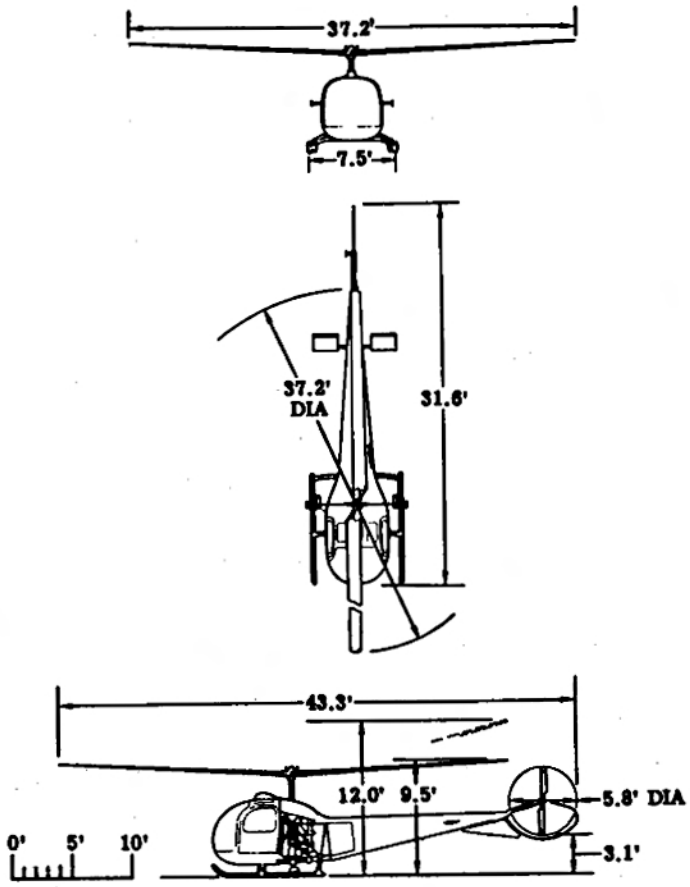
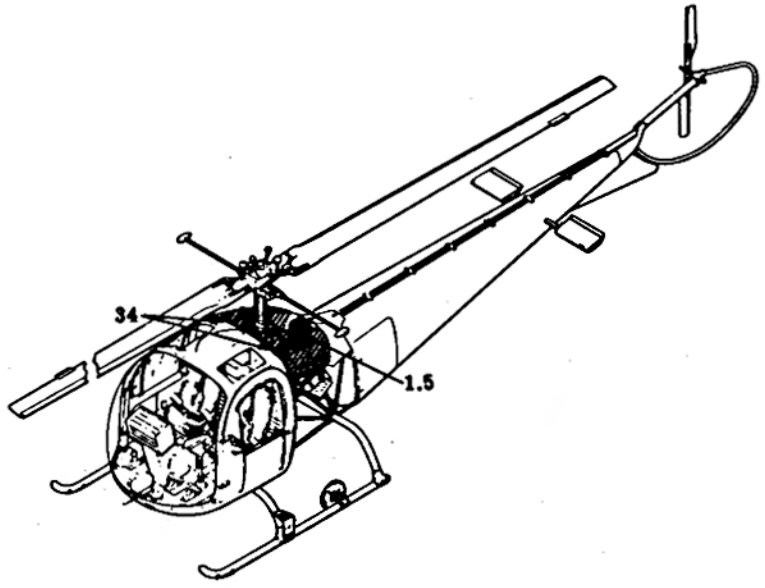
STANDARD AIRCRAFT CHARACTERISTICS

