

- ▶ Our new factory in Ras Al Khaimah
- ▶ Ashok Leyland's Driver Care Initiatives



U-TRUCK **Launched**
The future of trucking is here



UNBEATABLE. UNSURPASSED. UNIQUE.

ENGINEERED FOR SUCCESS AND INSPIRED BY YOUR NEEDS, WE UNVEIL THE WINNING TRUCK BUILT BY YOU, FOR YOU.

Born with 7 unmatched advantages, the U-truck reigns unconquerable. From sleek and efficient design, to a powerful driving experience and easy maintenance solutions around the clock - it's everything you ever wanted. After all, you helped us build it.

U-TRUCK
TRACTORS | TIPPERS

www.utruck.in

Faster turnaround time | Higher fuel efficiency | More revenue on every trip | Better driving comfort and safety | Ready for business from day one | Longer service intervals | Comprehensive service packages



Dear Friend,

We are delighted to announce yet another pioneering innovation towards bringing world-class vehicles to our highways. Our new truck platform, the U-Truck, is destined to change the face of the logistics industry in India with a whole new trucking experience — superior product experience, superior driving experience and a superior ownership experience. Inside this issue of *Milestones* — which has also undergone a transformation — we tell you all about the new U-Truck and share images from the launch (on page 10).

The additional pages in the new-look *Milestones* have made room for more refreshing content and presentation, helping us communicate better with all our valued partners and friends.

In this issue, you can read about our 'A World in Motion' programme, where we impart knowledge to school children through simple and comprehensible hands-on sessions (on page 31), and read up on our ecological initiatives (on page 19). Take a trip through time and read about how we were at the forefront of opening bus routes with our neighbours in our 'Vintage' section (on page 18), and jump back to the present with what's currently happening in 'The World of Ashok Leyland' (on page 3).

Ashok Leyland has several ventures beyond India; we are expanding at an incredible pace and wish to ensure an international presence for the company in diverse markets. Read about our new plant in Ras Al Khaimah and our collaboration with a UK-based bus manufacturer (on page 7).

Ashok Leyland has always cared about the commercial vehicle driver; in this issue we focus on our Driver Training Centres as well as our other driver care initiatives (on page 28), and share a few 'Tricks of the Trade' (on page 22). All this and more await you as you turn the pages.

Vinod Dasari
Managing Director



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Destination Pantnagar

The launch pad of Ashok Leyland's capacity expansion drive, one of the most integrated manufacturing facilities in the Indian commercial vehicle industry and the technology pinnacle for the company — Ashok Leyland's Pantnagar manufacturing facility! Located in Dev Bhoomi, Uttarakhand, this is now our largest manufacturing unit, spread across 190 acres of land. The plant is capable of churning out trucks at the rate of 75,000 vehicles a year; built with an investment of ₹1500 crores, our real investment is the employment opportunities we are creating for over a thousand people.

Only the best

Pantnagar's state-of-the-art shop floor equipment has been sourced from Japan, USA, Europe as well as India. Lean manufacturing principles, process control for high quality output and flexibility to manage quick changeovers are all built into machine and process selection. Work on separate sections, such as chassis, engine and gearbox, suspension and cab are divided into designated business units to maximise efficiency. The facility has been designed keeping in mind the market's ever-changing demands, and provisions have been made to expand capacity in the future.

Ecologically tuned

We have also taken a slightly different approach to manufacturing, more ecologically-tuned at that, with some great results. The entire plant is highly energy efficient (we've been extra choosy about even the smallest of electrical bulbs), while the workplace is extremely operator-friendly.



Part of the assembly line at Pantnagar

Well ventilated, the shop floors receive a lot of natural light through the glass facade while the insulated high roof provides considerable relief during peak summer months. Our own water harvesting and water treatment facility ensures no shortages, and we have also planted 10,000 trees so far.

Instead of conventional liquid painting, the frames are powder-coated, thereby eliminating hazardous pollutants, providing high corrosion resistance to withstand over 500 hours of salt spray bath. This also ensures zero wastage of paint. The cabs are painted with the CED coating system that is lead/tin-free; the use of robotics

further reduces paint wastage.

It is here that the CNC flexible roll forming technology has been introduced for frame manufacture; a first in India. This technology helps in accommodating future model requirements and design changes, without fresh tooling. The flexibility comes with minimum model changeover time, allowing low batch quantities in the manufacturing plan. In the crown wheel and pinion shop, migration to 'dry' cutting with carbide blades has eliminated the use of cutting oil, and thereby pollution. We use propane for cutting, instead of LPG, which is another green initiative deployed in the plant.



A view of the huge factory building

Robotic advancements

In the highly automated axle machining and assembly shop, hazardous operations are performed by robots. Even in cab welding, robotics help achieve better quality and ergonomics. All the material movement in the shops are automated to enhance operational safety and output quality. The chassis assembly is designed to be extremely dexterous, to produce the smallest to the largest of vehicles

in Ashok Leyland's product range. The single chassis testing line can test all the models and variants, covering various tests, to generate instant reports. The concrete roads in the premises have also been laid wide to facilitate easy movement of inbound/outbound materials.

The plant was the obvious location to host last year's Annual Dealers Meet. In the words of Vilasrao Deshmukh, Minister for Heavy Industries and Public Enterprises, Government of India,

"I have seen many automobile plants the world over, but this plant is truly state-of-the-art. It is one of the best plants I have ever seen. I am also particularly happy about the direct and indirect employment the plant will create in the state, thereby contributing significantly to Uttarakhand's economic development."

We are extremely grateful for these kind words, and are committed to further industrialising the country. 🌐

Rapid Expansion



India is considered to be one of the biggest markets in the world, when it comes to dealerships, thanks to its large middle-class entrepreneurial population. Dealerships and authorised service centres have proved

extremely helpful in our commitment towards reaching out to customers and improving serviceability. In the last one year alone, we have opened 60 new touch points across the country.

Our commitment towards expansion is clear with the opening of four dealerships in three days across the Punjab and HP region: CM Automobiles (Mohali), TR Enterprises (Hoshiarpur), Grover Motors (Moga) and CM Associates (Kangra, Himachal Pradesh). These represent significant steps by Ashok Leyland towards the development of the Punjab and HP markets, with customers now assured of after sales support across the length and breadth of

both these states. All these touch points are spread across major NH corridors/strategic locations, and we are sure that these touch points would give further assurance to our customers of our intention to provide support at anytime, in any location, on the national highways. The Mohali dealership outlet also marks the company's 350th customer touch point across the country. 🌐



Quality — 'a way of life' at Ashok Leyland

We believe that the quality of our products and services is in need of constant improvement; this is the key to customer satisfaction. The proposed Ashok Leyland Knowledge Academy will be central to our several quality-related initiatives. One such initiative, designed to cut wastage, reduce variability, increase flexibility and enhance efficiency, is the implementation of Lean Six Sigma. The Lean Six Sigma initiative was kicked-off at our Pantnagar plant on July 20, 2010, and at our Alwar unit on January 12, 2011. We will be deploying this tool across the rest of the company's processes in a phased manner and expect to see results soon.

