



STANDARD AIRCRAFT CHARACTERISTICS

HTL - 3

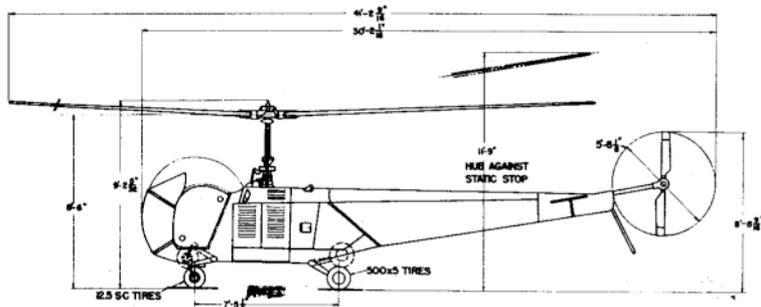
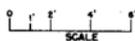
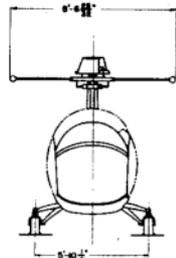
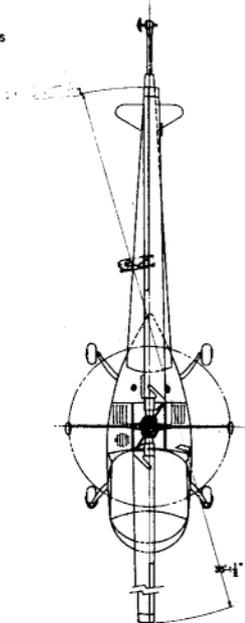
BELL

Standard Aircraft Characteristics HAVAER 1335A (REV. 1-49)

SERVICE

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

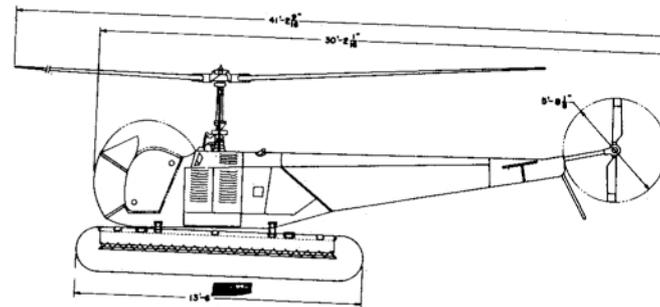
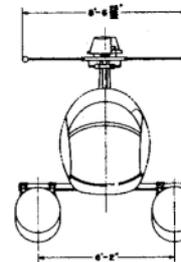
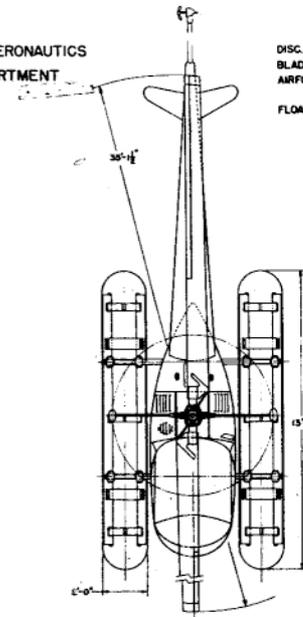
DISC AREA 1965 SQ.FT.
BLADE AREA (2) 35.34 SQ.FT.
AIRFOIL SECTION - ROOT NACA 0017
TIP NACA 0011



DESCRIPTIVE ARRANGEMENT

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

DISC AREA 965 SQ. FT.
BLADE AREA (2) 35.34 SQ. FT.
AIRFOIL SECTION - ROOT NACA 0017
TIP NACA 0011
FLOAT DISPLACEMENT (TOTAL) 5150 LBS.



DESCRIPTIVE ARRANGEMENT

Standard Aircraft Characteristics NAVAER 1335B (REV. 1-49)

MISSION AND DESCRIPTION

The HTL-3 helicopter is intended for training purposes.

It is similar in general configuration and rotor dimensions to the HTL-2 helicopter, but has a 200 HP engine in place of the 178 HP engine which is used in HTL-2 and also a weight increase due to internal changes and an increase in useful load.

The HTL-3 is a two place, single engine helicopter equipped with a two-bladed main rotor with a gyroscopic action stabilizer bar. The main rotor is of the see-saw type, the blade being rigidly interconnected by means of the hub except that each blade is separately journaled to the hub for pitch change.

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY.....	1,644.....	
BASIC.....	1,656.....	
DESIGN.....	2,350.....	2.5
MAX.T.O.....	2,350.....	2.5
MAX.LAND.....	2,350.....	

Empty and basic weights for normal configuration. Floats add 61 pounds. All weights are actual.

