Standard Aircraft Characteristics

NAVY MODEL

QH-50B

AIRCRAFT

(TITLE UNCLASSIFIED)

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UNCLASSIFIED
STANDARD AIRCRAFT CHARACTERISTICS
QH-50B
GYRODYNE
### Power Plant

**Engine**

(2) YO-95-4

**NPR**

Gyrodyne-Perches

**Type**

4 cyl., 4 cycle

### Ratings

- **T.O.**
  - 72
  - 4500 RPM
  - 3500 S.L.

- **Normal**
  - 72
  - 4500 RPM
  - 3500 S.L.

*Model Spec. No. 2 of 28 Jan 1959, revised 5 Aug 1959*

### MISSION AND DESCRIPTION

The Model SSK-2 Drone is a remotely controlled ABW Helicopter, designed to carry a 500 lb. weapon (Torpedo-type) and be capable of launching this weapon as directed by remote control. An alternate design loading (overload condition) is to carry two MK-3 Torpedoes, each weighing 260 lbs.

The drone incorporates two two-bladed coaxial rotors of the semi-rigid (see-aux) type. The blades are of laminated wood construction incorporating taper in planform and thickness and 12° negative twist. Attitude is completely controllable through the rotors by conventional helicopter controls; yaw control is achieved by means of rotor blade tip air (drag) brakes.

Two Gyrodyne-Perches YO-95-4 four cylinder, four cycle reciprocating engines, rated at 72 hp (after cooling) at 4500 rpm at sea level, are incorporated in the SSK-2. Engine cooling is provided by a fan.

Service use of this drone weapons system is not presently contemplated, although it will be used for purposes of testing and checking out the avionics equipment and remote control system to be incorporated in the SSK-3.

### Development

First Flight: July 1960

### Weights

<table>
<thead>
<tr>
<th>Loadings</th>
<th>Lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>1450</td>
</tr>
<tr>
<td>Overload</td>
<td>1500</td>
</tr>
</tbody>
</table>

All weights are estimated.

### Fuel and Oil

<table>
<thead>
<tr>
<th>No.</th>
<th>Tank</th>
<th>Gals.</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1g45</td>
<td>96/96</td>
<td>Fuselage</td>
</tr>
</tbody>
</table>

**CAPACITY**

325 gals

**Travel**

Symbol 9110/9535

**SF 50**

MK-L-90003

### Electronics

Gyrodyne-Lear automatic stabilization and remote control equipment

(Nonmilitary not yet available)
## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>(1) NORMAL 1-50% 100%</th>
<th>(2) OVERLOAD 2-MK 43</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAKE-OFF WEIGHT</td>
<td>lb. 1450</td>
<td>lb. 1500</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb. 95</td>
<td>lb. 95</td>
</tr>
<tr>
<td>Payload</td>
<td>lb. 500</td>
<td>lb. 530</td>
</tr>
<tr>
<td>Disc loading</td>
<td>lb./sq.ft. 4.62</td>
<td>lb./sq.ft. 4.78</td>
</tr>
<tr>
<td>Vertical rate of climb at S.L.</td>
<td>(A) 640</td>
<td>(A) 420</td>
</tr>
<tr>
<td>Absolute hovering ceiling</td>
<td>(A) 2950</td>
<td>(A) 1850</td>
</tr>
<tr>
<td>Max. rate of climb at S.L.</td>
<td>(A) 1160</td>
<td>(A) 1040</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>(A) 860C</td>
<td>(A) 7600</td>
</tr>
<tr>
<td>Speed at S.L.</td>
<td>(A) 76.8</td>
<td>(A) 76.0</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>(A) 76.8/S.L.</td>
<td>(A) 76.0/S.L.</td>
</tr>
<tr>
<td>Max. range</td>
<td>mi. 85.3</td>
<td>--</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km. 95</td>
<td>--</td>
</tr>
<tr>
<td>Cruising altitude</td>
<td>ft. 32.0</td>
<td>S.L. 31.2</td>
</tr>
<tr>
<td>Combat radius</td>
<td>mi. 77.5</td>
<td>S.L. 76.8</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km. 77.5</td>
<td>--</td>
</tr>
<tr>
<td>Max. Endurance</td>
<td>hrs. 1.60</td>
<td>--</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km. 42</td>
<td>--</td>
</tr>
<tr>
<td>Cruising altitude</td>
<td>ft. S.L.</td>
<td>--</td>
</tr>
</tbody>
</table>

### NOTES

(A) Normal Rated Power (Take-off Power)

PERFORMANCE is based on calculations modified by contractor flight data of the Model XRON-1 Motorcycle (17' rotor dia.).

COMBAT RADIUS, RANGE, and ENDURANCE are based on engine specific fuel consumption increased 5%.

All performance is out of ground effect.

**COMBAT RADIUS MISSION**
- Warm-up and Take-off: 1 min at NRP at Sea Level
- Cruise out: at Vmax at Sea Level
- Hover: 12 min at Sea Level
- Drop Weapon: No fuel consumed, no distance gained
- Cruise back: at Vmax at Sea Level
- Reserve: 10% of initial fuel load

**MAX. RANGE MISSION**
- Warm-up and Take-off: 1 min at NRP at Sea Level
- Cruise: at speed for best range at Sea Level
- Reserve: 10% of initial fuel load

**MAX. ENDURANCE MISSION**
- Warm-up and Take-off: 1 min at NRP at Sea Level
- Cruise: at speed for best endurance at Sea Level
- Reserve: 10% of initial fuel load