

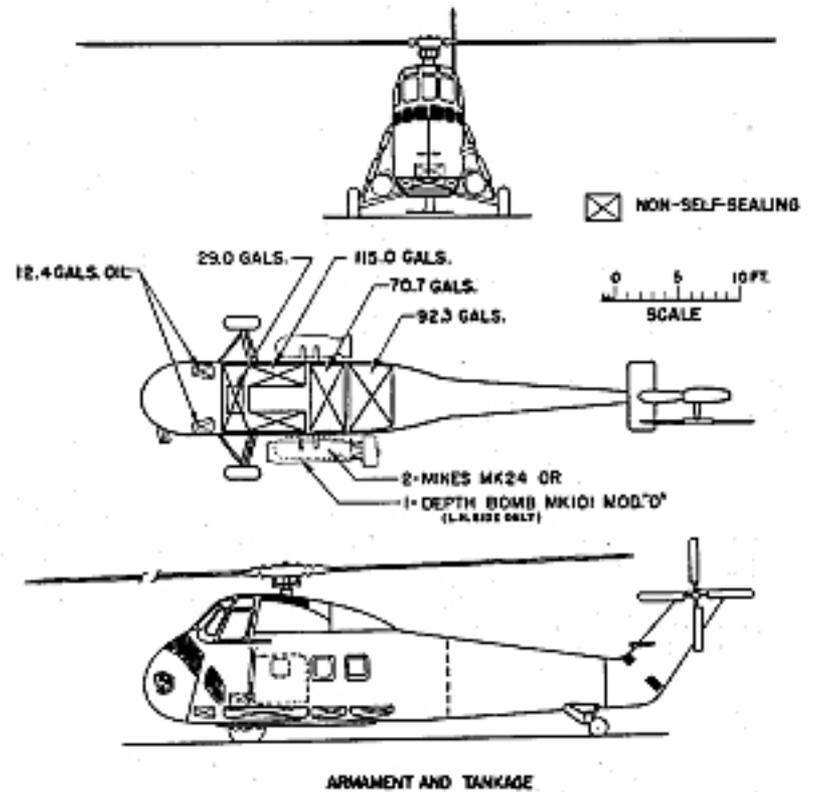
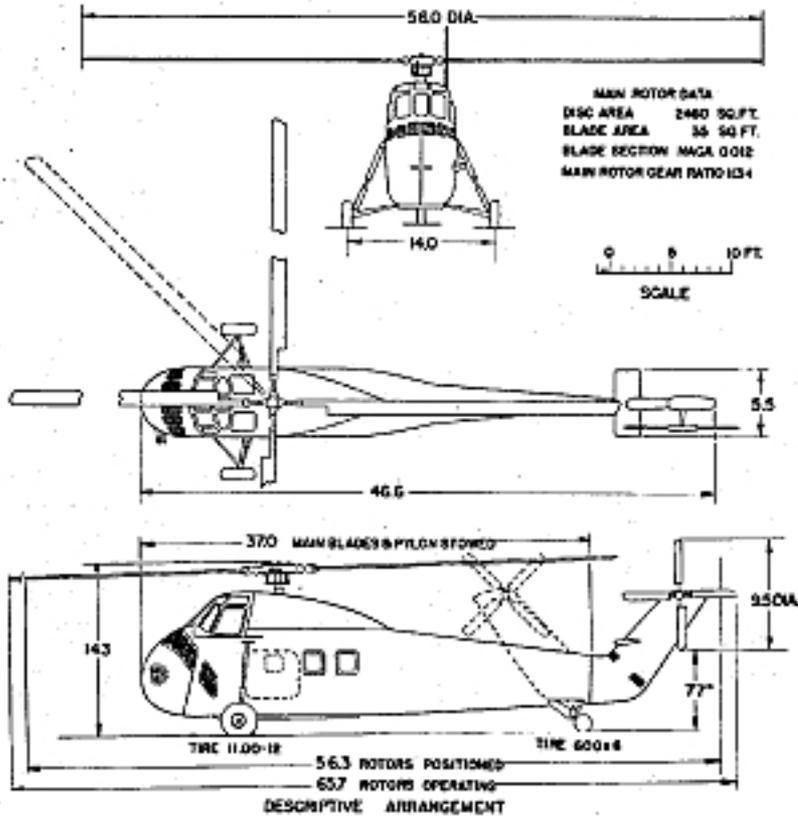


