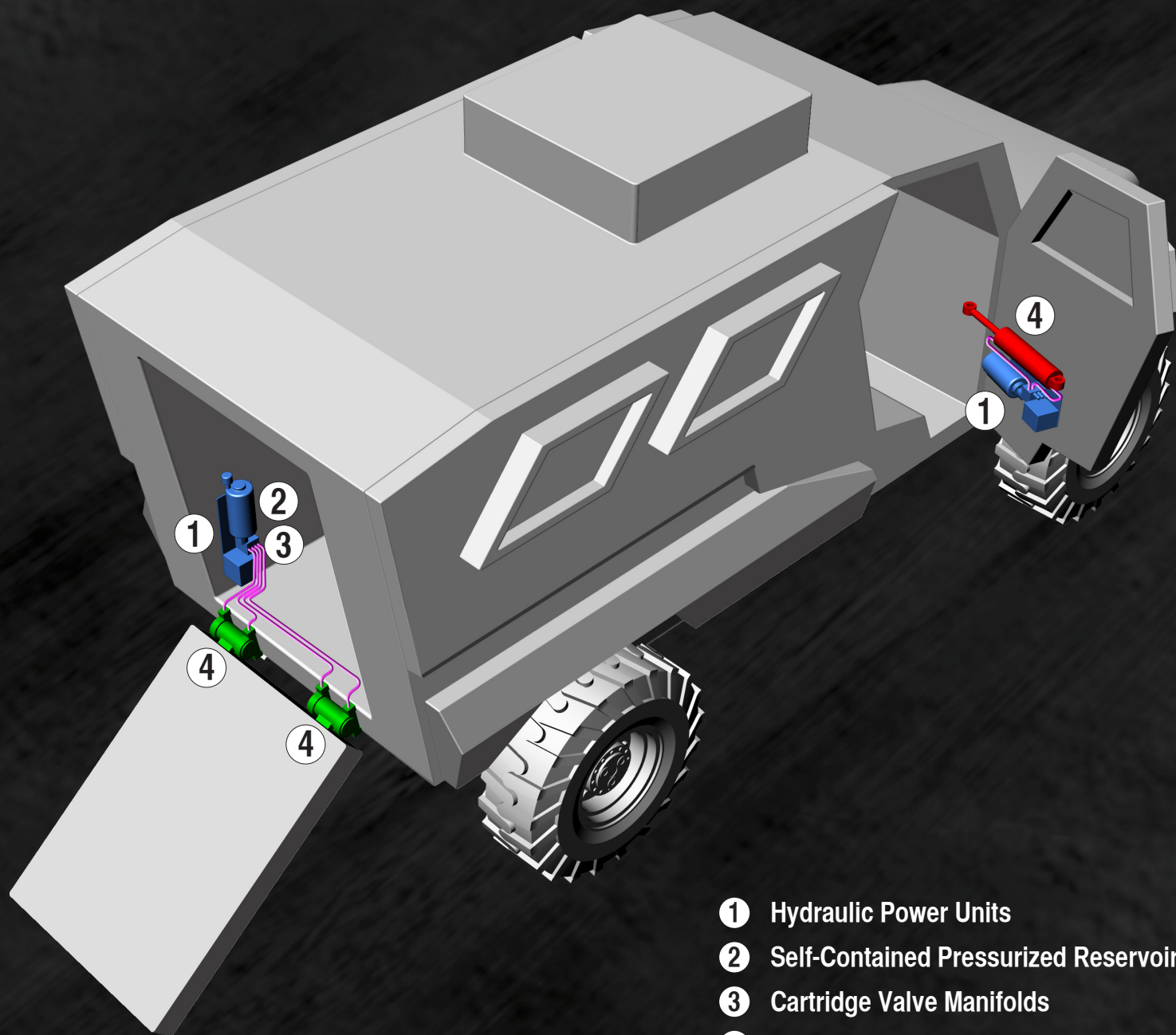


Solutions for **MILITARY DOOR ACTUATION**



- ① Hydraulic Power Units
- ② Self-Contained Pressurized Reservoirs
- ③ Cartridge Valve Manifolds
- ④ Door & Ramp Actuators

Solutions for MILITARY DOOR ACTUATION

The emergence of Improvised Explosive Devices (IEDs) has engineers and designers working to mitigate the hazards soldiers face in the event of such an attack. This has led to innovative v-hull designs constructed with thicker, heavier armor for military vehicles such as tanks, MRAPs, and other platforms. As a result, many military vehicles require roll over protected hydraulic actuation for opening and closing doors and ramps. At the same time manufacturers must work to maximize fuel efficiency through weight reduction, often at the expense of auxiliary systems. A major challenge has been where to find a hydraulic door actuation solution with the ability to function in the event of a rollover. Morrell is a valuable contributor to these efforts with solutions comprised of hydraulic power units, self-contained pressurized reservoirs, cartridge valve manifolds, and actuators. We're involved in integrating military door actuation systems within existing vehicle designs or working with OEMs on new platforms. Morrell's contribution to modern military vehicles offers occupants the ability to open ramps and doors in normal conditions as well as to evacuate in the aftermath of an attack, right side up, sideways, or upside down.

Engineering, Manufacturing, & Quality Support:

- Facility Planning
- Process Planning
- Product Planning
- Reverse Engineering
- Laser & White Light Scanning
- Ergonomic Studies
- Virtual Prototyping
- Component Sizing & Selection
- Engineering Support
- Manufacturing
- Electrical Engineering
- Field Wiring
- Electrical Control & Panel Design
- Full System Installation

Solutions for Military Door Actuation:

- Safety
- Hydraulic Power Units
- Self-Contained Pressurized Reservoirs
- Cartridge Valve Manifolds
- Cylinder Actuators
- Rotary Actuators
- Low Speed / High Torque Actuators
- Chain Drive Actuators
- Planetary Gear Box Actuators

Mobile Central Hydraulic Systems:

- Hydrostatic Drive Systems
- Load Sense Hydraulic Control Systems
- Open Loop Simple Gear Pump Systems
- Power Steering Systems

Self Contained Hydraulic Power Units:

- Side Door Assist Circuits
- Ramp Assist Circuits
- Tail Gate Lifts
- Accumulator Charging Circuits for Door and Brake Systems

Engineering & Build Standards:

- UL Certified
- NFPA
- CE
- CUL
- OSHA
- 2003 ISO 9000/2000
- 2004 TE 2000
- 2006 ISO 9001:2000
- 2009 ISO 9001:2008

Collaborators





