



# MCAS-407 SERIES

MISSION CONFIGURABLE AIRCRAFT SYSTEM

 DILLON AERO



# MCAS - 407AH

MISSION CONFIGURABLE AIRCRAFT SYSTEM



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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 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; with a basic AH weight of 100 pounds, 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.

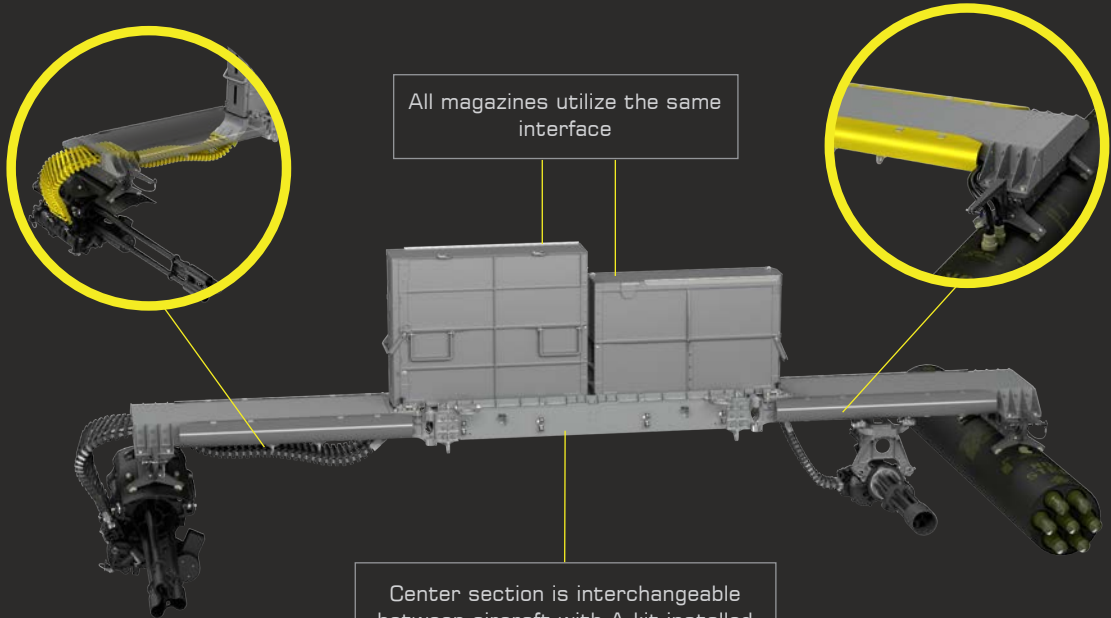
To allow for faster reload times and diminish stress on crew, we have reduced lift height by approximately seven inches, and provided smooth obstruction-free magazine rails. Cables are routed through fairings that provide protection from the environment. A pass-through within the center section allows 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

Cable fairings to protect weapons cabling



All magazines utilize the same interface

Center section is interchangeable between aircraft with A-kit installed

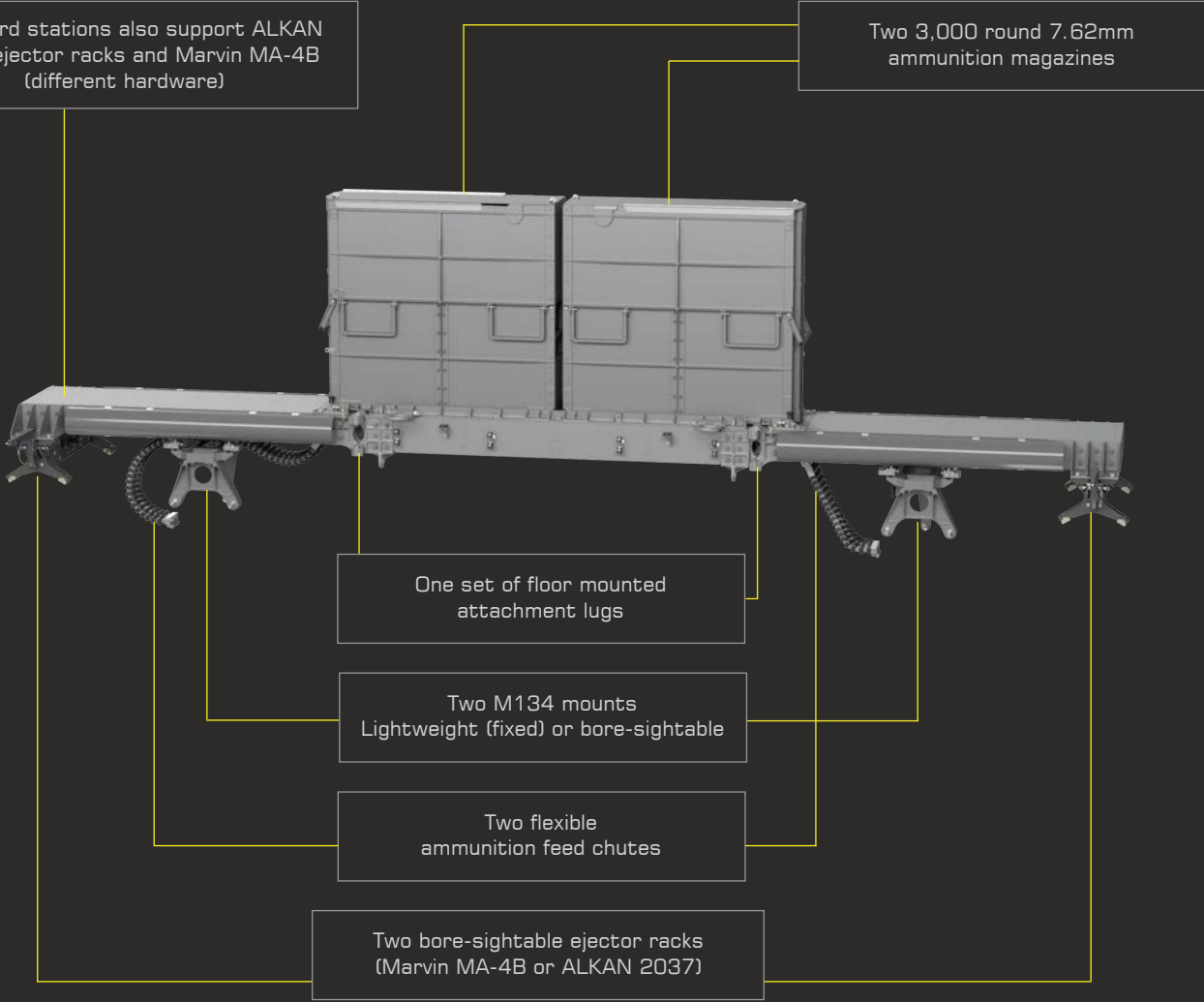
All stations are bore-sightable (M134 comes in a bore-sightable and lightweight fixed mount)

# 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



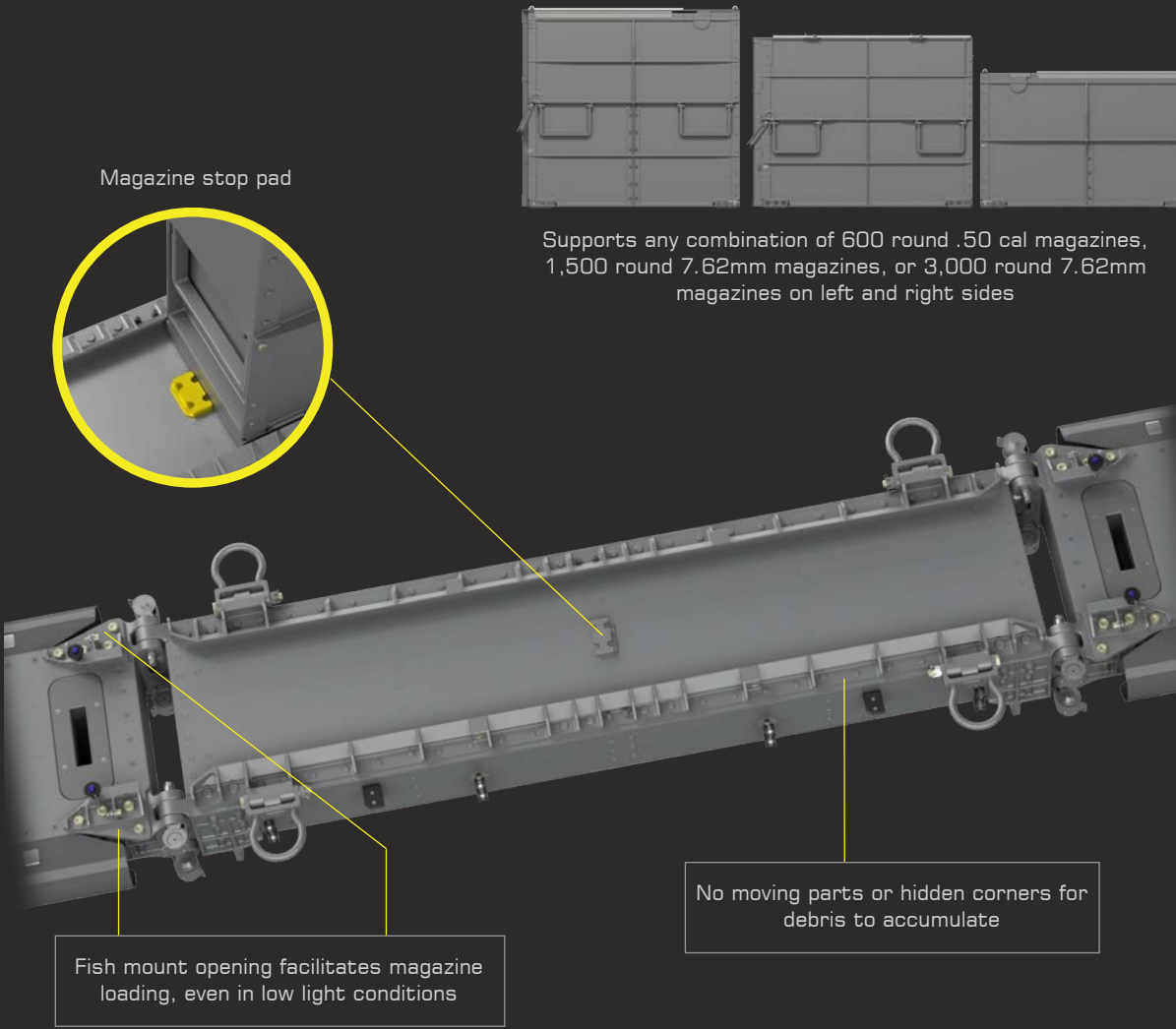
One set of floor mounted attachment lugs

