

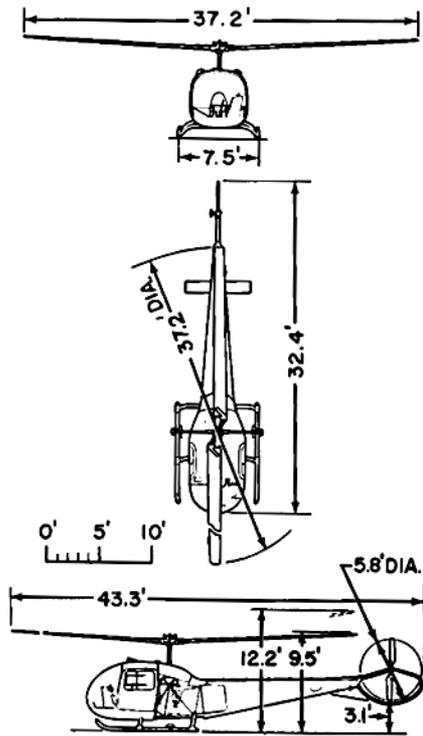


STANDARD AIRCRAFT CHARACTERISTICS

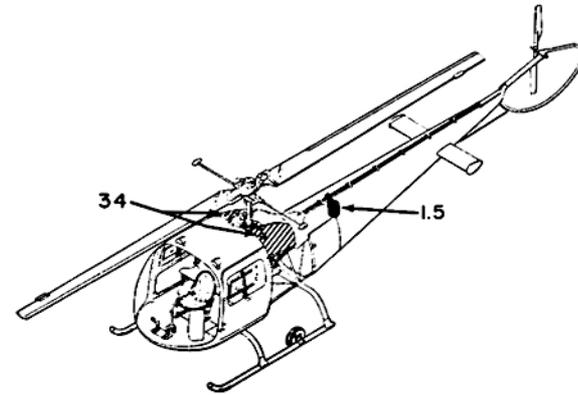
MODEL HUL-1G

Bell

ONE VO-435-A1
LYCOMING

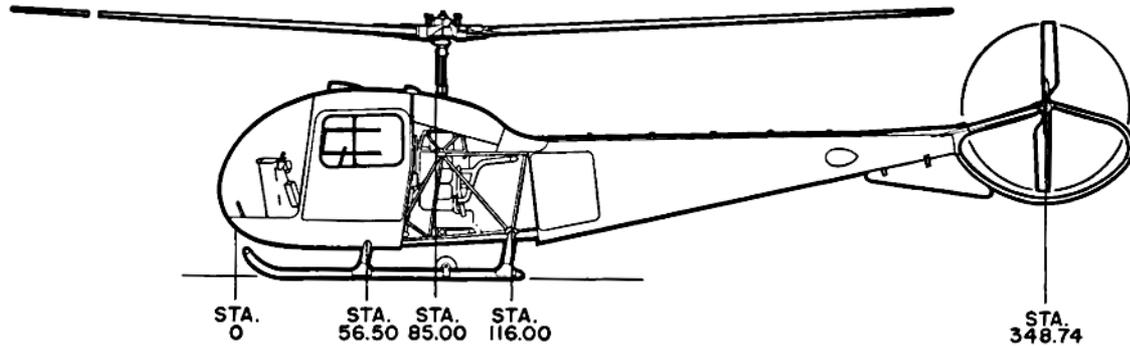


Disc Area	1085 sq. ft.	Airfoil Section	
Blade Area	37.1 sq. ft.	(root)	NACA 0016
		(tip)	NACA 0012
		Chord (root)	14.0"
		(tip)	10.0"



Fuel (Gal)

Oil (Gal)



POWER PLANT				
No. and Model	(1) VO-435-A1			
Mfg.	Lycoming			
Engine Spec. No.	2205			
Red. Gear Ratio	D.D.			
Main Rotor Gear Ratio	9:1			
RATINGS				
	BHP	RPM	ALT	MIN
Five				
Min. Limit	240	3200	1300	5
Normal	220	3200	3800	Cont

