



MCAS - AH

MISSION CONFIGURABLE AIRCRAFT SYSTEM

 DillonAero



THE STANDARD



The Dillon Aero Mission Configurable Aircraft System provides an exceptional armament solution for the MD500 series of helicopters. Years of direct, hands-on experience coupled with exceptional engineers have produced an armament platform that is lighter, more capable, and easier to support than other systems currently available.

Airframe sustainability and useful load benefit from the decreased overall weight; generally 70 pounds compared to legacy systems. The aircraft can now carry more ammunition, fuel, or additional weapons systems.

Depending on the mission profile the user has endless configuration options utilizing up to 6 weapon stations. MCAS can easily and quickly be configured for Hellfire, M134D, GAU-19B, HMP-400, M260, or M261 rocket launchers based on mission requirements. The outer wing sections are capable of Smart Weapon Enhancements such as the Raytheon Griffin® B launcher. MCAS supports any combination of 3000 or 1500 round 7.62mm magazines, and/or 600 round .50 caliber magazines. All of the lightweight magazines have an identical footprint that lock into common points.

The outboard wing sections fold 180° to reduce the lateral dimension to 86 inches. This results in easier transport and a smaller hangar footprint. Damage prone areas are easily replaced in the field. It is not necessary to replace an entire plank because of localized damage. MCAS wings are interchangeable between aircraft. With complete interchangeability between airframes, there is no need for tail number specific hardware. This provides the user greater flexibility.

To allow for faster reload times and diminish stress on crew, we have reduced lift height, and provided smooth obstruction-free magazine rails. Cables are routed through fairings that provide protection from the environment. A pass-through within the center section allows flex chuting to be mounted completely underneath the wing eliminating interference during arming.

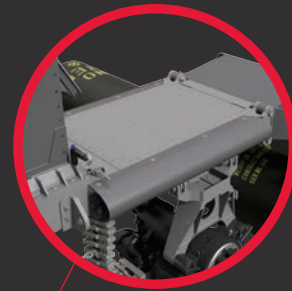
GENERAL OVERVIEW

All flexible ammunition feed chute routing is 'under wing' leaving the upper surfaces flat for easy reload

Cable fairings to protect weapons cabling

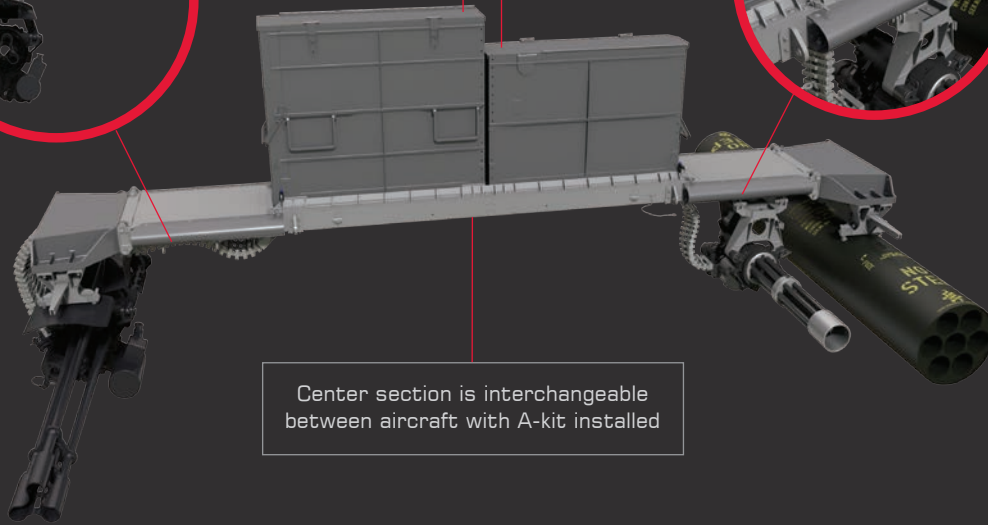


All magazines utilize the same interface



Center section is interchangeable between aircraft with A-kit installed

All stations are bore-sightable

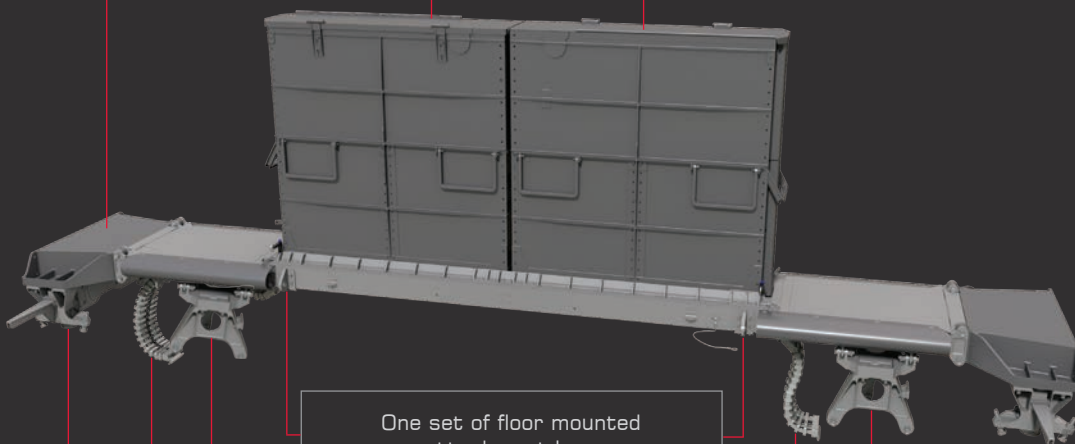


LIGHTWEIGHT

128 POUNDS AS DEPICTED

Far outboard stations also support
ALKAN 2037 ejector racks
and Marvin MA-4B
(different hardware)

Two 3,000 round 7.62mm
ammunition magazines



One set of floor mounted
attachment lugs

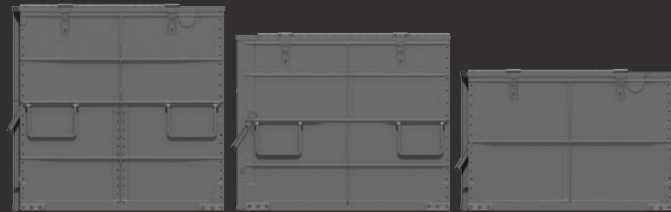
Two M134 mounts
Lightweight or bore-sightable

