STANDARD AIRCRAFT CHARACTERISTICS

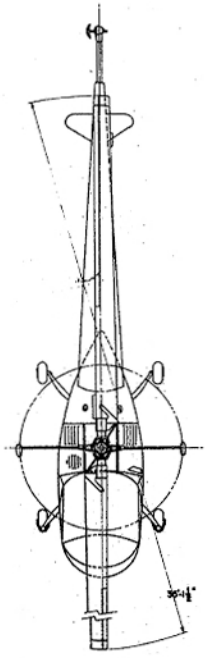
HTL-2

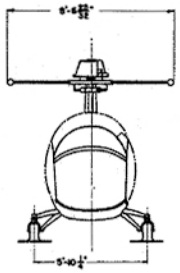
BELL

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

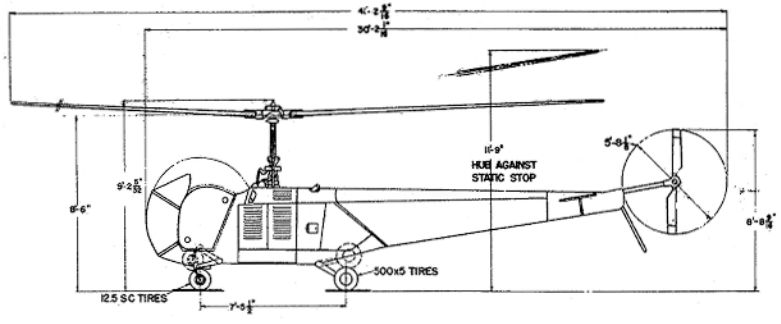
BUREAU OF AERONAUTICS
NAVY DEPARTMENT

DISC AREA 965 SQ.FT.
BLADE AREA (2) 35.34 SQ.FT.
AIRFOIL SECTION - ROOT NACA 0017
TIP NACA 0011





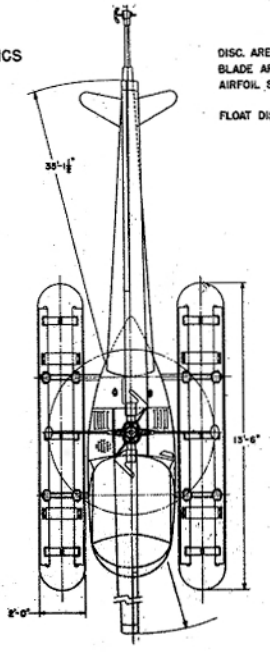
SCALE 0 1' 2' 4' 6'

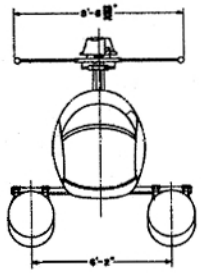


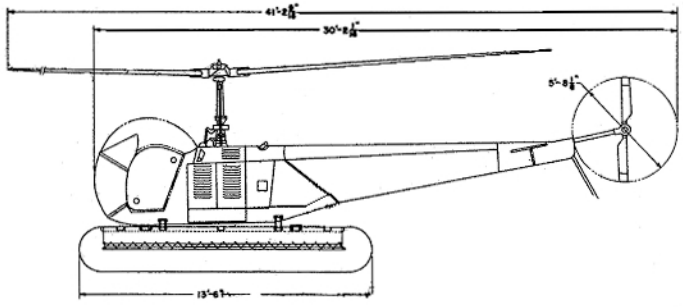
DESCRIPTIVE ARRANGEMENT

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.







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

MISSION AND DESCRIPTION

The HTL-2 helicopter is intended for training purposes.

It 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 blades being rigidly interconnected by means of the hub except that each blade is separately journaled to the hub for pitch change.

It is capable of operation on the water when equipped with float-type alighting gear.

Major improvements over the HTL-1 helicopter include improved engine cowling, change from constant speed rotor governor to a throttle cam control, addition of main rotor brake and parking brakes, and a split type bubble canopy to permit operation with an open cockpit with windshield for warm weather.

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY	1,579	
BASIC	1,591	
DESIGN	2,200	2.5
MAX.T.O.	2,200	2.5
MAX.LAND	2,200	

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

POWER PLANT

NO. & MODEL.....(1) O-335-3
MFR.....Aircooled Motors
ROTOR GEAR RATIO.....0.111
TAIL ROTOR RATIO.....0.60

RATINGS

	Bhp @	Rpm @	Alt.
NORMAL	178	3,000	S.L.

