

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		1		
LOADING CONDITION		TRAINER 2 PASSENGERS.		
GROSS WEIGHT	LBS.	2537		
EMPTY WEIGHT	ACTUAL LBS.	2020		
FUEL/OIL	GALS.	14/3		
FIXED GUNS/AMMUNITION		None		
FLEXIBLE GUNS/AMMUNITION		None		
ENGINE POWER USED FOR PERFORMANCE		NORMAL		
DISC LOADING (1)	LBS/SQ.FT.	2.24		
POWER LOADING (NORMAL POWER)	LBS/BHP	14.1		
V-MAX SEA LEVEL	KN	65		
MAX. RATE OF CLIMB - S.L.	FT./MIN	780	Note:	
BEST CLIMBING SPEED - S.L.	KN	35	1 - man crew, 30 gal. fuel reduces gross weight to 2433#	Max. Range/V-AV
VERT. RATE OF CLIMB - S.L.	FT./MIN	--	125 NM/52 Kn	
TIME TO CLIMB - 5000 FT (2)	MIN	8.7		
TIME TO CLIMB - 10000 FT (2)	MIN	--		
SERVICE CEILING	FT	8200		
ABS HOVERING CEILING (4)	FT	--		
MAX. RANGE/V-AV (3)	NMI./KN	57/52		
MAX. ENDURANCE/V-AV (3)	HRS./KN	1.2/41		

NOTE: All performance figures are based on standard atmospheric conditions with no wind. Sea level data do not include ground effect. All performance, particularly hovering and climb, are adversely affected by an increase in temperature and relative humidity. Hovering and climb performance are improved by ground effect (at altitudes less than one rotor diameter above the ground). Hovering and climb performance are also materially improved by light horizontal winds of the order of 5 - 10 knots.