Two flexible
ammunition feed chutes

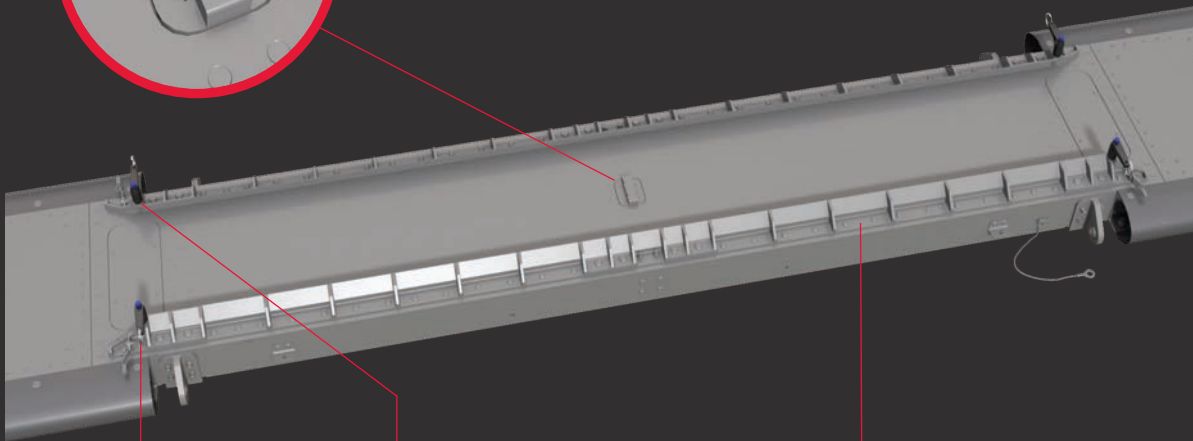
Two bore-sightable ejector racks
(Marvin MA-4B or ALKAN 2037)

MAGAZINE RAIL SYSTEM

Magazine stop pad



Supports any combination of 600 round .50 cal magazines, 1,500 round 7.62mm magazines, or 3,000 round 7.62mm magazines on left and right sides



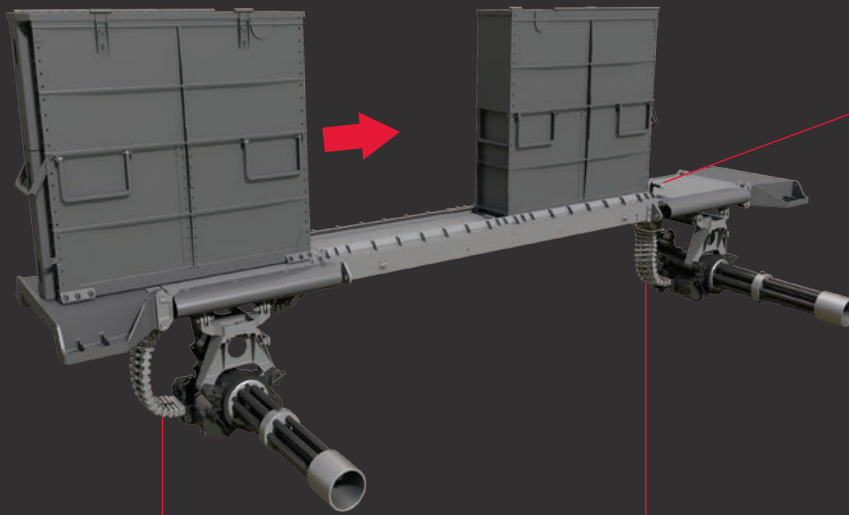
Fish mouth opening facilitates magazine loading, even in low light conditions

No moving parts or hidden corners for debris to accumulate

RELOADING OF LIGHTWEIGHT MAGAZINES

Flat, smooth surface from wingtip to loaded position

QR pin secures magazine in place



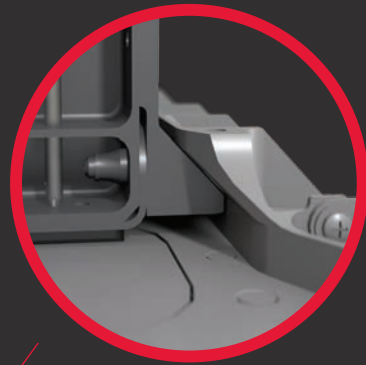
Flex chutes routed underneath to reduce interference while reloading

