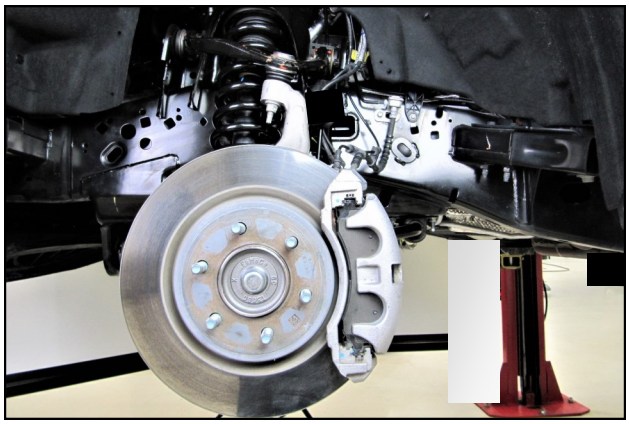
2015-20 Ford F-150
Sport Truck Suspension
Part Number 12201.0001.99.A

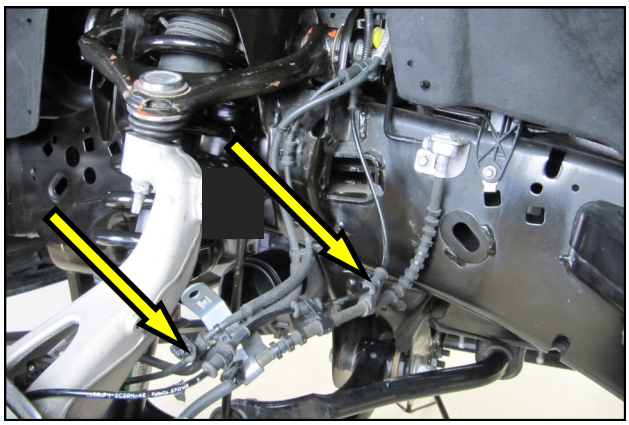
Components Included

1.	Front Lowering Strut	1
2.	Rear Coilover Shock	1
3.	Rear Flip Kit	1
4.	Front Sway Bar	1
5.	Rear Adjustable Sway Bar	1
6.	Instructions	1

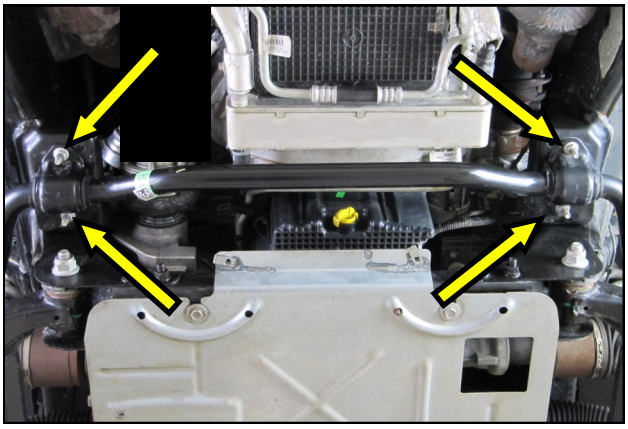
NOTE: Installation of this Sport Truck package is intended to be performed on a 2WD F-150 with a one piece drive shaft. All other variants will require additional modifications not outlined in this manual.



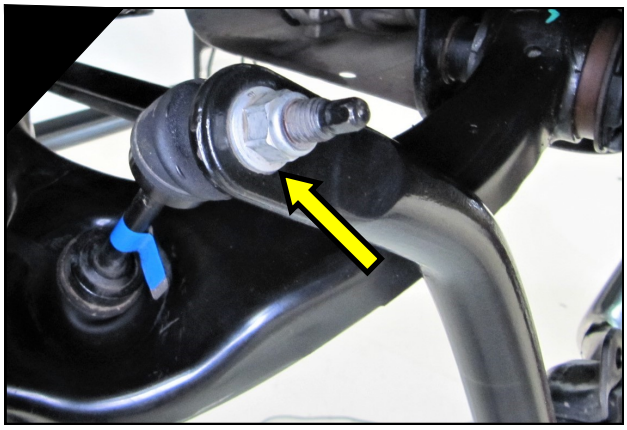
1.Safely support the vehicle using jack stands or an automotive lift. Remove all four wheels and tires.



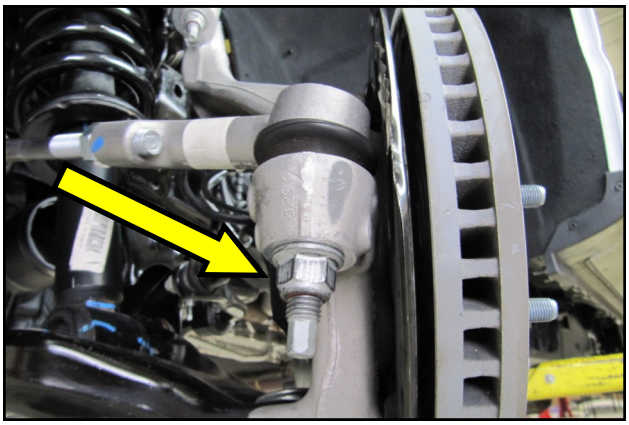
2. FRONT SUSPENSION: Disconnect the brake hoses and wheel speed sensor wiring from the left and right side spindles.