Standard Aircraft Characteristics NATASB 1335A (REV. 1-55)

STANDARD AIRCRAFT CHARACTERISTICS

HSS-1N

SIKORSKY



Standard Aircraft Characteristics H/4S (Rev. 1-55)

POWER PLANT

NO & MODEL (1) H-1920-84B
 TYPE WHICH?
 SUPPLIES 1 STAGE, 1 SPEED
 ROTOR GEAR RATIO 11.3 to 1
 TAIL ROTOR RATIO 1,9 to 1

RATINGS

	HP	WPM	ALT	TIME
T. O.	1525	2800	700'	5 Min.
MAX.	1625	2700	2400'	30 Min.
NOISE	1275	2500	3500'	Cont.

ENGINE SERIAL 5-8950
 of 8 Oct 1957

ORDNANCE

WEAPONS AND MINE:

TYPE	LOCATION	NO.
HE 43	Fuselage	2
HE 1	or	
HE 24	Fuselage	2

MINE BOMBS:

HE 101	Fuselage	1
HE 90*	(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-3N 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 stabilization 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 2450 sq. ft.
 LENGTH 37' 0"
 HEIGHT (MAX.) 15' 8"
 TREAD 12' 0"
 STABILIZER AREA 12.4 sq. ft.

*ROTOR AND TAIL PITCH FOLDING

WEIGHTS

LOADING	LBS	L.P.
EMPTY	8648	
BASED	8876	
DESIGN	11611	2.42
MAX T.O.	13300	2.11
MAX LANDING	13300	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-5372

OIL

Capacity (GALS.) 12.4
 Grade 1055/1100
 Spec MIL-L-6012A

ELECTRONICS

DEP RADIO SET AN/ARC-55
 VHF AN/ARC-39
 ICS AN/AIC-4A
 RADAR ALTIMETER AS/APS-117
 FEEDER GROUP AS/ARA-25A
 RADAR ID SET AN/API-6
 COUNTER GROUP AN/APA-89
 ADF AS/AFS-39
 TACAN AS/ATN-21
 COURSE INDICATOR ID-250/135
 SONAR AN/AGS-205
 CR. SPEED SYSTEM AS/APS-77
 WIND CODED NY-81/APA-89
 COMPASS MA-1

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) ASW SEARCH	(2) ASW ATTACK 2 - HK 43			
TAKE-OFF WEIGHT	lb.	11,732	10,482			
Fuel	lb.	1862	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.	5600	9200			
Max. rate of climb at S.L. (B)	fpm.	1490	1850			
Service ceiling (100 fpm) (D)	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.	--	32			
Average cruising speed (C)/(D)	kn/km.	--	116/93			
Search Endurance	hr.	2.7	--			
Average cruising speed	kt.	90	--			

