Standard Aircraft Characteristics

NAVY MODEL

HH-2D (101 ROTOR)

AIRCRAFT

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APRIL 1971
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STANDARD AIRCRAFT CHARACTERISTICS

HH-2D (101 ROTOR) "SEASPRITE"

KAMAN

APRIL 1971
MAIN ROTOR

DISC AREA 1520.3 SQ. FT.
BLADE AREA 158.3 SQ. FT.
AIRFOIL SECTION NACA 23012
ENGINE/ROTOR GEAR RATIO 67.4:1

SCALE
0 5 10 15 FT.

SAFETY CLEARANCE

38" FOLDED LENGTH
82" TAIL ROTOR DIA

44 ROTOR DIA

TANKAGE

AFT MAIN FUEL TANKS
(176 GAL)

FORWARD MAIN FUEL TANKS
(1300 GAL)

TRANSMISSION OIL
(4 GAL)

ENGINE OIL
(4.2 GAL)

ENGINE OIL
(4.2 GAL)

AUXILIARY FUEL TANKS
(120 GAL)

DESCRIPTION ARRANGEMENT

HH-2D (101 ROTOR)

APRIL 1971
POWER PLANT

NO. & MODEL ........... (2) T58-GE-8F
MFR .................. GENERAL ELECTRIC

GEAR REDUCTION RATIOS

ENGINE SPEED DECREASE ... 0.31
MAIN ROTOR .......... 0.048
TAIL ROTOR .......... 0.28

RATINGS

<table>
<thead>
<tr>
<th>SHP</th>
<th>RPM</th>
<th>ALT</th>
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<tbody>
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<td>NORM</td>
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<td>19500 S.S.L.</td>
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G.E. ENGINE SPEC. NO. EI152
JULY 14, 1968

MISSION AND DESCRIPTION

THE PRIMARY MISSION OF THE HH-2D HELICOPTER IS TO ACCOMPLISH GENERAL UTILITY TASKS, WHICH INCLUDE PLANE GUARD FOR CARRIER AIRCRAFT OPERATIONS, SEARCH AND RESCUE MISSIONS, GUN FIRE OBSERVATION, RECONNAISSANCE, COURIER SERVICE, PERSONNEL TRANSFER FROM SHIP TO SHIP TO SHORE, EVACUATION OF WOUNDED, RADIOLOGICAL RECONNAISSANCE, EMERGENCY SUPPLY AND RE-SUPPLY, TACTICAL AIR CONTROLLER OPERATIONS.

THE HH-2D WITH THE 101 ROTOR IS A TWIN TURBOSHAFT ENGINE POWERED, SINGLE FOUR-BLADED ROTOR HELICOPTER WITH AN ANTI-TORQUE TAIL ROTOR. THE MAIN ROTOR IS CONTROLLED BY AERODYNAMIC SERVO FLAPS ACTUATED BY CONVENTIONAL PILOT'S COCKPIT CONTROLS. THE "101 MAIN ROTOR" SYSTEM PROVIDES SUBSTANTIAL SERVICE LIFE AND PERFORMANCE GAINS OVER THE CURRENT ROTOR. THESE GAINS RESULT FROM UNLOADING OF THE SERVO FLAP SPECIFICATION OF THE ROTOR SYSTEM, AND A 4 PERCENT MAIN ROTOR RPM INCREASE.

THE HH-2D IS A GROWTH VERSION OF THE HH-2C MODEL WITH A GROSS WEIGHT INCREASE TO 12,000 POUNDS PROVIDING AN IMPROVED USEFUL LOAD CAPABILITY OF 5,800 POUNDS. ASSOCIATED MODIFICATIONS INCLUDE A FOUR-BLADED TAIL ROTOR, DUAL WHEELED MAIN LANDING GEAR AND A 20 PERCENT INCREASE IN TRANSMISSION RATING.

