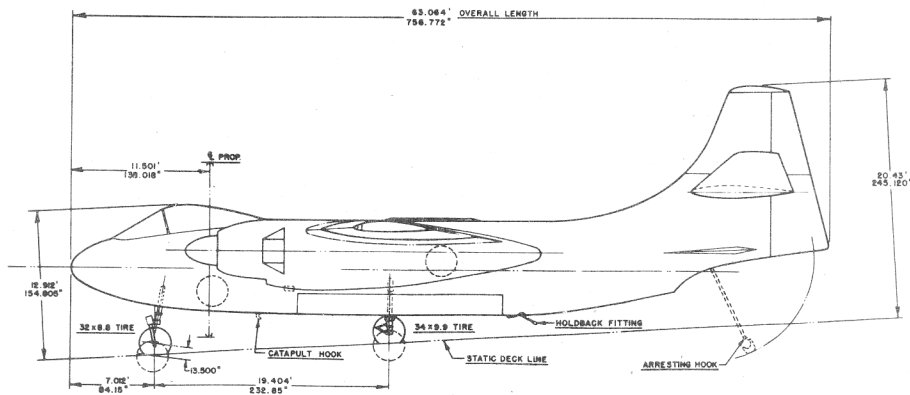
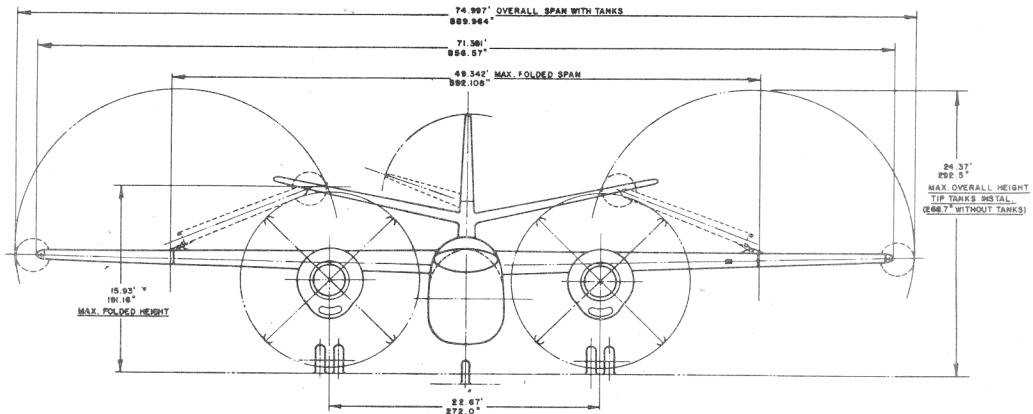
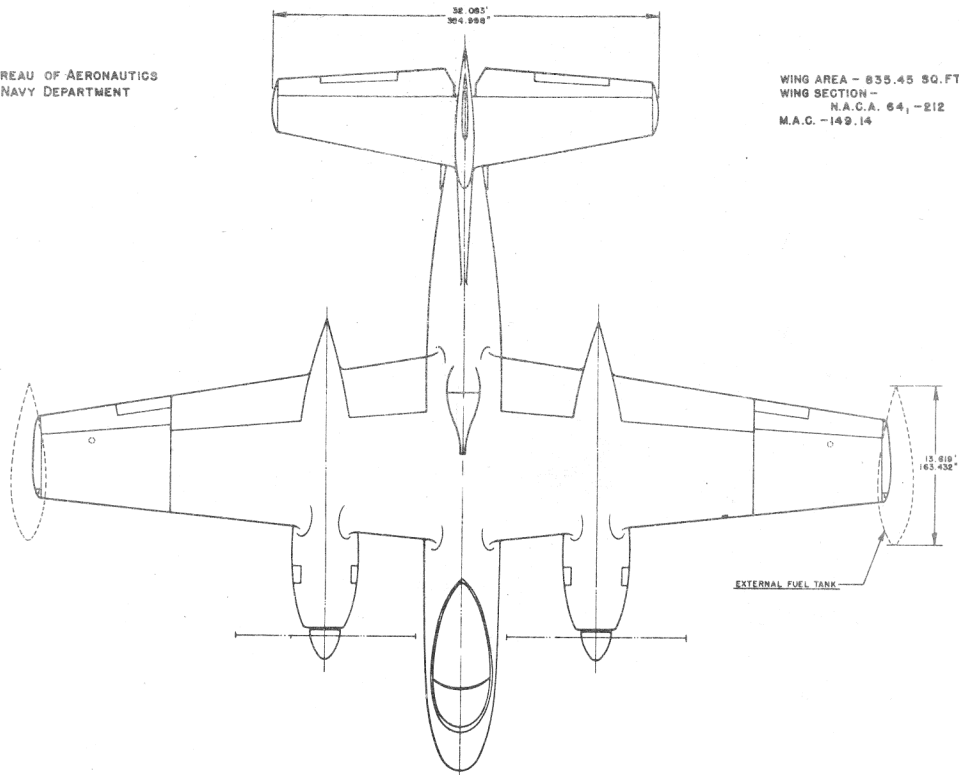


FIG.
MODEL XAJ-1

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

▨ SELF-SEALING TANKS
⊠ NON SELF-SEALING TANKS

WEIGHTS
1. OIL TANKS 49.52 LBS.
2. SELF-SEALING CELLS 627.56 LBS.
3. TIP TANKS 350.00 LBS.

