



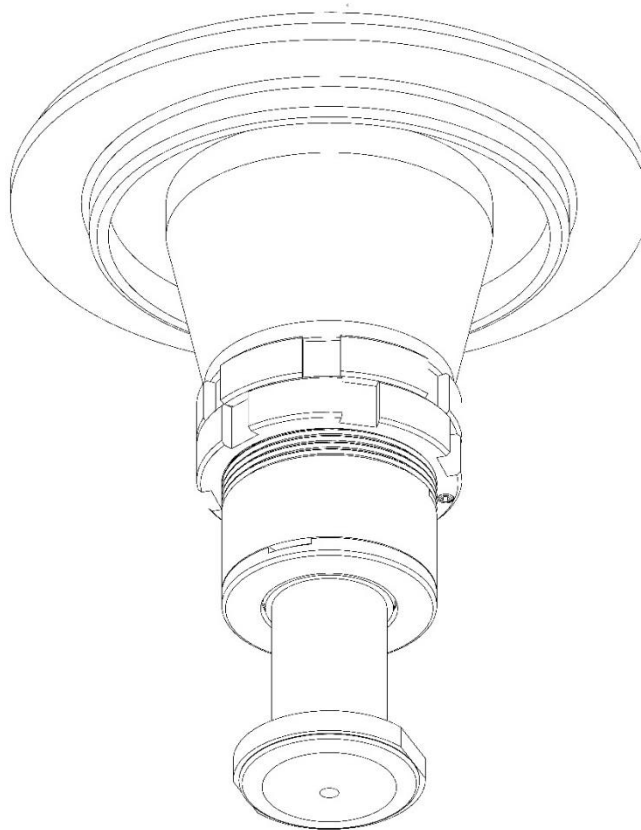
## Install Instructions

Fitment	Part Number	Part Number
Toyota Prado/Fj Crusier	Hydraulic Bump stop	HBS56-009
03-On 4Runner	Bracket Kit	HBS59-010K
<i>Long travel setups may use longer 56mm bump stops ***</i>	Hydraulic Bump Stop	HBS56-006

**NOTE – Installation is always recommended by a competent technician. Failure to properly install may result in drive and may damage other components.**

**When fitting aftermarket replacement parts, it is important to note that your vehicle may behave and handle differently. Always follow relevant road rules and always use safe driving and vehicle operating practices.**

**\*\*\* Long travel setups with a shock absorber with longer compression length, may need to use a longer travel bump stop such as HBS56-006 to be able to have the bump stop impact. Always make sure the bump stop is impacting and bottoming out completely before the shock shaft bottoms out. Make sure the original chassis rail rubber bump stop also bottoms out about 8mm or so (this can be changed depending on your setup) before the bump stop fully bottoms out.**



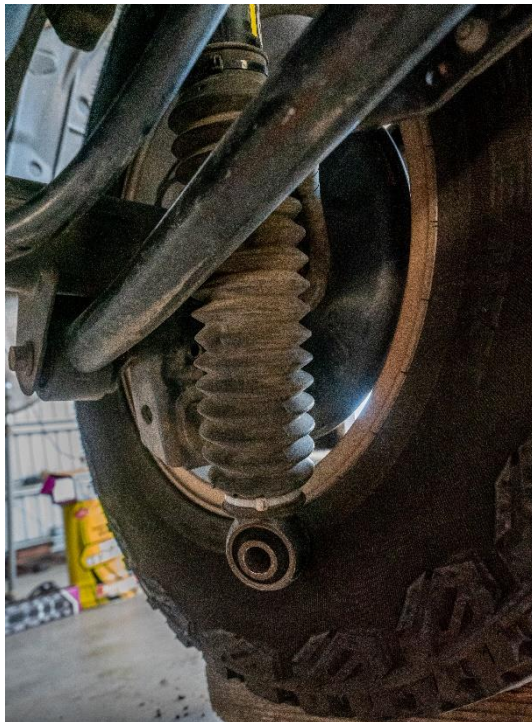
#### ASSEMBLY:

1. Using the single large locking collar assemble the hydraulic bump stop into the Bump stop bracket.
2. Wind the bump stop in until the top of the valve is flush with the top of the mount. See addition notes at point 9 and 10 if installing longer bump stops with a Schrader valve or any bump stops with a Schrader valve.
3. Secure this position by tightening the locking collar.
4. Secure the rubber isolator to the coil side of the bracket.

