

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

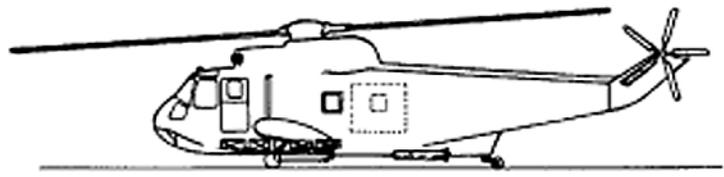
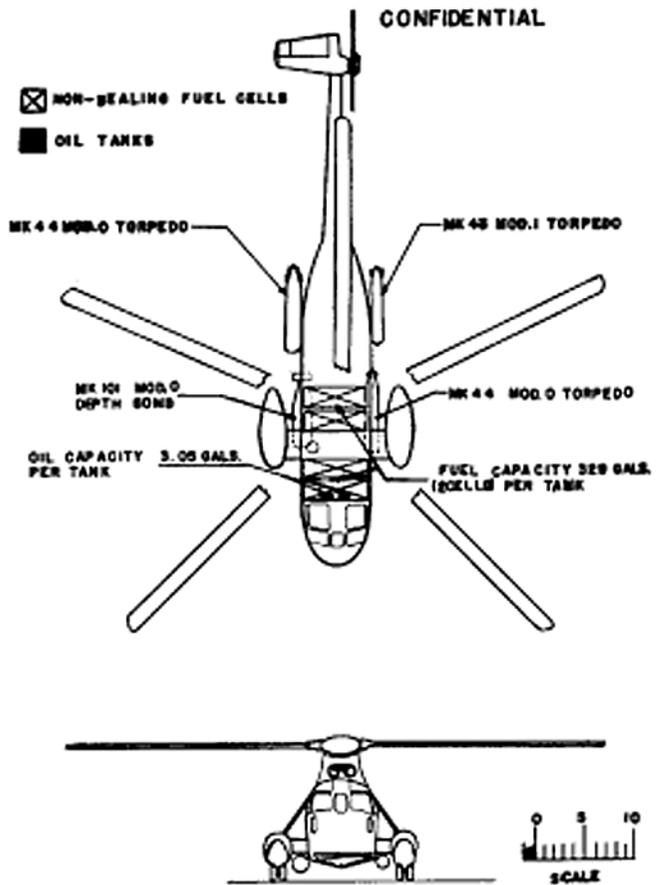
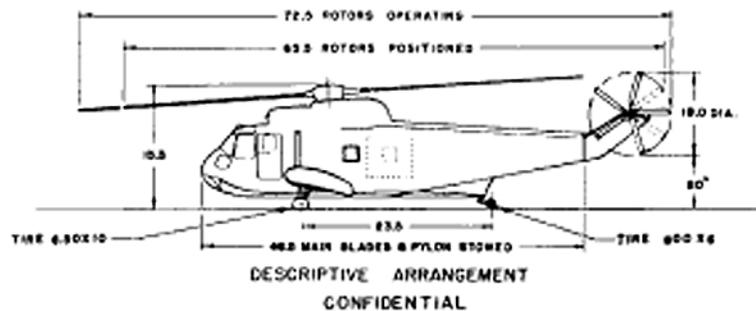
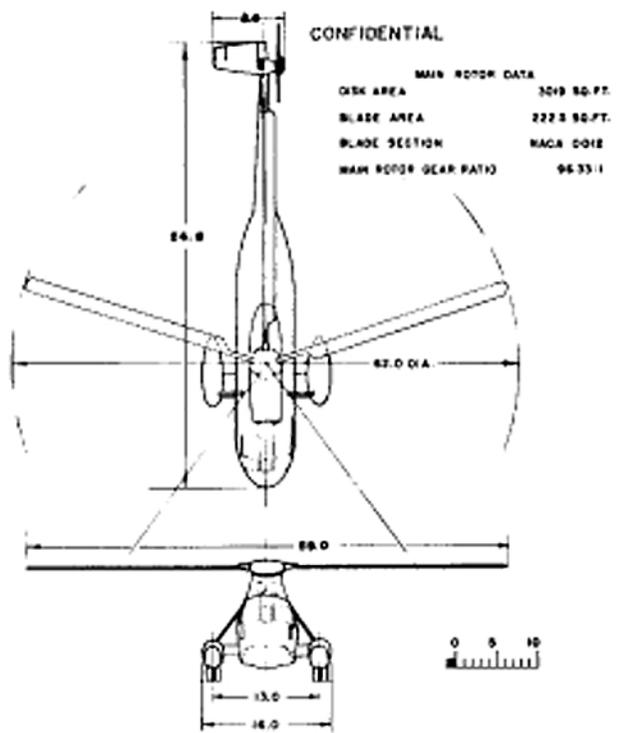
STANDARD AIRCRAFT CHARACTERISTICS

