

# INSTALLATION, MAINTENANCE & SERVICE BULLETIN

## SHOCK ABSORBER INFO

The following information has been provided by one of the leading shock absorber manufacturers.

### Misting vs. Leaking

Misting is a perfectly normal and necessary function of a commercial vehicle shock absorber. By design, the piston rod carries a film of oil through the rod seal to lubricate the seal lips, thereby reducing the friction / wear at the seal contact area, and prolonging seal life. Misting occurs when the hot piston rod is drawn out of the shock body and the microscopic film of hot oil on the rod turns to vapour. This vapour, or mist, condenses when it reaches the cooler outside air, and forms a film on the outside of the shock body.

That film of oil will attract road dust and may cover the entire body of the shock.

Rod seals may leak as a result of extreme wear, contamination or defect. A leaking shock will show clear signs of oil leaking in the streams from the upper seal down the shock body and may drip from the bottom of the shock.

The typical heavy vehicle shock can hold up to a litre of oil, but it has to lose more than 10% of its volume before damping performance is affected.

NOTE: Some minor streaking of oil may appear on the shock body during initial stroking. This is the result of the seal “setting” and purging any oil (as part of the assembly process) from the seal. This is not to be mistaken as a failure, as it is temporary and totals only a minute amount of oil.

We recommend wiping the shock clean and reassessing at the next service.

The following are some examples of misting and leaking shock absorbers.



Light oil film on upper damper body  
No action required (Do Not Remove)



Medium oil film on upper half of  
damper body  
No action required (Do Not Remove)

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**Heavy Misting**



Heavy oil/dirt film extending to the bottom of the damper  
(Do Not Remove)

**Leaking**



Oil leak path lines visible on damper  
(Remove and Replace)

**Misting**



Light oil film on upper damper body  
(No need to replace)

**Misting**



Medium to Heavy oil film on damper body  
(No need to replace)

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Leaking  
(Remove and Replace)



Leaking  
(Remove and Replace)

### Take the Heat Test

Shock absorbers function at temperatures ranging from ambient to 175° C. A shock's role is to dampen the oscillation of the truck / trailer's springs. It does this by transforming the energy produced by the spring to heat and dissipating it. As a result the shock body should be slightly warm to hot after normal use.

If ride deterioration is experienced and there is a suspicion that a shock has failed internally (or simply has worn out), which is visually undetectable, do the following "Heat Test" after running the truck/trailer for a number km's.

1. Drive the vehicle at moderate speeds for at least 15 minutes.
2. Check the temperature of the main shock absorber body (below the dust tube) and compare it to the surrounding chassis frame torture.  
WARNING: DO NOT touch the shock with bare hands, as it may be rather hot and it may cause injury. Use a heat gun.
3. All shock absorbers should be warmer than the surrounding chassis. One should suspect a failure in any shock absorber that is noticeably cooler than the 2<sup>nd</sup> shock on the same axle. Different temperature from axle to axle do not necessary indicates a failure, but a cooler shock temperature on any one axle does warrant a closer inspection.

To inspect for an internal failure, remove and shake the suspect shock, as metal components may rattle inside of the shock and indicate an internal fault.

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Due to the function of the shock absorber, generating heat is normal.

However there are conditions which result in the shock absorber is overheating due to excessive movement.

A typical condition which generates a lot of heat in shock absorbers is driving on corrugated roads at considerable speed for some time.



The plastic covers on these particular shock absorbers will start to melt after being exposed over 1 hour at approx. 200° C.

The oil and the oil seals will start to fail and break down at about 180° C, which will result in the total failure of the shock absorber.

Avoid roads like that, reduce speed, reduce the air pressure in the tyres etc...