

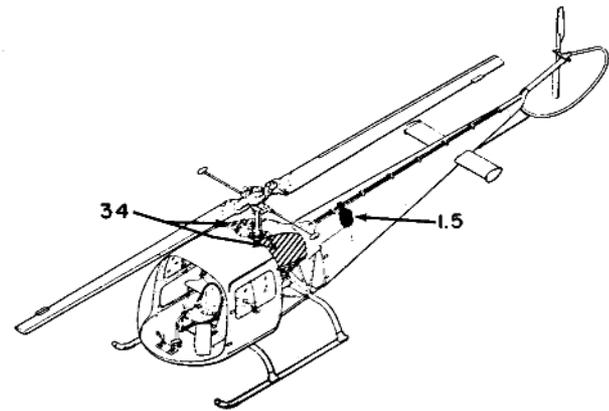
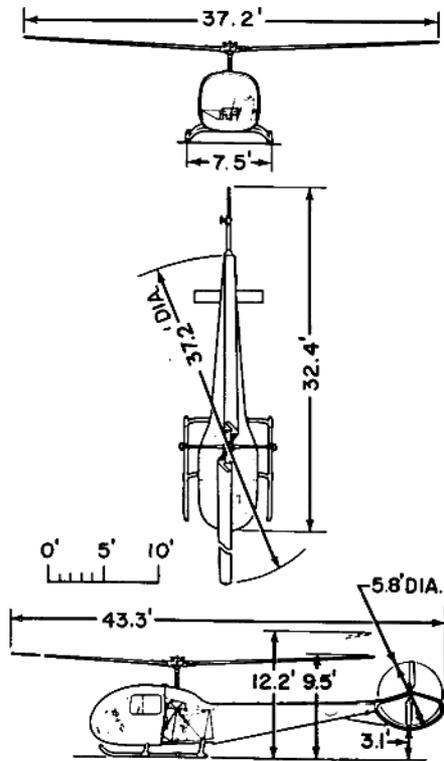


STANDARD AIRCRAFT CHARACTERISTICS

HUL-1

BELL

Standard Aircraft Characteristics HAWAII 1335A (REV. 1-55)



 Fuel (Gal)

 Oil (Gal)

Standard Aircraft Characteristics HAVAR 1335B (Rev. 1-55)

POWER PLANT

NO & MODEL (1) O-435-6
 MFR LYCOMING
 MAIR ROTOR GEAR RATIO 0.111
 TAIL ROTOR GEAR RATIO 0.600

RATINGS

	<u>BHP</u>	<u>RPM</u>	<u>ALT</u>
TAKE-OFF (5 Min.)	240	3200	1900'
NORMAL	220	3200	3600'

Spec. No. 2207B of
 23 Oct 1957

ACCOMMODATIONS

PILOT 1
 PASSENGERS 3

or

PILOT 1
 LITTERS (Internal) 2
 LITTER ATTENDANT 1

MISSION AND DESCRIPTION

The basic mission of the HUL-1 are the transportation of personnel and supplies and general utility. Kits are provided for incorporation of hoist, litters, floats, winterization, and staff liaison.

The HUL-1 incorporates a two-blade semi-rigid rotor with stabilizer bar, and a two-blade tail rotor mounted on a delta hinge. The fuselage is semimonocoque with a large enclosed cabin section. The landing gear is of the skid-type with small handling wheels. Provisions are made for carrying litters internally. The communications system provided permits direct contact with ground personnel.