HSS - 2

SIKORSKY

30 JULY 1960

HSS - 2



ARMAMENT AND TANKAGE
CONFIDENTIAL

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

POWER PLANT

NO. & MODEL..... (2) T58-C8-6
 RPM General Electric
 ROTOR GEAR RATIO.....0.0319
 TAIL ROTOR RATIO0.0533

RATINGS

	SEMP	W	RPM	W	MT
MIL.	1050		19,555		SSL
NONM.	900		19,555		SSL

Eng. Spec. No. E-1013
 of 11 April 1957

ORDNANCE

Four fixed launching stations provide for armament.

Primary mission armament:

2 Torpedoes MK 44, (Mod. 0)

Armament carried in any combination:

4 MK 43 (Mod. 1) Torpedoes
 4 MK 44 (Mod. 0) Torpedoes
 1 MK 101 (Mod. 0) Depth Bomb
 (Forward R.H. Station Only)

Space provisions are made to carry:

4 MK 14 (Mod. 0) Depth Charge
 4 MK 54 (Mod. 1) Air. Depth Bomb

MISSION AND DESCRIPTION

The primary mission of the helicopter is to detect, identify, track and destroy enemy submarines. It is capable of all weather operation from carriers, cruisers and from other naval and merchant ships which have adequate landing provisions and from land bases.

This helicopter is a twin-engine, single-main-rotor type with one anti-torque tail rotor and a fixed trim surface. All-metal construction is used throughout the aircraft. A large door toward the rear of the cabin and a personnel door toward the front of the cabin provide entrance for the crew. The fuselage of semi-monocoque construction has an amphibian type hull bottom to provide emergency water landing capability. A sponson is provided on the outer end of the landing gear support to increase lateral stability during emergency water landings. The main rotor blades are pretracked and shall be manually foldable in winds up to 40 knots to reduce the overall length for stowage. The tail pylon is also foldable. A rotor brake provides stopping of the rotor blades from hovering RPM to prevent windmilling. Flight controls include hydraulic servo systems for the main and tail rotor. Automatic stabilization equipment is provided and is capable of being engaged or disengaged at any time during flight without disturbance.

Personnel include pilot, co-pilot, sonar operator and relief sonar operator.

DEVELOPMENT

First Flight April 1959
 Service Use March 1961

DIMENSIONS

DISC AREA 3019 sq. ft.
 BLADE AREA 222.5 sq. ft.
 NO. OF BLADES (MAIN) 5
 MAIN ROTOR DIA. 62' - 0"
 LENGTH (BLADES FOLDED) 56' - 9 1/2"
 LENGTH (BLADES & PYLON FOLD) . 46' - 6"
 LENGTH (BLADES ROTATING).... 72' - 6"
 HEIGHT (BLADES FOLDED).... 16' - 8 1/2"
 TREAD 13' - 0"
 SPAN (BLADES FOLDED)..... 16' - 0"
 STABILIZER AREA 21 sq. ft.

WEIGHTS

LOADING	LBS.	Lbs.
EMPTY	10814
BASIC	11196
DESIGN G.W.....	17196	2.36
OVERLOAD G.W.....	19000	2.14

All weights are actual

FUEL AND OIL

GAL.	NO. TANKS	LOCATION
658	2	Internal

Fuel Grade..... JP-4
 Fuel Spec..... MIL-F-5624

OIL

Capacity (Gal.)..... 6.1
 Fuel Spec. MIL-C-7808

ELECTRONICS

RADIO SET (UHF)..... AN/ARC-52
 RADIO SET (HF)..... AN/AIC-39
 INTERPHONE, TRANS. APP..... AN/AIC-4A
 RADAR IDENTIFICATION SET AN/APX-68
 CODER GROUP AN/APA-89
 LOW FREQUENCY ADF..... AN/ARN-59
 RADIO SET..... AN/AUK-21A
 RADAR ALTIMETER AN/APN-117
 SONAR AN/AQS-10
 RADAR NAVIGATION SET AN/APN-130
 NAVIGATION COMPUTER GROUP ... AN/ASA-13A