TH-13N

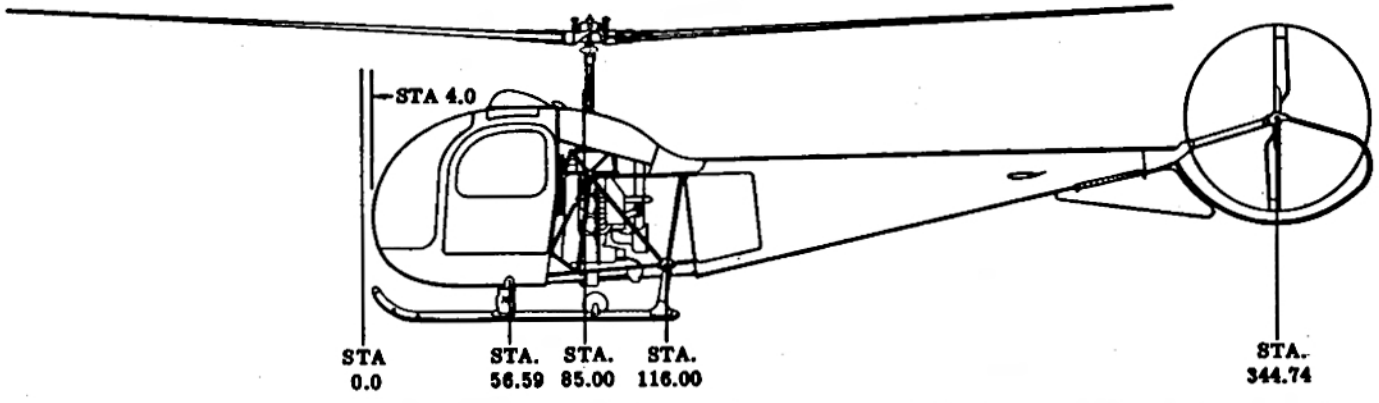


Disc Area	1085 sq. ft.	Airfoil Section	
Blade Area	34.2 sq. ft.	(root)	NACA 0016
		(tip)	NACA 0012
		Chord (root)	14.0"
		(tip)	10.0"



Fuel (Gal)

Oil (Gal)



POWER PLANT

No. and Model.....(1) VO-435-6
Manufacturer.....Lycoming
Main Rotor Gear Ratio.....0.111
Tail Rotor Gear Ratio.....0.600

RATINGS

	BHP @	RPM @	ALT
Take-off (5 Min)	240	3200	1300
Normal	220	3200	3800

Spec. No. 2207-B

ACCOMMODATIONS

Pilot.....1
Passenger.....1

or

Instructor.....1
Student.....1

MISSION AND DESCRIPTION

The basic mission of the HTL-7 is to train pilots for both primary and instrument flight.

The HTL-7 has a two-blade semi-rigid rotor with a stabilizer bar, and a two-blade semi-rigid tail rotor mounted on a delta hinge. The rotor, transmission and engine are suspended as a unit on rubber mounts in the fuselage. Mechanically the HTL-7 is nearly identical to the HUL-1. The fuselage is semi-monocoque except for the engine compartment, or center frame, which is of steel tube construction.

The control system has conventional dual controls, with full hydraulic motivation on the cyclic stick, and direct mechanical linkage to the rotor. The cabin has a military standard arrangement in all respects with side by side seating. Blind flying is possible using the A.C. powered gyro horizon and gyro stabilized compass. The stand-by blind flying instruments include a D.C. turn and slip indicator, a barometric rate of climb indicator, and a magnetic compass. A radio system is provided to permit communication and radio navigation. The landing gear is of the skid type with small handling wheels.

DEVELOPMENT

First Flight.....December 1957
Service Use.....February 1958

WEIGHTS

Loading	Weight
Empty	1892
Basic	1916
Design	2565
Maximum T.O.	2565

All weights are actual

FUEL AND OIL

No. of Tanks	Gals.	Location
2	35	Fuselage

Grade.....91/96
Specification.....MIL-F-5572

OIL

Capacity (Gals).....3
Grade.....1065/1100
Specification.....MIL-L-6082

DIMENSIONS

Disc Area.....1085 sq. ft.
Rotor Dia.....37'.2 sq. ft.
Blade Area.....34'.2 sq. ft.
Length (Fuselage).....31'.6 sq. ft.
Height.....9' 6"
Tread.....7' 6"

ELECTRONICS

UHF.....ARC-TYPE 12
UHF RECEIVER.....R-19
UHF TRANSVERTER.....TV-10
UHF RELAY OSCILLATOR UNIT.....K-13
ADF RADIO.....AN/ARN-41A