ORDNANCE	
NONE	
CREW	
Pilot	1
AND	
Passengers	3

MISSION AND DESCRIPTION	
Air Force Equivalent: H-13J	Manufacturer Model: 47J
THE BASIC MISSIONS OF THE HUL-1G ARE:	
<ol style="list-style-type: none"> 1. Transport of Personnel, Equipment and Supplies. 2. Search and Rescue Missions. 3. General Utility Missions. 	
<p>The HUL-1G incorporates a two-blade semi-rigid main rotor and a two blade, semi-rigid tail rotor. The conventional control system has full hydraulic motivation on the cyclic stick, and direct mechanical linkage to the rotor. The fuselage, which has a large enclosed cabin section, is semimonocoque except for the engine compartment, or center frame, which is of steel tube construction. The landing gear is of the skid-type with small handling wheels. A radio system is provided to permit radio navigation.</p>	
DEVELOPMENT	
Date of contract - Letter of Intent	22 Sept. 1958
First Flight	
First Acceptance (Static Test)	
(First Production)	
Production Completed (Estimated)	April, 1959

DIMENSIONS	
Rotor Diameter	37.2 Ft.
Length (Overall)	43.3 Ft.
(Fuselage)	32.4 Ft.
Span (Max. Lateral)	8.5 Ft.
Height (Overall)	9.3 Ft.
Tread	7.5 Ft.

WEIGHTS		
LOADING	LB.	L.F.
Empty	1690	(c)
Basic	1703	(c)
Design	2800	(c)
Combat	2721	(c)
Max. T.O.	2800	
Max. Landing	2800	
(A) ACTUAL		
(C) CALCULATED		

FUEL AND OIL		
Location	No Tanks	Gal
Fuselage	2	33
Grade	80/87	
Spec.	MIL-F-5572	
OIL		
Capacity (Gal)	3	
Grade	1085; 1100	
Spec.	MIL-O-6082	

ELECTRONICS
AN/ARN-41C

Standard Aircraft Characteristics NAVJER-1335C (Rev. 1-55)

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION	1	UTILITY MISSION	2	SEARCH & RESCUE MISSION	3	LONG RANGE FERRY MISSION
TAKE-OFF WEIGHT	lb.	2800.0		2477.4		2498.6
Fuel	lb.	198.0		198.0		528.0
Payload	lb.	717.6		340.0		0
Disc loading	lb./sq.ft.	2.58		2.28		2.30
Vertical rate of climb at S.L.	(A) fpm.	136		680		655
Absolute hovering ceiling	ft.	2100 (A)		5300 (B)		4900 (B)
Max. rate of climb at S.L.	(B) fpm.	605		860		845
Service ceiling (100 fpm)	(B) ft.	11,000		14,000		13,800
Speed at S.L.	(B) kn.	82		86		86
Max. speed/altitude	kn./ft.	86/4000		91*/4500		91*/4400
Combat range	(C) n.mi.	107.1		-		367.8
Average cruising speed	kn.	69.0		-		74.0
Cruising altitude	ft.	5000		-		5000
Combat radius	(C) n.mi.	-		49.6		-
Average cruising speed	kn.	-		69.5		-

