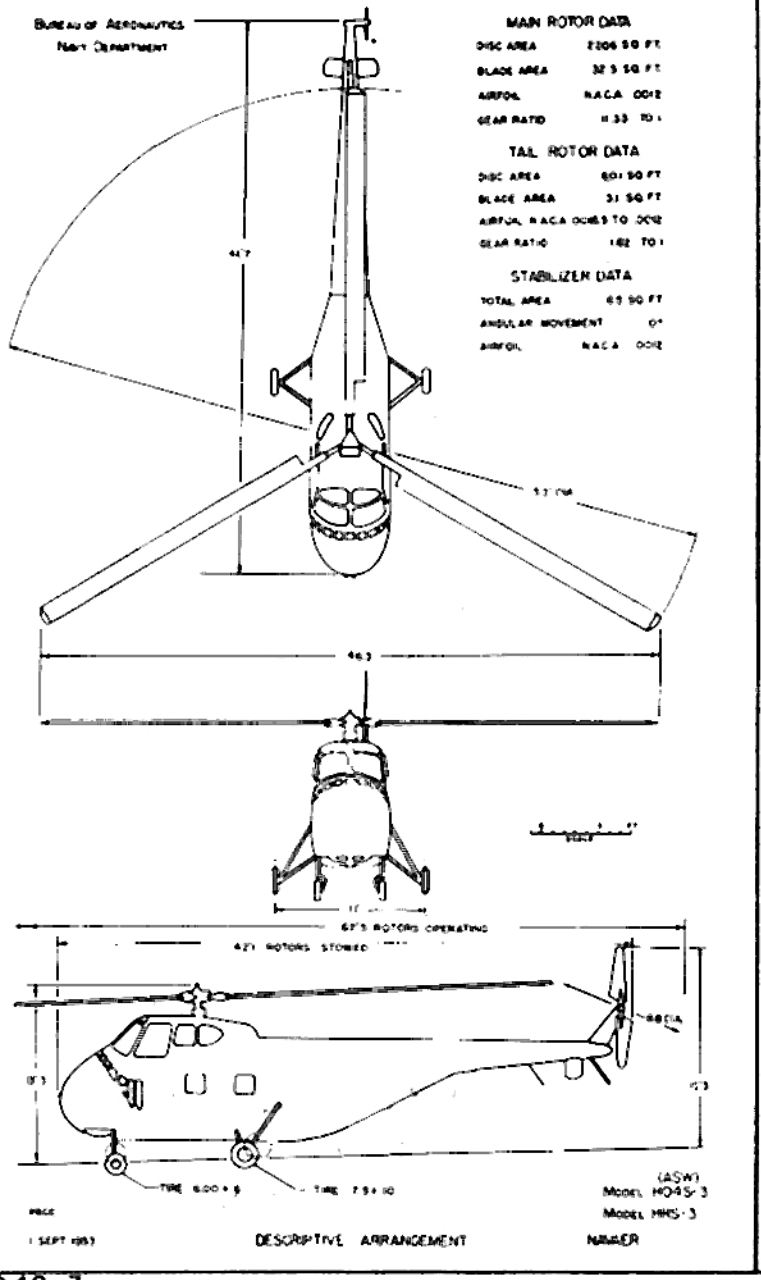
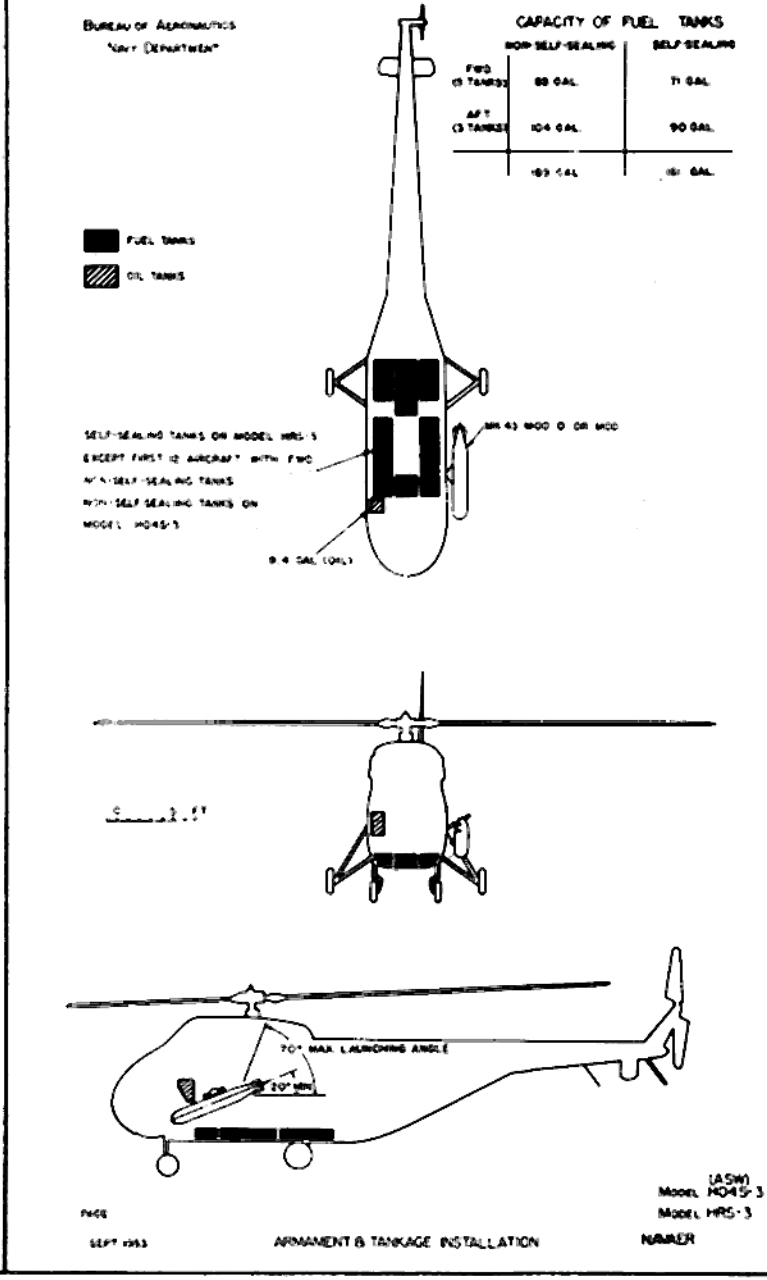
STANDARD AIRCRAFT CHARACTERISTICS
HO4S-3

