



MCAS - 407 SERIES

MISSION CONFIGURABLE AIRCRAFT SYSTEM

 DILLON AERO



MCAS - 407AH

MISSION CONFIGURABLE AIRCRAFT SYSTEM



DILLON AERO, INC. PROPRIETARY

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THE STANDARD

▶ LIGHT ATTACK HELICOPTERS

The Dillon Aero Mission Configurable Aircraft System (MCAS-AH) provides an exceptional armament solution for the Bell 407 series of helicopters. Years of direct, hands-on experience coupled with innovative 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; with a basic AH weight of 100 pounds, the MCAS is roughly 150 pounds lighter compared to legacy systems. The aircraft can now carry more ammunition, fuel, or additional weapons systems. The common 'A-kit' is comprised of six parts and is non-evasive to the fuel cells.

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, DAP-6 gun pod, GAU-19/B, GP-19 gun pod, 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 3,000 or 1,500 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.

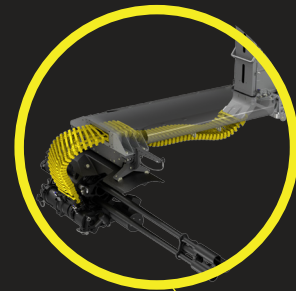
The common center section is fully reversible. The outboard wing sections are easily attached and removed with expandable diameter pins. This results in easier transport and a smaller hangar footprint. If the plank is damaged, most segments of the plank are easily replaced in the field. It is not necessary to replace an entire plank because of localized damage. MCAS wings are interchangeable between aircraft and the left-hand and right-hand wings are fully reversible. 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 by approximately seven inches, 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.

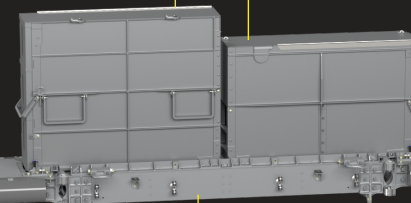
Additionally, the system incorporates a cargo floor option that will allow for approximately 700 pounds of useful load on a flat surface incorporating multiple tie down points to secure 'precious cargo'. The cargo configuration allows for full operation of the doors and weighs approximately 15 pounds.

GENERAL OVERVIEW

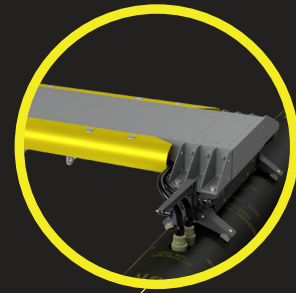
All flexible ammunition feed chute routing is 'under wing' leaving the upper surfaces flat for easy reload



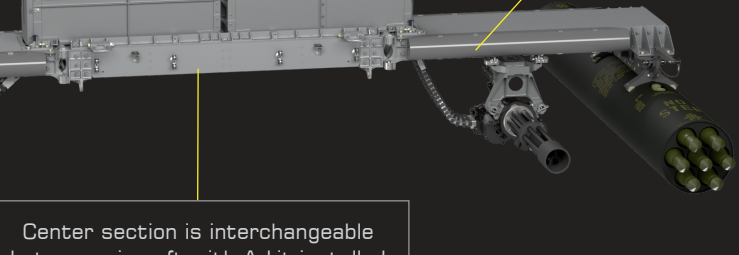
All magazines utilize the same interface



Cable fairings to protect weapons cabling



Center section is interchangeable between aircraft with A-kit installed

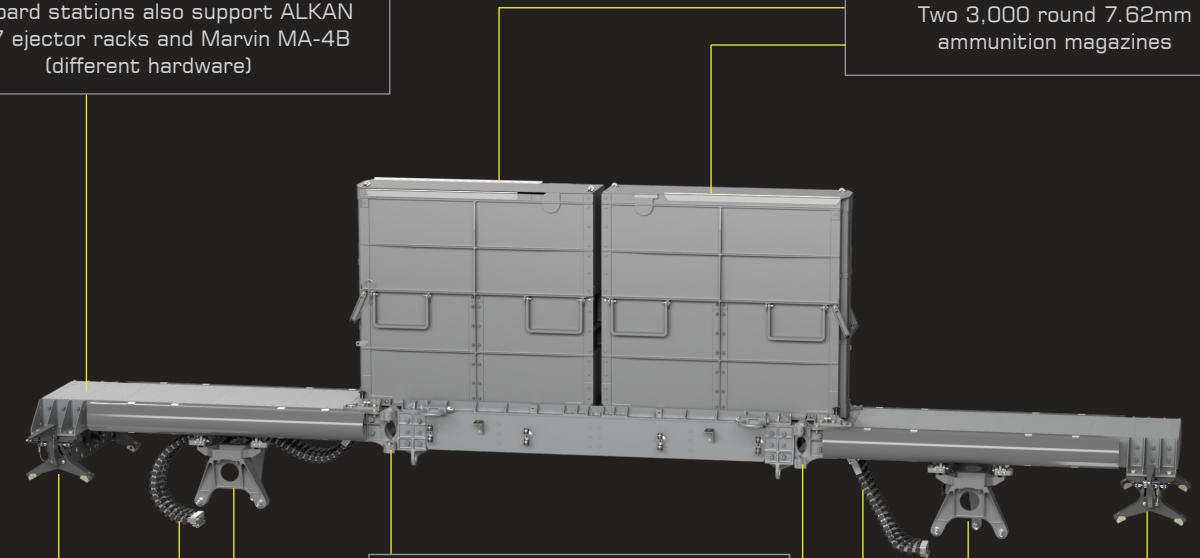


All stations are bore-sightable (M134 comes in a bore-sightable and lightweight fixed mount)