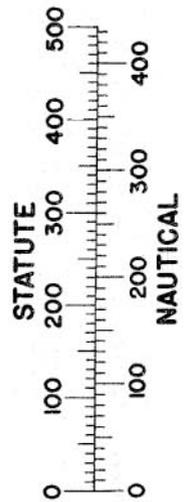
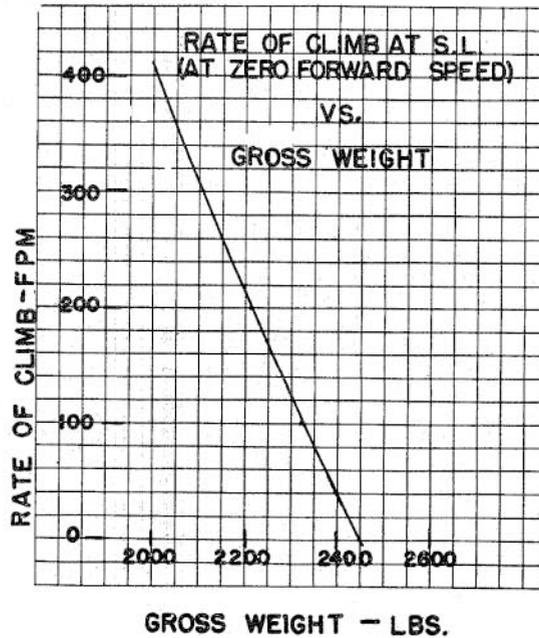
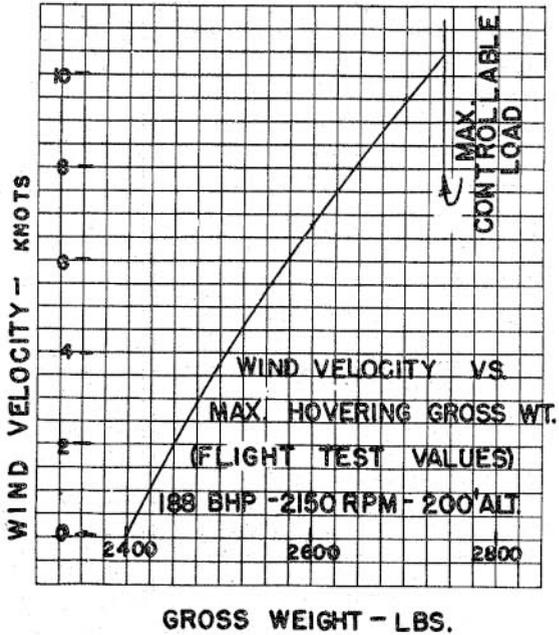
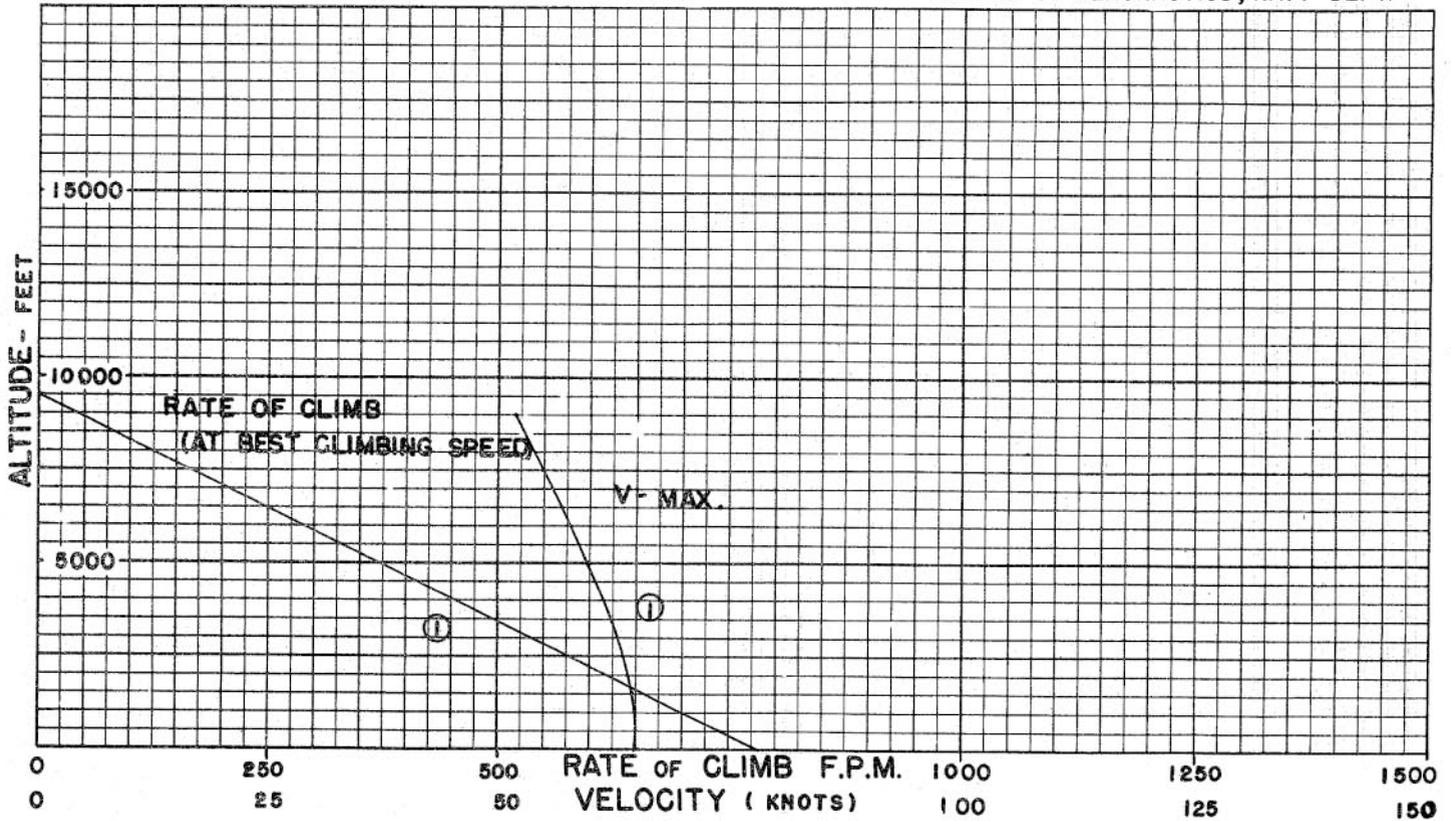
ENGINE ROTOR GEAR RATIO WARNER R-550 - 3/9.35:1

ENGINE RATING
BHP/RPM/ALT.