SPEC. NO. 18409

FUEL AND OIL

Gal.	No. Tanks	Location
32	2	Fuselage

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

OIL

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

ACCOMMODATIONS

CREW.....2

DIMENSIONS

DISC AREA.....969 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-26/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 1 Place Normal Config.	(4) TRAINER 1 Place Float Config.
TAKE-OFF WEIGHT	lbs.	2,200	2,200	2,007	2,068
Fuel	lbs.	185	124	192	192
Pay Load	lbs.	200	200	--	--
Engine Power	bhp/rpm.	178/3,000	178/3,000	178/3,000	178/3,000
Disc Loading	lbs./sq.ft.	2.27	2.27	2.07	2.13
Power Loading (A)	lbs./bhp.	12.4	12.4	11.3	11.6
Maximum Speed-S.L. (B)	kn.	80	72	80	76
Maximum Speed/Alt. (B)	kn./ft.	81/1,100	72/S.L.	83/2,900	76/S.L.
Rate of Climb--S.L. (B)	ft./min.	800	570	1,130	800
Speed for Rate of Climb--S.L. (B)	kn.	39	39	39	39
Time-to-Climb 5,000 ft. (B)	min.	8.5	12.9	5.6	8.5
Time-to-Climb 10,000 ft. (B)	min.	36.9	--	16.9	36.9
Service Ceiling (B)	ft.	9,400	7,100	11,900	9,400
Vertical Rate of Climb--S.L. (B/C)	ft./min.	--	--	15	--
Abs. Hover Ceil. No Grd. Effect (B/C)	ft.	--	--	150	--
Abs. Hover Ceil. In Grd. Effect (B/C)	ft.	--	--	1,900	150
Combat Range/Vav 1,500 ft.	n.mi./kn.	128/66	70/64	145/70	122/64
Max. Endur./Vav 1,500 ft.	hr./kn.	2.2/43	1.3/40	2.4/43	2.3/40

NOTES

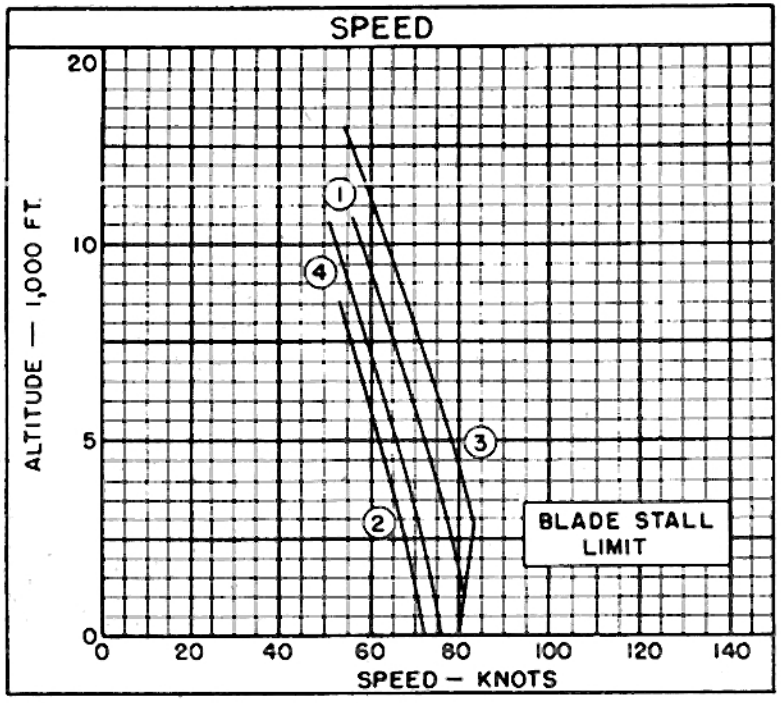
(A) BHP at Maximum Critical Altitude
(B) Normal BHP
(C) Take-Off Power

