SYNERGY MFG. 870 INDUSTRIAL WAY, SAN LUIS OBISPO, CA (805) 242-0397

PPM-5013 JK REAR C/O KIT

Version 3

GENERAL NOTES:

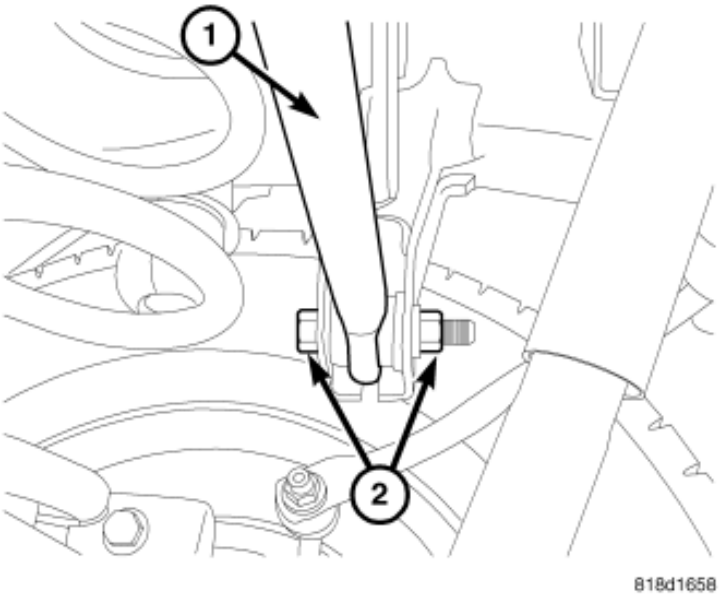
- These instructions are also available on our website; *www.synergymfg.com*. Check the website before you begin for any updated instructions and additional photos for your reference.
- The installation of the PPM-5013 JK R C/O kit requires minimal cutting and grinding and a significant amount of welding. An experienced fabricator/welder is recommended to properly install this bracket.
- Factory coil mounts remain unchanged with this installation and can still be utilized. This kit can act as a long travel shock mount to mount longer universal shocks and bypass the factory shock mounts for increased travel and articulation.
- **NOTE**: The installation of this kit requires rerouting of the factory exhaust and removal of the factory rear sway bar. It is highly recommended this installation be paired with the installation of a rear Currie Antirock sway bar (CUR-9900JKRA)
- This kit is designed around fox 2.0" coil-over shocks. If using King 2.0" coil over shocks, a 90 deg hose end will be needed at the body to prevent contact with the 5013 cross member.

PARTS LIST:

- 1 PPM-5013 JK rear c/o cross member (Fully welded)
- 2 PPM-501302-01 JK rear upper c/o mount outer gussets
- 2 ½-13 UNC 2.75" long bolts
- 2 ½-13 UNC Stover nuts
- 4 ½" flat washers

INSTALLATION:

1) Begin by removing the rear TB bolt and nut at the frame side (#2 in picture below). This is easiest to do with the vehicle still sitting on the ground under its own weight.



