

SO114420 & 21

1/144 AIM-120 AMRAAM / AAM-4

Shelf
Oddity

Brief history and description of missile

Let's get back to the roots. Remember first beam riding Sparrow tried by US Navy on F7U Cutlass and F3H Demon? Not a huge success. Semi-active version used widely since late 50's steadily improved reliability and performance to become a prime air-air killer during Desert Storm.

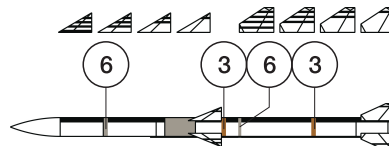
Still it was not perfect and it had been ascertained long before. 1974-1978 saw extensive evaluation of air combat tactics and missile technology at Nellis AFB. It had soon shown very clearly that Fire-And-Forget, fully Active Radar Homing missile was needed. Sparrow range advantage was cancelled by necessity to provide radar illumination until the hit was achieved, which made launching aircraft vulnerable to closer-range missiles.

US Navy had AIM-54 in the inventory, but only the mighty Tomcat was able to carry it in noticeable quantities. Imagine more than two AIM-54 Phoenixes slung below an F-16 or F-20 (high hopes for Northrop at that time). Requirement to fit into existing AIM-7 stations and small size was one of key design brief points. As the ATF program began its way towards future F-22 and weapons bay constraints made this even more pronounced.

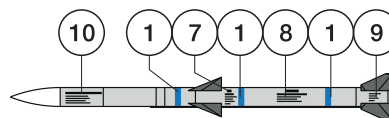
In 1979 proposals by Raytheon and Hughes were selected as finalists for the YAIM-120 competition, and after more than 2 years Raytheon was declared the winner. About the middle of that process US and European NATO members (UK, Germany) agreed to a joint development of air-to-air weapons family. AMRAAM remained US responsibility, while ASRAAM (short range) would be developed on the eastern coast of Atlantic.

First production AIM-120 was launched from F-16 in 1984. Technical troubles postponed supersonic launch until 1987, while politics did their interference to keep the pace slow and easy. Low-Rate Initial Production began in 1988, but only in 1991 AMRAAM achieved Initial Operational Capability in USAF F-15 squadrons. This was followed 2 years later by US Navy F-18 squadrons.

Colors and markings



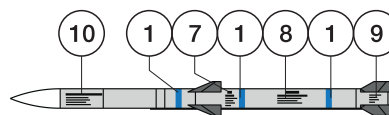
YAIM-120 during 1981 fly-off at PMTC Point Mugu.
Note aero surfaces markings allowing to ascertain missile attitude.



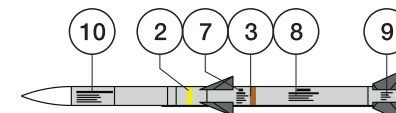
Inert AIM-120A/B



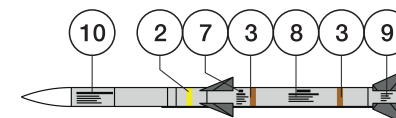
AIM-120A/B back in black.



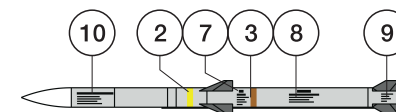
Inert AIM-120C.



Regular AIM-120A/B in grey.
This one is probably more live than one above as indicated by TWO brown bands.



Regular AIM-120C in grey.



Regular AIM-120C – as above.
Fascinating.

The missile features a lot of cool abbreviations: AW (all-weather), BWR (beyond-visual-range), F&F (fire-and-forget), HOJ (home-on-jamming), INS (inertial nav system), DL (data-link), HOBS (high-angle off-boresight) and probably many more. It is generally good though it seems the European partners of former agreement thought it could be better. Hence the Meteor missile (I would expect even more abbreviations).

Versions

A - the original

B - visually the same as A, introduced in 1994.

C - clipped aero surfaces to jam more AMRAAMs into F-22 weapons bay.

D - same as C, but greater range (not allowed to tell you how much greater)

Ground-Launched AMRAAM - this began in Norway in 1995 as NASMAS employing AMRAAM missiles launched from six-round box launcher. Its incarnations are used today. US Army evaluated use of AMRAAM from modified Hawk launchers as well as from light vehicles such as HUMMER. This was known as HUMMRAM, CLAWS and SLAMRAAM. Most of those pretty abbreviations gone to waste when the programs were cancelled.

AAM-4 - Mitsubishi Type 99 is Japan-developed replacement to AIM-7. It shares the 8-inch body diameter with its predecessor (AIM-120 body is 7-inch), but all other features position it closer to AMRAAM. Hope the colourful paint schemes will make this missing 1", or 0.17mm in 1/144th scale easier to cope with.

Colors

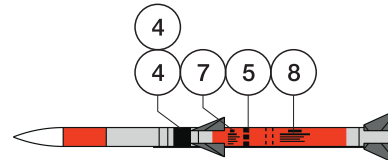
Boring.

No, really boring. All grey, white radome, blue bands for inert (CATM-120), yellow band to indicate live warhead, brown band to indicate active rocket motor, stencils, ready.

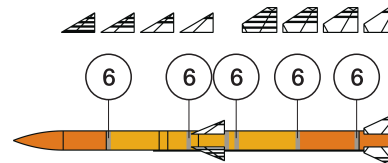
As usual — test missiles break this pattern with some lively colors to improve observability. AMRAAMs tested on F-14s had their aero surfaces painted in black and white stripes to enable ascertaining missile attitude.

Note — the Japanese AAM-4, while 1" fatter make for far more interesting subject in terms of colors.

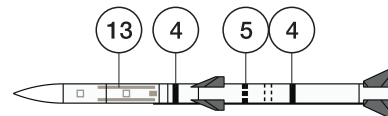
Colors and markings



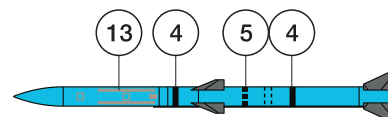
AIM-120 Gripen tests



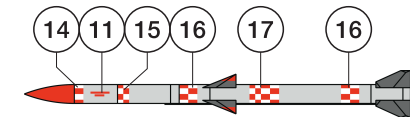
YAIM-120 dual launcher F-14 evaluation
Again aero surfaces bear markings allowing quick ascertaining missile attitude.



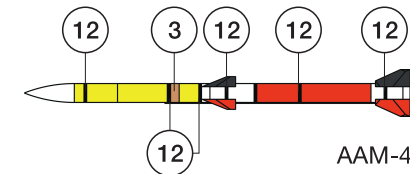
AAM-4 in white



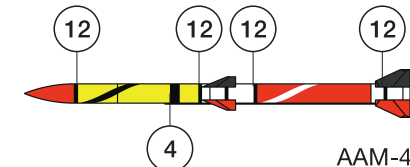
AAM-4 in blue



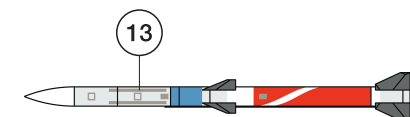
AIM-120 tested in Germany
Currently on storage in hangar 7
Flugplatz Gatow, Berlin



AAM-4



AAM-4



AAM-4