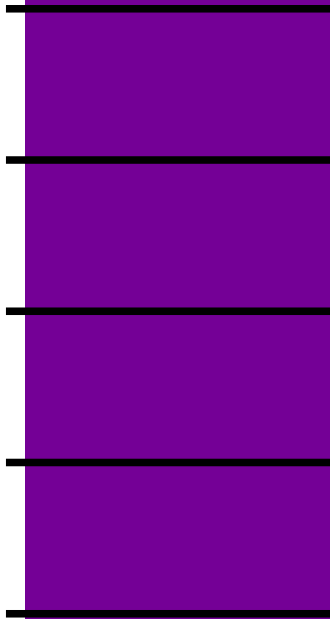


# Army Guide monthly



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## Exhibitions

### Izhevsk Electro Mechanical Plant KUPOL, JSC will present the missile systems Tor-M2E, Tor-M2K and Tor-M2KM in the International exhibition INDO DEFENCE EXPO & FORUM 2014



In the International exhibition of armaments and military equipment INDO DEFENCE EXPO & FORUM 2014 Izhevsk Electro Mechanical Plant KUPOL, JSC will present the up-to-date short range surface-to-air missile systems Tor-M2E, Tor-M2K and Tor-M2KM.

INDO DEFENCE EXPO & FORUM 2014 – is the 6-th exhibition of armaments and military equipment of three armed forces of Indonesia: Land Forces, Air Forces and Naval Forces (Indo Defence, Indo Aerospace, Indo Marine).

The exhibition is been held every even year since 2004 with the support of Ministry of Defense of Indonesia. In 2012 603 companies from 45 countries took part in the exhibition. More than 18 000 professionals visited the event. In 2014 participants from 50 countries are expected, Russian companies will be exposed wide also.

The exhibition will be held from November 5 - 8, 2014 in Jakarta, Indonesia.

JSC IEMP Kupol will present a new generation of the air defense missile systems of the Tor family: the Tor-M2E SAM system with a combat vehicle mounted on the tracked chassis, the Tor-M2K SAM system with a combat vehicle mounted on a special wheeled chassis and the Tor M2KM SAM system with modular-design of combat and engineering facilities mountable on automobile chassis, semi-trailers, trailers and other carriages with correspondent carrying capacity as well as in a stationary version.

The SAM systems of new generation of the Tor family is intended for air defense of subunits of various arms of service and armed forces, vital military, state, industrial and public facilities against attacks of aircraft, helicopters, various types of cruise missiles (high precision weapon), anti-radar missiles, controlled guided aerial bombs, cruise missiles and unmanned aerial vehicles.

In the Tor-M2E, Tor-M2K, Tor-M2KM SAM systems capability of simultaneous destruction of four air targets by four surface-to-air missiles (SAM) was implemented for the first time. These systems are easy to be integrated into existing air defense systems.

The Tor-M2KM SAM system provides for wide range of its application. A unique opportunity for transportation

of the system on external sling of helicopter with carrying power of more than 15 tons enables its placement in the most out-of-the-way places, including roofs of buildings and constructions. Only this system can ensure the reliable air defense of megapolises against terrorist air attacks or aviation of a fighting against part.

The Tor-M2KM SAM system can be mounted on any platforms with carrying power of more than 15 tons at the option of a customer.



Tests of the Tor-M2KM SAMS with modular version of combat and technical facilities mounted on the Indian-made motor chassis TATA were undertaken in Kapustin Yar, the firing range of Ministry of Defense of RF, in October-November 2013. All performance characteristics of the system were confirmed during these tests. The Tor-M2KM SAMS has expanded killing zone by altitude up to 10 km and by range up to 15 km, provides engagement of actively evading air targets as well the targets flying at a velocity of 700 m/s and having the crossing point up to 8 km. The target acquisition, tracking radar and the missile guidance radar, 8 ready-to-launch guided surface-to-air missiles, two automated working stations for combat crew, control and communication aids, up-to-date navigation system, self-contained power supply system, fuel supply etc. are comprised within the same hull. The hull has 3 special brackets providing its fastening to various platforms. The system is equipped with backup, day-night electro-optical air target tracking system. The system is a self-contained completely and has an inherent electrostatic converter ensuring operation of the system from industrial mains. Combat operation of the Tor-M2KM SAMS is completely automated and nearly doesn't require a man participation.

The present day the systems of the Tor family take the leading positions among similar short range surface-to-air missile systems.

## Defence Industry

### BAE Systems To Continue M109A7 Production With \$142 Million Follow-on Contract

BAE Systems will produce additional M109A7 self-propelled howitzers and M992A3 ammunition carriers for the U.S. Army.

BAE Systems received a follow-on contract from the U.S. Army to continue low-rate initial production (LRIP)

on the M109A7 self-propelled howitzer and M992A3 ammunition carrier.



