

AVTEC

POWERTRAIN & PRECISION ENGINEERD PRODUCTS



POWER TO. **DRIVE**





Powertrain Solutions | Aggregates & Components

AVTEC Ltd is one of the largest independent manufacturer of 'Powertrain & Precision Engineered Products', in India. It is a part of C. K. Birla Group – a leading global business house, with over 20,000 employees and a combined turnover of USD 1.6 billion, having diversified business across 5 continents in Cement, Consumer Electricals, Precision Bearings, Heavy Engineering Products, Building Products, Automobiles, Auto Components, Paper, as well as Healthcare, Education and IT Services.

Spearheading technological innovation since its inception, AVTEC has earned a formidable reputation in Domestic and International markets as a manufacturer of world-class Engines, Transmissions & intricate Components like cylinder head, cylinder block, crank shaft, cam shaft, cam rod and high precision transmission gears for Automotive and Off-highway segments.

AVTEC's Design and Manufacturing capabilities, are focused at

providing niche Powertrain solutions for segments like – Passenger cars, SUVs & Commercial vehicles in Automotive and Construction & Mining equipment, Material handling, Oil field, Railways and Windmill application in Off-highway segments. Its world class eco-friendly, state-of-the-art manufacturing facilities in India, located at Hosur & Chennai in Tamil Nadu and Pithampur in Madhya Pradesh, are equipped with hi-tech machines and manned by highly experienced personnel. With acquisition of Switzerland based Design, Patenting & Batch Production facility 'ASSAG'- world market leader in Crown gear technology and leading enterprise in drive systems, AVTEC aspires to reinforce its commitment to customers as a 'one-stop-shop' for Powertrain and Precision Engineered Products, across the globe.



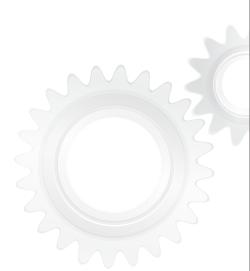






POWER TO ENERGIZE





Automotive Business Unit | Engines & Transmissions

AVTEC's Automotive Business Unit expertises in manufacturing a wide range of Automotive products, to suit diverse applications. The business unit caters to Proprietary and Contract manufacturing of Petrol & Diesel Engines and Transmissions for Passenger Cars, SUVs and Light & Medium Commercial Vehicles. Its flexible manufacturing allows an optimum mix of process and

product based layout, for both batch and high volume production. Backed by strong engineering & supply chain development capabilities and supported by committed vendor base, AVTEC has been able to develop and deliver products to customer satisfaction.

Powertrain Aggregates for - Passenger Cars, SUVs and Light & Medium Commercial Vehicles







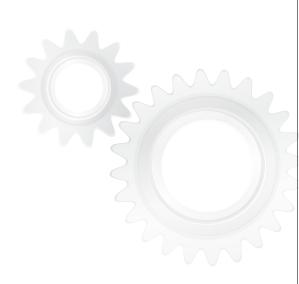








POWER TO ENERGIZE





Off-highway Business Unit | Transmissions

AVTEC is India's leading supplier of Transmission Aggregates to the Off-highway segment, in both Domestic and International markets. A wide range of Cycling and Hauling Transmissions are manufactured to suit the diverse needs of customers in-

- Construction & Mining segments
- · Material handling segment
- · Oil-field application
- · Railway application