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) ASW SEARCH & ATTACK 2 MK-44	(2) ASW ATTACK 4 MK-44			
TAKE-OFF WEIGHT	lb.	17196	18088			
Fuel (JP-4)	lb.	4425	4425			
Payload	lb.	882	1764			
Disc loading	lb./sq.ft.	5.69	6.00			
Vertical rate of climb at S.L.	(A) fpm.	680	320			
Absolute hovering ceiling	(A) ft.	5200	2900			
Max. rate of climb at S.L.	(B) fpm.	1450	1280			
Service ceiling (100 fpm)	(B) ft.	12100	9900			
Max. Speed/altitude	(B) km.	133/S.L.	130/S.L.			
Min./ Maximum Speed at S.L.	(A) (C) km./kn.	38/98	52/90			
Combat Range	n.mi.	500	483			
Average cruising speed	kn.	120	120			
Cruising altitude	ft.	S.L.	S.L.			
Max. Endurance	hr.	--	4.90			
Average cruising speed/alt	kn./ft.	--	61/S.L.			
ASW Endurance	hr.	4.35	--			
Cruising speed	kn.	100	--			

NOTES

- (A) MILITARY POWER (Transmission Limit 2000 HP)
 (B) NORMAL POWER
 (C) ONE ENGINE INOPERATIVE

PERFORMANCE BASIS: Calculation, contractor flight test data and NATISTON
 HPE flight test data

ENDURANCE is based on engine specification fuel consumption data
 increased by 5%