Two M134 mounts Lightweight (fixed) or bore-sightable

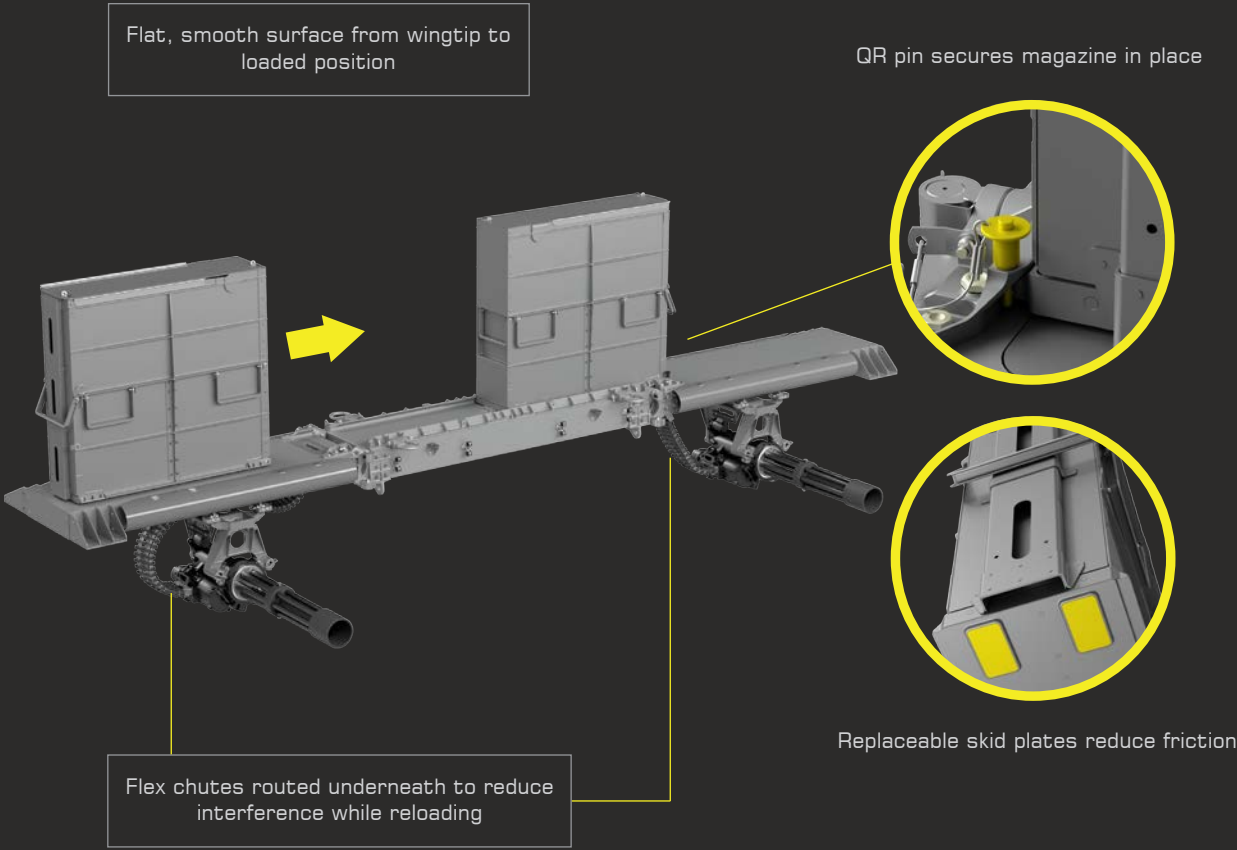
Two flexible ammunition feed chutes

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

# MAGAZINE RAIL SYSTEM

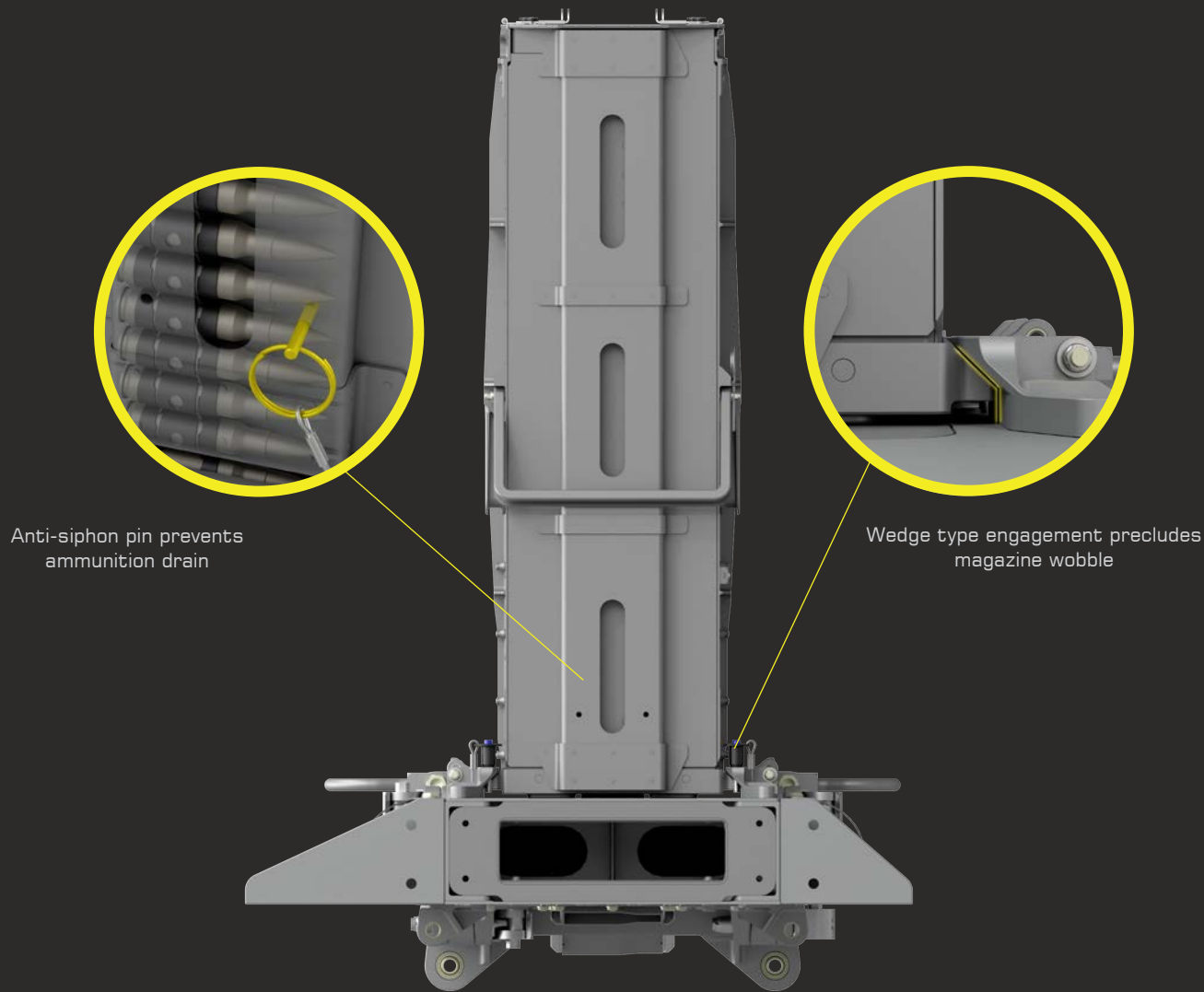


# RELOADING OF LIGHTWEIGHT MAGAZINES

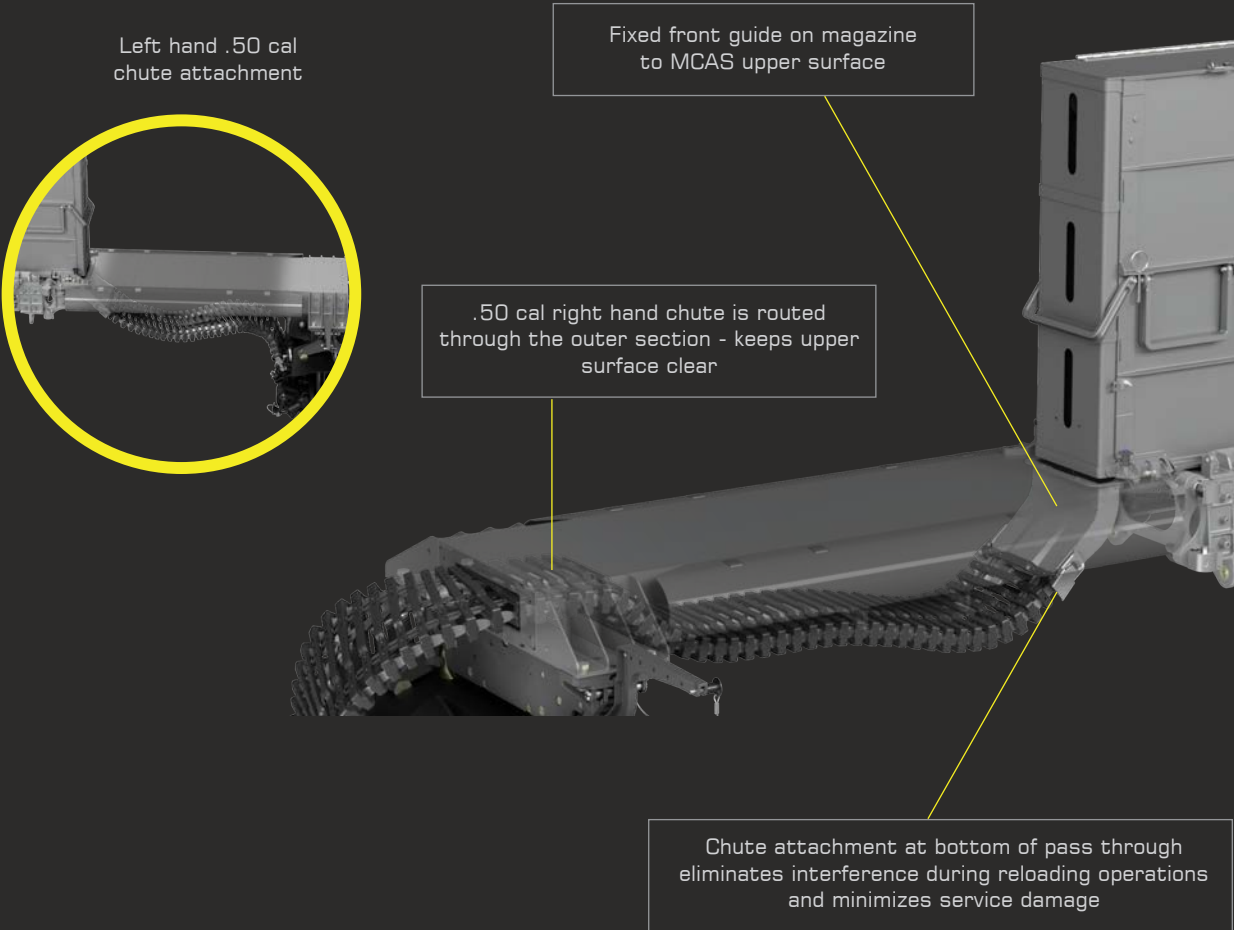




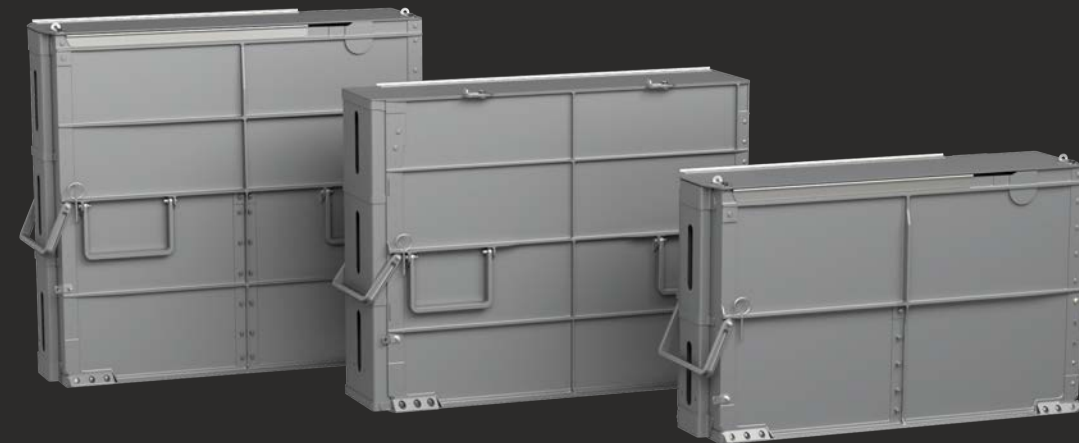
LIGHTWEIGHT MAGAZINE FEATURES



INTEGRATED AMMUNITION CHUTES



## FAMILY OF LIGHTWEIGHT MAGAZINES WITH INTEGRATED FEED CHUTES



7.62mm, 3,000 rounds  
