

~~SECRET~~

LOOSE MINUTE

D/INAW/2/20/1

Sec 1SL
Sec VCNS
Sec ACNS(OR)
DNM
EN PLANS
DNAP
DNOT
NSAG
AUS(NS)
DS4
DS5



SEA HARRIER AIM-9G AND AIM-9L COMPARISON

1. A background brief on the comparative capabilities of AIM-9G and AIM-9L is attached.
2. TG 317.8 will have 160 AIM-9G and 109 AIM-9L on leaving Ascension.
3. Any further AIM-9L missiles will have to be obtained from the German Air Force and will require Ministerial approval. It is understood that the GAF has 300/500 missiles available.

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15 April 1982

ENCLOSURE:
Annex A

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CAPABILITIES OF SIDEWINDER AIM-9G AND AIM-9L FITTED TO SEA HARRIERCURRENT SITUATION

1. The Sea Harrier weapon system was designed to supply launch parameters for SIDEWINDER AIM-9L. Production delays for AIM-9L meant that Sea Harrier was fitted with AIM-9G as an interim measure.

MISSILE CAPABILITIES

2. The AIM-9L is a development of AIM-9G with the main differences being in the seeker head, guidance and warhead. The major improvement in the AIM-9L is its improved seeker head capability; this allows it to sense 'cooler' IR, i.e. some 40 ft astern of the jet pipe. All round AIM-9L detection is possible, whereas the slower AIM-9G could only see jet-pipe IR, and hence only detect astern of the target. The AIM-9L fuzing and warhead have been adapted to utilize this detection capability and allow the missile to acquire from all aspects.

3. The relative capabilities of the two missiles can be described in general terms as follows:-

	AIM-9G	AIM-9L
a. Launch Envelope	Within 60° of tail	All round
b. Maximum Range 30 Kft	3 NM	4 NM
c. Capability against opening target	Yes	Improved

ADVANTAGES OF AIM-9L

4. The AIM-9L offers the following significant advantages over the AIM-9G:

- All aspect launch envelope giving greatly enhanced combat capability.
- Head-on launch giving capability against supersonic targets.
- The aircraft weapon aiming computer presents 'dog-fight' launch opportunity to the pilot.
- Improved capability against an opening target.

COMBAT CAPABILITIES

5. The Mirage III, Mirage V and Super Etendard are high performance aircraft armed with the MAGIC missile. The MAGIC is an extremely agile 'dog-fight' missile which can be launched from angles off abaft the beam. The optimum performance regime for these aircraft/missile combination is in the high speed (400 kt) area. Their best manoeuvre against the Sea Harrier would be high speed 'slashing' attacks hoping to get a missile shot, but allowing the opportunity to disengage and run since they are likely to be fuel critical.

6. The Sea Harrier, by VIFFing (Vectoring In Forward Flight), is capable of outmanoeuvring these aircraft and negating their attacks. The all aspect envelope of the AIM-9L will increase the Sea Harriers' missile launch opportunities, and capitalize on its ability to "point" by use of VIFF.