



ONE PIECE

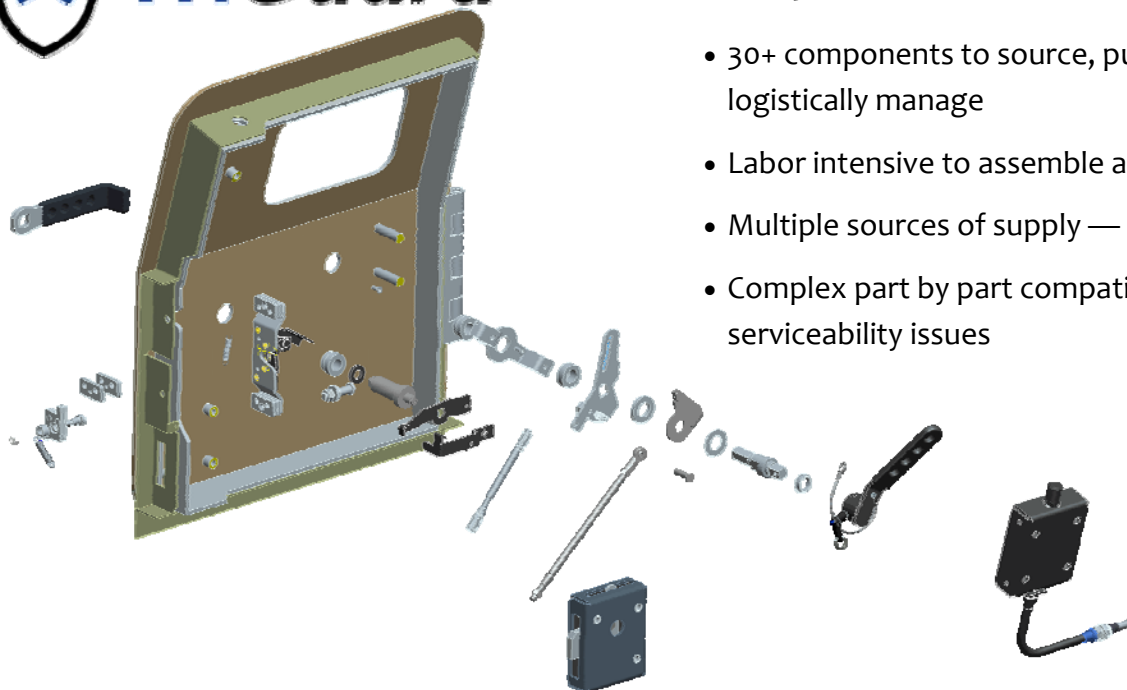
**COMPLETE
DOOR
SYSTEMS**

ONE SUPPLIER

INFINITE SOLUTIONS

- Power Actuation
- Weight Saving Solutions
- Access Hardware

www.trimarkcorp.com

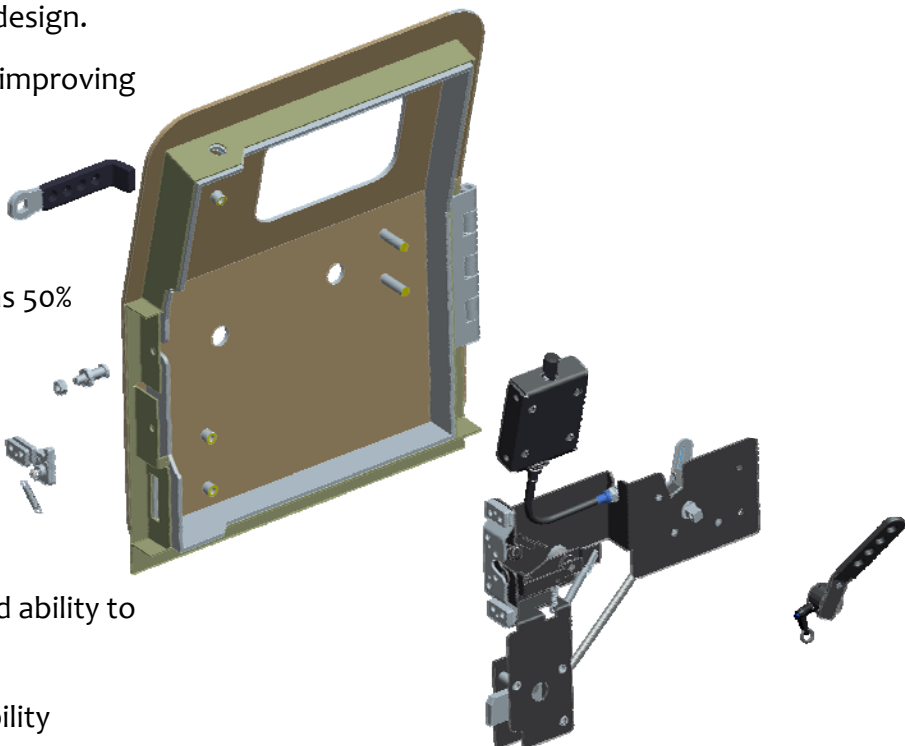


Why settle for this?