FUEL AND OIL

Gals.	No. Tanks	Location
33	2	Fuselage

FUEL GRADE.....80
FUEL SPEC.....AN-F-48

OIL

CAPACITY (Gals.).....3.2
GRADE.....1080
SPEC.....AN-O-8

POWER PLANT

NO. & MODEL.....(1) O-335-2
MFR.....Aircooled Motors
ROTOR GEAR RATIO.....0.111
TAIL ROTOR RATIO.....0.60

RATINGS

Bhp @ Rpm @ Alt.
NORMAL 200 3,100 S. L.

SPEC. NO. 18980

ACCOMMODATIONS

CREW.....2

DIMENSIONS

DISC AREA.....965 sq. ft.
BLADE DIA.....35' - 2"
LENGTH.....41' - 3"
HEIGHT*.....11' - 3"
TREAD.....5' - 11"
BLADE AREA.....35 sq. ft.

* Blades in stowed position.

ELECTRONICS

RECEIVER.....R-23/ARC-5
TRANSMITTER.....T-19/ARC-5



PERFORMANCE SUMMARY					
LOADING CONDITION		(1) TRAINER 2 Place Normal Config.	(2) TRAINER 2 Place Float Config.	(3) TRAINER 2 Place Normal Config.	(4) TRAINER 2 Place Float Config.
TAKE-OFF WEIGHT	lbs.	2,280	2,341	2,350	2,350
Fuel	lbs.	200	200	200	200
Pay Load	lbs.	200	200	270	209
Engine Power	bhp/rpm.	200/3,100	200/3,100	200/3,100	200/3,100
Disc Loading	lbs./sq.ft.	2.4	2.4	2.4	2.4
Power Loading	(A) lbs./bhp.	11.4	11.7	11.8	11.8
Maximum Speed-S.L.	(B) kn.	85	78	85	78
Maximum Speed/Alt.	(B) kn./ft.	87/1,600	78/S.L.	86/900	78/S.L.
Rate of Climb-S.L.	(B) ft./min.	920	640	840	640
Speed for Rate of Climb-S.L.	(B) kn.	39	39	39	39
Time-to-Climb 5,000 ft.	(B) min.	6.9	11.5	7.9	11.5
Time-to-Climb 10,000 ft.	(B) min.	22.1	--	28.8	--
Service Ceiling	(B) ft.	11,000	7,500	10,000	7,500
Vertical Rate of Climb-S.L. (B/C) ft./min.		--	--	--	--
Abs. Hover Cell. No-Grd. Effect (B/C) ft.		--	--	--	--
Abs. Hover Cell. In Grd. Effect (B/C) ft.		600	--	--	--
Combat Range/Vav 1,500 ft.	n.mi./kn.	141/70	116/63	137/70	116/63
Max. Endur./Vav 1,500 ft.	hr./kn.	2.4/45	2.2/44	2.3/45	2.2/44