NOTES

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(A) Take-Off Power

(B) Normal Power

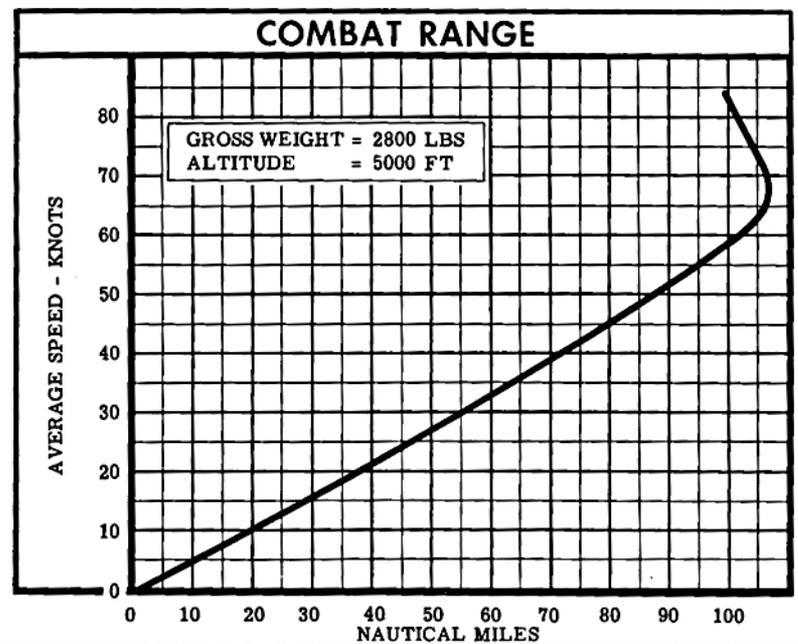
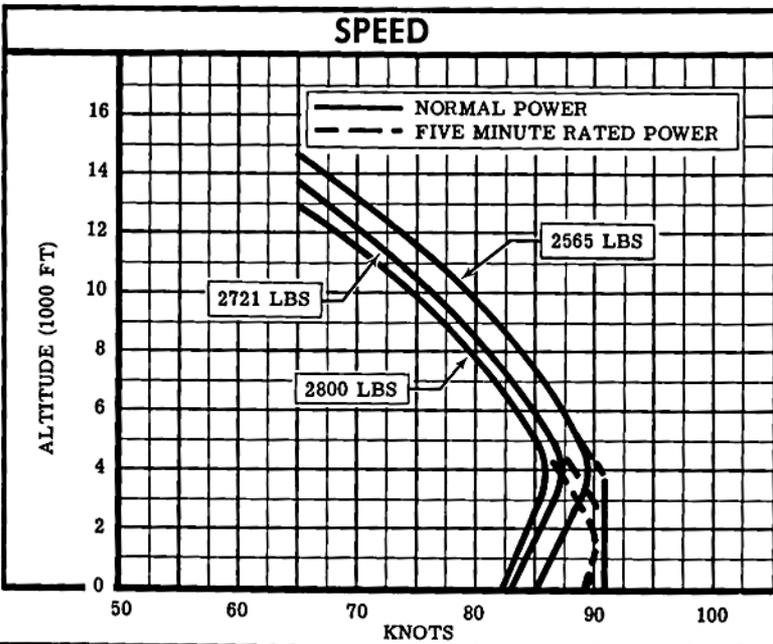
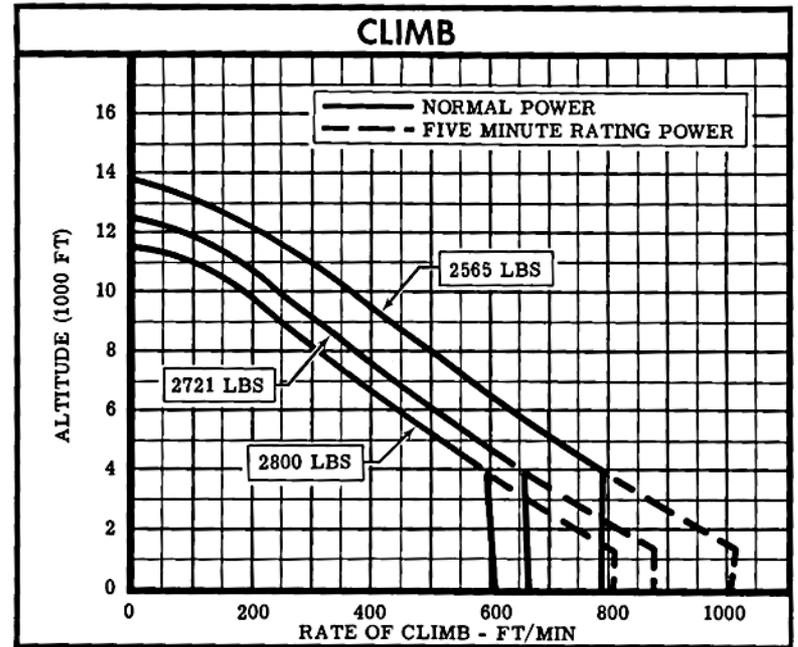
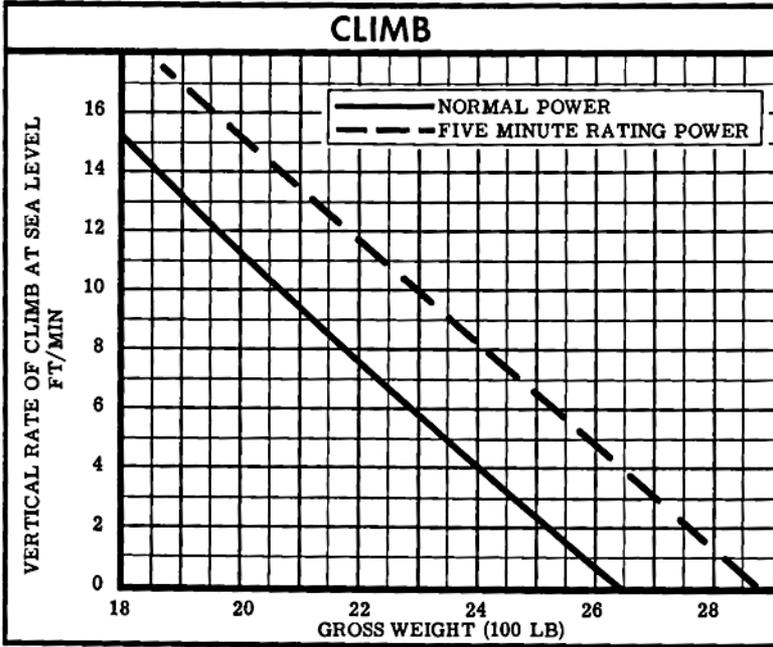
(C) Detail Description of Radius and Range Missions are given on page 6.