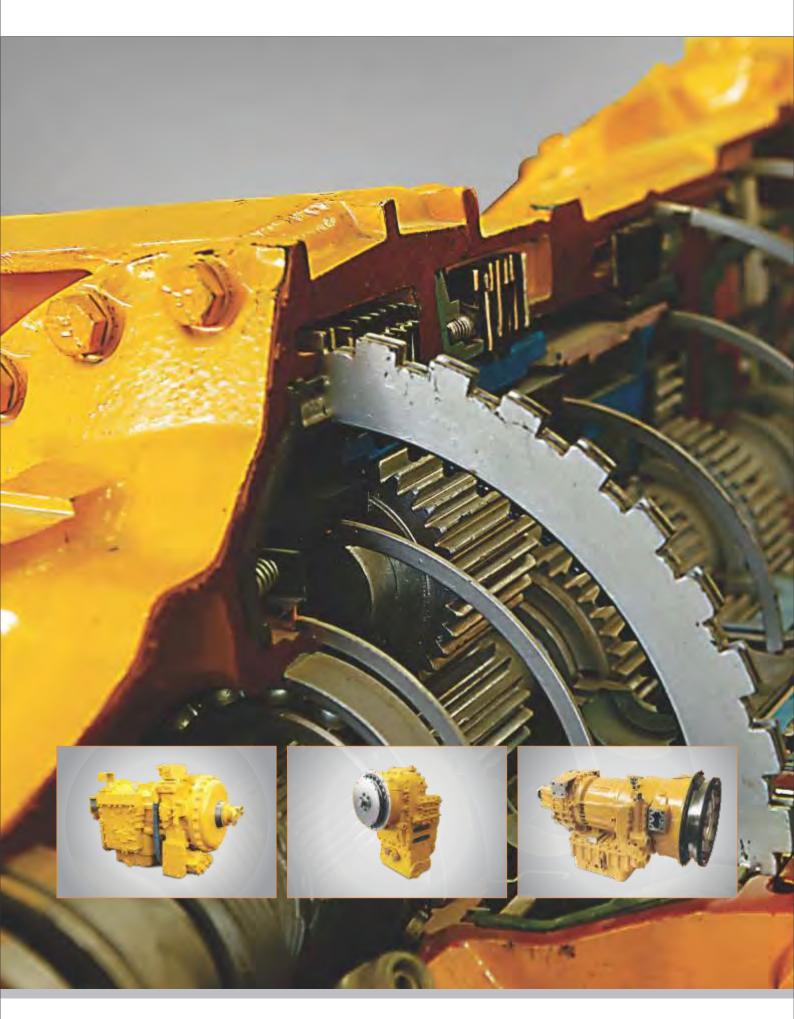
Two of AVTEC's world-class facilities at Hosur and MEPZ Chennai,

manufacture Off-highway Transmissions, both Automatic and Power-shift in technical collaboration with Allison Transmission Inc. The Hosur plant also manufactures indigenously designed Transmissions for Material handling and Locomotive equipments. The plant also manufactures Transmission Components for Global Off-highway majors. It follows a Cellular Manufacturing concept, which is suited to take care of Product mix and supports faster response.

Cycling & Hauling Transmissions in 50 to 710 HP Range for Construction Equipment, Mining Equipment, Material Handling, Oil Field & Railway







POWER TO ENERGIZE

Components Business Unit | Automotive & Off-highway

Manufacturing high-precision Components, for large set of Domestic & Global customers in Automotive and Off-highway segments has been at the core and expertise of AVTEC's Components Business unit. A large range of Components suited for various applications are manufactured by AVTEC including-

- 5 'C's of Engine: Cylinder head, Cylinder blocks, Crank shaft,
 Connecting rod and Camshaft
- Complex Casting Parts: Exhaust & Inlet manifold Flywheel,

Rocker cover

- Transmission components for Automotive & Off-highway
- Transfer Case, Synchro pack & Planetary Gear Box for Automotive and Off-highway
- High precision Gears & Shafts

These Components are manufactured at AVTEC's state-of-theart manufacturing units at Pithampur, Hosur & Chennai.

Components for Automotive Engines & Transmissions and Off-highway Transmissions

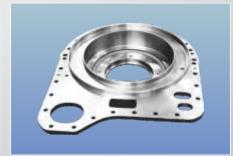












EMPOWERING AVTEC OVERSEAS OPERATION





ASSAG Switzerland | Innovative Drive Solutions

AVTEC extends its wings globally by acquiring ASSAG, a Switzerland based company that pioneers in Face Gear Technology. ASSAG is world market leader in Crown Gear Technology and a leading enterprise for Drive Systems.

ASSAG offers innovative gearing solutions and assists customers in receiving the best outcome for their business, catering to market segments such as Automotive, Medical, Industrial, Machine Tools, Robotics & Aerospace, with a focus on niche and

specialty applications.

