



Company Profile



Innovation. Teamwork.

Mobility Solutions for the 21st Century

Driving the Future





Innovation. Teamwork.

When your largest customer is the US military, teamwork and innovation are essential for mission accomplishment. Flexibility, adaptability, readiness, survivability and strategic planning are equally important to the success of this collaborative relationship.

These qualities describe today's AM General.

Because of AM General's constant innovative engineering and design, superior technical services, parts support, service and dedicated work force, it has established itself as one of the world leaders in military and specialty vehicles. Over the past four decades, AM General has produced nearly a million of these durable reliable vehicles, a true testimony to its commitment to quality service and support.

Today, teamwork thrives at AM General and drives the future. Continuous improvement in processes and systems is imperative to guide the company to find and implement quick, efficient solutions for its customers . . . military and civilian.



The company's non-military activities include the production of the civilian HUMMER[®], H1[®], and H2[®], for General Motors. AM General's subsidiary, General Engine Products (GEP), builds Optimizer 6500[™] diesel engines for both military and civilian use, including marine applications.

AM General's HMMWV/H1 and HUMMER H2 assembly plants have achieved ISO9001:2000 registration from the Quality Management Institute (QMI), an internationally recognized independent registrar company. AM General has maintained registration to an ISO standard since 1993. The newest 2000 revision emphasizes a customer

satisfaction process approach and continuous improvement. It also applies to the company's Service Parts Logistics Operations and its Engineering Center.

The tenets of lean manufacturing have been embraced throughout the company for greater efficiency. This, coupled with a rigorous program of continuous improvement, enables our factories to build high quality vehicles and engines.

In manufacturing HUMVEEs, a highly-skilled UAW workforce of men and women understands what their efforts mean to our armed forces in the field. And why not? Many have family members proudly serving our country . . . some even driving HUMVEEs!

The strong teamwork that exists between this dedicated workforce and experienced company management has resulted in continuous

production during three UAW contract negotiations.

Military vehicle production by AM General over the years has included the M151 1/4-ton jeep, the M715 1 1/4-ton utility vehicle, the M44 2 1/2-ton truck, the M809 5-ton truck, the M939 5-ton truck, the M915 14-ton line haul tractor and

the M998 series of High Mobility Multipurpose Wheeled Vehicles (HMMWV™, pronounced *HUMVEE*®).

Since 1985, nearly 190,000 HMMWVs have been placed in military inventories worldwide including those of more than 50 countries. ■



Continuous improvement enables AM General to manufacture high quality products (top).

Nearly 190,000 HUMVEEs, like this one rolling off the line, have been placed in service around the world (bottom).





The Dynamic HMMWV

As manufacturer of the HMMWV, we're proud to be a driving force behind our military. Since 1985, the vaunted HMMWV has been the mainstay light tactical vehicle for our armed forces. Durability, mobility and the ability to carry a huge payload in relation to its size and weight make the HMMWV the most remarkable tactical wheeled vehicle in the world. Its design is as revolutionary today as when AM General engineers began initial concepts in 1979.

As a cargo or troop carrier, weapons carrier, communications shelter carrier, ambulance, artillery prime mover or systems platform, the HMMWV is as basic to US military operations as MREs and muddy boots.

Although the basic design of the HMMWV was conceived 25 years ago, nothing else about the current production vehicle is 25 years old. Right down to the corrosion-resistant coating

on the cotter pins, virtually every vehicle component has been upgraded and improved. Enhancements have been made to increase payload, to improve durability and maintainability, and to increase safety and user comfort. The seats, seatbelts, engine, transmission, ball joints, the springs, the wheels and tires . . . they're all improved. A myriad of other improvements have been developed and tested, ready to be implemented in production.

The original "basic" HMMWV models produced in the 1980s came with a 150 horsepower 6.2 liter General Motors-produced V8 diesel engine with a three-speed transmission. Gross vehicle weight (GVW) for these early models ranged from 7,700 lbs. to 8,600 lbs., which included a 2,500-lb payload capacity.

Today's HMMWV is powered by the Optimizer 6500 diesel engine, manufactured by General Engine Products, a subsidiary of AM General. The Optimizer 6500 is a new engine which provides a substantial increase in performance and reliability and, best of all, is a direct "drop-in" replacement for the original GM engines used in older HMMWVs. Because the Optimizer 6500 is a "drop-in" replacement, versus other off the shelf engines, it has minimal impact on manufacturing or support logistics, providing substantial savings for our customers.