Replaceable Ultra High Molecular Weight Polyethylene skid plate, low friction

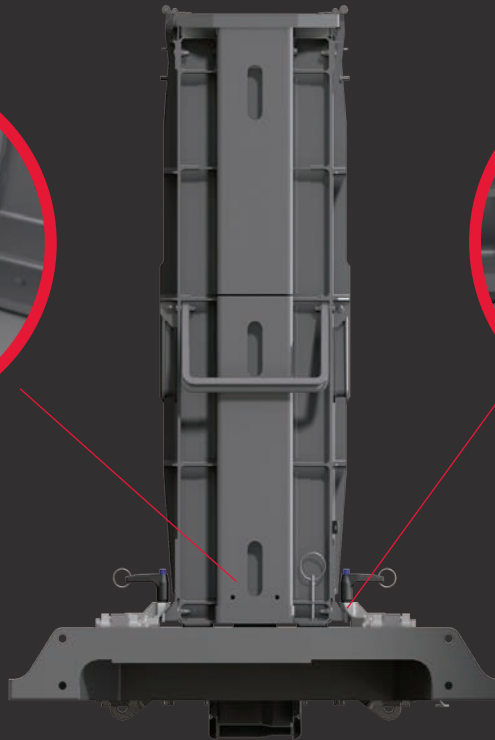
LIGHTWEIGHT MAGAZINE FEATURES



Anti-siphon pin prevents
ammunition drain

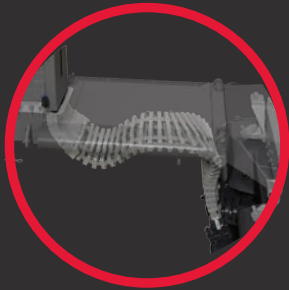


Wedge type engagement precludes
magazine wobble



INTEGRATED AMMUNITION CHUTES

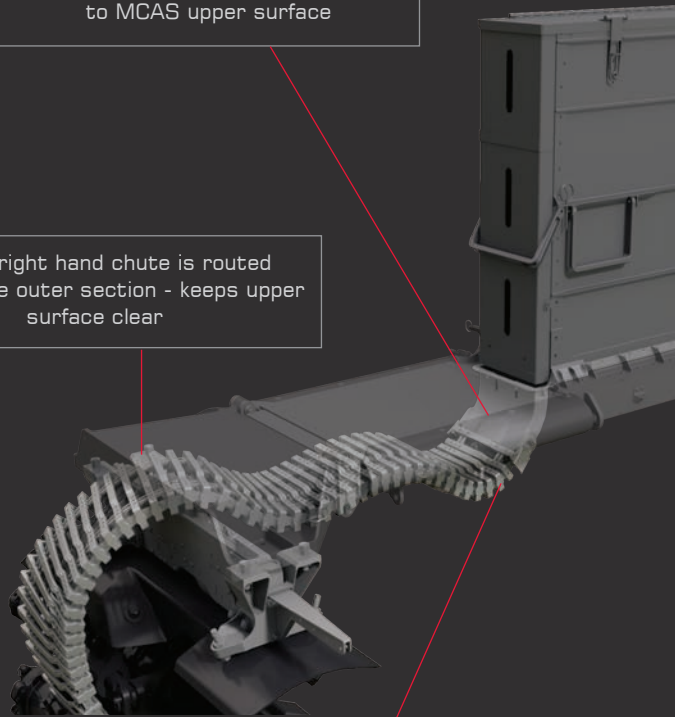
Left hand .50 cal
chute attachment



Chutes are secured to
MCAS via D-rings

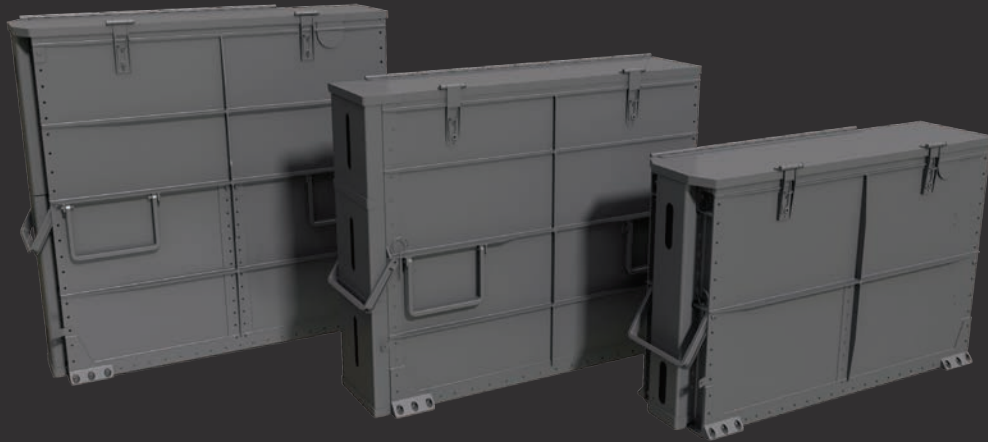
Fixed front guide on magazine
to MCAS upper surface

.50 cal right hand chute is routed
through the outer section - keeps upper
surface clear



Chute attachment at bottom of pass through
eliminates interference during reloading operations
and minimizes service damage

FAMILY OF LIGHTWEIGHT MAGAZINES WITH INTEGRATED FEED CHUTES



7.62mm, 3,000 rounds
22 lbs

.50 cal, 600 rounds
15.6 lbs

7.62mm, 1,500 rounds
16 lbs

- Maintain proven functional features of Dillon design
- Optimize can stiffness with integral machined ribs
- Integrated handle provisions for 2 man lift
- Integrated mounting provisions at base
- Magazine interface to MCAS is identical for 7.62mm or .50 cal

COMPOSITE DOOR

WITH LIGHTNING PROTECTION

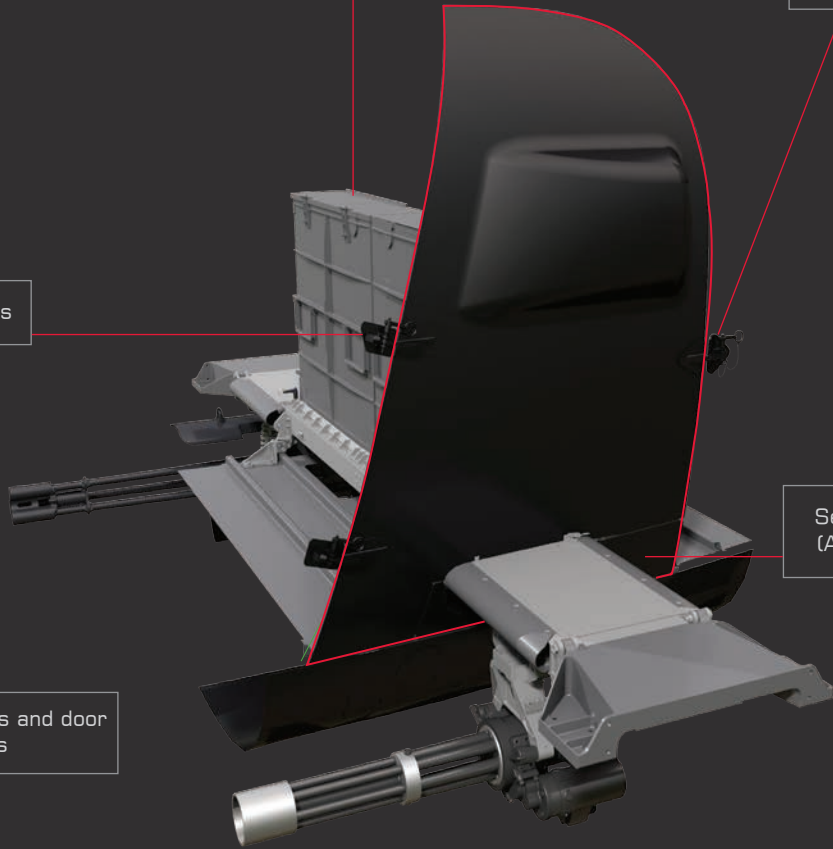
Functional with
ammunition magazines

Latch with ball lock detent

Meeker hinges

Separate lower close-out panel
(Attached to MCAS - Optional)

