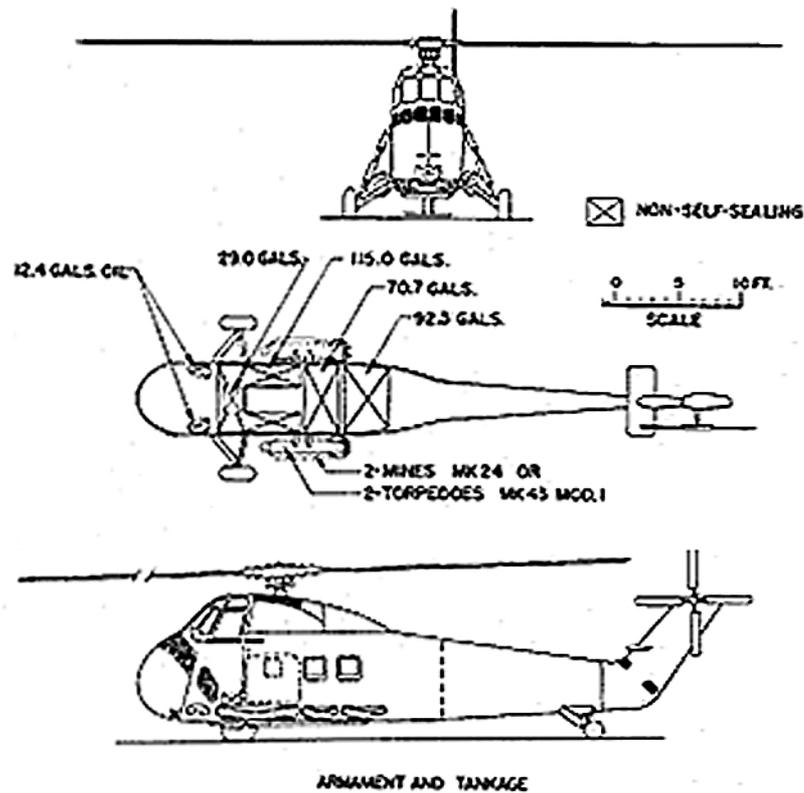
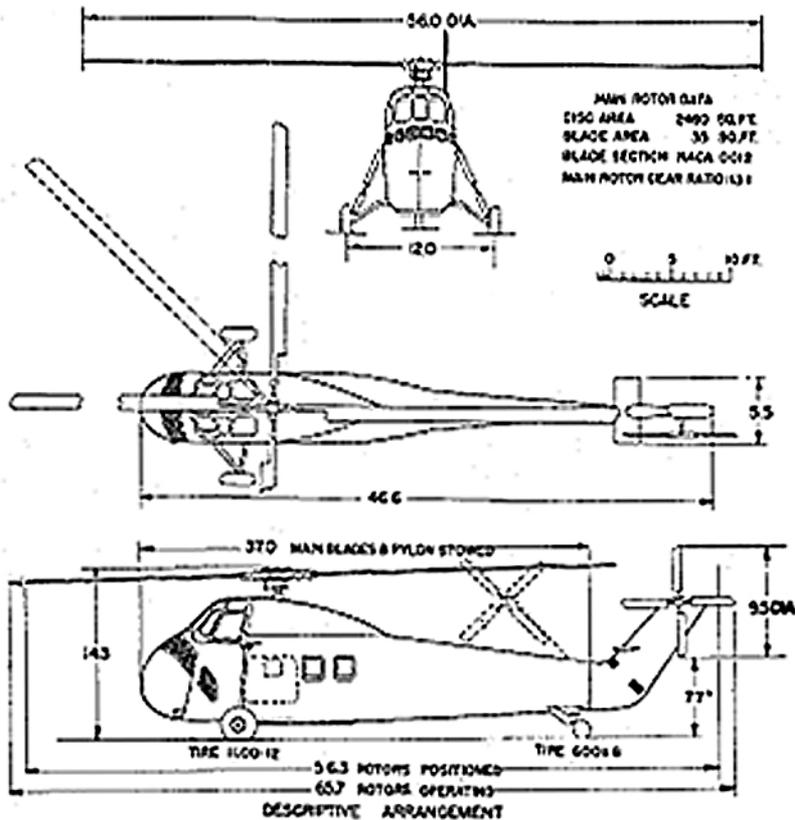