HMMWVs now have a four-speed electronically-controlled automatic transmission. Payloads have more than doubled since the early version to 5,100 lbs., and in some models GVW ratings up to 12,100 lbs.



More than 65 different combat and combat support systems have been fielded on HMMWVs, taking advantage of the truck's superior platform versatility.

Recently, AM General has embarked on a comprehensive research and development program to develop a system of flexible ballistic protection that can be installed at the factory or quickly and easily installed in the field to meet varying mission and threat requirements. Production recently began on M1151 and M1152 vehicles incorporating this flexible armor program. As research and development provides superior armor systems, these HMMWV variants are specifically designed to incorporate them.

Also under development is a series of changes and technology insertions to simplify and reduce the time required for vehicle maintenance, called "pit-stop." These new designs are patterned after NASCAR-type innovations that allow for quick stops for fuel, maintenance and body repair during a race. A Rapid Engine Exchange (REX™) system is under final development so the high performance Optimizer 6500 can be serviced in record time. These changes improve readiness and reduce the "logistics footprint" required to support deployed HMMWVs.

Other improvements will address mobility, durability,

vehicle range, and, of course safety.

These investments in the future include a commitment to the evolution of the Future Tactical Truck System Utility Vehicle (FTTS UV), addressing the Army's tactical mobility needs for the next several decades. Projects under this initiative range from intrusive prognostics and diagnostics systems that are built into the vehicle to monitor its overall health and predict vehicle maintenance to a quick-change system for brake pads that reduces replacement times from hours to just minutes.

Field Adaptable & Mission Flexible

A new generation of HMMWVs, the M1151 and M1152, is being deployed to meet the Army's flexible approach for armored vehicles. Until now, the M1114 has been the only up armored HMMWV available to support today's missions. The M1151 and M1152 are designed with integrated underbody armor which can be easily augmented with add-on armor kits to provide unsurpassed HMMWV ballistic protection.

Kits may be applied in the factory or by troops in the field and removed when the mission profile changes.

Both the M1151 and M1152 are mounted in the Expanded Capacity Vehicle (ECV) chassis, which was

designed specifically to support roles and missions that demanded a chassis with increased payload capacity.

The M1151 is an armament carrier and will replace the M1025 through attrition. Complementing the M1151 is the M1152 cargo/troop carrier, which will replace the M1097, again through attrition.

Another addition to the HMMWV family of vehicles is the COBRA. Built in Turkey by Otokar, the COBRA is a monocoque hull light armored vehicle. Using the HMMWV drive train, suspension components, and the Optimizer 6500 turbo diesel, the COBRA provides increased armor protection and retains the HMMWV's renowned mobility. ■

New M1151 air-conditioned four-man armor-ready HUMVEE variant (top).

Monocoque hull HUMVEE COBRA provides the best armor protection in its class (bottom).





Parts are prepared for shipment around the world (above).

300,000 square foot parts warehouse (top).

Service Parts Logistics Operations (SPLO) administrative offices (bottom).

Parts Support

Building a product that meets or exceeds our customers' expectations is crucial. Supporting that product throughout its life cycle is no less important. AM General's Service Parts Logistics Operations (SPLO) offers a full range of aftermarket customer support through its parts sales, training and field service activities.

Dedicated facilities in Mishawaka, Ind., consist of an administrative center for order processing, classrooms and technical centers, and a 300,000 square-foot warehouse that stocks, packs and ships thousands of parts around the world. SPLO supports and supplies more than 30,000 part numbers and carries an on-hand inventory of more than 15,000 part numbers. Support for tactical vehicles includes the HMMWV (all variants), the M939, M809, M44, M35A3 and M915-series vehicles. An off-road training course supports military and civilian training efforts.



Having parts ready to deliver where and when they're needed drives SPLO's activities. Genuine OEM parts support is supplied to the US Government wholesale system with kits and military packaging provided to all major buying commands, such as US Army Tank-automotive Command (TACOM), Defense Logistics Agency

(DLA), and the Marine Corps System Command (MARCORSYSCOM). SPLO and authorized distributors also provide responsive retail service to individual military units.

Being receptive, reactive, and honest with our customers' needs builds an even greater trust, which demonstrates our commitment to the teamwork philosophy.