SIKORSKY

Standard Aircraft Characteristics NAVAER 1335A (Rev. 1-49)





Standard Aircraft Characteristics NAVAER 1359 (REV. 1-59)

POWER PLANT

NO. & MODEL.....(1)R-1300-3
MFR.....Wright
SUPERCH.....1 Speed
ROTOR GEAR RATIO.....0.0682
TAIL ROTOR RATIO.....0.617

RATINGS

	BHP	@ RPM	@ ALT
T.O.	800	2600	S.L.
NORMAL	700	2400	5,700'

See note on Performance Summary Page.

SPEC NO. W.A.D. AN-9500d

ORDNANCE

TORPEDO

MK 43	MOD 0	1 or
MK 43	MOD 1	1

ACCOMMODATIONS

ASW Search
Pilot.....1
Dual Pilot.....1
Sonar Operator.....1

ASW Attack
Pilot.....1
Bombardier.....1

MISSION AND DESCRIPTION

The HO4S-3 is being procured for interim use in anti-submarine warfare. The primary mission of this helicopter is to detect, identify and track enemy submarines in ocean areas. An attack version is equipped to attack and destroy enemy submarines.

The most significant change from the HO4S-1 to the HO4S-3 was the installation of a more powerful engine. The engine is mounted facing rearward in the nose of the aircraft with the shaft inclined 35° from the horizontal. Access is provided through clam-shell type nose doors and through a removable panel in the firewall.

Design features include a hydraulic hoist (400 lb. capacity) for airborne loading or rescue, equipment for night contact flying, hydraulically operated servo controls, a hydro-mechanical clutch to accelerate the transmission to engine speed, and cockpit and cabin ventilation and heating.

DEVELOPMENT

Service Use ..... August 1953

DIMENSIONS

DISC AREA.....2,206 sq.ft.
BLADE AREA.....97.5 sq.ft.
STABILIZER AREA.....6.5 sq.ft.
BLADE DIA.....53' -0"
LENGTH*.....42' -1"
OVERALL LENGTH**.....62' -6"
HEIGHT.....13' -4"
TREAD.....11' -0"

* Blades folded
** Rotor operating

WEIGHTS

LOADINGS	LBS	L.F.
ENGTY*.....	5,334.....	
BASIC*.....	5,406.....	
DESIGN.....	7,100.....	2.67
MAX. T.O.**.....	7,517.....	2.52
MAX. LAND**.....	7,517.....	2.52

* See note on NOTES Page.
** Maximum anticipated loading.

FUEL AND OIL

NO. TANKS	TOT. GAL.	LOCATION
2	189	Fuselage

FUEL GRADE.....91/96
FUEL SPEC.....Applicable MIL-F-5572

OIL

CAPACITY (Gals).....9.4
GRADE.....1100
SPEC.....Applicable MIL-O-6082

ELECTRONICS

UHF TRANS. REC.....AN/ARC-27A
INTERPHONE.....AN/AIC-4A
RANGE REC.....R-23A/ARC-5
*AN/URC-13
(Homlyn Mod. HTR-5 MHF Radio Set)
*AN/ARN-30A
HOMING REC.....AN/ARR-2A
(install Prov. only)
IFF.....AN/APX-6
ALTIMETER.....AN/APN-1
(install Prov. only)
SONAR.....AN/AQS-4A
(install Prov. only)

Coast guard furnished

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION			(1) ASW SEARCH CREW 3 AN/AQS-4 Sonar	(2) ASW ATTACK CREW 2 1 MK 43 Mine			
TAKE-OFF WEIGHT		lb.	7,517	6,945			
Fuel		lb.	1,008	648			
Payload		lb.	- -	375			
Disc loading		lb./sq.ft.	3.4	3.1			
Vertical rate of climb at S.L.	(A)	fpm.	400	860			
Absolute hovering ceiling	(A)	ft.	5,400	7,800			
Max. rate of climb at S.L.	(A)	fpm.	1,230	1,450			
Service ceiling (100 fpm)	(A)	ft.	14,800	17,400			
Speed at S.L.	(A)	kn.	102	104			
Max. speed/altitude	(A)	kn./ft.	107/5,700	108/5,700			
Combat range		n.mi.	270	180			
Average cruising speed		kn.	78	78			
Cruising altitude		ft.	S.L.	S.L.			
Combat radius		n.mi.	- -	80			
Average cruising speed		kn.	- -	85			
Search endurance		hrs.	2.7	- -			
% NRP Req'd to hover at S.L., no wind			93	84			

NOTES

(A) Normal power.