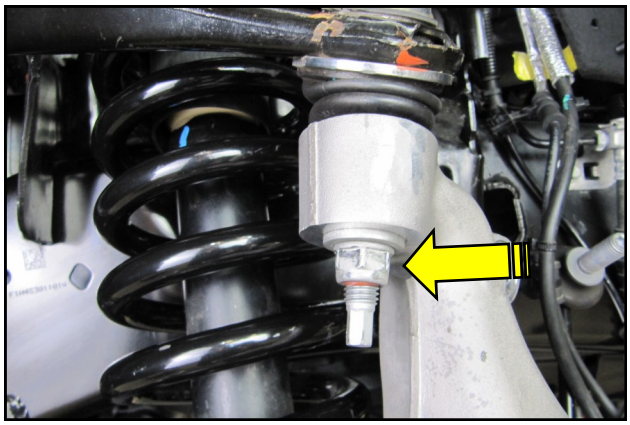
3. Remove the 4 nuts securing the sway bar to the frame.



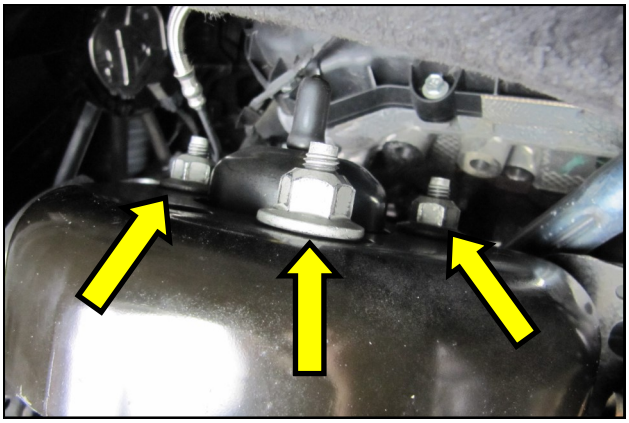
4. Remove the upper nuts from the sway bar links on both sides of the vehicle and remove the sway bar from the vehicle.



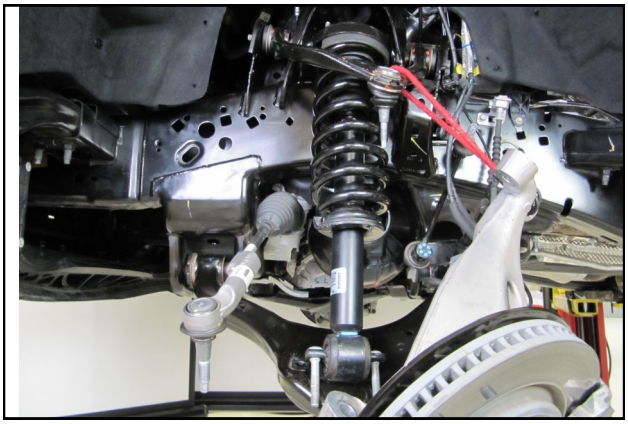
5. Separate the tie rod end from the spindle.



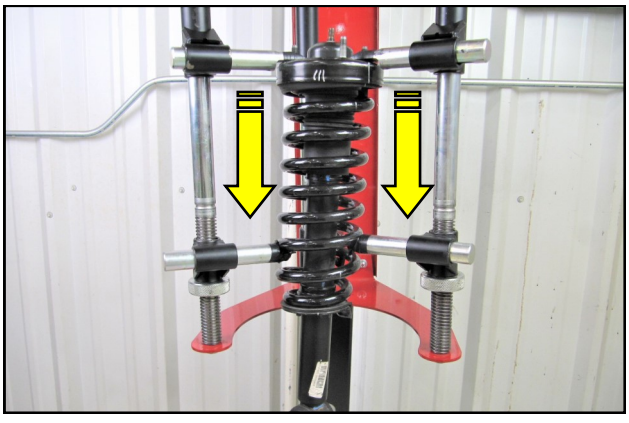
6. Separate the upper ball joint from the spindle. **Hint:** use a bungie cord wrapped around the spindle and upper control arm to keep the corner assembly more manageable.



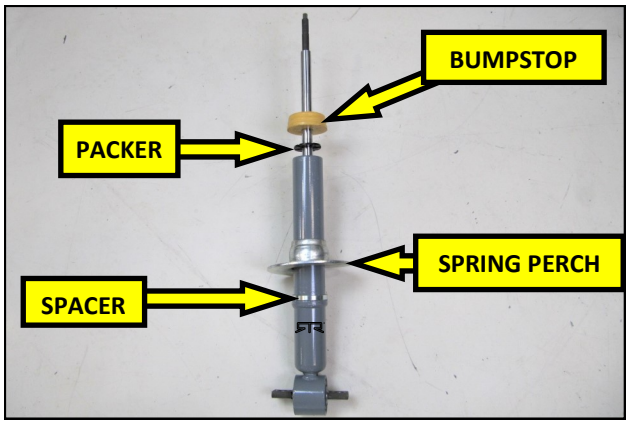
7. Remove the three nuts at the top of the strut mount.



8. Remove the 2 lower strut nuts and remove the strut from the vehicle. **HINT:** The upper strut studs are asymmetrical. Mark the outside edge using a silver sharpie for ease of reinstallation.

