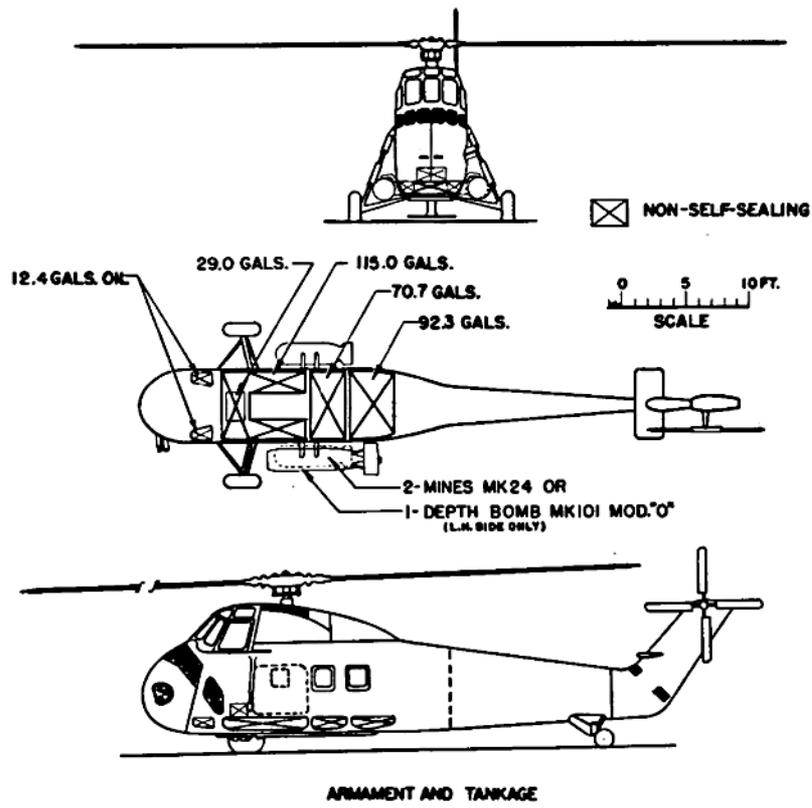
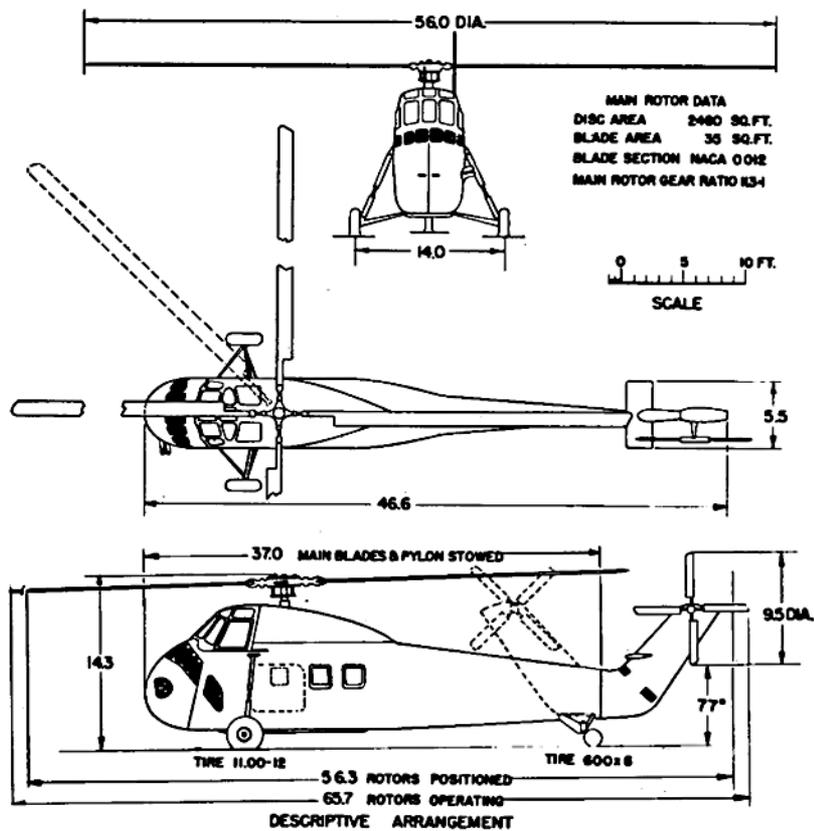




# STANDARD AIRCRAFT CHARACTERISTICS

## SH-34J



**POWER PLANT**

NO & MODEL ..... (1)B-1B20-84B  
 MFR ..... WRIGHT  
 SUPERCH ..... 1 STAGE, 1 SPEED  
 ROTOR GEAR RATIO ..... 11.3 to 1  
 TAIL ROTOR RATIO ..... 1.9 to 1

**RATINGS**

	<u>BHP</u>	<u>RPM</u>	<u>ALT</u>	<u>TIME</u>
T. O.	1525	2800	700'	5 Min.
MIL.	1425	2700	2400'	30 Min.
NORM.	1275	2500	3500'	Cont.