FUEL TANK CAPACITY
MAXIMUM INTERNAL 1217 GALS.
MAXIMUM 1817 GALS.

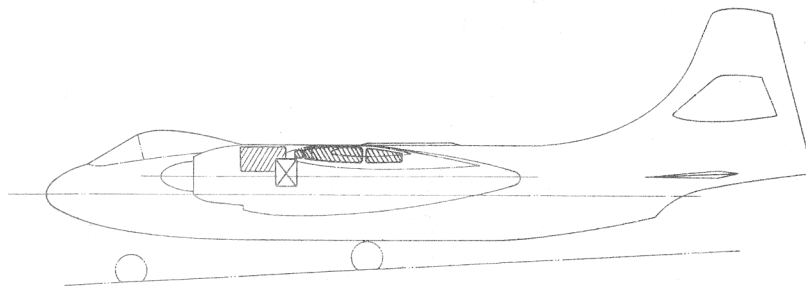
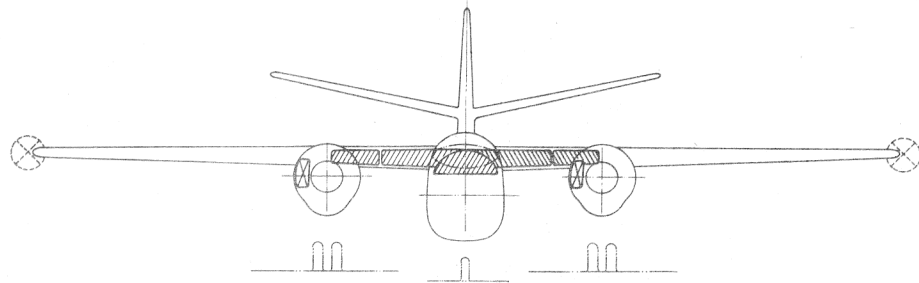
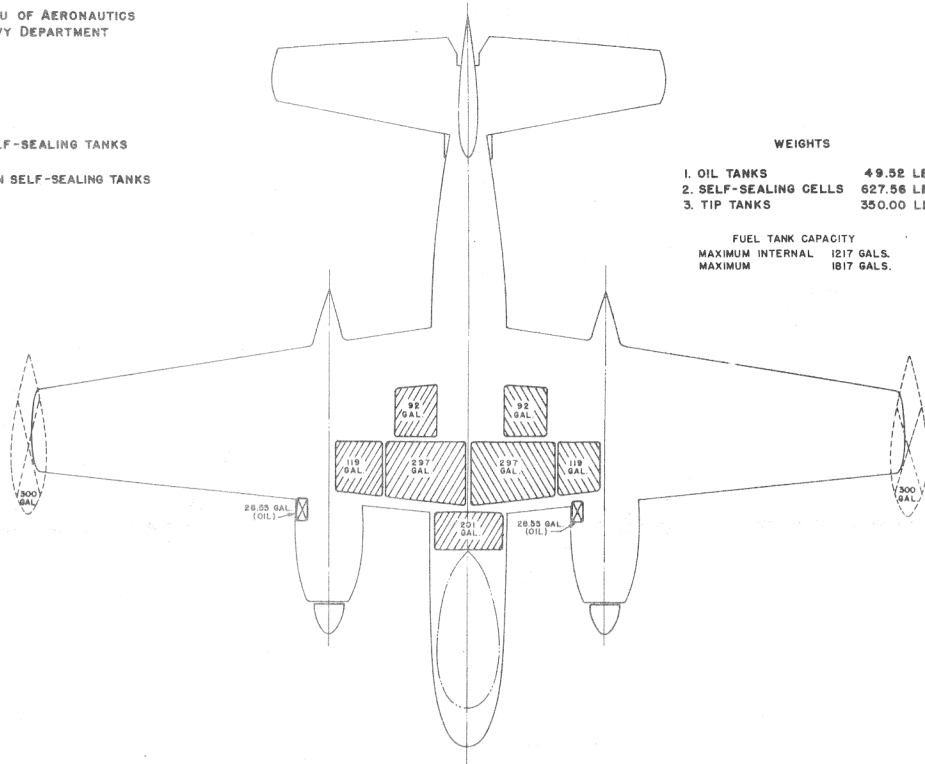


FIG.