

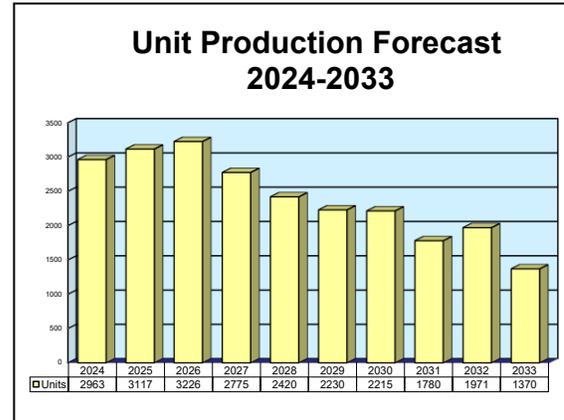
ARCHIVED REPORT

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Indian Tactical Vehicles

Outlook

- Current Indian Army programs include the procurement of 3,192 4x4 Safari Storme vehicles and 330 Tata HMV-series munitions carriers
- Annual procurement of 2,000 Stallion Mk IV medium-utility trucks also continues
- Forecast reflects production of Stallion, HMV and Safari Storme vehicles for Indian Army procurement only



Orientation

Description. Wheeled tactical and logistics vehicles.

Status. Development through serial production.

Sponsor. The Indian MoD sponsors the procurement of tactical vehicles for the Indian armed forces.

Total Produced. Through 2023, we estimate the various contractors produced at least 268,600 tactical vehicles for international military service since 1990.

Licensees. In the mid-2000s, Panhard (subsequently folded into Renault Trucks Defense and currently operating under the Arqus umbrella) collaborated with Ashok Leyland on the production of the TC54 medium utility truck. The vehicle was sold to the armed forces of Saudi Arabia and Togo.

Application. Military-standard wheeled vehicles optimized for transporting personnel and cargo in all conditions.

In 2016, Tata Motors and Indonesian state defense-industrial company PT-Pindad signed a Memorandum of Understanding opening the door to closer defense-technical collaboration and potential Indonesian production of Tata military vehicle products.

Price Range. In 2024 U.S. dollars, the vehicles covered in this report carry estimated unit prices ranging from \$27,900 for the Tata Motors Safari Storme 4x4 to \$89,000 for the Ashok Leyland Super Stallion 10x10 and \$98,313 for the Tata Motors Heavy Mobility Vehicle.

Contractors

Prime

Ashok Leyland, ASHOKLEY	http://www.ashokleyland.com/en/defence/products , No.1, Sardar Patel Rd, Chennai, Tamil Nadu, India, Tel: + 91 04422206000, Fax: + 91 04422206001, Email: reachus@ashokleyland.com , Prime
Tata Advanced Systems Ltd	http://www.tataadvancedsystems.com , Western Wing, Thapar House, 124 Janpath, New Delhi, India, Tel: + 91 11 6622 2666, Fax: + 91 11 2334 1585, Prime
Vehicle Factory Jabalpur	http://vfj.nic.in/contacts.html , Vehicle Factory Jabalpur, Pin-482009, Jabalpur, Madhya Pradesh, India, Tel: + 91 07612330520, Fax: + 91 07612330436, Email: vfj.ofb@nic.in , Second Prime

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Technical Data

<u>Designation</u>	<u>Drive</u>	<u>Load Class</u>
<u>Manufacturer – Ashok Leyland</u>		
Guru 712	4x4	1.5 tonne carrying capacity
Guru 715	4x4	2.5 tonne carrying capacity
LSV	4x4	1.0 tonne carrying capacity
Stallion Mk III/IV	4x4	5.0-7.5 tonne carrying capacity
Stallion 6x6	6x6	7.5 tonne carrying capacity
Super Stallion 10x10	10x10	27 tonne carrying capacity
Super Stallion 12x12	12x12	34 tonne carrying capacity
Super Stallion 6x4	6x4	41 tonne carrying capacity
Super Stallion 6x6	6x6	15 tonne carrying capacity
Super Stallion 8x8	8x8	25 tonne carrying capacity
<u>Manufacturer – Tata Motors</u>		
Safari Storme	4x4	2.57 tonne gross vehicle weight
Xenon DC	4x4	2.95 tonne gross vehicle weight
Xenon Recce	4x4	2.95 tonne gross vehicle weight
SFC 407	4x4	5.95 tonne gross vehicle weight
SE 1613	4x2	16.20 tonne gross vehicle weight
SA 1212	4x4	12.18 tonne gross vehicle weight
LPTA 713/715	4x4	7.75 tonne gross vehicle weight
LPTA 709	4x2	7.49 tonne gross vehicle weight
LPTA 1628	4x4	5.0-7.0 tonne carrying capacity
LPTA 715	4x4	2.5 tonne carrying capacity
LPTA 2038 HMV	6x6	8.5 tonne carrying capacity
LPTA 3138	8x8	27.2 tonne gross vehicle weight
LPTA 4545	10x10	Not available
LPTA 5252	12x12	53 tonne gross vehicle weight