This further reinforces AVTEC's commitment to its customers as a 'one-stop-shop' from Art to Part. Encompassing, Concept to Design, Proto build to Series production, AVTEC is set to offer the best in class quality and cost performances' to volume production requirements. This also allows our customers to receive better technology, competitive prices, delivery terms and quality.

Innovative Gearing Solutions for Automotive, Medical, Industrial, Machine Tools, Robotics and Aerospace













EMPOWERING_ AVTEC

Manufacturing Units

Pithampur Plant: AVTEC's Pithampur Plant manufactures highquality proprietary products, besides undertaking contract manufacturing of Powertrain Aggregates, for renowned Automotive OEMs.

While employing state-of-art assembly line and hi-tech machines, the plant boasts of Product engineering capabilities that enable it to provide an unparalleled level of product customization.

To cater to the soaring demand of Diesel engines for commercial vehicle application, AVTEC has established a world class scalable machining and engine assembly facility at Pithampur.

Hosur Plant: AVTEC's Hosur Plant is dedicated to manufacturing high quality Off-highway Hauling Transmissions, both Automatic and Power-shift, in technical collaboration with Allison Transmission Inc and indigenously designed Cycling Transmissions for Material handling and Locomotive segments.

The plant undertakes contract manufacturing too. With intent to upgrade the current product range and also design new products for diverse customer requirements in Automotive and Off-highway businesses, a centralized Technical center and R&D facility has been set up at Hosur.

Chennai Plant: The MEPZ Chennai Plant, is a completely Export Oriented Unit set up with a specific aim of satisfying huge global demand for AVTEC's Transmissions and Precision Engineered Components. Its strategic location has helped the company significantly shorten the response time. The plant is equipped with ultra-modern machines for machining, castings and forgings to meet the soaring global demand.

At all these manufacturing units, stringent quality control checks, product validation facilities and NABL accredited laboratory ensure that end products are of the highest quality.







EMPOWERED COMPETENCIES

AVTEC Core Competencies

AVTEC's centralized Technical center at Hosur and Design & Development facility at both Hosur & Pithampur, enable it with Product Design, Proto Building, Testing and Validation capabilities. This makes AVTEC, the only company in India which can offer full range of solutions for Engines, Transmission system & Components. AVTEC's overseas operation ASSAG, pioneer in Face Gear Technology, has further added to its R&D capabilities.

Design competencies -

- · Design & Application Engineering
- Product Localization

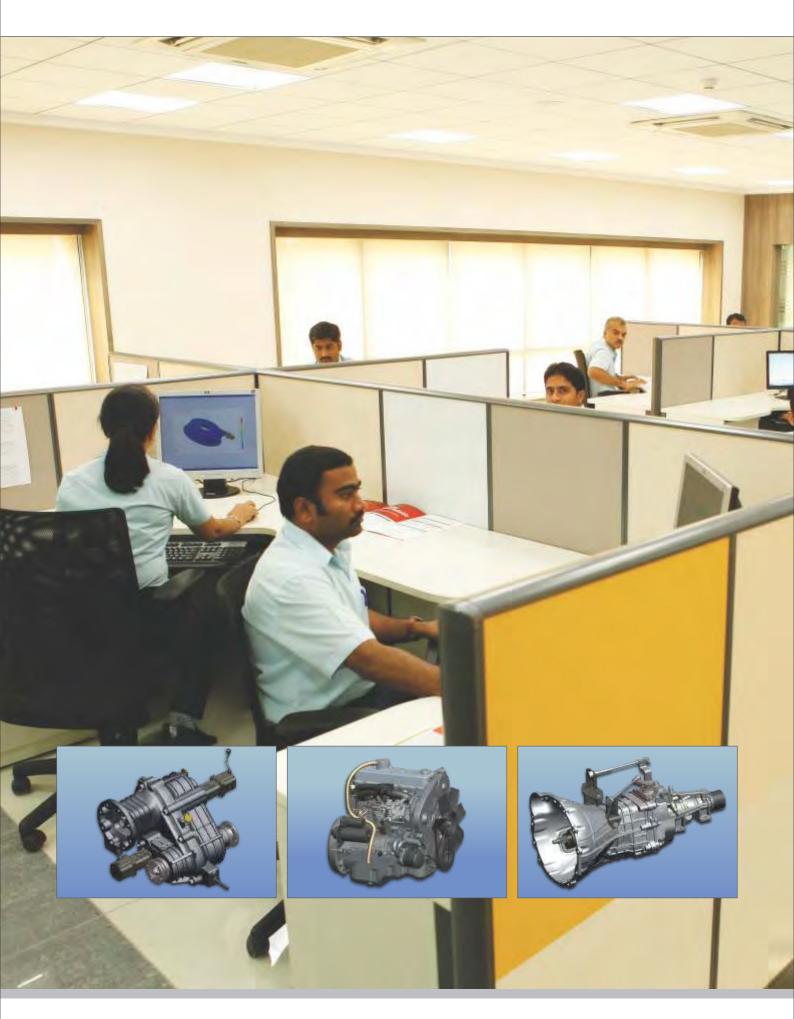
- · Best Cost Mfg. Processes
- ProductTesting & Validation

