DEFENSE PRODUCT CATALOG

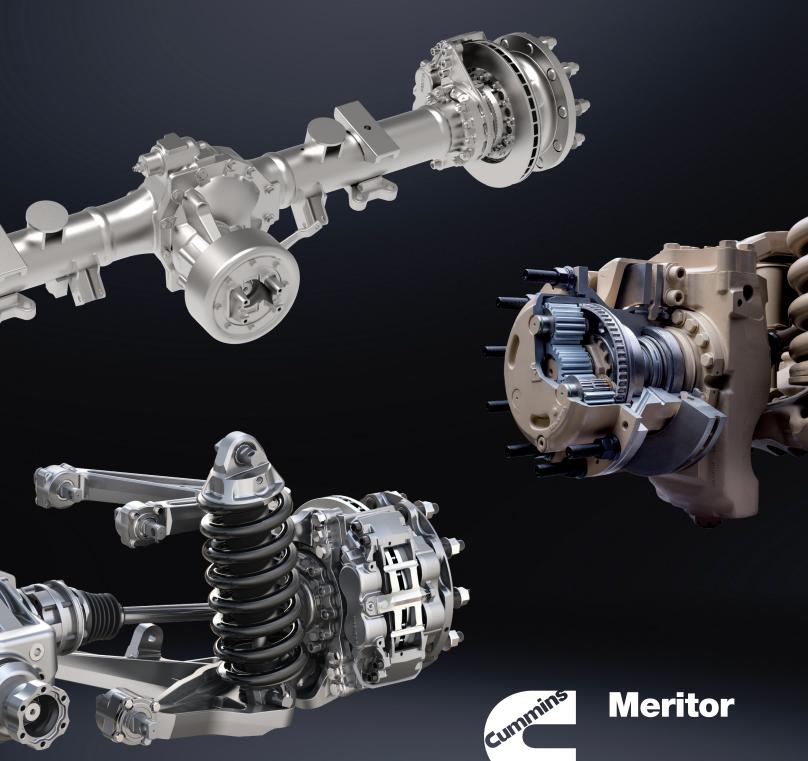


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MORE THAN 110 YEARS OF FORWARD THINKING

Since 1909, Cummins-Meritor has designed, engineered and manufactured leading drivetrain systems across North America, South America, Europe and Asia. Today, our performance-engineered products provide durable, leading-edge solutions for defense applications.

Cummins-Meritor's engineering teams carefully study end user requirements to ensure that the customer always comes first in our engineering processes. Our ongoing initiative to reinvent our global defense portfolio around the requirements and demands of our customers confirms our unwavering commitment.

MANUFACTURING AT A LOCATION NEAR YOU

With global manufacturing through regional footprints, we are able to take advantage of strategically located facilities to offer the best pricing, delivery and support to your location. This includes state-of-the-art facilities in North America, South America, Europe and the Asia-Pacific region.

This regional focus allows Cummins-Meritor to bring you all of the advantages you would expect from the purchasing and product scale of our worldwide operations. And all of our facilities are supported by our manufacturing infrastructure in 20 countries and 66 locations worldwide, including six electronically linked Global Engineering Centers of Excellence.

GLOBAL AFTERMARKET REMANUFACTURING AND FIELD SUPPORT

With Cummins-Meritor's global aftermarket leadership, you can be confident that parts and service for every new defense product will be fully supported by the best in the industry. Plus OnTrac real-time warranty and tech support.

Wherever you do business, our local and international expert field representatives and proven support systems will be there for you. For more information, email defense@meritor.com, call 866-OnTrac1 (866-668-7221), or visit cummins.com.





ERFORMANCE As a leading global supplier of drivetrain, mobility, braking and aftermarket solutions for commercial vehicle and industrial markets, Cummins-Meritor provides innovative products that offer superior performance, efficiency and reliability. We serve commercial truck, trailer, off-highway, defense, specialty and aftermarket customers around the world with proven leadership in designing, engineering and manufacturing high-performance drivetrain solutions that provide the mobility and safety for tactical-wheeled vehicles across the globe. AT CUMMINS-MERITOR, WE'VE **BEEN A VITAL PART OF MILITARY FAMILIES FOR GENERATIONS.** More than a century ago, Cummins-Meritor first began supplying drivetrain components to our military fleets. Today, we're one of the world's largest drivetrain producers for defense vehicles. Cummins-Meritor provides systems for a complete range of lightweight to heavyweight vehicles, armored personnel and advanced-wheeled combat vehicles for the most challenging terrains. With decades of experience engineering tactical drivetrain components, Cummins-Meritor's ProTec modular solutions for tactical vehicles offer high performance, efficiency and reliability. ProTec Independent Suspension Axle Systems (ISAS) matched with durable ProTec all-wheel drive beam axles provide the dependability demanded where it counts most: on the battlefield.

