

FFG Combat System Learners Guide

ANNEX E – US Military Missile Designation System

1. US Military Missile Designation System

1.1 The current designation system for U.S. military missiles, rockets and target drones is known as a Mission-Design-Series (MDS) Designation. It was introduced by the U.S. Department of Defense in 1963. The designation system has since been slightly revised and extended (notably by the inclusion of space-related vehicles in the 1988/89 time frame), and the latest version is defined by Air Force Instruction (AFI) 16-401(I) (formerly Air Force Joint Instruction 16-401) Designating and Naming Military Aerospace Vehicles, dated 14 March 2005.

1.2 System

1.2.1 The following diagram is a listing of MDS Designation indicators. The examples listed are all real missiles.

<u>(6)</u> <u>Status</u> <u>Prefix</u>	<u>(3)</u> <u>Launch</u> <u>Envir.</u>	<u>(2)</u> <u>Mission</u>	<u>(1)</u> <u>Vehicle</u> <u>Type</u>	<u>(4)</u> <u>Design</u> <u>No.</u>	<u>(5)</u> <u>Series</u>	<u>(7)</u> <u>Config</u> <u>No.</u>	<u>(8)</u> <u>Popular Name</u>
	R	I	M	- 66	J		SM-2 (TARTAR) Med Rng Blk II
	R	I	M	- 162	B		ESSM
	R	G	M	- 84	D		Harpoon (Ship Launched)
	A	G	M	- 84	G		Harpoon (Air Launched)
	A	I	M	- 9	P	-2	Sidewinder
C	A	T	M	- 120	C		AMRAAM
	B	Q	M	- 74	E		Chukar (Drone)

(1) Vehicle Type: This letter defines the broad category of the vehicle.

- B - Booster
- M - Guided Missile, Target Drone, UAV
- N – Probe *(non-orbital instrumented vehicle used for meteorological and other measurements)*
- R – Rocket *(Covers unguided rockets)*
- S - Satellite

(2) Mission: The letter to the left of the vehicle type symbol designates the mission of the vehicle. The following mission symbols are defined:

- C - Transport
- D - Decoy
- E - Special Electronics, Communication
- G - Surface Attack

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- I – Interception (*"I" covers interception within and outside the atmosphere*)
- L - Launch Detection
- M - Scientific Measurements, Calibration
- N - Navigation
- Q - Target Drone (*formerly also UAV*)
- S - Space Operations Support
- T - Training
- U - Underwater Attack
- W - Weather

(3) Launch Environment: This letter describes the launch environment of the aerospace vehicle. The following launch environment symbols are defined:

- A - Air
- B - Multiple (*only used if the missile is essentially unmodified for the different launch options. If several variants of a missile exist for different launch environments, these variants should receive different designations, e.g. air-launched AGM-84A and submarine-launched UGM-84A*).
- C - Coffin
- F - Individual
- G - Runway or Ground
- H - Silo Stored
- L - Silo Launched
- M - Ground Launched, Mobile
- P - Soft Pad (*fixed, but unprotected surface location*)
- R - Surface Ship
- S - Space
- U - Underwater

(4) Design Number: Each vehicle type is used to form a separate series of design numbers, each starting from 1. The numbers in each series are to be assigned in strict numerical sequence without reference to manufacturers' model numbers and/or existing numbers in other MDS series. It is possible that multiple versions of a missile for different purposes and/or with different launch options exist. These versions would use the same design number with different letter combinations. An example for this is the LTV *Regulus II* missile: RGM-15A was the ship-launched ground-attack missile, MQM-15A was a ground-launched target drone version.

(5) Series Letter: Variants of a basic vehicle type are designated by a suffix letter. The first model always receives suffix "A" and subsequent series letters are to be assigned in strict sequence (omitting "I" and "O" to avoid confusion with numerals "1" and "0"). The series letter is actually a mandatory component of a conforming MDS, and therefore "plain" designations like "AIM-120" always designate the general type of vehicle and never a specific model.

(6) Status Prefix: Any vehicle, which is not in normal operational service or is of a special non-operational configuration, can receive a prefix letter in its designation to reflect its current status. The following status prefixes are defined:

- C - Captive (*can be carried by aircraft for training purposes but not actually launched*)
- D - Dummy (*Inert*)

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- J - Special Test, Temporary (*vehicle can be converted back to standard configuration after the tests have ended*)
- M - Maintenance (*Removed from MDS Designation*)
- N - Special Test, Permanent
- X - Experimental
- Y - Prototype
- Z - Planning

(7) Configuration Number: This is an optional element of the designation, and not part of the MDS proper. Minor modifications or slightly differing sub-variants of a specific missile or rocket model can be indicated by an additional suffix number, separated from the series letter by a dash.

(8) Popular Name: Most missiles receive a "popular name" or acronym very early in the planning or development phase. While the name is not part of the official designation, many missiles are almost exclusively referenced by their name, both in the popular press and in official government news releases and documents.