AM General's full-time customer service center technicians are available to answer HMMWV technical and parts related questions. They are available Monday through Friday from 7 a.m. to 4 p.m. Eastern Standard Time at (877) 464-5782. Messages left after hours and on weekends will be returned immediately the next business day. ■



Field Service Support and Training

AM General enhances mission readiness by providing resident Field Service Representatives (FSRs) to the customers' facilities for extended periods of time. The resident FSRs provide up-to-date technical expertise and "hands-on training" to operators, technicians and military instructors.

AM General's FSRs have many years of active US military automotive maintenance and training experience. They can provide vehicle deprocessing, hands-on training, new equipment training and fielding support, warranty verification and repair, retrofit application, resolution of technical issues and kit installation and training. These services are delivered with a high degree of competence and technical expertise, and more importantly, help keep the troops on the move with minimal downtime.

AM General's renowned training capabilities include HMMWV training as well as training for other military systems. Operator/maintenance training programs for US and international customers are routinely conducted at AM General's modern training facility in Northern Indiana. Students can operate the HMMWV to its fullest potential while learning to maintain the vehicle in a high state of readiness.

The company's 320-acre off-road facility features 15 miles of trails, punctuated with mud pits, lowland swamp, sand outcrops, hard-surface slopes up to 60 percent, side slopes up to 45 percent and a multitude of man-made obstacles.

More than 90 percent of the classes conducted are hands-on training. AM

General's training staff has more than 100 combined years of maintenance training experience on military wheeled vehicles and other systems.

Several recent special contracts in support of the US government's Foreign Military Sales (FMS) programs and the Global War on Terror (GWOT) have demonstrated AM General's flexibility to respond to special needs. One foreign government needed help with the support of their HMMWV fleet and wanted to establish a state-of-the-art maintenance facility. Although AM General did not normally contract for this kind of support service, the company agreed to upgrade an existing workshop complex for their army, providing the facility upgrades, technical equip-

ment, training and FSR management. The result was a contract with TACOM that successfully took the project from concept to completion.

In addition, SPLO used this experience to provide for facilities and HMMWV maintenance support in Kuwait and at Ft. Hood, Texas, in support of GWOT. AM General FSRs were also embedded with US Army units during Operation Iraqi Freedom, enabling the accelerated fielding of the Improved Ribbon Bridge (IRB). ■

Hands-on vehicle systems training (top).

Controlled obstacle course, part of AM General's 320 acre test course (bottom).





Packaging parts to MIL-STD-1388-2B format (above).

Integrated Logistics Support (ILS)

AM General's Integrated Logistics Support (ILS) team has established itself as an industry leader in the area of disciplined procurement and management of those logistics elements such as manpower and personnel, maintenance, training, supply, transportation, computer support, tools and test equipment that impact the planning, funding and support for a particular system or sub-system throughout its total life cycle.

ILS performs US Government systems validation/verification (below).

ILS products that are normally required for this complex series of activities range from level of repair

analysis (LORA), to technical publications; from repair parts provisioning, to packaging solutions; from

development of intrusive diagnostics, to the conduct of logistics demonstrations. Each product is produced and provided to the customer with high attention to accuracy, responsiveness and cost efficiency.

AM General was awarded a contract supporting the development and deployment of the IRB. Mobility requirements identified prior to the start of "Operation Iraqi Freedom" required accelerated support for fielding this critical system. The ILS team surged to meet the challenge, beating the schedule by nine months!

More recently, the ILS team has tackled projects relating to the Rapidly-Emplaced Bridge System (REBS)—land bridge sections that are launched off the Common Bridge Transporter Vehicle (CBT). These bridges are designed to span gaps of up to 40 feet.



Other ongoing and emerging projects include Integrated Logistics Support for Bridge Erection Boats (BEB), used for the emplacement of the Improved/Standard Ribbon Bridge sections; the XM8 prototype weapon designed to replace the M16 rifle; the XM 320 prototype grenade launcher (known as the “Area Suppression Lethality Module” for OICW); HMMWV C4ISR integration for STRYKER and Modular Brigades; Future Tactical Truck System Utility Vehicle (FTTS-UV); petroleum and water systems (PAWS) equipment; and armoring projects for the HMMWV and M939 5-ton family of vehicles (which has included the deployment

of maintenance technical representatives to installation sites in Kuwait and Iraq).

ILS is co-located with AM General’s Engineering Center in Livonia, Michigan. It includes a full prototype build and validation/verification area, custom fabrication area, test lab with engine/vehicle dynamometer, electrical development lab, a secured, certified inspection area and a bonded, gated holding area.