Aiming for the Deming

A cherished ambition for us is to win the Deming Prize. The Deming Prize, established in 1950 and named after Dr. W Edwards Deming, is an award given to companies or divisions of companies

that have achieved distinctive performance improvement through the application of Total Quality Management (TQM) in a designated year. The path to this challenging and yet exciting goal is robust application and adoption of TQM and best practices company-wide. While ISO/TS 16949 has been with us since 2002 and has taken us some distance forward, we are continuously working towards improvement.

Towards achieving this goal, Mr. K Nagesh Prakash, General Manager (Hosur 2) has been nominated Programme Leader for the Deming/TQM path from February 1, 2011.

Quality Month at Bhandara

January was designated Quality Month at our Bhandara plant. The intent of this was to rededicate our commitment to quality. The whole month was packed with several activities and competitions relating to quality. The first of these



गुणवत्ता शपथ

मैं अशोक लैलैन्ड परिवार के एक समर्पित सदस्य के रूप में यह शपथ लेता हूँ कि, मैं अपने गुणवत्ता लक्ष्य एवं सम्पूर्ण ग्राहक सन्तुष्टि के प्रति वचनबद्ध हूँ।

मैं, अपने उत्पाद एवं सेवाओं की विश्वसनीयता को बढ़ाकर, अपने कार्य के प्रत्येक भाग में निरन्तर प्रगति के द्वारा, कम्पनी के सम्पूर्ण गुणवत्ता प्रबन्धन के ध्येय, दृष्टि, तथा मूल्यों के सर्वोपरि लक्ष्य को प्राप्त करूँगा।

Oath of Quality

was the quality oath and self certification. 400 employees participated in the competitions and activities organised for Quality Month, making the proceedings a huge success. Employees were invited to submit suggestions to improve quality across processes.

The quality of our products and services will continue to improve, raising the bar for the rest of the industry. 🌐



The unit head of the Bhandara plant addressing the staff during Quality Month

On call, all the time

Launched on January 2, 2010, Leyland Direct, our 24 X 7 toll-free customer care number has consistently provided callers with a single point of contact for any support regarding Ashok Leyland products. Through Leyland Direct, our customers can receive emergency breakdown attention besides being provided updated information on new products, dealer location and service products. They can also suggest improvements. Agents at the call

centre are trained to take calls in the caller’s preferred local language. Along with Leyland Direct, we have also launched the TatkaAL initiative, our emergency breakdown attention service. It is our assurance to respond to all distress calls on the Golden Quadrilateral within 4 hours and get the vehicle back on the road within 48 hours of informing Leyland Direct about the breakdown. We have covered these routes with sufficient service touch points to ensure response and restoration time adherence. In case we fail to do so, we

shall pay a penalty of ₹1000 to the customer for every single day that the vehicle is off the road (conditions apply). Ashok Leyland has kept its promise since January 2, 2010 and now, the TatkaAL promise has been extended to the North-South and East-West corridors since November 2, 2010, coinciding with the U-Truck launch.



Ashok Leyland and Optare join hands

Two bus manufacturers get together to take on the world

Text by Anosh Khumbatta



An Optare bus



Traffic Rules!

The Tamil Nadu Police Traffic Wardens Organisation organised Ananda Salai, Vibathila Kovai road safety awareness programme for the benefit of the people of Coimbatore. The event was conducted from December 2 to December 4, 2010, under the guidance of the

Commissioner of Police Dr. C Sylendra Babu, IPS. The agenda behind the campaign was to inculcate a healthy and positive driving attitude among the general public, thereby creating an ‘accident-free’ Coimbatore. Since Ashok Leyland has been working for the same cause for decades, we, along with the Driver Service and Training Centre (DSTC) at Namakkal, stepped forward to

create awareness on traffic rules among the Coimbatoreans. The event was inaugurated by ADGP Dr. K Radhakrishnan, IPS, and was attended by the District Collector of Coimbatore Dr. P Umanath, IAS, along with the city’s school and college students, the Tamil Nadu State Transport Corporation (TNSTC) drivers and officials, our customers and the general public.



With a vision to further accelerate technology and new product development, and also to address new markets, we are proud to announce that Ashok Leyland has acquired a 26 per cent stake in Optare plc, a leading bus manufacturer in the UK. The investment involved is estimated to be around \$7.5 million.

Founded in 1985, Optare has a turnover of about \$125 million and has been a pioneer of the low-floor double-decker buses in the UK. More recently, Optare has been recognised for its innovative, weight-optimised ‘Low Carbon’ range of low-floor, mid-size buses as well as a modern range of city buses. Optare has also recently introduced an electric bus, as more countries in Europe promote greener and cleaner mobility.

With this agreement, both companies have unanimously embarked upon leveraging the

Ashok Leyland has acquired a 26 per cent stake in UK-based bus manufacturer Optare. With a turnover of about \$125 million, the company that pioneered the low-floor double-decker buses in the UK is also acclaimed for their ‘Low Carbon’ range of low-floor, midsize buses. Ashok Leyland will have access to Optare’s complete range and technology, while Optare will benefit from our lower-cost supply chain.

synergies they have mutually identified. We at Ashok Leyland will have access to Optare’s technology, including a modern range of mid-size and full-size city buses, which will appeal to several global markets. On the other hand, Optare will have access to our lower-cost supply chain and improved management of its working capital, to help improve its competitiveness in the market. The companies will both benefit from co-operation in new product development. R Seshasayee, then MD, now Executive Vice Chairman, Ashok Leyland,

and Dr V Sumantran, Executive Vice Chairman, Hinduja Automotive, are the two nominees on the Board of Optare.

“This new venture will deliver direct benefits to UK bus customers while propelling Optare on to the global stage,” said John Fickling, Optare’s Non-Executive Chairman. “We will benefit from the tremendous opportunities offered by Ashok Leyland not only as an industry giant, but as a leader in advanced technology” he added. Jim Sumner, CEO-Optare confirmed that Optare had been looking for a long-term strategic partner for a while; he expressed confidence in creating an organisation that would soon be a major player in the global industry. This agreement brings together two quality bus-making companies who can trace their lineage to common roots – the Leyland brand – with links to the long history of that company, when it was the largest bus maker in the world.

Into the Gulf

Ashok Leyland's new manufacturing unit in the UAE boasts the latest processes and technology, ensuring the company's growth in this region.

Text by **Anosh Khumbatta**



(L to R) His Highness Sheikh Mohammed Bin Saud Al Qasimi, the new Crown Prince of Ras Al Khaimah; His Highness Sheikh Nahayan Mubarak Al Nahayan, Minister of Higher Education and Scientific Research, UAE; Prakash P Hinduja, President – Hinduja Group Europe; Srichand P Hinduja, Chairman – Hinduja group; His Highness Sheikh Saud Bin Saqr Al Qasimi, Supreme Council Member and Ruler of Ras Al Khaimah; Gopichand P Hinduja, President – Hinduja Group and (extreme right) Dheeraj G Hinduja, Chairman – Ashok Leyland

We have been instrumental in setting up UAE's first vehicle factory in Ras Al Khaimah (RAK).