Stallion Mk III/IV 4x4

Dimensions. The following data are provisional; fuel capacity is estimated.

	<u>SI Units</u>	<u>U.S. Units</u>
Length	7.20 m	23.62 ft
Width	2.5 m	8.20 ft
Height	2.99 m	9.80 ft
Combat weight	14.5 tonnes	15.98 tons
Fuel capacity	160 liters	42.26 gal

Performance. The speed and range data reflect use on a paved road.

	<u>SI Units</u>	<u>U.S. Units</u>
Maximum speed	82 kmph	50.95 mph
Maximum range	1,000 km	621.37 stat mi
Step	50 cm	1.64 ft
Trench	0.6 m	1.97 ft
Slope	30%	30%
Gradient	60%	60%
Fording	0.75 m	2.46 ft

Engine. The Stallion Mk IV is outfitted with an Ashok Leyland W06DTI turbocharged diesel engine generating 131 kilowatts (177 hp). The Mk III model hosts an Ashok Leyland HA6 DTI turbocharged diesel engine generating 122 kilowatts (163 hp).

Gearbox. Synchromesh ZF S6-36 automatic gearbox featuring one reverse and six forward gears.

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Suspension and Running Gear. Dual-purpose hydropneumatic/mechanical suspension, with short steering lock through one-sided braking. The vehicle features Michelin 395/90 R22 XML tires with run-flat inserts and a central tire inflation system.

LPTA 2038 High Mobility Vehicle/Combat Support Platform (HMV)

Dimensions. The following data are provisional; fuel capacity is estimated.

	<u>SI Units</u>	<u>U.S. Units</u>
Length	9.04 m	29.66 ft
Width	2.50 m	8.20 ft
Height	3.25 m	10.66 ft
Combat weight	23.0 tonnes	25.35 tons
Fuel capacity	400 liters	105.67 gal

Performance. The speed and range data reflect use on a paved road.

	<u>SI Units</u>	<u>U.S. Units</u>
Maximum speed	80 kmph	49.70 mph
Maximum range	500 km	310.69 stat mi
Step	50 cm	1.64 ft
Slope	15%	30%
Gradient	25%	60%
Fording	1.0 m	3.28 ft

Engine. The LPTA 2038 is outfitted with a Cummins ISLe +375 CRDi BS-III six-cylinder engine generating 276 kilowatts (375 hp).

Gearbox. The LPTA 2038 is outfitted with a manual transmission system featuring one reverse and nine forward gears.

Suspension and Running Gear. The LPTA 2038 features a front-mounted parabolic suspension configuration with a tandem bogie and semi-elliptical multi-leaf springs and rubber-mounted torque rods in the rear. The vehicle is outfitted with radial Sand Cum Highway 14.00R20-22PR tires and features a central tire inflation system.



Tata Motors LPTA 2038 6x6 High Mobility Vehicle/Combat Support Platform

Source: Tata Motors

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Variants/Upgrades

Variants. Indian defense contractors offer an extensive range of variants for their tactical and utility vehicle platforms. Common 4x4 variants include ambulances, fuel carriers, water bowsers, and light recovery vehicles. The 6x6 and above models are capable of being configured as radar, command station, anti-air, artillery, and heavy recovery variants, among others.

In addition, individual users often modify tactical vehicles to meet specific local requirements.

Modernization and Retrofit Overview. Numerous upgrade programs are ongoing.

Program Review

Background. India's two foremost military logistics vehicle contractors – Ashok Leyland and Tata Motors – initially launched as licensed manufacturers of British and German automotive designs, respectively, intended for sale on the Indian domestic market.

The initial development strategy pursued by these two manufacturers, alongside other burgeoning players in the Indian automotive world such as Mahindra and Force Motors, reflected a wider effort to build India's domestic economic and industrial potential through import substitution.