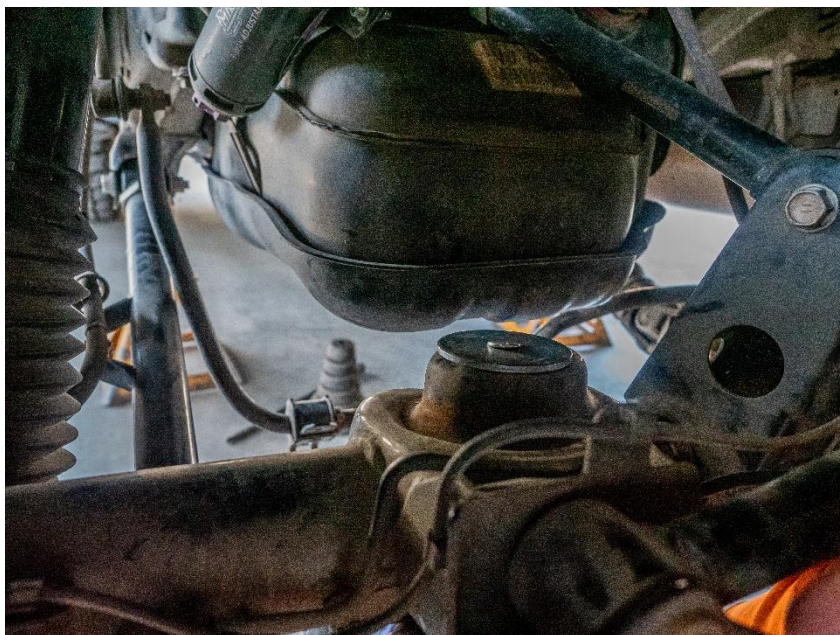


## INSTALLATION:

1. Raise the vehicle off the ground and secure safety on a hoist or on correctly rated jack stands.
2. Support the weight of the differential with a Jack.
3. Remove the lower shock bolt, sway bar brackets and brake line brackets.



4. Lower the differential until the coil and OEM bump stop can be removed.



5. With the coil removed from the vehicle fit the strike plate. The tab may need to be bent to shape allowing better access. See below picture and the picture before.



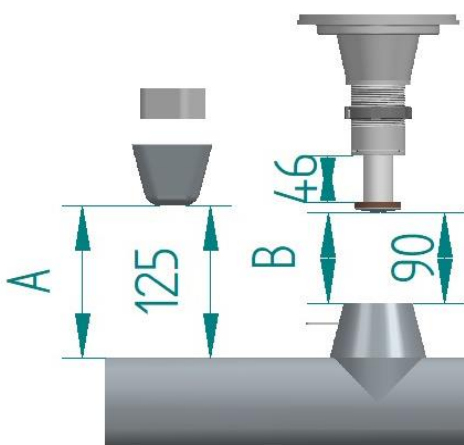
6. Refit the coil with the Hydraulic bump stop assembly mounted in the coil. If you have a different longer travel shocks and are using bump stops with a Schrader valve, read point 10 on how to notch the body.



7. Raise the differential until the shock can be re-fitted.



8. Double check the set distance of the bump stop allows at least 8mm of travel beyond the chassis mounted bump stop, bump stop spacer may need to be fitted to achieve correct operation. (Failure to do so can result in damage to the vehicle.) You may need to use a longer travel bump stop such as HBS56-006 if you have long travel shocks which have a longer compression length. Remember the idea of the bump stops is to stop the shock absorbers bottoming out. The shock should not bottom out before the bump stop is fully bottomed out. For example, if the shock absorber has 150mm of compression, there should be less than 150mm until the bump stop is fully bottomed out. 150mm minus 46mm travel is 104mm of gap between the hydro bump and the strike plate. This leaves a few mm of thickness in the bump stop end cap before the shock bottoms out. This also means you want at the very minimum about 142mm of gap between the outer rubber bump stop and the striking area. This is so the bump stop is compressing and the rubber bump stop also has some strike before the shock bottoms out. This can be changed if you feel you need more bottom out control by making the gap with the rubber bump stop and where it strikes less.



Chasis rubber bump stop distance (A) must be a minimum of 8mm less then hydraulic bump stop distance (B) and bumpstop travel (46mm).

Example-  
 $90\text{mm}(B)+46\text{mm}(\text{travel})=136\text{mm}$   
 $136\text{mm}-125\text{mm}(A)=11\text{mm}$

11mm of hydraulic bumpstop travel after rubber bumpstop contact.

## LONGER TRAVEL BUMP STOPS

9. If using a longer travel bump stop such as HBS56-006, the schrader valve may stick through the bump stop like the picture below. Some model hydraulic bumps have a schrader valve and some do not.



10. To make this clear the body, you may need to notch the top of the bump stop mount. See below picture where the hole is ground out to allow the schrader valve to clear the body. Paint the area after it has been ground.