PERFORMANCE

(1) DATA SOURCE: Based on Flight Tests of HUL-1.

(2) PERFORMANCE: Based on Power shown on Page 3.

(3) CREW WEIGHT: 170 Lbs. (No Parachute)



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

NOTES

UTILITY MISSION: Warm-up, take-off and climb on course to 5000 feet cruising altitude at normal power. Cruise out at long range speeds to remote base and land. Range free allowances include 5 minutes at normal power for warm-up and take-off and 10% of initial fuel for landing and reserve.

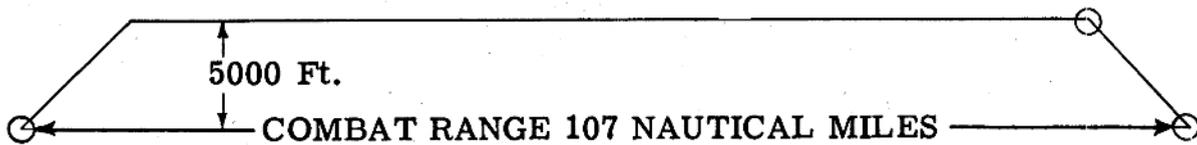
SEARCH AND RESCUE MISSION: Warm up, take-off and climb on course to 1500 feet cruising altitude at normal power. Cruise out at long range speeds to advanced area. Search for 10 minutes at sea level at speeds for maximum endurance. Land and pick up two survivors. Without refueling warm-up, take-off and climb on course to 1500 feet cruising altitude with normal power and return to base at long range speeds. Range free allowances include 10 minutes for warm-up and take-off, 10 minutes for search and rescue at maximum endurance speeds at sea level, and 10% of initial fuel for landing and reserve.

LONG RANGE FERRY MISSION: Warm-up, take-off and climb on course to 5000 feet cruising altitude at normal power. Cruise out at long range speeds to remote base and land. Range free allowances includes five minutes at normal power for warm-up and take-off and 10% of initial fuel for landing and reserve.

CHARACTERISTICS SUMMARY

BASIC MISSION

- UTILITY



PERFORMANCE

ENDURANCE	RANGE	SPEED
1.7 hours 45 knots avg. 5000 ft. alt.	107 naut. mi. 69 knots avg. 5000 ft. alt.	82 knots at S.L. ft. 86 knots at 4000 ft. Normal Gross Weight Normal Power
FORWARD FLIGHT CLIMB	SERVICE CEILING	HOVERING CEILING
605 ft./min. Sea Level, N. G. Wt., Normal Power	11,000 ft. 100 ft./min., N. G. Wt., Normal Power	2100 ft. N. G. Wt., Take-off Power out of ground effect
665 ft/min Sea Level Combat GW Normal Power	6,200 ft. 500 ft./min, Combat Wt. Normal Power	5,200 ft. N. G. Wt., Normal Power in ground effect
LOAD	WEIGHTS	VERTICAL CLIMB
Fuel 33 gal. Internal 33 gal. External 0 gal.	Empty 1690 lbs. Take-off 2800 lbs. Combat 2721 lbs.	136 ft./min. Sea Level, N. G. Wt., Take-off Power

NOTES

PERFORMANCE BASIS: NACA Standard Conditions, No Wind, Single Helicopter

- (a) Fuel consumption based on estimated data
- (b) Fuel Density: 6.0 lb./gal. (80/87)
- (c) Crew Weight: 170 lbs.