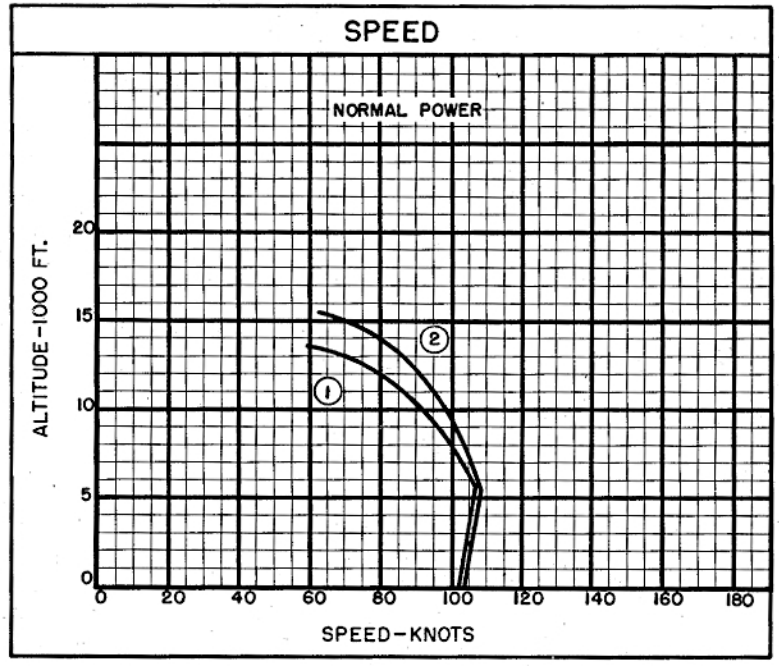
All performance is out of ground effect and in standard atmosphere (59°F).

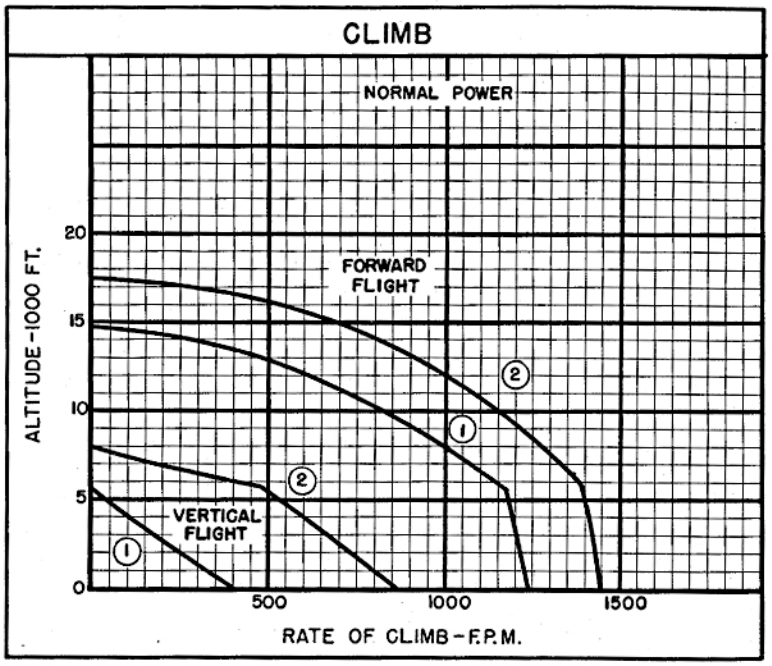
PERFORMANCE BASIS: NATC STCEN flight test of the HRS-3 and HO4S-3S helicopters and Air Force flight test of the H-19B helicopter.