From prototype build to verification and data collection to the customer’s output requirements, AM General’s ILS team has the experience, technical expertise and dedication to quality to fulfill every customer’s exacting requirements. ■



Bridge Erection Boats (BEB) emplace the Improved/Standard Ribbon Bridge sections (above).

System Technical Support (STS)

Over the past 35 years, AM General has been awarded numerous engineering contracts to support a myriad of vehicle systems, from M151 jeeps to the US Army’s Abrams battle tank. AM General’s System Technical Support (STS) group is currently under contract supporting the HMMWV Light Tactical Family of Vehicles and various medium and heavy tactical trucks. From engineering design concept and stress analysis to prototype build to production, AM General has the expertise and facilities to complete the most comprehensive projects on time, under budget. ■

Maintenance engineers incorporate new communications systems (below).





Additional Initiatives

- A commercial version of the HMMWV, called the HUMMER, was introduced to the world in 1992. In 1999, General Motors Corporation (GM) finalized an agreement with AM General to acquire ownership of the HUMMER brand worldwide. The original HUMMER was rebadged HUMMER H1. AM General engineered, designed, and built a factory in record time, to produce a GM-designed HUMMER H2 in a state-of-the-art facility next to the HUMMER H1/HMMWV plant.
- Through its commercial division, AM General continues to offer sales and technical training for HUMMER H1 and H2. The company will provide training on the GM-produced H3. It also operates the HUMMER Driving Academy, which allows owners to learn positive in-depth off-road operation for their vehicles.
- The US Border Patrol, under the Department of Homeland Security (DHS), has purchased more than 100 HUMMER K-series trucks for use in border security operations. These trucks help in areas of severe terrain, where other trucks were not able to cope. Studies are currently underway by the DHS to explore the expansion of this fleet for uses in other areas and roles that are required by their mission.
- In 1999, AM General incorporated a wholly-owned subsidiary, General Engine Products, Inc., and constructed a new plant in Franklin, Ohio to build diesel engines beginning in 2000. General Engine Products supplies service engines to General Motor's Service Parts Operation (SPO), and builds engines for AM General's use, as well as for other customers. The



engine factory is currently registered to QS-9000 quality standard. QS-9000 requirements exceed those established in the ISO Standards and are required of all suppliers within the US-based Automotive Industry. The scope of GEP QS-9000 registration encompasses the assembly and distribution of diesel engines.

- AM General has joined with Tecstar, a division of Starcraft, to form a joint venture company to provide second stage manufacturing capabilities and design and engineering for OEM needs. The new venture, named Amstar, LLC, offers a full line of aftermarket accessories that complement the General Motors special equipment packages available for the HUMMER enthusiast. The range of products enhances performance, appearance and the rugged off-road experience for HUMMER owners, and is available through HUMMER dealers.
- Recently AM General and General Motors executed an agreement covering the development of a marketing arrangement through which AM General assumes marketing and sales responsibility for Light Service Support Vehicles (LSSV)

manufactured by GM. It leverages both company's strengths and core competencies to broaden each company's business base. AM General's strengths in military applications and in-depth knowledge of military procurement will greatly enhance the relationship.

- AM General is assisting Carnegie Mellon University in conjunction with their project to develop robots to compete for a \$2 million, winner-take-all prize for the first autonomous vehicle to cross the Mojave Desert without human assistance in the Defense Advanced Research Projects Agency (DARPA) Grand Challenge. The university and AM General will share robotic technology related to this project.
- A HUMVEE is being used by the Mars Institute, part of the NASA Haughton-Mars Project. The MARS-1 HUMVEE Rover is a powerful new tool for scientific investigations on Devon Island in the Canadian high Arctic. It serves as a long-distance roving field lab and also allows the project team to study the design and operation of future large pressurized rovers for the human exploration of the moon and Mars. ■

General Engine Products Optimizer 6500 manufactured to strict QS9000 procedures (top).

General Motors Light Service Support Vehicle (LSSV) marketed and militarized by AM General (bottom).





Quality Mission Statement

Our commitment to quality begins and ends with the customer. Our goal is to constantly increase the level of customer satisfaction in the products and services we provide. To achieve this goal, we have adopted the Total Quality Management philosophy which is based on the following key elements:

- Be people oriented
- Be dedicated to excellence
- Strive for continuous improvement
- Achieve total customer satisfaction
- Be personally involved

*HUMMER, H1, H2 and H3 are registered trademarks of General Motors Corporation
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