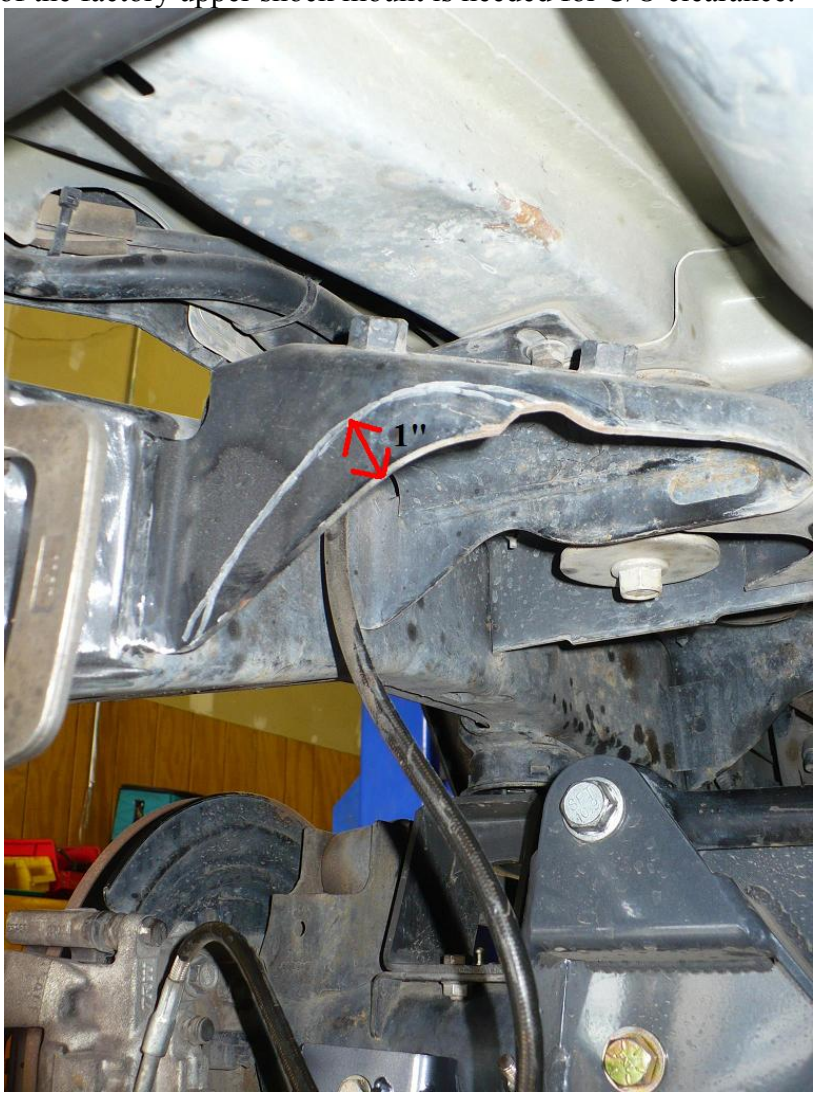
2) Next, jack the vehicle up and support it using jack-stands to take the weight of the vehicle off the suspension.
    - Remove the rear wheels, coil springs, shocks, rear sway bar links, and the sway bar itself.
3) As noted earlier, the factory exhaust will not work in conjunction with this kit. So, remove the factory muffler and cut the exhaust hangars off the frame as shown below.

Grind these areas smooth and remove all paint from the inner frame rail between the rear most body mount and the factory shock mount. Also clean the forward face of the body mount as the rear cross member will weld to this as well.

4) Before fitting the PPM-5013 cross member, it is recommended to paint all sides that do not get welded before installation into the vehicle. Note: do not paint edges marked with red arrows shown below (both sides, front and back).

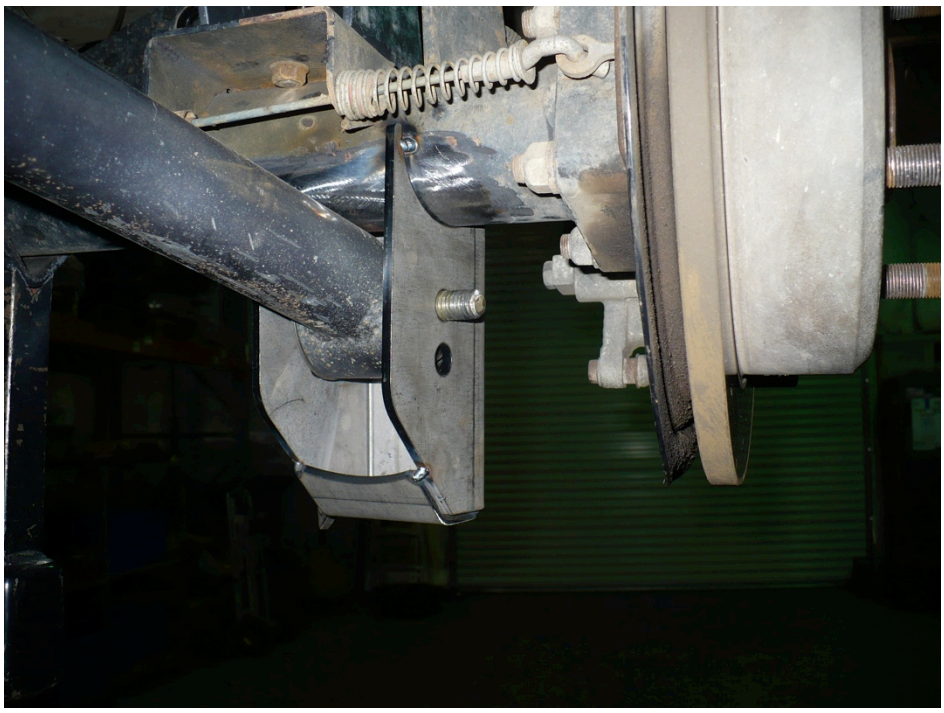
5) Position the new 5013 cross member and clamp into place as shown. The cross-member flanges locate it against the bottom of the frame and against the rear body mount as shown. Note: do not weld anything yet, but take notice of any areas of the frame that may still need cleaning for welding.

