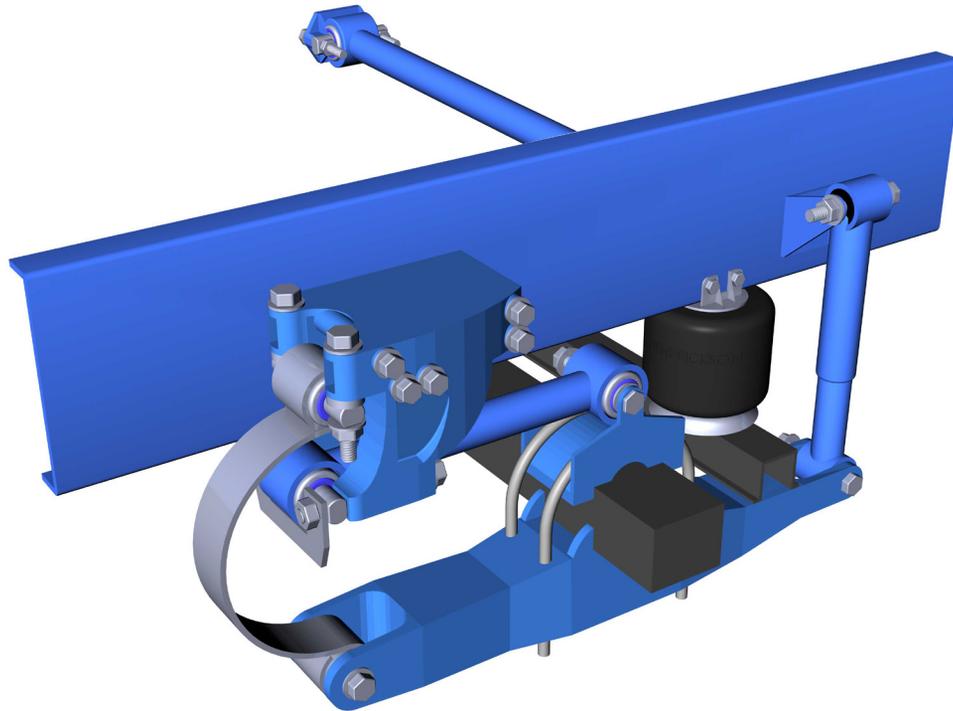


# ATRO

ENGINEERED SYSTEMS

## PREVENTIVE MAINTENANCE: Air Bags & Shocks



6 Bolte Lane • St. Clair, Missouri 63077

(800) 325-6114

[www.atrobushing.com](http://www.atrobushing.com)



**WITH ATRO BEHIND YOU,  
DRIVE FORWARD**

OCTOBER 2019

## Did You KNOW?

*Faulty torque rods can negatively affect your air bags and shocks ...*

There are 3 main types of Torque Rods:

- Longitudinal
- Transverse
- V-Rods



### **Torque Rod Function:**

The primary function of a torque rod is to control the longitudinal and lateral movement of the axles. When in good condition, the torque rods limit axle roll and ensure that the proper suspension alignment mandated by the manufacturer is maintained.

### **Suspension Issues Related to Worn Torque Rods:**

Worn torque rods can allow a suspension to move in a manner that it was not designed for and may result in improper contact between an air bag and adjacent parts. The resulting cuts, abrasions and pinches can result in loss of the ability of the air bag to remain inflated. This improper movement can also adversely affect the shock absorbers and shock bushings.



## Did You KNOW?

*70% of Heavy Duty Trucks on the road are misaligned?<sup>1</sup>*

**This means 70% of shocks and air bags are at risk of premature failure.**



### **Torque Rod Failure can be easy to diagnose.**

Usually just a visual check is necessary. However, in some cases it may be necessary to perform a dry park check, or use a pry bar to determine if over 1/8" play/movement is present at the rod eye.

<sup>1</sup> Source: <http://www4.hunter.com/alignment/hd/995T-2.pdf>

# Visual Clues it is time to replace the Torque Rod

## **CORROSION**

This can be caused by a chemical attack such as acid wash or road treatments.



## **BUSHING WINDUP**

This is a condition that is caused when the clocking of the bushing is not correct. It can be seen in rotational cracks at the end of the bushings. While not technically failed, it is an indicator that failure is approaching.



## **TORN ELASTOMER**

This can be caused by overextension beyond the articulation capabilities or repeated shock to the bushing.



## **BUSHING EXTRUSION OR DEFORMATION**

This can be caused by exceeding the rating of the suspension or contaminants that cause an "oil soaked" condition (TMC RP1506-03).



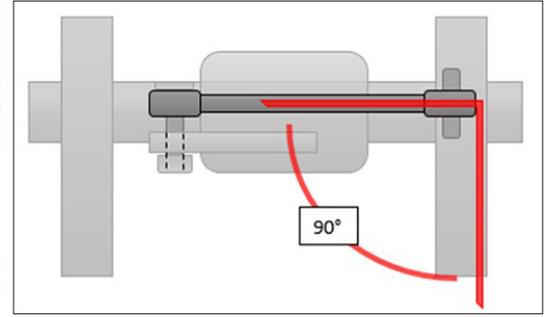
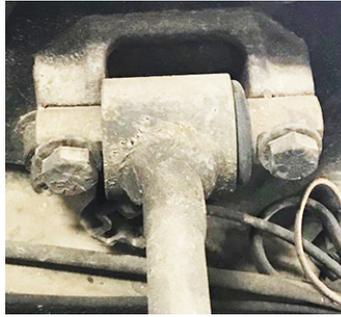
## **CATASTROPHIC FAILURE**

This is usually caused by one of the other issues going unnoticed to the point the elastomer deteriorates completely.



## **BUSHING WALKOUT**

This can be caused when the transverse rod is not perpendicular to the frame rail.



## **BENT OR BROKEN RODS**

This is typically caused by overloading the suspension or impact such as hitting a curb.



## **DAMAGED GREASE SEALS**

This condition is caused by impact with a foreign object such as road debris or a fifth wheel latch hook.



## **DAMAGED STRADDLE PINS**

This can be caused by hardware tightness, misalignment, or impact to the rod.



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