ENGINE SPEC. B-895B  
 of 8 Oct 1957

**ORDNANCE**TORPEDOES AND MINES:

<u>TYPE</u>	<u>LOCATION</u>	<u>NO.</u>
MK 43	Fuselage	2
MOD 1	or	
MK 24	Fuselage	2

DEPTH BOMBS:

<u>TYPE</u>	<u>LOCATION</u>	<u>NO.</u>
MK 101	Fuselage	1
MOD "0" (Left Side Only)		

MAX LOAD CAPACITY ..... 1380 LBS.

**MISSION AND DESCRIPTION**

The primary mission of this helicopter is to detect, identify, track or destroy enemy submarines. It is capable of conducting ASW Search and Attack during day or night, and under conditions of limited visibility employing dipping sonar and assigned weapons.

The HSS-1M is a four place, single engine, single main rotor, ship-based helicopter. The mechanical flight controls are augmented by a primary and secondary hydraulic servo system. The automatic stabilisation equipment provided is capable of maneuvering and maintaining heading, altitude and attitude established by the pilot under stick and pedal free conditions. Electrical input signals obtained from the sonar cable and hydrostatic depth sensor or from radio navigation aids may be introduced to the ASE to correct for heading, pitch, roll and altitude. Automatic tie-in facilities to the ASE can bring the aircraft to a hover automatically and maintain a radar altitude below 500 feet through an altitude change of 150 feet and from airspeeds to 60 knots. The ASE also provides throttle governing to maintain selected engine RPM.

**DEVELOPMENT**

First Flight ..... July 1957  
 Service Use ..... May 1958

**DIMENSIONS**

ROTOR DIA ..... 56' 0"  
 DISC AREA ..... 2460 sq. ft.  
 \*LENGTH ..... 37' 0"  
 HEIGHT (MAX.) ..... 15' 8"  
 TREAD ..... 12' 0"  
 STABILIZER AREA ..... 12.4 sq. ft.

\*ROTOR AND TAIL PYLON FOLDED

**WEIGHTS**

<u>LOADING</u>	<u>LBS</u>	<u>L.F.</u>
EMPTY .....	8648 .....	
BASIC .....	8876 .....	
DESIGN .....	11611 .....	2.42
MAX T.O. ....	13300 .....	2.11
MAX LANDING ...	13300 .....	2.11

All weights are actual

**FUEL AND OIL**

<u>NO. TANKS</u>	<u>GALS.</u>	<u>LOCATION</u>
3	278	Fuselage
1	29	Cabin (Removable)

Fuel Grade ..... 115/145  
 Fuel Spec ..... MIL-P-5572

**OIL**

Capacity (GALS.) ..... 12.4  
 Grade ..... 1065/1100  
 Spec ..... MIL-L-6082A

**ELECTRONICS**

UHF RADIO SET ..... AN/ARC-55  
 MBP ..... AN/ARC-39  
 ICS ..... AN/AIC-4A  
 RADAR ALTIMETER ..... AN/APM-117  
 FINDER GROUP ..... AN/ARA-25A  
 RADAR-ID SET ..... AN/APX-6  
 CODER GROUP ..... AN/APA-89  
 ADF ..... AN/ARN-59  
 TACAN ..... AN/ARN-21  
 COURSE INDICATOR ..... ID-250/ARN  
 SONAR ..... AN/AQS-4D5  
 CR. SPEED SYSTEM ..... AN/APM-97  
 VIDEO CODER ..... KY-81/APA-89  
 COMPASS ..... MA-1

## PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) ASW SEARCH	(2) ASW ATTACK 2 - MK 43			
TAKE-OFF WEIGHT	lb.	11,732	10,485			
Fuel	lb.	1842	972			
Payload	lb.	—	520			
Disc loading	lb./sq.ft.	4.72	4.26			
Vertical rate of climb at S.L. (A)	fpm.	1150	1800			
Absolute hovering ceiling (A)	ft.	5800	9200			
Max. rate of climb at S.L. (B)	fpm.	1490	1850			
Service ceiling (100 fpm) (B)	ft.	13400	16200			
Speed at S.L. (B)	kn.	122	126			
Max. speed/altitude (B)	kn./ft.	122/S.L.	126 /S.L.			
Combat range	n.mi.	225	—			
Average cruising speed	kn.	84	—			
Cruising altitude	ft.	S.L.	—			
Attack radius	n.mi.	—	82			
Average cruising speed (C)/(D)	kn/ kn.	—	116/93			
Search Endurance	hr.	2.7	—			
Average cruising speed	kt.	90	—			

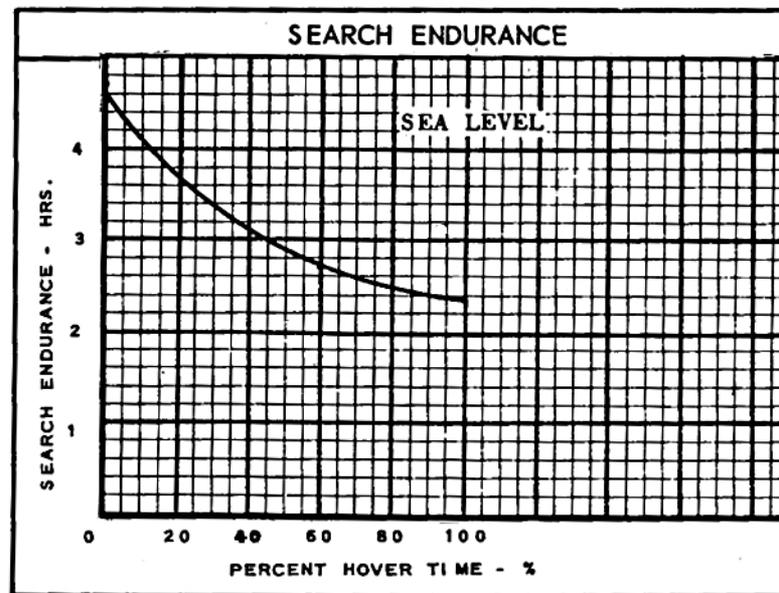
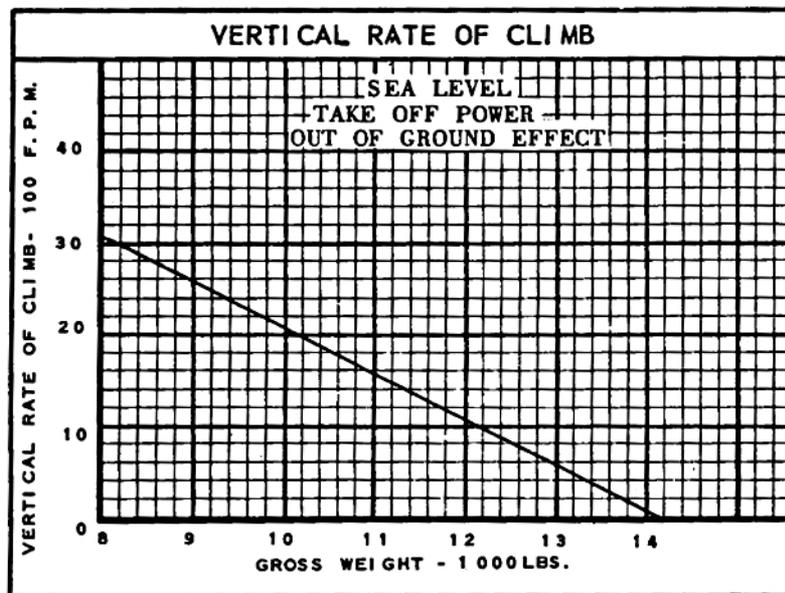
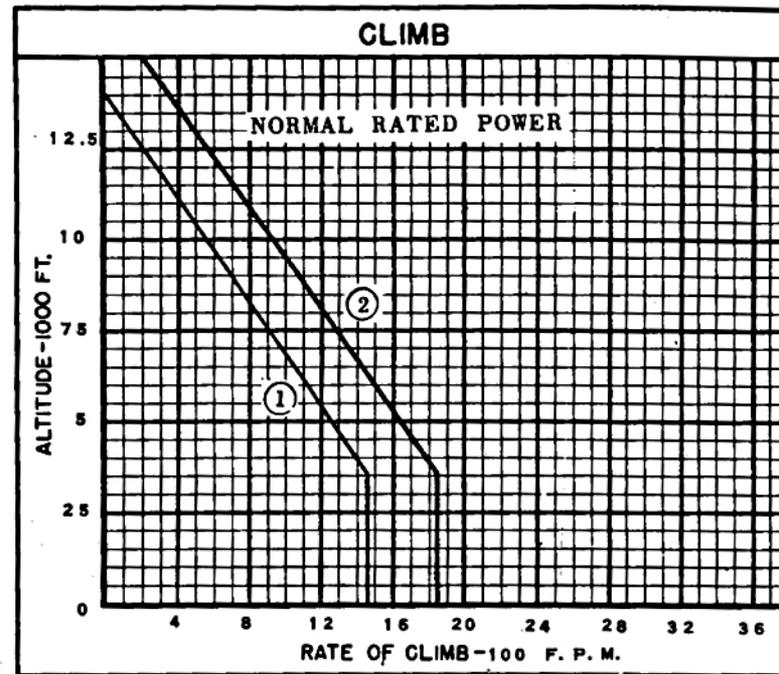
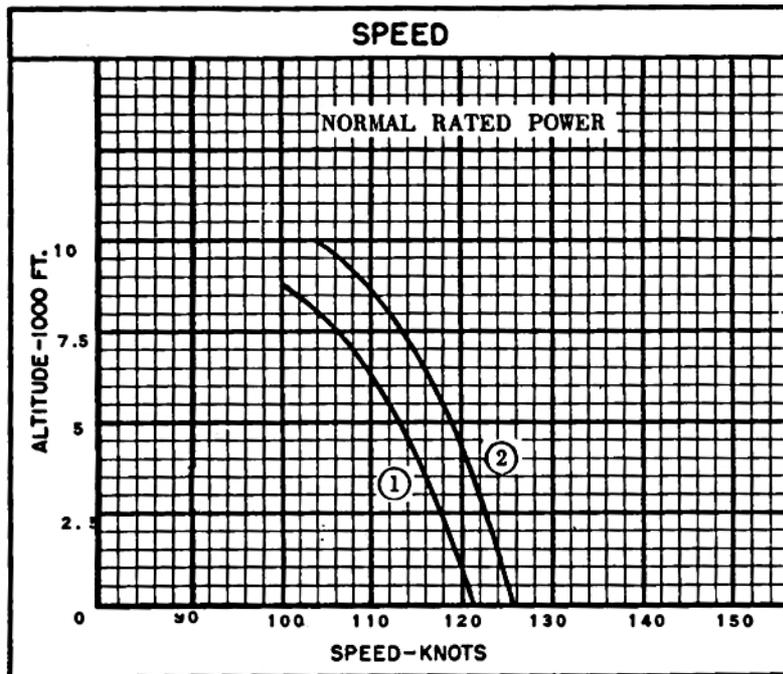
## NOTES