6) At this time, it is recommended that shocks be installed and suspension be fully cycled to ensure proper shock lengths and bump stop spacers are used. Note, some grinding of the factory upper shock mount is needed for C/O clearance.



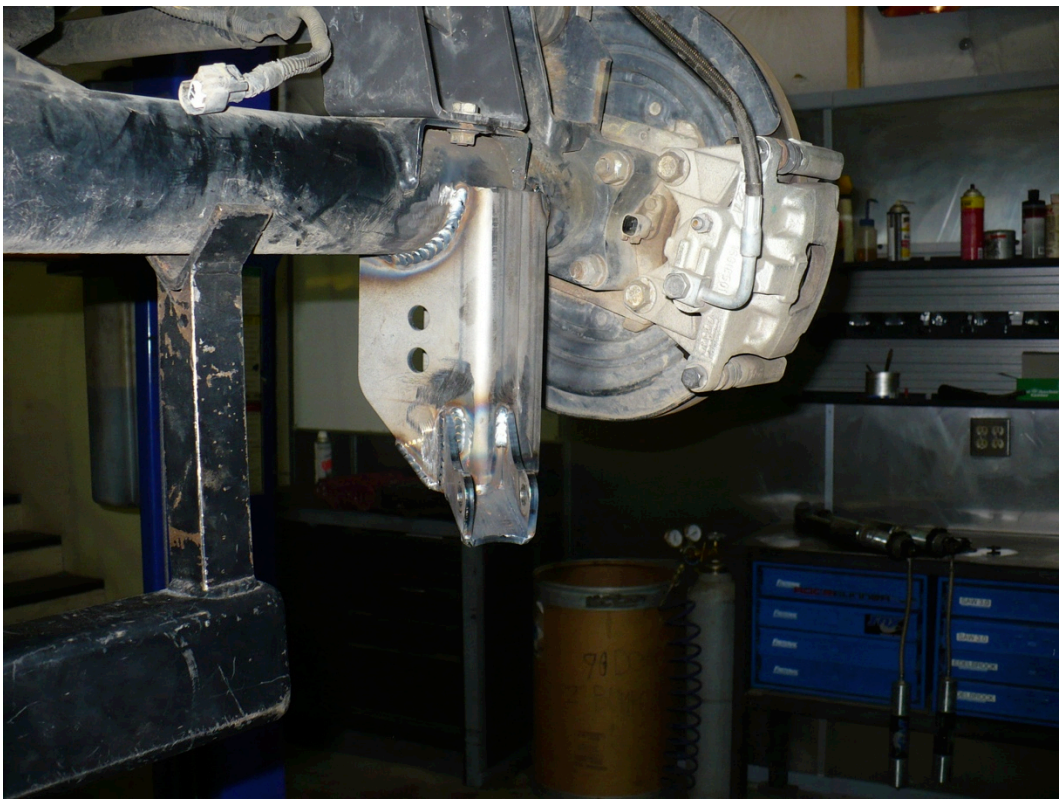
7) With the upper cross member mocked up in the proper position, let's turn our attention to the lower shock mounts. This kit was designed to be used with our 8078 HD Lower Shock Mount, a 12" fox 2.0 C/O and a 3" bump stop spacer. Or, for a more universal application; with the 8072 RLCA brackets to replace the factory brackets on the axle and anywhere from a 10-14" fox 2.0 C/O and appropriate corresponding bump stop spacers.
    - If using the 8078 bolt on lower mounts, follow the instructions provided with them for installation, and skip to Step 12 for completion.
    - If using the 8072 RLCA weld on brackets, follow Steps 8-16 for completion.

