**POWER PLANT**

- No. & Mode: (1) R-1340-52
- Manufacturer: Pratt & Whitney
- Supercharger: 1-stage, 1-speed
- Impeller Ratio: 10:1
- Motor Gear Ratio: 9.3:1

**RATINGS**

- HP / HW / ALT
  - T.O. (5 min): 600 / 2250 / 3000
  - Normal: 550 / 2200 / 5000

Spec No. 1308A of 10 April 1957

**MISSION AND DESCRIPTION**

The HU-1 is a rescue, cargo, and utility helicopter performing missions such as air-sea rescue, cargo transport, and evacuation of wounded.

For the evacuation mission the co-pilot's seat is removed and two litters are carried internally plus an attendant. The port side of the nose bubble swings open for loading and unloading the litters.

The helicopter has two side-by-side intermeshing rotors of two blades which are controlled by means of aerodynamic nose control flaps. Twin tail booms and vertical stabilizers provide forward flight stability. A rescue hoist of 600 pounds capacity is installed on the fuselage. An external cargo sling capability is provided with a 1000 pound capacity. In-flight blade tracking is incorporated. Provisions are incorporated for positioning the rotor blades fore and aft parallel to the fuselage centerline to facilitate stowage.

**ACCOMMODATIONS**

- Pilot: 1
- Crewman: 1
- Passengers: 3
- Attendant: 1
- Litters: 2

**WEIGHTS**

- Loadings: Empty: 4308
- Basic: 4386
- Design: 4500
- Max. T.O.: 6350
- Max. Landing: 6350

**FUEL AND OIL**

- Gall. No. Tanks Location
  - 102 1 Fuselage

Fuel Grade: S89/86
Fuel Spec: MIL-F-5522

**OIL**

- Engine Sect (gals): 7.0
- Grade: 3100
Spec: MIL-L-6082
Transmission (gals): 1.75
Spec: MIL-L-6086

**DIMENSIONS**

- Span: Rotors Operating: 50.54 ft.
- Rotors Blades Diameter: 47.08 ft.
- Height: 16.32 ft.
- Max. Wheel Track: 7.58 ft.
- Morris Tail Span: 9.04 ft.
- Rotors Tip Grd Clearance: 6.6 ft.
- (min at rest)

- Blade Area*: 122.92 sq. ft.
- Rotor Disc Area*: 190 sq. ft.

*Projected

**CARGO**

- External Sling Capacity: 1000 lbs.

**DEVELOPMENT**

First Flight: February 1958
Fleet Delivery: May 1958

**ELECTRONICS**

- VHF Communications: AN/ARC-1
- UHF Communications: AN/ARC-55
- UHF Direction Finder: AN/ALQ-25
- Radar Set: AN/ARC-39
- Radar Ident: AN/APX-68
- Radar Group: AN/ASB-40
- AIS: AN/ASB-99

30 JULY 1960
## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>(1) Rescue/Utility 1 - PILOT</th>
<th>(2) CANDO 1 - PILOT</th>
<th>(3) PASS. &amp; CARGO</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAKE-OFF WEIGHT</td>
<td>lb. 6117</td>
<td>lb. 603</td>
<td>lb. 610</td>
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<tr>
<td>Fuel</td>
<td>lb. 610</td>
<td>lb. 522</td>
<td>lb. 1000</td>
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<tr>
<td>Payload</td>
<td>lb. 600</td>
<td>lb. 1000</td>
<td>lb. 1000</td>
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<tr>
<td>Disc loading</td>
<td>lb./sq ft. 3.38</td>
<td>lb./sq ft. 3.57</td>
<td>lb./sq ft. 3.57</td>
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<tr>
<td>Vertical rate of climb at S.L. (a)</td>
<td>fpm 600</td>
<td>fpm 600</td>
<td>fpm 500</td>
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<tr>
<td>Absolute hovering ceiling (a)</td>
<td>ft. 5300</td>
<td>ft. 4750</td>
<td>ft. 4750</td>
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<tr>
<td>Max. rate of climb at S.L. (b)</td>
<td>ft. 8700</td>
<td>ft. 8593</td>
<td>ft. 8593</td>
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<tr>
<td>Service ceiling (100 fpm) (b)</td>
<td>ft. 15300</td>
<td>ft. 14700</td>
<td>ft. 14700</td>
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<tr>
<td>Speed at S.L. (b)</td>
<td>kn. 89</td>
<td>kn. 82</td>
<td>kn. 82</td>
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<tr>
<td>Max. speed/altitude (b)</td>
<td>kn./ft. 89/620.2</td>
<td>kn./ft. 88/620.2</td>
<td>kn./ft. 88/620.2</td>
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<tr>
<td>Combat range</td>
<td>n.m. 175</td>
<td>n.m. 142</td>
<td>n.m. 142</td>
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<tr>
<td>Average cruising speed</td>
<td>km. 65</td>
<td>km. 63</td>
<td>km. 63</td>
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<tr>
<td>Cruising altitude</td>
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<td>ft. 51</td>
<td>ft. 51</td>
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<tr>
<td>Combat radius</td>
<td>n.m. 80</td>
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<td>—</td>
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<tr>
<td>Average cruising speed</td>
<td>km./h 68/64</td>
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<tr>
<td>Cruising altitude</td>
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<tr>
<td>Maximum endurance</td>
<td>h. 3.10</td>
<td>h. 2.54</td>
<td>h. 2.54</td>
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<tr>
<td>Average cruising speed</td>
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<td>—</td>
<td>—</td>
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<tr>
<td>Cruising altitude</td>
<td>ft. 51</td>
<td>—</td>
<td>—</td>
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</tbody>
</table>

## NOTES

(a) TAKE-OFF POWER
(b) NORMAL POWER
PERFORMANCE based on NAVY's evaluation of the HUK-1 extrapolated to the higher power ratings of P&W Spec. No. 1328A.
RANGE, RADIUS, and ENDURANCE are based upon flight test fuel consumption and engine specific fuel consumption increased 5%.
All performance out of Ground RTTest.

### COMBAT RADIUS MISSION

WARM-UP AND TAKE-OFF: 10 minutes at Normal Rated Power
CRUISE RADIUS: At sea level at speed for best range
RESERVE: 10% of initial fuel load

### COMBAT ENDURANCE MISSION

WARM-UP AND TAKE-OFF: 10 minutes at Normal Rated Power
CRUISE ENDURANCE: At sea level at speed for maximum endurance
RESERVE: 10% of initial fuel load