



OFFICER CANDIDATE SCHOOL

AI: USAF Major Aerospace Weap Sys (Designators)

Reference: Air Force Fact Sheets , AF Magazine (Almanac Issue, Airman Magazine (The Book), and AFI 16-401 (1) *Designating And Naming Defense Military Aerospace Vehicle.*



USAF MAJOR AEROSPACE WEAPON SYSTEMS' DESIGNATORS

DESIGNATOR TOPICS

- 1. Types of Aerospace Vehicles**
- 2. Parts of an MDS Designator**
- 3. MDS Designator Symbols**
- 4. Sample MDS designator**
- 5. Review**
- 6. List of Vehicles & Mfgs**



USAF MAJOR AEROSPACE WEAPON SYSTEMS' DESIGNATORS

Definition – Aerospace Vehicles

1. Aerospace Vehicles -Collective Term For:

- Aircraft
- Rockets
- Guided Missiles
- Boosters
- Satellites
- Probes
- Airborne Laser
- Unmanned Aerial Vehicles (UAV)
- UAV Control Segments



USAF MAJOR AEROSPACE WEAPON SYSTEMS' DESIGNATORS

Types of Aerospace Vehicles

Status Prefix (optional)-Appears to immediate left of *modified mission* symbol, or *basic mission* symbol [YF-16A]

Modified Mission (A/C only-optional)-Appears to the immediate left of the *basic mission* symbol [AT-38B]

Launch Environment (rockets and missiles only-required)-Appears to the immediate left of the *basic mission* symbol [LGM-118A]



USAF MAJOR AEROSPACE WEAPON SYSTEMS' DESIGNATORS

Parts of an MDS Designator

- Basic Mission (required)**- Appears to the immediate left of the *design number* separated by a dash [F-16C]
- Vehicle Type (Nonstandard vehicles only-required)**- Appears to the immediate left of the *design number* separated by a dash [CH-53A]
- Design Number (required)**- Appears to the immediate right of *basic mission* or *modified mission* symbol [F-16C]
- Series (required)**-Appears to the immediate right of the *design number* [F-15E)



USAF MAJOR AEROSPACE WEAPON SYSTEMS' DESIGNATORS

Non-MDS Designator

- Configuration or Component Number**
– Appears to the immediate right or *series symbol*
- Block Number** – Denotes production group of identically configured A/C within a *design series*
- Serial Number** – Identifies a specific aerospace vehicle



USAF MAJOR AEROSPACE WEAPON SYSTEMS' DESIGNATORS

Standard Designator Symbols

<u>Status Prefix</u>	<u>Modified Mission</u>	<u>Basic Mission</u>	<u>Vehicle Type</u>
G - Permanently Grounded	A - Attack	A - Attack	D - UAV Control Segment
J - Special Test (Temporary)	C - Transport	B - Bomber	G - Glider
N - Special Test (Permanent)	D - Director	C - Transport	H - Helicopter
X - Experimental	E - Special Electronic Installation	E - Special Electronic Installation	Q - Unmanned Aerial Vehicle (UAV)
Y - Prototype	F - Fighter	F - Fighter	S - Spaceplane
Z - Planning	H - Search/Rescue/MEDEVAC	L - Laser	V - VTOL/STOL
	K - Tanker	O - Observation	Z - Lighter-Than-Air Vehicle
	L - Cold Weather	P - Patrol	G - Glider
	M - Multi-mission	R - Reconnaissance	H - Helicopter
	O - Observation	S - Antisubmarine	
	P - Patrol	T - Trainer	
	Q - Drone	U - Utility	
	R - Reconnaissance	X - Research	
	S - Antisubmarine		
	T - Trainer		
	U - Utility		
	V - Staff		
	W - Weather		



USAF MAJOR AEROSPACE WEAPON SYSTEMS' DESIGNATORS

Standard Designator Symbols

<u>Status Prefix</u>	<u>Launch Environment</u>	<u>Basic Mission</u>	<u>Vehicle Type</u>
C - Captive	A - Air	C - Transport	B - Booster
D - Dummy	B - Multiple	D - Decoy	M - Guided Missile
J - Special Test (Temporary)	C - Coffin	E - Electronic/ Communications	N - Probe
N - Special Test (Permanent)	F - Individual	G - Surface Attack	R - Rocket
X - Experimental	G - Surface	I - Aerial/Space Intercept	S - Satellite
Y - Prototype	H - Silo Stored	L - Launch Detection/ Surveillance	
Z - Planning	L - Silo Launched	M - Scientific/Calibration	
	M - Mobile	N - Navigation	
	P - Soft Pad	Q - Drone	
	R - Ship	S - Space Support	
	S - Space	T - Training	
	U - Underwater	U - Underwater Attack	
		W - Weather	