His Highness, Sheikh Saud Bin Saqr Al Qasimi, Supreme Council Member and Ruler of Ras Al Khaimah inaugurated the state-of-the-art factory of Ashok Leyland (UAE) Ltd. on December 16, 2010. This factory is a joint venture between Ashok Leyland, the flagship of the Hinduja Group, and the Ras Al Khaimah Investment Authority (RAKIA). Following the inauguration, the AVIA range of trucks, manufactured by AVIA Ashok Leyland Ltd, Czech Republic, was also launched. These vehicles will soon start rolling out of the RAK facility.

The UAE's first vehicle factory, our new facility in Ras Al Khaimah, is setting a benchmark for such plants around the world. With an initial annual capacity of 2,000 buses and trucks, this facility will make it easier to supply our overseas clientele in the region. The Ashok Leyland Ras Al Khaimah factory will also manufacture the D-Line series of AVIA trucks to complement our medium and heavy duty trucks.

On the occasion of the inauguration, Mr. Srichand P Hinduja, Chairman of the Hinduja Group, had this to say; "For the Hinduja Group, this event is an important step in reinforcing our presence in the Middle East. The support and co-operation that we have received from His Highness and the officials for getting this factory up and running has been overwhelming,

and it is our goal to make this a benchmark manufacturing facility in the world." With a strong hold on the bus market in the Gulf region it makes sense for our company to set up a manufacturing base closer to our customers. This facility will now cater to markets in the GCC countries, Africa and Europe too.

"This new facility will be a great fillip to the local economy," said Dr. Khater Massaad, Chief Executive Officer, RAKIA. "It will provide more employment opportunities, world-class vehicles and the 'Made-in-RAK' tag will surely find great acceptance in the local markets, which will in turn help the economy grow."

The RAK factory is located on 1,00,000 square metres of land, and has a built-up area of 20,000 square metres. The modern facility has an initial annual capacity of 2,000 buses and trucks of international quality. The two separate weld lines can handle multiple models and the conveyorised paint line consisting of paint booth, baking zone and cooling zone,

ensures a perfect coat to the finished product. The facility also boasts two conveyorised trim lines and an extremely flexible vehicle assembly line suitable for current and prospective models. These modern facilities will ensure that our products retain the quality and reliability that the company is known for.

In addition to manufacturing passenger buses,

the built-in flexibility of the RAK factory will also allow the manufacture of our European brand of trucks; these are currently being manufactured at the Prague-headquartered AVIA Ashok Leyland Motors. The D-Line series of AVIA trucks will complement our medium and heavy-duty trucks in serving the traditional markets of Africa, UAE and neighbouring regions. 



The state-of-the-art bus assembly line in the RAK factory



Ashok Leyland has revolutionised Indian trucking logistics with the introduction of a completely new vehicle platform — the contemporary U-Truck. This new range of vehicles is slated to eventually replace our existing range of trucks, ushering in a new age for the commercial vehicle market. The U-Truck range promises excellent fuel efficiency, ergonomic driveability and reliability. These products have been launched after a detailed customer feedback process, including customer inputs into the design and development of the range. Our R&D team has outdone itself by building this vehicle around the end user's requirements, and this is the thinking behind the U-Truck; U referring to you, our customers.

A REVOLUTION

Ashok Leyland ushers in a new age for the trucking industry with the introduction of a world-class platform

Text by **Anosh Khumbatta**



Options galore

The U-Truck base forms a complete range of trucks from 16 to 49 tonnes, including tippers and tractors. 16-ton tippers are available in 2 power options and 4 body options, 25-ton tippers are available in 3 power options and 5 body options and 31-ton tippers are available in 2 body options. Tractor-trailers are available in 35-ton, 40-ton and 49-ton options with 2 suspension options for the 49-ton tractors. This wide range ensures that there is a U-Truck for every need, while the modular build of the U-Truck ensures that we will be able to adapt this platform, and develop variants for different markets, applications and future demands of the industry.

Industry firsts

The U-Truck platform is backed by innovative service care packages which have never been seen before in India's commercial vehicle industry, like the introduction of longer and synchronised service intervals. With clearly-defined service intervals resulting in less downtime, tractors need to visit workshops every 40,000 kilometres, and tippers every 500 operating hours for scheduled maintenance services, ensuring trouble-free operation till the



One of the first U-Trucks emerges onto the stage at the launch event

next service. The 4-year driveline warranty is another benchmark set by Ashok Leyland and is being offered on tractors, while the 2-year/5,000-hour/2,00,000-kilometre warranty is being offered on tippers.



Different versions of the new platform at the launch event

Another unique offering is the Gold/Silver/Bronze maintenance packages offered with U-Trucks. These packages offer a fixed predetermined cost of maintenance over four years. Ashok Leyland also has in place the new ALLCOVER insurance package, ensuring a cashless transaction for accident repairs. This package ensures an assured restoration

time of 3 days for minor repairs and 7 days for major repairs (from the date of reporting to the workshop). The company's increased focus on customer centricity is reflected in the huge success of the TatkaAL scheme that promises attention to distress calls within 4 hours and restoration within 48, with assured response time for breakdowns on the Golden Quadrilateral.

The TatkaAL promise is now being extended to cover the North-South and East-West corridors. In addition, the trucks can be fitted with the ALERT module, GPS and GPRS enabled telematics system, enabling two-way voice communication. This feature allows the driver to instantly connect with the Ashok Leyland service call centre and allows you to track your vehicle in real-time.



Our highway warriors

Ashok Leyland has always taken positive steps towards the betterment of the quality of life of the commercial vehicle driver. We will not only provide driver training with the sale of a U-Truck, but also include features to enhance driver comfort and safety. Some of these include superior suspended long-haul sleeper cabs in tractors and day cabs with sleeper provision in tippers, better NVH (Noise, Vibration, Harshness) characteristics and optional air-conditioning and music systems. Ride quality is enhanced by the contemporary suspension systems, and safety is taken care of through high-performance braking systems with options for ABS (Antilock Braking System) and exhaust brakes. The cabs provided on the U-Trucks are suspended units that have passed severe crash testing. The fully-built U-Trucks are available with optional features like telematics for real time track and trace and driver management. All U-Trucks sold include driver insurance for 4 years and a comprehensive driver care kit that contains a dual SIM mobile phone with a lifetime incoming connection, a blanket, a windcheater, two T-shirts, a torch and a document holder.

Under the hood

The new Neptune engines, developed in-house, that will be offered in the U-Truck come in different power ratings between 160 and



Driver Kit, free with every U-Truck



Mr. R Seshasayee, then Managing Director and now Executive Vice Chairman, Ashok Leyland Ltd. speaking at the launch.