21 lbs

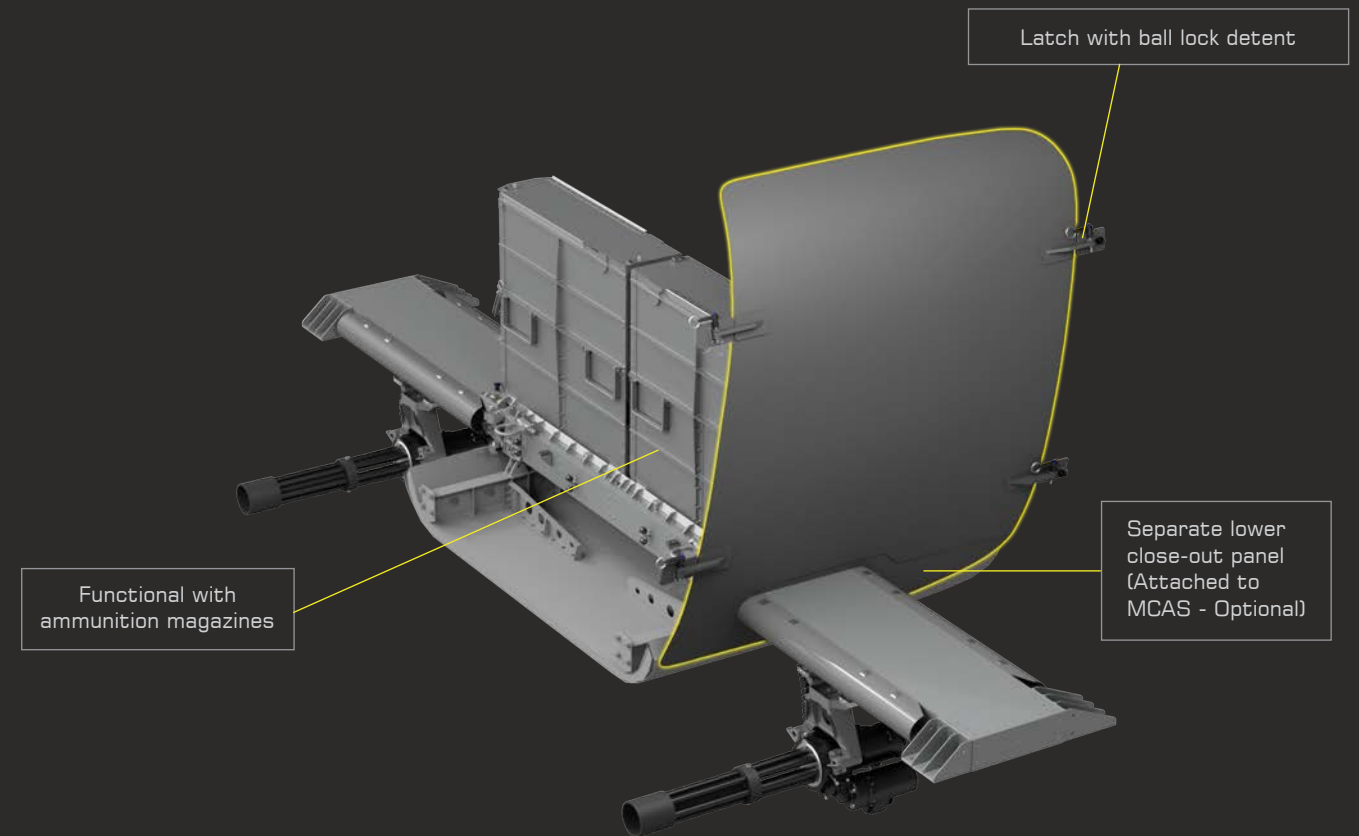
.50 cal, 600 rounds  
14 lbs

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

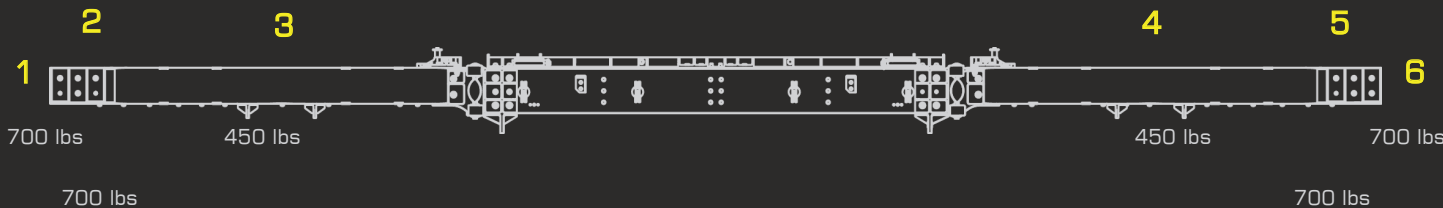
Separate lower  
close-out panel  
(Attached to  
MCAS - Optional)

MISSION CONFIGURABLE AIRCRAFT SYSTEM

MCAS - 407AH  
CONFIGURATION  
OPTIONS\*

LEFT SIDE WEAPON STATIONS

RIGHT SIDE WEAPON STATIONS



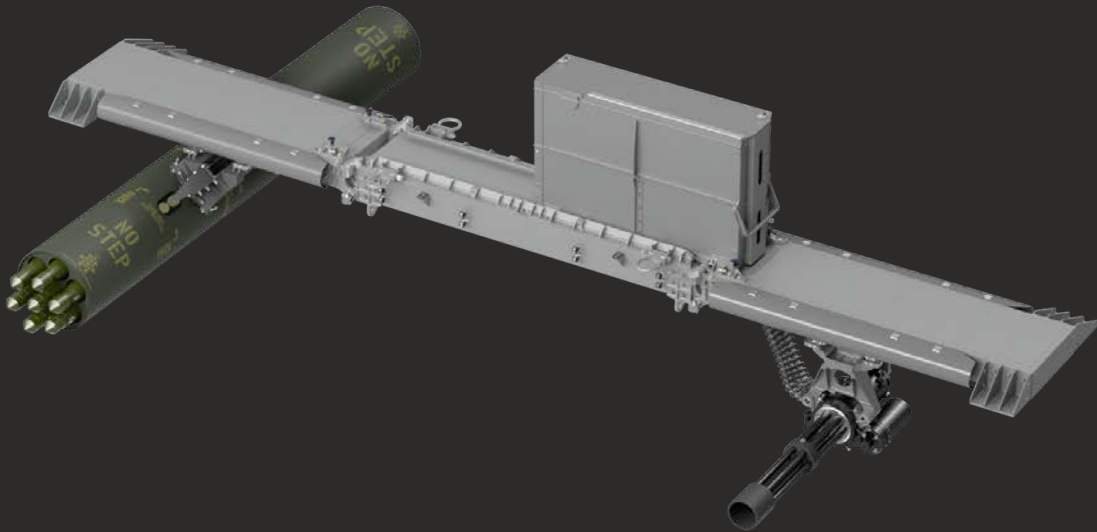
\*Not limited to the demonstrated configurations.

\*Demonstrated above: Weight capacity of individual stations.

