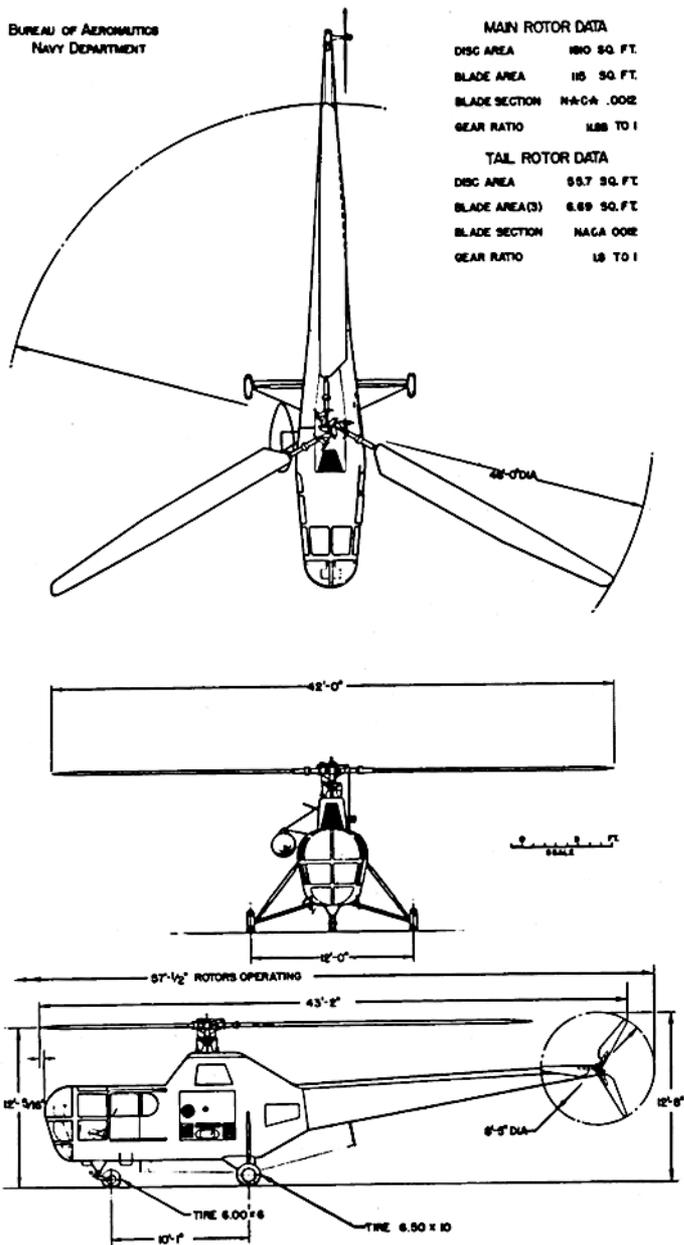




STANDARD AIRCRAFT CHARACTERISTICS  
HO3S-1

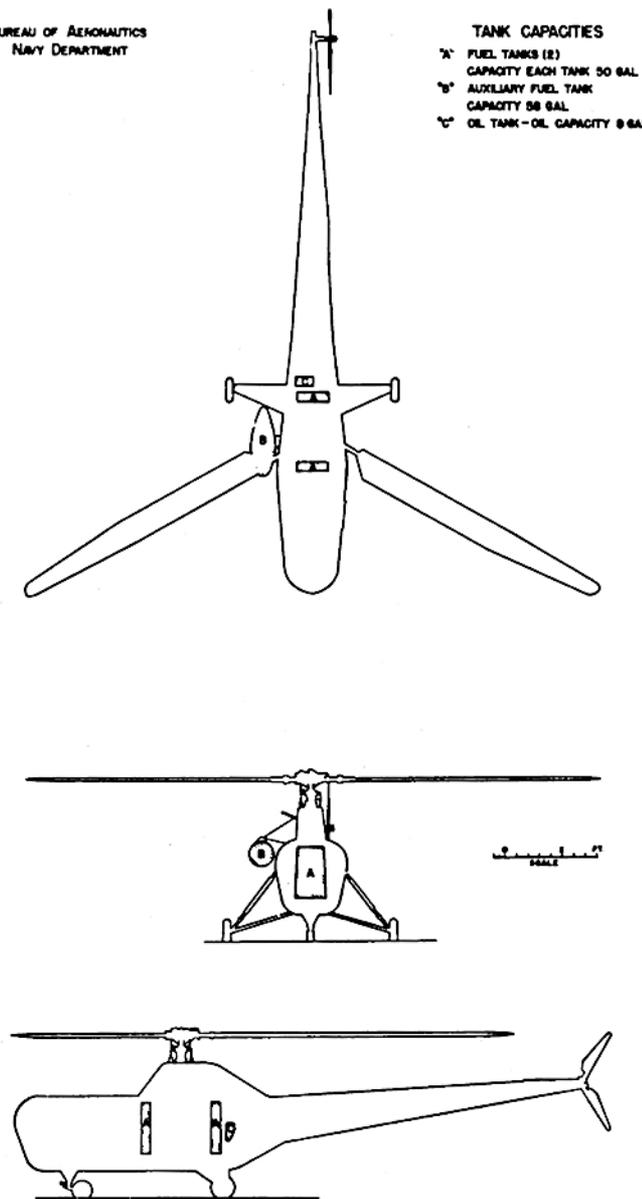
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NAVY DEPARTMENT