## STANDARD AIRCRAFT CHARACTERISTICS

HSS-1

SIKORSKY



STANDARD AIRCRAFT CORPORATION/10100 NAVAIR 13350 (REV. 1-55)

## POWER PLANT

NO. & MODEL ..... (1)R-1820-84  
 MFR ..... WRIGHT  
 SUPERCH ..... 1 STAGE, 1 SPEED  
 ROTOR GEAR RATIO ..... 11.3 to 1  
 TAIL ROTOR RATIO ..... 1.9 to 1

## RATINGS

	HHP	EHK	ALZ	TIME
T. O.	1525	2800	700*	5 Min.
MIL	1425	2700	2,400*	30 Min.
NORM	1275	2500	3500*	Cont.

ENGINE SPEC S-895  
 of 26 Nov 1952

## ORDNANCE

## TOWERS AND NOTES:

TYPE	LOCATION	NO.
MX 43	FUSELAGE	2
MCD 1	or	
MX 24	FUSELAGE	2

MAX LOAD CAPACITY ..... 1300 LBS.

## MISSION AND DESCRIPTION

The HSS-1 helicopter is designed primarily as an ASW search and attack vehicle capable of operation from any cruiser or carrier. In the search configuration a crew of two pilots and two crew operators is carried, and in the attack configuration a crew of two and two MK 43 torpedoes or MK 24 mines.

The HSS-1 is a single engine, single main rotor anti-torque rotor helicopter. It features a four-bladed, metal, articulated main rotor plus a four-bladed, metal, articulated tail rotor driven by the power plant through a conventional main transmission gear box. The main rotor blades and the tail rotor pitch are foldable enabling the helicopter to be stowed below on all cruisers and carriers.

The mechanical flight controls are augmented by a primary and a secondary hydraulic servo system.

## DEVELOPMENT

First Flight..... September 1954  
 Service Use ..... March 1955

## 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 PITCH FOLDED.

## WEIGHTS

LOADING	LBS	L.P.
EMPTY .....	8400.....	
BASIC .....	8540 .....	
DESIGN .....	10515 .....	2.67
MAX. T.O. ....	13900 .....	2.11
MAX LANDING .....	13900 .....	2.11

All weights are actual

## FUEL AND OIL

NO. TANKS	GALS.	LOCATION
3	278	FUSELAGE
1	29	CABIN (REMOVABLE)

Fuel Grade ..... 115/145  
 Fuel Spec. .... MIL-F-8572

## OIL

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

## ELECTRONICS

VEF RADIO SET ..... AN/ARC-95  
 REF ..... AN/ARC-2,2A  
 ICS ..... AN/AIC-4A  
 ALTIMETER ..... AN/ASN-22  
 FINGER DRUMF ..... AS/ASA-25  
 RADAR ID SET ..... AN/AVX-6,6S  
 CODER GROUP ..... AS/APA-89  
 ADF ..... AN/ARN-41A  
 TAGAN ..... AN/ARN-21  
 COURSE INDICATOR ..... 1D-250/ARN  
 COMPASS ..... KA-1  
 SONAR ..... AN/AQS-4A,4D

PERFORMANCE SUMMARY						
TAKE-OFF LOADING CONDITION		(1) 154 SEARCH	(2) 154 ATTACK	(3) 154 ATTACK (FULL FUEL)		
TAKE-OFF WEIGHT	lb.	11,571	10,515	12,071		
Fuel	lb.	1842	972	1662		
Payload	lb.	—	520	1300		
Wing loading	lb./sq.ft.	4.62	4.26	4.84		
Vertical rate of climb at S.L.	(A) fpm	1440	1920	1110		
Absolute hovering ceiling	(A) ft.	6700	9900	5500		
Max. rate of climb at S.L.	(B) fpm	1590	1930	1470		
Service ceiling (100 fpm)	(B) ft.	12100	17600	13200		
Speed at S.L.	(B) km.	123	126	121		
Max. speed/altitude	(B) km./ft.	123/S.L.	126/S.L.	121/S.L.		
Combat range	n.mi.	227	—	—		
Average cruising speed	km.	84	—	—		
Cruising altitude	ft.	S.L.	—	—		
Attack radius	n.mi.	—	76	144		
Average cruising speed (C)/(D)	kn/km.	—	116/93	113/93		
Search Endurance	hrs	2.7	—	—		
Average cruising speed	kts.	84	—	—		