360 Hp. These engines are Euro 3 and Euro 4 compliant, and can even be upgraded to Euro 5. U-Truck transmissions are built in collaboration with world renowned ZF Friedrichshafen AG of

Germany, with whom Ashok Leyland share a long relationship. The U-Truck range will offer 6, 8, 9 and 16 speed gear boxes based on the models and specifications. The U-Truck was introduced to customers, dealers, channel partners and financiers at the last Auto Expo in New Delhi and hit the market at a stunning start of sale event held at the Chennai Trade Centre. With the best technology from around the world, Ashok Leyland is set to change the face of the Indian trucking industry, with future-ready products that retain the Ashok Leyland DNA which is rugged, reliable and fuel efficient. 



U-2523 T BS III (6X4) TIPPER

The rugged U-2523 T is designed to meet the demands of high productivity in mines, namely faster trip times and higher uptime, irrespective of the depth or terrain. Powered by a high-torque yet fuel-efficient 'H' series common rail fuel injection system (CRS) engine coupled with a 9-speed gearbox and supported by a heavy-duty bogie suspension, the U-2523 T offers the best returns on an investment.

FEATURES

- 'H' series CRS engine with high torque for better pickup
- Efficient engine management system for optimal fuel delivery
- 9-speed gearbox with crawler gear for higher gradability
- All new front axle for easy maneuverability
- Durable load body and hydraulics
- Joggled frame with flanged fasteners and full length internal flitch for higher durability
- Bogie suspension at rear for heavier loads
- Fully suspended factory built day cabin with sleeping provision for driver

SPECIFICATIONS

Engine	'H' series CRS BS III engine
Power	225 HP @ 2500 RPM
Torque	800 Nm @ 1400-1900 RPM
Clutch	380 mm dia RDC with organic lining and actuated with clutch boosters
Gearbox	9-speed synchromesh gearbox; FGR 8.83:1; CGR 12.73:1
Front axle	Forged 'I' beam reverse Elliot
Rear axle	Fully-floating single-speed hypoid with 6.17 RAR
Steering	Integral power steering
Suspension	Front: Semi-elliptic multi-leaf springs with shock absorbers Rear: Heavy duty bogie
Body options	16 cu.m box, 14 cu.m rock, 14 cu.m rock with Hardox
Wheels & tyres	11.00 x 20 16 PR Optional 11.00 x 20 18 PR with mine lug
Electrical	24 V system, 2 x 12 V, 130 AH
Cabin	Fully-suspended factory-built day cab
Max speed	80 kmph
Max gradeability	46.3 per cent

OPTIONS

- DGMS features
- 11.00 x 20 18 PR tyres with mine lug pattern
- A/C cabin
- ALERT – Fleet management system
- Music system

LEAD APPLICATIONS

- Overburden and mining
- Marble and stone quarries
- Ores and minerals transport (limestone, iron ore, etc)



U-4923 TT BS III (6X4) TRACTOR

The U-4923 TT is designed to meet the demands of faster trip time and higher fuel efficiency. Fitted with a 225 horsepower 'H' series common rail fuel injection system (CRS) engine and matching driveline, the U-4923 TT ensures better pickup, acceleration and higher gradeability. Its fully-suspended sleeper cab makes long-haul driving a very comfortable experience. These advantages seamlessly integrate to make the U-4923 TT the best tractor in its category.

FEATURES

- 'H' series engine with CRS for consistent higher fuel efficiency
- 9-speed gearbox with crawler gear for faster trips
- Clutch booster for a fatigueless drive
- All new front axle for easy maneuverability
- Joggled deep frame for higher durability
- Parabolic front suspension for comfortable ride
- Factory built cabin for improved comfort, safety and space

SPECIFICATIONS

Engine	'H' series CRS BS III engine
Power	225 HP @ 2500 RPM
Torque	800 Nm @ 1400-1900 RPM
Clutch	380 mm dia RDC with organic facing material
Gearbox	9-speed synchromesh gearbox with crawler gear
Front axle	Forged 'I' beam reverse Elliot
Rear axle	Tandem, fully-floating single-speed with 6.17 RAR
Steering	Integral power steering
Suspension	Front: Parabolic springs with shock absorbers Rear: Non reactive suspension
Wheels & tyres	11.00 x 20 16 PR
Electrical	24 V system, 2 x (12 V, 130 AH)
Cabin	Factory-built twin sleeper cab with coil suspension
Max speed	80 kmph
Max gradeability	21 per cent

OPTIONS

- Radial tyres
- Rear bogie suspension
- A/C cabin
- ALERT – Fleet management system
- Music system
- Cab colour; Traffic Blue & Casablanca White

LEAD APPLICATIONS

- Cement
- Steel
- Market Load
- Over Dimensional Cargo (ODC)

U-3123 T BS III (8X4) TIPPER

The U-3123 T is the first of its kind, designed for the bulk movement of construction materials and other low-density commodities like coal and coke. The 'H' series common rail fuel injection system (CRS) engine ensures higher fuel efficiency. The heavy-duty aggregates and high-capacity load bodies facilitate higher load-carrying capability. All of these enable the U-3123 T to take on any challenge in the construction industry.

FEATURES

- 'H' series CRS engine for higher fuel efficiency
- Efficient engine management system for optimal fuel delivery
- 9-speed gearbox for faster trips
- All new twin steerable front axles for easy maneuverability
- Joggled frame with flanged fasteners for higher durability
- Larger capacity and durable body for more material and longer life
- Bogie suspension at rear for heavier loads
- Fully suspended factory built day cabin with sleeping provision for driver

SPECIFICATIONS

Engine	'H' series CRS BS III engine
Power	225 HP @ 2500 RPM
Torque	800 Nm @ 1400-1900 RPM
Clutch	380 mm dia RDC with organic lining and actuated with clutch boosters
Gearbox	9-speed synchromesh gearbox; FGR 8.83:1; CGR 12.73:1
Front axle	Twin steerable forged 'I' beam reverse Elliot
Rear axle	Fully-floating single-speed hypoid with 5.83 RAR
Steering	Integral power steering
Suspension	Front: Semi-elliptic multi-leaf springs with shock absorbers Rear: Heavy duty bogie
Body options	19 cu.m box, 22 cu.m box
Wheels & tyres	11.00 x 20 16 PR
Electrical	24 V system, 2 x 12 V, 130 AH
Cabin	Fully-suspended factory-built day cab
Max speed	84.6 kmph
Max gradeability	33.5 per cent

OPTIONS

- A/C cabin
- ALERT – Fleet management system
- Music system

LEAD APPLICATIONS

- Surface transportation of sand and blue metal
- Handling of ores and minerals in ports
- Transportation of coal & coke



Across Borders

Over the years, Ashok Leyland has played an important role in improving relations with our neighbours.

Text by **Anosh Khumbatta**



Former Prime Minister of India Atal Bihari Vajpayee setting off from Delhi to Lahore in 1999

The year 1999 was one of reaching out to our neighbours. On February 20, 1999, the then Indian Prime Minister Atal Bihari Vajpayee boarded an Ashok Leyland Viking bus in Delhi and travelled to Pakistan to meet his counterpart Nawaz Sharif. This was the inauguration of the 530-kilometre Delhi to Lahore bus route, *Sada-e-Sarhad*, that runs even today. The service is of great importance in maintaining peaceful relations between the two once-warring nations. On June 19 of the same year, the West Bengal Surface Transport Corporation chose another Viking bus to open

the new Calcutta to Dhaka bus service, connecting us with our eastern neighbour, Bangladesh.