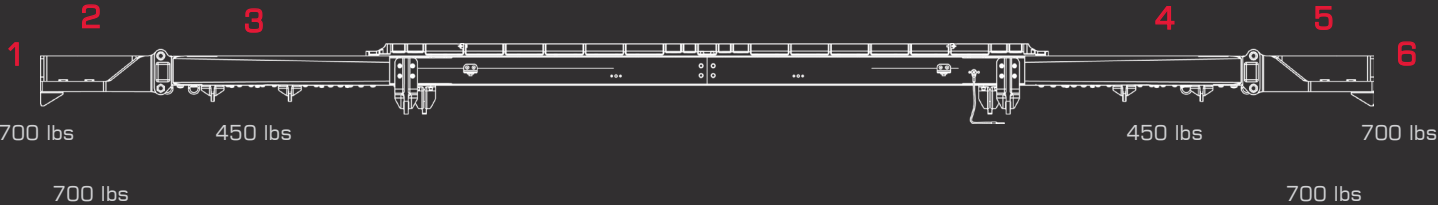
Silicone wipers and door
seals



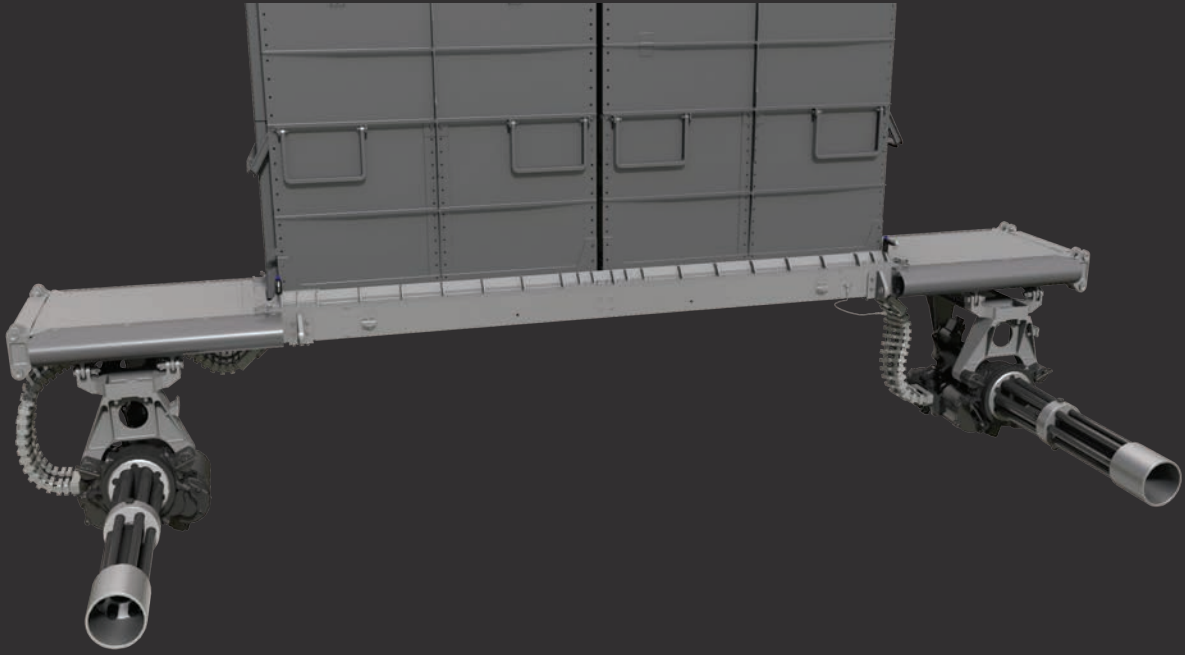
MISSION CONFIGURABLE AIRCRAFT SYSTEM

LEFT SIDE WEAPON STATIONS

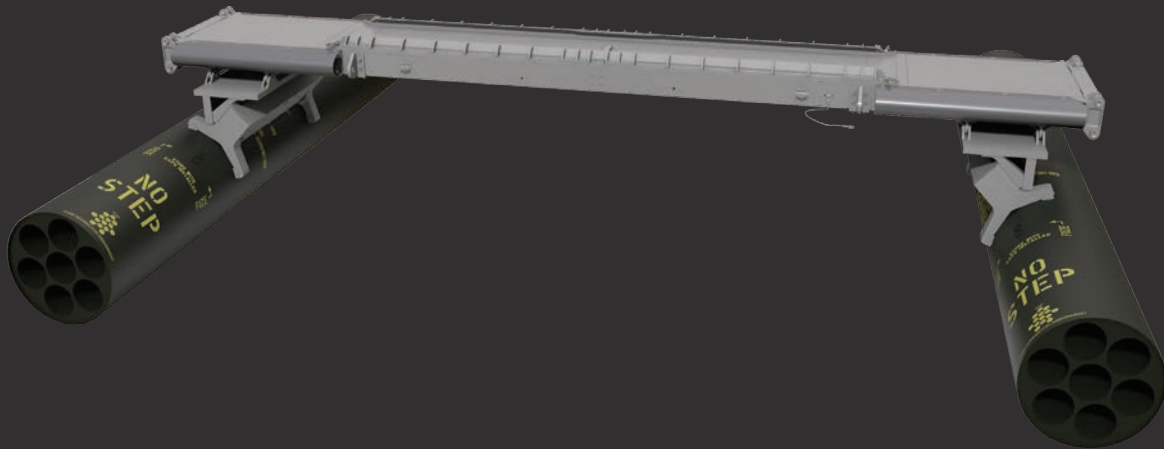
RIGHT SIDE WEAPON STATIONS



*Demonstrated above: Weight capacity of individual stations.