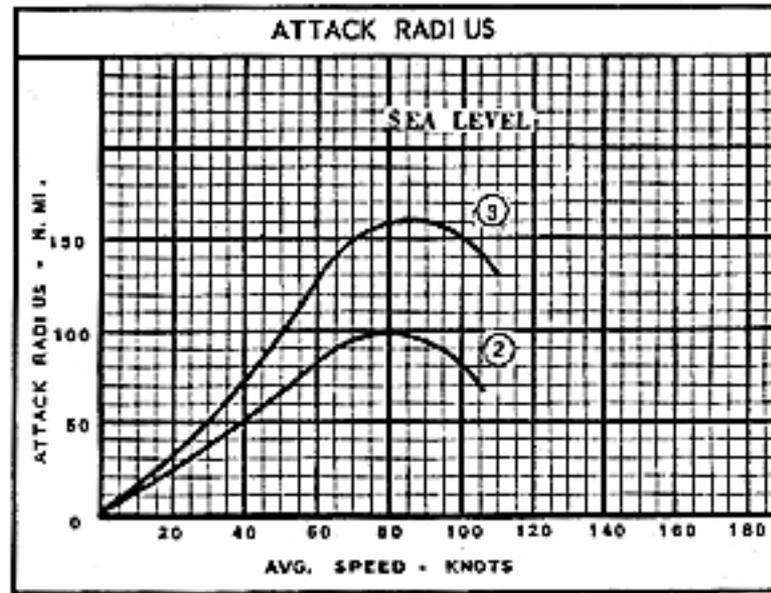
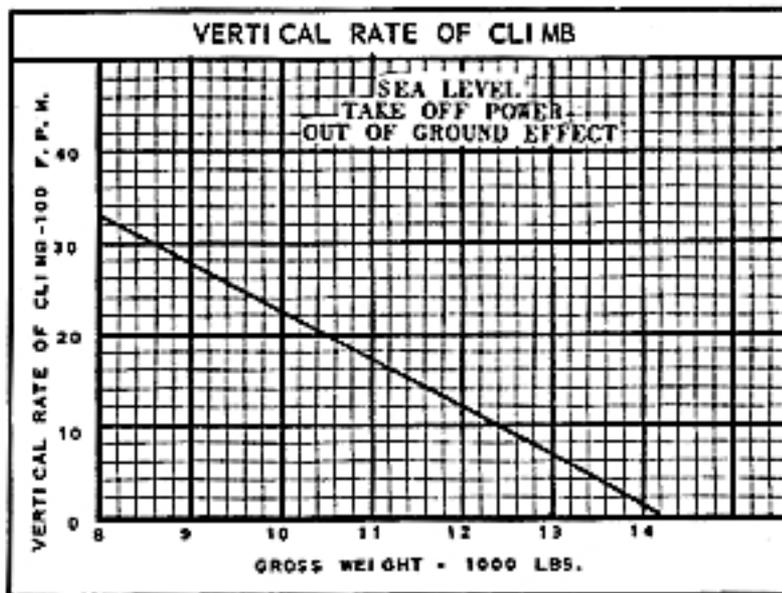
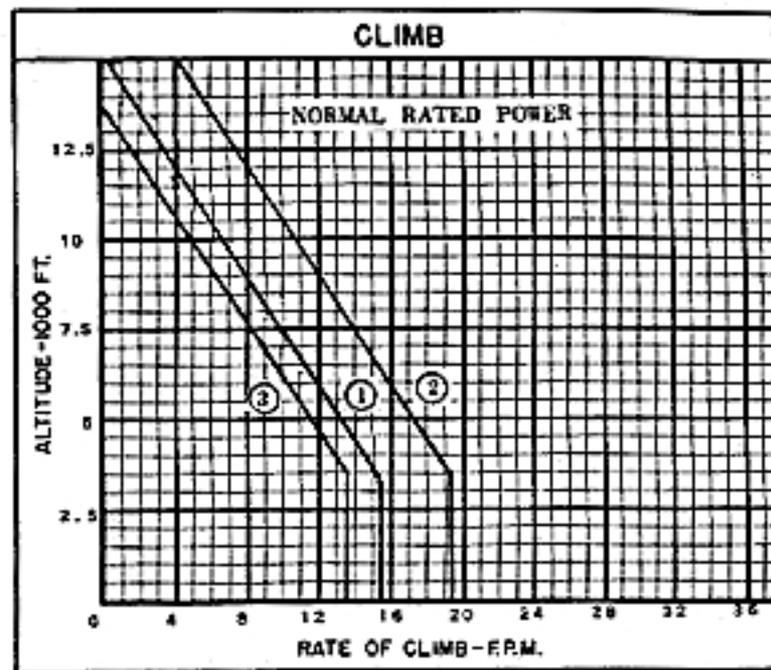
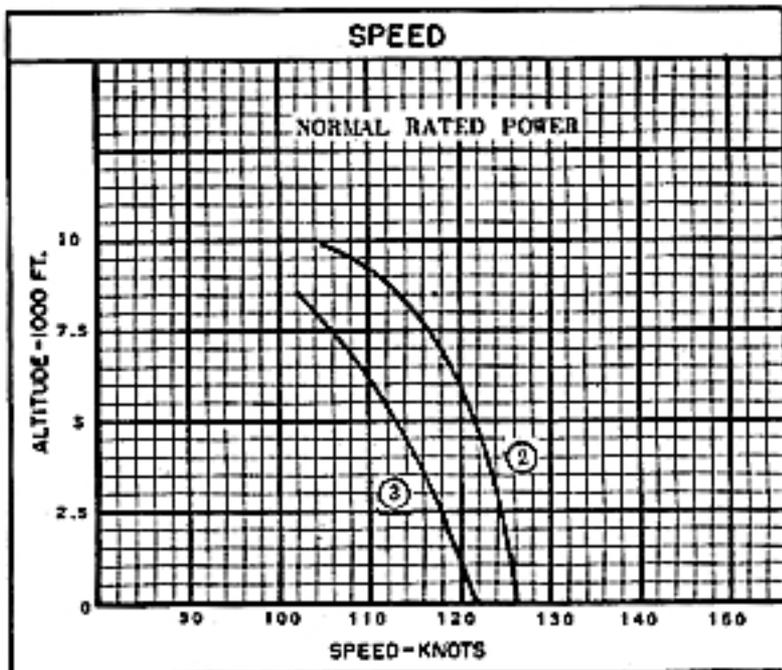
## NOTES