The bus route from Srinagar in India to Muzaffarabad in Pakistan was opened on April 7, 2005, after being closed for 55 years. The first Indian vehicle to cross the border into Pakistan was yet another Ashok Leyland bus. The vehicle was flagged off on this relation-building journey by the Indian Prime Minister Manmohan Singh and UPA Chairperson Sonia Gandhi from Srinagar's Sher-e-Kashmir cricket stadium. 🌐



Indian Prime Minister Manmohan Singh and UPA Chairperson Sonia Gandhi flag off the first bus to Muzaffarabad from Srinagar's Sher-e-Kashmir cricket stadium in 2005

Plant a tree

Just a few of the efforts made by Ashok Leyland towards easing the load on Mother Nature's shoulders.

Text by **Anosh Khumbatta**



At Ashok Leyland, we place strong emphasis on environmental and ecological issues — we would like to leave behind a cleaner world for future generations. We ensure that all our offices, processes, plants and products leave behind a minimal carbon footprint.

Corporate office building

Clear evidence of our green commitments is the design of the Ashok Leyland Corporate Office Building (ALCOB) in Chennai. Our building, with a total built-up area of 1,92,000 square feet, has been awarded the LEED (Leadership in Energy and Environmental Design) India for New Construction Certification by the Indian Green Building Council. We exercised due caution during the construction to see that not a single tree faced the axe. The ALCOB is designed to make efficient use of energy, water and materials, with the use of recyclable building materials, energy-efficient light fixtures and high-performance glass that reduces heat transfer and promotes better light transmittance. Use of this glass over the facade of the building allows natural light to enter, but keeps the interiors cool, allowing the air-conditioning system to work more efficiently. The energy-efficient air-cooled chillers also use an eco-friendly refrigerant.

Plants & Processes

To keep our engine manufacturing unit in line with our ecological commitment, we ensure that our engines are durable, have higher maintenance intervals and are 100 per cent lead and asbestos free. Stillages for packaging of our engines have been switched from wood to steel, saving wood to the tune of 43,640 cubic feet — the equivalent to planting 1,200 trees. Ashok Leyland



ALCOB, our corporate office building



Engine test cell



Robotic handling facility

has also instituted the 'Green Shield Award' at manufacturing units, to achieve better environmental performance. The ambit of the award covers areas such as reduction in use of toxic material, participative environmental management, recycling and reusing, and controlling hazardous waste generation.

We recycle 14 million litres of water a year through rainwater harvesting, we have created over 1,62,000 square metres of grasslands and planted over 2,50,000 trees across the company.

Products

To take our green initiative a step further, Ashok Leyland with the University of Denver, Colorado, and Health Sciences Center, USA, initiated a joint effort to explore the use of Life Cycle Assessment (LCA) to facilitate green engineering in India. Environmental LCA is an analysis methodology that strives to capture the cradle-to-grave impacts of a product on the environment; so in a bus, the boundary is expanded from vehicle operation to include fuel production, vehicle manufacture and final disposal. In this way we



Cam-shaft machining line

can foresee, and direct countermeasures to tackle, any environmental issues that may arise through the lifetime of our products. Reducing

pollution and wastage are the only ways we can ensure a cleaner greener world for future generations. ♻️



Engine assembly shop

Going the distance

Save fuel to save money

Text by **Anosh Khumbatta**



Fuel is a leading operating cost and one of the largest variables for a trucking venture, therefore, fuel economy has always been an important consideration for truck owners. Inflation keeps pushing the cost of fuel up, and there is absolutely nothing that OEMs or trucking companies or their customers can do about this. We can, however, have some control

over the rate that fuel is consumed. A truck uses energy to overcome mechanical, rolling and aerodynamic resistance and several factors contribute towards fuel consumption figures; the main factors are aerodynamic drag, vehicle used, route, vehicle engine condition, tyre condition, tyre pressure, wheel alignment, axle alignment and driving style. The greatest key to success

for any operator is buying the right truck and understanding his vehicle, which is an important step towards maximising fuel efficiency.

Enhancing fuel economy can be achieved technically, by minimising mechanical and rolling resistance, enhancing engine/powertrain efficiency and by reducing aerodynamic drag. Fuel economy can also be improved

administratively, by adopting good driving practices, incentivising drivers, proper upkeep of the records, route management, etc.

The two factors that greatly affect fuel efficiency are rolling resistance and aerodynamic drag. The rolling resistance of the tyres affects fuel consumption to a greater degree below 60 kmph, while aerodynamics of a vehicle come into play over this speed; as speed increases, so does the drag holding the vehicle back. As the average speed/cruising speed of most heavy vehicles on Indian roads does not exceed 60 kmph, the effects of rolling resistance are very relevant for our customers.

Tyres and wheels

The rolling resistance of a tyre is a factor that needs to be overcome to get a vehicle in motion. The rolling resistance of a tyre accounts for about one-third of a truck's fuel consumption; in other words, a three per cent reduction in rolling resistance produces about a one per cent gain in fuel economy. Rolling resistance results from the internal friction of a tyre as it flexes during motion. Energy spent generating heat in the tyres is energy that does not contribute to moving the vehicle; hence the rolling resistance is directly proportional to the amount of fuel needed to travel a fixed distance.

The condition and maintenance of tyres can greatly affect performance and economy. Underinflated tyres will not only lower fuel economy due to increased rolling resistance, these tyres will also wear out unevenly. Every 10 psi of underinflation translates to approximately a one per cent decrease in fuel efficiency. Increased tyre pressure means less rolling resistance and better mileage, but conversely, it can mean more tyre wear.

Tread depth over the life of a tyre has a significant effect on fuel economy. As the tread wears, the fuel efficiency increases. The increase is fairly rapid at first and then slows down as the tyre wears out. The change in tyre wear affects rolling resistance in different ways, thus changing your fuel economy differently over time.

Cross-ply and radial tyres are not alike. Radials are better than cross-plys when it comes to fuel economy, while all axle positions are not equal either; tyres on different axles make different

contributions to the fuel economy. Changing trailer tyres to radials creates a greater improvement than changing tractor tyres to radial type.

Running tyres at a higher load and speed than what they are rated for causes excessive flexing, leading to more friction, higher tyre temperatures and reduced fuel economy. Ensure that all the wheels and axles are properly aligned as misaligned wheels can also increase the amount of fuel required to power the vehicle forward.



On Indian highways, the rolling resistance of tyres play a major role in fuel consumed



An Ashok Leyland tractor trailer fitted with aerodynamic aids

DID YOU KNOW?

