

ADVANCES IN ENGINES

Fuelled to drive

In recent years, Tata Motors has been working to create Powertrains that offer best-in-class driving experiences, while giving customers the benefit of high value propositions with regard to fuel efficiency, engine performance and cost of maintenance.

New Gen DICR Engines

Tata Motors is making strategic investments in developing and manufacturing of new generation diesel engines of 3L and 5L capacities for commercial vehicle applications. With technology at the fore front, these state of the art diesel engines are being developed to deliver enhanced value to customers.

These engines offer best in class fuel economy, excellent performance (flat torque curve & high low end torque etc.), lower total cost of ownership, better reliability and durability. Both engines are indigenously developed and incorporate several innovative ideas and features (such as off-set crank, top-down cooling, rear gear train, piezo injectors, cylinder block with bed plate etc.) and are design protected to meet future emission requirements (BS-VI).

The new gen engines are being developed along with top technology leaders like Delphi, Federal Mogul, BorgWarner among others and are being manufactured in the company's world class Pune plant.

Tata 3L New
Generation
DICR Engine



Tata 5L New
Generation
DICR Engine



Tata Cummins Engines

Tata Motors recently launched its range of Signa medium and heavy commercial vehicles which are powered by Cummins engines. The Signa 4923.S ensures best-in-class fuel efficiency due to its proven and reliable Cummins ISBe 5.9 common rail engine that delivers power of 230PS and a torque of 850Nm. The Signa 3118.T and Signa 2518.K are powered by a world-class Tata Cummins B5.9 L- 6 cylinder engine with an optimum combination of 180PS and flat torque of 675Nm at the lowest RPM range, delivering best-in-class fuel efficiency and the highest engine life.

Tata Motors is collaborating with Cummins Inc. for developing state-of-art engines for the medium and heavy commercial vehicle segment. Tata-Cummins engines are manufactured in world-class manufacturing facilities at Phaltan and Jamshedpur.

Tata-Cummins manufactures mechanical engines on 6B and 4B and full authority electronic engines on ISB5.9, ISB6.7 and ISL8.9 platforms. Various engine aggregates such as turbo chargers, filters, fuel systems and emission solutions from Cummins coupled with strong integration capabilities help in improving the reliability and performance of our vehicles.

Cummins is a global technology leader with a century-old legacy of engineering expertise and innovation. It has a range of best-in-class engines that deliver high value propositions like fuel economy, reliability and durability. Cummins engines offer cost-effective methods to obtain fuel economy improvements – for example the Load Based Speed Control (LBSC), Gear Down Protection (GDP) and Vehicle Acceleration Management (VAM). All these technologies combined give optimal output and hence, better fuel economy. Cummins also has experience in meeting

ISLe 8.9L
Engine



ISBe 6.7L
Engine



various emission norms across the globe. It already has a BSIV ready engine range to cater to the CV segment in India and Euro VI products ready to meet forthcoming norms.

Revotron

The Revotron 1.2T, indigenously developed by Tata Motors, has been designed to deliver superior fuel economy and a peppy driving experience. India's first 1.2L turbocharged multi-point fuel Injection petrol engine, the Revotron 1.2T has been globally benchmarked for advanced performance on the road. The extremely silent engine powers the Zest and Bolt. It offers a segment-first feature: the multi-drive mode – Sports, City and Eco – which makes it equivalent to three engines in one. An advanced engine management system (EMS) supports the three drive modes. The Revotron 1.2T engine's design was optimised by AVL Austria, a global engine consultant, and key technology partners — Bosch, Honeywell and INA. It has stiffened crank case to minimise noise, vibration and harshness, while the smart electronic control unit ensures precise control. In short, the Revotron 1.2T engine offers an optimum blend — of performance, refinement and fuel economy.



Revotorq

Tata Motors' Revotorq 1.05L diesel engine makes its debut with the Tiago. It has been built to endure extreme performance and deliver a new level of driving experience. The engine has been globally benchmarked on various parameters such as performance, economy and refinement. Like the Revotron 1.2T, the Revotorq 1.05L has been programmed for superior fuel economy and refined road performance. The diesel engine also offers the multi-drive mode which is supported by the advanced EMS.

At the recent Geared for Great Challenge, the Tiago underwent the ultimate endurance test to complete an unbelievable 50,000km

under high-stress conditions. This is something that an average car consumer would take years to do in real life. Conducted under the aegis of the Federation of Motor Sports Clubs of India, the 18-day, non-stop, high-speed drive saw the petrol and the diesel variants average 120kmph.



Jaguar Land Rover's new powertrains

Jaguar Land Rover is focusing on vehicle light-weighting, powertrain right-sizing and increasing the application of electrification in their propulsion systems to successfully deliver their environmental (CO₂) strategy.

Jaguar Land Rover continues to engineer lightweight vehicles by increasing the use of aluminium across their range of models while also improving the performance of engines, including the increased use of their own efficient Ingenium engines manufactured at Wolverhampton in the UK. Jaguar Land Rover's innovative Ingenium diesel engines already achieve just 99g/km of CO₂ in the Jaguar XE and 104g/km of CO₂ in the Jaguar XF.

Jaguar Land Rover also continues to invest significantly in the development of new powertrain technologies with plans to introduce Mild Hybrids (MHEV's), Plug in Hybrids (PHEV's) and Battery Electric Vehicles (BEV's) into its product range. It currently offers diesel hybrid variants of the Range Rover and Range Rover Sport. Furthermore, Jaguar Land Rover recently announced that its Jaguar brand would be competing in the FIA Formula E championship from August 2016 to create a test bed for future Jaguar Land Rover electrification technology.