In the subsequent decades, however, each company has established a robust independent brand. These companies developed the industrial capacity and institutional knowledge to execute indigenous vehicle development programs. They likewise manufacture vehicles on a large scale for sale in India, as well as across regional and international markets. The Indian automotive industry, including civilian production, now stands as the sixth largest in the world.

Ashok Leyland is a subsidiary of the Hinduja Group. The company develops and markets its defense products under the banner of Ashok Leyland Defence Systems.

Tata Motors is a component of the larger Tata Group. In 2018, Tata began reorganizing the ownership structure of its defense-aerospace holdings. In 2021, ownership of Tata Motors' defense-logistics portfolio transferred to Tata Advanced Systems Ltd (TASL).

State-owned industrial-automotive firm Bharat Earth Movers Ltd (BEML) has also historically provided various Indian military requirements. In 2021, the Indian government opened up a 26 percent ownership stake in BEML to competitive bidding. The country's major automotive enterprises, including Ashok Leyland and Tata, are widely expected to submit bids for the stake.

Although Indian domestic contractors have been active in military-oriented production since the early days of

independence, their capacity to implement large-scale logistics and utility vehicle manufacturing for military procurement requirements only began to approach maturation in the 1970s.

These initial vehicle platforms, such as Ashok Leyland's Hippo and Vehicle Factory Jabalpur's Shaktiman, adapted existing design concepts to fulfill Indian military requirements.

The industrial and vehicle design lessons derived from these large-scale procurement programs paved the way for the emergence of a robust indigenous military logistics sector in the 1990s.

Bedrocks of India's Logistics

Stallion. In 1997, Ashok Leyland introduced the Stallion series of 5-tonne troop transport and utility vehicles.

The Stallion, built in multiple drive configurations including 4x4 and 6x6, formed the basis of a major modernization initiative undertaken by the Indian Army. The new design replaced the Army's aging stocks of Shaktiman medium-weight trucks with a more modern 5- to 7-tonne equivalent.

The Stallion series has fulfilled this role in the Indian military's logistics fleet ever since. Serial production of the series has continued at a consistently high rate over its two decades of active service.

The Indian Army has procured over 55,000 Stallion series vehicles.

The manufacture and assembly of baseline Stallion-series vehicles occur at the Indian government's Vehicle Factory Jabalpur through a special arrangement with Ashok Leyland.

LPTA. Contemporaneous to the launch of the Stallion, the Indian Army was also beginning to procure large quantities of Tata Motors' LPTA 713/715 4x4 utility vehicle. These lighter vehicles, with a carrying capacity

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of 2.5 tonnes, serve to supplement the heavier Stallion fleet. Procurement is ongoing. Manufacture of the LPTA 713/715 for military use also occurs at Vehicle Factory Jabalpur.

Looking Abroad for Opportunity

India's rise as a major emerging economy facilitated the automotive industry's initiatives to expand its overall share of the Asian and international civilian vehicle market. Ashok Leyland, Mahindra, and Tata Motors all have significant overseas market presence and manufacturing capability through directly managed branches, corporate partnerships, and subsidiaries.

Examples include the establishment of Ashok Leyland's UAE-based Ras Al Khaimah plant and, perhaps most prominently, Tata Motors' mid-2000s acquisition of the Jaguar Land Rover and Daewoo companies.

However, these overseas holdings are primarily oriented around the civil automotive domain and the manufacture of public transportation vehicles.

Nevertheless, the same fundamental economic conditions and the emerging avenues for regional trade have likewise increased the export potential of Indian automotive contractors' defense products. Although the defense domain is not quite as lucrative for Indian contractors as the civilian automotive market, the export of low-cost military logistics and utility vehicles has nevertheless become an increasingly important asset in their overall market strategy.

Indian defense-automotive contractors also routinely seek out potential sources of collaboration with other

international defense contractors. In 2016, Ashok Leyland moved to arrange a potential codevelopment program with Lockheed Martin to fulfill the Indian military's Light Specialist Vehicle (LSV) and Light Armored Multipurpose (LAM) vehicle requirements. Tata Motors paired with U.K. contractor Supacat (SC Group) in pursuit of the LAM requirement. Most recently, in 2018 Ashok Leyland signed a Memorandum of Understanding with Israel's Elbit Systems to tentatively launch codevelopment of artillery variants of its Super Stallion platform and pursue various regional marketing initiatives.

In 2012, the U.S. Army pursued procurement of 715 Tata Xenon GS800s for use by and distribution to its forces operating in Afghanistan. The nascent Afghan National Army had also received Tata SK1613-series trucks earlier in the decade.