WEIGHTS

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<tr>
<th>LOADING</th>
<th>LBS.</th>
<th>L.F.</th>
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<td>BASIC</td>
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<td>OVERLOAD</td>
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<td>MAX. T.O.</td>
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<td>MAX. LANDING</td>
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FUEL AND OIL

FUEL

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<td>276</td>
<td>4</td>
<td>FUSELAGE</td>
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<tr>
<td>120</td>
<td>2 (AUX)</td>
<td>EXTERNAL</td>
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</table>

FUEL SPEC. MIL-L-2624

OIL

ENGINE (GAL.) | 8.4
FUEL | MIL-L-13699
TRANSMISSION (GAL.) | 4.0
FUEL | MIL-L-2102

ACCOMMODATIONS

PILOT ............. 1
CO-PILOT .......... 1
PASSENGERS ........ 4

OR

PILOT ............. 1
CO-PILOT .......... 1
ATTENDANT .......... 1
LUGGAGE .......... 2

DIMENSIONS

MAIN ROTOR

| DISC AREA | 1520.5 SQ. FT. |
| BLADE AREA | 158.3 SQ. FT. |
| NO. OF BLADES | 4 |
| DIAMETER | 44" 0" |
| LENGTH (BLADES FOLDED) | 38" 4" |
| HEIGHT (MAX.) | 36.6 |
| TREAD | 10" 10" |
| STABILIZER AREA | 14.55 SQ. FT. |

RESERVOIR CAP. ....... 600 LB
CARGO BAG CAP. ....... 4000 LB
AFT CARGO VOLUME ..... 174 CU FT
GROSS WEIGHT CARGO FLOOR LIMIT FOR 3G L.F. .......... 206 LB/50 FT

APRIL 1971

HH-2D (101 ROTOR)
### PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>1: UTILITY</th>
<th>2: RESCUE</th>
<th>3: CARGO</th>
<th>4: FERRY</th>
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<td>TAKE-OFF WEIGHT</td>
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<td>11530</td>
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<td>VERTICAL RATE OF CLIMB AT S.L. (E)</td>
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<td>2120</td>
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<td>MAX. SPEED/ALTITUDE</td>
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<td>COMBAT RADIUS</td>
<td>308</td>
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<td>SL</td>
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</tbody>
</table>

**NOTES**

(A) MILITARY POWER  
(B) MAXIMUM CONTINUOUS TORQUE (SHOWN WHEN LESS THAN NORMAL POWER)  
(C) NORMAL POWER  
(D) ONE ENGINE INOPERATIVE  
(E) OUT/RETURN PAYLOAD FOR RADIUS MISSIONS

**PERFORMANCE BASIS:** KAMAN FLIGHT TEST DATA  
ENGINE SPECIFICATION POWER AND FUEL FLOWS

**HH-2D (101 ROTOR)**

**APRIL 1971**
RADIUS MISSION

- Warm-Up and Take-Off: 2 minutes at sea level at maximum continuous torque
- Climb: on course to 5000 ft
- Cruise Out: at 5000 ft and at speed for best range
- Descend: to sea level
- Hover: 5 minutes at sea level while picking up 800 lb payload
- Climb: on course to 5000 ft
- Cruise Back: at 5000 ft and at speed for best range
- Descend: to sea level
- Reserve: 10 percent of initial fuel

RANGE MISSION

- Warm-Up and Take-Off: 2 minutes at sea level at maximum continuous torque
- Climb: on course to cruise altitude
- Cruise: at speed for best range
- Descend: to sea level
- Reserve: 10 percent of initial fuel

ENDURANCE MISSION

- Warm-Up and Take-Off: 2 minutes at sea level at maximum continuous torque
- Cruise: at speed for maximum endurance at sea level
- Reserve: 10 percent of initial fuel

Cruise at CL

CLimb on course

Cruise at 5000 ft

CLimb on course

5 minute hover

LOADING CONDITION COLUMN NUMBER

APRIL 1971

HH-2D (101 ROTOR)