PROTEC: PROVEN MILITARY GRADE SOLUTIONS

Payload, performance and protection are three essential components in a leading complete chassis solution for the military. The ProTec complete chassis solution delivers all three and includes our integrated Independent Suspension Axle Systems (ISAS) and proven all-wheel drive beam axles, built for tactical-wheeled vehicles and armored personnel carriers.

2000, 3000, 3400, 4000, 4500 AND 5000 SERIES INDEPENDENT SUSPENSION AXLE SYSTEMS (ISAS)

Military and tactical applications demand superior force protection, high mobility and premium ride quality, all in a weight-efficient package. The ProTec Independent Suspension Axle Systems (ISAS):

2000 series: Gross axle weight rating (GAWR) up to 7,500 pounds (3.5 tons)

3000 series: GAWR up to 14,300 pounds (6.5 tons)

3400 series: GAWR up to 15,400 pounds (7 tons)

4000 series: GAWR up to 19,800 pounds (9 tons)

4500 series: GAWR up to 23,620 pounds (10.7 tons)

5000 series: GAWR up to 29,000 pounds (13.2 tons)

3000, 4000, 4500 AND 5000 SERIES ALL-WHEEL DRIVE BEAM AXLES

The Cummins-Meritor ProTec all-wheel drive beam axles for military-specific applications have been engineered to the most demanding military specifications, including tough performance and dependability requirements. ProTec axles utilize proven technologies and are available in multiple configurations.

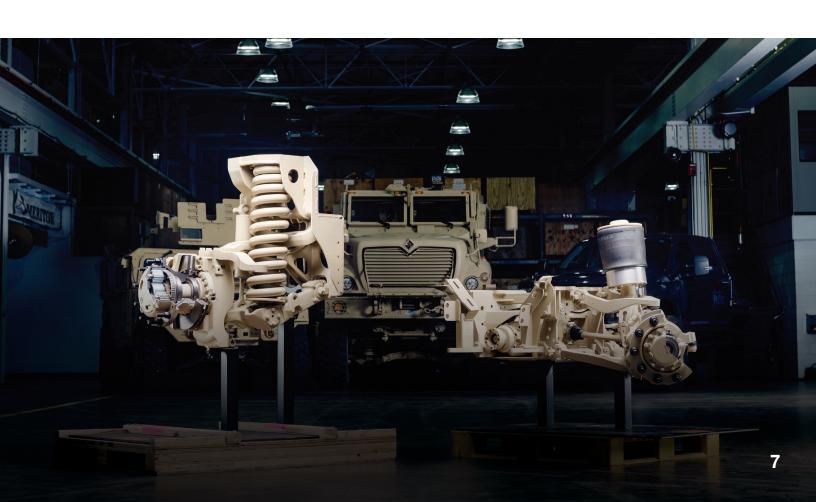


PROTEC INDEPENDENT SUSPENSION AXLE SYSTEMS (ISAS)

The ProTec family of Independent Suspension Axle Systems (ISAS) takes a two-tiered approach to protecting our military and service personnel, while supporting the success of their mission. The weight-efficient, payload-enhancing design increases the capacity of the vehicle to carry increased armor for added protection in combat environments. The strong, yet lightweight differential carrier balances weight savings without compromising durability. The Cummins-Meritor ISAS provides scalable solutions for light-, medium- and heavy-duty tactical-wheeled vehicles.

FEATURES AND BENEFITS

- Weight-efficient, payload-enhancing design to allow the vehicle to carry more incremental armor
- Versatile Cummins-Meritor amboid and spiral bevel gearings engineered to fit any application requirements
- Available in your choice of dual air spring or single coil configurations for application flexibility
- Modular architecture to allow users to enhance performance of a broad range of suspension platforms
- Customization for specific applications and OEM packaging flexibility
- Cummins-Meritor's global aftermarket support system behind every Cummins-Meritor military suspension sold



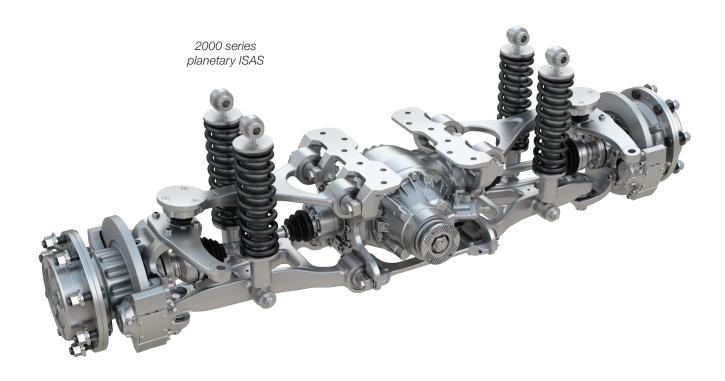
PROTEC INDEPENDENT SUSPENSION AXLE SYSTEMS (ISAS) OVERVIEW

