

ArvinMeritorTM

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COMMERCIAL VEHICLE
an **ArvinMeritor** brand

Guide to Inspecting

TRUCK SHOCKS

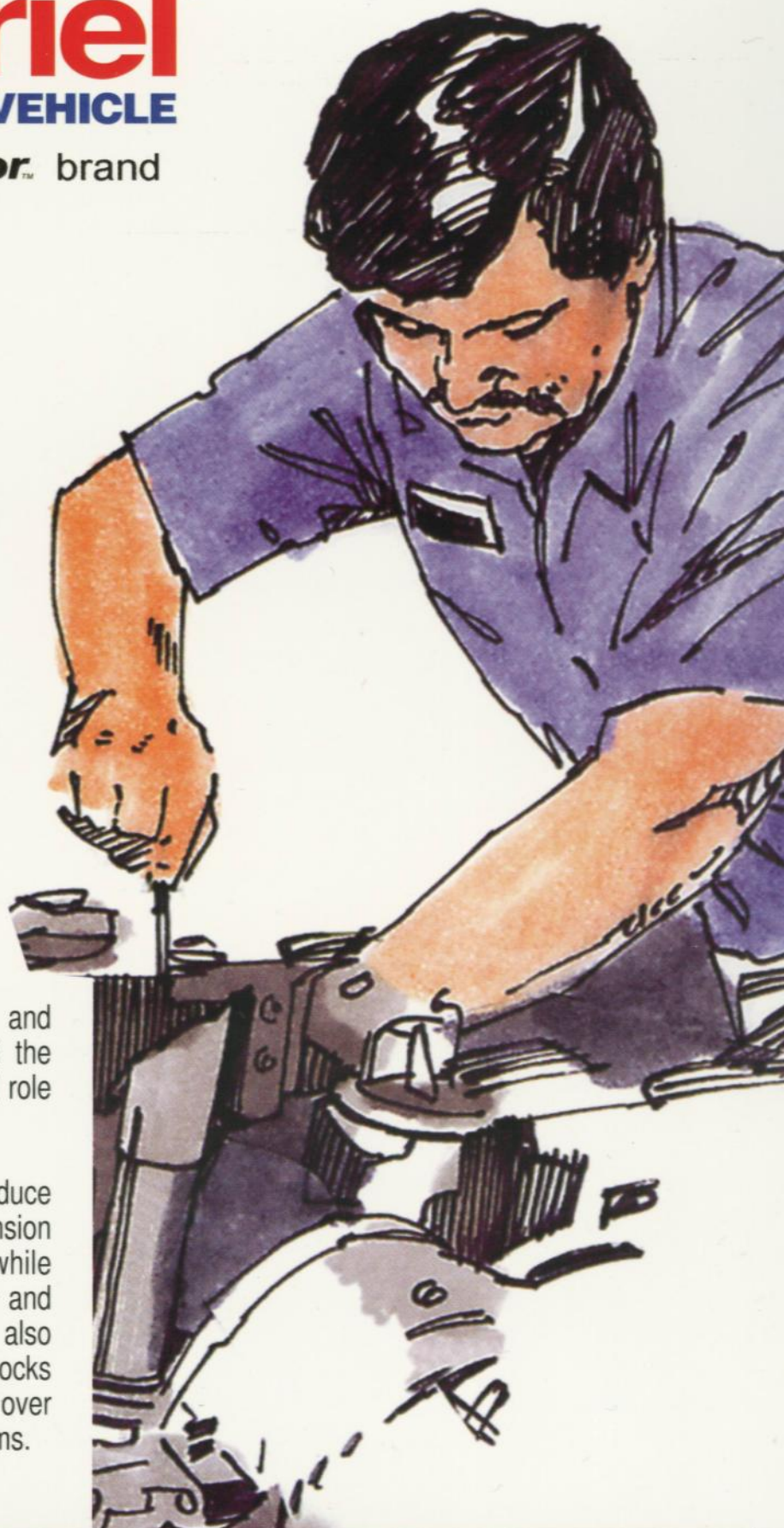
**Regularly scheduled shock maintenance
doesn't cost in the long run - it saves!**

Like most other chassis components, a program of regular scheduled maintenance for shock absorbers will help to avoid unscheduled down time and reduce overall maintenance costs.

The role of a shock has changed dramatically. Not so many years ago, most suspensions had heavy multi-leaf springs with limited travel and a great deal of inherent friction. These suspensions quickly self dampened and therefore limited the amount of work the shock needed to perform.