MAXIMUM ENDURANCE MISSION

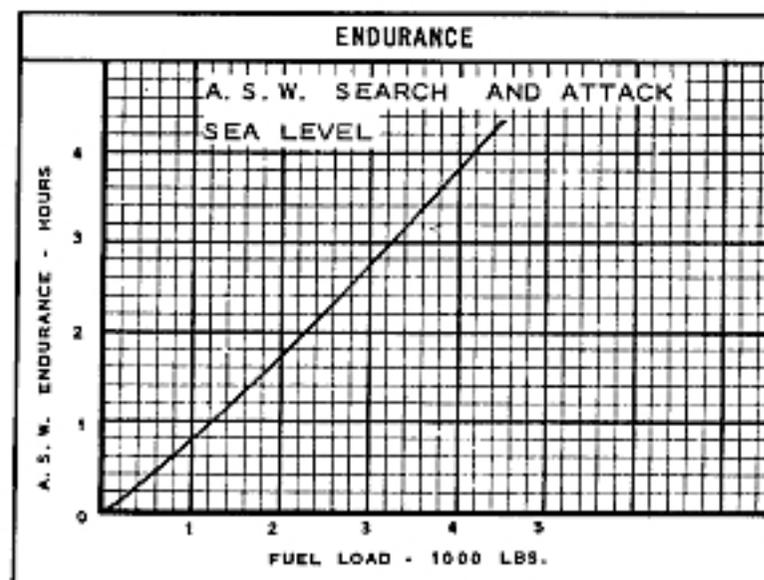
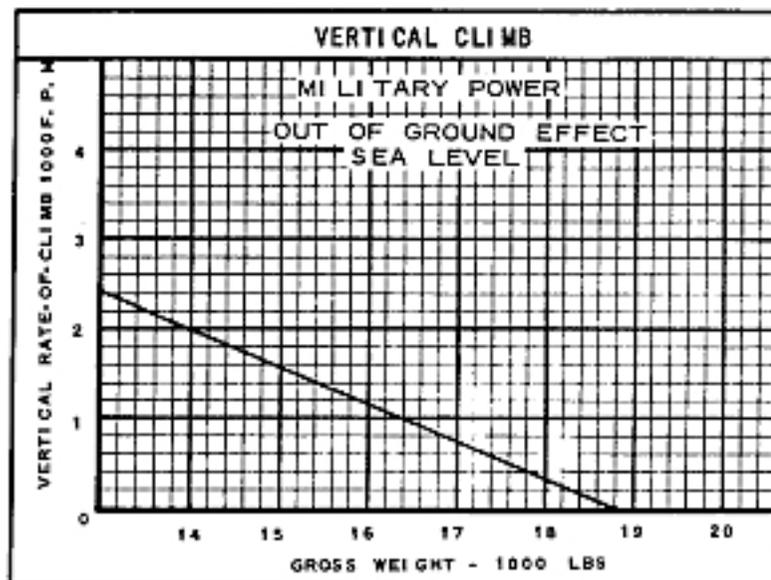
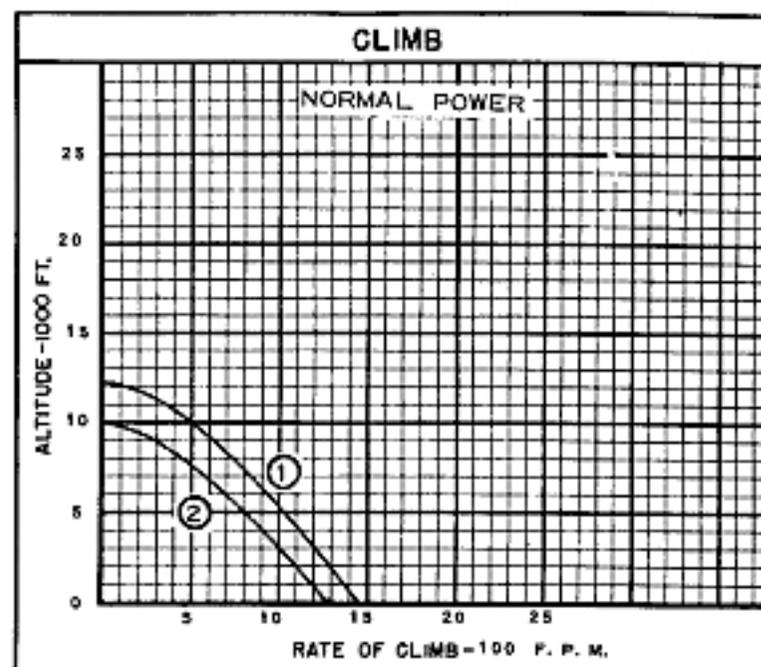
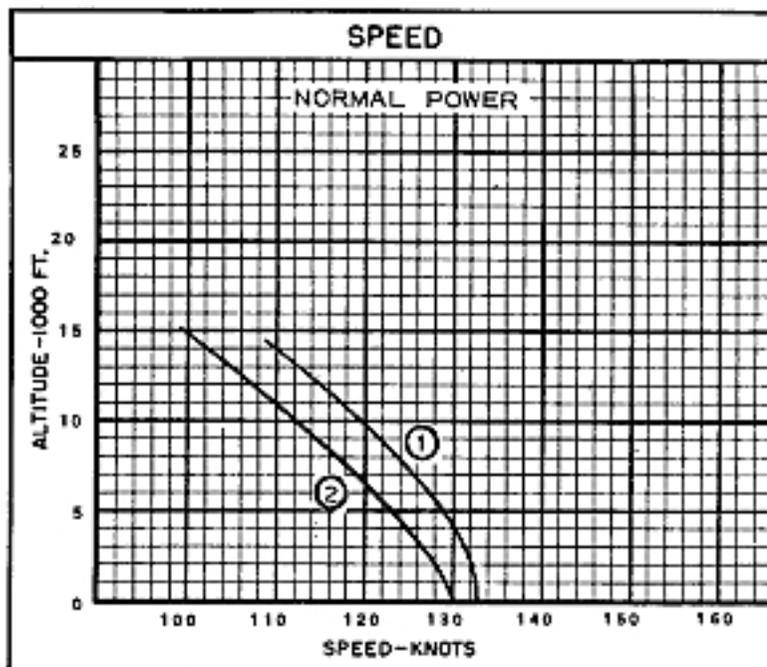
WARM UP AND TAKE-OFF: 3 min at sea level at
 normal rated power
 CRUISE: at sea level at speed for test endurance
 RESERVE: 10% of initial fuel load

ASW SEARCH AND ATTACK MISSION

WARM-UP AND TAKE-OFF: 3 minutes at sea level
 at Normal Rated Power
 CRUISE AND HOVER: Cruise and Hover alternately
 Cruise at 100 knots 50% of time - Acceleration,
 Deceleration, and Hover 50% of time - ASW
 Endurance equals Cruise, Acceleration,
 Deceleration, and Hover time
 RESERVE: 10% of initial fuel load

COMBAT RANGE MISSION

WARM UP AND TAKE-OFF: 3 min at sea level
 at normal rated power
 CRUISE: At sea level at speed for best range
 RESERVE: 10% of initial fuel load