The M109A7 provides a significant upgrade over the M109A6 Paladin Self-Propelled Howitzer while allowing for future growth.

“BAE Systems is proud to partner with the Army to continue production on this important upgrade program,” said Adam Zarfoss, director for Artillery and Recovery Systems at BAE Systems. “The M109A7 is a significant leap forward in technology for the Field Artillery, addressing the current system shortfalls while providing significant margin for growth to help position the service for the long term.”

BAE Systems was awarded a one-year base contract for the M109A7, formerly the Paladin Integrated Management program, in October 2013. The current contract is the first of three option year awards to produce an additional 18 vehicle sets — 18 M109A7 howitzers and 18 carrier ammunition, tracked vehicles for approximately \$142 million. Once all options are exercised, the Army intends to purchase a total of 66.5 vehicle sets plus spares, kits, and technical documentation. One set includes a M109A7 Paladin Self-Propelled Howitzer along with its battlefield companion, the M992A3 Carrier Ammunition, Tracked (CAT).

The M109A7 program is a significant upgrade over the vehicle’s predecessor, the M109A6 Paladin Self-Propelled Howitzer, restoring space, weight, and power-cooling, while providing growth potential for emerging technologies. The design includes a Bradley-common chassis, engine, transmission, suspension, steering system, and improved survivability, while leveraging technologies developed during the Non-Line-of-Sight Cannon program such as a 600 volt on-board power system. The state-of-the-art “digital-backbone” and power generation capability provides significant growth potential for future payloads as well as accommodating existing battlefield network requirements.

Work on the M109A7 is currently underway at Anniston Army Depot, Alabama, and BAE Systems’ York, Pennsylvania, facility. Final production will take place at the company’s Elgin, Oklahoma, facility, with the first vehicles scheduled to be delivered to the Army in early 2015.



Samples of the up-to-date surface to air missile systems Tor-M2E, Tor-M2K and Tor-M2KM will be represented at the International Aviation and Aerospace Exhibition (Air show China – 2014) which takes place from November 11-16, 2014 in Zhuhai, China.



The exhibition has taken place once per two years since 1996. In 2012 over 650 companies from 39 countries participated in it. Traditionally Russian part of the exhibition is the largest one. In 2014 the exhibition promises to be unprecedented by its size with participation of world-known aerospace companies as Boeing, Airbus, Soukhoi, etc. The first time in frames of the exhibition expected also is the participation of AF aerobatic teams.

Izhevsk Electromechanical Plant Kupol, JSC will represent samples of new generation of short range surface-to-air missile systems Tor-M2E, Tor-M2K as well as Tor-M2KM in the modular version (stationary version and on the mobile chassis).

The Tor family surface-to-air missile systems are intended for day/night air defence of vital military and public facilities against attacks of aircraft, helicopters, cruise missiles, antiradar and other guided missiles, gliding and guided aerial bombs and unmanned aerial vehicles within killing zone in an adverse weather and jamming environment.

The SAMS combat vehicle Tor provides simultaneous detection of up to 48 targets, ranking them by danger level, as well as tracking and simultaneous firing of four targets by four missiles launched serially. The surface-to-air guided missiles of the system are designed specially for effective interception of small-size actively evading targets to provide essential advantage over foreign baseline designs.

SAMS Tor is easily integrated into existing air defense systems, maintaining the capability to operate independently. As a member of new generation of short range air defense facilities of Tor class, the system features high efficiency against modern air threats mass attacks in counter-fire and radio electronic countermeasures environment.

SAMS Tor is being manufactured in 3 versions: Tor-M2E on the tracked chassis, Tor-M2K on the wheeled chassis and Tor-M2KM in modular version. Furthermore, there is a possibility to mount the modular version on roofs of buildings and constructions, at

## Exhibitions

**The missile systems Tor-M2E, Tor-M2K and Tor-M2KM will be represented at the International Aviation and Aerospace Exhibition Air show China-2014**



difficult to access areas, on trailers and semitrailers, on railway platforms and even on low-tonnage vessels, which can carry a load of more than 20 tonnes.



**Contracts**

**General Dynamics Land Systems-Canada Awarded \$287 Million by the Government of Canada for LAV Reconnaissance Surveillance System Upgrade**



LONDON, Ontario – The Honourable Diane Finley, Minister of Public Works and Government Services, announced today that the Government of Canada has awarded a CDN\$287 million contract to General Dynamics Land Systems-Canada for the provision and integration of an enhanced surveillance suite on to Canadian LAV III Upgrade vehicles, known as LAV 6.0.

The upgraded surveillance system will include a 10-meter retractable mast, an Operator Control Station and a surveillance suite inclusive of radar, thermal/day and image intensification sights, laser range finder and GPS mounted on a stabilized platform. These enhancements will allow for superior detection ranges, on-the-move operation, integrated silent watch power management and the transmission of images through the communications system.

