

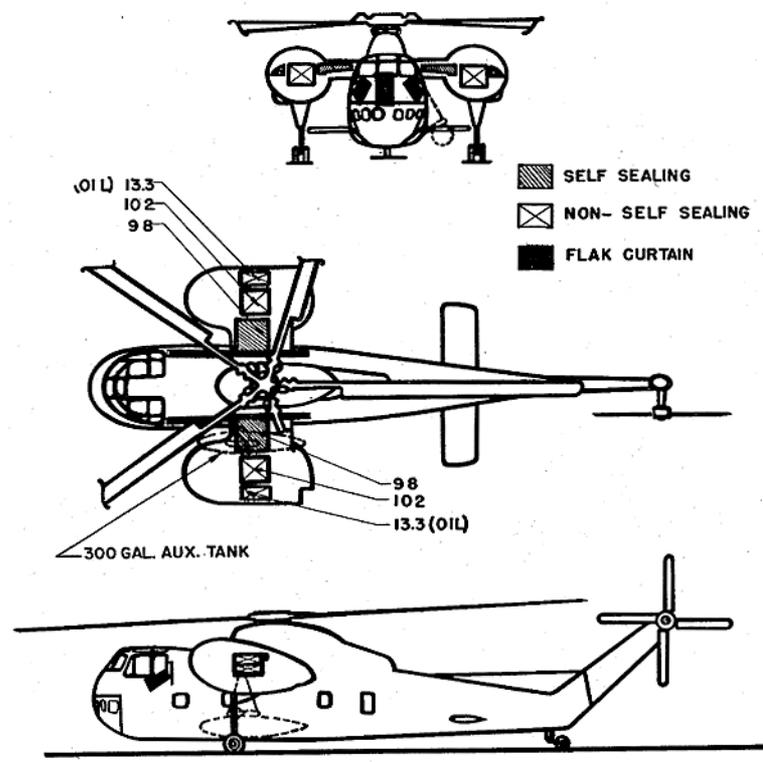
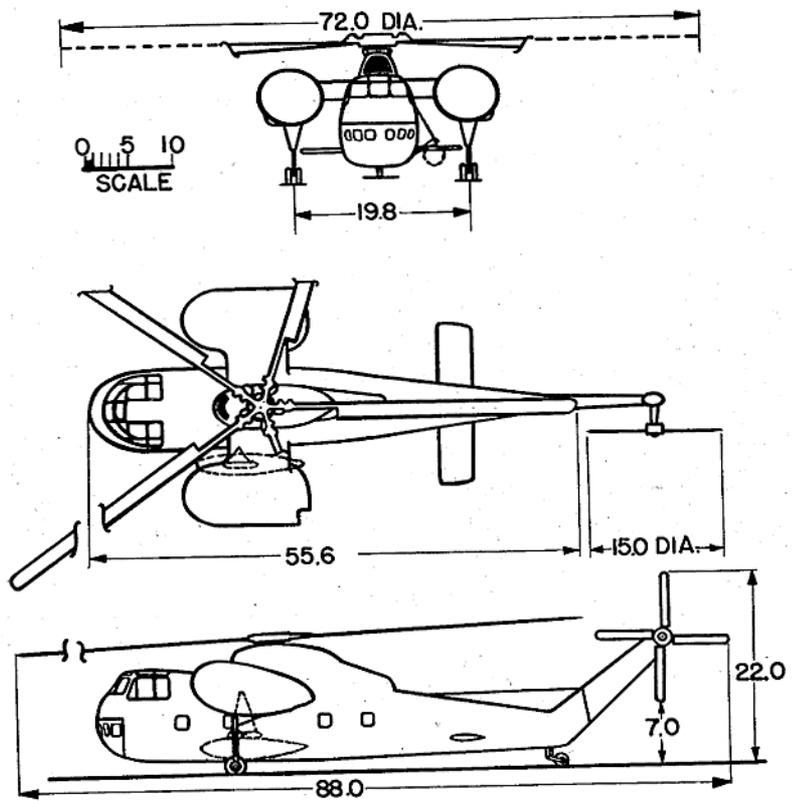


Standard Aircraft Characteristics NAVAER 1335A (REV. 1-55)