DEVELOPMENT

First Flight January 1956
 Service Use December 1956

DIMENSIONS

DISC AREA..... 1085 sq. ft.
 ROTOR DIA. 37' 2"
 BLADE AREA 34.2 sq. ft.
 LENGTH (Fuselage)..... 32' 4"
 HEIGHT 9' 6"
 TREAD 7' 6"

WEIGHTS

<u>LOADING</u>	<u>LBS</u>
EMPTY	1652
BASIC	1681
DESIGN	2565
MAX T. O.	2700

All weights are actual

FUEL AND OIL

<u>NO. OF TANKS</u>	<u>GALS</u>	<u>LOCATION</u>
2	35	Fuselage
GRADE	115/145	
SPECIFICATION	MIL-F-5572	

OIL

CAPACITY (Gal) 3
 GRADE 1065/1100
 SPEC MIL-L-6082

ELECTRONICS

UHF ARC- TYPE 12
 LF RECEIVER R-11A
 UHF RECEIVER R-19
 UHF TRANSVERTER TV-10

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) GENERAL UTILITY 1 PILOT 3 PASSENGERS	(2) SEARCH AND RESCUE 1 PILOT 2 PASSENGERS	(3) LONG RANGE FERRY 1 PILOT 1-55 GAL. AUX. TANK		
TAKE-OFF WEIGHT	lb.	2565	2451	2479		
Fuel	lb.	210	210	540		
Payload	lb.	510	340	—		
Disc loading	lb./sq.ft.	2.36	2.26	2.28		
Vertical rate of climb at S.L.	(A)/(B) fpm.	505/—	680/120	630/70		
Absolute hovering ceiling	(B) ft.	(C) —/5500 (D)	(C) 4000/6600 (D)	(C) 3200/6200 (D)		
Max. rate of climb at S.L.	(B) fpm.	890	1120	1060		
Service ceiling (100 fpm)	(B) ft.	14500	16400	15900		
Speed at S.L.	(B) kn.	80	81	81		
Max. speed/altitude	(B) kn./ft.	82/3500	83/3500	83/3500		
Combat range	n.mi.	138	—	365		
Average cruising speed	kn.	68	—	73		
Cruising altitude	ft.	S.L.	—	5000		
Combat radius	n.mi.	—	71	—		
Average cruising speed	kn.	—	72	—		
Cruising altitude	ft.	—	S.L.	—		
Max. Endurance	hr.	—	2.49	—		
Average cruising speed	kn.	—	40	—		
Cruising altitude	ft.	—	S.L.	—		