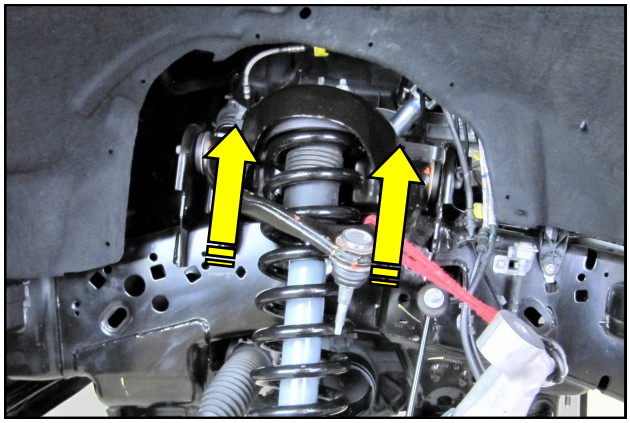


9. Place the strut assembly into a spring compressor and disassemble the strut.

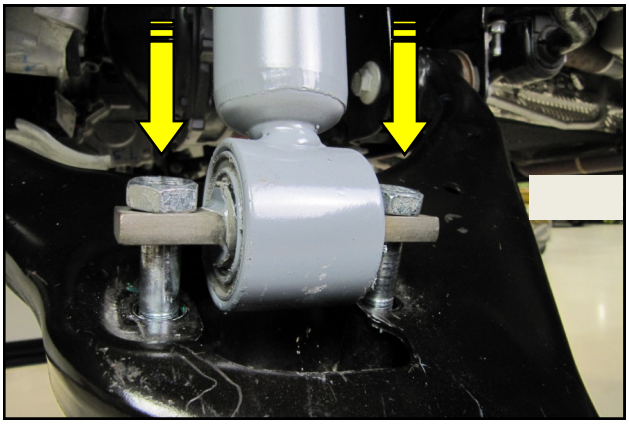


10. Build the RTR Strut as shown, with a single thin spacer on the strut body.

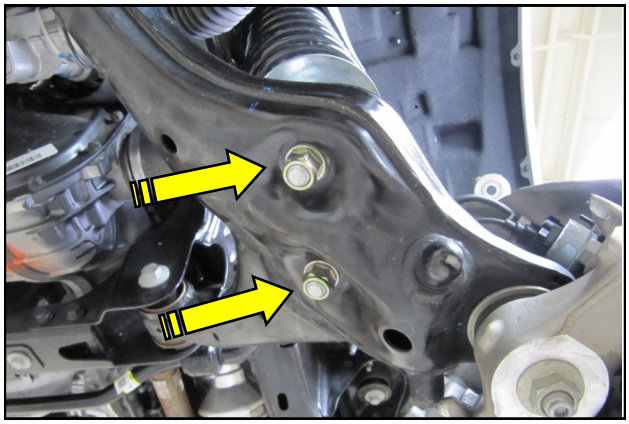
11. Transfer the OEM spring and strut mount onto the RTR Strut and secure the assembly using the supplied Lock Nut. Torque the Lock Nut to 41 lb–ft.



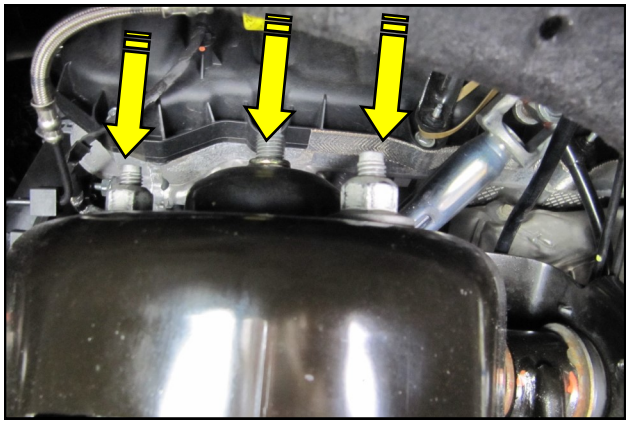
12. Raise the Strut up and into the vehicle a shown. Use the OEM nuts from step **7** to hold the strut in place. Leave the nuts finger tight at this time.



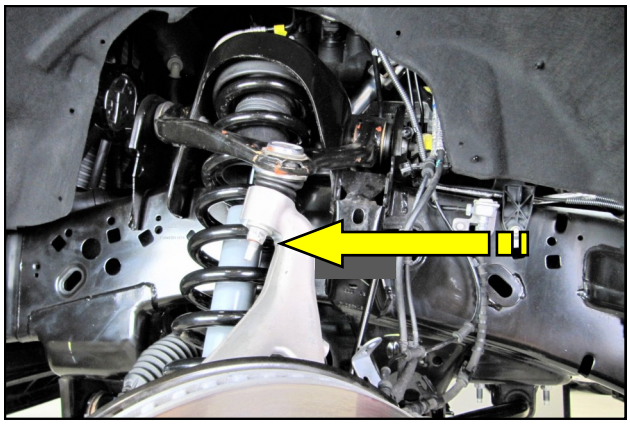
13. Align the bar pin holes with the lower control arm holes and insert the supplied Hex Head Bolts.



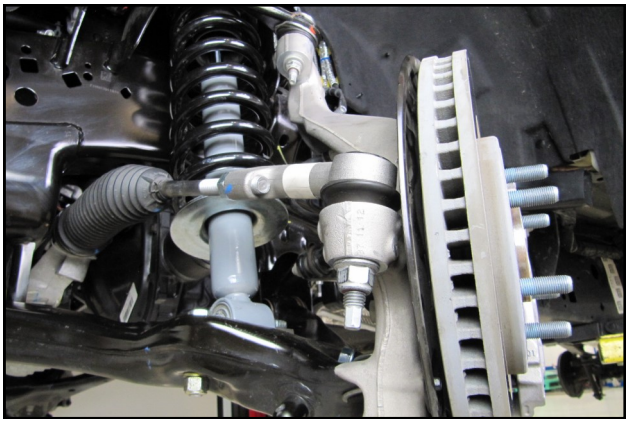
14. Secure the Strut to the control arm using the supplied Lock Nuts and Washers. Torque the Nuts to 59 lb—ft.



