Characteristics Summary

AIR INTERCEPT MISSILE .......... AIM-4C (GAR-2A)

FALCON

HUGHES

Wing Area ............... Not Applicable  Length ............... 79.5 in.
Span, .................... 20.0 in.  Height ............... 20.0 in.

AVAILABILITY

Number available

PROCUREMENT

Number to be delivered in fiscal years

ACTIVE  RESERVE  TOTAL

STATUS

1. Project initiated: Jul 52 (GAR-2)
2. First Air-to-Air Hit: Sep 54
3. First Infrared Falcons in Service: Early 57

Navy Equivalent: None  Mfr's Model: FPb

POWER PLANT

(1) Single-level Thrust,
Solid Rocket M58A 2
Thiokol Chemical Corp

THRUST RATINGS

S.L.S. @70°F  LB - SEC
Nominal:  4220 - 1.40

FEATURES

Passive infrared seeker
Blunt type warhead
Contact Fuze
Batteries and compressed
gas-hydraulic supply
Miniaturized precision
components and circuitry
Simplified fire control
system capability
Snap-up capability
Fairied Sphere
Spherical-nose quartz
nirdome
"Roll-rate-limiting"
aileron control
Cruciform surface ar-
rangement
Maximum fuel .... 31.02 lb

GUIDANCE

INITIAL (BOOST PHASE)
None: Tracking Only

MID-COURSE AND
TERMINAL
Homing, passive infrared
target seeker, proportional
navigation

CONTROL

Hydraulically actuated rear
control surfaces provide
necessary steering and
damping
Steering signals generated
by target seeker tracking
motion

CONFIDENTIAL

AIM-4C (GAR-2A)

CONFIDENTIAL

57WE-4983

Sep 63
(AFG I, Addn 55) (57 of 126)
## Performance Summary

### Targets
- Subsonic propeller-driven or jet bombers
- Subsonic jet fighters

### Range
- Nominal missile launch range: 3500 ft to 35,000 ft

### Speed
- MAX Launching aircraft speed plus 1900 fps

### Launching
- Short-length tracks (6) extended from F-89H wing-tip pods, F-102A and F-101B fuselage bays, or (4) from F-89J underwing pylons.
- 16 sec minimum preparation time from AI radar lock-on (F-89H) or detection (F-102A)
- 13 sec from lock-on (F-89J)
- Salvo of 2 (F-89J), or 3 (F-89H, F-102A and F-101B).

### Flight Time
- Nominal missile flight time: 3.2 sec to 11.0 sec

### Altitude
- Effective up to 60,000 ft

### Load Weights

<table>
<thead>
<tr>
<th>Load</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warhead and Fuze (installed)</td>
<td>8.4 lb</td>
</tr>
<tr>
<td>Explosive</td>
<td>2.75 lb</td>
</tr>
<tr>
<td>Engine (loaded)</td>
<td>45.50 lb</td>
</tr>
<tr>
<td>Useful Fuel</td>
<td>31.02 lb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Target Accuracy</th>
</tr>
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<tbody>
<tr>
<td>$P_k$ - 0.82 for salvo of 3 missiles in rear hemisphere attacks against subsonic bombers</td>
</tr>
<tr>
<td>0.82 for salvo of 2 missiles.</td>
</tr>
</tbody>
</table>

### Notes
1. Performance Basis:
   (a) Calculation based on experiential FALCON flight tests, component tests, and estimated data.
   (b) NACA standard atmospheric conditions.
2. Revision Basis: To reflect change in model designation (AFR 66-20).
3. Probability of kill ($P_k$) value is based upon 90% missile reliability and 0.90 kills per hit.
4. Nominal values correspond to idealized operation of the fire control system.