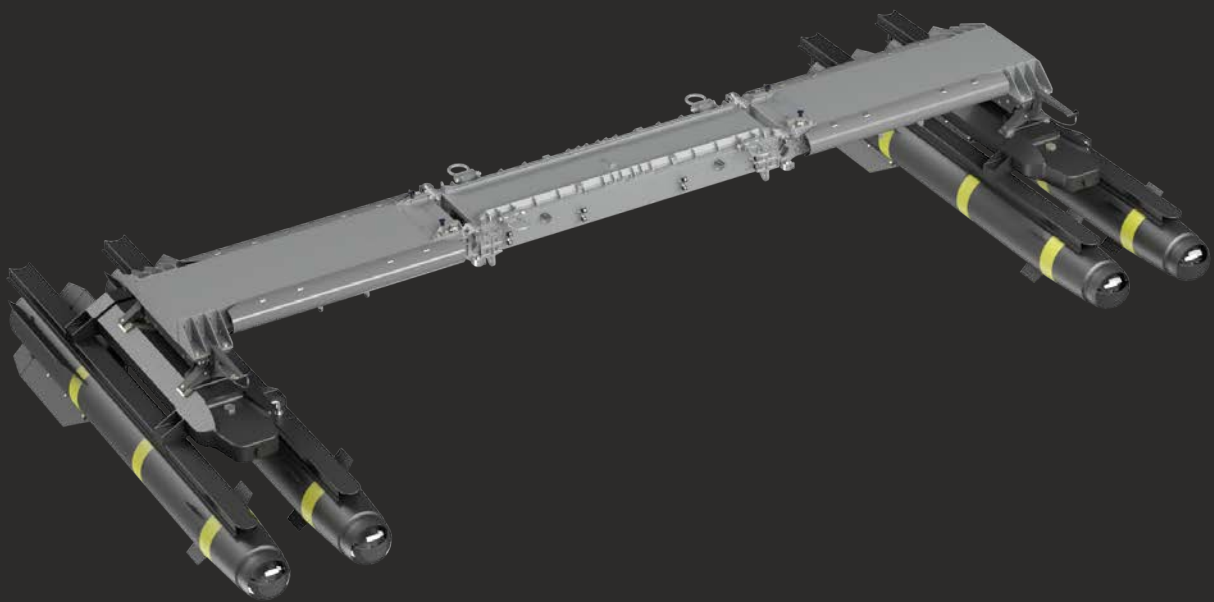




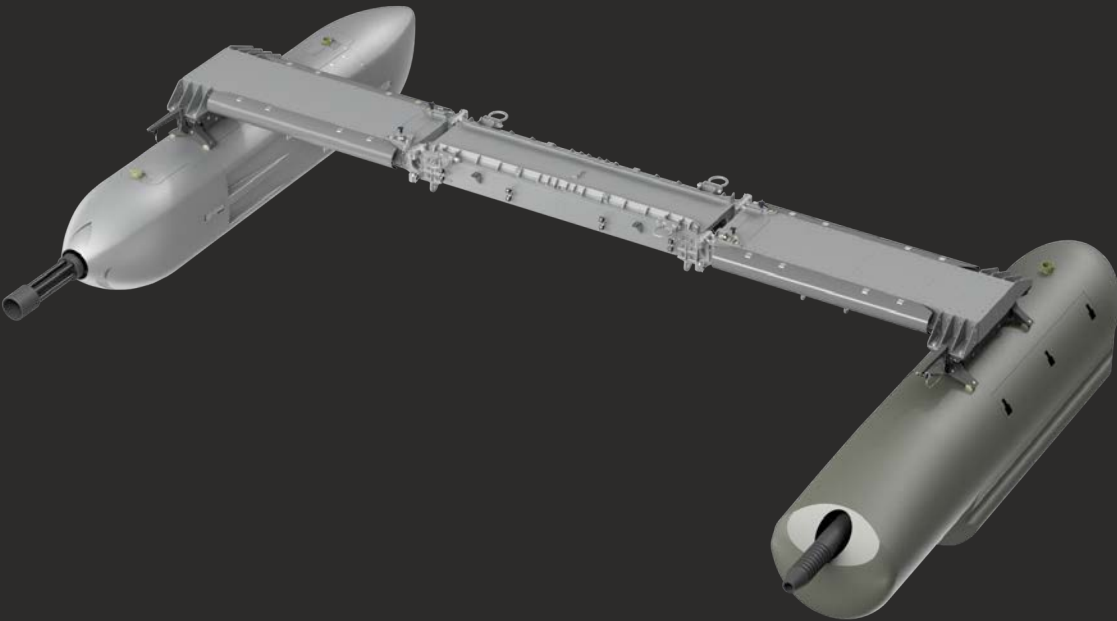
HMP-400 & M134D MINIGUN



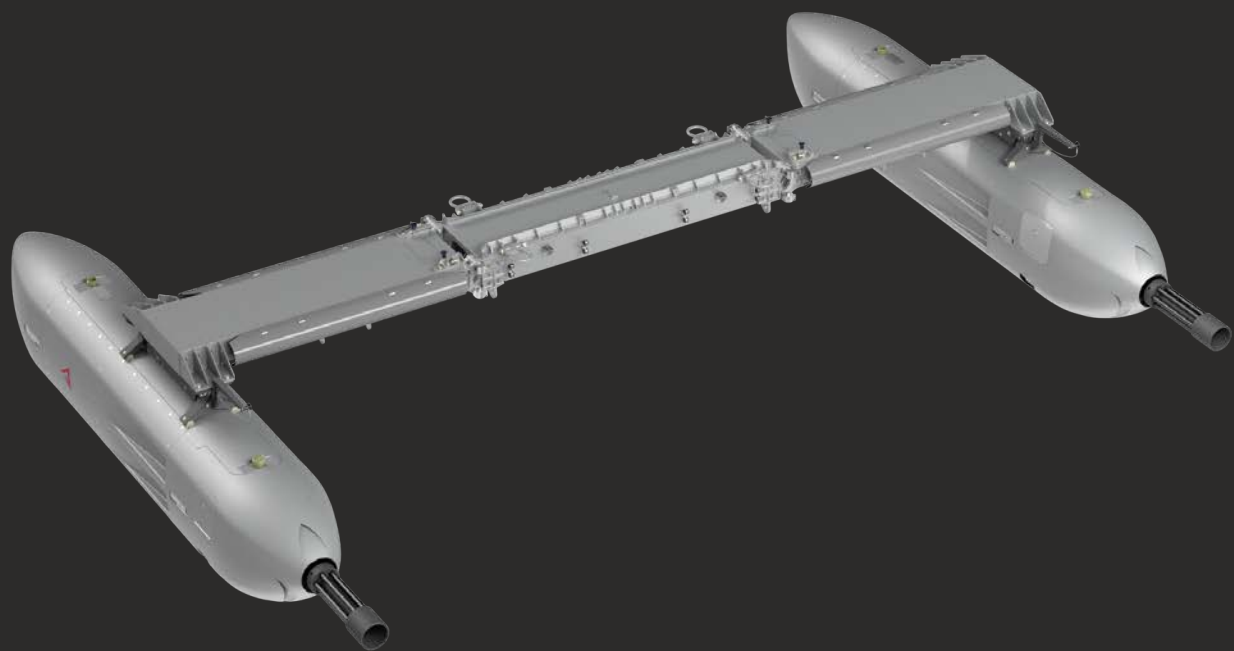
M260 ROCKET LAUNCHER & M134D MINIGUN



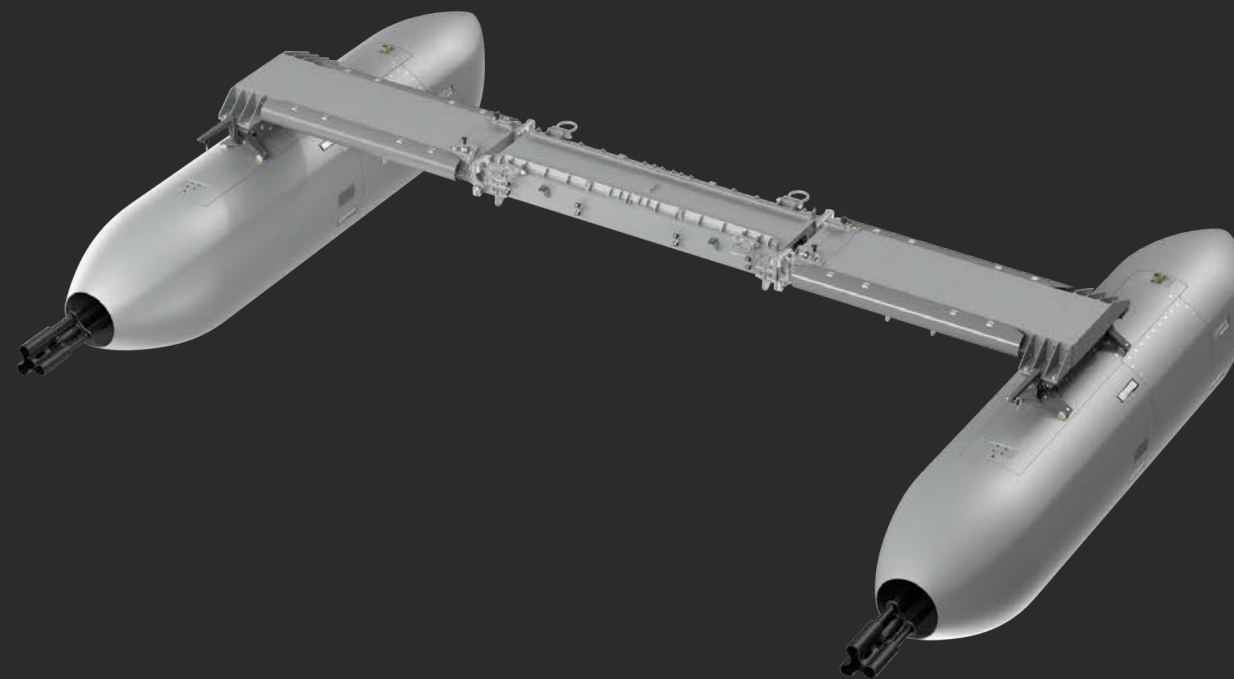
DUAL TWIN HELLFIRE RAILS



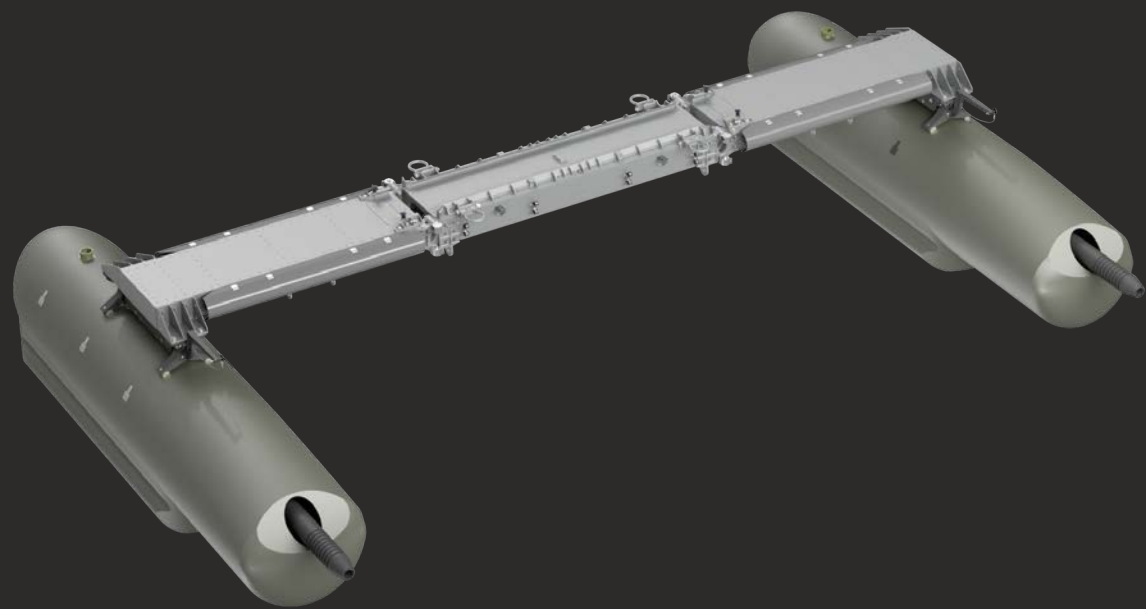
DAP-6 GUN POD & HMP-400



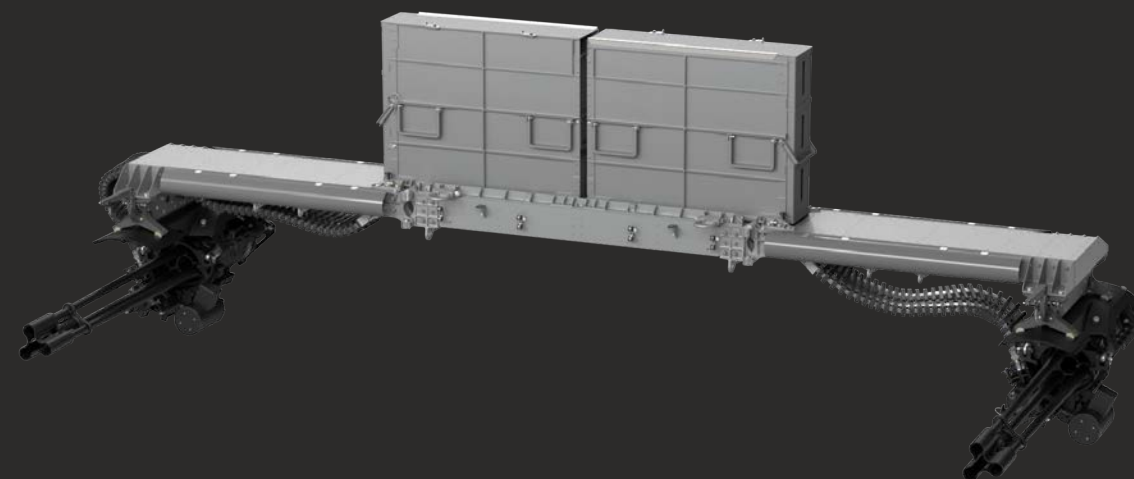