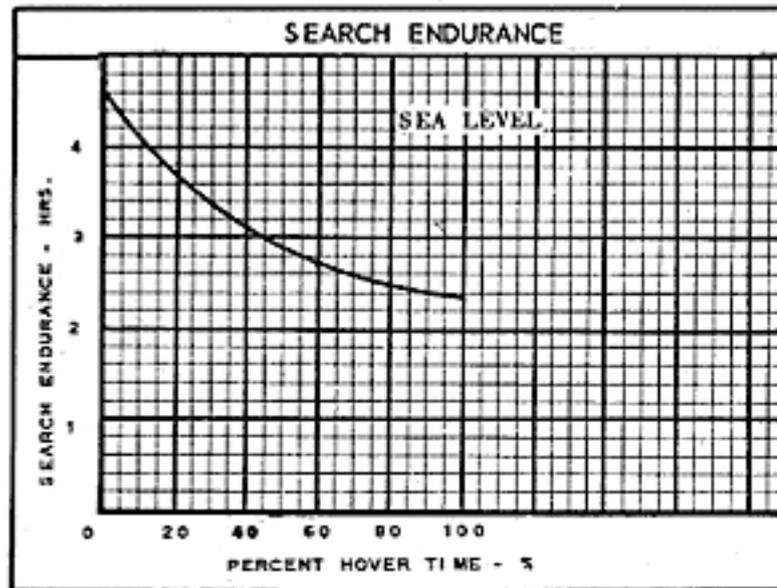
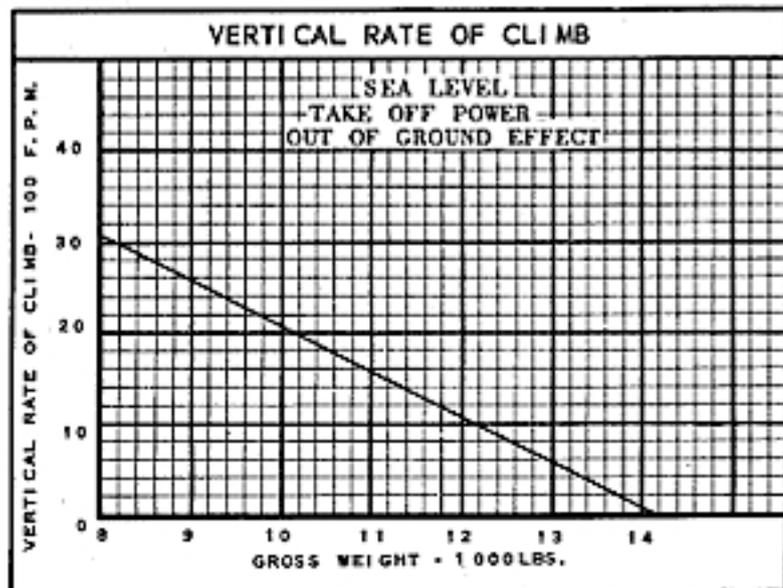
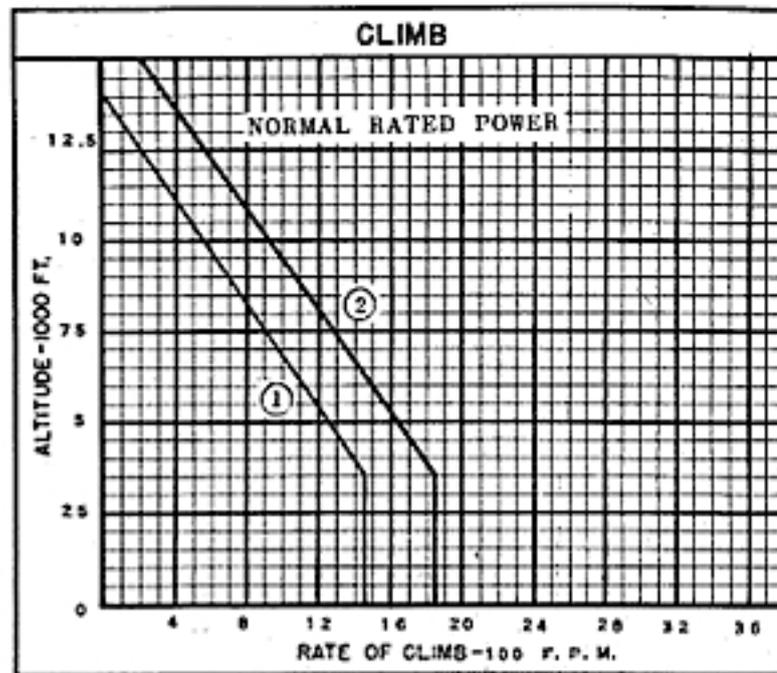
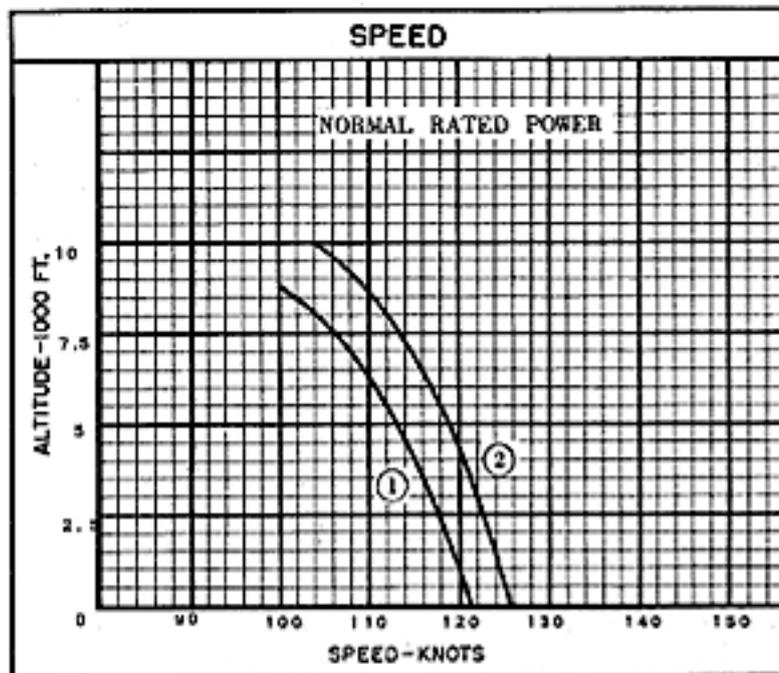
NOTES