LIGHTWEIGHT 143 POUNDS AS DEPICTED

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

Two 3,000 round 7.62mm ammunition magazines



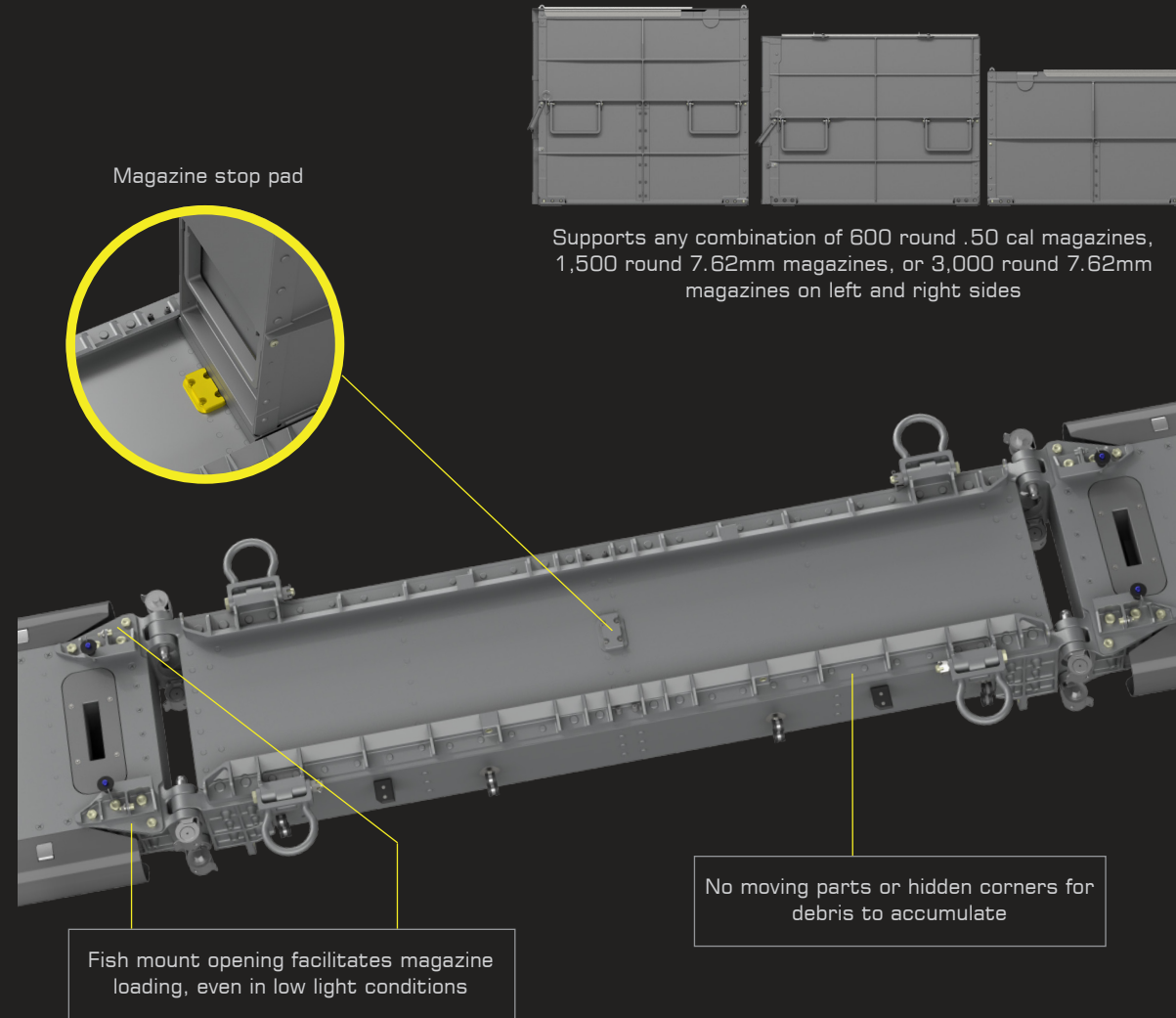
One set of floor mounted attachment lugs

