Damping parts

Typical damage patterns and their causes
Shock absorbers are important for your safety. Damaged shock absorbers endanger life!

Shock absorbers are subjected to continuous wear. Stress and strain caused by pot-holes, rough terrain, heavy loads, trailers and also environmental impact such as dirt, wetness and gritting salt, exacerbate the process of wear and tear. Depending on the mileage, the chassis becomes increasingly ‘softer’ as the efficiency of the shock absorbers declines.

This can have dramatic consequences:

- vehicle handling becomes ‘spongy’, braking distance increases by a critical length
- tire wear increases, greater strain is exerted on axle suspension parts and there is a lasting, negative change in overall chassis calibration
- road grip of the tires gradually declines
- the effect of electronic assistance systems such as ABS and ESP declines
- steering and brake forces can no longer be appropriately transferred
- increased risk of aquaplaning

Damaged shock absorbers are a safety hazard. Therefore, it is important to have your chassis checked regularly!

(recommended: latest every 20,000 km)

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Further information at www.meyle.com
**Oily shock absorbers**

**The problem:**
Leaks in the piston rod sealing system result in oil loss in the shock absorber.

**Causes:**
- wear
- defective dust cover
- damaged piston rod

**Possible consequences:**
- decrease in damping performance

**MEYLE’s advice:**
Slight bleeding (oil mist) is normal and facilitates lubrication of the piston rod.

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**Piston rod damaged**

**The problem:**
Scratches and corrosion form on the sensitive piston rod surface (slide face).

**Causes:**
- problems during installation (counter-pressing with inappropriate tools)
- defective dust cover
- missing dust cover

**Possible consequences:**
- leakage or oil loss (the scratched piston rod causes abrasion to the piston rod sealing system)

**MEYLE’s advice:**
Installation instructions must be observed (refer to www.meyle.com). Make sure the dust cover is fitted correctly. Do not counter-press with tongs, and always use appropriate tools.
**Piston rod is scarred**

The problem:
Deep wear tracks form on one side of the piston rod.

Causes:
- problems during installation (tightened while vehicle axle unbraced – leads to braced installation)
- incorrect mounting material

Possible consequences:
- increased wear of absorbers
- noises during shock strut compression and rebound
- blocking of piston rod
- reduction in comfort and occurrence of noises
- risk of piston rod fracture

MEYLE’s advice:
The installation instructions must be observed. Shock absorbers must not be tightened while vehicle axle unbraced (avoid braced installation).

**Severed thread**

The problem:
Fastening of the shock absorber is missing.

Causes:
- problems during installation (use of impact wrench)
- non-observance of torque specification

Possible consequences:
- complete failure
- noises during shock strut compression and rebound
- restriction of driving and braking safety
- loud rattling

MEYLE’s advice:
An impact wrench must not be used during piston rod assembly. The locking torque must be observed.
Loose or torn flow control valve

**The problem:**
The damper rattles and damping performance decreases considerably.

**Causes:**
- problems during installation (valve fastening nut has loosened due to use of impact wrench)
- defective rubber buffers
- inappropriate spring-damper combination, e.g. for height adjustment

**Possible consequences:**
- restriction of driving and braking safety
- complete failure of the shock absorber

**MEYLE’s advice:**
Never use an impact wrench when fitting the piston rod. The installation instructions specified must be observed. Always replace the rubber buffers and dust covers when replacing the shock absorbers.

Rubber bushes torn or worn out

**The problem:**
Noise develops during shock strut compression/rebound (e.g. rattling, squeaking).

**Causes:**
- wear (material fatigue)
- frequent excessive loading e.g. overload, trailer, driving on rough terrain
- braced installation

**Possible consequences:**
- restricted driving and braking safety

**MEYLE’s advice:**
Have the chassis parts checked regularly. This is especially important for vehicles used to tow our haul loads (recommendation: every 20,000 km).
The problem:
Worn or defective chassis parts result in loss of driving comfort and insecure handling.

Causes:
• worn suspension and damping elements
• defective complementary products (anti-roll bar, steering rods, rubber mountings)
• worn chassis and steering parts

Possible consequences:
• unstable steering/slackness in steering
• restriction of driving and braking safety
• noises
• increase in tire wear

MEYLE’s advice:
For professional localization and checking of worn components, experts at MEYLE recommend the MEYLE joint play detector (999 990 0000)

The problem:
Bottoming out or leaking shock absorbers.

Causes:
• defective springs (frequent bottoming out)
• inappropriate spring-damper combination, e.g. for height adjustment
• ageing-induced wear of plastic parts

Possible consequences:
• oil spill resulting from scratched piston rod surface (stone chippings)
• complete failure resulting from destruction of inside valves (bottoming out)
• reduction in comfort due to noise
• reduced driving and braking safety

MEYLE’s advice:
Always replace the rubber buffers and dust covers when replacing the shock absorbers.
Strut mounts worn

The problem:
Reduced comfort due to noise development (e.g. squeaking, rattling).

Causes:
• rundown strut mount (due to mileage)
• missing or incorrect use of mounting parts

Possible consequences:
• tight steering or play in steering
• unstable handling
• reduced driving and braking safety

MEYLE’s advice:
It is imperative to observe installation instructions, component sequence and locking torque specification. Use MEYLE-HD products with 4-year warranty. These have a longer service life than the original.

Spring fracture

The problem:
The vehicle is lopsided and noisy during shock strut compression/rebound.

Causes:
• damage to component caused by stone chipping
• initial damage to protective paint as a result of using inappropriate special tools (spring compressor)
• severe curb contact (e.g. when parking)

Possible consequences:
• fracture due to corrosion
• reduced driving and braking safety
• considerable loss of driving comfort

MEYLE’s advice:
Only use appropriate special spring compressors. MEYLE coil springs are made of extra strong, constant spring wire diameters and are also ideally protected against corrosion via zinc phosphate and powder coating.
The problem:
Tires wear too quickly.

Causes:
• defective or worn shock absorbers
• incorrect axle geometry as a result of incorrect spring-damper combination

Possible consequences:
• reduced driving and braking safety

MEYLE’s advice:
Have the chassis checked every 20,000 km.

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Further information at www.meyle.com
Caution:

- These instructions are for information purposes only and are no substitute for the specifications of the vehicle manufacturers.
- Repairs may only be performed by properly trained staff.

Wulf Gaertner Autoparts AG
Merkurring 111, 22143 Hamburg, Germany
Tel. +49 40 67506 510, Fax +49 40 67506 506
contact@meyle.com

www.meyle.com