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

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

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

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



○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics HAYTER 1334B (Rev. 1-55)

NOTES

SPOTTING: 42 helicopters (blades folded) can be spotted in a rectangular area 200 ft. long and 90 ft. wide.

ANY SEARCH ENVELOPE PROGRAM

WAKE-UP, TAKE-OFF: 1 minute at Normal Rated Power
 CRUISE: At speed for long range 60% of time at sea level
 HOVER: Out of ground effect 60% of the time at sea level
 RESERVE: 10% of initial fuel load

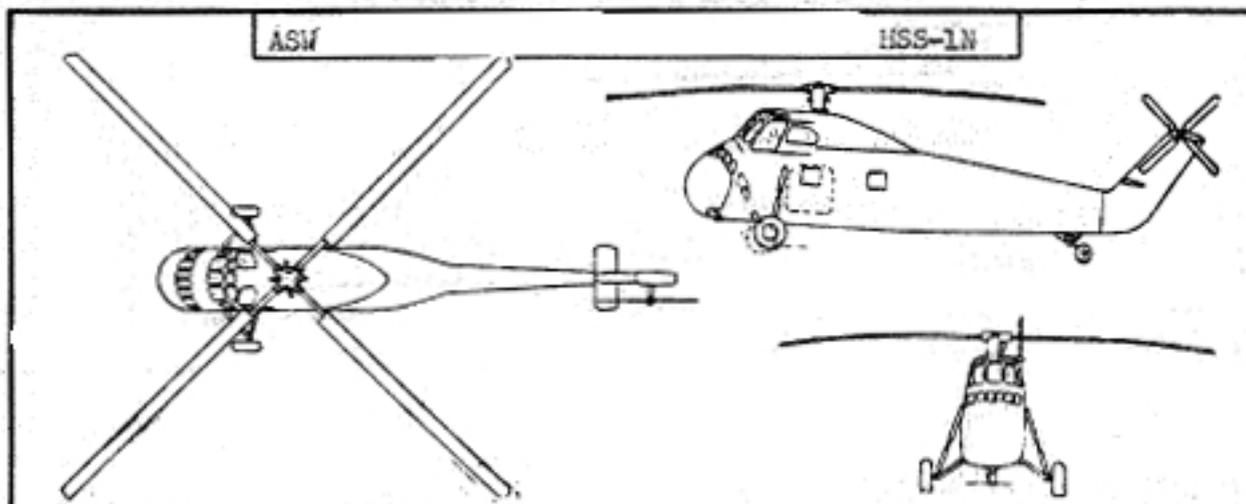
SEARCH ENVELOPE = CRUISE TIME + HOVER TIME

