Standard Aircraft Characteristics

XGAR-1C
FALCON
Hughes

ONE SOLID ROCKET
HUGHES

2 MAY 55
Guided & Unguided Rockets Extended
(3 GAR's in fwd bay)
(3 GAR's in aft bay)
### POWER PLANT

No. & Model:..............
(1) Solid Rocket Motor,
Two-Phase Thrust
Mfr:..............Hughes Aircraft Co.,
Engine Spec. No...............----
Weight (loaded):..............37 lb

### ENGINE RATINGS

<table>
<thead>
<tr>
<th>S.L. Static</th>
<th>LB</th>
<th>SEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal:</td>
<td>4700</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>500</td>
<td>4.0</td>
</tr>
</tbody>
</table>

- Boost Phase
- Sustaining Phase

### Mission and Description

Navy Equivalent: None
Mfr's Model: G

The XGAR-1C (FALCON) is a small supersonic guided aircraft rocket whose prime mission is the destruction of subsonic and supersonic bombers or fighters.

The GAR-1C is similar to the GAR-1A except that a passive infra-red seeker system is installed in lieu of a semi-active radar system. In order to accommodate the near infra-red telescope and related seeker components, a hemispherical nose shape of the GAR-1B type is employed. The microwave converter unit is removed and several chassis in the electronic package replaced in order to effect integration of the infra-red seeker system with the remainder of the control system. All other components of the GAR-1C are the same as those used in the GAR-1A.

The rocket is launched forward from an interceptor on a collision course and depends on a direct hit for detonation. The GAR-1C has a launching range of 3500-35,000 feet with speeds at the end of boost equal to the launching aircraft speed plus 1200 feet-per-second. The weapon is effective at altitudes up to 60,000 feet plus.

### Development

The XGAR-1C is basically an extension of the GAR-1A development, Design Initiated:..............27 Jan 1954
Test firing of GAR-1C from F-102A type aircraft equipped with an interchangeable GAR-1A-1C launcher is scheduled for..............Late 1955

### LAUNCHING

**METHOD**
Short Length Rail (Internal Storage F-102B) A total of 8 rockets carried in each aircraft-interchangeable with GAR-1A.

**LAUNCH TIME**
Approximately 20 seconds required from time target is sighted to time rocket is launched.

### DIMENSIONS

<table>
<thead>
<tr>
<th>Span</th>
<th>24.0&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>83.4&quot;</td>
</tr>
<tr>
<td>Height</td>
<td>24.0&quot;</td>
</tr>
<tr>
<td>Diameter</td>
<td>6.4&quot;</td>
</tr>
</tbody>
</table>

### GUIDANCE

(a) INITIAL
None during boost phase
(b) MID-COURSE & TERMINAL
Passive Infra-Red Seeker

**ACCURACY**

P_k = 0.95 for salvo of 3 rockets against subsonic and supersonic bombers

**CONTROL**
Hydraulic: Initiated by the Error Signal from Target Seeker.

### WEIGTS

<table>
<thead>
<tr>
<th>Loading</th>
<th>LB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Launch</td>
<td>135.0 (E)</td>
</tr>
<tr>
<td>Burnout</td>
<td>110.3 (E)</td>
</tr>
</tbody>
</table>

(E) Estimated

### FUEL

<table>
<thead>
<tr>
<th>Type</th>
<th>Thilokol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usefule Weight (lb)</td>
<td>2.47</td>
</tr>
</tbody>
</table>

### WARHEAD

Blast Type

| Gross Weight (lb) | 12 |
| Net Weight (lb)   | 8 |
| FUZE Contact Type |
DATA NOT AVAILABLE