Manufacturing Competencies -

- International quality certifications such as TS16949 & ISO14001 and efficiency system like LEAN Manufacturing, MOST and TPM, compliant Plants
- Use of Globalally renowned machines like Liebherr, Reishauer
 & Makino
- Assembly and sub-assembly system to support OEM's in JIT approach

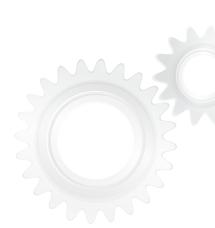






POWER OF QUALITY





AVTEC Quality Certifications

Quality is an inherent part of AVTEC's manufacturing system.

AVTEC believes, that the way forward is through continuous process of improvement and evolution. AVTEC has developed Process Driven Quality controls at each stage of manufacturing, to deliver high quality products to its customers.

Committed to manufacturing excellence, the company has developed capabilities and integrated manufacturing techniques such as LEAN, MOST and TPM. All AVTEC manufacturing facilities are TS 16949 certified for Quality and ISO 14001 for Environment Management System by Underwriter

Laboratories.

AVTEC's Quality Certifications include-

- TPM (Total Productive Maintenance) Implementation
- 'Supplier Quality Excellence Process' award from Caterpillar India
- 'Q1' Quality award from Ford India
- $\bullet \ \ \mathsf{Six}\,\mathsf{Sigma}\,\mathsf{Process}\,\mathsf{Quality}\,\mathsf{Tools}\,\&\,\mathsf{Strategies}$
- TS 16949 Quality Certification from Underwriter Laboratories
- ISO 14001 Environmental Management System certification from Underwriter Laboratories
- QS 9000 Quality System certification

TS 16949 Quality Management System & ISO 14001 for Environment Management System







POWER OF___ TRUST

Collaborations

AVTEC has established strategic technical collaborations with renowned international automotive and design majors. These collaborations help AVTEC tap into Global expertise, to design and manufacture products that exceed the most demanding customer requirements resulting in a wide spectrum of 'satisfied customer base', globally.



AVTEC and Peugeot Citroen Moteurs, have signed a memorandum of

understanding for manufacture and assembly of Peugeot Citroen range of Engines, Transmissions and Components from AVTEC facilities.

These engines using diesel and petrol fuel are capable of

meeting Euro V and Euro VI norms and with capacity ranging from 1.0 to 3.0 liters, produce 50 to 177 KW power.

The matching Manual, Automated Manual and Fully Automatic Transmissions cover range from 160 to 370 N-M torque.

AVTEC and Peugeot Citroen Moteurs are exploring opportunities to offer Euro V / Euro VI engines to vehicle manufacturers in domestic and global market.



What began as a technical

Allison Transmission Inc has grown into a strong relationship spanning 30 years. Under this agreement, AVTEC manufactures and supplies certain transmission models to OEMs in the domestic market and also supplies machined castings to Allison Transmission, USA.









AVTEC Limited

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Overseas Operations:

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