- 30+ components to source, purchase and logistically manage
- Labor intensive to assemble and adjust
- Multiple sources of supply — door components
- Complex part by part compatibility and serviceability issues

When you can have this?

- Reduces OEM Engineering time--TriMark provides expertise and complete door system design.
- Single source of supply – significantly improving supply chain logistics and cost.
- Modular one piece design is received fully assembled and pre-tested.
- Cuts door assembly time by as much as 50% to 70% – improving vehicle cost and throughput.
- System approach reduces complexity – fewer individual components needed
- Improved serviceability in the field and ability to retrofit into existing applications
- Improved quality, durability and reliability



Realize the Advantages of a Custom System Solution Engineered & Manufactured by TriMark

Engineering Resource Savings

TriMark's engineers can work with you to apply our door system expertise on your project to completely design and develop a robust, custom solution that meets your specifications. Additionally, **a TriMark system requires many fewer prints to be released into your system—Saving you many hours of internal design resources.**

Supply Line Savings

A TriMark door hardware system includes a fraction of the part numbers that it would take to build a door with individual components. **Fewer components mean savings in your sourcing, scheduling, ordering, logistics and inventory management.** Simplify your supply chain with TriMark!

Assembly Savings & Throughput Improvement

When it comes to installing a TriMark custom system vs. individual components, the difference is dramatic. TriMark systems are delivered to you as a single, pre-adjusted module – saving you hours on the assembly floor (**one TriMark customer saved 90 minutes per door with a TriMark custom system**)--this allows you to reduce your crew size or speed up your line to increase throughput.

Quality Improvement

When your system is designed and manufactured by TriMark, you can expect a custom engineered solution that fits your needs, but it will also be designed to maximize performance and reliability by our experienced engineers that work on door systems every day. Additionally, you won't have the quality and rework problems associated with variation of components and having to dial in multiple adjustment points. **With a TriMark system module, your process is simplified and your risk for quality problems drops.**

One Piece... One Supplier... Infinite Solutions

TriMark's Door System Example—System Savings Estimate Matrix			
Category	Conventional Door Hardware	TriMark System Module	OEM Savings
Component Count	42	5	37 per door
Fastener Count	18	12	6 per door
Engineering Hours	420	50	370 hour per vehicle
Sourcing Hours	336	40	296 hour per vehicle
Part # Cost/Year	\$420,000	\$50,000	\$370,000 per year
Door Assembly Hours	1	0.25	.75 hours per door



