

US Army testing Joint Light Tactical Vehicle (JLTV) that enables multi missions across the spectrum of terrain, including urban areas, while providing survivability against direct fire and improvised explosive device threats.

The unarmored Humvee were found vulnerable in Iraq and Afghanistan where hastily added armor provided a flawed and temporary solution. The JLTV, however, is built for driving among the IEDs, rocket-propelled grenades, and small-arms fire of the modern battlefield.

JLTV provides the warfighter significantly more protection against multiple threats while increasing mobility and payload compared to the current armored High Mobility Multipurpose Wheeled Vehicle platforms. JLTV provides improved off-road mobility, fuel efficiency and reliability over Mine Resistant Ambush Protected All-Terrain Vehicles.

The Joint Light Tactical Vehicle (JLTV) Family of Vehicles (FoV) is a Joint Army and Marine Corps program that provides vehicles, along with companion trailers, capable of performing multiple mission roles while providing protected, sustained, and networked mobility for personnel and payloads across the full spectrum of military operations.

The JLTV is transportable by a range of lift assets, including rotary-wing aircraft, to support operations across the range of military operations. Its maneuverability enables activities across the spectrum of terrain, including urban areas, while providing inherent and supplemental armor against direct fire and improvised explosive device threats.

The 14,000-pound costing \$399,000, JLTV is being manufactured by Oshkosh Defense and is in the low-rate initial production (LRIP) testing phase for the current contract to deliver about 5,000 vehicles, according to Fullmer. The \$6.7 billion contract calls for just under 17,000 trucks, along with test support and fielding and maintenance services, with three years of LRIP production and five years of full-rate production, he said. The Army plans to acquire about 55,000 trucks by the mid-2030s that would replace both services' active-duty and reserve Humvee fleets.

The Army-led program to replace the high mobility multi-wheeled vehicle, or the Humvee, is on a trajectory to remain on budget and on schedule, said Army Col. Shane Fullmer, project manager for the joint program office under PEO combat support and combat service support.

The trucks are undergoing reliability, transportability and network testing, which is expected to continue through the first quarter of fiscal year 2019, Fullmer said. Full-rate production should begin in November or December of 2019 ahead of fielding, and initial operating capability is expected for early to mid-2020, he added.

JLTV features a design that supports mobility, reliability and maintainability within weight limits to ensure tactical transport to and from the battlefield. JLTV will use scalable armor solutions to meet requirements for added protection while maintaining load carrying capacity. Commonality of components, maintenance procedures, and training between all

variants will minimize total ownership costs. The JLTV family will balance critical weight and transportability constraints within performance, protection, and payload requirements – all while ensuring an affordable solution for the Army and USMC.

Two variants are planned: the four-seat combat tactical vehicle(CTV), which will support general purpose, heavy gun carrier and close-combat weapon carrier missions; and the two-seat combat support vehicle(CSV) supporting the utility/shelter carrier mission.

It is also reported the Army plans to use the JLTV as the interim platform for its upcoming Light Reconnaissance Vehicle (LRV) program instead of procuring a new system. The British Army is reportedly trying to acquire 750 JLTVs through Foreign Military Sales (FMS). The Marines have also reportedly increased their JLTV requirement by 65%, for a total of 9,091 JLTVs, and the Air Force will acquire 140 JLTVs in FY2018 for its Security Forces that protect missile launch facilities

Oshkosh's JLTV

As planned, JLTVs would be more mechanically reliable, maintainable (with on-board diagnostics), all-terrain mobile, and equipped to link into current and future tactical data nets. Survivability and strategic and operational transportability by ship and aircraft are also key JLTV design requirements.

After over a year of poking, prodding, speeding, skidding, sliding and exploding, Oshkosh was selected as the winner of the Joint Light Tactical Vehicle (JLTV) contract in 2015. The Oshkosh's JLTV competitor brings together the blast absorbing capability of the lumbering Mine Resistant Ambush Protected (MRAP) vehicles that became staples of the wars in Iraq and Afghanistan, and the agility of a high performance off-road

combat truck that can be easily adapted to different missions. Additionally, the JLTV has to be transportable to the forward edges of the battlefield via the cargo hold of a C-130 or underslung beneath a CH-47 or CH-53. They also have to be easily serviced once there.