	Gross axle weight rating (GAWR)	Steering angle
2000 series	Up to 7,500 lbs (3.5T)	Up to 35°
3000 series	Up to 12,100 lbs (5.5T)	Up to 38°
3400 series	Up to 15,400 lbs (7T)	Up to 38°
4000 series	Up to 20,900 lbs (9.5T)	Up to 35°
4500 series	Up to 23,620 lbs (10.7T)	Up to 35°
5000 series	Up to 29,000 lbs (13.2T)	Up to 35°



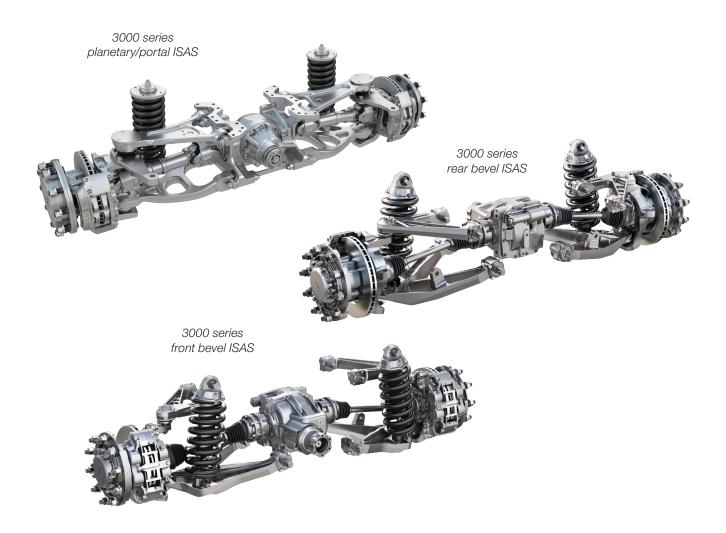
Total wheel travel	Brake type	Wheel-end type	ABS compatible	Differential locks	CTIS ready
Up to 11 in (280 mm)	Hydraulic disc	Planetary	~	~	~
Up to 11.8 in (300 mm)	Hydraulic disc	Planetary, portal or bevel geared	~	~	~
Up to 11.8 in (300 mm)	Hydraulic disc	Planetary or portal	~	~	~
Up to 13.8 in (350 mm)	Air disc, hydraulic disc, hydraulic drum or wedge	Planetary	~	~	~
Up to 13.8 in (350 mm)	Air disc, hydraulic disc, hydraulic drum or wedge	Planetary	✓	✓	~
Up to 15.7 in (400 mm) with inboard brakes Up to 13.8 in (350 mm) with outboard brakes	Air disc, cam, hydraulic disc, hydraulic drum or wedge	Planetary	~	~	~

PROTEC 2000 SERIES ISAS



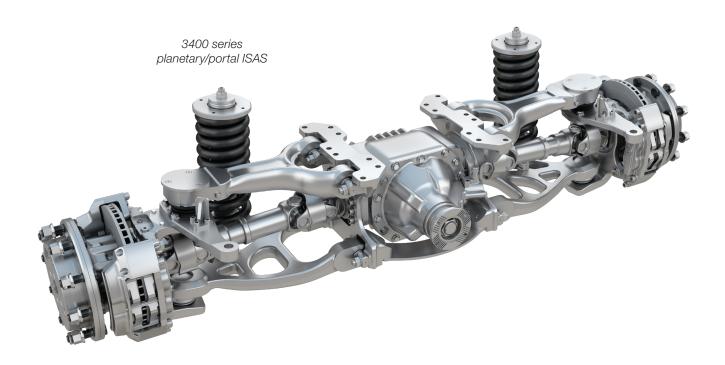
	Planetary
Gross axle weight rating (GAWR)	Up to 7,500 lbs (3.5T)
Steering angle	Up to 35°
Total wheel travel	Up to 11 in (280 mm)
Brake type	Hydraulic disc
Bolt circle diameter	11 in (285 mm)
Wheel-end type	Planetary
Wheel-end ratio	2.92
Differential type	Open/DCDL
ABS compatible	✓
Central tire inflation system (CTIS) ready	✓

