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**PROTEC SERIES OF HMIS & AWD SYSTEMS** 

# ·PROTEC:

# PAYLOAD. PERFORMANCE. PROTECTION.



MERITOR DEFENSE

# PAYLOAD. PERFORMANCE. PROTECTION.



### **HIGH-MOBILITY INDEPENDENT SUSPENSION FOR SEVERE OFF-ROAD APPLICATIONS**

The IRON TRIANGLE of Payload, Performance and Protection, representing the three absolute must-haves for a high-mobility independent suspension series for the military market. Only one product family builds a foundation of strength under every corner of the Iron Triangle – the **PROTEC SERIES** of High Mobility Independent Suspensions (HMIS), built for tactical wheeled military vehicles and armored personnel carriers, as well as specialty and off-highway applications. A Customers demanded superior force protection, unmatched mobility and unparalleled ride quality, all in a weight-efficient package. 

MERITOR LISTENED.

### THE RESULTS? The PROTEC HMIS **SERIES 30** for applications requiring GAWRs up to 14,000 lbs., the PROTEC HMIS SERIES 40 for GAWRs up to 23,000 lbs., and the Protec HMIS SERIES 50 for GAWRS up to 29,000 lbs.

# PROTECTION AND PERFORMANCE FOR THOSE WHO PROTECT US

The **PROTEC FAMILY** of High Mobility Independent Suspensions delivers a two-tiered approach to not only protecting vehicle operators and passengers, but supporting the success of their missions as well. First, the design sensibility of the PROTEC SERIES

**MAKE NO MISTAKE** facilitates optimum blast **ABOUT IT** – gains in weight mitigation, deflecting force away from the vehicle, rather than bearing the full force of a ground explosion. do not compromise the

But more importantly, the WEIGHT-EFFICIENT, PAYLOAD-MAXIMIZING DESIGN of the ProTec HMIS line also increases the capacity of the vehicle to



add more incremental armor. More armor means a greater level of protection in extreme combat environments, a benefit made possible by the innovative ProTec design.

savings and payload capacity

**ProTec HMIS line's stringent** 

performance standards or durability. In fact, due to technological advancements in materials and componentry, both weight savings and durability reach unparalleled standards with

this innovative product line.



### **CONSIDER THE FOLLOWING** FEATURES AND BENEFITS MADE POSSIBLE BY THE TECHNOLOGY **BEHIND THE PROTEC HMIS FAMILY**

- A tight turning radius up to 38 degrees delivers maximum maneuverability demanded by the extreme combat environment
- ▲ Total wheel travel clearance up to 21 inches results in outstanding off-road mobility
- Optional limited slip differential (with hydraulically actuated clutch pack lockout), no-spin differential and driver-controlled differential lock further enhance performance
- ▲ Versatile Meritor amboid gearing is sized to fit any application requirement
- A Performance at lighter weights as well as heavy-duty applications is ensured with a broad range of system ratings
- ▲ Meritor's global aftermarket support system stands behind every Meritor military suspension sold

THE PROTEC HMIS SERIES 30, **SERIES 40 AND SERIES 50. OFFERING PREMIUM PROTECTION** AND PERFORMANCE FOR THOSE WHO PROTECT US.

# PRECISION CUSTOMIZATION FOR PREMIUM PERFORMANCE





has been designed to give you the choices and versatility necessary to meet your exact vehicle performance objectives. Air springs, coil springs, airstruts, hydrostuts — you know your high-mobility application better than anyone. Let the customization and versatility offered by the ProTec HMIS family put you in a position to succeed in any environment.

### **DUAL AIR SPRING**

- ▲ Use in low-profile vehicles where compact packaging is a must
- ▲ Facilitates easy lowering and transport in military aircraft
- ▲ Replaces beam axle used in some military vehicles for greater performance
- ▲ Enhances suspension mobility through a unique patent-pending six-link design
- ▲ Up to 150 pounds lighter than steel-coil suspensions
- ▲ Allows wheel travel up to 20 inches
- ▲ Enables pre-programmed settings for optimum 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
- ▲ Ideal for 8x8 vehicles in which all four axle positions use dual air springs, such as the FTTS-MSV
- ▲ Suitable for use in both 4x4 and 6x6 vehicles



- ▲ Combat-tested system reliability and durability in armored personnel
- Available with drum brakes for armored security vehicles or air disc brakes for MRAP vehicles



### SINGLE AIR SPRING

- ▲ Designed specially for rear axle applications of 4x4 vehicles, with or without all-wheel steering, where turn angle is restricted
- Significant weight savings over steel coil suspensions
- Facilitates improved wheel articulation



### **AIR STRUT**

- Maximum weight savings without performance compromise
- Designed for vehicles that require flexible packaging
- Offers both on-center and off-center air strut positions
- ▲ Ideal application for light tactical vehicles that demand high mobility and maximum performance

# ALSO ENSURING MISSION SUCCESS FROM MERITOR DEFENSE

# innovation. Premium performance in extreme environments. You can expect it all in a Meritor product build for military or any heavy-duty application. Axles, transfer cases, drivelines—Meritor builds the components that can power you

to mission success.