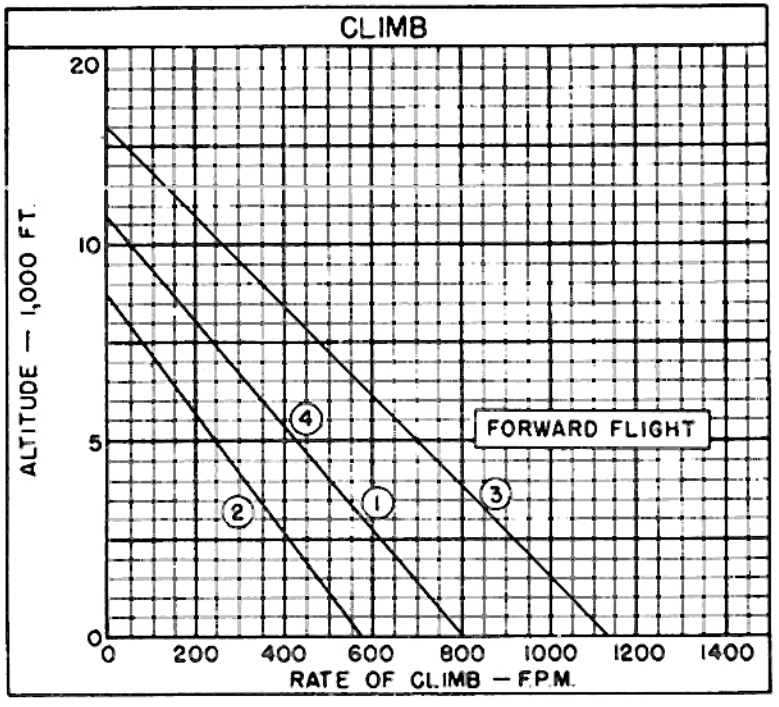
Performance is based on flight test of HTL-1 and HTL-2 helicopters.

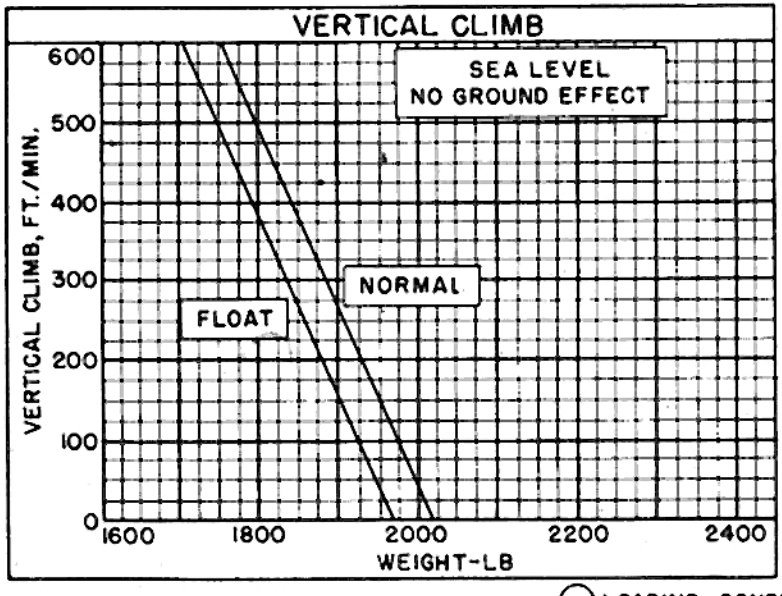
Combat range and maximum endurance are based on engine specification fuel consumption data increased by 5% and allowing fuel for warm-up and take-off and a 10% fuel reserve.

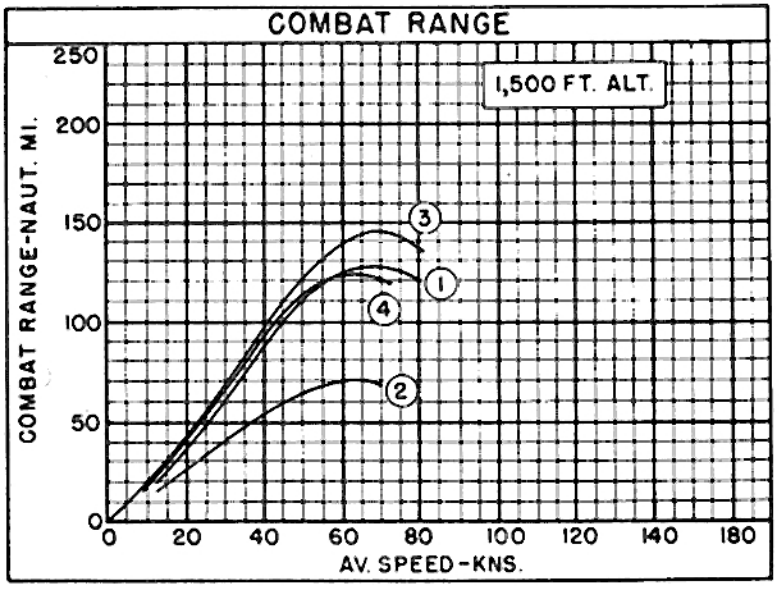
All performance is based on 3,000 RPM.

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









◯ LOADING CONDITION COLUMN NUMBER