PROTEC 3000 SERIES ISAS



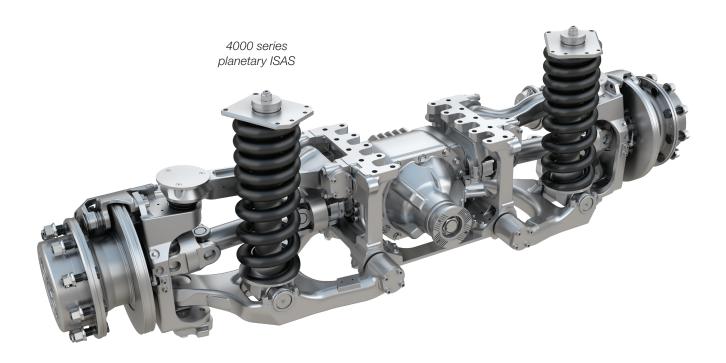
	Planetary/portal	Bevel
Gross axle weight rating (GAWR)	Up to 12,100 lbs (5.5T)	Up to 12,000 lbs (5.4T)
Steering angle	Up to 38°	Up to 35°
Total wheel travel	Up to 11.8 in (300 mm)	Up to 11 in (280 mm)
Brake type	Hydraulic disc	Hydraulic disc
Bolt circle diameter	13.2 in (335 mm) – 10 stud (planetary) 10.8 in (275 mm) – 8 stud (portal)	13.2 in (335 mm)
Wheel-end type	Planetary or portal	Bevel
Wheel-end ratio	3.55 (planetary)/3.21 (portal)	2
Differential type	Open/DCDL	Open/DCDL/no spin
ABS compatible	✓	✓
Central tire inflation system (CTIS) ready	✓	✓

PROTEC 3400 SERIES ISAS



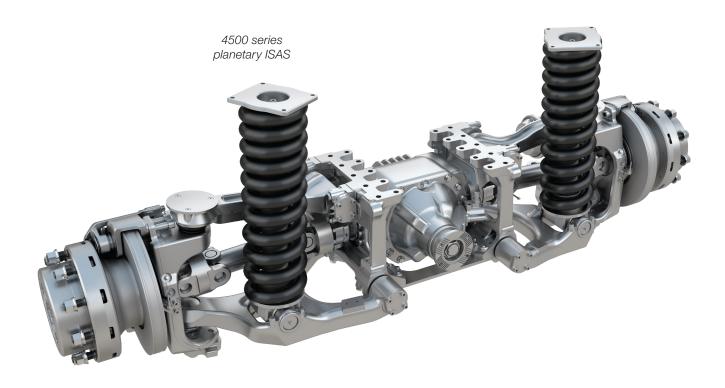
	Planetary/portal
Gross axle weight rating (GAWR)	Up to 15,400 lbs (7T)
Steering angle	Up to 38°
Total wheel travel	Up to 11.8 in (300 mm)
Brake type	Hydraulic disc
Bolt circle diameter	13.2 in (335 mm) – 10 stud (planetary) 10.8 in (275 mm) – 8 stud (portal)
Wheel-end type	Planetary or portal
Wheel-end ratio	3.55 (planetary)/3.21, 4 (portal)
Differential type	Open/DCDL
ABS compatible	✓
Central tire inflation system (CTIS) ready	✓

PROTEC 4000 SERIES ISAS



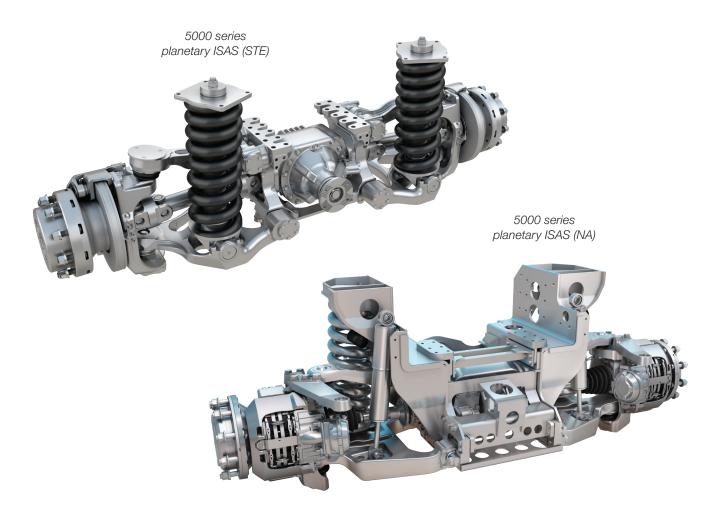
	Planetary
Gross axle weight rating (GAWR)	Up to 20,900 lbs (9.5T)
Steering angle	Up to 35°
Total wheel travel	Up to 13.8 in (350 mm)
Brake type	Air disc or hydraulic disc
Bolt circle diameter	13.2 in (335 mm)
Wheel-end type	Planetary
Wheel-end ratio	3.55, 4
Differential type	Open/DCDL
ABS compatible	✓
Central tire inflation system (CTIS) ready	✓

PROTEC 4500 SERIES ISAS



	Planetary		
Gross axle weight rating (GAWR)	Up to 23,620 lbs (10.7T)		
Steering angle	Up to 35°		
Total wheel travel	Up to 13.8 in (350 mm)		
Brake type	Air disc, hydraulic disc, hydraulic drum or wedge		
Bolt circle diameter	13.2 in (335 mm)		
Wheel-end type	Planetary		
Wheel-end ratio	4, 4.63		
Differential type	Open/DCDL		
ABS compatible	✓		
Central tire inflation system (CTIS) ready	✓		

