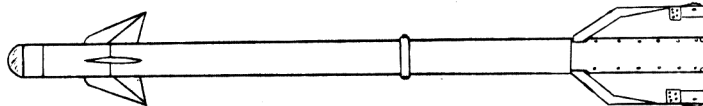
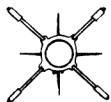


*C3/Sidewinder GAR-8  
WS 221A/CAER (System 221A)*

**CONFIDENTIAL SECRET**

# Characteristics Summary

**GUIDED AIRCRAFT ROCKET.... SYSTEM 221A**



"SIDEWINDER"

PHILCO CORP.

Wing Area ..... N.A.      Length ..... 108.0 in.  
 Span (Wing) ..... 21.0 in.  
 (Fins) ..... 15.0 in.      Height ..... 21.0 in.

**AVAILABILITY**

**PROCUREMENT**

Number available			Number to be delivered in fiscal years			
ACTIVE	RESERVE	TOTAL				

**STATUS**

The SIDEWINDER is a Navy project initiated in 1947. USAF participation in the program was initiated in Aug 1955. The USAF will investigate the compatability of the missile with various USAF fighter aircraft and will conduct necessary test and evaluation work. Results will be coordinated with the Navy. The Navy has a continued development plan to expand and increase the performance of the missile.

Navy Equivalent: AAM-N-7

Mfr's Model: -----

**POWER PLANT**

(1) HPAG 5" Solid Rocket Motor  
 Navy Mk 15 Mod O

S.L.S.	LB	Duration (sec)
Nominal:	4000	2.2

**FEATURES**

Guided Aircraft Rocket for destruction of subsonic and supersonic aircraft  
 Canard cruciform configuration  
 Combination blast and fragmentation warhead--contact and influence fuze  
 Gas turbo-generator supplies all electrical power  
 Used for tail cone attacks only  
 Possible future capability of conducting head-on attacks

Max Fuel Cap: ..... 42 lb

**GUIDANCE**

Passive Infra-red seeker which collects signals and directs reticle chopped rays to a lead sulfide cell. Voltage variations of the cell are oriented by combination with phase generator signals. The resultant combined signal is fed to a control unit.

**CONTROL**

Gas operated servo cylinders which respond to the above signals to deflect the guidance fins. The control system is a torque balance type which automatically compensates for altitude and speed variations.

Confidential  
 D.O.D. 618 5100.10  
 a. R. Sonnborn 31 March 67  
 Initial Issue

DOWNGRADED AT 3 YEAR INTERVALS;  
 DECLASSIFIED AFTER 12 YEARS.  
 DOD DIR 5200.10

*4th ed addn H 14*

*GAR-8*

*Characteristics Summary Basic Mission . . . . .* **SYSTEM 221A**

NOT APPLICABLE

<b>P E R F O R M A N C E</b>		
<b>ENDURANCE</b>	<b>RANGE</b>	<b>S P E E D</b>
NOT APPLICABLE	2000 - 6000 ft at SL  2500 - 8000 ft at 10,000 ft alt  2500 - 18,000 ft at 50,000 ft alt	Launching speed of aircraft plus 1000 knots at 10,000 - 30,000 ft alt  Launching speed of aircraft plus 1150 knots at 30,000 - 60,000 ft alt
<b>LAUNCHING</b>	<b>CLIMB</b>	<b>ALTITUDE</b>
Model D Single Rail Launcher. Plans are under-way for test launching from F-86D, F-100 and F-104 type aircraft.	Climbing attacks are limited to aircraft snap-ups only	Max capability up to 50,000 ft Limited capability up to 60,000 ft
<b>L O A D</b>	<b>W E I G H T S</b>	<b>TARGET ACCURACY</b>
Warhead: . . . . . 25 lb Fuel: . . . . . 42 lb	Burnout . . . . . 113.0 lb Launch . . . . . 155.0 lb	Pk = .50 (Single shot)

**N O T E S**

1. Performance Basis:  
 (a) Estimated data (Not substantiated by WADC)
2. Revision Basis: Initial Issue