STANDARD AIRCRAFT CHARACTERISTICS

HR2S-1

SIKORSKY



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

POWER PLANT

NO. & MODEL (2) R-2800-54
 MFR Pratt & Whitney
 SUPERCHARGER 1 Stage, 1 Speed
 ROTOR GEAR RATIO 14.01 to 1
 TAIL ROTOR RATIO 2.9 to 1

RATINGS

| | BHP | @ RPM | @ ALT |
|-------|------|-------|-------|
| T.O. | 2100 | 2700 | 5000 |
| NORM. | 1900 | 2600 | 7000 |

Spec. No. N-8143B

ACCOMMODATIONS

PILOT 1
 CO-PILOT 1
 COMBAT TROOPS 20
 or
 LITTERS 16

MAXIMUM CARGO CAPACITY ... 10,000 lbs.

MISSION AND DESCRIPTION

The primary mission of the model HR2S-1 helicopter is to transport assault troops and equipment from ships or land bases to a target and return. It is suitable for operation from aircraft carriers (except for CVE and CVL class) and from land bases.

The HR2S-1 has a twin engine, single main rotor with an automatic torque compensation tail rotor and a controlled stabilizer. It incorporates a dual control system. The mechanical flight controls are augmented by a primary and secondary servo system with an automatic stabilization device.

A blade flapping restrainer and a rotor brake are provided for starting and stopping the rotor in winds up to 60 knots.

There are provisions for an auxiliary fuel system to allow installation of two-300 gallon external tanks or two-150 gallon tanks.

DEVELOPMENT

First Flight December 1953
 Service Use June 1956

DIMENSIONS

DISC AREA 4017.5 sq. ft.
 BLADE AREA 261.5 sq. ft.
 NO. OF BLADES(MAIN) 5
 ROTOR DIA. 72' - 0"
 LENGTH 58' - 5"
 HEIGHT 16' - 8"
 (tail rotor folded and tail rotor positioned)
 TREAD 19' - 9"
 STABILIZER AREA 111.7 sq. ft.

WEIGHTS

| LOADING | LBS | L.F. |
|-----------------|--------|------|
| EMPTY | 21,502 | |
| BASIC | 21,502 | |
| DESIGN | 31,000 | 2.5 |
| COMBAT (Basic) | 28,706 | 2.7 |
| T.O. (Normal) | 31,000 | 2.5 |
| T.O. (Overload) | 31,000 | 2.5 |
| MAX. LANDING | 31,000 | |

All weights are actual

FUEL AND OIL

| GALS. | NO. TANKS | LOCATION |
|-------|-----------|--------------------|
| 196 | 2 | Nacelles |
| 204 | 2 | Wing * |
| 600 | 2 | Fuse. Sides (ext.) |

* Self Sealing

FUEL GRADE 115/145
 FUEL SPEC (applicable) MIL-P-5572

OIL

CAPACITY (Gals.) 26.6
 GRADE 1100
 SPEC (applicable) MIL-C-6082

ELECTRONICS

CODER GROUP AN/APA-89
 UHF TRANS/RECORDER AN/ARC-27A or AN/ARC-55
 MHF TRANS/RECORDER AN/ARC-2A
 ICS AN/ATC-4A
 DIR. FINDER GROUP AN/ARA-25
 RADAR ALTIMETER AN/APN-22
 TRANS/RECORDER AN/APX-6B
 RADIO SET (TACAN) AN/ARN-21
 RADIO RECEIVER AN/ARN-41A
 FM COMMUNICATIONS SET AN/ARC-44

PERFORMANCE SUMMARY

| TAKE-OFF LOADING CONDITION | | (1) ASSAULT TRANSPORT (Normal) 1 Ext. Fuel Tank | (2) CARGO (Overload) | (3) FERRY Maximum Fuel 2 Ext. Fuel Tanks | | |
|------------------------------------|------------|-------------------------------------------------------|-------------------------|------------------------------------------------|--|--|
| TAKE-OFF WEIGHT | lb. | 31,000 | 31,000 | 28,533 | | |
| Fuel internal/external | lb. | 2400/1527 | 2400/0 | 2400/3600 | | |
| Payload | lb. | 4500 | 6673 | 0 | | |
| Disc loading | lb./sq.ft. | 7.61 | 7.61 | 7.00 | | |
| Vertical rate of climb at S.L. (A) | fpm. | 0 | 0 | 950 | | |
| Absolute hovering ceiling (A) | ft. | 0 | 0 | 5400 | | |
| Max. rate of climb at S.L. (B) | fpm. | 1280 | 1280 | 1580 | | |
| Service ceiling (100 fpm) | ft. | 11,500 | 11,500 | 13,800 | | |
| Speed at S.L. (B) | kn. | 115 | 119 | 121 | | |
| Max. speed/altitude (B) | kn./ft. | 115/S.L. | 119/S.L. | 121/S.L. | | |
| Combat range | n.mi. | -- | -- | 335 | | |
| Average cruising speed | kn. | -- | -- | 100 | | |
| Cruising altitude | ft. | -- | -- | 0 | | |
| Combat radius | n.mi. | 100 | 71 | -- | | |
| Average cruising speed | kn. | 100 | 100 | -- | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