USAF MAJOR AEROSPACE WEAPON SYSTEMS' DESIGNATORS

Sample Designators

SAMPLE A/C MDS YEH-60B:

“Y” ----- *Status Prefix (Prototype)*

“E” ----- *Basic Mission (Electronics)*

“H” ----- *Vehicle Type (Helicopter)*

“60” ----- *Design Number (60th helicopter design)*

“B” ----- *Series*



USAF MAJOR AEROSPACE WEAPON SYSTEMS' DESIGNATORS

Sample Designators

SAMPLE Missile MDS = BGM-109G:

“B” ----- Launch Environment (Multiple)

“G” ----- Basic Mission (Surface Attack)

“M” ----- Vehicle Type (Guided Missile)

“109”----- design number (109th Missile Design)

“G” ----- Series (7th version of this design)



USAF MAJOR AEROSPACE WEAPON SYSTEMS' DESIGNATORS

Sample Problem – Determine the Designator

Take out sheet of paper and write down the MDS Designator for each of the following:

Permanently Ground =
Tanker =
Transport =
23rd Design =
2nd Variant =
Prototype =

Cold Weather =
Reconnaissance =
2nd Design =
7th Variant =
Search and Rescue =
Helicopter =
60th Design =
7th Variant =



USAF MAJOR AEROSPACE WEAPON SYSTEMS' DESIGNATORS

Sample Problem – Determine the Designator

ANSWERS ARE:

Permanently Ground = **G**

Tanker = **K**

Transport = **C**

23rd Design = **23**

2nd Variant = **B**

Prototype = **Y**

Cold Weather = **L**

Reconnaissance = **R**

2nd Design = **2**

7th Variant = **G**

Search and Rescue = **H**

Helicopter = **H**

60th Design = **60**



USAF Major Aerospace Weapon Systems List

TYPE OF AEROSPACE VEHICLES

- ┆ **Bombers**
- ┆ **Fighter / Attack**
- ┆ **Special Ops Forces**
- ┆ **ISR / BM / C3**
- ┆ **Aerial Targets / Decoys (RPA's)**
- ┆ **Tankers**
- ┆ **Helicopters**
- ┆ **Transport/Cargo**
- ┆ **Trainers / Gliders**
- ┆ **Strategic Missiles**
- ┆ **Tactical Weapons Systems – Bombs**
- ┆ **Tactical Weapon Systems – Missiles**
- ┆ **Satellite – Launch Vehicles**
- ┆ **Satellites**



USAF MAJOR AEROSPACE WEAPON SYSTEMS' LIST/MFGRS - **BOMBERS**



Designation	Nickname	Manufacturer
B-1	Lancer	Boeing
B-2	Spirit	Northrop
B-52	Strato- fortress	Boeing

A bomber is generally a long-range aircraft capable of striking targets deep within enemy territory.



USAF MAJOR AEROSPACE WEAPON SYSTEMS' LIST/MFGRS – **FIGHTER / ATTACK**



-The fighter aircraft of the USAF are small, fast, and maneuverable military aircraft primarily used for air-to-air combat. Many of these fighters have secondary ground-attack capabilities

-The ground-attack aircraft of the USAF are designed to attack targets on the ground and are often deployed as close air support for, and in proximity to, U.S. ground forces

Designation	Nickname	Manufacturer
O/A-10	Thunderbolt II	Fairchild
F-15	Eagle	Boeing
F-15E	Strike Eagle	Boeing
F-16	Fighting Falcon	Lockheed-Martin
F-22	Raptor	Lockheed-Martin
F-35	Lightening II	Lockheed-Martin / Northrup



USAF MAJOR AEROSPACE WEAPON SYSTEMS' LIST/MFGRS - **SPECIAL OPERATIONS**



Designation	Nickname	Manufacturer
AC-130	Spooky / Spectre	Lockheed-Martin
MC-130	Combat Talon/ Shadow/ Spear	Lockheed-Martin
MC-130J	Commando II	Lockheed-Martin
CV-22	Osprey	Bell-Boeing

Special Operations A/C are designed specifically to support the mission of the USAF Special Operations Command.