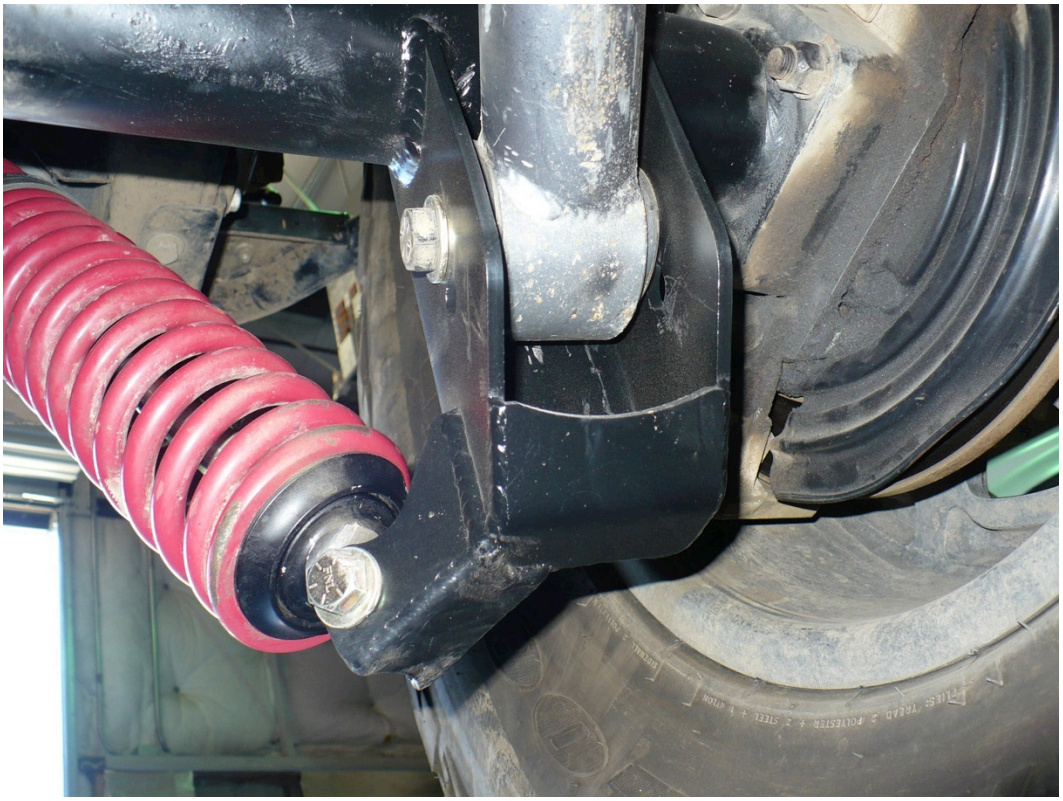
8) Do one side at a time, so that measurements can be taken from the factory mounts on the opposing side. Begin by cutting off the factory LCA brackets. Cut at the base of the weld on the bracket side as to prevent cutting into the axle tube. Once bracket is removed, grind the axle tube smooth. A 4 ½" angle grinder works well for this.
9) Next, tack the new 8072 bracket onto the axle tube, they are L&R specific and should point inwards toward the center of the vehicle.
    - Measure the distance from the bearing flange on the housing to the factory LCA brkt as a reference, approximately 3in. Also, place an angle finder on the back of the factory brkt and match the angle when tacking on the new one.



10) With the RLCA brkt tacked securely on, set the axle at ride height, reattach track-bar, and center the axle. Now, using the 807204-02 shock tabs provided, match the angle on the upper shock mount tabs and tack into place. Note, with axle set at ride height, determine the desired amount of uptravel and tack lower mounts on accordingly. The 8072 RLCA brackets resemble the factory length to allow for up to a 14" travel shock to be used. However, we recommend using a 12" stroke shock and trimming the bottom of bottom of the mount for added clearance. The picture shown below resembles an untrimmed mount set-up for a 12" shock on a 2dr JK with a rear stretch.

11) With tabs positioned, cycle suspension from bump to droop to ensure no binding is occurring. Now is also a good time to trim the 807204-05 lower skid plate to fit depending on how shock tabs are positioned and how much has been cut off the RLCA brkt.
12) Included with the 807204 RLCA Brackets are sway bar tabs, and bottom shock tab skids to be used if needed. Again, proper cycling of rear suspension will need to be done to correctly place sway bar tabs. Pictured below is a fully installed RLCA bracket with all tabs on a 2dr JK with a rear stretch kit.