“General Dynamics Land Systems-Canada continues their 37 year partnership with the Government of Canada,” said Danny Deep, vice president of General Dynamics Land Systems-Canada. “More than 20 years ago, we designed and delivered to the Canadian Army the Coyote vehicle which at the time was the best reconnaissance/surveillance vehicle in the world. We are now privileged to deliver the next generation of advanced surveillance capability to the Canadian soldier.”

Deliveries of LAV 6.0 vehicles equipped with the upgraded surveillance suite will commence in December 2016.



**Future Technologies**

**Rheinmetall MAN Military Vehicles Presents Innovative Protection Concept for the Dutch Armed Forces**

At the NIDV defence fair in the Netherlands, Rheinmetall MAN Military Vehicles (RMMV) is

presenting a forward-looking protection concept for logistic vehicles. Developed by Austrian manufacturer Ressenig Fahrzeugbau GmbH and approved by RMMV, the Discreet Armoured Cabin (DAC) can be mounted on the proven TGS chassis.

Rheinmetall’s entry in the Netherland’s planned procurement project for Defence-wide Replacement Operational Wheeled Vehicles (DVOW) is the globally tried-and-tested TGS 8x8.

The DAC, already fully qualified under NATO STANAG 4569 and AEP55, is the perfect addition to the TGS series, further expanding its flexible operational capabilities. This protected cabin is specifically designed to be inconspicuous, with an essentially civilian external appearance. Nevertheless, this modular build-on cabin, available in a number of sizes, offers a high degree of protection against ballistic fire, landmines and improvised explosive devices. When the TGS is equipped with a DAC, the level of protection is basically undetectable, thus maintaining the vehicle’s low-profile civilian appearance. This significantly enhances the vehicle’s operational versatility.

In line with customer requirements, during production RMMV can already prepare the chassis of vehicles optionally equipped with the DAC for fast replacement with a standard cabin.

Visitors to NIDV can find out more about the concept at the Rheinmetall stand (5.301), and also inspect an original TGS 8x8 and DAC.



**Defence Industry**

**Oshkosh Defense L-ATV Achieves Key Milestone in JLTV Program Testing**



Oshkosh Defense, LLC, an Oshkosh Corporation company, announced today that its Light Combat Tactical All-Terrain Vehicle (L-ATV) successfully completed Limited User Testing (LUT) with the U.S. Army and Marine Corps for the Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development (EMD) contract.

The completed LUT focused on the JLTV system capabilities, functions, operations and interfaces in a range of simulated tactical environments. It also covered operator and crew level preventive maintenance for the entire JLTV system, ensuring operators could proficiently and safely operate the JLTV during test and evaluation. The Army user testing was conducted in September and October. Three of the tests were held as

96-hour cycles meant to simulate operational missions, and one of the tests incorporated a live fire demonstration. The Marines similarly completed two test cycles in October and November, including one with a live fire demonstration.

“Our completion of the Limited User Testing milestone reinforces Oshkosh’s proven ability to design and build vehicles based on decades of experience and a true appreciation for those who will ultimately operate the JLTV,” said U.S. Army Major General (Retired) John Urias, executive vice president of Oshkosh Corporation and president of Oshkosh Defense. “Our JLTV solution draws upon real-world experience gained from supporting the ground operations that our Soldiers and Marines perform every day. In fact, no other Original Equipment Manufacturer (OEM) has launched and supported more successful tactical wheeled vehicle production programs than Oshkosh.”

Oshkosh was prepared for the Limited User Testing and provided its vehicles ahead of the test schedule. Before the start of the Army and Marine Corps testing sessions, Oshkosh provided 40-hour New Equipment Training courses with the Soldiers and Marines operating the JLTVs. Separate configurations were required for the Army and Marine Corps’ LUT, and Oshkosh refurbished its testing vehicles to ensure mission readiness.

#### **TWV Experience Provides a World-Class JLTV Without the Risk**

Oshkosh also recently announced the completion of Production Readiness Review (PRR) for the JLTV EMD contract, demonstrating that the company is prepared to manufacture world class JLTVs on its established production line. Employing lean processes, flexible assembly lines and rigorous quality checks, Oshkosh has a history of delivering tactical wheeled vehicles on schedule, on budget, and with industry-leading quality. In early 2013, the company produced its JLTV EMD prototypes on the same active and proven production line used for its MRAP All-Terrain Vehicle (M-ATV), Family of Heavy Tactical Vehicles (FHTV), Family of Medium Tactical Vehicles (FMTV) and many other platforms.

The L-ATV’s lightweight, compact design leverages over a decade of research and development, as well as decades of field operating experience to deliver an unprecedented combination of off-road mobility, survivability, speed and reliability. It merges key design elements of highly survivable combat vehicles and off-road tactical vehicles to operate in an extensive range of threat levels and terrains. Independent testing proves that the L-ATV delivers superior ride quality at speeds 70 percent faster than today’s top-performing tactical wheeled vehicles.

