



HEAVY FACTS

Genuine Volvo Parts

Shock Absorbers

The main functions of the shock absorber are to dampen vibrations caused by uneven roads and settle suspension vibrations, in order to constantly keep the wheels in contact with the road surface. Shock absorbers are vital parts of the suspension: helping to ensure safe road handling and a comfortable drive.

Genuine Volvo shock absorbers are developed and tuned to ensure safe road handling and comfortable ride of your Volvo. They are designed to match the features of leaf- and air springs as well as differences in axle configurations, loads and operating conditions.

Genuine Volvo shock absorbers are developed for each application, specifically tuned to your particular vehicle, to driving conditions, load, axle combination and suspension. It is important that the shock absorbers characteristics are designed to match the properties of other components such as leaf- or air springs.

By choosing Genuine Volvo shock absorbers you are certain that all dimensions are correct in order to not jeopardize leveling stroke, function of air springs or risk of air bellow separation.



FEATURES

- The right damping characteristic provides stable steering, excellent wheel contact with road surface and vehicle stability. It also controls vibrations to avoid consequential damages to chassis and other components.
- Heat resistant seals to avoid leakage and dust or dirt contamination to secure the life-span of the shock absorber.
- Correct installation dimensions minimizes material stress in both shock absorber and suspension
- Correct stroke to avoid damage of interfacing brackets or air bellows.
- Chromium-plated piston rod to protect against corrosion and leakage.
- Manganese phosphate piston and piston rod guides to ensure the proper lifetime.

BENEFITS

- Safe road handling
- Comfortable ride for driver and passenger
- Keeps parts cost down
- Keeps expected uptime of vehicle
- Keeps parts cost down
- Ensures expected uptime of vehicle

Recommended additional parts

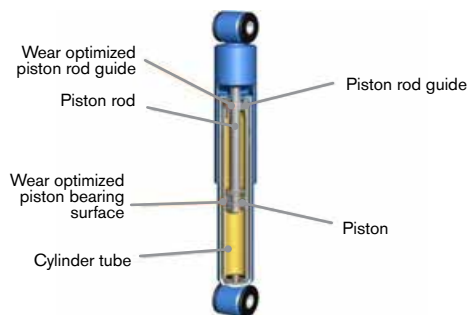
When shock absorbers are replaced, the fasteners for upper and lower fixation will also need replacing.

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Technical description

The main function of the shock absorber is to damp vibrations caused by uneven roads and to settle suspension vibrations to constantly keep the wheels in contact with the road surface. The shock absorber consists of an outer cylinder in which the damping fluid is stored. The lower part of the outer cylinder is attached to the axle. Inside the outer cylinder there is an inner cylinder in which there is a piston with a piston rod. The piston rod's upper end is attached to a bracket on the frame. The shock absorber's upper and lower mounts have rubber bushings attached to the frame and axle. The shock absorber has two valves for damping, the piston valve and the bottom valve. When the piston is moving up, (rebound) only the piston valve is applying resistance to the oil. When the piston is pressed down (compression), the bottom is applying resistance to the oil flow. This resistance is created by the fact that the oil has to pass through small holes and valves. Since the shock absorber is damped both when it is pressed down and pulled up, it produces a double-action damping force which is depending on velocity. The Force vs Velocity curve is tuned to a certain characteristics which is unique for each part number. During truck development, a lot of effort is spent on tuning the characteristics to optimize comfort and handling of the truck.



Extensive testing

Prior to being launched to the market, the Genuine Volvo shock absorbers are tested extensively in combination with the front and rear suspension at Volvo with respect to different driving cycles and vehicle environments. During the development stage the shock absorbers are subjected to harsh and demanding tests to ensure sufficient durability and quality. The Genuine Volvo shock absorber testing includes endurance tests, corrosion tests, performance tests, bushing life time tests and last but not the least a large number of field tests. In addition

to critical field test, Volvo conduct accelerated endurance tests, climate test s and component rig tests.

The reason for the diverse test activity at Volvo is to ensure that the shock absorbers can endure to any vehicle application from Sahara desert to Siberia snow.

The difference

Wear optimization increases uptime

Genuine Volvo shock absorbers have Manganese Phosphate pistons and piston rod guides to ensure long life and uptime.

Chromium-plated piston rod

Surface treatment protects against corrosion; the correct thickness of surface treatment material is vital for maintaining the lifespan of the parts. Corrosion may indicate damaged seals, where the shock absorber has begun to leak oil and will need to be replaced.

Heat-resistant seals and oil

Shock absorbers become very hot in use. It is important that the seals are not damaged by the heat, as they keep out dirt and dust and prevent oil from leaking out. Genuine Volvo shock absorbers are therefore equipped with seals made of Viton, a highly heatresistant material.

In Genuine Volvo shock absorbers an exact quantity of high-grade hydraulic oil is used. Their damping properties are ensured because the oil does not boil or evaporate prematurely. Already at design stage the shock absorbers are designed to meet all types of harsh driving conditions of the vehicle and to have an optimized performance and comfort of your vehicle. The shock absorbers undergo extensive testing and verification in order to optimize performance and durability. It takes 2-3 years to develop and approve a shock absorber to meet Volvo requirements.

Service

To guarantee the highest quality of the service operation, and optimum service life of the shock absorbers, we recommend the following skills, competence, tools and equipment.

- Ability to use Volvo Trucks service information in order to be able to apply the correct and safe service procedures.
- Use of Volvo Trucks service information on all required parts needed for the service, to plan and perform the operation with no waiting time for additional parts that may be required.

Only by having Genuine Volvo Parts fitted in a Volvo Workshop by a certified and fully trained Volvo technician can the best possible levels of service, uptime and efficiency be ensured. Service and repair operations can be found in Impact, group 761.

VOLVO

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