PROTEC 5000 SERIES ISAS



	Planetary (STE)	Bevel
Gross axle weight rating (GAWR)	Up to 29,000 lbs (13.2T)	Up to 29,000 lbs (13.2T)
Steering angle	Up to 35°	Up to 35°
Total wheel travel	Up to 15.7 in (400 mm) with inboard brakes Up to 13.8 in (350 mm) with outboard brakes	Up to 11 in (280 mm)
Brake type	Air disc, cam, hydraulic disc, hydraulic drum or wedge	Air disc
Bolt circle diameter	13.2 in. (335 mm), 11.25 in. (285 mm)	13.1 in (335 mm)
Wheel-end type	Planetary	Planetary
Wheel-end ratio	4, 4.63	3.46
Differential type	Open/DCDL	Open/DCDL
ABS compatible	✓	✓
Central tire inflation system (CTIS) ready	✓	✓

PRECISION CUSTOMIZATION FOR PREMIUM PERFORMANCE

The ProTec ISAS series is designed and engineered to give you all the additional choices needed to meet your exact vehicle performance objectives. Options such as air springs, coil suspensions, hydrostruts, a variety of wheel-ends and more provide you with the versatility you need to succeed in tough environments.





AIR SPRING SUSPENSIONS

- Used in low-profile vehicles that need compact packaging
- Facilitates easy lowering and transport in military aircraft
- Replaces beam axle used in some military service personnel vehicles for enhanced performance
- Ideal for 8x8 vehicles where all four axle positions use dual air springs
- Up to 150 pounds (68 kilograms) lighter than steelcoil suspensions
- Allows wheel travel up to 20 inches (51 centimeters)



COIL SUSPENSIONS

- Combat-tested system reliability and durability in armored personnel
- Offers drum brakes for armored security vehicles or air disc brakes for mine resistant ambush protected (MRAP) vehicles
- Enables pre-programmed settings for exceptional performance in highway, cross-country, mud, sand, snow and transport (kneel) environments
- Symmetrical design allows identical parts to be used on both sides of the suspension for additional savings
- Excellent choice for both 4x4 and 6x6 vehicles

WHEEL-ENDS

- Distinct gear reduction wheel-ends, including bevel and planetary, provide the flexibility to meet a variety of demands
- Bevel gear wheel-ends meet or exceed OEM specifications for heavy-duty vehicles and are engineered with materials to reduce weight without sacrificing strength and durability
- Planetary wheel-ends available in Family 4 or Family 5 planetary gears

PROTEC ALL-WHEEL DRIVE BEAM AXLES

Engineered and built for the extreme demands of the military-duty cycle, Cummins-Meritor axles have been the axle of choice for the United States Army's fleet of 2.5- and 5-ton vehicles for more than 110 years. Our ProTec all-wheel drive beam axles provide the range and the performance demanded by military and service personnel applications.

FEATURES AND BENEFITS

- Single, tandem or tridem configurations available
- Accommodates multiple suspension configurations for application flexibility
- Non-vented drum brake protects the braking system while operating in adverse conditions
- Backed by military-duty cycle testing for proven performance



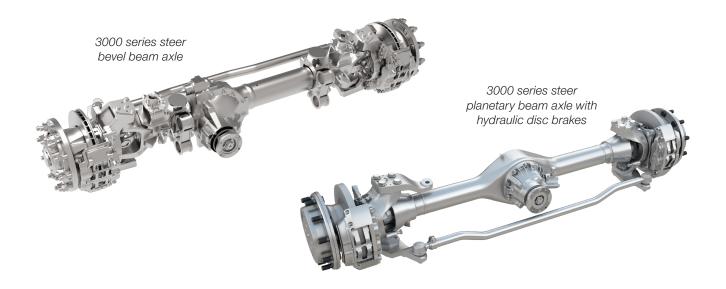
PROTEC ALL-WHEEL DRIVE BEAM AXLE OVERVIEW

		Gross axle weight rating (GAWR)	Steering angle
3000 series		Up to 12,100 lbs (5.5T) steer Up to 14,700 lbs (6.6T) rigid	Up to 42°
4000 series		Up to 18,700 lbs (8.5T) steer Up to 25,000 lbs (11.3T) rigid	Up to 42°
4500 series		Up to 26,400 lbs (12T) steer Up to 28,700 lbs (13T) rigid	Up to 35°
5000 series		Up to 28,700 lbs (13T) steer Up to 30,800 lbs (14T) rigid	Up to 42°
5000 series tridem*	*Also available in tandem	Up to 90,000 lbs (40.8T)	N/A