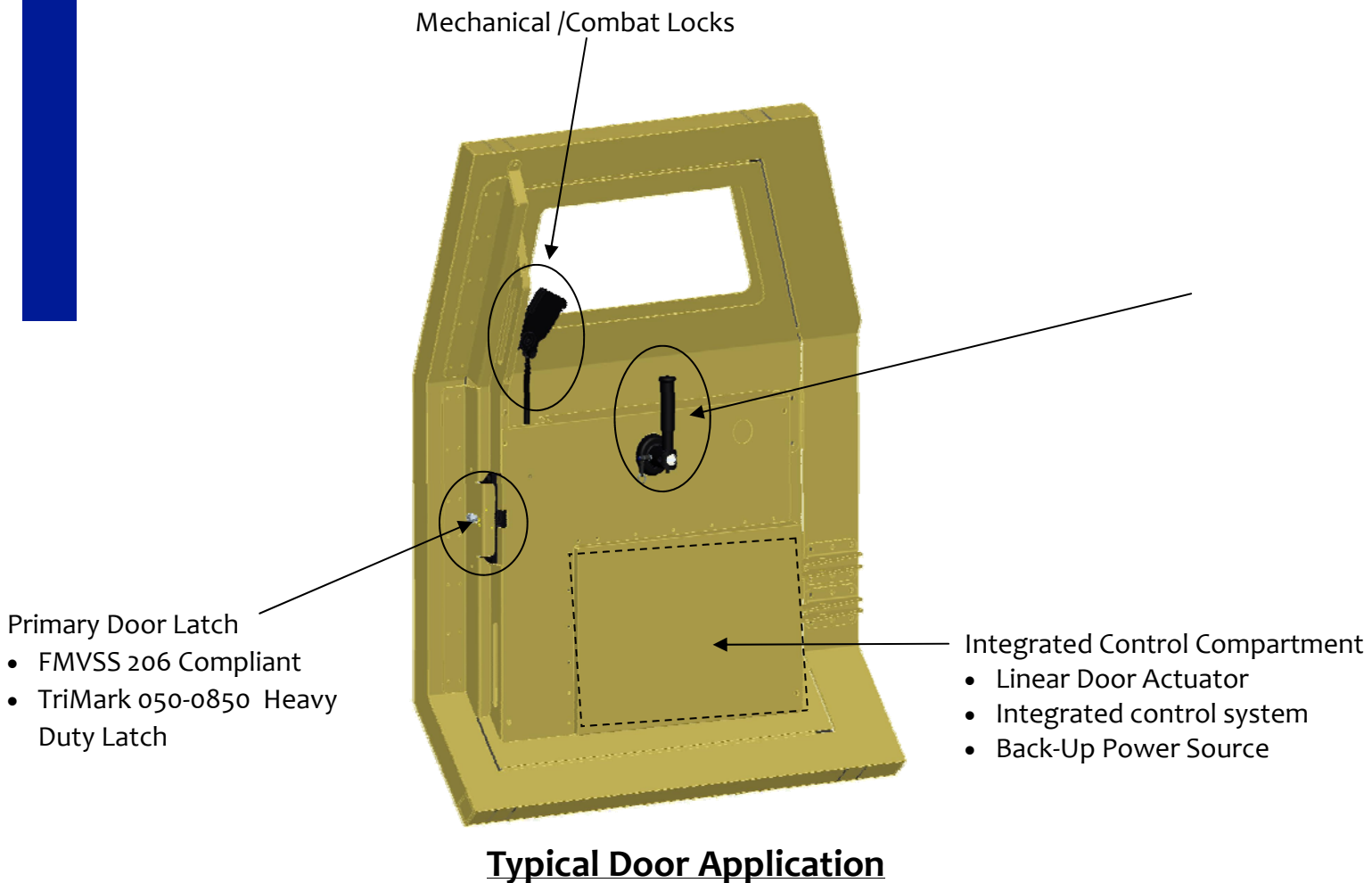
COMMANDoor

Intuitive Motion Control System

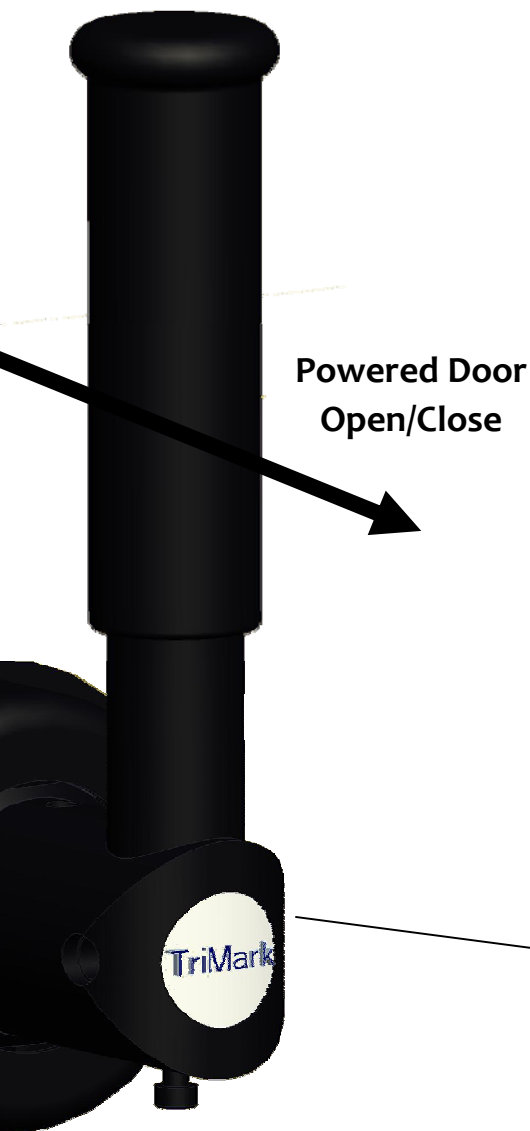
This mechatronic solution simplifies the soldier's ingress/egress from any heavily armored vehicles that require power assisted opening and closing of doors and ramps.