DUAL DAP-6 GUN POD



DUAL GP-19

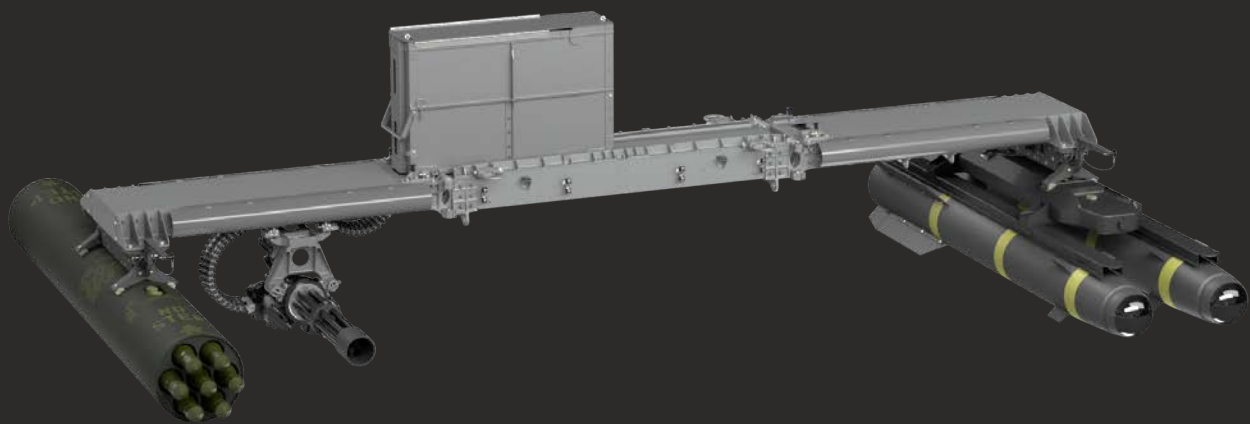


DUAL HMP-400

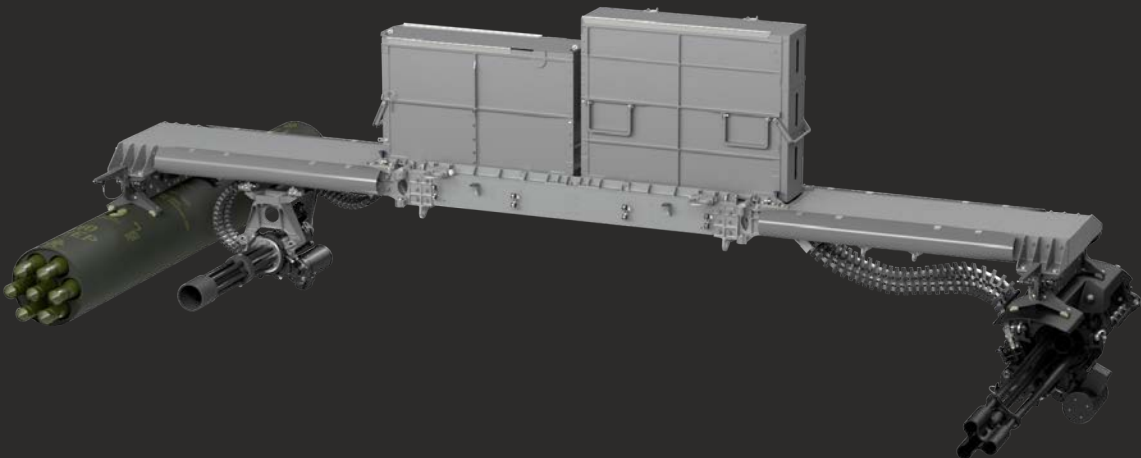


DUAL GAU - 19B

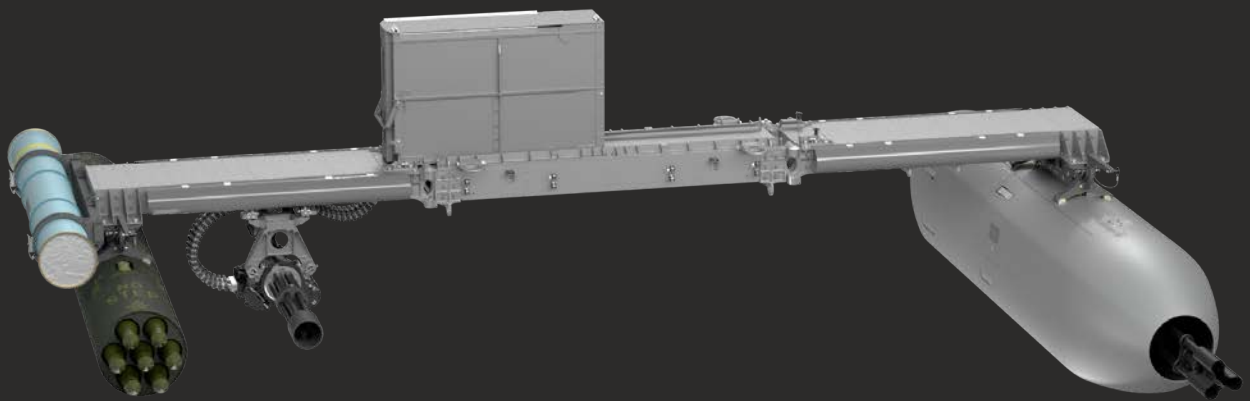




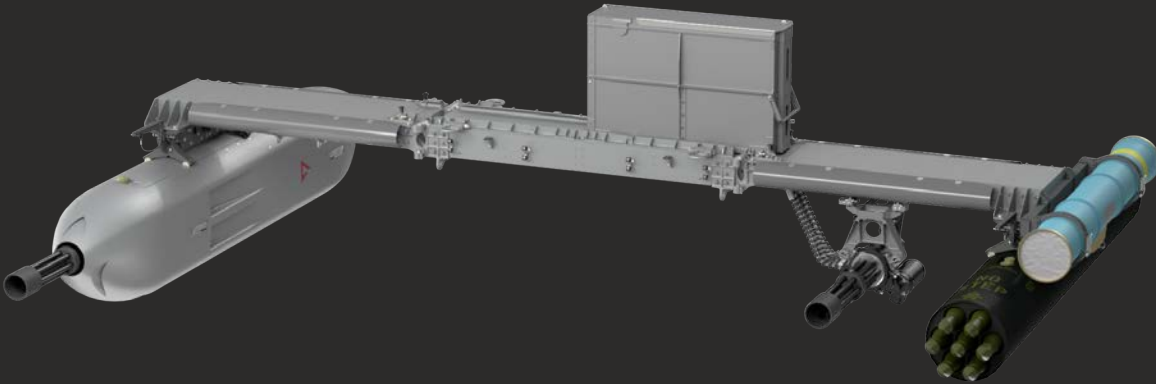
M260 ROCKET LAUNCHER, M134D MINIGUN & TWIN HELLFIRE  
RAIL



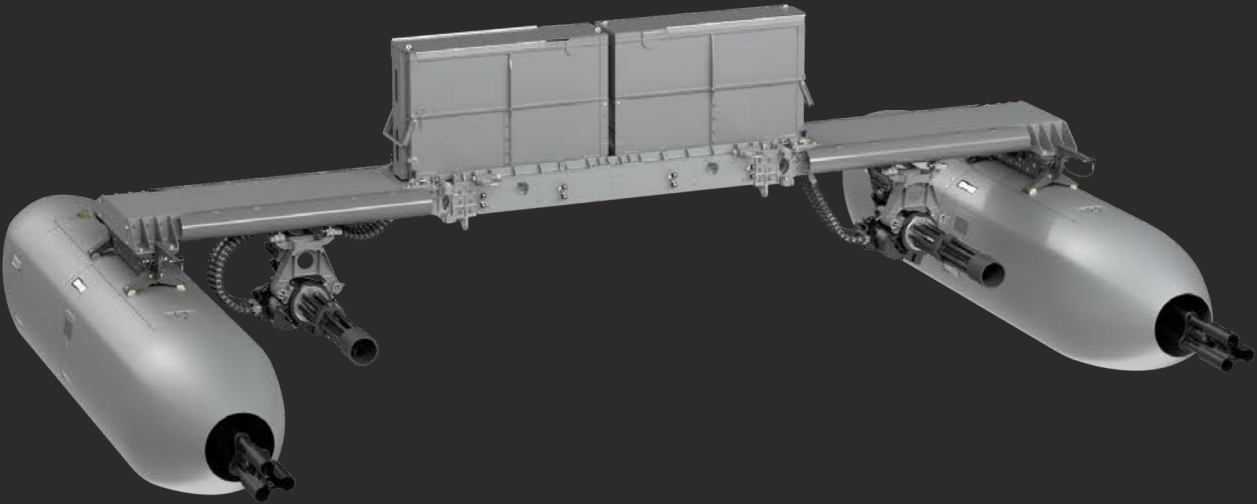
M260 ROCKET LAUNCHER, M134D MINIGUN & GAU-19B