Two M134 mounts
Lightweight (fixed) or bore-sightable

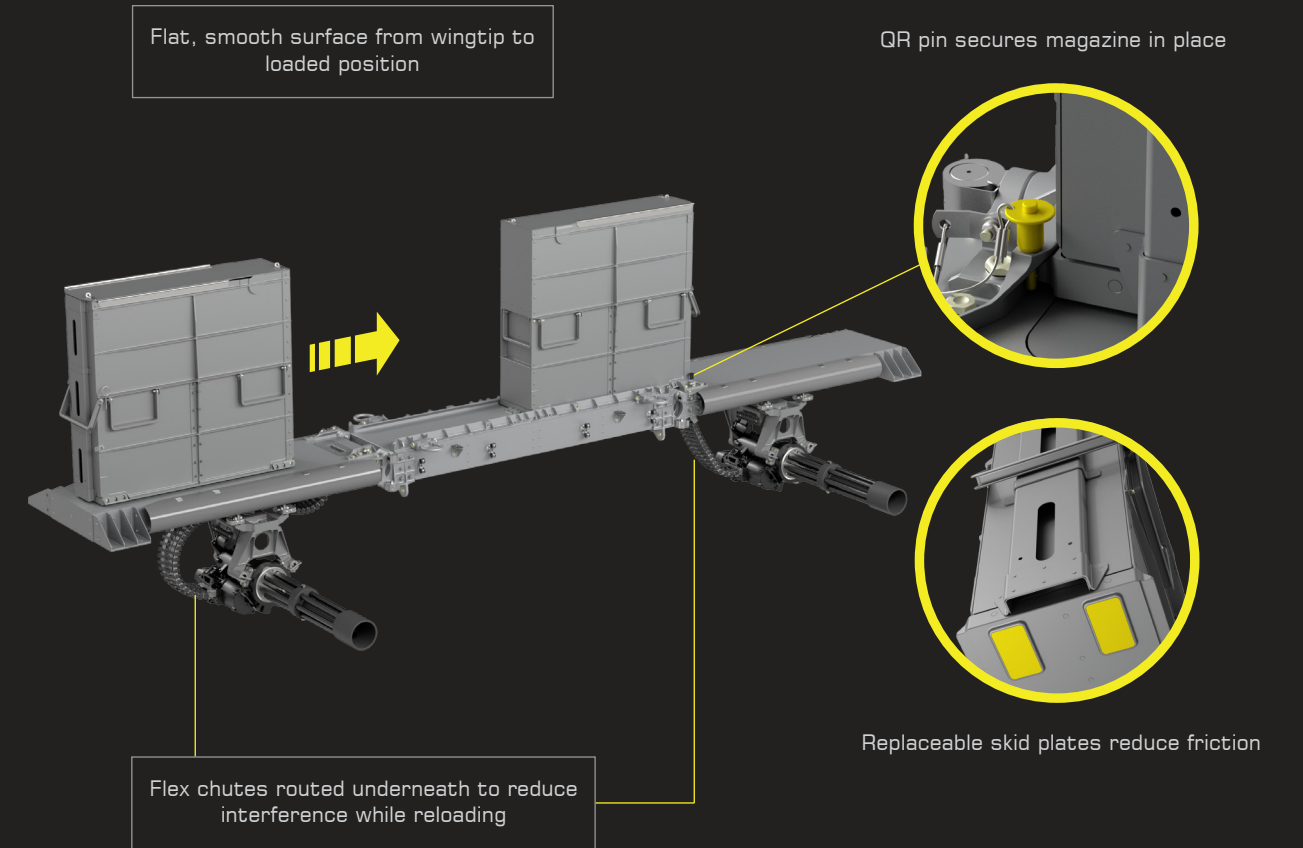
Two flexible
ammunition feed chutes

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

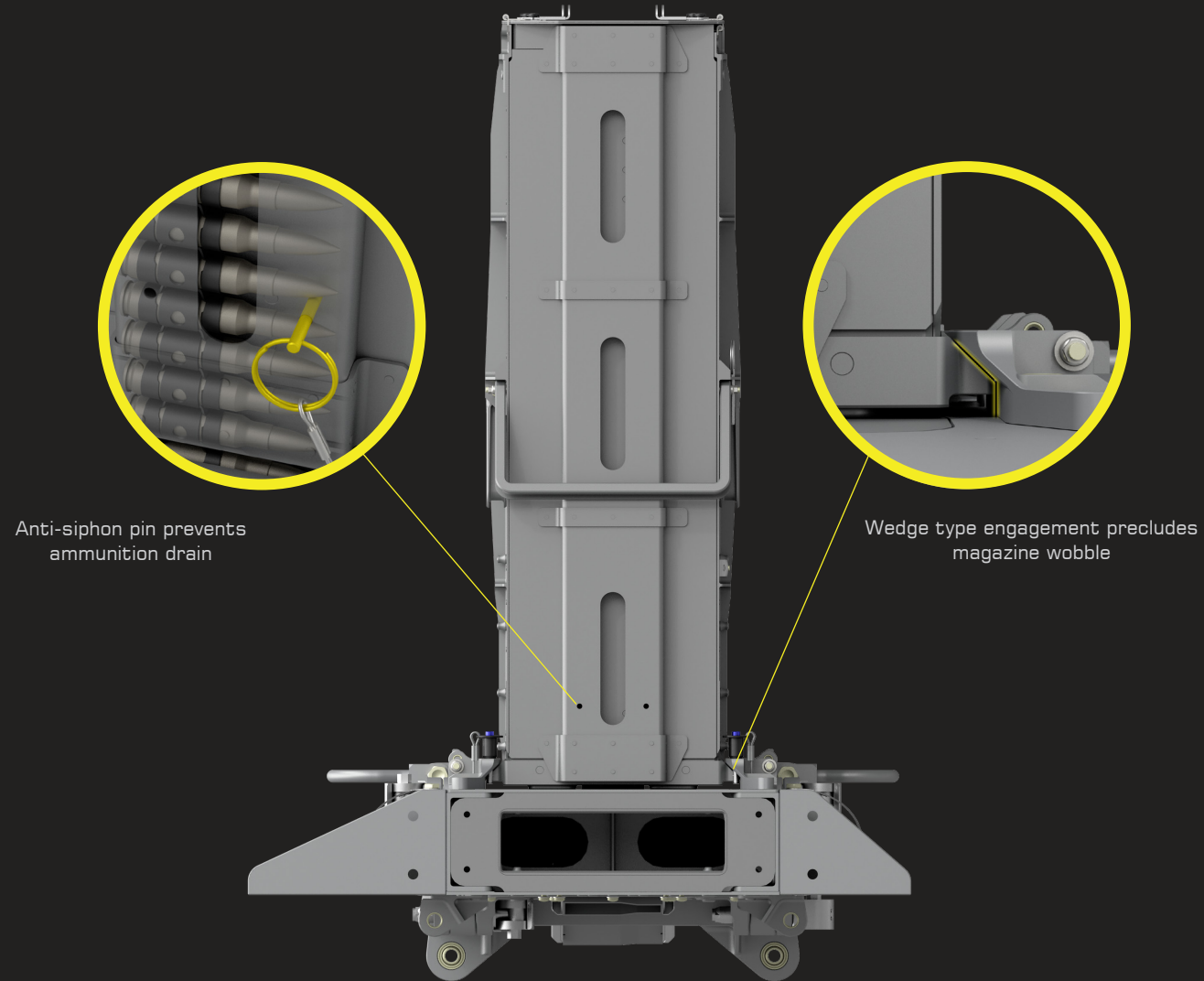
MAGAZINE RAIL SYSTEM



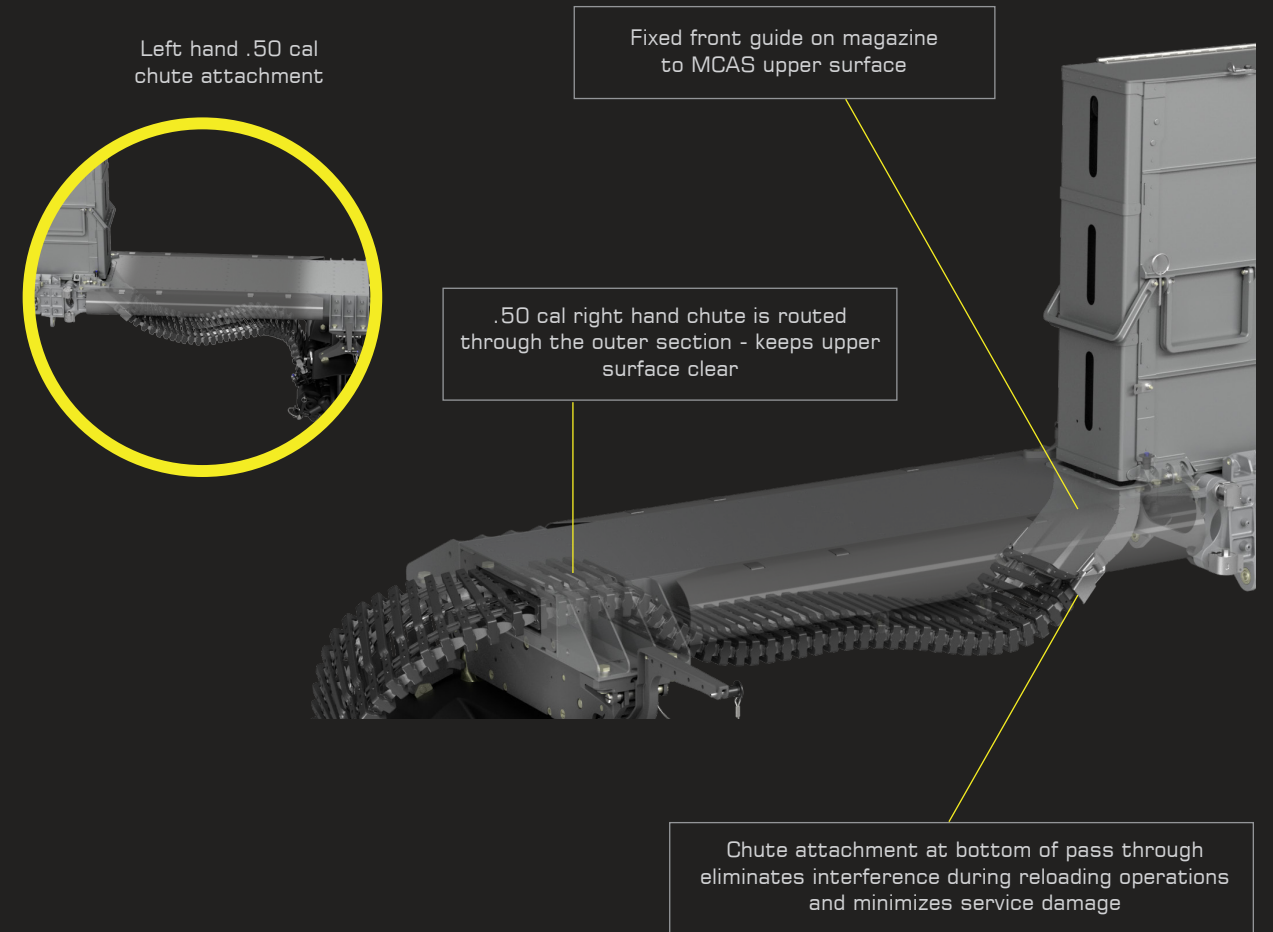
RELOADING OF LIGHTWEIGHT MAGAZINES



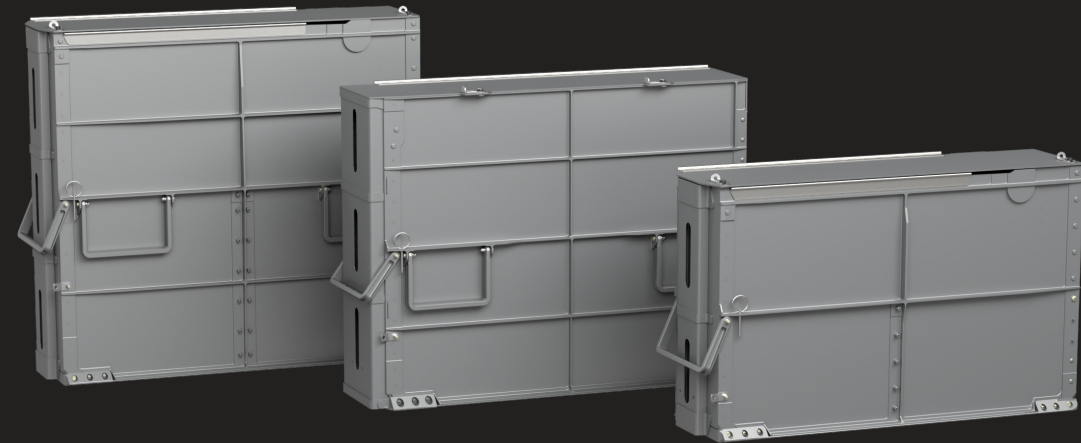
LIGHTWEIGHT MAGAZINE FEATURES