NOTES

- (A) TAKE-OFF POWER (5MIN RATING)
 (B) NORMAL RATED POWER
 (C) OUT OF GROUND EFFECT
 (D) IN GROUND EFFECT

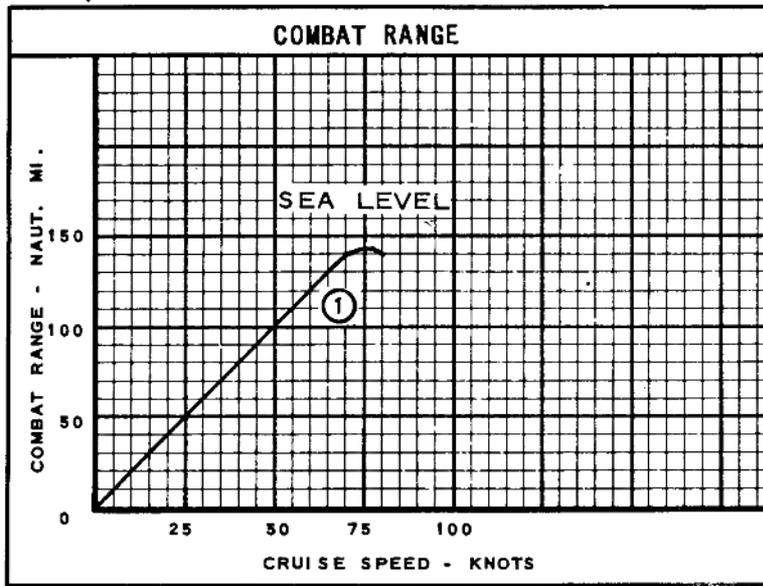
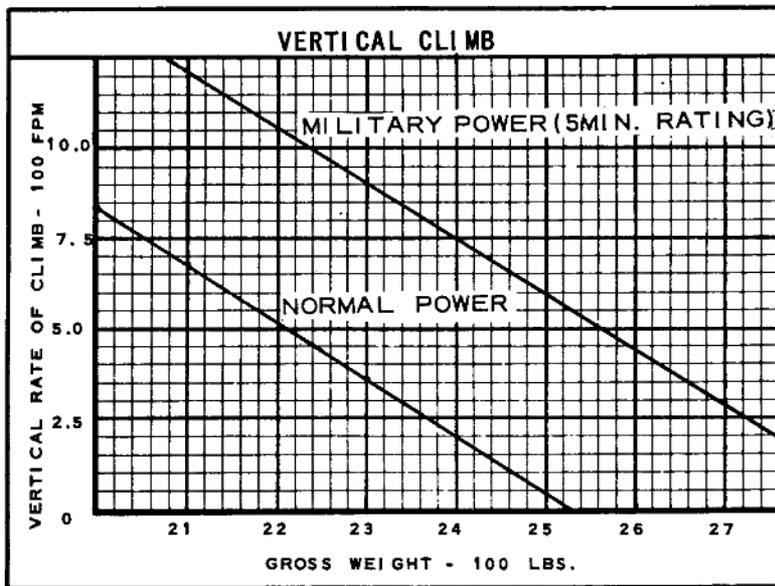
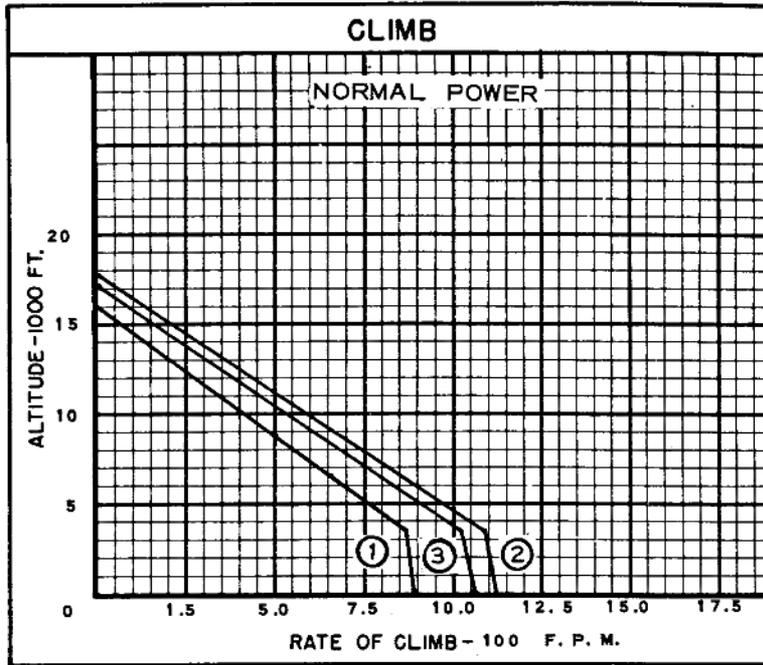
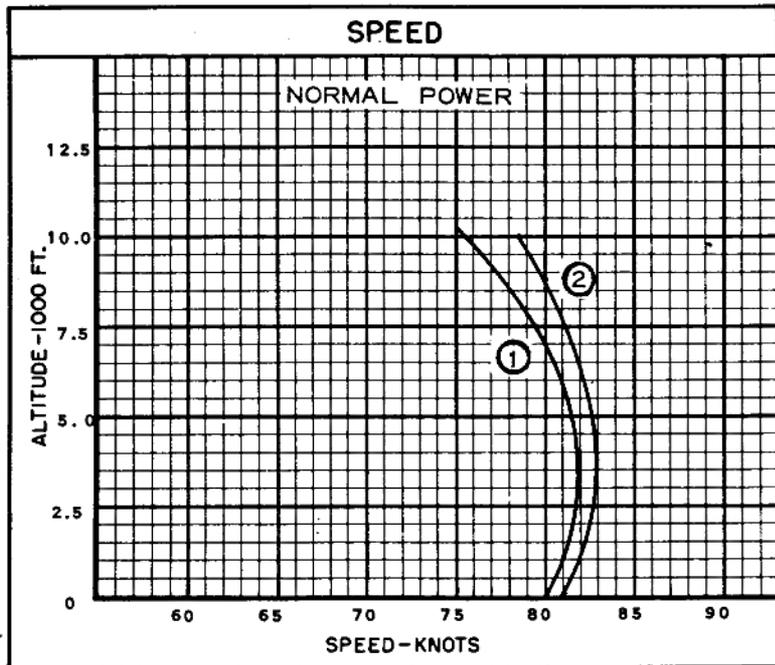
PERFORMANCE is based on NATESTCEN evaluation of the Model HUL-1 Helicopter
 RANGE, RADIUS, and ENDURANCE are based on NATESTCEN fuel consumption tests of the Model HUL-1 Helicopter
 All performance data presented is for the skid gear configuration.