Brake type	Wheel-end type	Wheel-end ratio	ABS ready	Differential locks	CTIS ready
Hydraulic disc, air disc and air drum	Planetary or bevel geared	2, 3.22, 3.55, 5.6	•	✓	~
Air disc, hydraulic disc, hydraulic drum or wedge	Planetary or bevel geared	2, 3.22, 3.55, 4, 5.6	✓	~	~
Air disc or wedge	Planetary	3.55, 4, 4.63, 5.6	•	✓	~
Wedge, s-cam or air disc	Planetary	3.46, 3.55, 4, 4.63, 5.6	~	✓	•
Air drum	Planetary	3.46	•	•	•

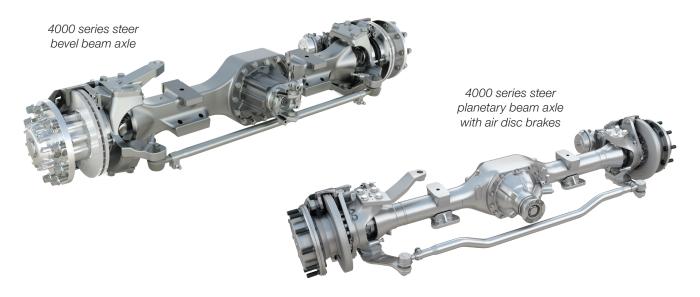
PROTEC 3000 SERIES BEAM AXLE

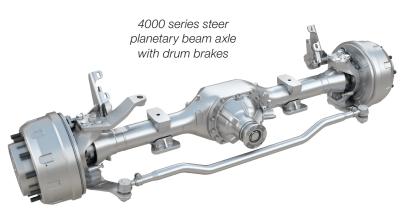




	Planetary	Bevel
Gross axle weight rating (GAWR)	Up to 12,100 lbs (5.5T) steer Up to 12,500 lbs (5.7T) rigid	Up to 12,000 lbs (5.5T) steer Up to 14,700 lbs (6.6T) rigid
Steering angle	Up to 42°	Up to 42°
Brake type	Hydraulic disc, air disc and air drum	Hydraulic disc
Bolt circle diameter	13.2 in (335 mm) – 10 stud (planetary) 10.8 in (275 mm) – 8 stud (pPortal)	13.2 in (335 mm)
Wheel-end type	Planetary	Bevel
Wheel-end ratio	3.22, 3.55, 5.6	2
Differential type	Open/DCDL	Open/DCDL/no spin
ABS compatible	✓	✓
Central tire inflation system (CTIS) ready	✓	✓

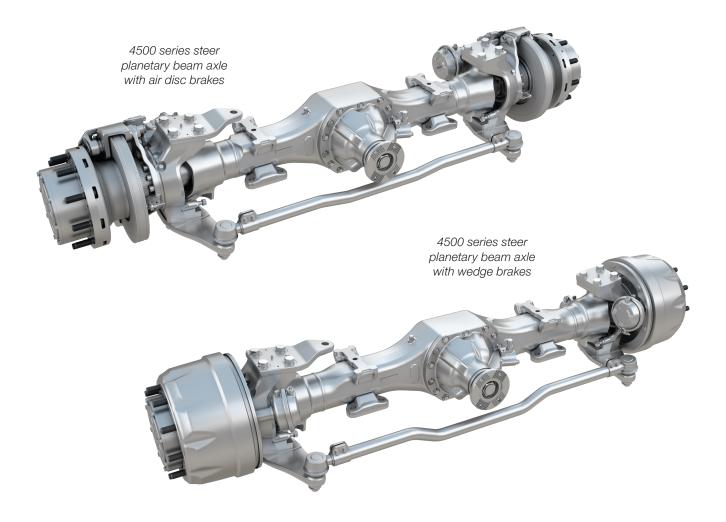
PROTEC 4000 SERIES BEAM AXLE





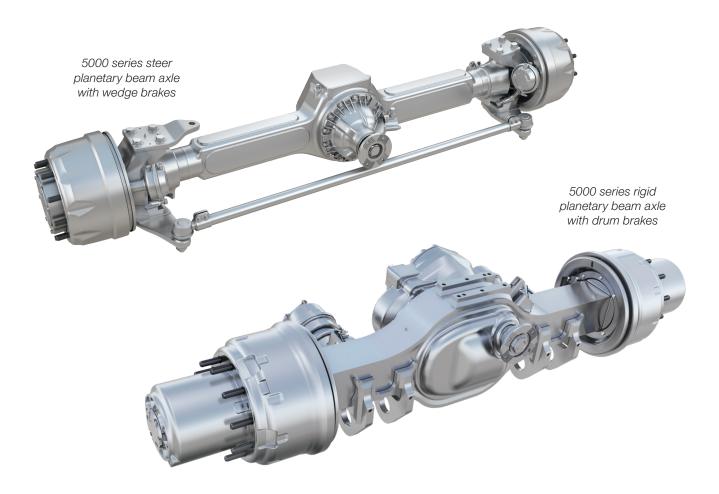
	Planetary	Bevel
Gross axle weight rating (GAWR)	Up to 18,700 lbs (8.5T) steer Up to 22,000 lbs (10T) rigid	Up to 25,000 lbs (11.3T)
Steering angle	Up to 42°	Up to 42°
Brake type	Air disc, hydraulic disc, hydraulic drum or wedge	Air disc or drum
Bolt circle diameter	13.2 in (335 mm) – 10 stud (planetary) 11.25 in (285 mm) – 8 stud (portal)	13.2 in (335 mm) – 10 stud (planetary) 11.25 in (285 mm) – 8 stud (portal)
Wheel-end type	Planetary	Bevel
Wheel-end ratio	3.22, 3.55, 4, 4.63, 5.6	2
Differential type	Open/DCDL	Open/DCDL/no spin
ABS compatible	✓	✓
Central tire inflation system (CTIS) ready	✓	✓

