General Kinetics dampers are engineered specifically to handle the rigors of military and off road applications. The designs are based on three standard piston sizes; small, medium and large bore, each with a damping force output profile tailored for a range of vehicle weights and applications. Using standard piston sizes offers engineering flexibility to take advantage of proven designs and parts commonality. Each damper is custom valved to meet the performance goals of the application and can be configured to fit a wide variety of suspension attachment point requirements. In addition, shock absorbers can be fitted with coaxial coil or air springs.

Small Bore 1-3/4" Piston

General Kinetics Small Bore Shock Absorber is designed to support damping rates up to 225 lb-s/in, sustained temperatures up to 375°F, and tensile loading to 10,000 pounds. Using standard components and custom valving the damper for the application means prototype dampers are available quickly. A variety of end mounts and bushings/bearings combinations are available. Dampers can also be configured with one or more of the following options depending on your needs:

- Multi stage position sensitive damping
- End mounts – transverse eye or axial threaded rod, spherical bearings, rubber bushings, bar pins
- Hydraulic Recoil Cutoff to limit suspension extension
- Hydraulic Compression Cutoff to limit suspension jounce

Applications

- up to 2 ton trucks w/independent suspension
- up to 10 ton trucks with live axles
- up to 15 ton tracked vehicles

Medium Bore 2-1/2" Piston

General Kinetics Medium Bore Shock Absorber is designed to support damping rates up to 575 lb-s/in, sustained temperatures up to 400°F, and tensile loading to 30,000 pounds. Using standard components and custom valving the damper for the application means prototype dampers are available quickly. A variety of end mounts and bushings/bearings configurations are available. Dampers can also be configured with one or more of the following options depending on your needs:

- Multi stage position sensitive damping
- End mounts – transverse eye or axial threaded rod, spherical bearings, rubber bushings, bar pins
- Hydraulic Recoil Cutoff to limit suspension extension

Applications

- up to 8 ton trucks w/independent suspension
- up to 20 ton trucks with live axles
- up to 35 ton tracked vehicles

Large Bore 2-3/4" Piston

General Kinetics Large Bore Shock Absorber is designed to support damping rates up to 750 lb-s/in, sustained temperatures up to 450°F, and tensile loading to 40,000 pounds. Using standard components and custom valving the damper for the application means prototype dampers are available quickly. A variety of end mounts and bushings/bearings combinations are available. Dampers can also be configured with one or more of the following options depending on your needs:

- Multi stage position sensitive damping

- End mounts – transverse eye or axial threaded rod, spherical bearings, rubber bushings, bar pins
- Hydraulic Recoil Cutoff to limit suspension extension
- Hydraulic Compression Cutoff to limit suspension jounce

Applications

- up to 10 ton trucks w/independent suspension
- up to 30 ton trucks with live axles
- up to 70 ton tracked vehicles

Coilover Dampers

For retrofit armour applications, the GK coilover damper is the perfect choice to restore ride height and provide additional damping to control the added mass of the armour.

Available as an enhancement to any of our Small, Medium or Large Bore dampers, including our semi-active damping systems, coilover shock absorbers are the cost-effective, COTS solution to the loss of mobility that accompanies add-on armour.

Coil Spring configurations are custom-engineered for the application and rates can be varied, if required, for use with a common shock absorber across a family of up-armoured vehicles.

Applications

- Tactical Vehicles with Add-on Armour
- Combat Vehicles with Add-on Armour

Integrated Air Spring Dampers

Modern vehicles used by soldiers need more than adaptive damping to meet the newest mission requirements; variable ride height provides additional mission flexibility and adaptability.

Cross-country vehicle speed is the direct result of ride quality, and the best ride quality is achieved by a combination of adaptive damping and gaseous springs.

GK's Air Shocks integrate a COTS air spring with one of our specially-engineered dampers to provide a full modular suspension unit ready to be installed on your vehicle, and operate from your vehicle's standard compressed air system.

By shrouding the spring within the dirt shield, GK air shocks are capable of higher pressures than commercial springs alone can withstand, allowing higher performance within a smaller envelope.

A GK Air Shock system provides a safe, long-travel, variable height suspension, common across the fleet but retaining the flexibility to be individually tailored to each mission.

Applications

- Light Reconnaissance Vehicle
- Internally Transportable Wheeled Vehicles
- Light, Medium & Heavy Tactical Vehicles
- Wheeled Combat Vehicles