- Radial tyres return better fuel economy than cross ply tyres, and the benefit is more pronounced with radials fitted to the trailer than when fitted to the tractor.
- Every hour of idle time in long-haul operations can reduce fuel efficiency by one per cent.
- Fuel consumption on long-distance tractor trailers can be considerably reduced by the fitment of aerodynamic aids.
- Using the correct grade of engine oil and replacing it at the prescribed intervals will improve fuel efficiency, as will the timely replacement of air and fuel filters.
- The proper driving style can improve fuel efficiency by 30 per cent.
- Ashok Leyland is the only OE in the country that offers BS III models with inline pumps, which improves fuel economy.

Aerodynamic drag

The aerodynamics of a vehicle come into greater effect above 60 kmph — as speed increases, so does the wind resistance (aerodynamic drag). Aerodynamic drag is determined by the shape of the vehicle, frontal area, parts sticking out into the airstream (mirrors, exhausts, door handles, etc), the turbulence created by the vehicle as it passes through the air and the vehicle's speed. Aerodynamic aids are available for fitment on trucks, however, it is up to each fleet owner to decide whether or not it will add value to fit such aids on his trucks. Being more effective at higher speeds, such aids only benefit long-distance tractor trailers; they would not make a marked improvement on vehicles on short operations in urban areas, and the cost and maintenance of

these treatments would outweigh the benefits.

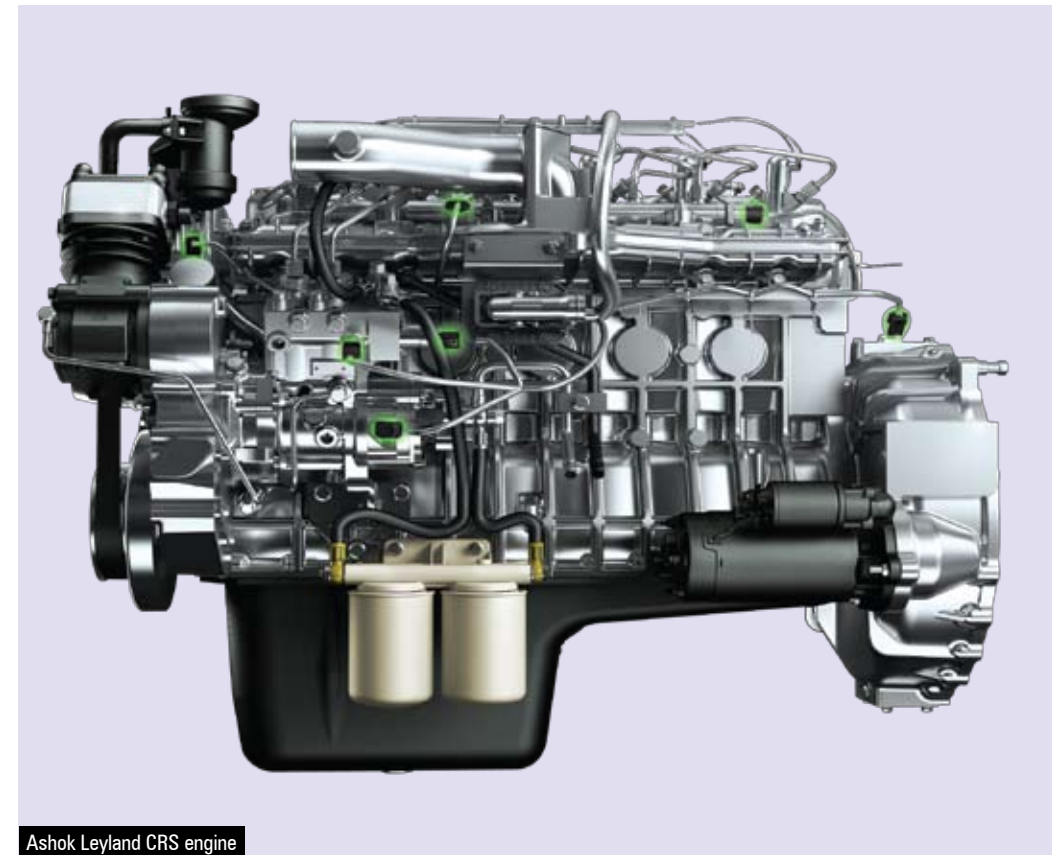
Wheel base and fifth wheel setting are important considerations. Tractor-trailer gaps can create an air pocket, creating drag from crosswinds and turbulent air. For better aerodynamics, get the trailer as close to the back of the cab as possible. The narrower the gap, the better the aerodynamics and the resulting increase in fuel economy. For example, decreasing the trailer gap by 10 inches represents a 0.5 per cent increase in fuel economy. Drag characteristics of different trailer and body styles can vary, impacting fuel economy. A straight-side van trailer with rounded corners at the front offers the least resistance and hence the least drag.

Engine gearing and condition

The way an engine is geared can greatly affect fuel economy. The lower the rpm level where the engine cruises comfortably, better the fuel efficiency an engine will return; however, as every engine is a bit different, the ideal rpm differs from engine to engine. Axle gearing and tyre size also contribute to the ideal cruising engine rpm. Engine rpm at cruise has been progressively lowered for improved fuel economy.

Gradeability is the vehicle's ability to climb a grade at a given speed. For example, a truck with a gradeability of 5 per cent at 100 kmph can maintain 100 kmph on a grade with a rise of 5 per cent. Any steeper grade will cause a reduction in vehicle speed while climbing the hill. If you specify too much horsepower for your fleet, you encourage drivers to accelerate rapidly and drive faster, but specifying too little horsepower reduces gradeability and creates driver dissatisfaction, as the driver would need to regularly shift into lower gears to maintain speed over inclines. Finding the perfect balance is key to ensuring efficient fuel consumption figures, while still retaining comfortable drivability.

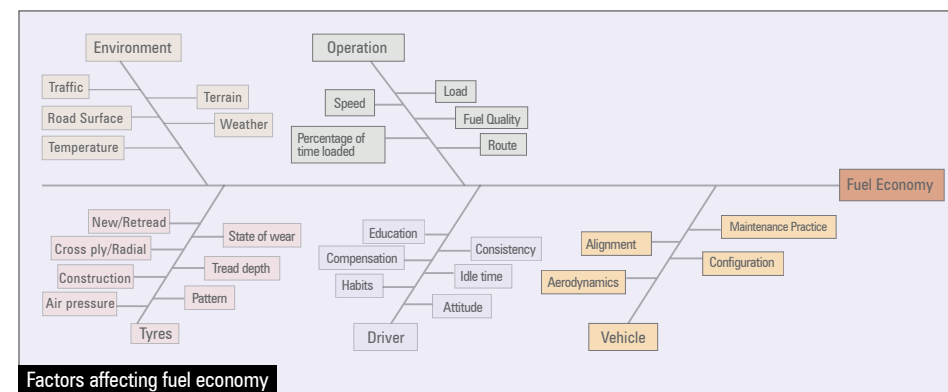
For ideal fuel economy, your engine needs to be in perfect condition as well. Engines have a lot of moving parts, which means more potential for the loss of energy



Ashok Leyland CRS engine

through friction if these parts are not properly lubricated. The correct grade of engine oil, replaced at the recommended intervals, will ensure minimal loss of energy through friction. Using incorrect or expired oil can lead to the engine overheating due to friction leading to more fuel being burnt.