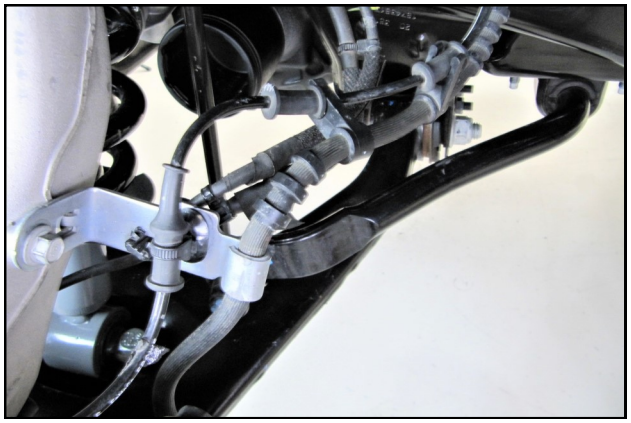
15. Torque the strut mount nuts to 52 lb-ft.



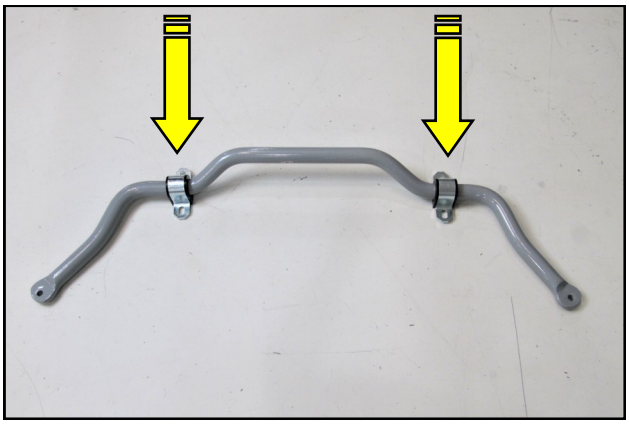
16. Reconnect the upper control arm to the spindle and torque the nut to 46 lb-ft.



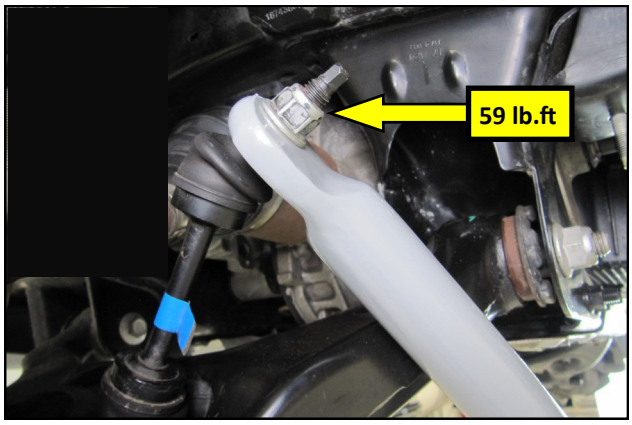
17. Reconnect the tie rod end to the spindle and torque the nut to 76 lb-ft.



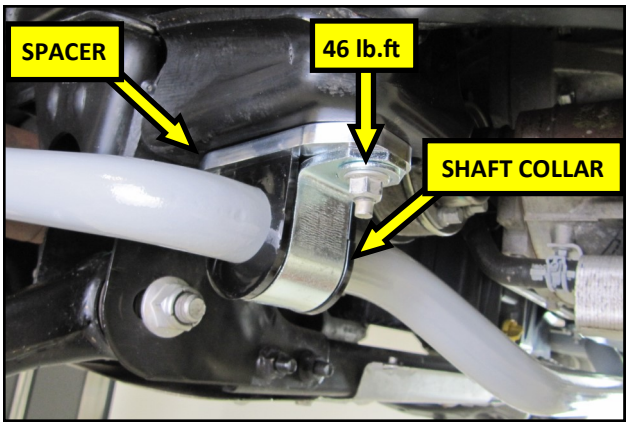
18. reconnect the brake hose and wheel speed sensor. Repeat steps **5**-**18** on the opposite side of the vehicle.



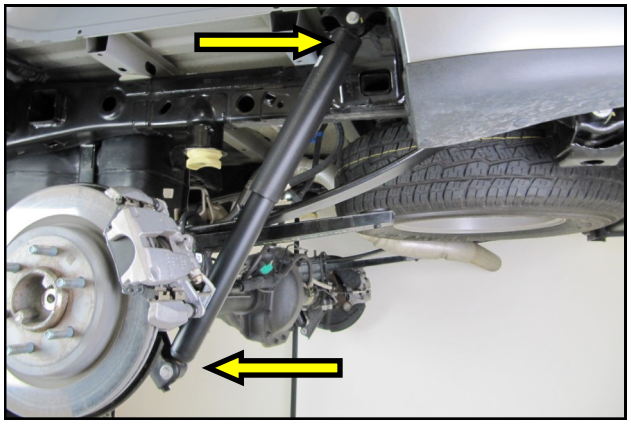
1. FRONT SWAY BAR: Using the supplied silicone grease, lubricate the inside of the RTR Bushings. Install the Bushings and Brackets onto the RTR Sway Bar as shown.



