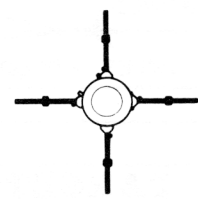
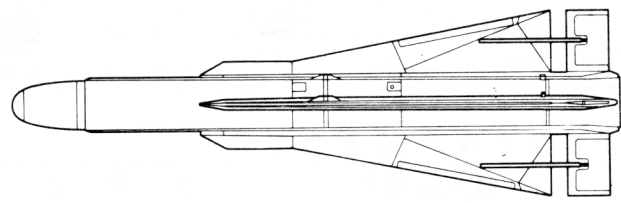


unclassified
~~CONFIDENTIAL~~

C3
FALCON
GAR-4A/402

Characteristics Summary

GUIDED AIRCRAFT ROCKET GAR-4 A



"FALCON"

HUGHES

Wing Area Not Applicable Length 82.5 in.
Span 24.0 in. Body Diameter 6.64 in.

AVAILABILITY			PROCUREMENT			
Number available			Number to be delivered in fiscal years			
TEST	INVENTORY	TOTAL	FY61	FY62	FY63	FY64
7	2515	2522	1320	499	None	None

STATUS

1. Extension of GAR-2 development, initiated in March 1954, with improvements as follows: warhead, power supply, electronic circuitry, and performance characteristics.

2. In Service: Mid 59

3. In Production

Navy Equivalent: None

Mfr's Model: GPb

POWER PLANT

(1) Two-level Thrust Boost-sustain
Solid Rocket M46

Hughes Aircraft Co. and Thiokol Chem. Corp

THRUST RATINGS

S.L.S. @70°F LB - SEC

Nominal (Average) -

High Thrust Level: 4420 - 0.63

Low Thrust Level: 635 - 4.09

FEATURES

Passive Infrared Seeker
Spherical-nose Silicon Irdome
Cruciform Surface Arrangement
"Roll-rate-limiting" Aileron Control
Blast Type Warhead
Contact Fuze
Turbine-driven Electrical and Hydraulic Power Supply
Miniaturized Precision Components and Circuitry
Simplified Fire Control System Capability
Snap-up Capability

GUIDANCE

INITIAL (BOOST PHASE) - None: Tracking only

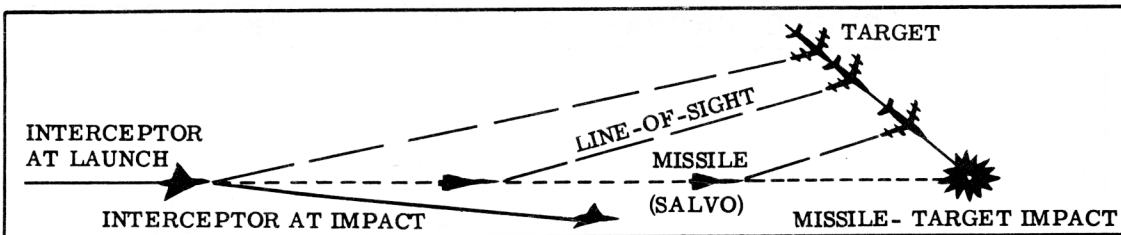
MID-COURSE AND TERMINAL - Homing, Passive Infrared Target Seeker, Proportional Navigation

CONTROL

Hydraulically Actuated Rear Control Surfaces Provide Necessary Steering and Damping
Steering Signals Generated by Target Seeker Tracking Motion

D. M. White, 3/16/77
DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS
DOD DIR 5200.10

Characteristics Summary Basic Mission GAR-4A



PERFORMANCE		
TARGETS	RANGE	S P E E D
Subsonic propeller-driven or jet bombers Supersonic jet bombers Subsonic or supersonic jet fighters	Missile launch range: 1000 ft to 35,000 ft	MAX: Launching aircraft speed plus 1200 fps
LAUNCHING	FLIGHT TIME	ALTITUDE
Short-length tracks (4) extended from F-106A fuselage bay 16 sec minimum preparation time from AI radar detection Salvos of 2 or 4 missiles	Missile flight time: 1.3 sec to 22.0 sec	Effective up to 70,000 ft
L O A D	W E I G H T S	TARGET ACCURACY
Warhead and Fuze (installed) . . 8.6 lb Explosive 5.0 lb Motor (loaded) . . 43.05 lb Useful Fuel 26.4 lb	Empty 108 lb Pre-launch 146 lb End of Boost Phase 133 lb Burnout 119 lb	P_k - 0.87 for salvo of 2 missiles in rear hemisphere attacks against subsonic and supersonic bombers

- N O T E S**
- Performance Basis:
 - Calculation based on experimental FALCON flight tests, component tests, and estimated data.
 - NACA standard atmospheric conditions.
 - Probability of kill (P_k) value is based upon 90% missile reliability and 0.90 kills per hit.
 - Nominal values correspond to idealized operation of the fire control system.
 - Revision Basis: To reflect changes in "Availability".