- (A) TAKE-OFF POWER
- (B) NORMAL RATED POWER
- (C) AVERAGE CRUISING SPEED TO TARGET
- (D) AVERAGE CRUISING SPEED RETURNING

PERFORMANCE BASIS: NATESTCEN evaluation of the Model HSS-1 Helicopter

RADIUS AND SEARCH ENDURANCE are based upon NATESTCEN fuel consumption data for the HSS-1.

All performance is out of ground effect and for standard atmospheric conditions.



○ LOADING CONDITION COLUMN NUMBER

# NOTES

SPOTTING: 42 helicopters (blades folded) can be spotted in a rectangular area 200 ft. long and 96 ft. wide.

---

## ASW SEARCH ENDURANCE PROBLEM

WARM-UP, TAKE-OFF: 5 minutes at Normal Rated Power  
CRUISE: At speed for long range 40% of time at sea level  
HOVER: Out of ground effect 60% of the time at sea level  
RESERVE: 10% of initial fuel load

SEARCH ENDURANCE = CRUISE TIME + HOVER TIME

---

## ASW ATTACK RADIUS PROBLEM

WARM-UP, TAKE-OFF: 5 minutes at Normal Rated Power  
CRUISE-OUT: At 80% Normal Rated Power at sea level  
DROP WEAPON: No fuel used; no distance gained  
CRUISE-BACK: At speed for long range at sea level  
RESERVE: 10% of initial fuel load

COMBAT RADIUS = CRUISE DISTANCE TO TARGET

---