NORMAL	TAKE-OFF
180/2100/S.L.	200/2475/S.L.

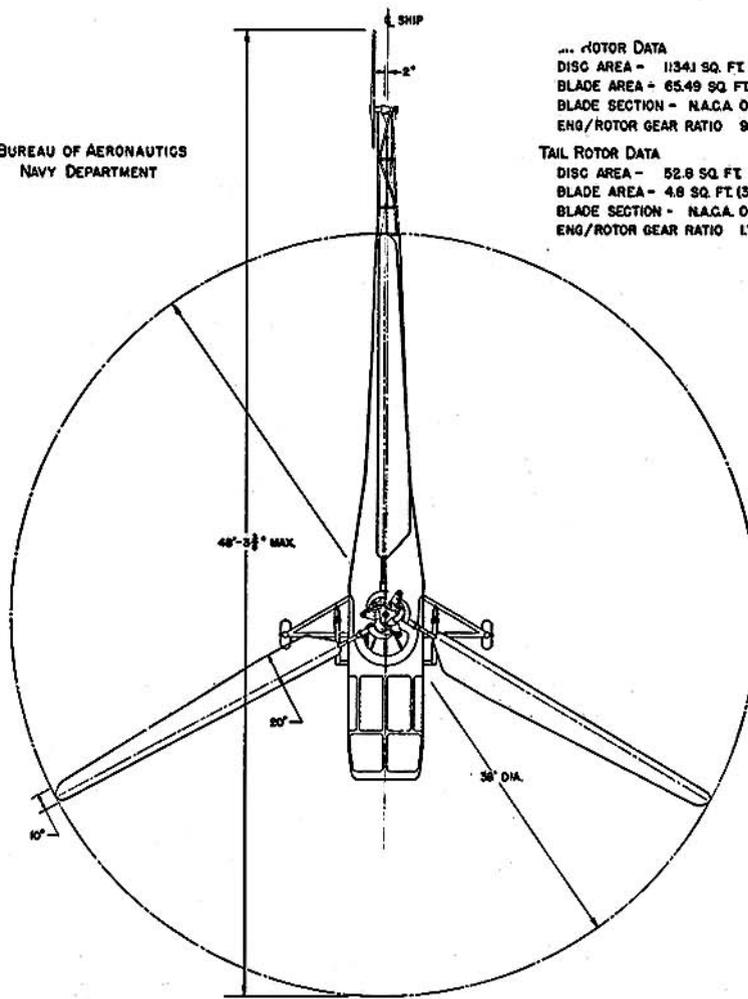
Ratings do not include the deduction of cooling fan power losses.

TANKAGE IN GALLONS		OIL	FUEL	OFFENSIVE ARMAMENT
AUX. FIXED	PROTECTED			3 - 100# demolition bombs (basic provisions only)
	UNPROTECTED	3	30	
	TOTAL - FIXED INTERNAL	3	30	
	DROPPABLE			
	DROPPABLE			
TOTAL		3	30	
NOTE				CHARACTERISTICS
				Three-bladed, single rotor, tricycle landing gear.
				2 - place trainer helicopter.
				NOTE:
(1) BASED ON PROJECTED DISC AREA			PERFORMANCE based on Flight Test of HNS-1 Helicopter	
(2) AT MAX. RATE OF CLIMB			RANGE is based on flight test fuel consumption data.	
(3) AT 1500' ALTITUDE			increased 5 percent to conform with past experience.	
(4) AT TAKE OFF BHP				



○ LOADING CONDITION COLUMN NUMBER

BUREAU OF AERONAUTICS
NAVY DEPARTMENT



... ROTOR DATA
DISC AREA - 11341 SQ. FT.
BLADE AREA - 65.49 SQ. FT. (3 BLADES)
BLADE SECTION - N.A.C.A. 0012.5
ENG./ROTOR GEAR RATIO 9.35 TO 1

TAIL ROTOR DATA
DISC AREA - 52.8 SQ. FT.
BLADE AREA - 4.8 SQ. FT. (3 BLADES)
BLADE SECTION - N.A.C.A. 0012
ENG./ROTOR GEAR RATIO 1.76 TO 1