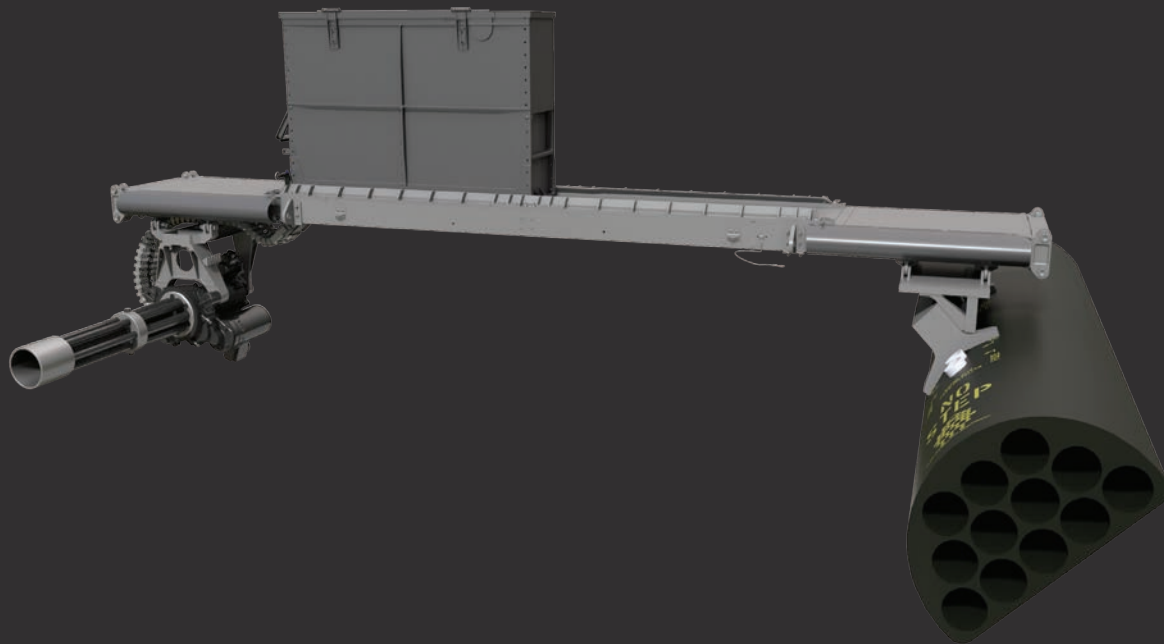
DUAL M134D MINIGUNS



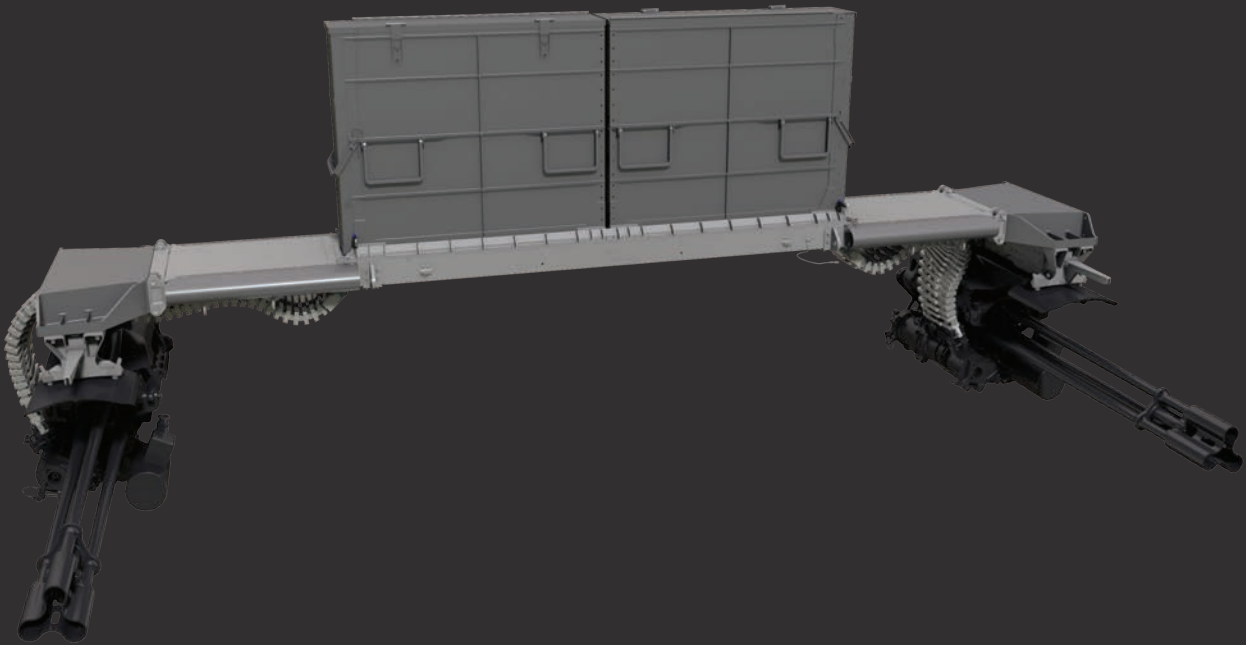
DUAL M260 ROCKET LAUNCHERS



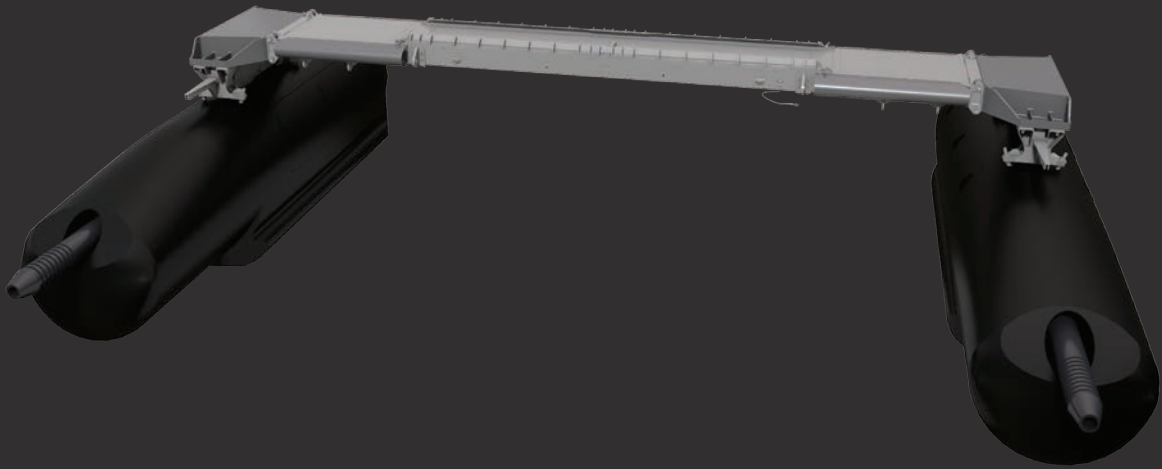
M260 ROCKET LAUNCHER & M134D MINIGUN



M134D MINIGUN & LWL12 ROCKET LAUNCHER



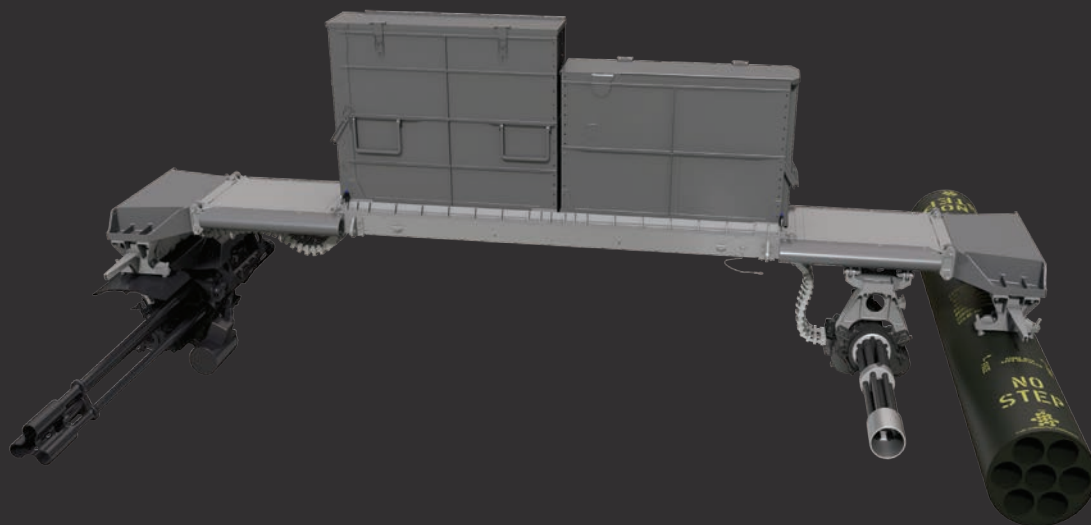
DUAL GAU - 19B



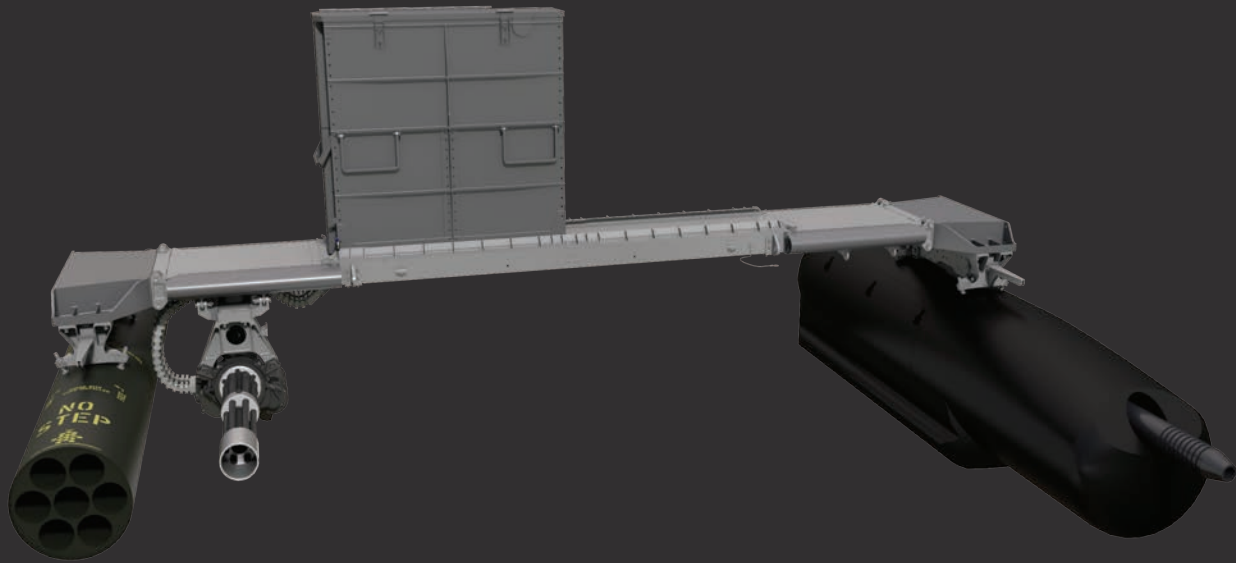