The engine must be kept in a proper state of tune to work with a reasonable amount of fuel; make sure the carburettor and throttle bodies are cleaned with regular servicing and check for faulty/worn injectors, a faulty fuel pump and a blocked fuel line and filter. A clogged air filter can lead to the induction of an incorrect air-fuel mixture into the engine, especially in extremely dusty conditions, so have it cleaned regularly and replaced when necessary. Keep an eye on the cooling system; make sure that the radiator and intercooler are not clogged by dirt and check for proper functioning of the thermostat that actuates the radiator fan. Make sure that the compressor is free of leaks, as a leaky compressor would put a greater load on the engine, increasing fuel consumption



Factors affecting fuel economy



An Ashok Leyland tractor trailer

Driving style

The way one drives can have a marked effect on fuel consumption figures — different driving techniques account for a 30 per cent variation in fuel consumption. A general rule of thumb is that every 1 kmph increase above 60 kmph reduces fuel efficiency by 0.1 kmpl. Excessive speeding increases fuel consumption, as does excessive idling, operating the vehicle in the wrong gear and accelerating and decelerating rapidly. To help consume less fuel, drivers are advised to accelerate smoothly, shift into higher gears early,

maintain a steady speed and use the brakes sparingly. Stop and go traffic accelerations have a huge impact on fuel efficiency; each acceleration from 0 to 60 kmph consumes as much fuel as 5 minutes of steady highway driving. By anticipating the road and the traffic conditions ahead, an experienced driver will make minimum use of the brakes, and will instead control the vehicle's speed using the mechanical resistance of the engine to slow down. This method is known as engine braking. Speeding when the road conditions do not permit it, and then having

to slam on the brakes means that the energy and fuel used to get to that speed have been wasted; it is always better to coast to a stop than to accelerate till the last moment and then use the brakes. The following is a short list of behaviours exhibited by drivers consistently obtaining good fuel economy:

- High average vehicle speeds with minimum time spent at maximum vehicle speed
- High percent of trip distance covered in top gear (>90 per cent recommended)

- Minimum time at idle
- Minimum number of sudden decelerations

To motivate drivers to drive responsibly and economically, fleet owners can offer an incentive, in the form of a bonus, to the driver that operates the vehicle at maximum efficiency. The incentive can be added to the road speed — it can help save fuel.

Route management

Fleet owners need to efficiently plan routes between destinations to save time and fuel; they also need to ensure that their drivers adhere to these routes. Ashok Leyland offers factory-installed GPS-ALERT systems equipped with geofencing to aid route management and keep an eye on the fleet.

Our initiatives

Each year Ashok Leyland invests significant resources and conducts extensive on-road and in-lab testing, in the pursuit of advances in fuel economy that will benefit our customers. Testing and user trials help confirm and verify results gathered from predictions. User trial runs provide us with data covering thousands of kilometres in the lead applications and geographies of our customers, before the launch of the product.

We also provide our customers with a wide range of products. One spec does not fit all, and using the correct configuration/power rating for specific applications saves fuel; an underpowered vehicle will need to run at a higher rpm with a heavy load, and a vehicle with too much power and a light load will just burn too much fuel for the job. Each engine and transmission is sized for the intended application, be it excessively heavy loads over long distances, or ghat usage in hilly regions. The company works in conjunction with dealers



'H' series BSIII engine with inline FIP

and customers, to offer vehicles that meet customers' fuel economy requirements.

Ashok Leyland is the only OE in the country that offers BSIII models with inline FIP which is user-friendly and helps fuel economy, and all our trucks have rpm meters with the engine sweet spot distinguished by a green band. This helps drivers operate the vehicle at optimum engine speed in any gear.

Our current research includes the usage of lightweight alternative materials to reduce load. Methods of reducing the weight of rotating components such as tyres, wheels and brake drums/discs are also being explored. In addition

to these efforts we have also established world-class training centres in several locations across the country. These are dedicated to helping commercial vehicle drivers perfect their skills, so that they can operate their designated vehicles properly and economically. Turn to the next page to read about these Driver Training Centres. With our efforts, and keeping the above points in mind, fleet owners can greatly reduce operating costs, and attempt to stabilise the one major variable cost in a trucking or logistical venture. 🌐

With inputs from the Cummins MPG Guide, Secrets of Better Fuel Economy



The entrance of the Namakkal Driver Training Centre

Touching their lives

Ashok Leyland's contribution towards better drivers on our highways.

Text by **Pradnya Joshi Nair**

For a decade and a half, Ashok Leyland has been pioneering initiatives to provide heavy commercial vehicle drivers a better life beyond driving.

A step forward

In 1995, we established our first Driver Training Centre over a 25-acre plot at Namakkal, Tamil Nadu to train our first batch of drivers. So

far, approximately 2,24,940 HCV drivers have benefited from the Driver Care Programmes conducted at this facility. Encouraged by the success of this unique programme, we opened another training centre in 2005, this time up north in Burari, Delhi. These two centres have now been recognised by the Governments of Tamil Nadu and Delhi. Our two new centres in Bhubaneshwar and Kaithal, Haryana, are

expected to be operational by June 2011, while the one in Chhindwara, Madhya Pradesh, is expected to be operational by October this year. We are also in the middle of discussions with five more states for new training centres.

Our Driver Training Programme offers courses such as a three-month beginners to HMV licence course, a two to fourteen-day refresher course for experienced drivers, a five-day training for aspiring trainers, a three-day training for handling hazardous chemicals, a two-day course on



A bus negotiates the curved track at the Driver Training Centre



A Namakkal instructor demonstrating the drivetrain mechanism

fuel saving and other courses based on requirements such as tractor trailers, tippers, ghat section, et al.

A better life

The idea behind this training programme is not just to impart technical skills, but provide the drivers a better life beyond driving as well. Here — in addition to industrial education — they are introduced to yoga and meditation, stress management, first-aid, firefighting and maintenance inputs, as well as counselling for erratic behavioural patterns, substance addiction and insurance coverage.

We have also set up a medical centre at Hosur in Tamil Nadu, where we have introduced Arogya, a health initiative. Drivers can avail free medical check-ups and consultations at this centre.

Another pressing concern addressed by us is awareness on AIDS. According to a survey, 40 per cent of the truck drivers in India are at the risk of contracting AIDS. Ashok Leyland hosted an intervention centre for AIDS awareness, with assistance from our company's volunteers, thereby becoming one of the first organisations to conduct an event of this nature, back in 1995. We have since regularly conducted awareness programmes throughout the country to spread awareness on the subject.