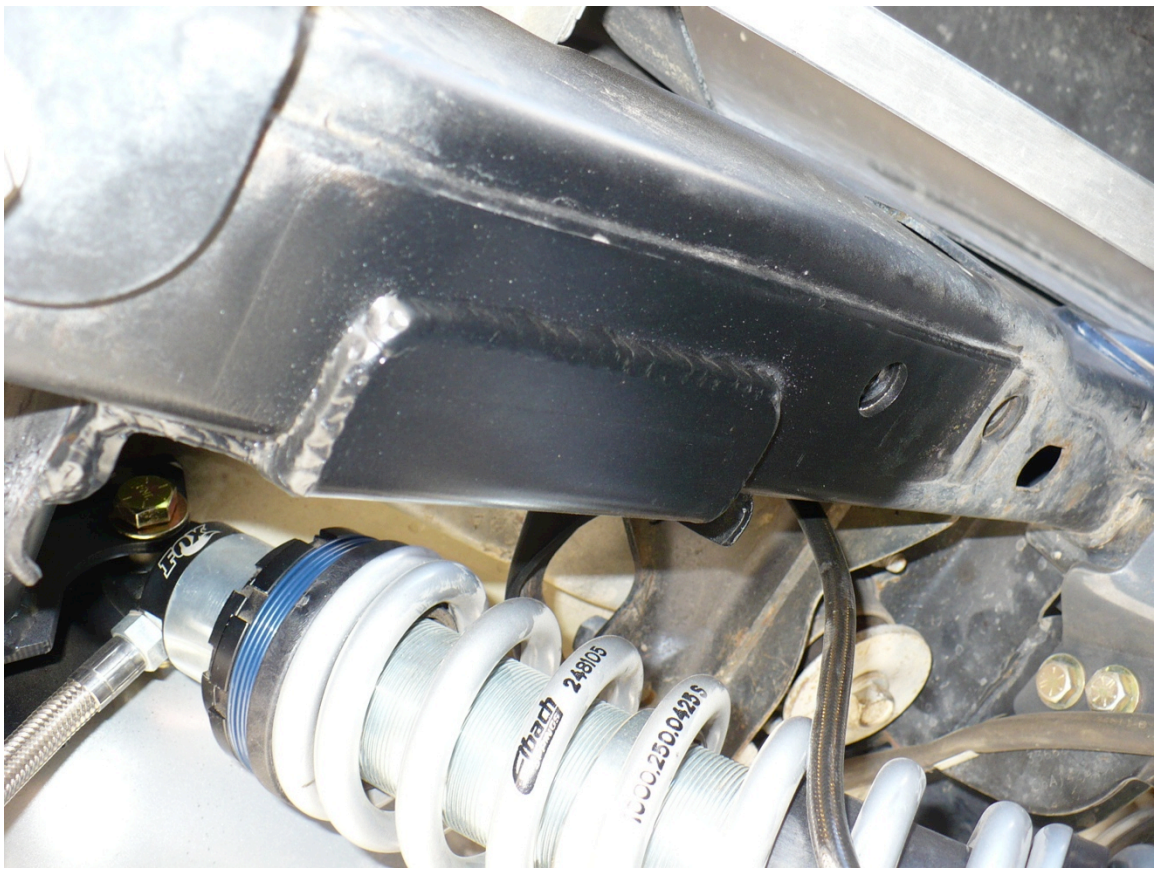




13) Once shock clearance has been addressed, now is the time to install the rear Currie Antirock sway bar if desired. The sway bar is designed to fit through the 5013 cross member as shown below. Follow Currie's installation instructions for the complete install. See pic below for reference.

14) Once c/o clearance and anti rock has been fitted, now the 5013 cross member can be fully welded in. Be sure to clamp the cross-member securely to both the frame and the rear body mount. Tack cross member in place. Now is also the time to tack into place the outer gussets provided in the kit. They go on top of the frame as shown below.

15) Fully weld the cross member in. Weld all areas touching the frame rail and body mount as shown.



16) Fully paint after finish welding. Install shocks, wheels and tires. Torque shock bolts to 80 ft-lbs. Lower to ground and reinstall rear track bar bolt. Once on the ground, torque wheels according to manufacturer specs and torque the track bar bolt to 125 ft-lbs.

PPM-5013 kit fully installed in conjunction with PPM-8078 R HD Lower Shock Mount