DUAL HMP - 400



DUAL TWIN HELLFIRE RAILS



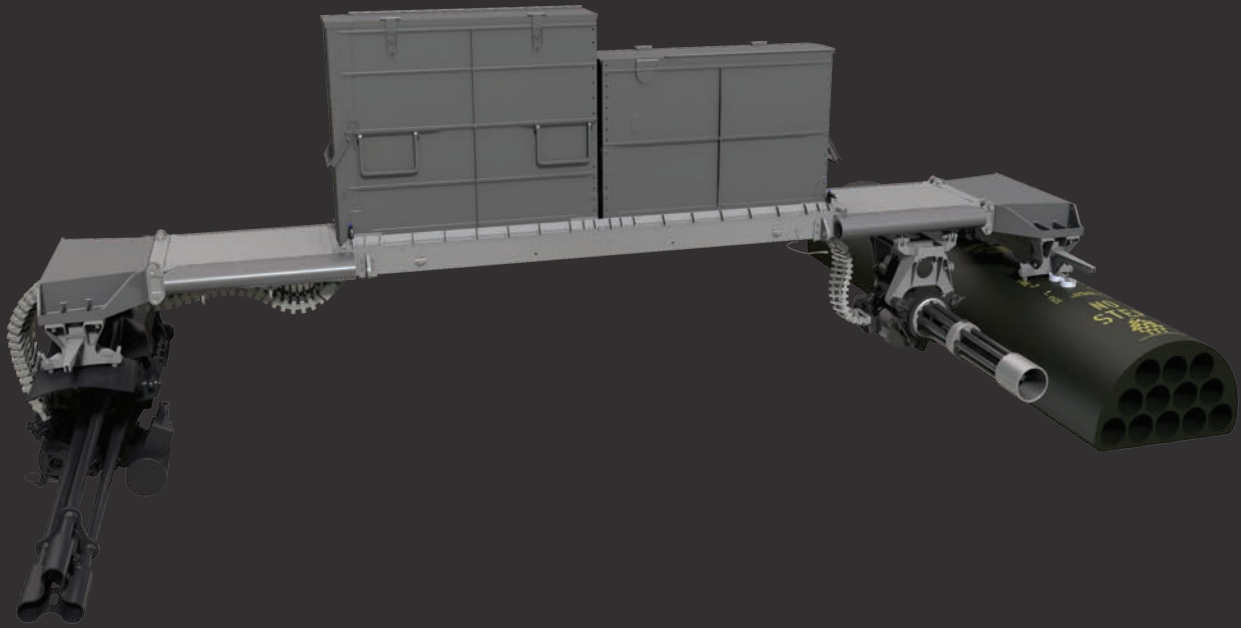
GAU -19B, M134D MINIGUN & M260 ROCKET LAUNCHER



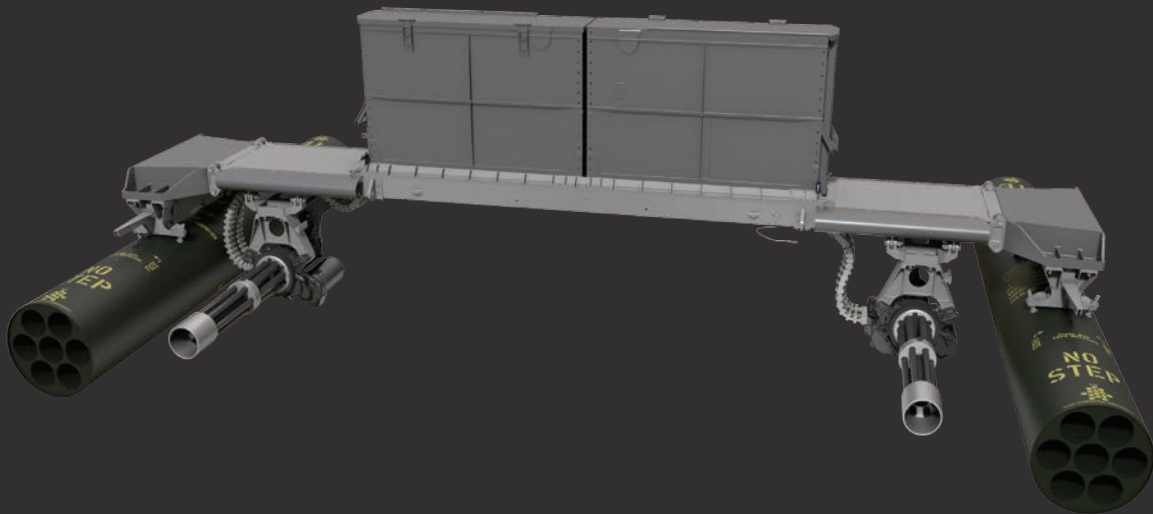
M260 ROCKET LAUNCHER, M134D MINIGUN & HMP - 400



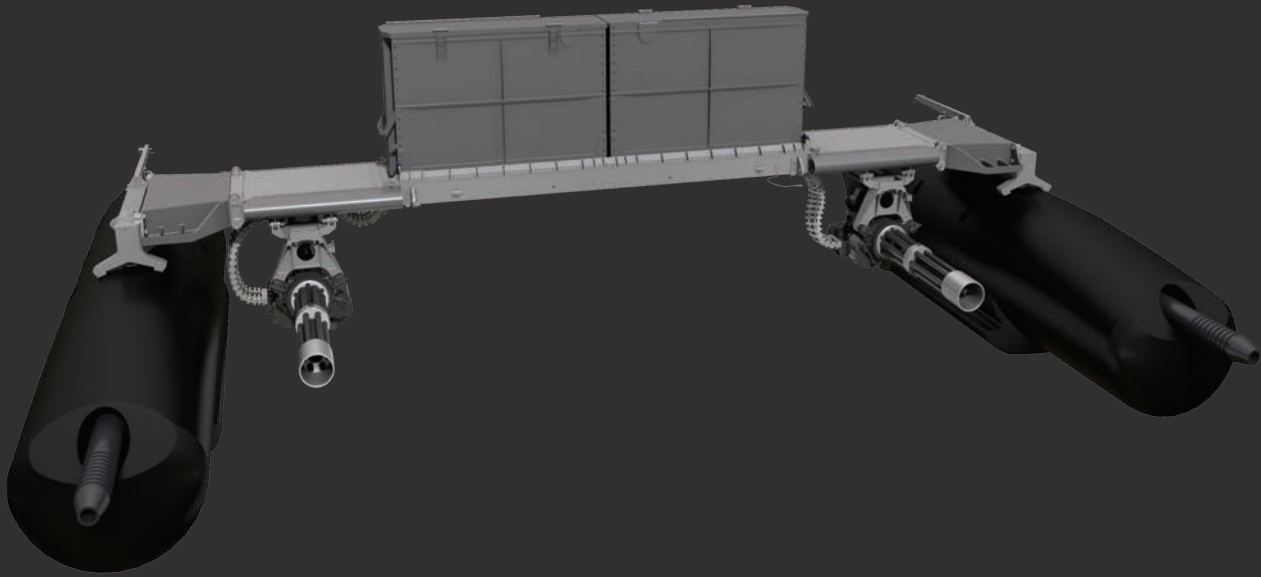
TWIN HELLFIRE RAIL, M134D MINIGUN & M260 ROCKET
LAUNCHER