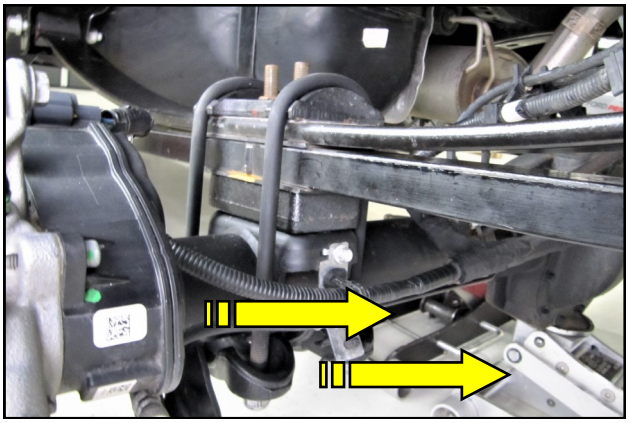
2. Slide the ends of the Sway Bar onto the links and secure them using the OEM Nuts. Torque the nuts to 59 lb-ft.



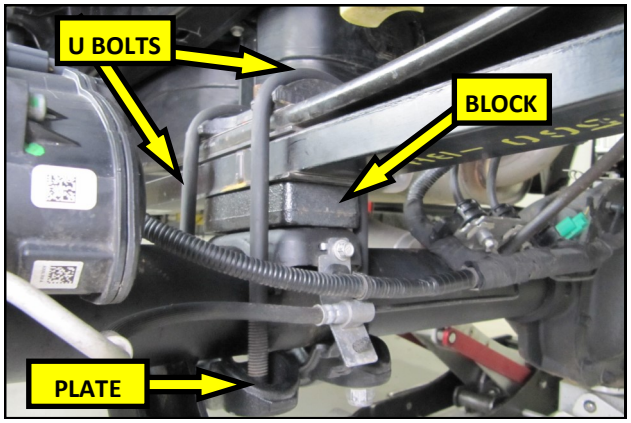
3. Raise the Sway Bar up and towards the frame mounts**.** Place the RTR Spacer over the OEM studs as shown and secure the bar to the vehicle using the OEM nuts with the supplied washers. Torque the nuts to 46 lb-ft. Install the Shaft Collars onto the Bar, next to the inner surfaces of the Bushings.



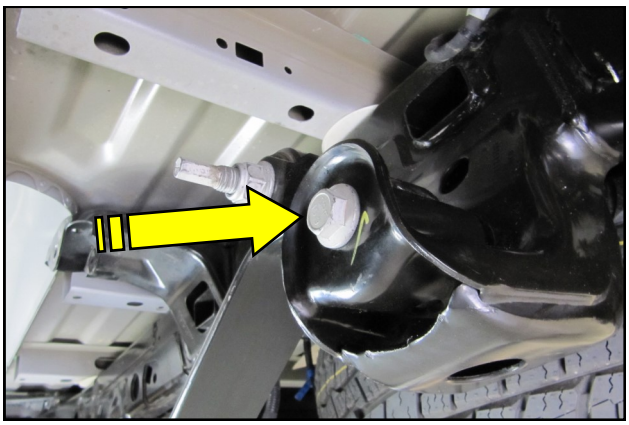
1. REAR SUSPENSION: Remove the rear shocks from the vehicle.



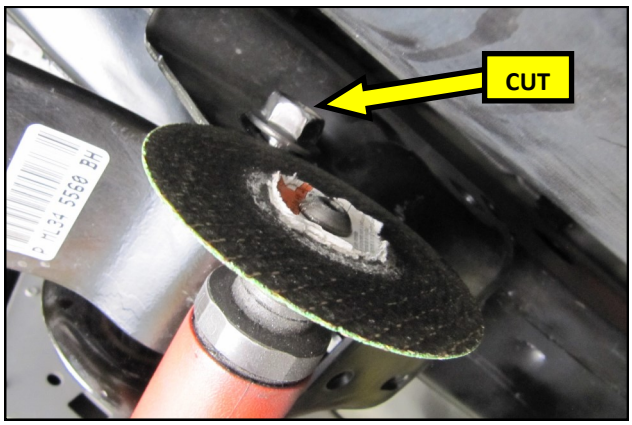
2. Support the rear axle using a pair of jacks. One on the differential and one on the snout to prevent rotation.



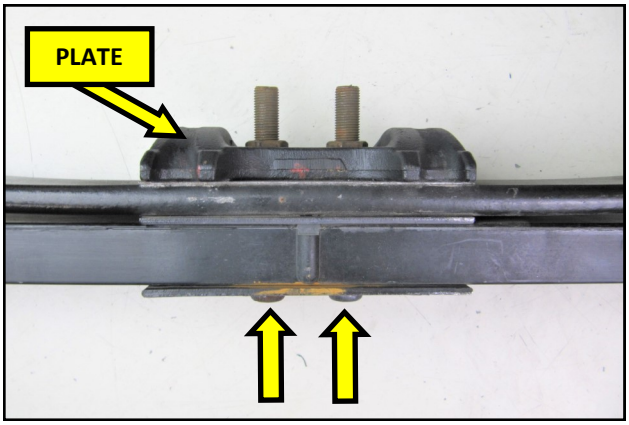
3. Remove the U bolts, lift blocks and U bolt plates. Remove all the fasteners securing the brake hoses, lines and the wire harness to the axle.



