KYB: Internal Rebound Spring F.A.Q.s

Our Precision, Your Advantage

“Why are some KYB shocks shorter than OE?”

This is due to the presence of a “rebound spring”. During the first mass production phase of a car, OE struts will often contain a rebound spring. It is at this point that the KYB aftermarket shocks are released, exactly matching this initial design.

After the initial mass production phase, some vehicle manufacturers are known to remove the rebound spring to reduce cost. This means when comparing a new OE unit with a KYB unit, there will be a noticeable distance in piston rod length- sometimes by up to 50mm. This can also be the case when comparing a KYB unit with a cheaper brand unit which does not contain a performance enhancing rebound spring.

It is worth noting the length of the piston has no effect on the ride height of the vehicle, this is determined by the height of the spring seat.

“What does a rebound spring do?”

It is a metal spring placed around the base of the piston rod inside the body of the shock absorber. The purpose of the rebound spring is to protect against potential damage from full extension of the piston rod. This also adds stability on cornering, and adds extra resistance during moments of heightened body roll, increasing comfort and safety.

The presence of the rebound spring makes it almost impossible to manually fully extend the piston rod from out of the body of the shock absorber. This is why there is a noticeable difference between units with and those without.

“When transfering the compressed coil spring and mounting kit to the new strut, the threaded stud doesn’t come through far enough”

On some applications, it is necessary to raise the axle or suspension slightly to attach the shock absorber mountings. This can be done either with a drive on ramp or by raising the lower control arm / axle so that it is not fully extended.

There are also tools on the market to assist with fitting shock absorbers that have a rebound spring. They compress the internal rebound spring sufficiently to be able to extend the piston rod to the required length to be able to thread the upper nut correctly.