PROTEC 4500 SERIES BEAM AXLE



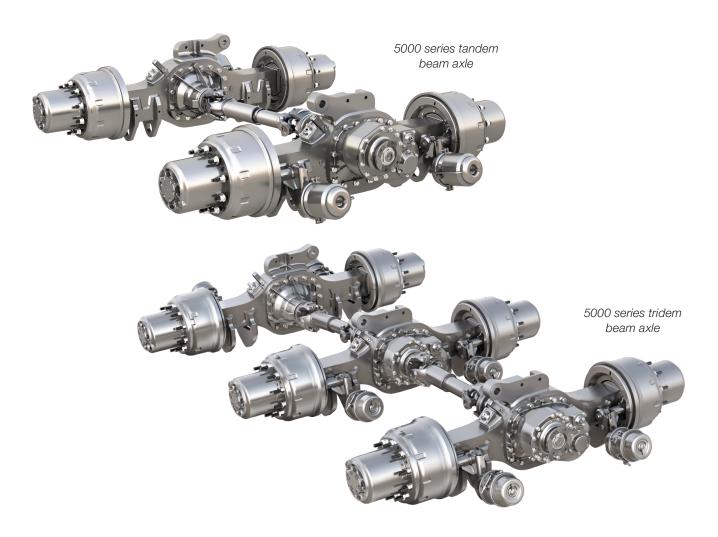
	Planetary
Gross axle weight rating (GAWR)	Up to 26,400 lbs (12T) steer Up to 28,700 lbs (13T) rigid
Steering angle	Up to 35°
Brake type	Air disc or wedge
Bolt circle diameter	13.2 in (335 mm)
Wheel-end type	Planetary
Wheel-end ratio	3.55, 4, 4.63, 5.6
Differential type	Open/DCDL
ABS compatible	✓
Central tire inflation system (CTIS) ready	✓

PROTEC 5000 SERIES BEAM AXLE



	Planetary
Gross axle weight rating (GAWR)	Up to 28,700 lbs (13T) steer Up to 30,800 lbs (14T) rigid
Steering angle	Up to 35°
Brake type	Wedge, s-cam or air disc
Bolt circle diameter	13.2 in (335 mm) – 10 stud
Wheel-end type	Planetary
Wheel-end ratio	3.55, 4, 4.63, 5.6
Differential type	Open/DCDL
ABS compatible	✓
Central tire inflation system (CTIS) ready	✓

PROTEC 5000 SERIES TANDEM AND TRIDEM BEAM AXLES

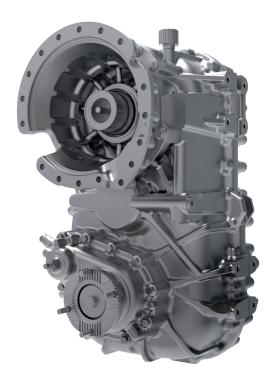


5000 SERIES TANDEM AND TRIDEM BEAM AXLE SPECIFICATIONS

	Planetary
Gross axle weight rating (GAWR)	Up to 30,000 lbs (13.6T) per axle
Steering angle	N/A
Brake type	Drum
Bolt circle diameter	13.1 in (335 mm)
Wheel-end type	Planetary
Wheel-end ratio	3.46
Differential type	Open/DCDL
ABS compatible	✓
Central tire inflation system (CTIS) ready	✓

TRANSFER CASES

Specifying the right transfer case to match the exact needs of each military or service personnel vehicle is essential to vehicle performance and durability. That's why Cummins-Meritor's expanded line of transfer cases offers a wide range of options to fit the most demanding tactical-wheeled vehicle applications. For more information or to review model details and specifications, please see the Cummins-Meritor transfer case brochure on Cummins-Meritor's Literature On Demand.



MTC 4000 SERIES

Featuring enhanced powertrain packaging plus precision ground gearing for durability and torque capability in the most demanding situations, the MTC 4000 series includes a wide range of options for multiple tactical vehicles. With models featuring low front driveline angles, front axle engage-on-the-fly capability for ease of vehicle operation and compatibility with automatic engagement systems, the 4000 models perform in the toughest conditions.