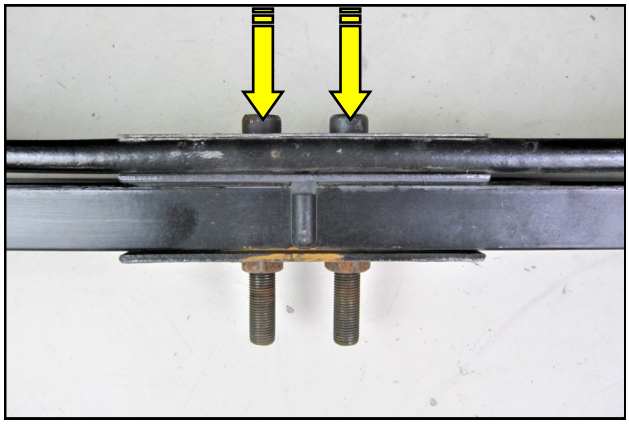
4. Remove the lower shackle bolt that connects it to the rear hanger and leave the shackle connected to the spring at this time.



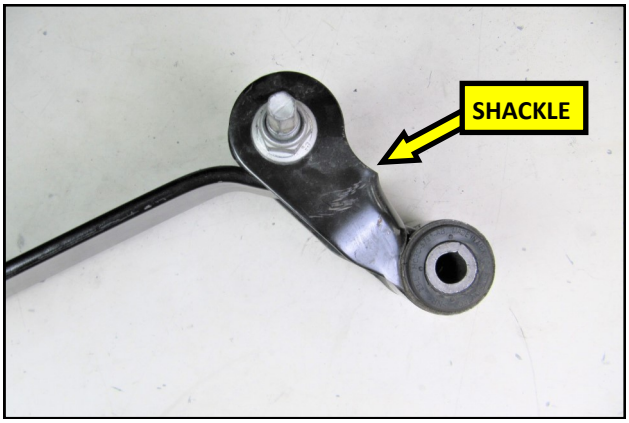
5. Both of front spring bolts need to be cut prior to removal. Remove the nuts from the front spring hanger bolts and push them out, exposing the shank. Using a cut off wheel or reciprocating saw, cut the heads off of the bolts and pull the shanks out.



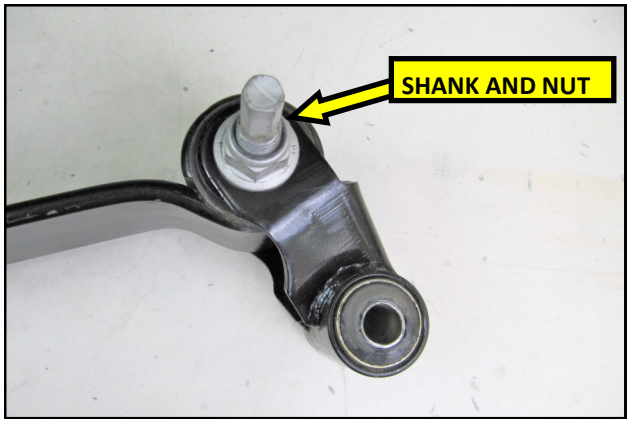
6. Remove the leaf springs from the vehicle . Remove both of the center bolts in the leaf springs. Remove the U-bolt locating plate on the top of the spring and set it aside. **HINT:** use locking pliers to hold the round head of the bolt.



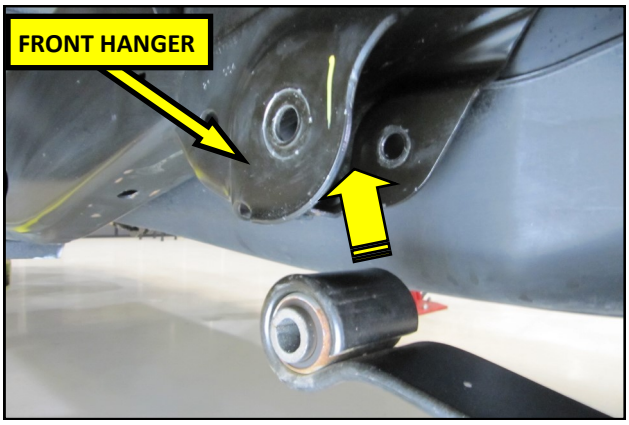
7. Reinstall the bolts into the spring packs as shown, upside down, and torque the nuts to 64 lb-ft.



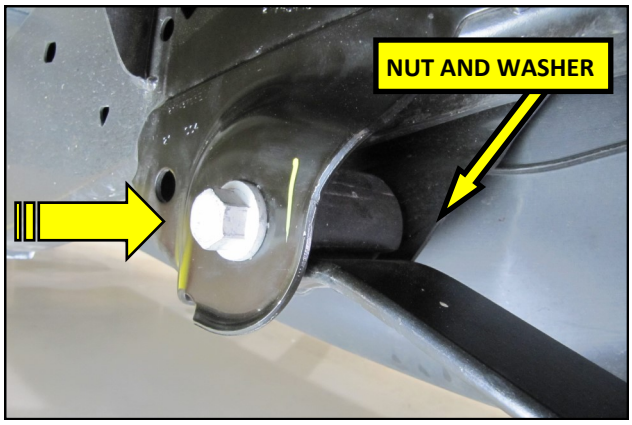
8. Remove the OEM rear shackles from the springs.