John Urias, president of Oshkosh Defense, said described the vehicle in a following statement to the Washington Post: "Our JLTV has been extensively tested and is proven to provide the ballistic protection of a light tank, the underbody protection of an MRAP-class vehicle, and the off-road mobility of a Baja racer."

During the testing phase of the JLTV program, the U.S. Army and Marine Corps brought along 22 up-armored Humvees to test alongside Oshkosh, Lockheed Martin, and AM General's JLTV entrants, with each manufacturer providing 22 test vehicles. During nearly three years of testing, platoons equipped with Oshkosh JLTVs had the highest levels of mission success.

Oshkosh's JLTVs were also far and away the most reliable of the bunch, averaging 7,051 miles between operational mission failure, defined as a system failure that prevents the vehicle from accomplishing its mission. Up-armored Humvees were surprisingly the second-most reliable of the group, averaging 2,968 miles between failures, followed by the Lockheed Martin JLTV at 1,271 miles between failures, and the AM General BRV-0 JLTV, which averaged 526 miles between failures .

The Oshkosh JLTV uses General Motor's impressive 6.6-liter Duramax turbodiesel V8 engine, detuned by diesel performance specialist Gale Banks Engineering to provide 400 dependable horsepower and the Allison 6-speed heavy-duty truck transmission. While up-armored Humvee upped the 13,000-lb. curb weight practically rendered the obsolete 190-horsepower Detroit Diesel V8 and four-speed automatic transmission inert.

While many of the JLTV's performance capabilities are

classified, however it is expected to top the ratings of the old Humvee by a wide margin. Some of the military's requirements for the Humvee include the ability to climb a 60 percent incline, traverse a 40 percent slope, and ford 2.5 feet of water without a snorkel, or 5 feet with a snorkel.

The JLTV is essentially a light tank with 43-inch Michelin wheels can wade through five feet of water too, without even breaking out its optional snorkel. That's in part because of its fully independent double-wishbone TAK-4i suspension system with electronically adjustable high-pressure gas shocks, which gives the truck the ability to raise and lower on its suspension as needed, while providing a massive 20 inches of suspension travel over obstacles.

Like the Humvee, the JLTV also has a full-time four-wheel-drive system with low-range, locking differentials, and a Central Tire Inflation System like the one on the Humvee that lets soldiers adjust tire pressure to suit conditions from inside the vehicle.

Utilizing lessons learned on its M-ATV MRAP (Mine-Resistant Ambush Protected vehicle) program, the JLTV features a V-shaped hull to deflect blasts from below, bulletproof windows, and an armored crew capsule. Compared to an up-armored Humvee, a basic JLTV offers multiple orders of magnitude more protection from bullets and bombs to its occupants. Each JLTV is also capable of being fitted with a "B-Kit" of armor, boosting protection to MRAP-levels of protection.

The JLTV, is built for driving among the IEDs, rocket-propelled grenades, and small-arms fire of the modern battlefield. Oshkosh's CORE1080 crew-protection system wraps the cabin in an armored shell. Underneath the floor, a convex hull deflects blasts and shields the cabin from IEDs. Oshkosh's CORE1080 crew-protection system wraps the cabin in an armored shell. Underneath the floor, a convex hull deflects blasts and shields the cabin from IEDs.

“Where the Humvee’s seats are flat to the floor, the JLTV’s are raised to give your knees some room to bend. There’s more cushioning, and the seat backs feature cutouts to accommodate troops’ hydration packs. Big center and passenger-side dash displays look like they belong in an F/A-18 cockpit, offering critical vehicle data, tactical information, and an all-important backup camera. It provides Joint forces network connectivity that improves situational awareness of the operational environment while enabling a responsive and well-integrated command and control.

A standard HVAC control panel offers blessed air conditioning, and there are even USB ports,” writes Eric Tegler one of the first civilians allowed behind the wheel.

References and resources also include:

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