GENERAL UTILITY MISSION

WARM-UP AND TAKE-OFF: 5 minutes at Normal Rated Power
 CRUISE OUT: At sea level at 80% Normal Rated Power
 RESERVE: 10% of initial fuel load

SEARCH AND RESCUE RADIUS MISSION

WARM-UP AND TAKE-OFF: 5 minutes at Normal Rated Power
 CRUISE OUT: At sea level at best cruise speed
 PICK-UP SURVIVOR: Hover 2 minutes at sea level at Normal Rated Power
 CRUISE BACK: At sea level at best cruise speed
 RESERVE: 10% of initial fuel load



○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics NAVAER 1335E (rev. 1-55)

NOTES

SEARCH AND RESCUE ENDURANCE MISSION

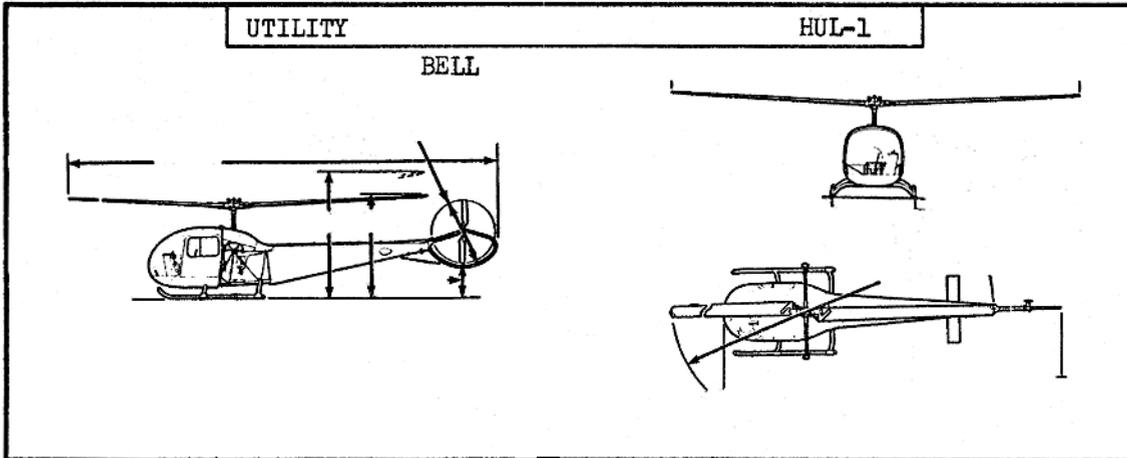
WARM UP AND TAKE-OFF: 5 Minutes at NRP
CRUISE OUT: At sea level at speed for maximum endurance
PICK-UP SURVIVOR: Hover 2 minutes at sea level at NRP
CRUISE BACK: At sea level at speed for maximum endurance
RESERVE: 10% of initial fuel load

LONG RANGE FERRY MISSION

WARM UP AND TAKE-OFF: 5 minutes at NRP
CLIMB: to 5000' at NRP
CRUISE OUT: at 5000' at speed for best range
RESERVE: 10% of initial fuel load

○ LOADING CONDITION COLUMN NUMBER

CHARACTERISTICS SUMMARY



DISC AREA 1085 sq. ft.