INTEGRATED AMMUNITION CHUTES



FAMILY OF LIGHTWEIGHT MAGAZINES WITH INTEGRATED FEED CHUTES



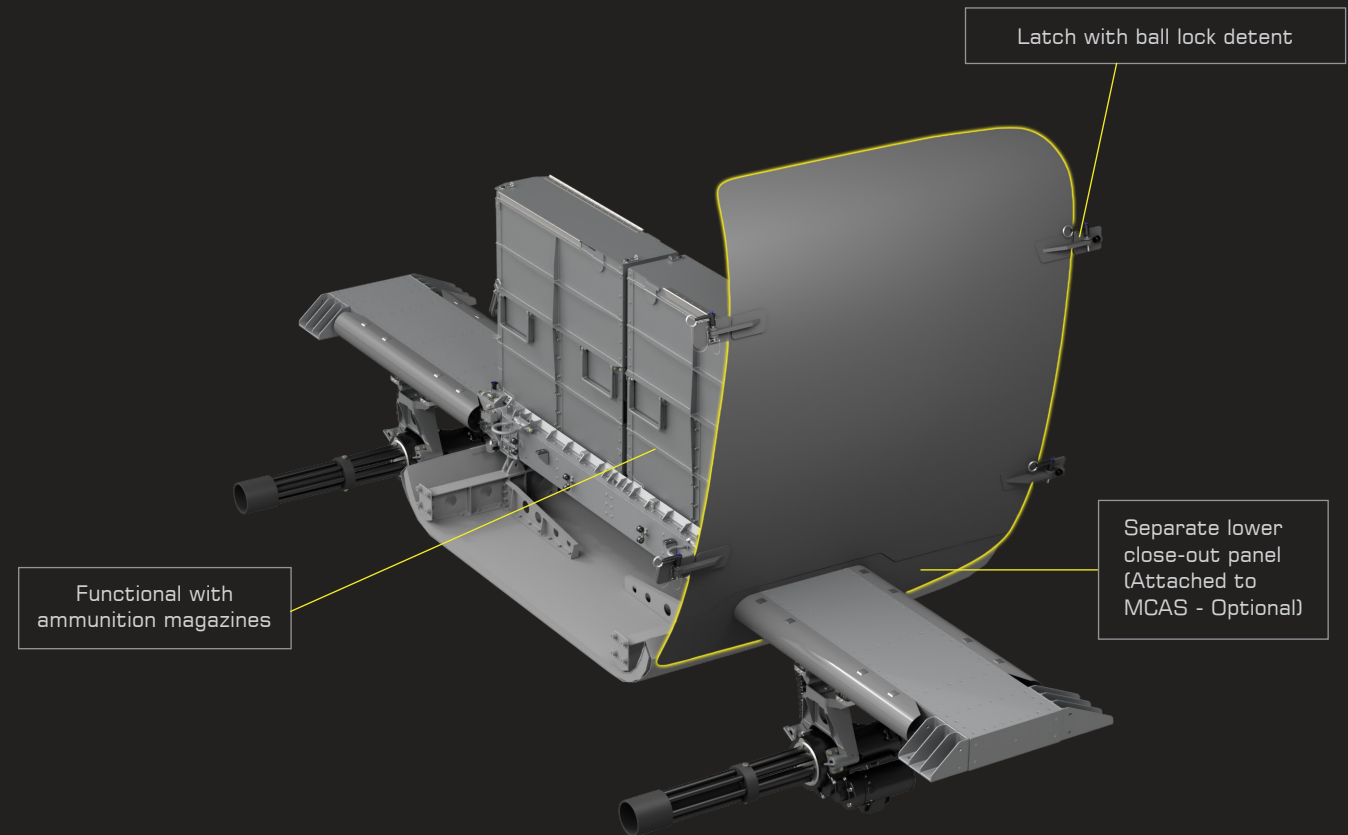
7.62mm, 3,000 rounds
21 lbs

.50 cal, 600 rounds
14 lbs

7.62mm, 1,500 rounds
15 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

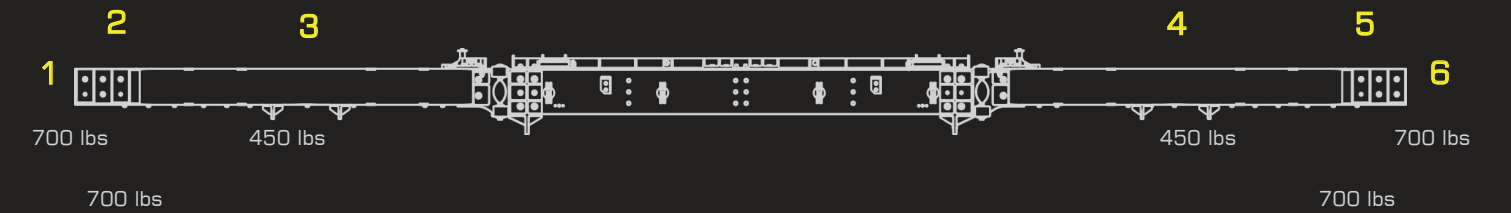
Separate lower
close-out panel
(Attached to
MCAS - Optional)