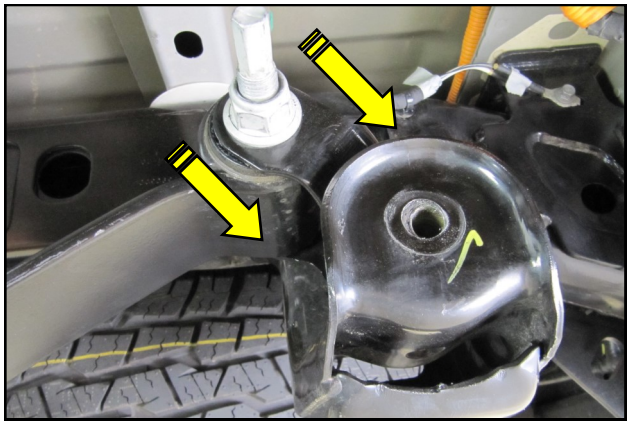
9. Using the OEM hardware, install the Lowering Shackle onto the spring as shown. Leave the bolts sung at this time. When properly installed the bolt shank is to be pointing upward.



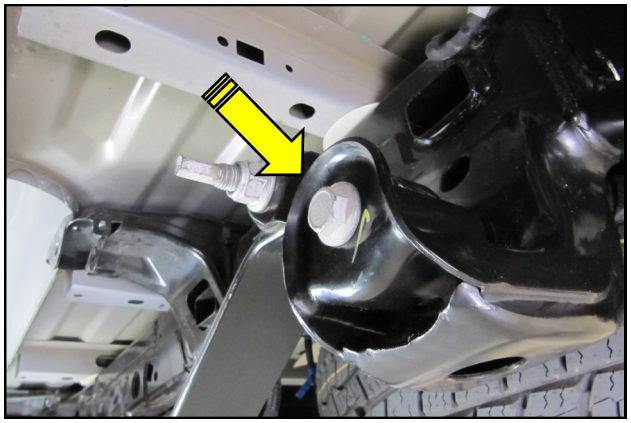
10. Use the jacks to Raise the axle and slide the springs underneath the axle. Raise the front of the leaf springs into the front hangers.



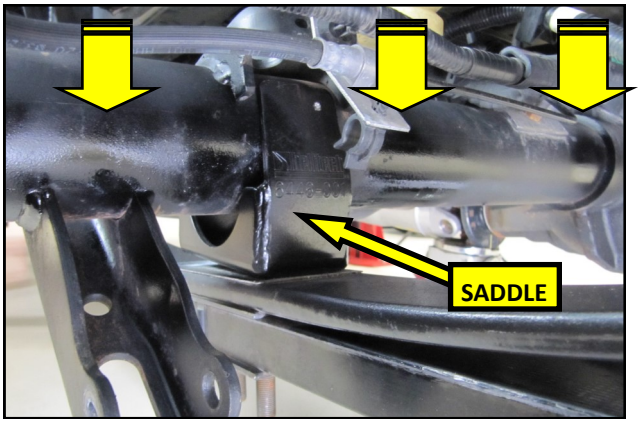
11. Use the supplied M18 Bolts, Washers and Lock Nuts to secure the spring to the hanger. The new Bolts are to be installed from the outside, unlike in step **20**. Leave the bolts sung at this time.



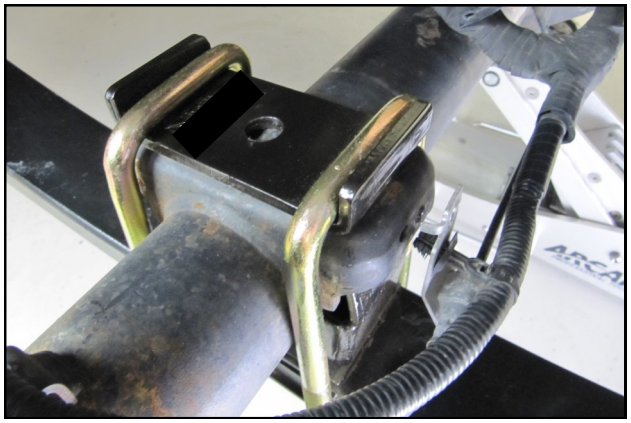
12. Raise the rear of the springs and slide the shackles into the hangers.



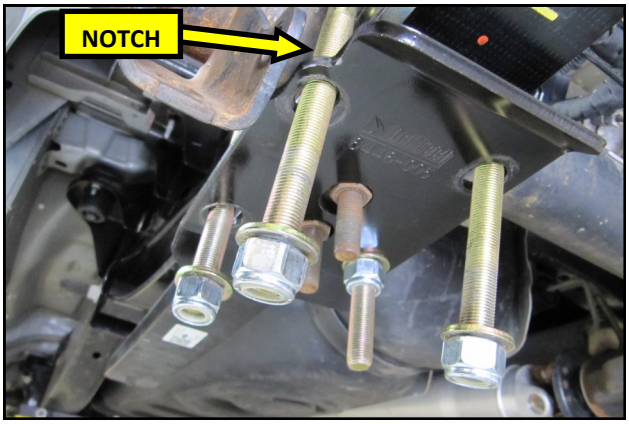
13. Secure the shackles using the OEM hardware from step **19.** Leave the bolts sung at this time.



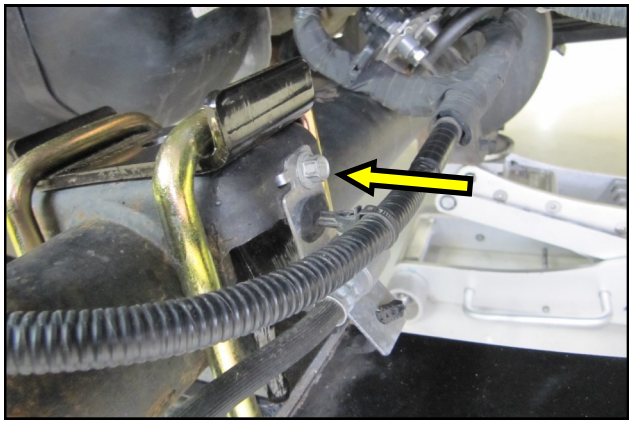
14. Place the axle saddles onto the spring with the 2 location holes towards the front of the vehicle and lower the axle down onto them.