LENGTH 32' - 4"

ROTOR DIA. 37' - 2"

HEIGHT 9' - 6"

AVAILABILITY			PROCUREMENT				
NUMBER AVAILABLE			NUMBER DELIVERED IN FISCAL YEARS				
ACTIVE	RESERVE	TOTAL					

STATUS	
First Flight	January 1956
Service Use	December 1956

ENGINES			
(1) O-435-6 (Lycoming)			
	<u>BHP</u>	<u>RPM</u>	<u>ALT</u>
T.O.	240	3200	1900
NORM	220	3200	3600

FEATURES
Kits Provided for Incorporation of:
Hoist
Litters
Floats
Winterization
Staff Liaison

ARMAMENT	
None	

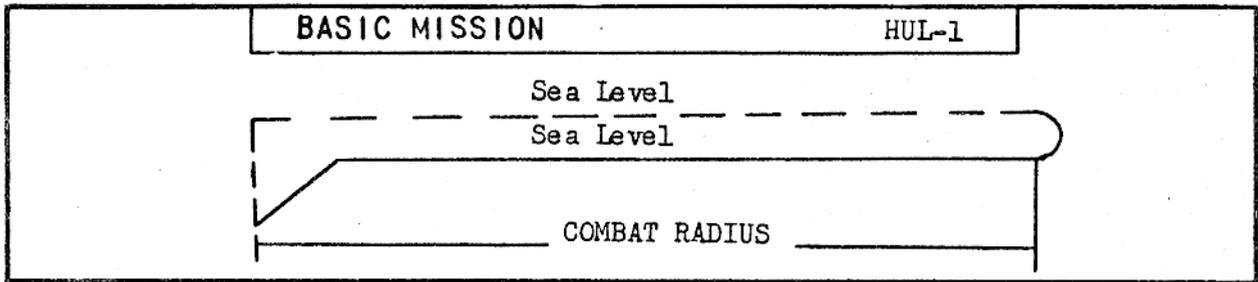
Crew	1
Passengers	3

NAVAER-1519E (Rev. 6-56)

1 OCT 1961

HUL-1 B-78709

CHARACTERISTICS SUMMARY



PERFORMANCE		
ENDURANCE	RANGE	SPEED
2.49 hours	138 naut. mi.	82 knots at 3500 ft.
40 knots avg.	68 knots avg.	knots at ft.
S.L. ft. alt. (Search and Rescue)	S.L. ft. alt.	Normal Gross Weight Normal Power
FORWARD FLIGHT CLIMB	SERVICE CEILING	HOVERING CEILING
890 ft./min. Sea Level, N. G. Wt., Normal Power	14,500 ft. 100 ft./min., N. G. Wt., Normal Power	Sea Level ft. N. G. Wt., Normal Power out of ground effect
		5,500 ft. N. G. Wt., Normal Power in ground effect
LOAD	WEIGHTS	VERTICAL CLIMB
Fuel 35 gal.	Empty 1652 lbs.	505 ft./min.
Internal 35 gal.	Normal Gross 2565 lbs.	Sea Level, N. G. Wt., Maximum Power
External gal.	Overload 2700 lbs.	
Payload 510 lbs.		

NOTES

Performance, Range, Radius and Endurance are Based on NATESTCEN Evaluation of the HUL-1
 All Data Presented is for Skid Gear Configuration

MAYAR-1519D (Rev. 6-56)

HUL-1