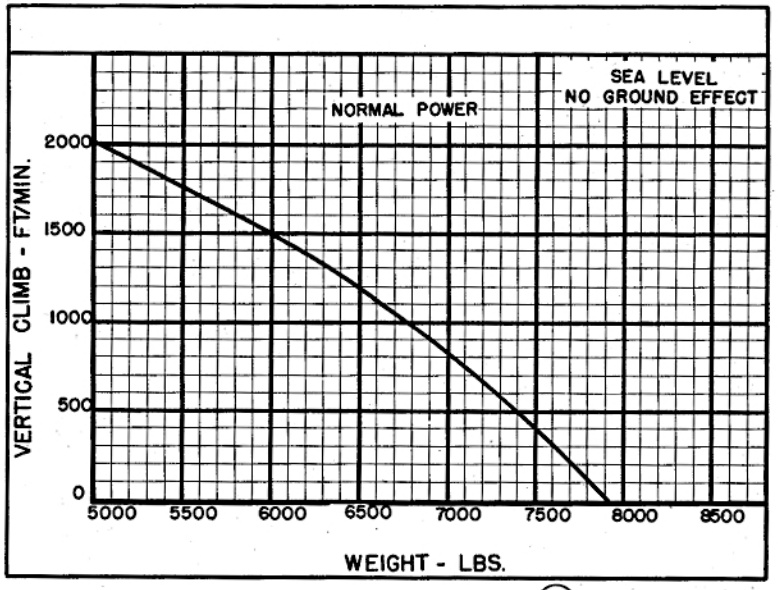
RANGE, RADIUS, AND ENDURANCE are based on NATC STCEN fuel consumption tests data increased by 5% and allowing fuel for warm-up and take-off (5 minutes at NRP) and a 10% fuel reserve. 2,400 engine rpm is used at all airspeeds.

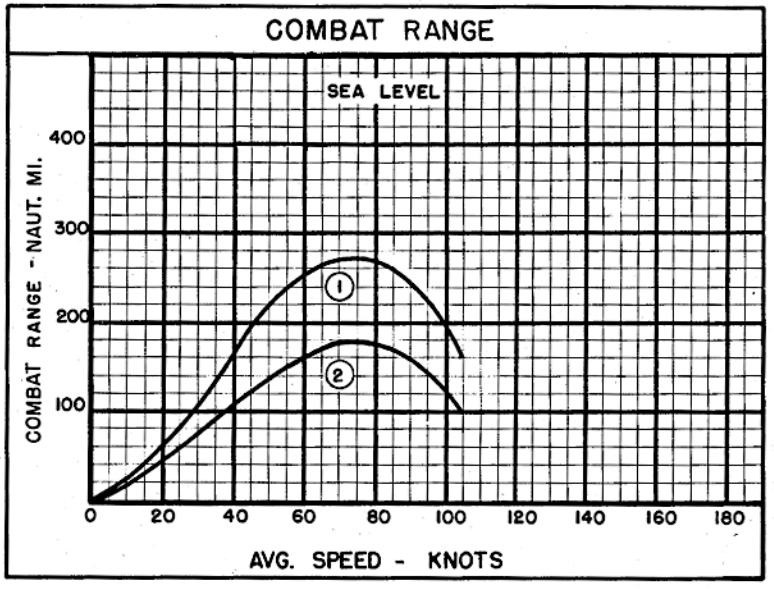
Power is limited to a maximum value of 700 BHP by helicopter transmission capacity. Engine is limited to 2400 rpm.

NAVAER-1335G (Rev. 1-55)









◯ LOADING CONDITION COLUMN NUMBER

NOTES

Empty and Basic weight values shown are for the ASW attack version. The addition of electronic equipment for the ASW search version increases the empty weight to 5,687 pounds and the basic weight to 5,759 pounds.

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ASW SEARCH ENDURANCE PROBLEM

WARM-UP AND TAKE-OFF: 5 minutes at NRP.
CRUISE: At speed for long range 40% of time at sea level.
HOVER: Out of ground effect 60% of time at sea level.
RESERVE: 10% of initial fuel load.

SEARCH ENDURANCE = CRUISE TIME + HOVER TIME

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ASW ATTACK COMBAT RADIUS PROBLEM

WARM-UP AND TAKE-OFF: 5 minutes at NRP.
CRUISE TO TARGET: At airspeed for 80% NRP at sea level.
DROP MINE
RETURN CRUISE: At speed for maximum range at sea level.
RESERVE: 10% of initial fuel load.

COMBAT RADIUS = CRUISE DISTANCE FROM START OF CRUISE TO TARGET

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

877008 1 JUNE 1954 (REV. 15 JUNE 1956)