MTC 3000 SERIES

Cummins-Meritor's MTC 3000 series features a wide array of 3-shaft, single and 2-speed transfer cases with exceptional design features to fit virtually any medium- or heavy-duty tactical application. Including several models designed for part-time all-wheel drive systems, the MTC 3000 series offers multiple ratios and optional power take-off (PTO) features.

MTC 2000 SERIES

With optimum mobility, excellent durability and a versatile fit for tactical-wheeled vehicles, the MTC 2000 series transfer case fits a wide variety of tactical and military applications.

DRIVELINES

RELIABLE, LOW-MAINTENANCE DRIVELINES

Cummins-Meritor has over 100 years of driveline engineering and manufacturing experience, with a large market share in new truck production and aftermarket. We offer a complete line of industry-leading drivelines and individual components, including u-joints, center bearings, yokes and more for the defense market.

PERMALUBE RPL SERIES DRIVELINES

The Cummins-Meritor Permalube RPL series drivelines are the first in North America to be permanently lubricated and sealed for life to reduce costs associated with downtime for greasing and maintenance. RPL series drivelines deliver the highest torque capacity for demanding defense applications and the nylon thrust washers eliminate metal-to-metal contact to prevent wear. The triple lip seals along with the protective steel guard provide the ultimate protection against contaminants for extended u-joint life.

POWER TAKE-OFFS (PTOS) AND SPECIALIZED GEARBOXES

Cummins-Meritor's split-shaft power take off units (PTOs) and creeper drive gearboxes are specifically designed for severe-duty, high-mobility, high-torque and all-wheel drive configurations across a broad range of applications and configurations.

Our combination transfer case and creeper drives offer rear axle disconnect, creep drive engagement, input driven pump drives to support hydraulically driven, low-creep speed operations while providing pump drives for creep, and other machine functions.

For more information or to review model details and specifications, please see the Cummins-Meritor power take-offs and gearboxes sell sheet on Cummins-Meritor's Literature On Demand.





AWARD-WINNING SERVICE AND SUPPORT

WE'RE BEHIND YOU ALL THE WAY

You can count on DriveForce[™] – Cummins-Meritor's field support team – to keep moving your operation forward. With more than 100 field representatives in North America, DriveForce provides an extensive support network in the commercial vehicle industry. To locate your DriveForce representative, visit **meritor.com/driveforce**.

YOUR TRAINING RESOURCE

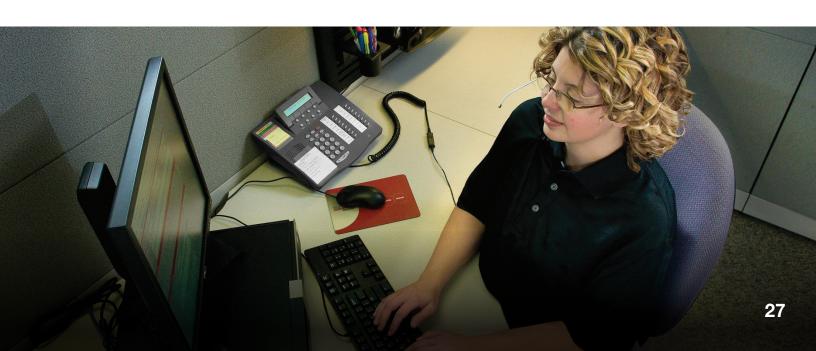
BullPen is a convenient web portal designed for dealers, fleets and service garages to access Cummins-Meritor's product information and receive online training at one central location. The BullPen provides access to more than 1,000 items including product presentations, sales literature, product videos and photos, service bulletins and parts books. For more information or to register for courses, visit **meritorbullpen.com**.

WARRANTY HELP IS A PHONE CALL AWAY

Every Cummins-Meritor defense product is backed by strong support from DriveForce – Cummins-Meritor's North American sales and service organization – plus the OnTrac[™] technical support center. The OnTrac team is equipped with expert service professionals who will help you with troubleshooting and handling warranty issues, such as validating coverage, opening a new claim, following-up on an ongoing claim or closing an existing claim. Call **866-OnTrac1** (**866-668-7221**) for assistance with diagnostics, repair and warranty solutions. OnTrac offers extended hours for your convenience—the team is standing by 8 a.m. – 8 p.m. EST Monday – Friday and 9 a.m. – 6 p.m. Saturday.

UNBEATABLE CUSTOMER SUPPORT

Every defense product and component in the ProTec series is backed by unsurpassed service and support from Cummins-Meritor. For more information, contact the defense sales team directly at **defense@meritor.com** or visit **cummins.com** today.







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cummins.com

SP-21113 Bulletin 6471513 Produced in U.S.A. Rev. 5/23 ©2023 Meritor, Inc.