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

PERFORMANCE BASIS: MATTHEWS Evaluation of Model H55-1 helicopter

RANGE, RADIUS, AND SEARCH ENDURANCE are based upon MATTHEWS fuel consumption data for the H55-1.

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



○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics Data Sheet 33307 (Rev. 3-55)

# NOTES

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

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## ASM SEARCH ENROUTE PROFILE

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 ENROUTE = CRUISE TIME + HOVER TIME

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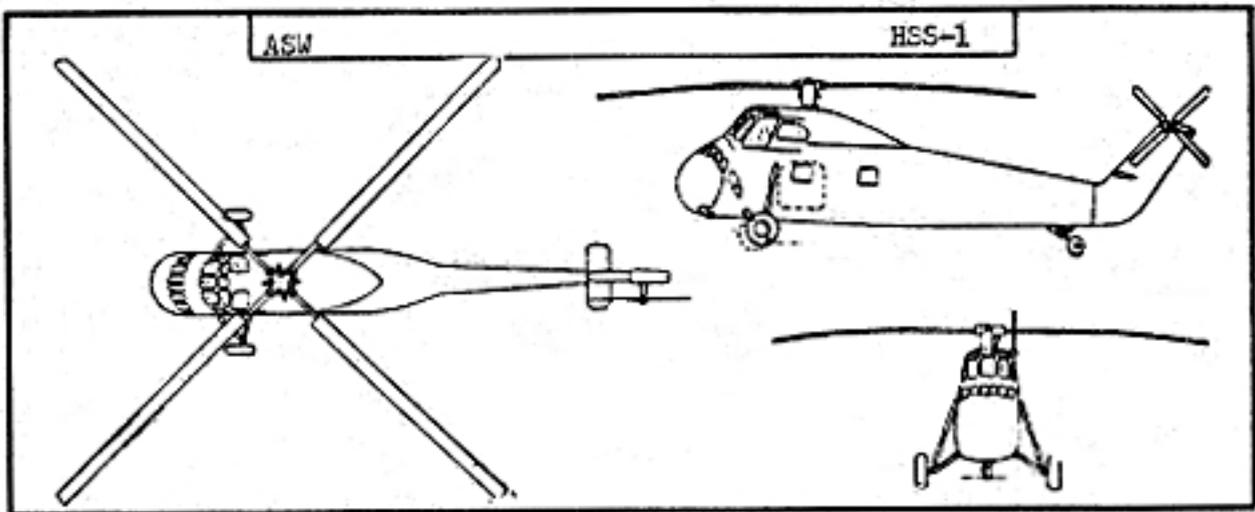
## ASM ATTACK SEARCH PROFILE