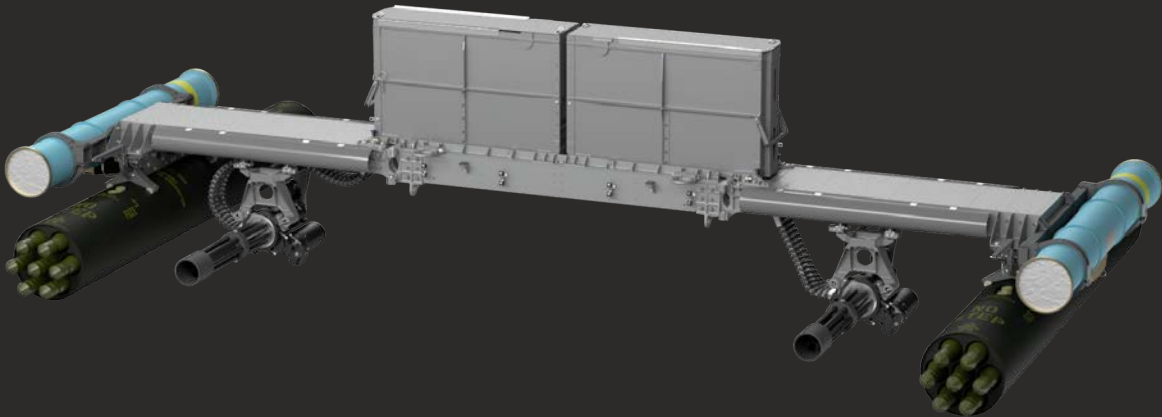
RAYTHEON GRIFFIN® B LAUNCHER, M260 ROCKET LAUNCHER,  
M134D MINIGUN & GP - 19



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	128.00	58.06	24.20	10.98
AH Outer Sections (w/ Ejector Racks)	76.00	34.47	66.70	30.25
Basic AH Weight	212.00	96.16	97.70	44.32
Weight Savings	-	-	114.30	51.85
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	513.00	232.69	355.80	161.39
Weight Savings	-	-	157.20	71.30

\*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	128.00	58.06	24.20	10.98
AH Outer Sections (w/ Ejector Racks)	76.00	34.47	66.70	30.25
Basic AH Weight	212.00	96.16	97.70	44.32
Weight Savings	-	-	114.30	51.85
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	-	-	-	-
Basic AH Weight	522.00	236.78	362.15	164.27
Weight Savings	-	-	159.85	72.51

\*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



# MCAS - 407MH

MISSION CONFIGURABLE AIRCRAFT SYSTEM







# THE STANDARD

## > LIGHT ASSAULT HELICOPTERS

The Dillon Aero Mission Configurable Aircraft System (MCAS-MH) provides an exceptional assault solution for the Bell 407 series of helicopters. Years of direct, hands-on experience coupled with exceptional engineers have produced a personnel carrying platform that is lighter, more capable, and easier to support than other systems currently available. The common 'A-kit' is comprised of six parts and is non-evasive to the fuel cells.

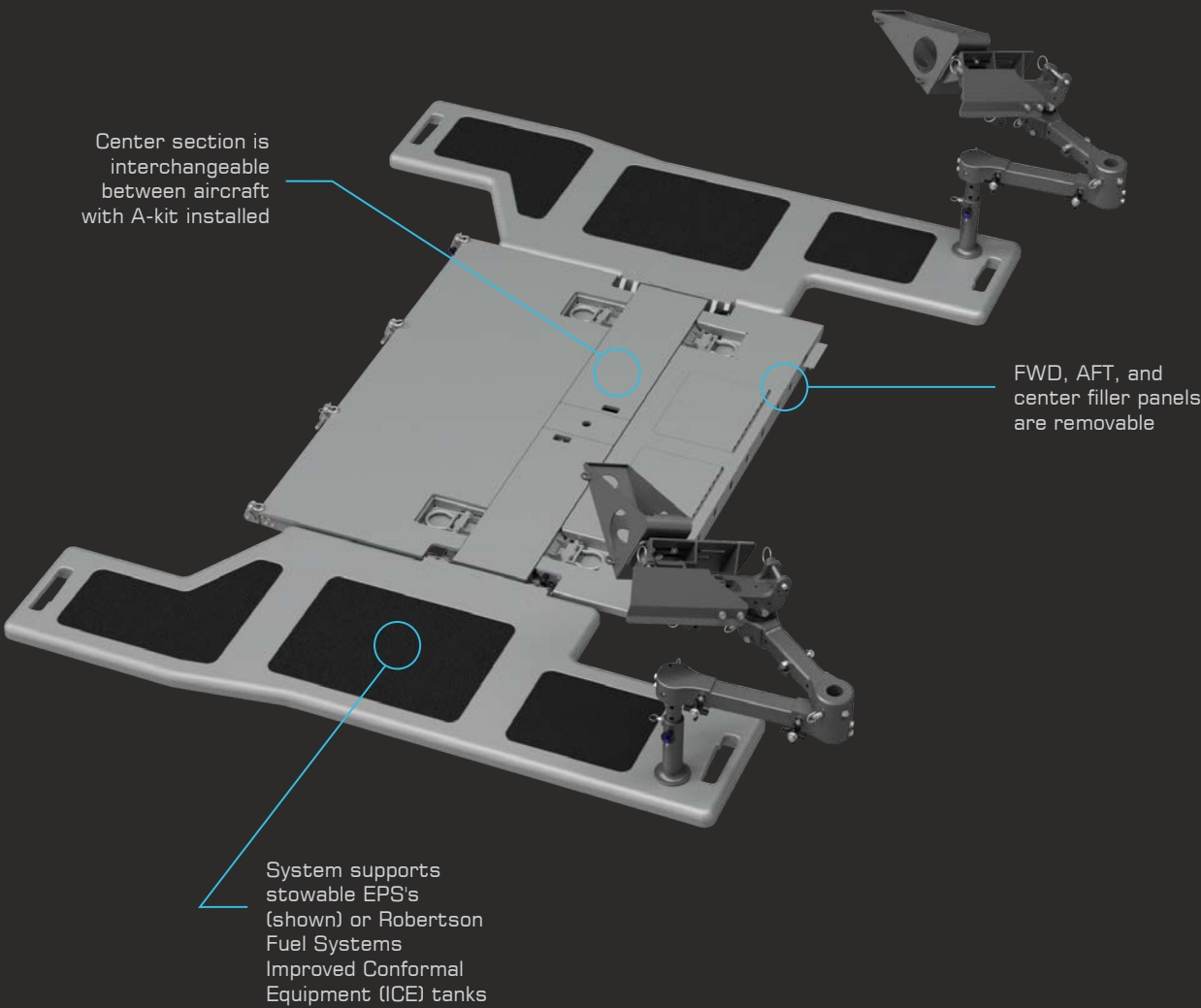
Airframe sustainability and useful load benefit from the decreased overall weight; with a basic MH weight of 80 pounds, this system is a first of it's kind, bridging the dual-use capability gap, offering one system that meets both the AH and MH mission set. With a capacity of 1000 pounds per external personnel system, the aircraft can now carry more personnel, fuel, or additional Mission Equipment Packages (MEP).

The common center section is reversible. 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 is approximately 15 pounds.

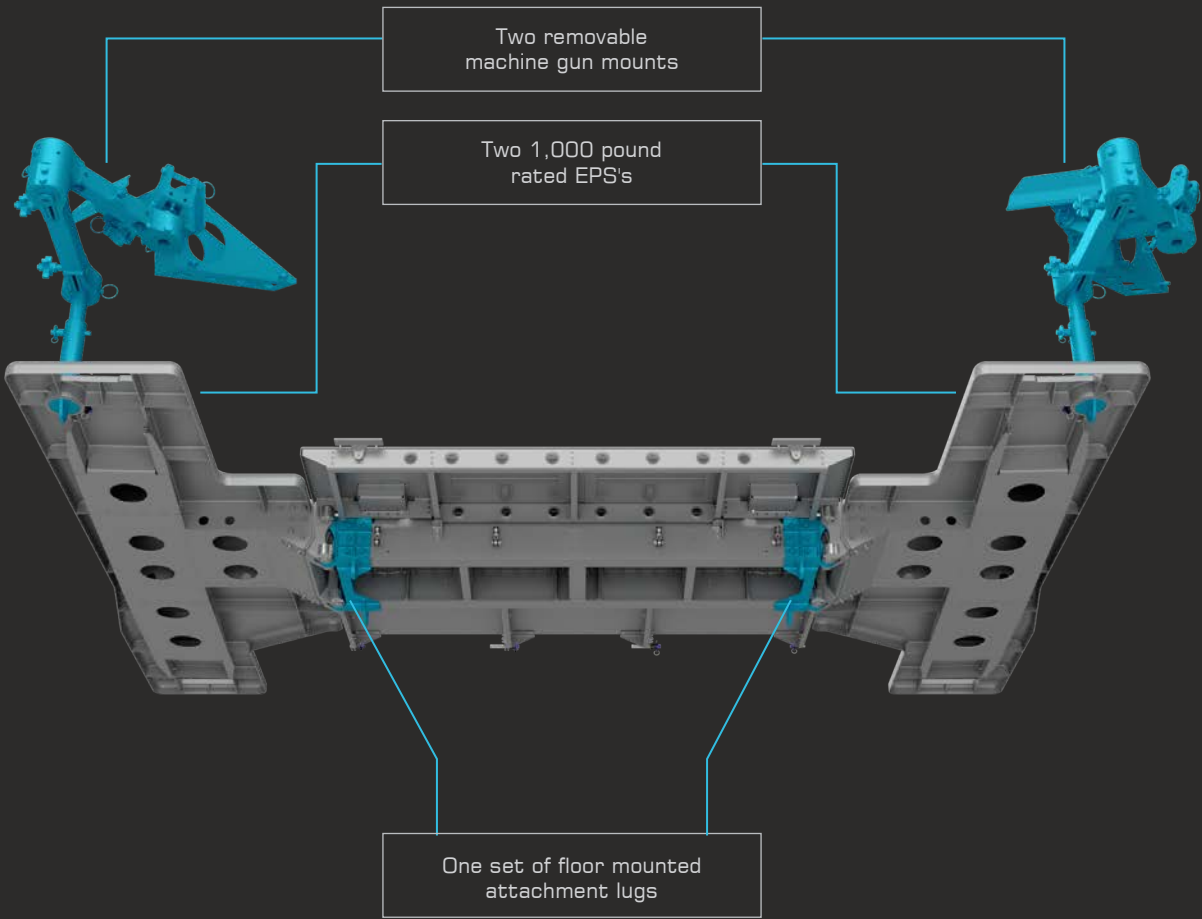
Hard-points on the top and bottom of the MCAS-MH provide users with multiple configuration options to suit any mission profile. The system can easily be configured to attach a machine gun, mount, and pintle-arm, and caving ladder. Additionally, the system incorporates up to six removable mounting lugs coupled with additional mounting provisions.