ANY ATTACK SEARCH PROGRAM

WAKE-UP, TAKE-OFF: 1 minute at Normal Rated Power
 CRUISE-CUT: At 60% Normal Rated Power at sea level
 TURN MANEUVER: No fuel used; no distance gained
 CRUISE-SEARCH: At speed for long range at sea level
 RESERVE: 10% of initial fuel load

COMBAT SEARCH = CRUISE DISTANCE BY TARGET

CHARACTERISTICS SUMMARY



DISC AREA 2460 sq. ft.

*LENGTH 37' 0"

ROTOR DIA. 56' 0"

HEIGHT 15' 8"

*Rotor and Tail Pylon Folded

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

STATUS

First Flight July 1957
 Service Use May 1958

ENGINES

Wright (1) R-1820-84B

RATINGS

	BHP	RPM	ALT
T.O.	1525	2800	700
MIL.	1425	2700	2400
NORM.	1275	2500	3500

FEATURES

Crew 2
 Sonar Operators . . . 2
 (Search Config.)
 Automatic Stabilization (ASE) for All-Weather Operation
 Throttle Governing to maintain engine RPM

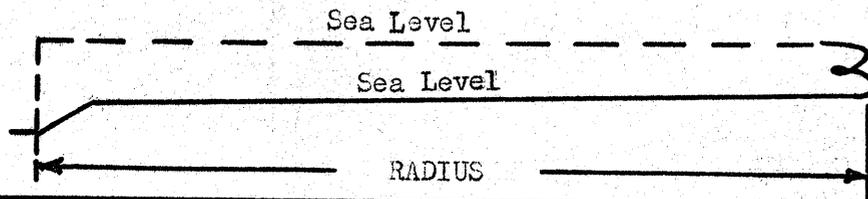
ARMAMENT

Torpedoes and Mines:
 MK 43 MOD 1 2
 or
 MK 24 2
Depth Bombs
 MK 101 MOD 0 1
 (Left side only)

CHARACTERISTICS SUMMARY

BASIC MISSION

HSS-1N



PERFORMANCE

MISSION ENDURANCE	ATTACK RADIUS	SPEED
1.6 hours	82 naut. mi.	126 knots at Sea Level
116/93* knots avg.	116/93* knots avg.	knots at ft.
Sea Level	Sea Level	Normal Gross Weight
*outgoing/returning	*outgoing/returning	Normal Power
FORWARD FLIGHT CLIMB	SERVICE CEILING	HOVERING CEILING
1850 ft./min.	16200 ft.	9200 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 972 lbs.	Empty 8648 lbs.	1800 ft./min.
Max. Fuel Capacity 1842 lbs.	Normal Gross 10485 lbs.	Sea Level, N. G. Wt., Take-Off Power
Payload 520 lbs.	Overload 13300 lbs.	

NOTES

Performance basis: NATESTCEN evaluation of HSS-1 and HSS-1N
 Radius & Mission Endurance are based upon NATESTCEN fuel
 consumption data
 Reason for reissue: Availability of flight test data

NAVAER-1519D (Rev. 6-56)

HSS-1N