Product Guide

www.hitachi-automotive.co.jp/en/
By delivering our products and system solutions throughout the world, we can realize an affluent society by creating new value for people, vehicles and society.

Vehicles are evolving as a means of mobility by offering increased social value in areas such as the environment, safety, and comfort. Leveraging our competitive edge in mechatronic control technologies, Hitachi Automotive Systems is providing ever-greater value through our core business areas of powertrain systems, chassis systems and advanced driver assistance systems (ADAS). At the same time, we are developing and introducing new technologies to support the critical technical fields of electrification and autonomous driving.

Furthermore, by leveraging the technologies of the Hitachi Group such as Internet of Things (IoT), Artificial Intelligence (AI) and information and security technologies, Hitachi Automotive Systems will provide system solutions for connected cars to support a next-generation mobility that will create a more prosperous society with greater connectivity between humans, cars, and society.
Powertrain Systems (Engine)

In order to meet increasingly stringent environmental regulations around the world, there is a need to efficiently convert fuel into kinetic energy, and reduce emissions of gases such as CO2. We have developed engine technologies such as direct injection and valve timing control that greatly increase the efficiency of internal combustion engines. In addition, we use simulation and analysis technologies to continually refine our components, improve engine thermal efficiency, and produce clean engines with a reduced environmental burden.

### Control Systems
- Engine Control Unit for DI
- Engine Control Unit for PFI
- Control Unit for CVT
- On Mission Control Unit for CVT
- Control Unit for Four-speed Automatic Transmission
- In-pan Transmission Control Module

### Intake / Exhaust Systems
- Multi Function Mass Air Flow Sensor
- Airflow Sensor
- Differential Pressure Sensor
- Hall Effect Type Revolution Sensor
- Pressure Sensor
- Electronic Throttle Body
- Electronic Throttle Body for Diesel

### Fuel Systems
- High-Pressure Fuel Pump
- Injector for DI
- Injector for PFI
- Plug Top Coil

### Ignition Systems

### Engine Components and Subsystems
- Platen for DI
- Platen for PFI
- Cooling Channel Platen
- Valve Timing Control System
- VTC Solenoid Valve
- Electromotive VTC
- Variable Valve Event and Lift (VEL)
- VCR Actuator
- Variable Displacement Vane Pump (Front Cover Integrated Type)
- Vane Pump (Chain Drive Type)
- Water Pump (Single Bearing Type)
- Water Pump
- Balancer (Oil Pan & Oil Pump Integrated Type)
- Balancer (VDVP Integrated Type)
- Chain Case Module (Oil Pump & Water Pump Integrated Type)
- Water Pump (with Housing Type)

### Electrical Equipment Systems
- Planetary Gear Reduction Starter
- Twin Axial Gear Reduction Starter

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CVT: Continuously Variable Transmission
DI: Direct Injection
PFI: Port Fuel Injection
MCV: Multi-waterways Control Valve
VCR: Variable Compression Ratio
VDVP: Variable Displacement Vane Pump
VEL: Variable valve Event and Lift
VTC: Valve Timing Control
Expectations are increasing for safe, comfortable, and highly efficient autonomous driving systems that can eliminate accidents, reduce driver workload, and resolve traffic congestion, thereby helping to achieve a smart mobility society.

In order to realize a safe and secure autonomous driving system, we are developing a sensor fusion system that can detect the surrounding situation by integrating sensor data from sources such as stereo cameras and radars. Data from this system is used by our autonomous driving ECU to make instantaneous decisions on acceleration, deceleration, and lane-changing.
Steering Systems

Chassis Systems

Chassis products determine the basic functions of automobiles - moving, turning and stopping. By coordinating and harmonizing the chassis with various control technologies, we can count on improved safety and comfort. In order to aim for an even higher level of safety, the core elements of brakes, steering, and suspension have been electrified and subjected to electronic control. We created a system that completely integrates all aspects of vehicle motion. The aim of this system is to improve motion performance by responding in real-time to changes in the state of tires, road surface and the vehicle itself, as well as to achieve autonomous driving, which requires coordinated driving control.

Drive Power Transmission Systems (Propeller Shaft)

Suspension Systems

Brake Systems

Control Unit for Other Purposes
Aftermarket Products / Applied Technology & Industrial Equipment

Over many years, Hitachi Automotive Systems has developed and cultivated advanced automotive technologies that have extensive secondary applications in the world around us. For instance, from our manufacturing technologies, we have derived anti-vibration and hydraulic components, home appliance technologies that support modern lifestyles, and industrial equipment and social infrastructure including railcar components, anti-seismic products, and many other useful technologies. Moving forward, we will continue to pursue secondary applications for our technologies in order to realize a more comfortable society.

Aftermarket Products & Maintenance Accessories

Brake Pads  Brake Rotor  Shock Absorber

Power Steering Gear  Power Steering Pump  Water Pump  Fuel Pump

Injector  Electronic Throttle Body  Air Flow Sensor  Ignition Coil

Hioki Diagnostic Monitors  Ignition Coil Checker  Battery Checker  Portable Power Source (12V, 24V)

Applied Technology & Industrial Machinery

Railcar Components

Vertical Damper  Horizontal Damper  Yaw Damper  Yaw Damper between the Car

Variable Damper System  Leveling Valve

Anti-seismic Products

Seismic Isolation Oil Dampers  Anti-vibration Oil Dampers

ATSUGI Hydraulic Press

Toggle Type Vibration-proof Damper  Vibration-proof Damper for Housing