A section where drivers practice hairpin bends



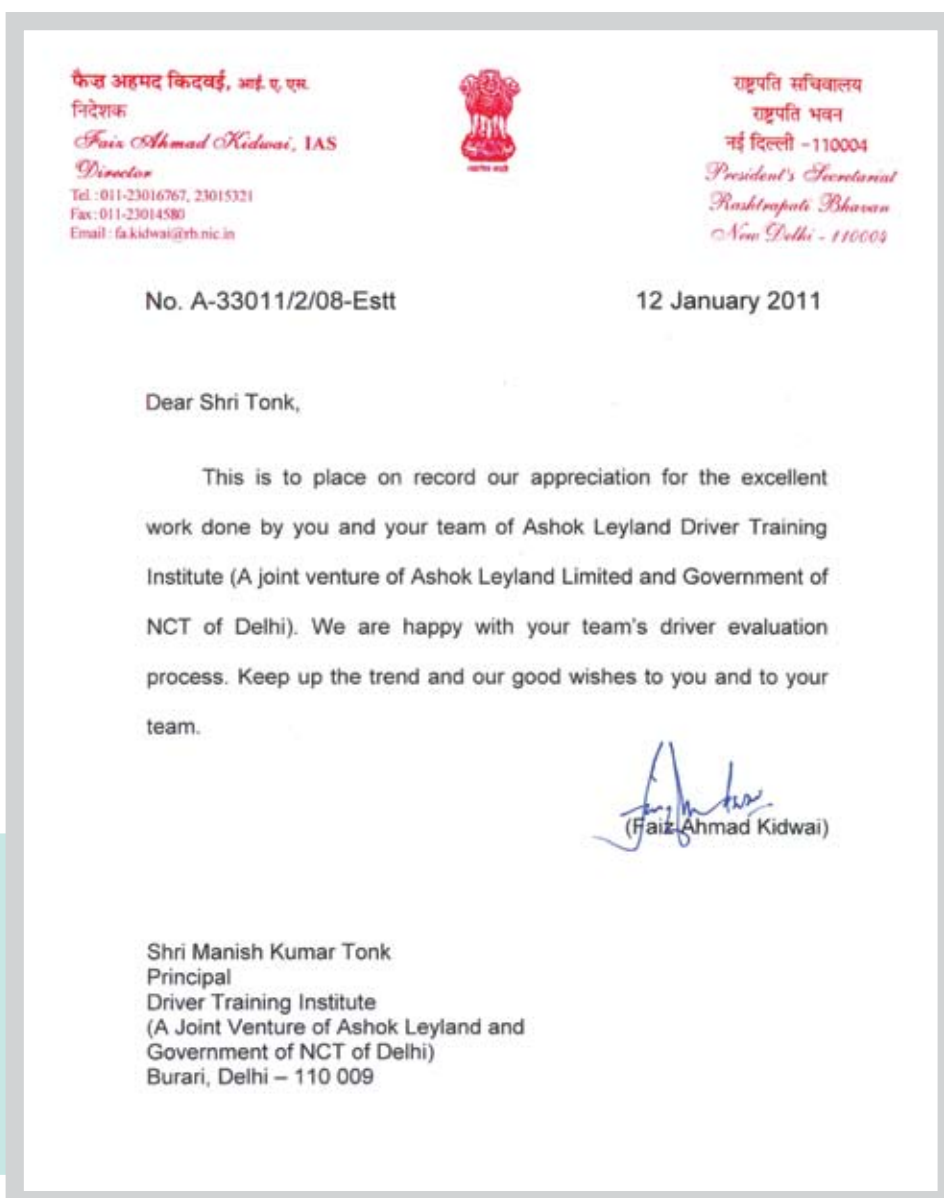
All the best

In an attempt to tackle the problem of drivers' children dropping out of school, we announced a scholarship scheme — 'All The Best', for the top-performing children of HCV drivers in Tamil Nadu and Kerala. This initiative, founded by us in association with our dealers TVS and Sundaram Motors, will ensure that 50 Std. XII students are awarded up to ₹1,25,000 (₹25,000 a year, for the next three to five years, based on the course), while 100 Std. X students are given ₹10,000 over the next two years for an uninterrupted education till graduation. The top three students are gifted laptops and their fathers get an insurance policy that takes care of hospital bills up to ₹2,00,000 during the period of the scholarship.

The initiative received an overwhelming response in Tamil Nadu; we received 1400 applications, 53 per cent of which were from the Namakkal, Sankari and Tiruchengode belt alone. The kids performed equally well during the academic year, with 40 per cent of the applicants from Std. X and 25 per cent from Std. XII scoring over 90 per cent marks, thereby qualifying for the scheme. 🌐

Recognition from Rashtrapati Bhawan

Word of the good we are carrying out at our Driver Training Centres has now reached Rashtrapati Bhawan. Mr. Faiz Ahmad Kidwai I.A.S., Director, President's Secretariat, requested Ashok Leyland to select 14 drivers to be chosen for the post of Ordinary Grade Driver at the Rashtrapati Bhawan. Impressed by our work, Mr. Kidwai later called us to the Rashtrapati Bhawan, where we were presented with a Letter of Appreciation. We feel greatly motivated by this pat on our back from the highest office of the nation!



Teaching young minds

Design engineers from Ashok Leyland go back to school

Text by **Anosh Khumbatta**



We, at Ashok Leyland, have been working towards community development for a number of years. Just one of these initiatives is the A World In Motion (AWIM) programme, a joint effort by Ashok Leyland and Society of Automobile Engineers (SAE). The aim of AWIM is to simplify basic science and engineering for school kids, and make a mark on young minds by imparting knowledge to

them through interactive hands-on sessions.

With 69 engineer volunteers so far, the AWIM programme was able to reach out to 9,000 students from schools in Chennai, Coimbatore and Hosur in the 2009-2010 academic year. This figure reflects a significant leap from academic year 2007-2008, when the programme was launched in Chennai, with a total of about 1,500 children. With the help of our design engineers and



the school teachers, the students build cars from the toy-making kits provided to them. The programme is essentially about simplifying complex engineering principles through demonstrable examples. It features tested modules graded as 'challenges', categorised according to the age groups of the students. For volunteers, teaching one module translates to spending four half-days (generally Saturdays) with the children. Most volunteers are initially apprehensive about teaching the principles of motion to classes full of young, mischievous-looking kids. However, once they settle in, most volunteers end up having almost as much fun as the

kids! Before training the students, teachers and volunteers undergo a two-day training programme conducted by SAE. Volunteers can also select their schools considering proximity and convenience, so they can stay with the same set of kids for the duration of the programme, thus ensuring bonding and closer mentoring.

The latest (2009-2010) AWIM was held as a competition in over 17 schools from

Chennai, Coimbatore and Hosur, where students were encouraged to build faster cars and participate in races.

The cars were 'air-powered', built of paper and plastic, and propelled forward by the force of air escaping from a balloon — a perfect demonstrative tool for Newton's Third Law: 'For every action there is an equal and opposite reaction'.

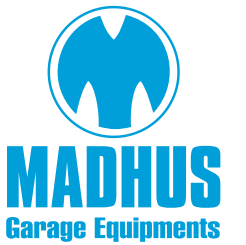
The AWIM programme ensures that Ashok Leyland spreads knowledge among tomorrow's leaders. 🌐

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