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION			(1) TRAINER 1 pilot 1 student	(2) TRAINER 1 pilot 1 passenger+cargo			
TAKE-OFF WEIGHT		lb.	2450	2565			
Fuel		lb.	210	210			
Payload		lb.	170	285			
Disc loading		lb./sq.ft.	2.26	2.36			
Vertical rate of climb at S.L.	(A) /(B)	fpm.	700/220	525/25			
Absolute hovering ceiling	(B)	ft.	(C) 4400/7725	(C) 200/6400 (D)			
Max. rate of climb at S.L.	(B)	fpm.	835	680			
Service ceiling (100 fpm)	(B)	ft.	15,750	13,800			
Speed at S.L.	(B)	kn.	82	81			
Max. speed/altitude	(B)	kn./ft.	83/3500	82/3500			
Max. range	(B)	n.mi.	130	125			
Average cruising speed		kn.	72	72			
Cruising altitude		ft.	S.L.	S.L.			
Max. endurance		hrs.	2.2				
Average cruising speed		kn.	40				
Cruising altitude			S.L.				

NOTES

(A) MILITARY POWER (5 min. limit)
(B) NORMAL POWER
(C) IN GROUND EFFECT
(D) OUT OF GROUND EFFECT

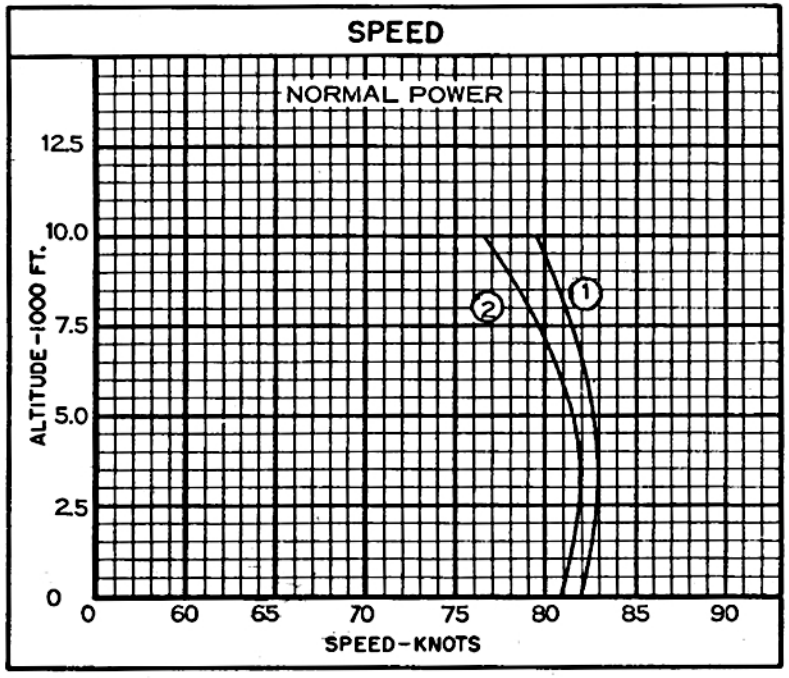
Performance is based on NATESTCEN evaluation of the Model HTL-7 Helicopter
Range and Endurance are based on NATESTCEN fuel consumption test of the Model HTL-7 Helicopter
All performance data presented is for the skid gear configuration