Low friction suspensions such as air and taper leaf have dramatically changed the shock's role. Shocks now play a critical role in dampening suspension oscillation.

Properly functioning shocks can help reduce the wear of more expensive suspension components such as air bags, while assisting in the reduction of tire wear and vibration damage to the chassis. They also aid in reducing driver fatigue. Worn shocks simply cannot assist in providing control over today's sophisticated suspension systems.



When should shocks be replaced?

There are many tell tale signs that indicate it **may** be time to replace shocks.

Inspect for:

Uneven Tire Wear - Balance should be checked first

Ride Deterioration

Excess Vibration

Sagging Taper Leaf Springs - This is not caused by weak shocks

Premature wear on electrical and cooling system components

Broken or Torn Air Springs - Shocks will only affect this if they are broken or are missing

LEAKING VS. MISTING SHOCKS

Misting shocks are often mis-diagnosed as failures. Misting is the process whereby very small amounts of shock fluid evaporate at high operating temperatures through the upper seal of the shock. When the "mist" reaches the cooler outside air, it condenses and forms a film on the outside of the shock body. When mixed with road debris and dust, a grime will often coat the entire body of the shock. Misting is a perfectly normal and necessary function of the shock. The fluid which evaporates through the seal area helps to lubricate & prolong the life of the seal.

Many technicians find it difficult to differentiate between a misting shock and a true leaker which needs to be replaced. A leaker will show clear signs of fluid leaking in streams from the upper seal. These streams can most easily be seen when the shock is fully extended, and one inspects as far up the main body of the shock (underneath the dust cover or tube) as possible.

Misting
OK

Leaking
Replace

Inspect
with shocks
fully
extended



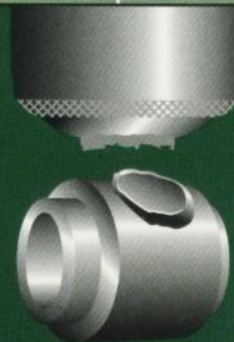
Take the

HEAT TEST

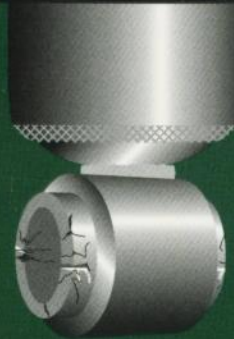


SHOCK VISUAL CHECKS

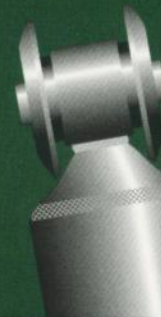
LOOK FOR THESE
POTENTIAL PROBLEMS



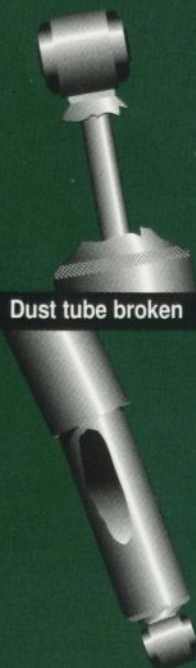
Upper or lower mount broken



Upper or lower bushing broken
These can be replaced very easily
and are considered a regular
maintenance item on a shock absorber.



Improper Installation
For Example: Washers installed
backwards.



Dust tube broken

Bent/dented

Shock absorbers function at temperatures ranging from ambient to 350° F. A shock's role is to dampen the oscillation of the vehicle's springs. It does this by transforming the energy produced by the spring to heat and dissipating it. As a result the shock should be slightly warm to hot to the touch after normal use.

If ride deterioration is experienced and there is suspicion that a shock has failed internally, which is visually undetectable, perform the following "SHOCK HEAT TEST" within a few minutes of operating the equipment:

1

Drive the vehicle at moderate speeds for at least 15 minutes.

2

Within a few minutes of driving the vehicle, touch each shock absorber carefully on its body below the dust cover or tube, after first touching a nearby part of the chassis to establish a reference ambient temperature of the metal.

3

All shock absorbers should be warmer than the chassis. Suspect a failure in any shock absorber that is noticeably cooler than it's mate on the other end of the axle. Different temperatures from axle to axle do not indicate failures, but cooler temperatures on any one axle does warrant removal and examination of the cooler shock absorber.

4

To inspect for an internal failure, remove and shake the suspected shock. Listen for the sound of metal parts rattling inside. Rattling of metal parts can indicate that the shock has an internal failure.

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