Since 2013, Myanmar has placed successive orders for Tata Xenon vehicles for use by its military, totaling at least 1,050 units thus far.

In 2014, the United Nations contracted with Tata to provide a range of logistics vehicles for the U.N. peacekeeping mission in Mali (MINUSMA).

In 2015-2016, local press sources reported the delivery of over 600 Ashok Leyland logistics vehicles, including recent Stallion series trucks, to the armed forces of Zimbabwe.

In countries with low levels of overall defense spending, the acquisition of Indian new-build or secondhand civilian utility vehicles for use in military contexts is also extremely common.

Funding

The Indian Ministry of Defence funds the procurement of wheeled tactical vehicles for Indian armed forces.

Worldwide Distribution/Inventories

Indian tactical vehicles are in widespread service in **India** and numerous other countries throughout the world. International customers of Indian tactical vehicles include **Afghanistan, Bangladesh, Botswana, Bhutan, Malaysia, Myanmar, Nepal, Saudi Arabia, Sri Lanka, Thailand, Togo, the United Nations, the United States, Zambia and Zimbabwe.**

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Forecast Rationale

Domestic procurement by the Indian armed forces will account for the majority of Indian tactical vehicle production throughout the forecast period.

HMV Procurement

In 2015, the Indian Army ordered 1,239 6x6 High Mobility Vehicles (HMVs) from Tata Motors. The HMV variant will perform as a material-handling support platform, equipped with a crane to facilitate transport and field use of artillery ammunition stocks. In mid-2016, the Indian Army signed a follow-on order for an additional 619 HMVs.

The HMV will serve as a long-term replacement for the Czech-designed Force series of trucks, previously produced under license by Indian state-owned manufacturer BEML.

In 2020, the Indian Army placed a new order for 330 HMV vehicles, with deliveries to occur over the coming three-year period. The vehicles will serve as munitions carriers for the Army's indigenously developed Pinaka rocket artillery platform.

Safari Storme Procurement

In 2016, the Indian Army awarded Tata Motors a contract for the procurement of 3,192 GS800 (General Service 800) Safari Storme tactical vehicles.

The Safari Storme vehicles will initially complement and eventually replace the service's large inventories of GS500 (General Service 500) Gypsy vehicles produced by Suzuki Motor Corporation's Indian subsidiary Maruti Suzuki.

The current procurement rate of the Safari Storme will necessitate that the GS500 class – which the Indian Army placed follow-on orders for as recently as 2014 – remain in service in large quantities beyond 2027.

Stallion Procurement

The Indian Army employs the Ashok Leyland Super Stallions in a wide range of specialized roles, replacing aging vehicles of Soviet and Russian origin.

Ashok Leyland reportedly delivers an average of 2,500 Stallion series vehicles annually to the Indian Army.

In 2018, the Indian Army awarded Ashok Leyland a contract worth \$14.5 million for 81 Super Stallion 10x10 vehicles. These vehicles will provide an indigenous replacement for the launch/support vehicles associated with the Army's Russian-made 300mm Smerch rocket artillery systems.

Indian press outlets also reported deliveries of Super Stallion 8x8 series vehicles in 2020.

Local news reports indicate that an equivalent order of new Ashok Leyland 12x12 vehicles for the Army's strategic missile carriers may occur within the next several years.

Export Sales

Indian tactical vehicles generate considerable sales on the international market, particularly in Southeast Asia and Africa. However, the reporting of orders and finalized deliveries in this domain remains largely opaque. Confirmed buyers of Indian tactical vehicles include Bangladesh, South Africa, Thailand, Zambia, and Zimbabwe.

Although domestic requirements will remain the primary driver of demand for Indian tactical vehicles through the forecast period, medium-scale export sales of defense products to countries in Africa and Southeast Asia are an increasingly important and profitable source of additional revenue for Indian automotive contractors.

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Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION												
Designation or Program		High Confidence				Good Confidence			Speculative			
	Thru 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Ashok Leyland												
Stallion												
	68,571	2423	2467	2300	1755	1755	1700	1700	1330	1200	865	17,495
Tata Motors Ltd												
Heavy Mobility Vehicle LPTA 2038												
	2,184	0	0	156	245	215	80	65	0	521	305	1,587
Safari Storme												
	5,049	540	650	770	775	450	450	450	450	250	200	4,985
Subtotal	7,233	540	650	926	1020	665	530	515	450	771	505	6,572
Total	75,804	2963	3117	3226	2775	2420	2230	2215	1780	1971	1370	24,067