NOTES

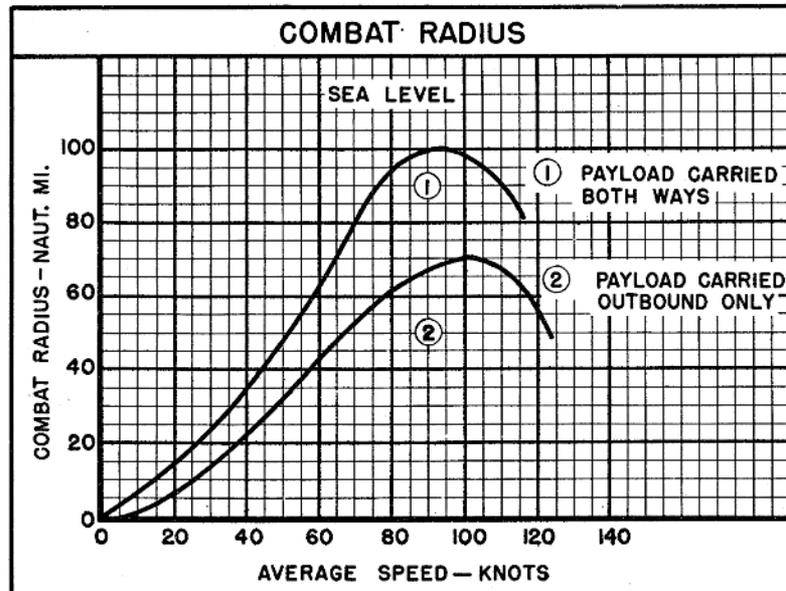
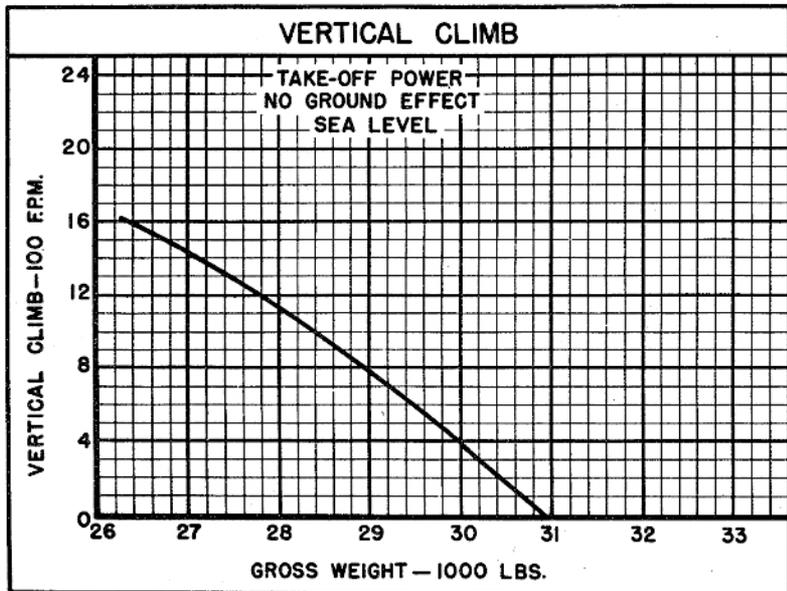
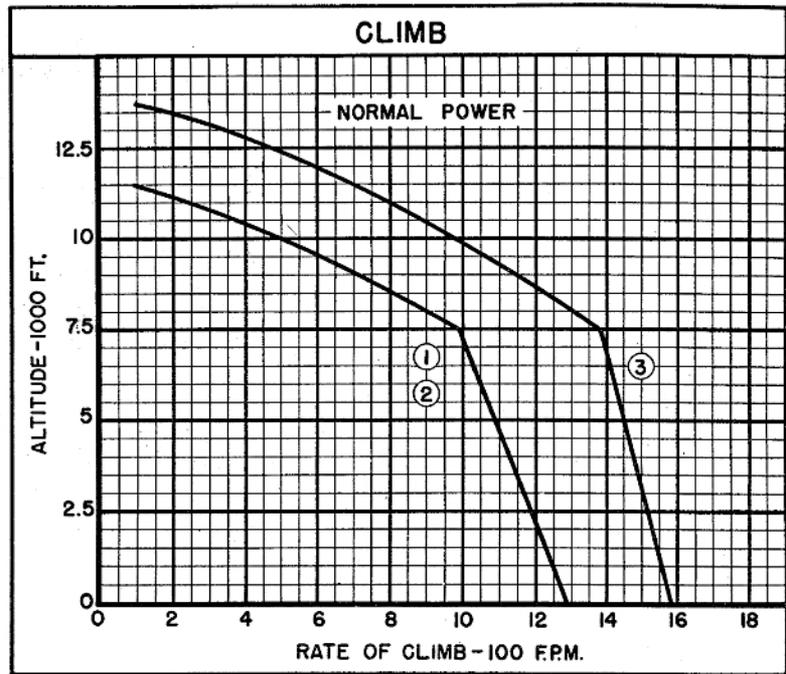
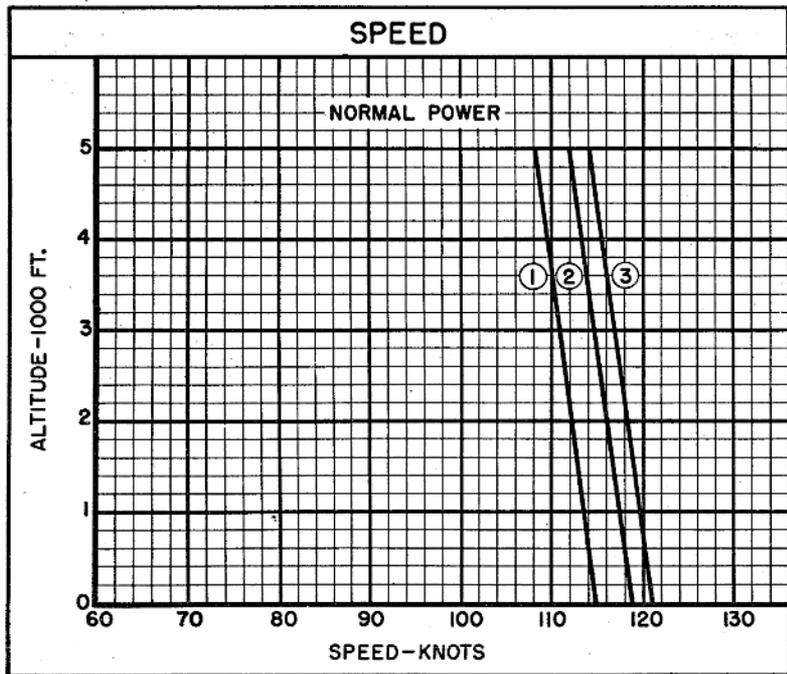
- (A) TAKE-OFF RATED POWER
(B) NORMAL RATED POWER

PERFORMANCE BASIS: NATESTCEN flight test data.

COMBAT RANGE and RADIUS are based on NATESTCEN fuel consumption data.

All performance is out of ground effect.

Maximum airspeed limited by blade tip stall and Mach Number effects on rotor blades.



○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics NAVALER 1335E (Rev. 1-55)

NOTES

ASSAULT COMBAT RADIUS MISSION

WARM-UP, TAKE-OFF, RENDEZVOUS: 10 minutes fuel allowance at normal rated power.

CRUISE-OUT: At sea level at 80% normal rated power.

LAND AT TARGET AND TAKE-OFF: No change in payload; fuel allowance of 5 minutes at normal rated power.

CRUISE-BACK: At sea level at 80% normal rated power.

RESERVE: 10% of initial fuel load.

CARGO MISSION

Same as Assault Combat Radius Mission except in lieu of 20 assault troops, 6673 lbs. of cargo is carried out and unloaded at target.