MISSION CONFIGURABLE AIRCRAFT SYSTEM

MCAS - 407AH CONFIGURATION OPTIONS*

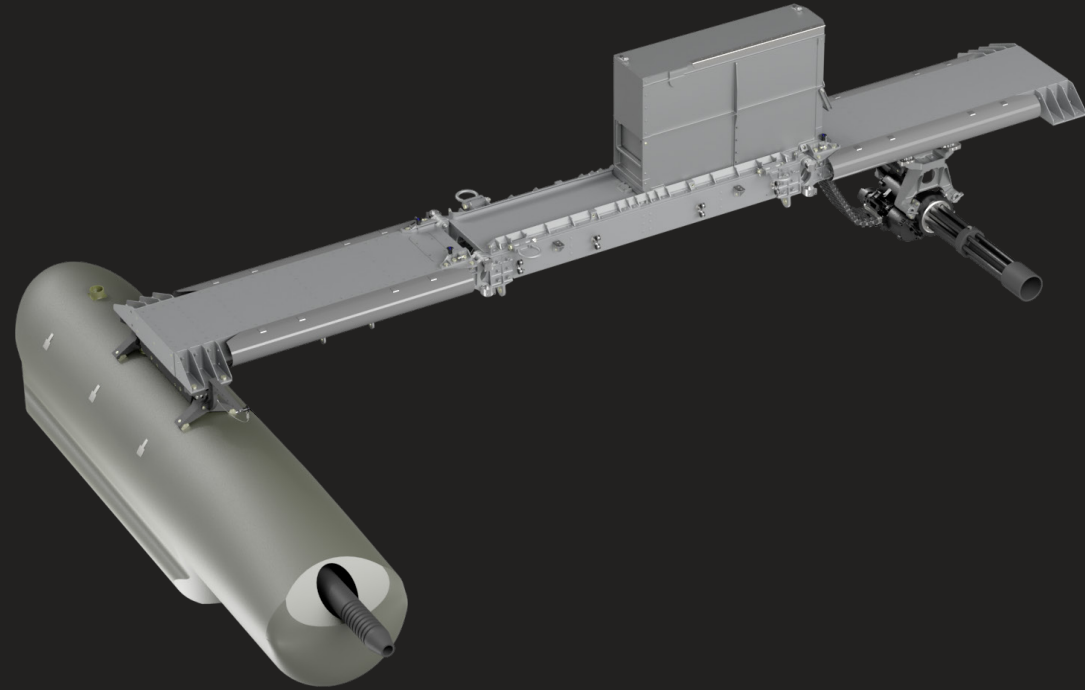
LEFT SIDE WEAPON STATIONS

RIGHT SIDE WEAPON STATIONS

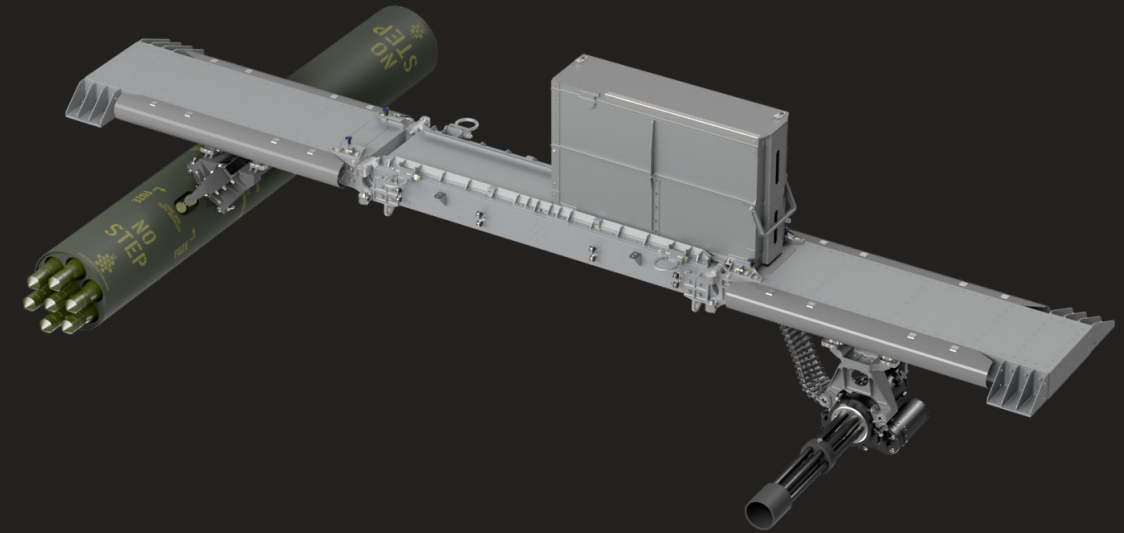


*Not limited to the demonstrated configurations.

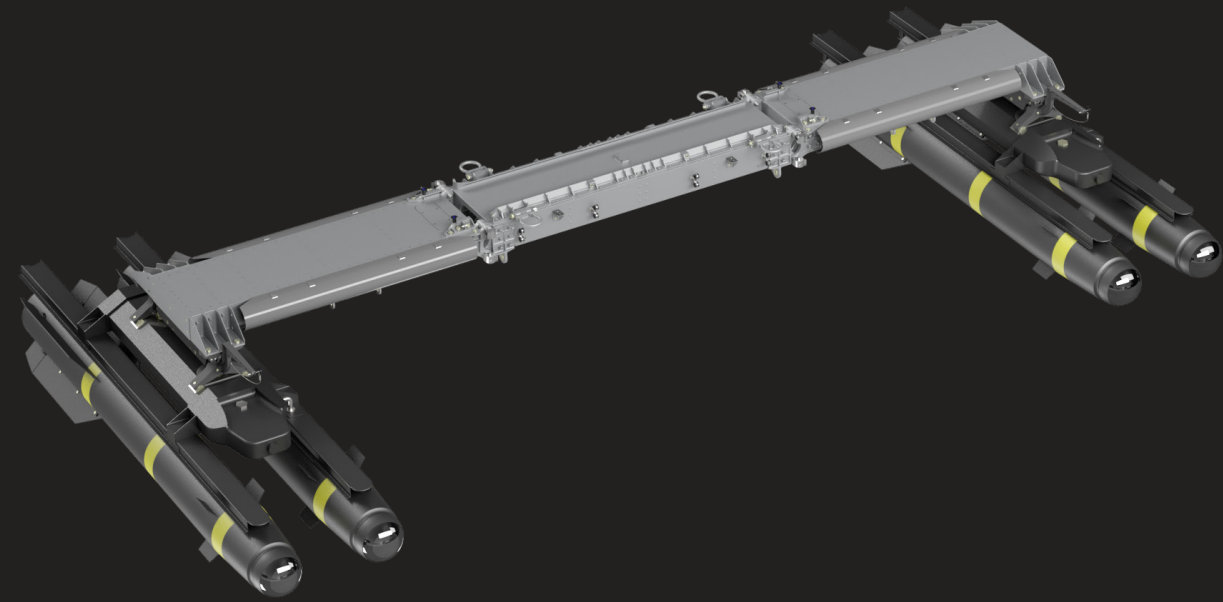
*Demonstrated above: Weight capacity of individual stations.



