

full-scale production should not be authorised until the missile had been shown to meet performance and reliability requirements.

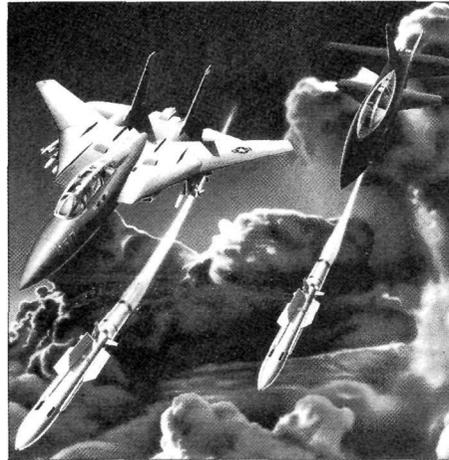
Last summer, MBB and the AMRAAM International Licensing Company signed a licence co-production agreement covering the manufacture of the missile in Europe.

Operators: On order for the USAF (F-15, F-16), USN (F-14, F-18). Planned for the UK (initially on Sea Harrier, later on Tornado F.3), West Germany (F-4F) and other NATO users.

**Advanced Air-to-Air Missile (AAAM)**

Initial development of this long-range US Navy missile is being tackled by two industrial teams, Hughes teamed with Raytheon, and General Dynamics plus Westinghouse. AAAM will be lighter than Phoenix, allowing a Tomcat to carry a maximum load of eight rather than four when landing on a carrier, yet will have a greater range.

The Hughes/Raytheon design is based on a dual-mode active-radar/IR guidance system and a ramjet powerplant, while the GD/Westinghouse team favours dual-band semi-active radar/EO guidance, and rocket propulsion. The missile would fly initially under the power of a booster, then jettison



*The Advanced Air-to-Air Missile will replace the long-range AIM-54 Phoenix*

this and ignite a two-pulse sustainer (perhaps with a vectoring nozzle).

Demonstration and validation could end in 1992, leading to the choice of a winning design! Full-scale development would then run to 1996, after which time both members of the winning team would compete for production contracts. A total of 4,000 rounds are likely to be built, equipping the F-14D, F-

18, A-12 Advanced Tactical Aircraft, and even the A-6 Intruder.

Congress wants to see this USN programme become a USAF/USN operation. If adopted by the Air Force, AAAM could be fitted to the F-15C/D and Advanced Tactical Fighter. For the moment, the USAF claims that it has no requirement for an extended-range missile such as AAAM, so is confining its role to that of monitoring the USN programme. If a requirement were to emerge, AAAM would be purchased.

**New ARM**

The USAF has proposed the development of a new long-range anti-radiation missile (ARM) for use against the Soviet Union's Mainstay AEW aircraft. A NATO collaborative programme has been suggested.

**General Dynamics Air-To-Air Stinger**

Full-scale development of an air-to-air version of the Stinger shoulder-fired SAM started in 1984. Test firings from GD's twin-round Air-To-Air Stinger (ATAS) launcher started in 1986, and the system entered service with the US Army in 1988. Stinger is deployed on US helicopters such as the OH-58C and -58D, and might also be fitted to the AH-1 and UH-60.

Name	Length (m)	Span (mm)	Dia (m)	Weight (kg)	Range (km)	Speed	Control	Propulsion	Guidance	Warhead
AA-6 Acrid (IR)	5.9	2,250	40	650-750	20-25	M4.5	ailerons + canard fins?	solid rocket	IR passive homing	60-100kg HE
AA-7 Apex (SAR)	4.5	1,000	26	c.250	1.8-25	M3.5	cruciform rear fins	solid rocket	semi-active radar homing	25kg HE fragmentation + prox. fuze
AA-7 Apex (IR)	4.16	1,000	26	215	1.8-25	M3.5	cruciform rear fins	solid rocket	passive IR homing	25kg HE fragmentation + prox. fuze
AA-8 Aphid (Soviet designation R-60)	2.2	520	13	55	5	M3	cruciform canards	solid rocket	passive IR	6kg HE + active radar prox. fuze
AA-9 Amos	c.3.65	?	?	?	c.50	?	?	solid rocket	semi-active radar homing	HE
AA-10 Alamo A & B	c.3.2	?	?	c.155	30km	?	cruciform canard fins	solid rocket	(A) semi-active radar; (B) passive IR	HE
AA-10 Alamo C & D	4.8	?	?	c.200?	45km	?	cruciform canard fins	solid rocket	(C) semi-active radar; (D) passive IR	HE
AA-11 Archer (Soviet designation AKU-72)	c.3	c.600	c.17	c.125	c.8km	?	cruciform canard fins + thrust vectoring	solid rocket	passive IR	HE with active radar prox. fuze
Sky Flash	3.7	1,020	20.3	192.3	50	M4	cruciform centrebody wings	Rocketdyne Mk38 mod4 CW or Aerojet Mk52 mod 2 solid rocket	semi-active radar homing	30kg continuous-rod + prox. fuze
AIM-7M Sparrow	3.7	1,000	20	228	0.6-50-100	M4	cruciform centrebody wings	Hercules Mk58 mod 0 or Aerojet Mk65 mod 0 solid rocket	inverse-monopulse semi-active radar homing	40kg continuous-rod + impact & prox. fuzes
AIM-9L Sidewinder	2.87	630	12.7	86.6	10-18 max	M2.5	cruciform canard fins	Bermite Hercules Mk36 mod7, 8 solid rocket	IR passive homing	blast-fragmentation + active optical fuze
AIM-54 Phoenix	4.0	915	38	443	200+	M5+	cruciform rear fins	Hercules Mk47 mod0 solid rocket	inertial + semi-active & active radar homing	60kg HE + impact & prox. fuzes
AIM-120A AMRAAM	3.65	526	17.8	156.5	55-75 max	supersonic	cruciform rear fins	solid rocket	inertial + active-radar homing	c.20kg HE