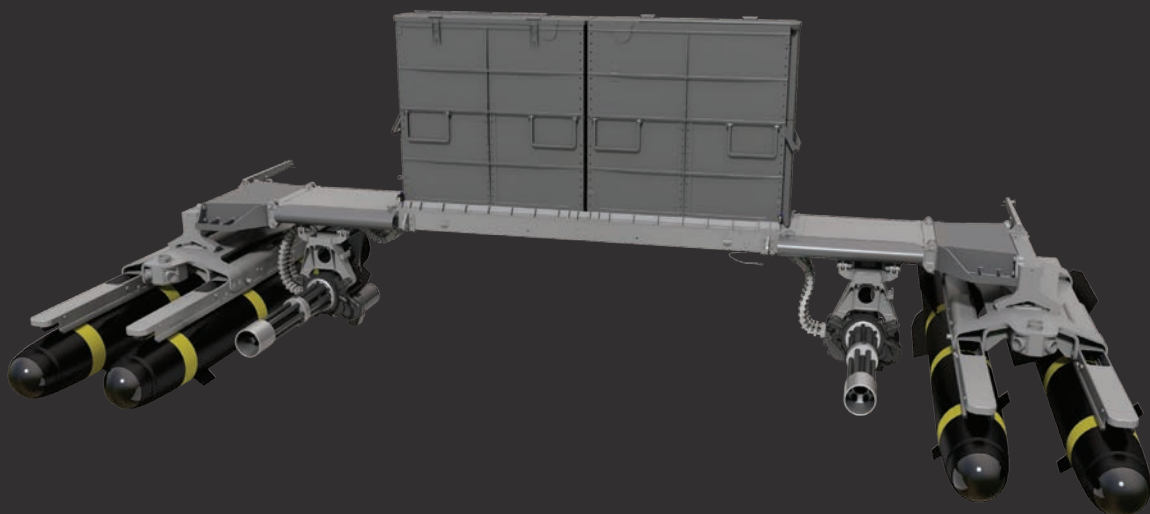
GAU - 19B, M134D MINIGUN & LWL12 ROCKET LAUNCHER



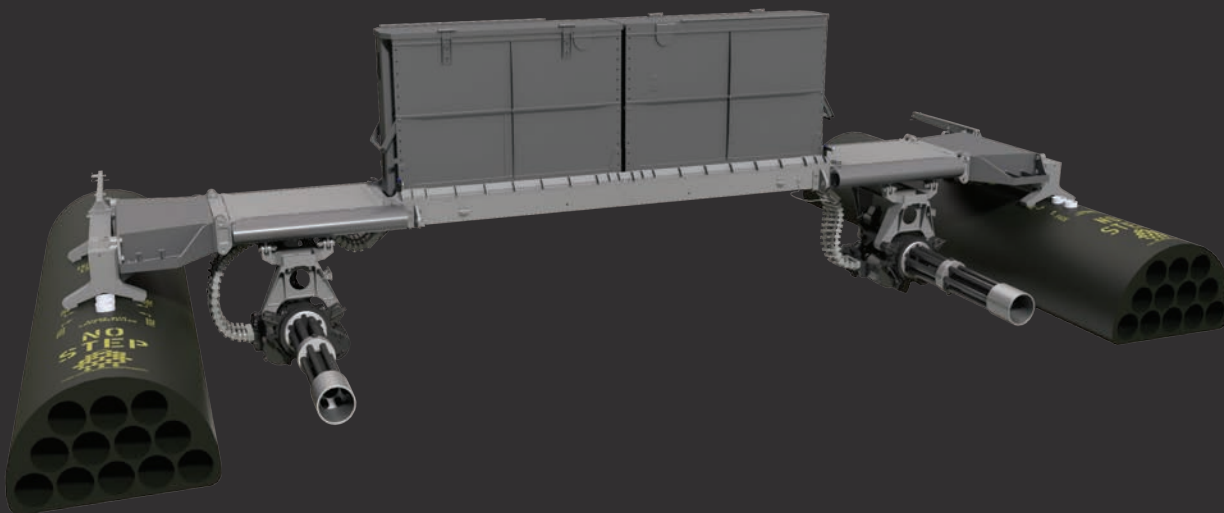
DUAL M260 ROCKET LAUNCHERS & DUAL M134D MINIGUNS



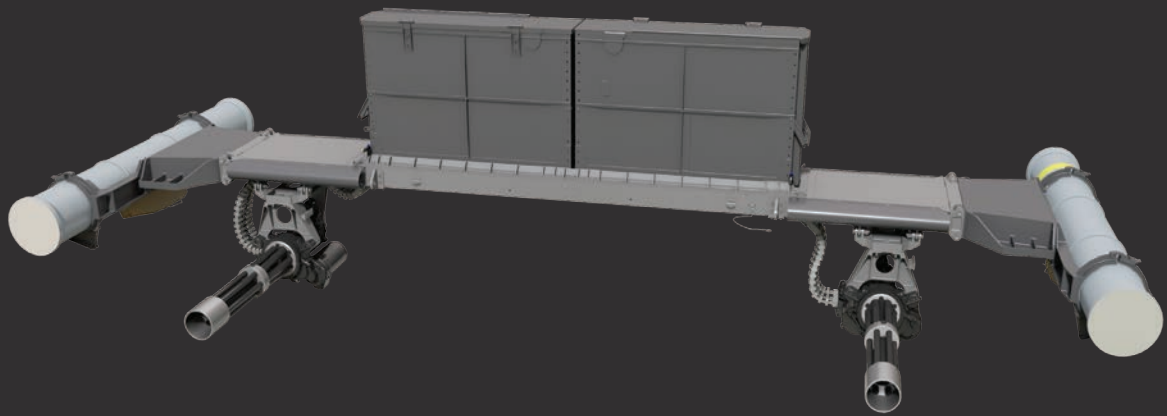
DUAL HMP - 400 & DUAL M134D MINIGUNS



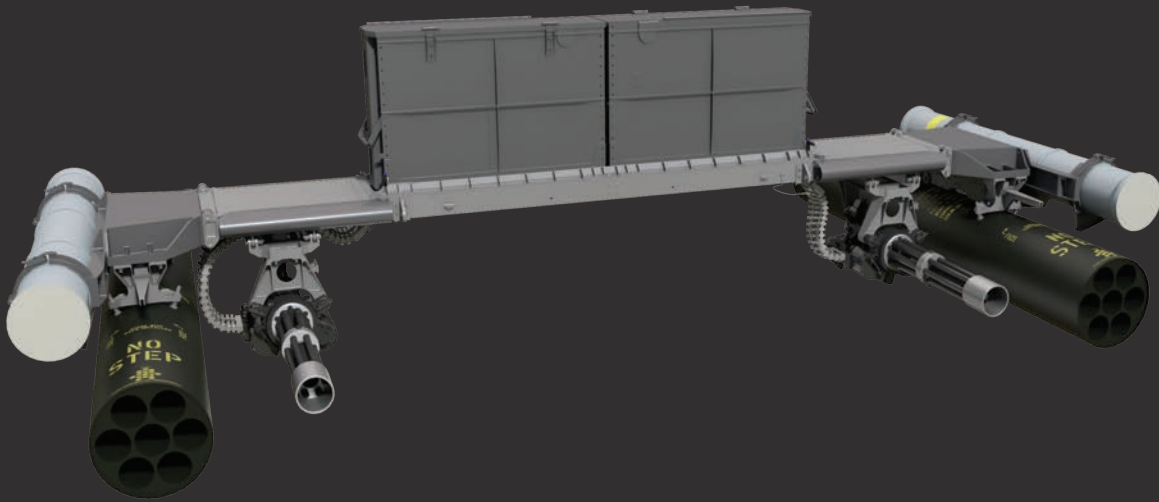
DUAL TWIN HELLFIRE RAILS & DUAL M134D MINIGUNS