USAF MAJOR AEROSPACE WEAPON SYSTEMS' LIST/MFGRS - **ISR / BM / C3**



Designation	Nickname	Manufacturer
E-3	Sentry	Boeing
E-4	NAOC	Boeing
E-8	JSTARS	Northrup
E-9	Widget	Bombardier
EC-130	Compass Call/ Commando Solo II	Lockheed-Martin
MC-12	Liberty	Hawker-Beechcraft
MQ-1	Predator B/C	General Atomics
MQ-9	Reaper	General Atomics
OC-135	Open Skies	Boeing

ISR: Intelligence, Surveillance, Reconnaissance

BM: Battle Management

C3: Command, Control, Communications



USAF MAJOR AEROSPACE WEAPON SYSTEMS' LIST/MFGRS - **ISR / BM / C3 (Cont.)**



Designation	Nickname	Manufacturer
RC-26	Condor	Fairchild
RC-135	Rivet Joint	Boeing
RQ-4	Global Hawk	Northrup
RQ-11B	Raven	Aerovironment
RQ-170	Sentinel	Boeing / Aerovironment
U-2	Dragon Lady	Lockheed-Martin
WC-130	Hercules	Lockheed-Martin
WC-135	Constant Phoenix	Boeing

ISR: Intelligence, Surveillance, Reconnaissance

BM: Battle Management

C3: Command, Control, Communications



USAF MAJOR AEROSPACE WEAPON SYSTEMS' LIST/MFGRS - **AERIAL TARGETS & DECOYS**



Designation	Nickname	Manufacturer
BQM-167	Skeeter	Composite Engineering
QF-4	Phantom II	McDonnell

Used for weapons test and aerial practice.



USAF MAJOR AEROSPACE WEAPON SYSTEMS' LIST/MFGRS - **TANKERS**



Designation	Nickname	Manufacturer
KC-10	Extender	Boeing
KC-135	Stratotanker	Boeing
HC-130	Combat Shadow	Lockheed-Martin

Tankers are used to extend the range of all aircraft types and allows maximum flexibility in force deployment.



USAF MAJOR AEROSPACE WEAPON SYSTEMS' LIST/MFGRS - **HELICOPTERS**



Designation	Nickname	Manufacturer
UH/TH-1	Iroquois	Boeing
HH-60	Pave Hawk	Boeing

Rotary wing aircraft used for Training, Transport, resupply, and special operation support



USAF MAJOR AEROSPACE WEAPON SYSTEMS' LIST/MFGRS- **TRANSPORT / CARGO**



Designation	Nickname	Manufacturer
C-5	Galaxy	Lockheed-Martin
C-5M	Super Galaxy	Lockheed-Martin
C-9	Nightingale	Boeing
C-12	Huron	Beechcraft
C-17	Globemaster III	Boeing
C-20	Gulfstream III	Gulfstream
C-21	Learjet	Gates

Used for Troop, equipment, resupply, casualty transport, as well as VIP.



USAF MAJOR AEROSPACE WEAPON SYSTEMS' LIST/MFGRS - **TRANSPORT / CARGO (Cont.)**



Used for Troop, equipment, resupply transport, as well as VIP.

Designation	Nickname	Manufacturer
C-27	Spartan	L-3 Comm.
C-32	Air Force Two	Boeing
C-37	Gulfstream V	Gulfstream
C-38	Courier	IAI
C-40	Clipper	Boeing
C-130	Hercules	Lockheed-Martin
VC-25	Air Force One	Boeing



USAF MAJOR AEROSPACE WEAPON SYSTEMS' LIST/MFGRS - **TRAINER / GLIDER**



Designation	Nickname	Manufacturer
T-1	Jayhawk	Raytheon
T-6	Texan II	Raytheon
T-38	Talon	Northrop
T-41	Mescalero	Cessna
T-51	Terminator	Cessna
TG-10	Merlin	Blanik
TG-15	Duodiscus	Schempp-Hirth
UV-18	Twin Otter	Bombardier

Used for Training and AFA support



USAF Major Aerospace Weapon Systems' Designators & List of Vehicles

**END of
USAF Major Aerospace
Weapon Systems'
Designators CLASS !**