○ LOADING CONDITION COLUMN NUMBER

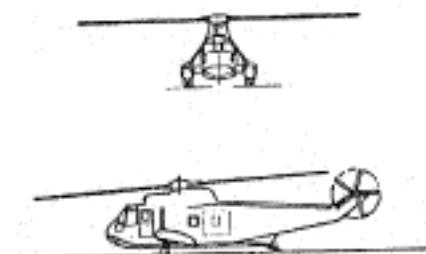
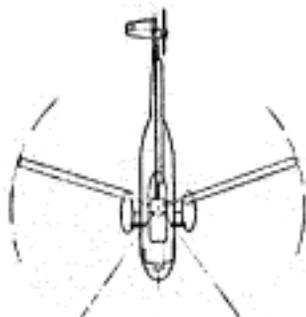
Standard Aircraft Characteristics ANVAER 1338C (Rev. 3-55)

CHARACTERISTICS SUMMARY

ASW HELICOPTER

HSS-2

SIKORSKY



DISC AREA 3019 SQ.FT.

LENGTH 56' 9 1/2"

ROTOR DIA. 62' 0"

HEIGHT 16' 8 1/2"

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

STATUS

FIRST FLIGHT APRIL 1959
 SERVICE USE MARCH 1961

ENGINES			
(2) T58-GE-6			
	ESHP	RPM	ALT
MIL	1050	19555	5L
NORM	900	19555	5L
(TRANSMISSION LIMIT 2000 HP)			

FEATURES
CREW - 4
WATER TIGHT HULL FOR DITCHING.
DIPPING SONAR
FOLDING TAIL PYLON
AUTO STABILIZATION
ALL WEATHER OPERATION

ARMAMENT
PRIMARY MISSION:
(2) TORPEDOES MK44(MOD,0)
ARMAMENT IN ANY COMBINATION
(4) MK43(MOD,1) TORPEDOES
(4) MK44(MOD,0) TORPEDOES
(1) MK101(MOD,1) DEPTH BOMB
SPACE PROVISIONS FOR:
(4) MK14(MOD,0) DEPTH CHARGE
(4) MK54(MOD,1) AIR DEPTH BOMB

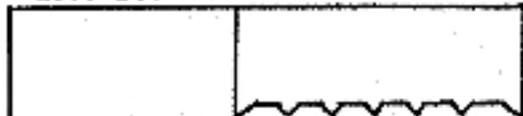
NAVAER-1519E (Rev. 6-56)

CHARACTERISTICS SUMMARY

BASIC MISSION

HSS-2

1000 ft.



(ASW Search & Attack 2MK 14)

1. Warm up & Take-Off 3 Min NRP S.S.L.
2. Cruise at 100 KN to Search Area, Commence Dips, Cruise at 100 KN Between Dips. Hover is 50% of Mission Time, Cruise is 50%.
3. Reserve 10% of Initial Load

PERFORMANCE

ENDURANCE	RANGE	SPEED
4.35 hours	500 naut. mi.	133 knots at S.L. ft.
100 knots avg.	120 knots avg.	knots at ft.
Sea Level ft. alt.	Sea Level ft. alt.	Normal Gross Weight Normal Power
FORWARD FLIGHT CLIMB	SERVICE CEILING	HOVERING CEILING
1450 ft./min.	12,100 ft.	5200 ft.
Sea Level, N. G. Wt., Normal Power	100 ft./min., N. G. Wt., Normal Power	N. G. Wt., Maximum Power out of ground effect
Min. Level Flight Speed Single Engine S. L. 38 Knots	Max. Level Flight Speed Single Engine S. L. 98 Knots	7250 ft. N. G. Wt., Max. Power in ground effect
LOAD	WEIGHTS	VERTICAL CLIMB
Fuel 681 gal.	Empty 10,814 lbs.	680 ft./min.
Internal 681 gal.	Normal Gross 17,196 lbs.	Sea Level, N. G. Wt., Maximum Power
External JP-4 gal.	Overload 19,000 lbs.	
Payload 882 lbs.		

NOTES

Performance Basis: Calculations, Contractor and NPE Flight Test Data
 Endurance Fuel Consumption Based on Engine Spec. SFC Increased by 5%
 Reason for Reissue: Inclusion of Flight Test Data

NAVIER-1519D (Rev. 8-56)