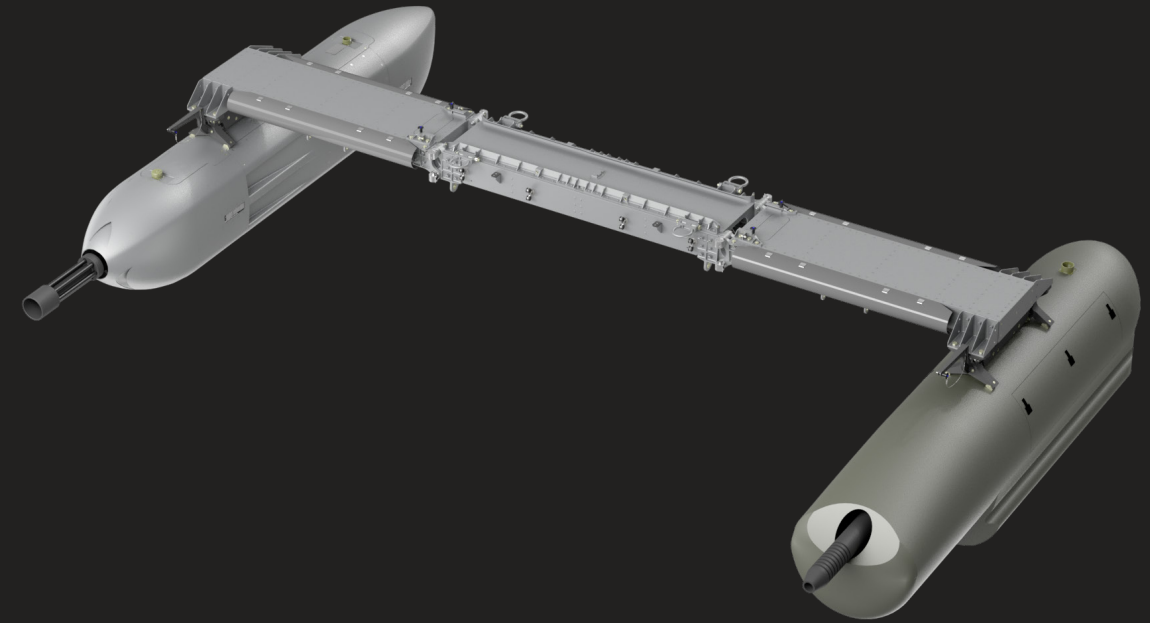
HMP-400 & M134D MINIGUN



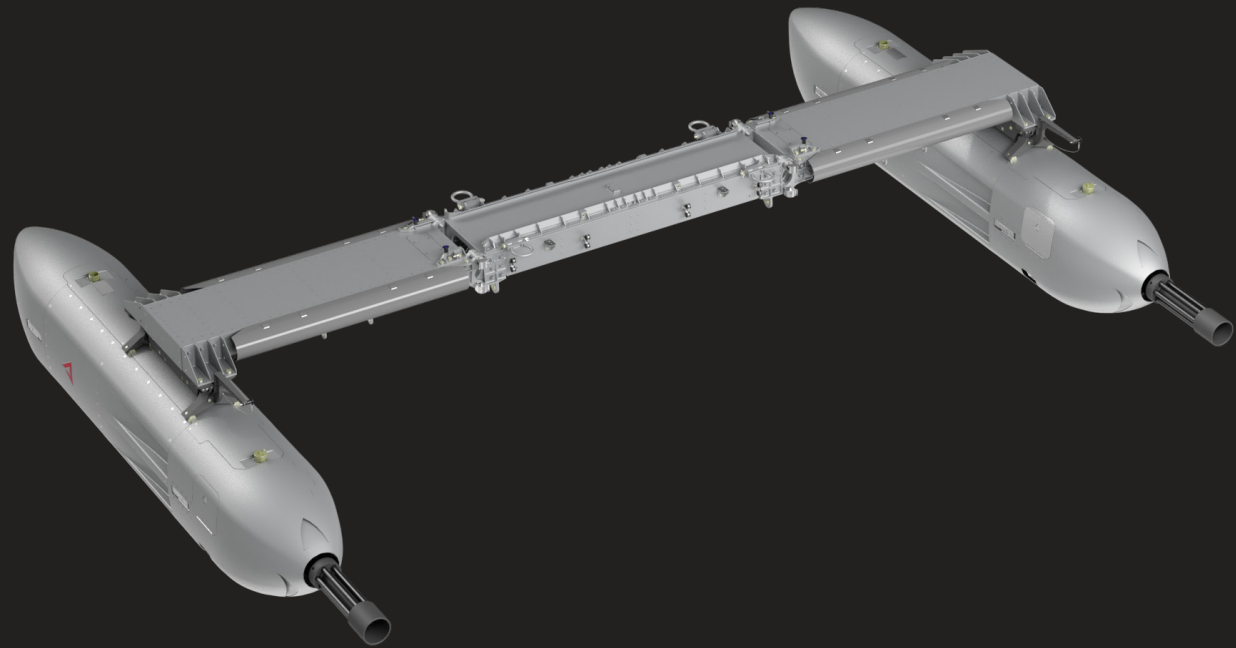
M260 ROCKET LAUNCHER & M134D MINIGUN



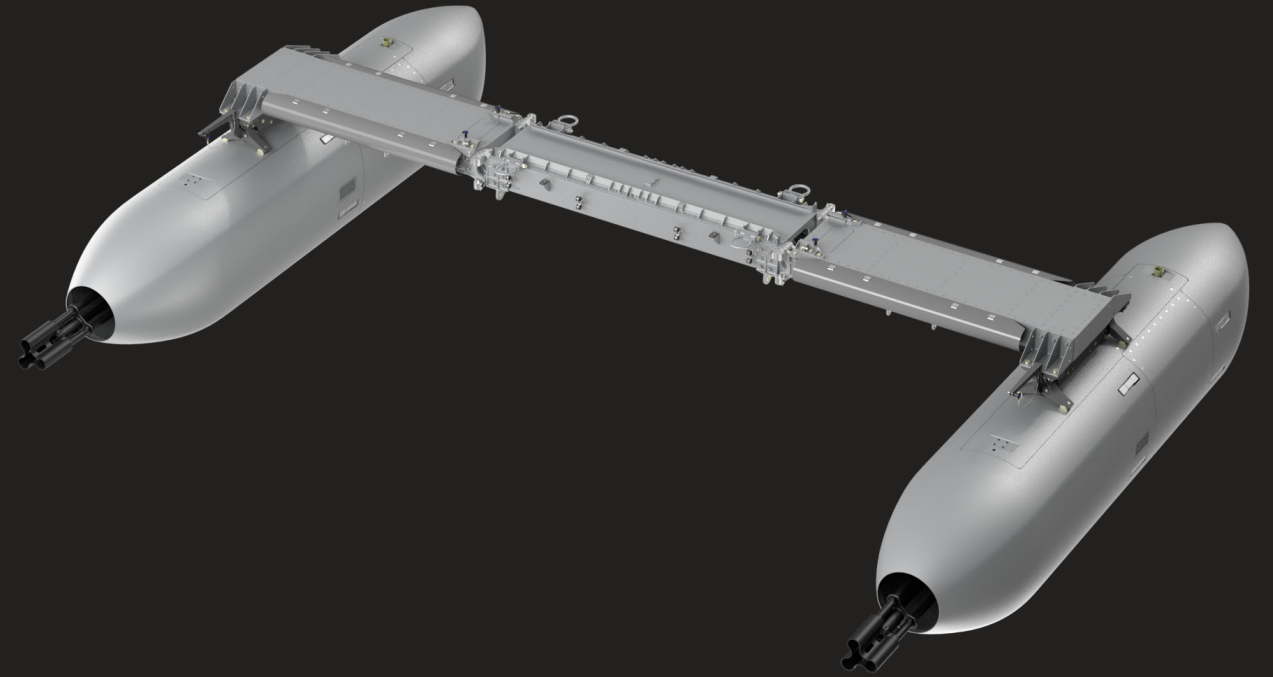
DUAL TWIN HELLFIRE RAILS



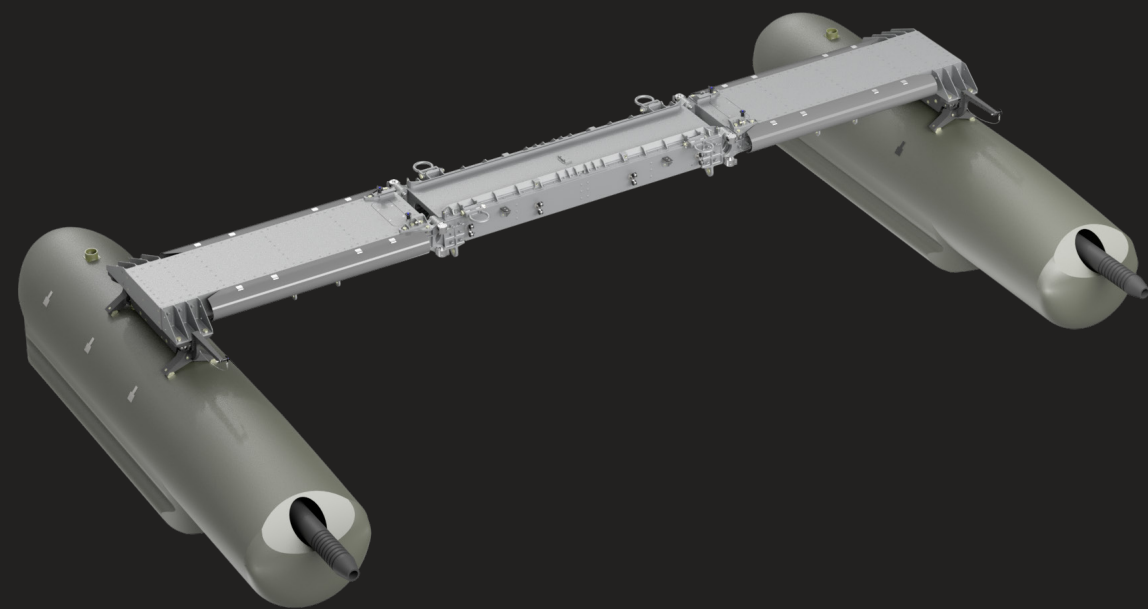
DAP-6 GUN POD & HMP-400



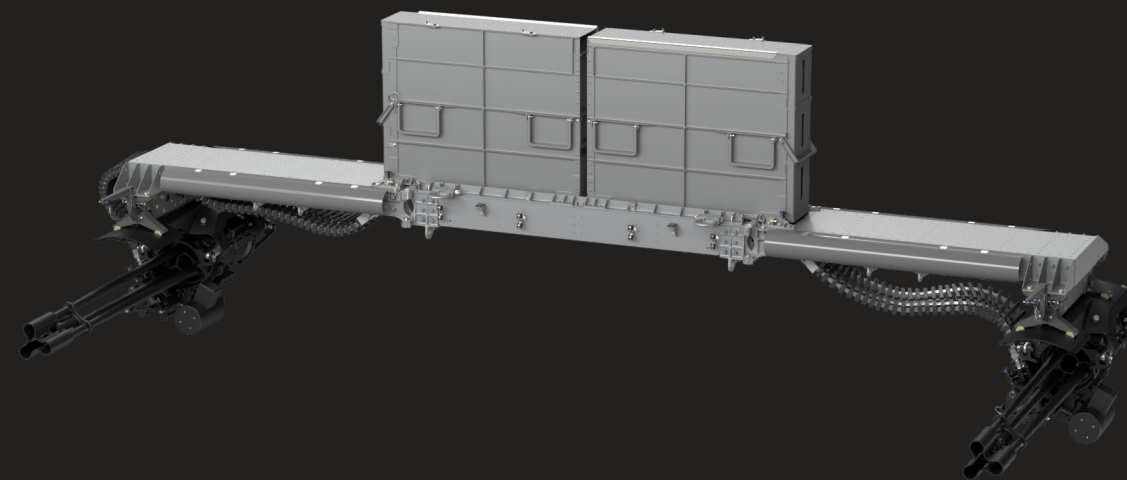