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

COMBAT RADIOS = CRUISE DISTANCE TO TARGET

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# CHARACTERISTICS SUMMARY



DISC AREA 2460 sq. ft.

\* LENGTH 37' 0"

ROTOR DIA. 56' 0"

\*Rotor & Tail Pylon Folded  
HEIGHT 15' 8"

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

STATUS	
First Flight .....	September 1954
Service Use .....	March 1955

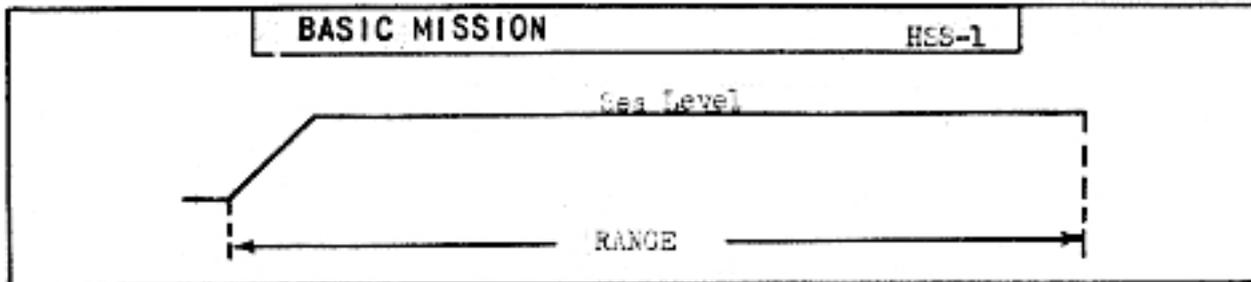
ENGINES			
Wright (1) R-1820-84			
RATINGS			
	BHP	RPM	ALT
T.O.	1525	2800	700
MIL.	1425	2700	2400
NORM	1275	2500	3500

FEATURES	
Crew .....	2
Foldable rotor blades and tail pylon	
Hydraulic servo control system	

ARMAMENT	
<u>TORPEDOES AND MINES:</u>	
MK 43 MOD 1 . . . . .	2
or	
MK 24 . . . . .	2
Max. Load Capacity 1380 lbs.	

MAYSER-1519E (Rev. 6-56)

# CHARACTERISTICS SUMMARY



PERFORMANCE		
SEARCH ENDURANCE	RANGE	SPEED
2.7 hours	227 naut. mi.	123 knots at Sea Level
84 knots avg.	84 knots avg.	knots at ft.
Sea Level	Sea Level	Normal Gross Weight Normal Power
FORWARD FLIGHT CLIMB	SERVICE CEILING	HOVERING CEILING
1590 ft./min.	15100 ft.	6700 ft.
Sea Level, N. G. Wt., Normal Power	100 ft./min., N. G. Wt., Normal Power	N. G. Wt., T.O. Power out of ground effect
		ft. N. G. Wt., Power in ground effect
LOAD	WEIGHTS	VERTICAL CLIMB
Fuel 1842 lbs.	Empty 8400 lbs.	1440 ft./min.
Internal 1842 lbs.	Normal Gross 11371 lbs.	Sea Level, N. G. Wt., Take-Off Power
External --- lbs.	Overload 13300 lbs.	
Payload ---- lbs.		

**NOTES**

Performance basis: NATESTCEN evaluation of the HSS-1

Search Endurance and Range are based upon NATESTCEN fuel consumption data

Reason for reissue: Availability of additional flight test data

MAYAER-15190 (Rev. 6-56)