NOTES

- (A) BHP at Maximum Critical Altitude
 (B) Normal BHP
 (C) Take-Off Power

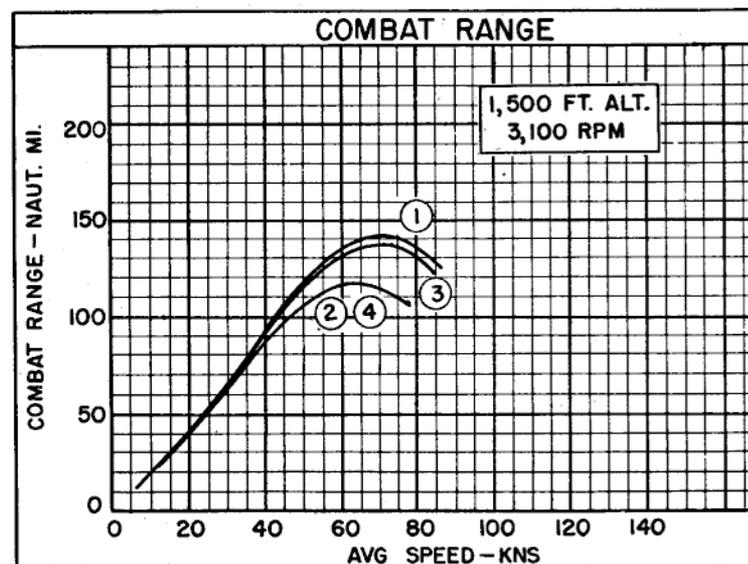
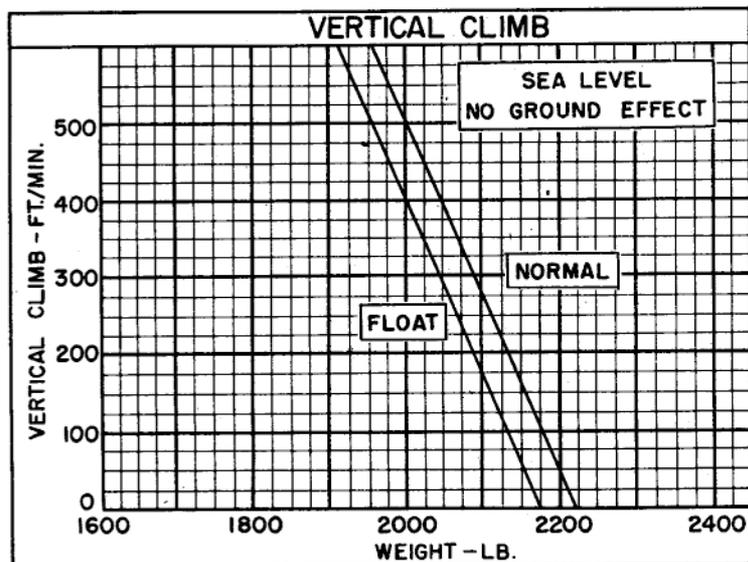
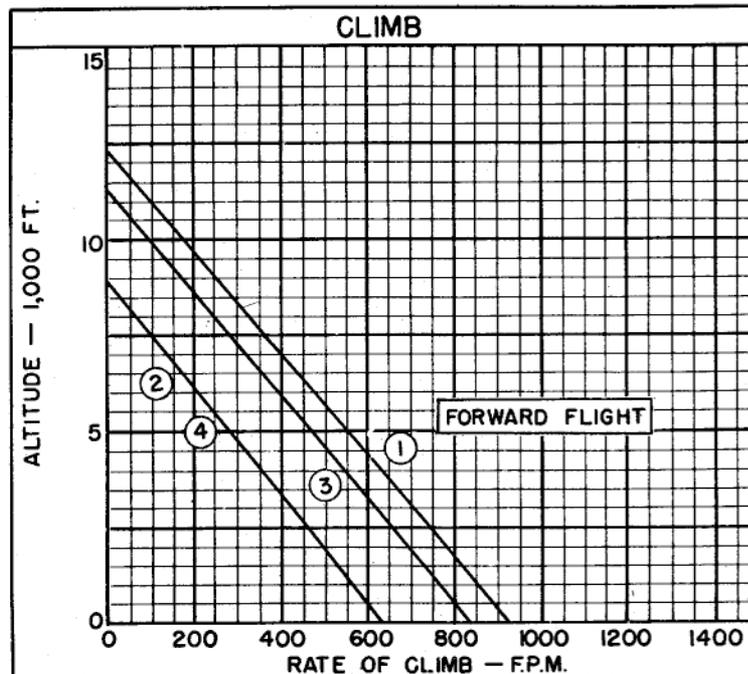
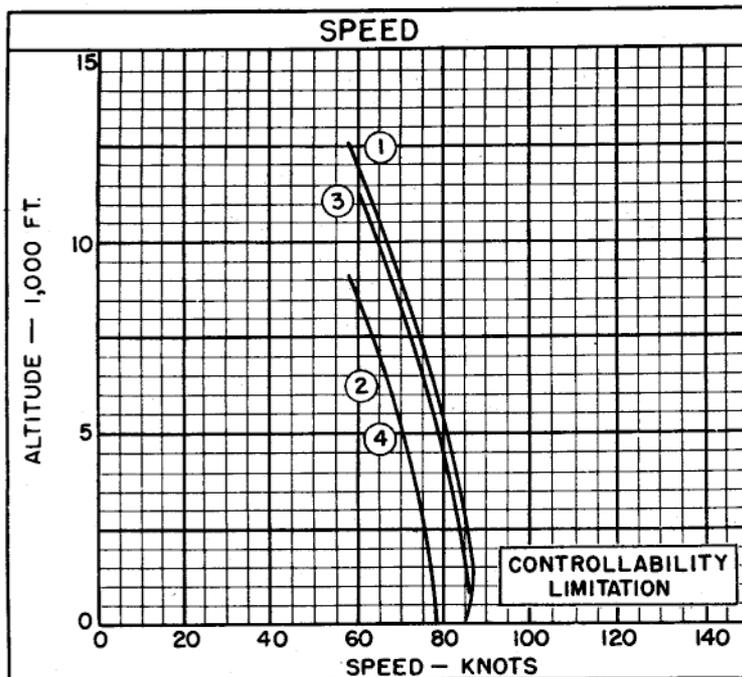
Performance is based on NATC flight test of HTL-1 and HTL-2 helicopters.

Combat range and maximum endurance are based on engine specification fuel consumption data increased by 5% and allowing fuel for warm-up and take-off and a 10% fuel reserve.

CAA never-exceed airspeed = 85 knots EAS.

All performance is based on 3,100 RPM.

Performance in ground effect is based on the assumption that rotor disc is one radius above ground.



○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics NAVAER 1335E (REV. 1-49)