DUAL DAP-6 GUN POD



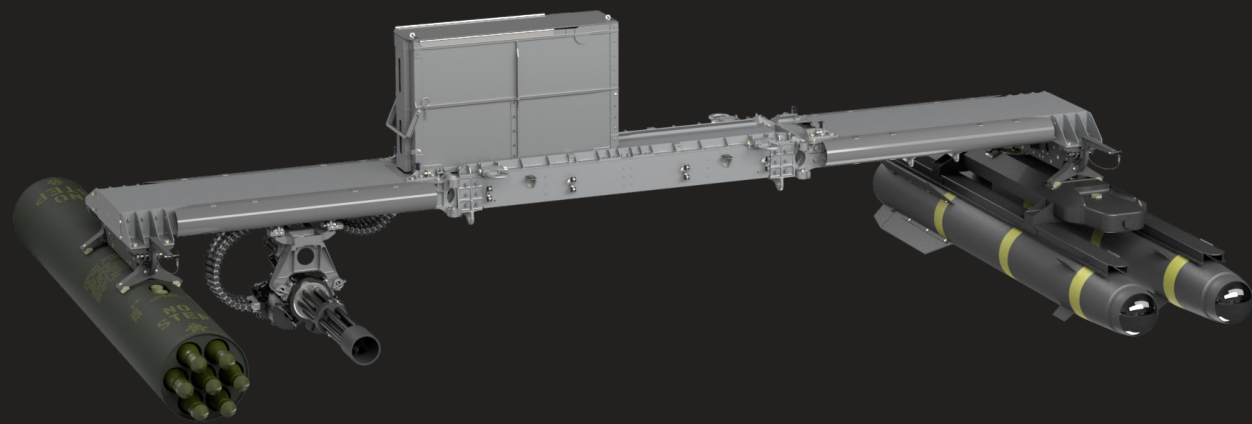
DUAL GP-19



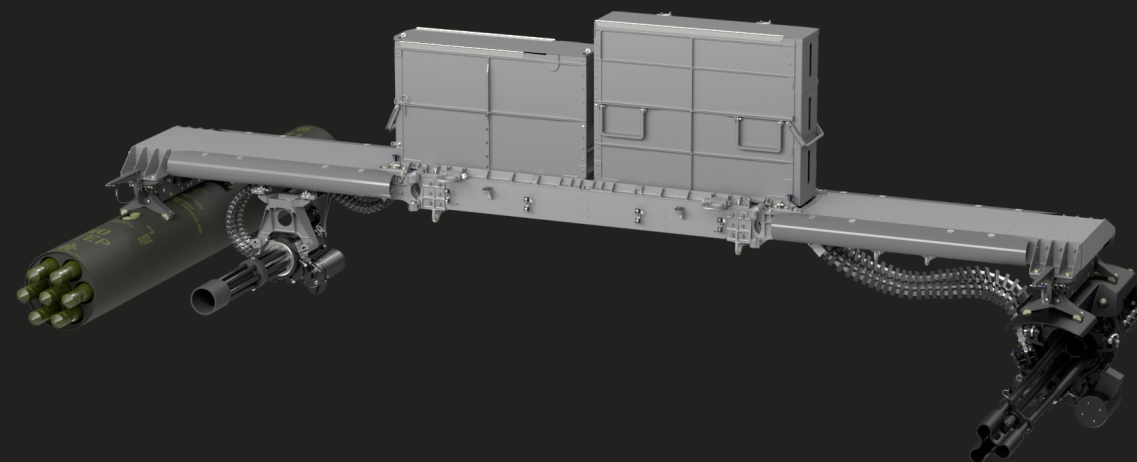
DUAL HMP-400



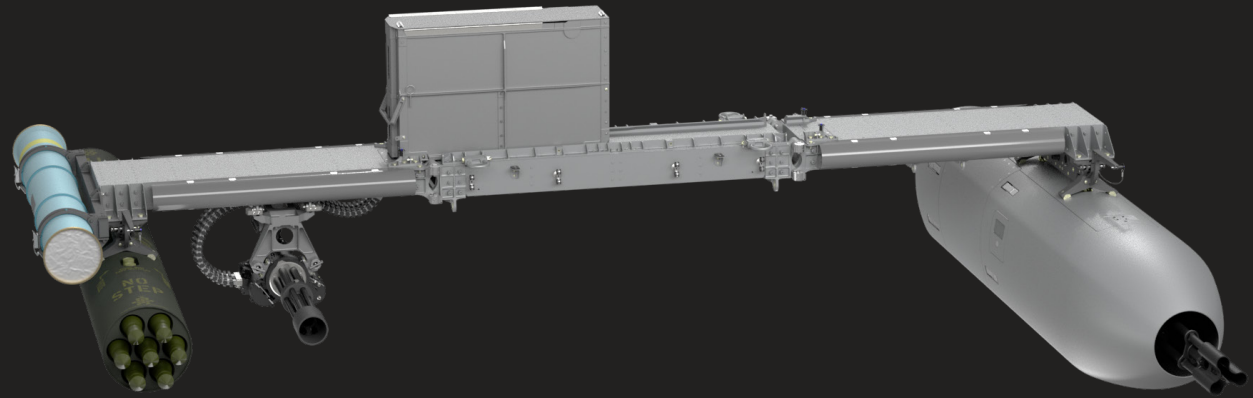
DUAL GAU - 19B



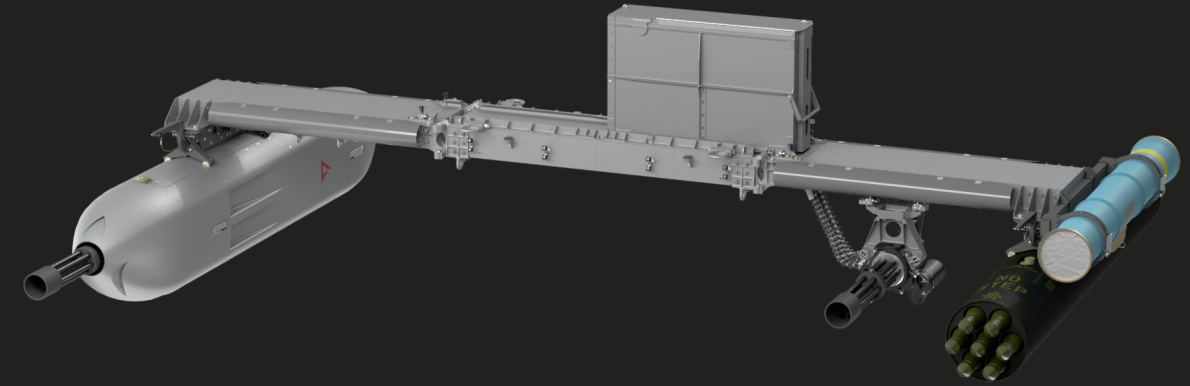
M260 ROCKET LAUNCHER, M134D MINIGUN & TWIN HELLFIRE
RAIL