**ULTIMATE DURABILITY.** Unparalleled

#### **MILITARY AXLES**

Engineered and built for the extreme demands of the military-duty cycle, Meritor Military Axles have been the axle of choice for the United States Army's fleet of 2.5- and 5-ton vehicles for more than 50 years. Each axle offers optimum maneuverability and ground clearance. Additionally, Meritor's bevel gear wheel-end reduction axles exceed the demanding requirements of the current Family of Medium Tactical Vehicles (FMTV).



#### MX-830-10 Front Military Axles

- ▲ For weight ratings up to 23,000 lbs.
- ▲ Ideal for use in heavily armored vehicles to improve payload capacity and mobility
- ▲ 35-38-degree turning radius
- ▲ Meritor WABCO EX-225 air disc brakes
- ▲ 5.5-degree inclined kingpins



- ▲ Meritor WABCO EX-225 air disc brakes
- ▲ Stud-piloted wheel mounting for 10-stud x 11.25-inch or 10-stud x 335 mm B.C. wheels
- ▲ Small bowl size for increased ground clearance
- ▲ ABS-ready wheel ends with installed tooth wheel and sensor
- ▲ Ductile cast-iron housing
- ▲ Precision-forged differential gears



# MODULAR ARCHITECTURE FOR MAXIMUM VERSATILITY



# WANT TO BEEF UP OR MODIFY ANOTHER SUSPENSION PLATFORM TO SUIT YOUR APPLICATION?

The modular architecture of the ProTec HMIS family allows users to enhance the performance of a broad range of suspension platforms. Contact a Meritor representative at 248-435-1000 or visit www.meritordefense.com for a solution to your specific needs.

# SUSPENSION HEIGHT CONTROL MODULE

This advanced, industry-leading feature allows the operator to control ride-height for air-spring independent suspension applications in heavily armored vehicles.

- ▲ Pre-programmed settings for operation on highway; mud, sand and snow; cross country; or transport
- ▲ Meets all JLTV requirements.
- ▲ Levels the vehicle while in operation, either manually or automatically, thus improving stability
- ▲ Measures and reports load at each corner



# DIFFERENTIAL CARRIER MODULE

The compact "pot-style" carrier on this flexible differential carrier platform optimizes performance for advanced suspension platforms.

- ▲ Industry-leading weight savings
- "On-the-fly engagement at up to 45 mph with face clutch differential lock option
- ▲ Fast gear ratios to meet top speed and mobility requirements
- Optional parking brake mounted to front
- ▲ Traction options include limited slip or no-spin differentials



### **CORNER MODULE**

Modular suspension architecture allows for corner module configurations including control arms, springs and damper, wheel-end assembly and brake in one concise package.

- ▲ Configurations available with coil springs, air springs, air struts, or hydrostruts
- ▲ Can incorporate semi-active or full active damping systems
- ▲ Custom designed to meet all vehicle performance specifications

### **BEVEL-GEARED WHEEL-END ASSEMBLY**

Maximum performance in the lightest weight possible through use of multi-functional architecture, lightweight materials and field-proven engineered components result in both maximum performance and maximum weight savings.

- ▲ Design optimized for demanding, off-road military requirements
- ▲ Compact design with a longer half-shaft allows more suspension travel
- ▲ Configurations available with aluminum hub for light weight
- Available in 335 mm or 11.25 in bolt circle
- ▲ Three- and four-spider 2:1 bevel reductions, or planetary 3.46:1 reductions available
- ▲ Incorporates field-proven seals, bearings and gears used in the U.S. Army's Family of Medium Tactical Vehicles and Armored Security Vehicle programs



## **ALSO ENSURING MISSION SUCCESS FROM MERITOR DEFENSE**



#### **MILITARY GRADE TRANSFER CASE**

Meritor® military specification transfer cases provide optimum vehicle mobility and excellent durability, and can be used in any variation of wheeled and combat vehicles, and heavily armored personnel carriers, from 4x4 to 6x6 or 8x8 configurations. Meritor transfer cases are also prominently featured in the U.S. Army's Family of Medium Tactical Vehicles, several MRAP applications, the Joint Light Tactical Vehicle and the Marine Personnel Carrier Technology Demonstrator.

- ▲ Aluminum housings utilized for lightest weight
- ▲ Wide selection of yokes and flanges, including KV, half-round and full-round
- ▲ High capacity oil pump provides ample lubrication to bearings and gears, even at low operating speeds
- ▲ Configurable with proportioning differentials and full locking features
- ▲ Power Take Offs optional
- ▲ Single speed and two speed designs available

### MERITOR XTENDED LUBE MXL™ DRIVELINES

Meritor universal joints and driveline components have long been industry leaders in trouble-free operations. Now, these technologies have merged and the results are longer service life, extended maintenance intervals, low life-cycle costs — the reasons MXL Drivelines are becoming the new standard for linehaul fleets.

- ▲ Lubrication intervals for both U-joints and slip section are extended to 100,000 miles\* for linehaul applications, maximizing uptime and reducing maintenance costs
- ▲ Advanced sealing-slip section ensures lubrication is protected from contaminants and prevents water intrusion
- ▲ Maximum-life U-Joints merge RN series U-joint design with RPL premium sealing technology
- \* Inspection intervals may differ. See Meritor Driveline manual for details.





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2135 West Maple Road Troy, Michigan 48084 USA



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FOR MORE INFORMATION,
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VISIT WWW.MERITORDEFENSE.COM FOR A SOLUTION TO YOUR SPECIFIC NEEDS.