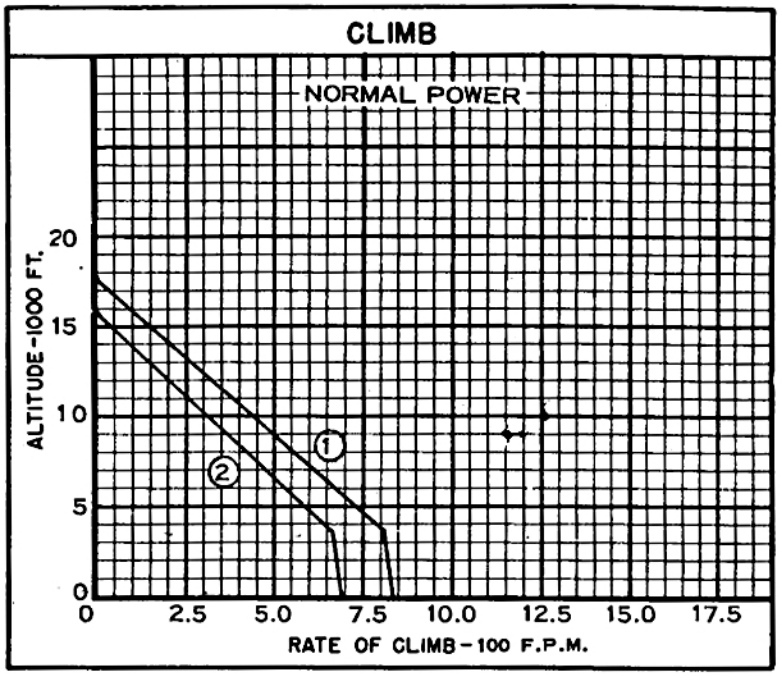
Maximum Range Mission

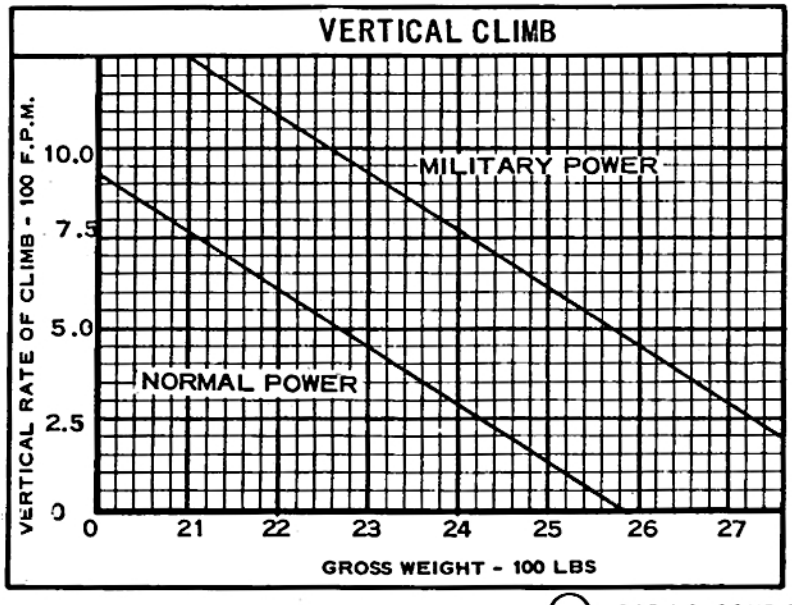
Warm-up and take-off: 5 minutes at Normal Rated Power
Cruise out: At speed for maximum range at sea level
Reserve: 10% of initial fuel load

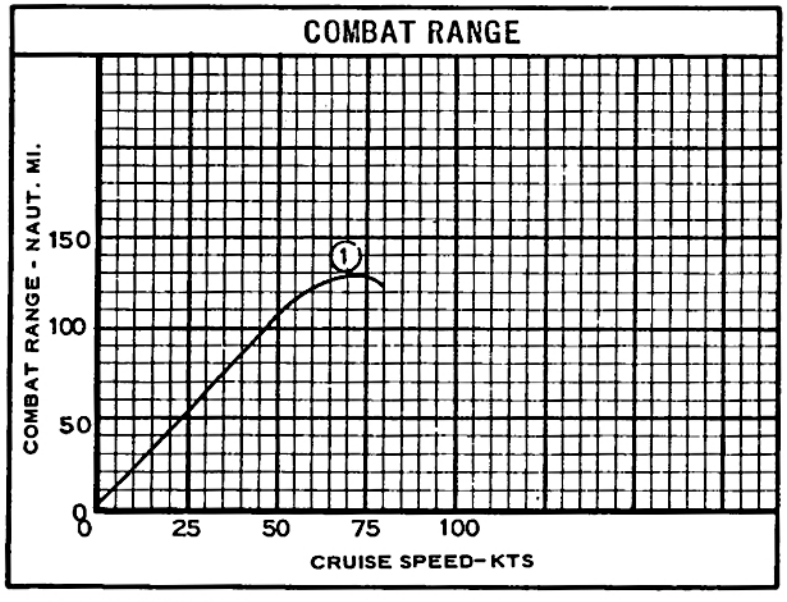
Maximum Endurance Mission

Warm-up and Take-off: 5 minutes at Normal Rated Power
Cruise out: At speed for maximum endurance at sea level
Reserve: 10% of initial fuel load









◯ LOADING CONDITION COLUMN NUMBER