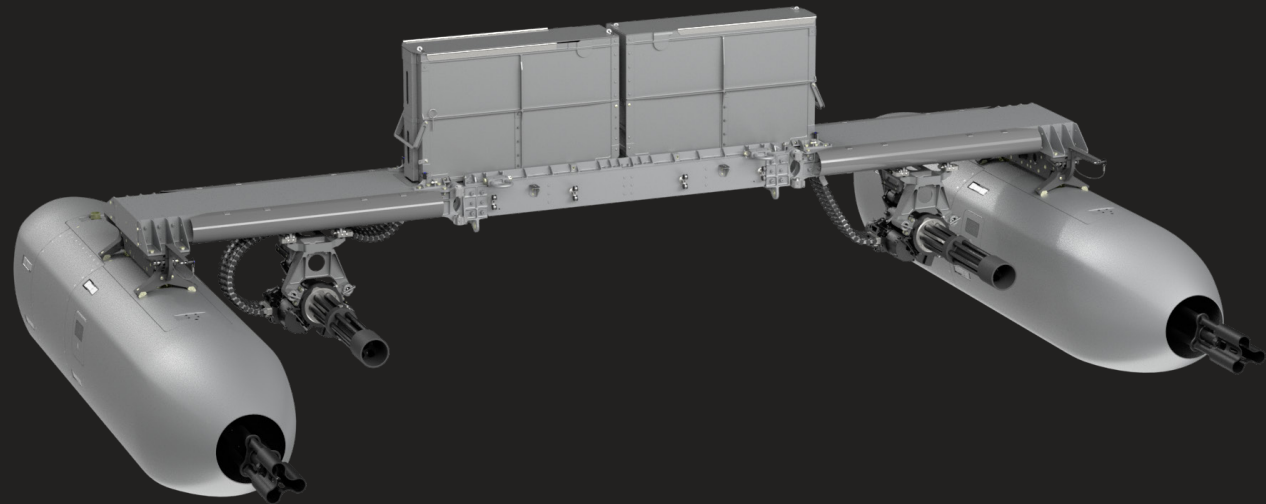
M260 ROCKET LAUNCHER, M134D MINIGUN & GAU-19B



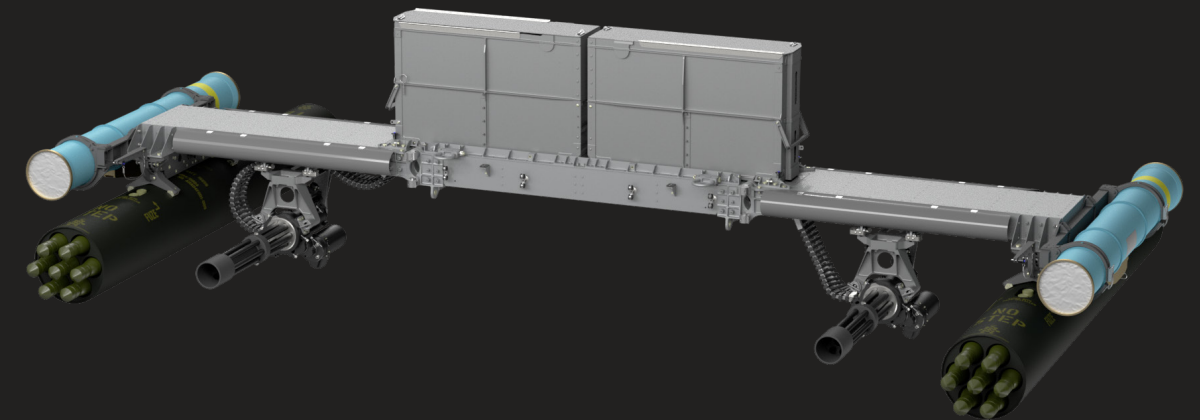
RAYTHEON GRIFFIN® B LAUNCHER, M260 ROCKET LAUNCHER,
M134D MINIGUN & GP -19



DAP-6 GUN POD, M134D MINIGUN, M260 ROCKET LAUNCHER &
RAYTHEON GRIFFIN® B LAUNCHER



DUAL GP-19 & DUAL M134D MINIGUNS



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

MCAS WEIGHT SUMMARY

TRIPS CONFIGURATION				
System Weights				
	Legacy		MCAS	
	Lb	Kg	Lb	Kg
A-Kit	8.00	3.63	6.80	3.08
Center Section (w/ Magazine Cradle)	144.00	65.32	24.20	10.98
AH Outer Sections (w/ Ejector Racks)	50.00	22.68	66.70	30.25
Basic AH Weight	202.00	91.63	97.70	44.32
Weight Savings	-	-	104.30	47.31
Weapon Specific Hardware				
GAU-19	-	-	-	-
.50 cal magazine	30.00	13.61	13.60	6.17
.50 cal feed chute	10.00	4.54	4.00	1.81
.50 cal pass-through	0	0	1.62	0.73
M134	-	-	-	-
M134 Mount	12.00	5.44	3.60	1.63
7.62mm 3,000 round magazine	30.00	13.61	20.50	9.30
7.62mm feed chute	7.00	3.18	2.42	1.10
7.62mm pass-through	0	0	0.36	0.16
M260	-	-	-	-
Total Configuration Weight	291.00	132.00	143.80	65.23
Weight Savings	-	-	147.20	66.77

*FOR SYSTEM WEIGHT ESTIMATION ONLY.

MCAS WEIGHT SUMMARY

DUALS CONFIGURATION				
System Weights				
	Legacy		MCAS	
	Lb	Kg	Lb	Kg
A-Kit	8.00	3.63	6.80	3.08
Center Section (w/ Magazine Cradle)	144.00	65.32	24.20	10.98
AH Outer Sections (w/ Ejector Racks)	50.00	22.68	66.70	30.25
Basic AH Weight	202.00	91.63	97.70	44.32
Weight Savings	-	-	104.30	47.31
Weapon Specific Hardware				
M134 x 2	-	-	-	-
M134 Mount x 2	24.00	10.89	7.20	3.27
7.62mm 3,000 round magazine x 2	60.00	27.22	41.00	18.60
7.62mm feed chute LH	7.00	3.18	2.42	1.10
7.62mm feed chute RH	7.00	3.18	1.07	0.49
7.62mm pass-through LH	0	0	0.36	0.16
7.62mm pass-through RH	0	0	0.40	0.18
M260	-	-	-	-
Total Configuration Weight	300.00	136.08	150.15	68.11
Weight Savings	-	-	149.85	67.97

*FOR SYSTEM WEIGHT ESTIMATION ONLY.



Dillon Aero MCAS-AH developed for the Bell 407

- Six stations
- Lightweight
- Designed by SOF aviation users
- Field maintainable/repairable
- Complete airframe interchangeability
- Clean/efficient design for ease of operation
- Compatible with future Precision Guided Munitions
- Use of doors in the cargo configuration