

A quick gain, can lead to maximum pain.

Changing the ride height on your truck or trailer air suspension, maybe a quick fix for a drive line angle issue or reaching a certain king pin height on a trailer. Unfortunately these quick fix changes will eventually lead to some expensive headaches in the future.

Over the past 30 years Powerdown have had many calls about suspension related issues. One of the most common is related to the ride height of rear air or trailer suspensions that have been adjusted above the OEM (Original Equipment Manufacturers) recommendations. This change in ride height can cause damage to your suspension equipment.

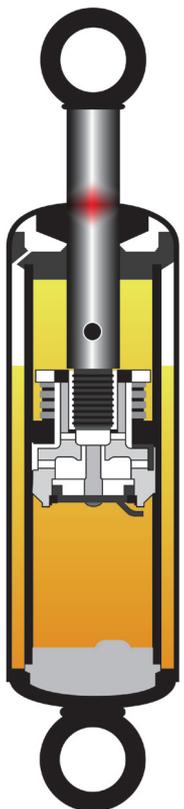
SHOCKING WEAR

A shock absorber is primarily designed to operate in the midpoint of the extended and compressed length of the unit.

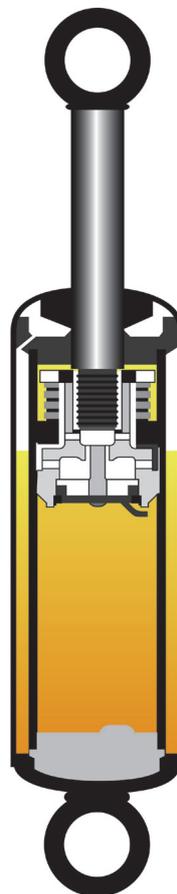
AT THE MID-POINT OF THE STROKE

By increasing the ride height of the suspension, the suspension droop is reduced which limits the downwards travel available in the shock absorber. This dramatically increases the likelihood of the damper topping out when the suspension articulates. The piston will effectively hit the top guide of the shock absorber causing fatigue issues in the design.

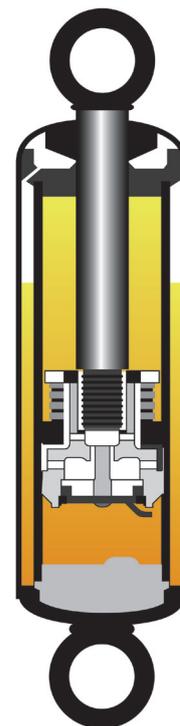
A re-coil cut off or rebound stop will limit some of the damage in the short term, but this feature is not designed for continual topping out of the unit. This will also lead to premature bush failure and other related end fitting damage.



ABOVE RIDE HEIGHT



BELOW RIDE HEIGHT

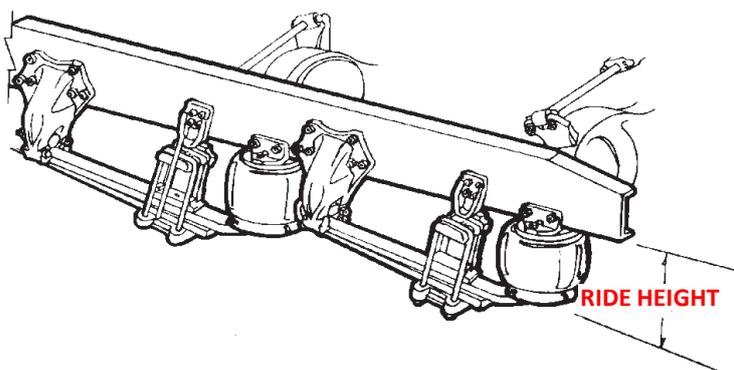
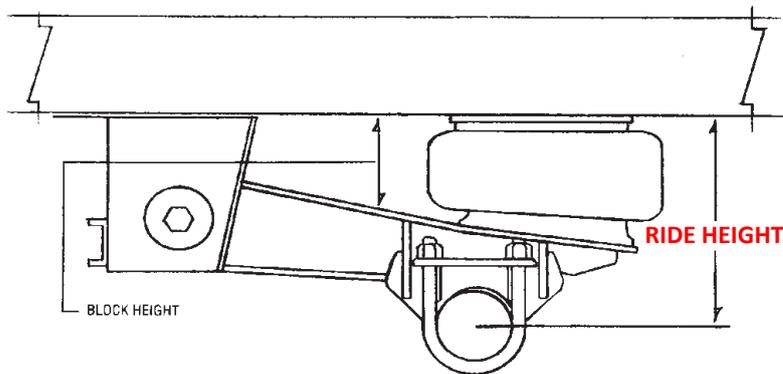
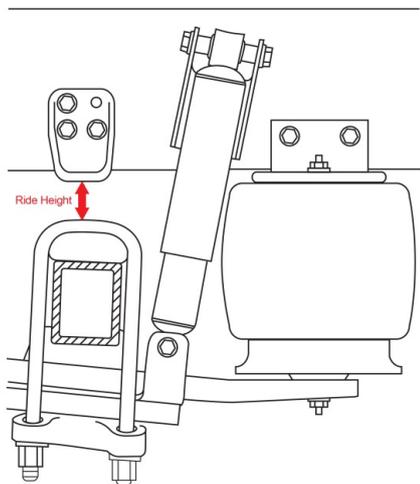


Eventually over time the shock absorber will most likely leak oil due to internal damage from the constant impact. In extreme cases the life of the shock absorber can be reduced by 80% of its normal service life.

Short stroke shock absorbers on trailers and some rear drive air suspensions are more susceptible than others.

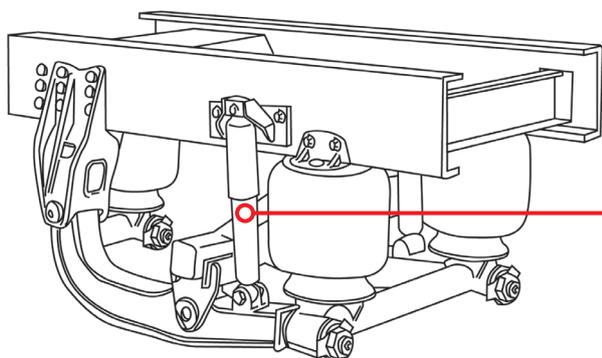
Checking Ride Height

There are several different ways to check ride height depending on the suspension on your vehicle. For the correct method refer to your OEM service manual.



Correct Ride Height

A shock absorber operates most effectively at the mid point of its stroke.

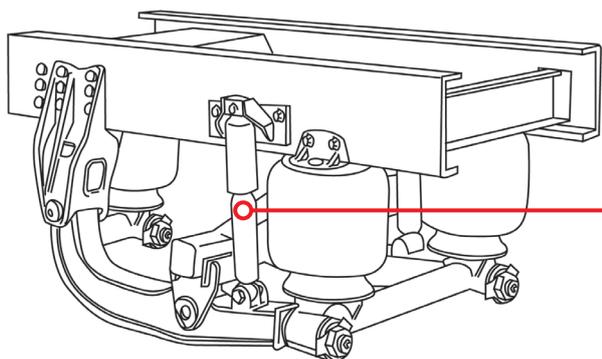


Shock operating in mid point of stroke



Above OEM Ride Height

Operating too high the shock will top out with the piston striking the top of the cylinder head.



Shock almost extended at static height



Limited travel left