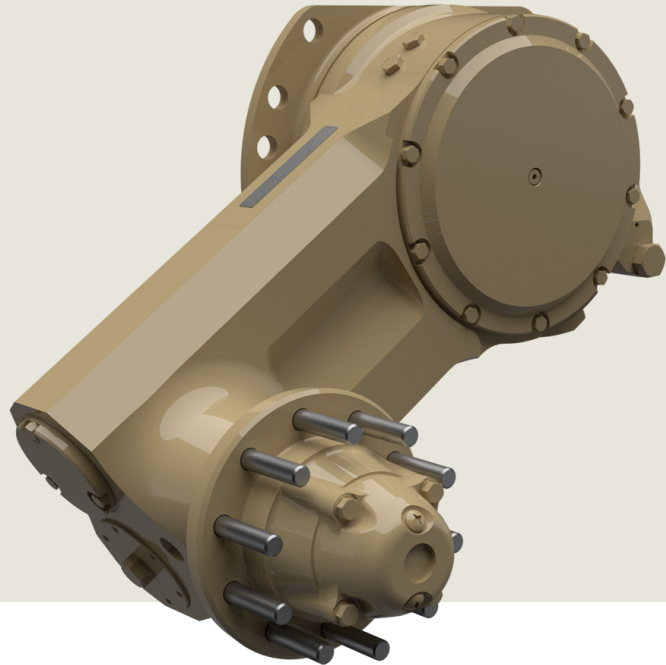


## SUSPENSIONS

# InArm®

- / Suspension Type
- Advanced Variable Damping**



Developed by Horstman in the mid-1990s, InArm® is designed to eliminate the need for torsion bars and to minimise or eliminate road arm penetration of the vehicle hull.

This allows the vehicle designer to overcome the internal packaging constraints, minimise the external packaging constraints, and overcome vulnerability to mine blast and crew exposure to the fragmentation that results from torsion bars.

The hydro-pneumatic suspension uses high-pressure nitrogen gas and an integral oil damper that are all contained within the road arm. This reduces weight and space compared to other hydro products, HSU or coil solutions. Designed as the most efficient packaging space solution, InArm® provides a growth path to advanced variable damping, lock-out and ride height management systems.



### Reference Vehicles

- UK MODs Future Scout Cavalry System (FSCS)  
Tracer
- US Army Future Combat System (FCS)
- M10 Booker
- Hunter IFV
- M88A3 HERCULES

# InArm®

## Features

- Torsion bars removed from the inside of vehicle
- Integrated system approach saves mass
- Independent suspension mounted externally
- Lower vehicle height / survivability
- Upgrade path to advanced suspension features

## Benefits

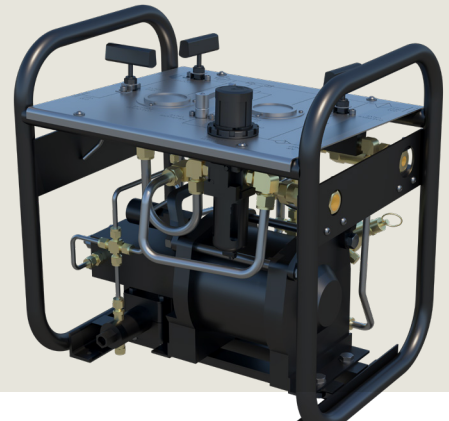
- Additional space for equipment, ability to have a floor mounted emergency escape hatch. Reduced fragmentation effects from secondary projectiles from mine blast or IED blast
- Integration of damper and gas spring inside road arm minimises space claim simpler than a torsion bar system which needs separate road arms, bump stops, dampers, torsion bar attachments and protective tubes
- Damaged units can be replaced more easily than bent or seized torsion bars. Reduced hull machining without precision alignment between left and right side of vehicle
- Ability to lower the turret basket and reduce the height of the vehicle gives improved survivability (lower silhouette). The saving of the hull side armour is typically 100-500kg
- Upgrade path to ride height, lockout and Active Damping

## Options

- Variable damping, up to full hydraulic lockout
- Rising rate spring as standard – dual spring / secondary volume options
- Ride Height, vehicle pitch (kneeling)
- Transport lock
- Active Damping
- Thermal compensation

## Accessories

- Charging kit and Nitrogen Charging – Hydrobooster™
- External Lockout (engineering / special role)
- Wheel hub, lightweight wheels, wear guards, bump stops



## Trusted Partner.

### Horstman United Kingdom

Locksbrook Road,  
Bath BA1 3EX  
United Kingdom

### Horstman United States

44215 Phoenix Drive,  
Sterling Heights, MI 48314

### Horstman Canada

110 East Drive,  
Brampton, Ontario L6T 1C1  
Canada

E [information@horstmangroup.com](mailto:information@horstmangroup.com)  
[www.horstmangroup.com](http://www.horstmangroup.com)

Details provided about the properties and usability of the products are purely for information purposes and do not constitute a guarantee of these characteristics. The extent of goods delivered is determined by the subject matter of the specific contract. No liability accepted for errors or omissions. Subject to technical alterations. © Horstman 2023