The MCAS-MH external personnel systems or 'pods' stow to reduce the lateral dimension, resulting in easier transport and a reduced hangar footprint. The gaps between the airframe and the external personnel system are reduced and hand grips are incorporated. Damage prone areas are easily replaced in the field; it is not necessary to replace an entire plank because of localized damage. The MCAS-MH lightweight plank is interchangeable between aircraft; with complete interchangeability between airframes, there is no need for aircraft tail number specific hardware.

GENERAL OVERVIEW

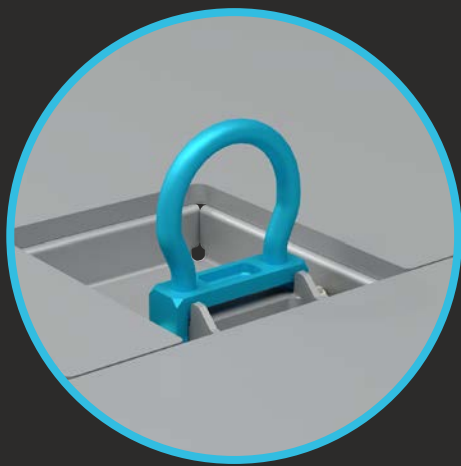


MISSION EQUIPMENT PACKAGES

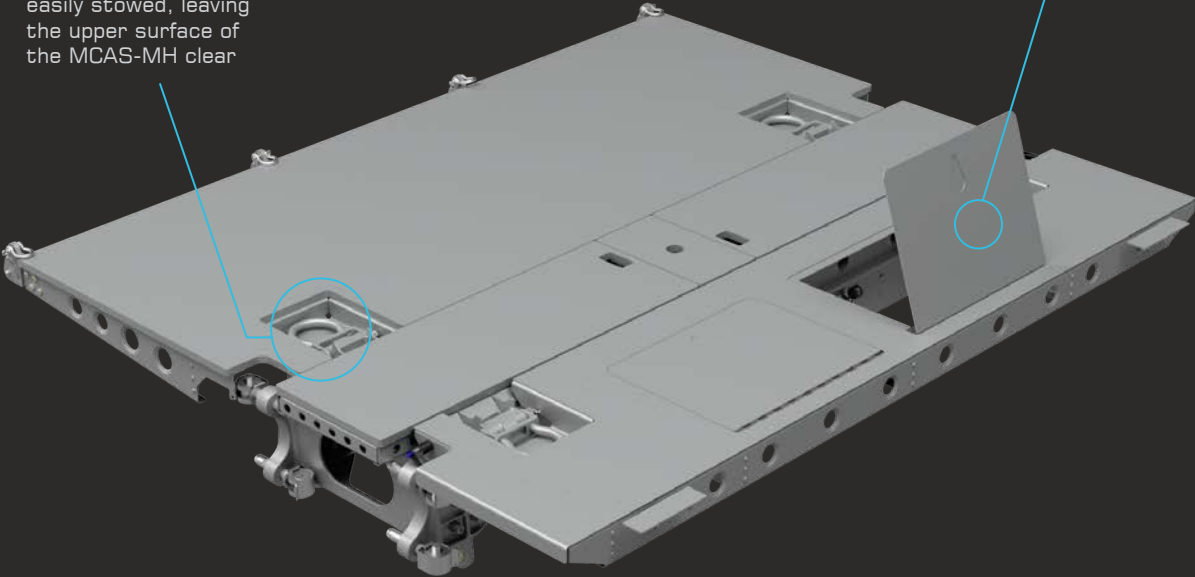




# CARGO FLOOR

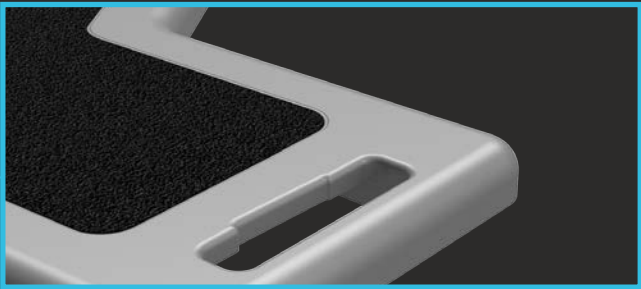


Lugs and tie-downs are easily stowed, leaving the upper surface of the MCAS-MH clear

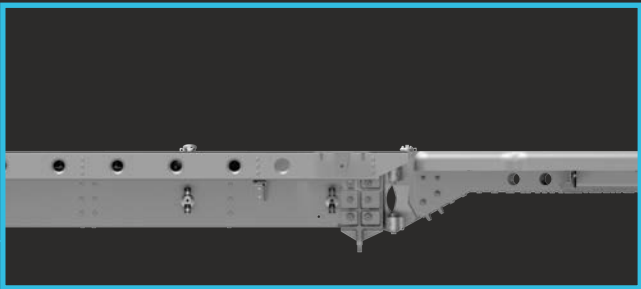
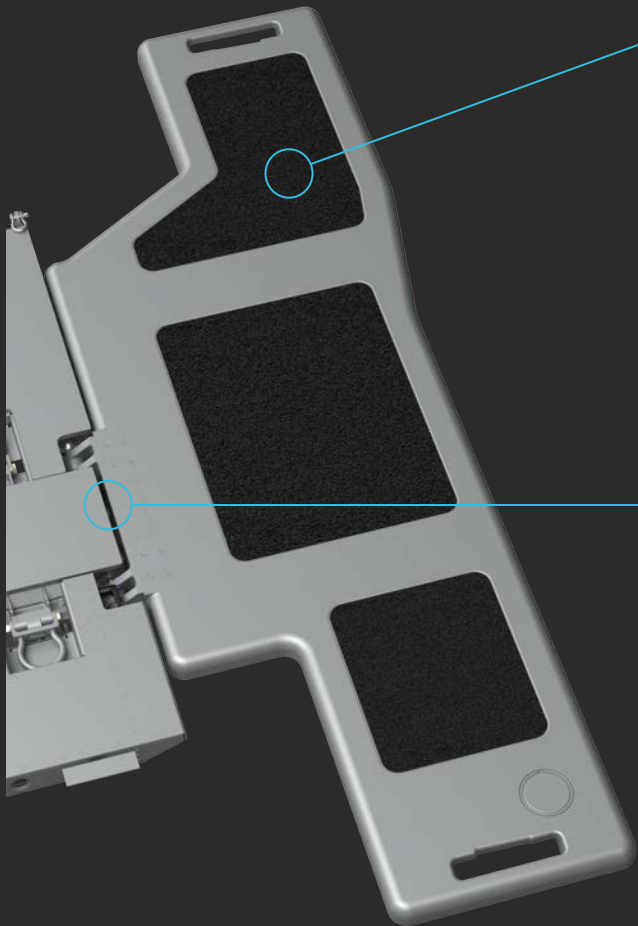


AFT filler panel can be removed to accommodate a Goliath® Tank

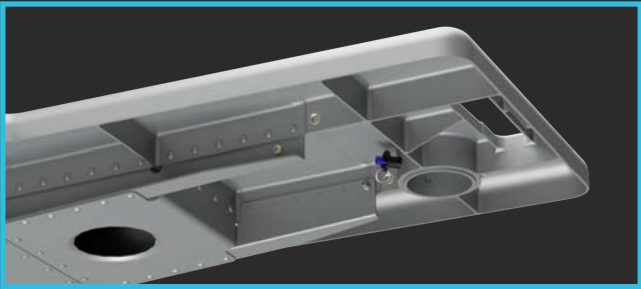
# EXTERNAL PERSONNEL SYSTEM



Features anti-skid surfaces for personnel safety



Surface of external personnel systems are flush with cargo floor for ease of cargo loading