MAIN ROTOR DATA	
DISC AREA	1100 SQ. FT.
BLADE AREA	115 SQ. FT.
BLADE SECTION	HACA .002
GEAR RATIO	1.88 TO 1
TAIL ROTOR DATA	
DISC AREA	55.7 SQ. FT.
BLADE AREA(3)	6.89 SQ. FT.
BLADE SECTION	HACA 0.02
GEAR RATIO	1.8 TO 1

DESCRIPTIVE ARRANGEMENT

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TANK CAPACITIES	
"A" FUEL TANKS (2)	CAPACITY EACH TANK 50 GAL.
"B" AUXILIARY FUEL TANK	CAPACITY 50 GAL.
"C" OIL TANK - OIL	CAPACITY 9 GAL.

TANKAGE INSTALLATION

**MISSION AND DESCRIPTION**

The primary mission of the HO3S-1 helicopter is utility.

The HO3S-1 is the Navy version of Sikorsky Model S-51, which in turn is a development of the A.A.F. E-5.

Main rotor blades may be folded or removed for storage. Amphibious floats are under development. Emergency flotation gear is installed. A hydraulically operated hoist is provided for use in flight. Instruments provided are suitable for contact flight only.

**DIMENSIONS**

DISC. AREA.....1810 sq. ft.  
 BLADE AREA.....115 sq. ft.  
 BLADE DIA.....48'-0"  
 LENGTH.....57'-0"  
 HEIGHT.....13'-0"  
 TREAD.....12'-0"

**WEIGHTS**

Loadings	Lbs.	L.F.
EMPTY.....	3788.....	
BASIC.....	4026.....	
DESIGN.....	4985.....	3.1
MAX.T.O.....	4985.....	3.1
MAX.LAND.....	4985.....	

All weights are actual.

**FUEL AND OIL**

Gal.	No. Tanks	Location
100	2	Fuselage
89	1	External
FUEL GRADE.....91/98		
FUEL SPEC.....AN-F-48		

**OIL**

CAPACITY (gals.).....8  
 GRADE.....1100-1120  
 SPEC.....AN-O-8

**ELECTRONICS**

VHF TRANSCEIVER.....AN/ARC-1  
 RANGE REC.....AN/ARC-5  
 RECEIVER.....AN/ARR-2

**POWER PLANT**

NO. & MODEL.....(1) R-985-AN-5  
 MFGR.....Pratt & Whitney  
 SUPERCH.....1 Stage, 1 Speed  
 ROTOR GEAR RATIO.....0.084

**RATINGS**

Bhp @ Rpm @ Alt.

T.O. 450 2300 S.L.

NORM. 450 2300 2300'

SPEC. AN-2036

**ACCOMODATIONS**

CREW.....1  
 PASSENGERS.....3  
 BAGGAGE.....145 lbs.  
 HOIST CAPACITY.....300 lbs.