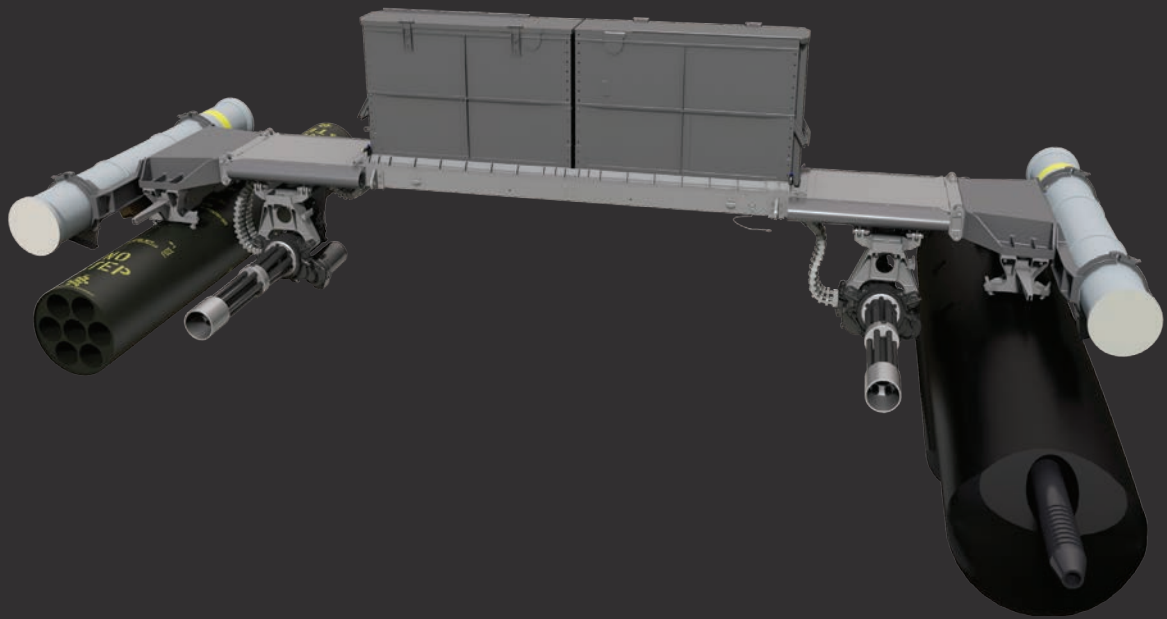
DUAL LWL12 ROCKET LAUNCHERS & DUAL M134D MINIGUNS



DUAL RAYTHEON GRIFFIN® B LAUNCHERS & DUAL M134D
MINIGUNS



DUAL RAYTHEON GRIFFIN® B LAUNCHERS, DUAL M260
ROCKET LAUNCHERS & DUAL M134D MINIGUNS



DUAL RAYTHEON GRIFFIN® B LAUNCHERS, M260 ROCKET
LAUNCHER, DUAL M134D MINIGUNS & HMP - 400

MCAS WEIGHT SUMMARY

TRIPS CONFIGURATION						
System Weights						
	Legacy*		Phase 2*		Phase 3*	
	Lb	Kg	Lb	Kg	Lb	Kg
A-Kit	20.2	9.2	20.2	9.2	7.0	3.2
B-Kit	102.6	46.5	72.0	32.7	72.0	32.7
Weapon Specific Hardware						
GAU-19	-	-	-	-	-	-
.50 cal magazine	17.5	7.9	14.5	6.6	14.5	6.6
.50 cal feed chute	6.7	3.0	5.8	2.6	5.8	2.6
.50 cal pass-through	0	0	0.38	0.17	0.38	0.17
M-134	-	-	-	-	-	-
M-134 Mount	10.8	4.9	3.6	1.6	3.6	1.6
7.62mm 3,000 rd magazine	28.0	12.7	21.8	9.9	21.8	9.9
7.62mm feed chute	2.6	1.2	0.82	0.37	0.82	0.37
7.62mm pass-through	0	0	0.26	0.12	0.26	0.12
M260	-	-	-	-	-	-
Total:	188.4	85.5	139.3	63.2	126.1	57.3
Delta:	N/A	N/A	-49.1	-22.3	-62.3	-28.3

*FOR SYSTEM WEIGHT ESTIMATION ONLY.

*Legacy - Weight data from AWR document and Legacy Operator's Manual

*Phase 2 - Utilizes existing MK4 rail; weights are actuals

*Phase 3 - Replaces MK4 rail with Dillon A-Kit (FAA/AED approved); weights are actuals

MCAS WEIGHT SUMMARY

DUALS CONFIGURATION						
System Weights						
	Legacy*		Phase 2*		Phase 3*	
	Lb	Kg	Lb	Kg	Lb	Kg
A-Kit	20.2	9.2	20.2	9.2	7.0	3.2
B-Kit	102.6	46.5	72.0	32.7	72.0	32.7
Weapon Specific Hardware						
M134 x 2	-	-	-	-	-	-
M134 Mount x 2	21.6	9.8	7.3	3.3	7.3	3.3
7.62mm 3,000 rd magazine x 2	56.0	25.4	43.5	19.7	43.5	19.7
7.62mm feed chute RH	3.1	1.4	1.7	0.78	1.7	0.78
7.62mm feed chute LH	2.6	1.2	0.82	0.37	0.82	0.37
7.62mm pass-through	0	0	0.52	0.24	0.52	0.24
M260	-	-	-	-	-	-
Total:	206.1	93.5	-146.0	-66.3	-132.8	-60.3
Delta:	N/A	N/A	-60.1	-27.3	-73.3	-33.3

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*Legacy - Weight data from AWR document and Legacy Operator's Manual

*Phase 2 - Utilizes existing MK4 rail; weights are actuals

*Phase 3 - Replaces MK4 rail with Dillon A-Kit (FAA/AED approved); weights are actuals



Dillon Aero MCAS for 369/MD-530

- Six stations
- Fully qualified
- Lightweight
- Designed by SOF aviation users
- Field maintainable/repairable
- Complete airframe interchangeability
- Foldable for easy transportability
- Clean/efficient design for ease of operation
- Compatible with future Precision Guided Munitions