Accessory mounting provisions provide up to 125 pounds of useful load

MACHINE GUN PINTLE

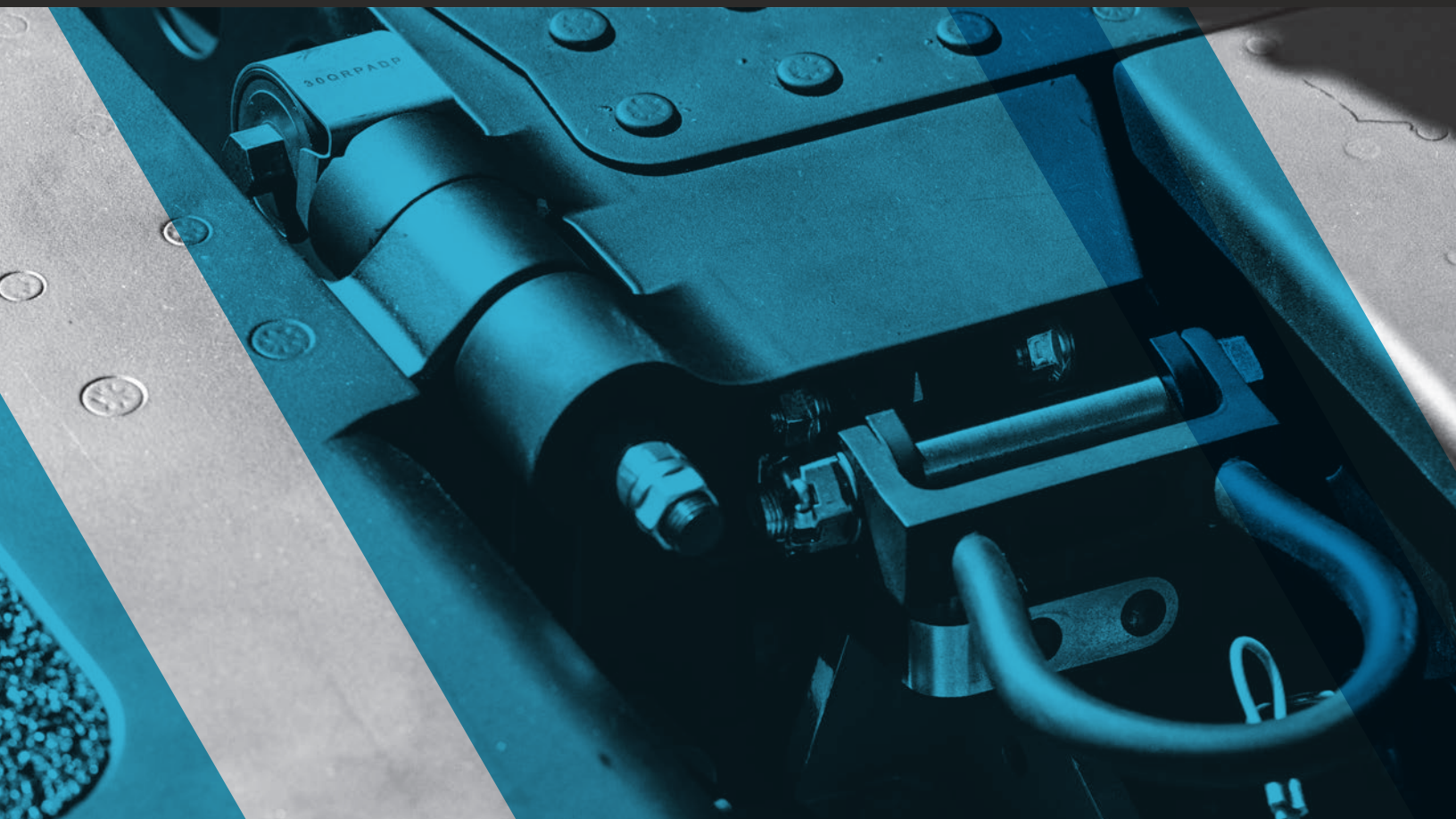


Removable pintle is secured with a single quick-release pin

WEIGHT SUMMARY

B407 MCAS MH				
	Legacy		MCAS	
	Lb	Kg	Lb	Kg
A- Kit	N/A	N/A	6.80	3.08
Center Section	N/A	N/A	24.20	10.98
MH Outer Sections	N/A	N/A	50.62	22.96
Base Kit Total	-	-	81.62	37.02
Gun Mount	-	-	12.00	5.44
CARGO DECK				
	Legacy		MCAS	
	Lb	Kg	Lb	Kg
A- Kit	8.00	3.63	6.80	3.08
Center Section	128.00	58.06	24.20	10.98
Forward Deck	-	-	4.63	2.10
Aft Deck	-	-	6.77	3.07
Center Filler Panel x 2	26.00	11.79	1.38	0.63
Base Kit Total	162.00	73.48	43.77	16.16
Weight Savings	-	-	118.23	57.32

\*FOR SYSTEM WEIGHT ESTIMATION ONLY.



Dillon Aero MCAS-MH developed for the Bell 407

- Lightweight
- Provisions for accessories
- Designed by SOF aviation users
- Field maintainable/repairable
- Stow-able for easy transportability
- Complete airframe interchangeability
- Clean/efficient design for ease of operation
- External Personnel System 1,000 lb. rating

# MCAS - 407 GUNSIGHT SYSTEM

## GUNSIGHT SYSTEM OVERVIEW



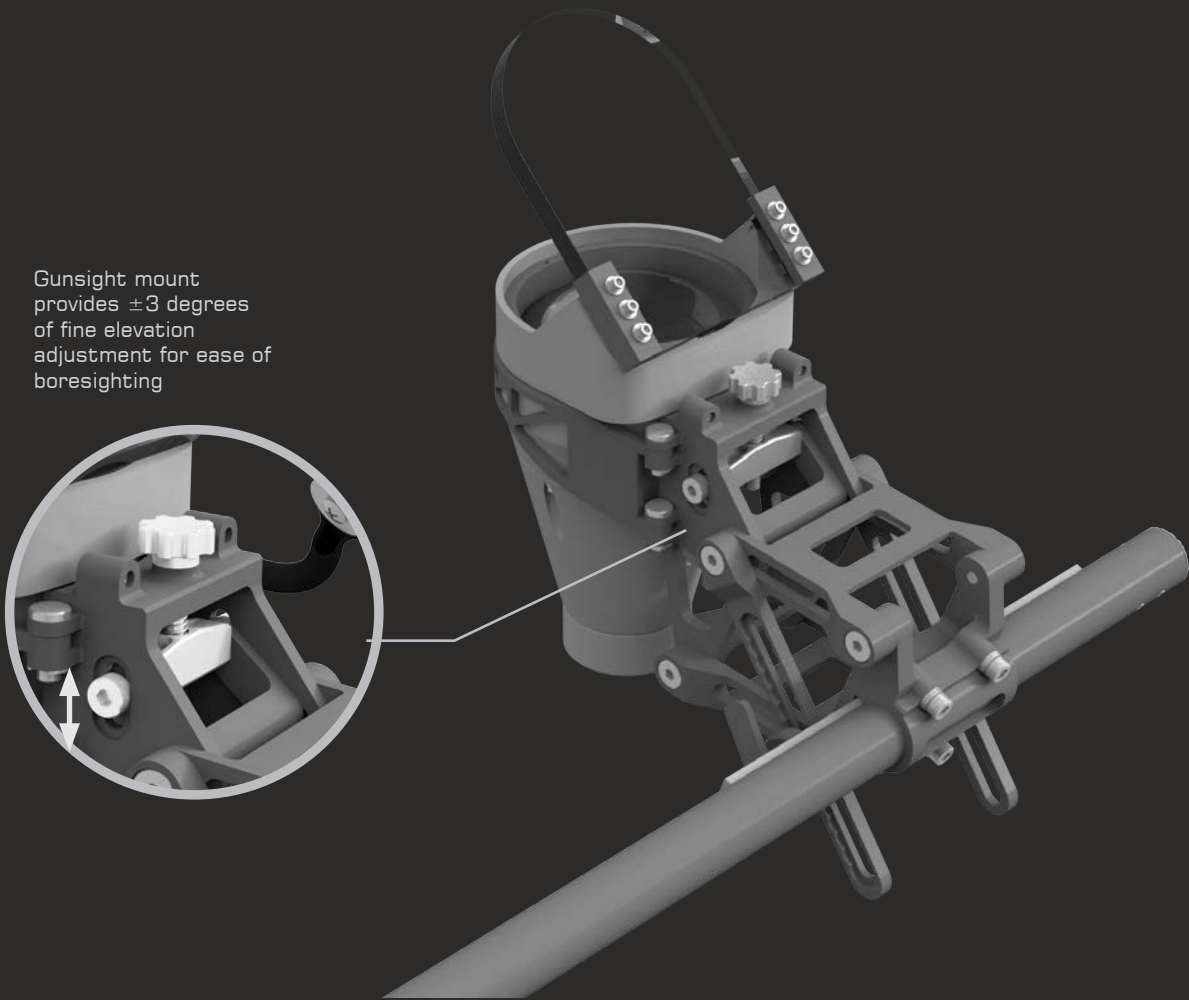
Flexible gunsight mount  
provides wide range of  
vertical, lateral, elevation,  
and azimuth adjustments



x1 Gunsight Bar  
x2 Gunsight Mounts  
Total Weight: 7.0 lbs



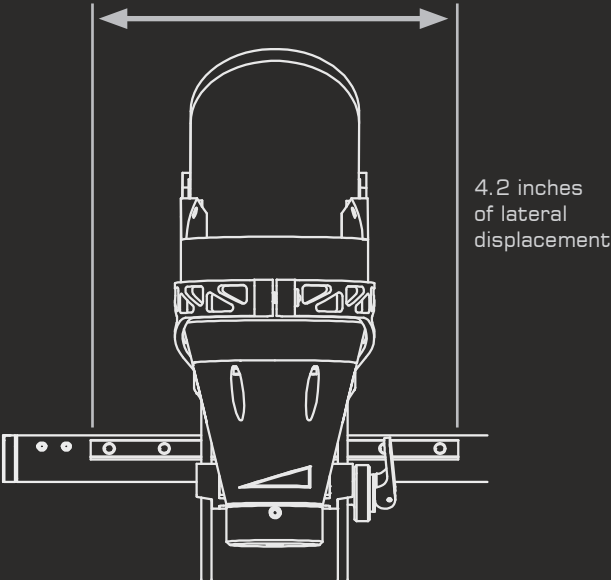
ELEVATION ADJUSTMENTS



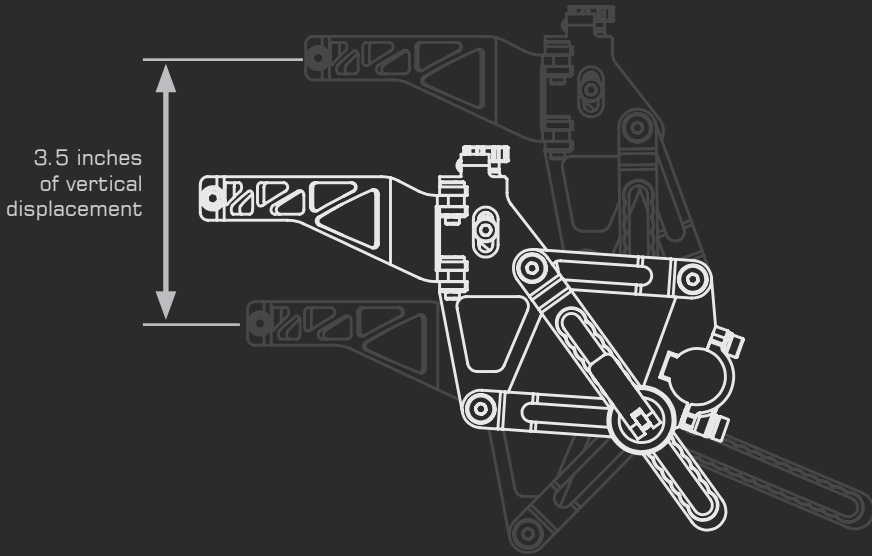
Gunsight mount provides  $\pm 3$  degrees of fine elevation adjustment for ease of boresighting

LATERAL AND VERTICAL ADJUSTMENTS

Over 60% increase in lateral and vertical displacement compared to legacy tech



4.2 inches of lateral displacement



3.5 inches of vertical displacement

Elevation adjustments are maintained during vertical adjustments



## INNOVATION AT DILLON

The Dillon M134, more commonly referred to as the 'Minigun' was accepted into service with the US Army in 2003. It was designated the M134D, replacing the earlier GAU-2C as the standard type. As a result of the success of this weapon system, Dillon Aero has been awarded over 375 major contracts by the US government, in addition to numerous other significant projects.

Our products are found on land, in the air, and at sea. Since its establishment, Dillon Aero has fielded more than 6,000 weapons systems in more than 30 countries. Since 2000, Dillon's product line has grown to include high-capacity feed systems for the M134D as well as the M240, M60, PKM, .50 Cal Heavy Machine Gun, and MK19 Grenade Launcher; a wide range of helicopter, naval, and vehicle weapon mounts; and a complete line of safety and support equipment for the Minigun. Our products are superior in their cutting-edge design, as evidenced by their reliability and ease of use.

The quality of Dillon products are matched by the quality of its service. We have created a worldwide support network to include three mobile training and maintenance groups to better assist our customers. Besides this, Dillon maintains substantial reserves of inventory at all times, rather than waiting to manufacture a part post-order. We feel this is commonsense strategy for effective customer service.

With decades of history and proven performance behind us, Dillon remains committed to building and maintaining the best. Our name is our reputation.

**DILLON AERO, INC.**



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