## PERFORMANCE SUMMARY

LOADING CONDITION		(1) UTILITY	(2) UTILITY	(3) UTILITY
		4 Places	3 Places	1 Place 1 Ext. Tank
TAKE-OFF WEIGHT	LBS.	4,985	4,985	4,985
FUEL	LBS.	420	600	600/300
PAY LOAD	LBS.			
ENGINE POWER	BHP/RPM	450/2,300	450/2,300	450/2,300
DISC LOADING	LBS/SQ.FT.	2.75	2.75	2.75
POWER LOADING	LBS/BHP	11.08	11.08	11.08
MAXIMUM SPEED-SEA LEVEL	KN.	90	90	89
MAXIMUM SPEED/ALT.	KN/FT.	94/3,750	94/3,750	93/3,750
RATE OF CLIMB-SEA LEVEL	KN.	1,240	1,240	1,240
BEST RATE OF CLIMB SPEED-SEA LEVEL	KN.	45	45	45
TIME TO 5,000FT.	MIN.	4.3	4.3	4.3
TIME TO 10,000FT.	MIN.	11.0	11.0	11.0
SERVICE CEILING	FT.	14,800	14,800	14,800
VERTICAL RATE OF CLIMB	FT/MIN.	480	480	480
ABSOLUTE HOVERING CEILING	FT.	5,300	5,300	5,300
COMBAT RANGE/V.A.V1,500 FT	N.M./KN.	162/70	238/70	364/70
MAXIMUM ENDURANCE/V.A.V1,500FT.	HR/KN.	2.7/50	4.0/50	6.1/50