FULLY INCLUSIVE DOOR MODULE:

- Door module contains linear door actuator, integrated control system, back-up power source, control sensors, safety strips, and all mechanical hardware to articulate door or ramp to open and closed positions.
- Configurable to work with electric pneumatic or electric hydraulic actuators



Mechanical Latch Lock/Release Action

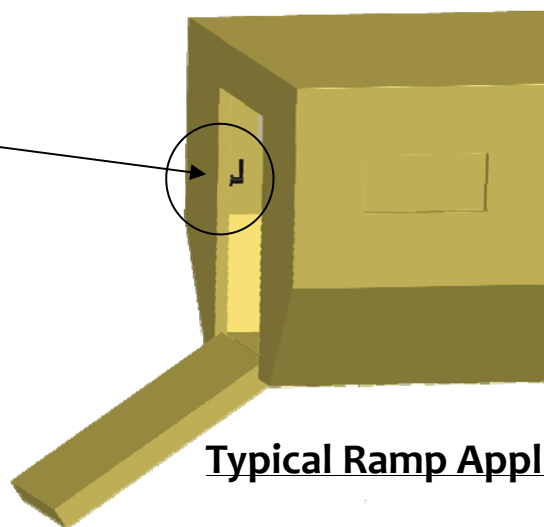


Powered Door
Open/Close

INTUITIVE MOTION CONTROL:

- Soldier can actuate combat locks, FMVSS 206 compliant primary door latch, and open and close powered doors and ramps with a single inside handle
- The 2-axis control handle rotates to actuate blast locks and primary mechanical latch release
- Push COMMAND handle out to open the door/ramp
- Pull COMMAND handle in to close door/ramp

- The COMMAND handle can also be removed from its base and used as an emergency latch release wrench on other similar vehicles.



Typical Ramp Application



One Piece - One Supplier - Infinite Solutions!

**050-0850 Heavy Duty
Latch Rotary Latch**

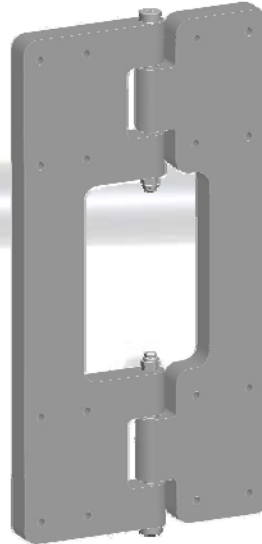


**Heavy Duty Latch
Striker With Self-
Aligning "Slam Cam"**



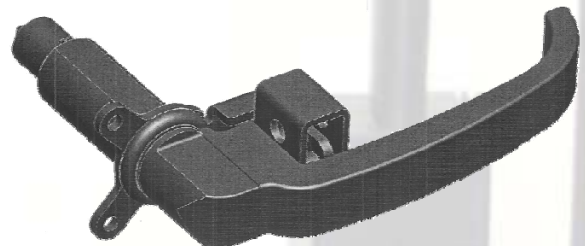
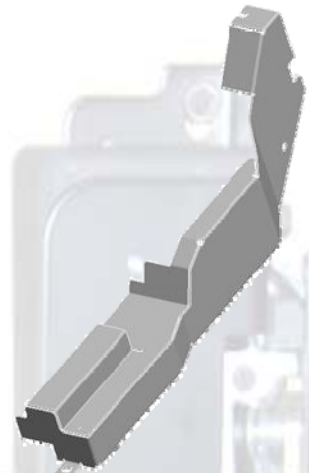
**010-1000 Inside Release
Handle/Override Wrench**