## NOTES

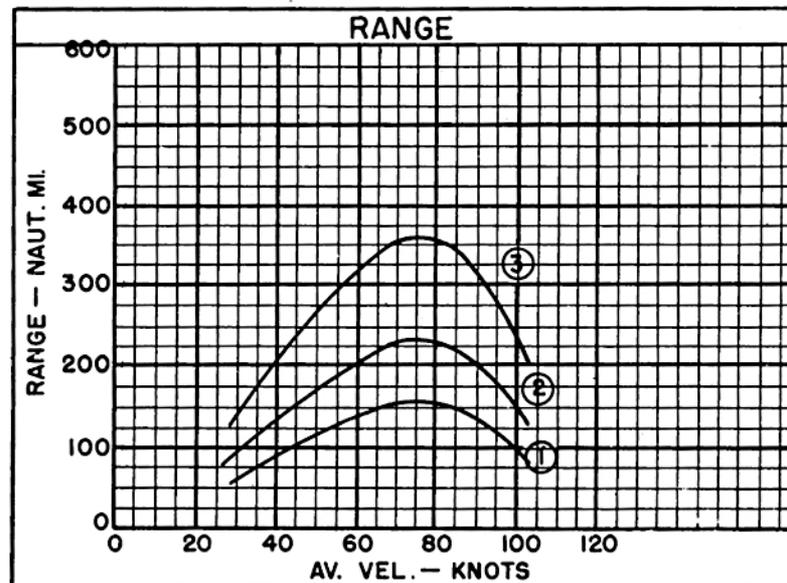
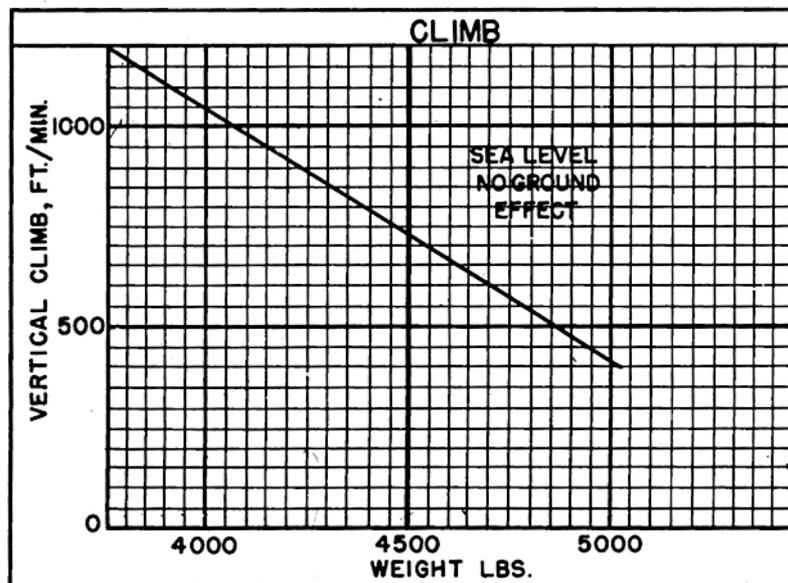
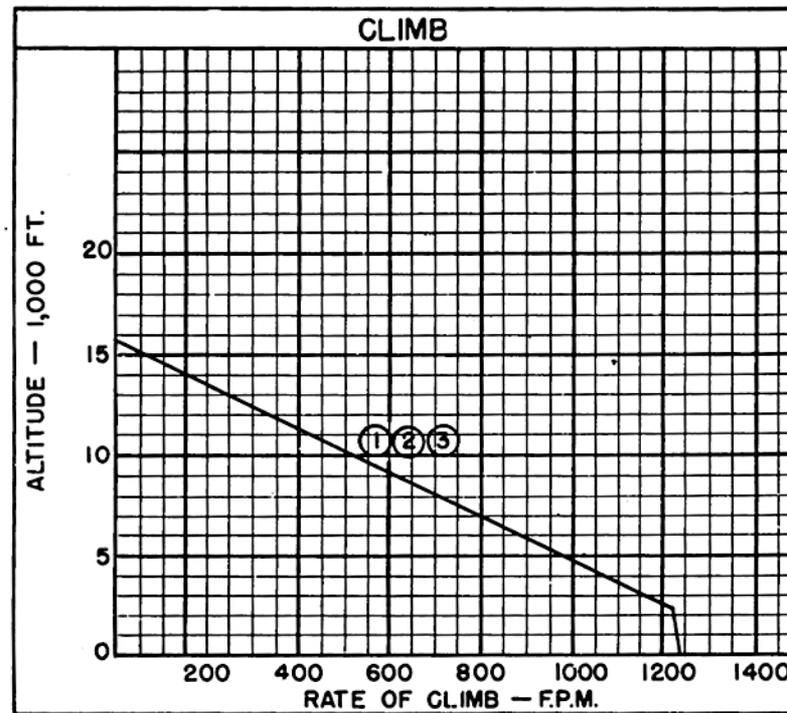
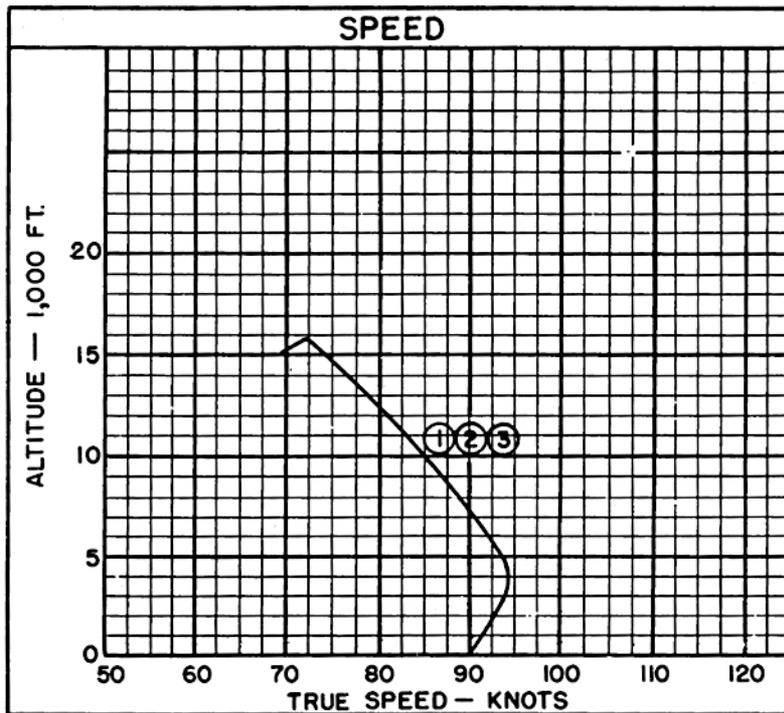
All performance figures are based on actual flight tests reduced to standard atmospheric conditions with no wind. Sea level data do not include ground effect. All performance, particularly hovering and climb, are adversely affected by increased temperature and relative humidity. Hovering and climb performance are improved by ground effect (at altitudes less than one rotor diameter above the ground). Hovering and vertical climb performance are also materially improved by light horizontal winds of the order of 5-10 knots.

Combat range is based on flight tests and engine manufacturer's fuel consumption data.

Fuel consumption data are increased by 5%.

External tank and hoist have no appreciable effect on performance.

Maximum endurance is based on fuel remaining after allowance for warm-up, take-off, and reserve.



○ LOADING CONDITION COLUMN NUMBER