Custom Hinges



Custom Covers

- Metal construction
- Soft touch finish



**010-1100 Heavy Duty
Rotating L-Handle**

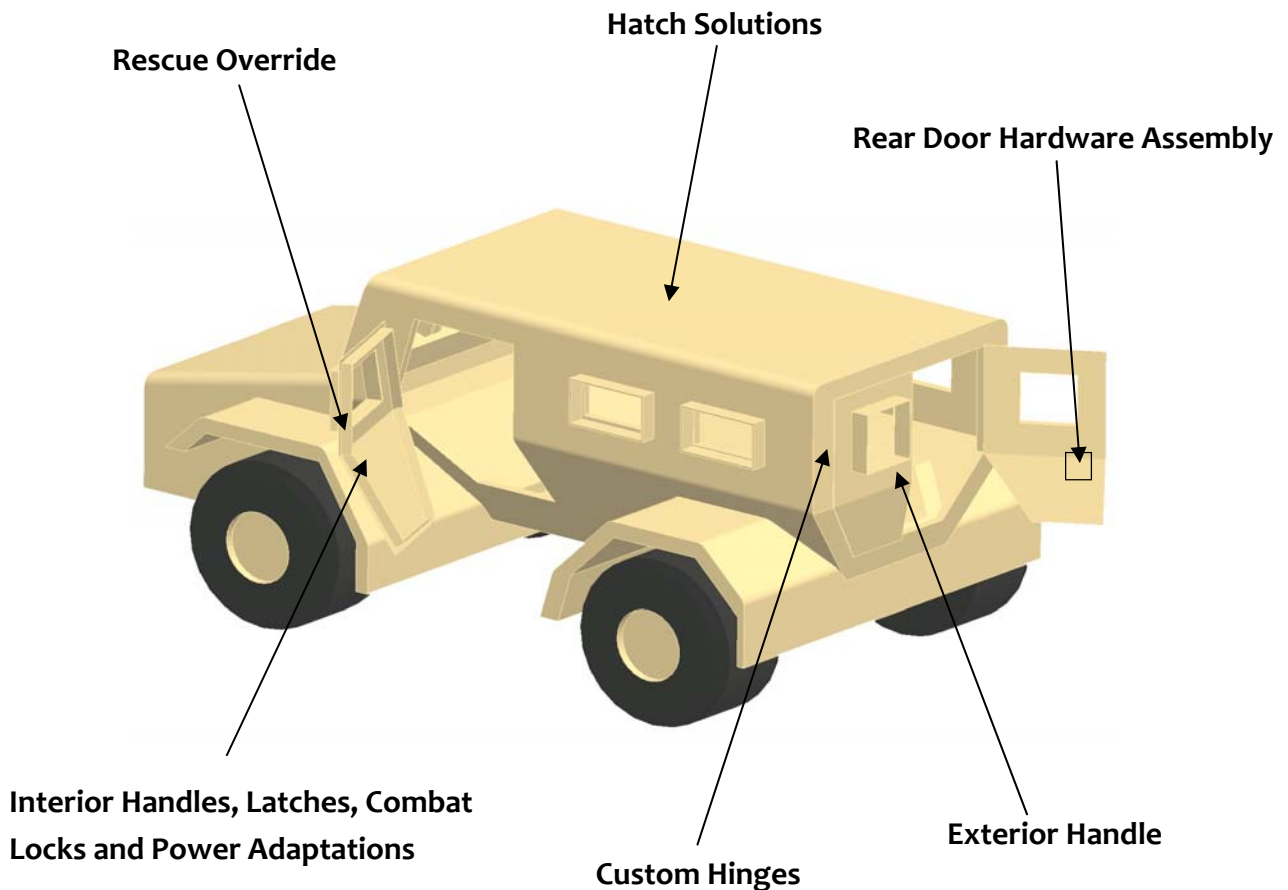
- Light Weight Alloy Option
- Padlockable

A High Quality System Uses the Best Components

TriMark's TriGuard line of heavy duty latches, linkages, handles, covers and complete door modules have been specifically developed for heavy duty and armored vehicle applications.

- 050-0850 Heavy Duty Rotary Latch
- Heavy Duty Latch Striker With Self-Aligning "Slam Cam"
- Slam Action Combat Lock
- Push-Pull Combat Lock
- Rotational Combat Lock
- 040-0600 TriMark Padlock Push Button Handle
- 030-0850 Flush Mount Paddle Handle
- TriGuard Door Module Carrier System
- 010-1000 Inside Release Handle/Override Wrench
- 010-1100 Heavy Duty Rotating L-Handle

All of the above can be purchased as separate products or complete one-piece modules ready for installation. TriGuard products are also "Powered Door" capable with the addition of an assist device to open and close heavy doors .



TriMark has the experience....

MRAP Light (M-ATV)

MRAP *Pinzgauer*

MRAP+

MTVR *LVSR*

Up-Armoring

JLTV

FMTV

Success follows experience —TriMark has been designing and manufacturing heavy duty hardware for over 35 years and has demonstrated the capability of the TriGuard products in the following areas; door modules and up-armor door kitting for MRAP and MTVR vehicles and is actively working on projects for the JLTV vehicle concepts and mock-ups. Already proven in several blast tests, the 050-0850 Heavy Duty Latch/Striker survives in punishing environments and provides rotor/cam assist to heavy doors/armor and hinges helping to compensate for door sag.



10002707 QM  ISO 9001 : 2000
10002707 TS2  ISO/TS 16949 : 2002

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