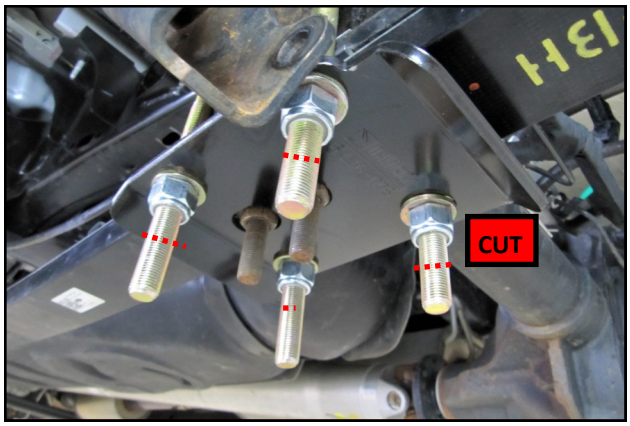
15. Place the U Bolt Mount and U bolts onto the axle as shown.



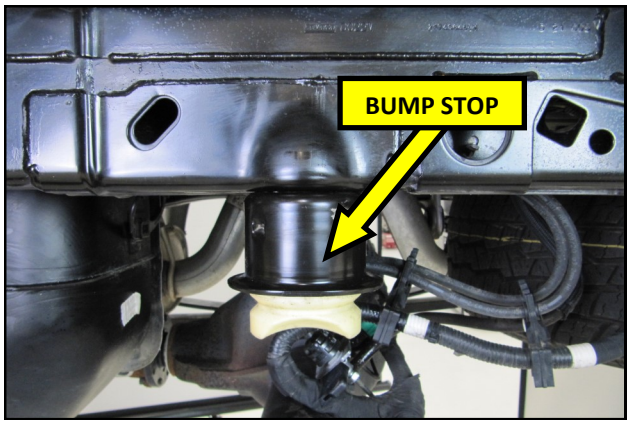
16. Slide the U Bolt Plate onto the Bolts with the notch next to the shock mount and thread the supplied Lock Nuts with Washers onto the Bolts.



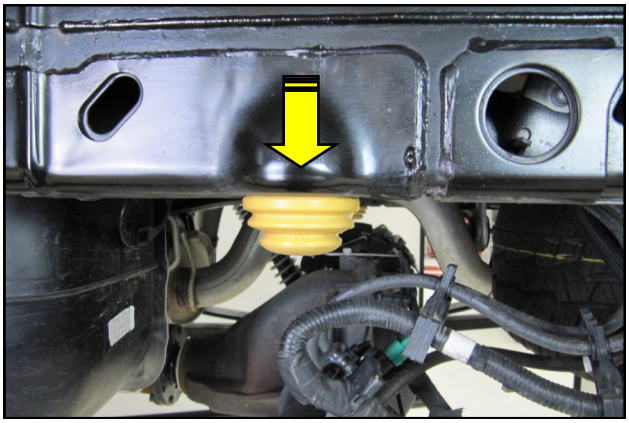
17. Reattach the brake hoses, lines and, the wire harness to the axle using the hardware from step 18.



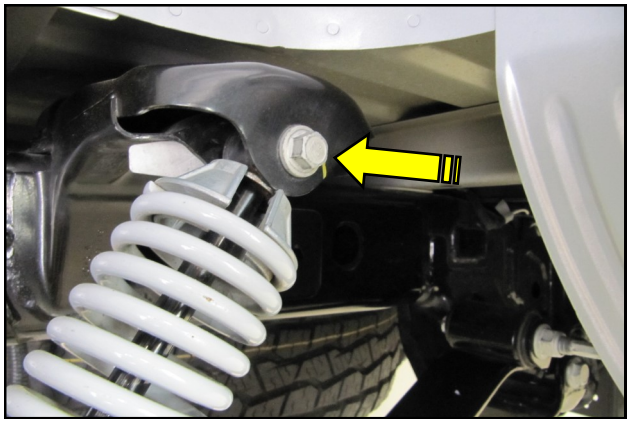
18. Tighten the U Bolt Nuts, in an X pattern, in 4 stages. Torque the Nuts to 26,52,74 and 98 lb-ft. Trim the excess length using a cut off wheel,



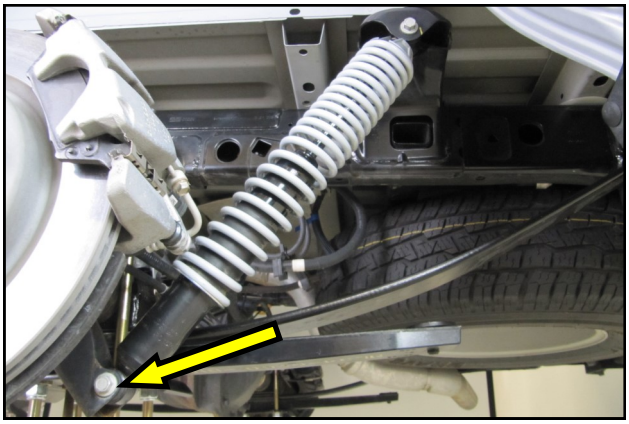
19. Remove the OEM bump stops from the frame rail.



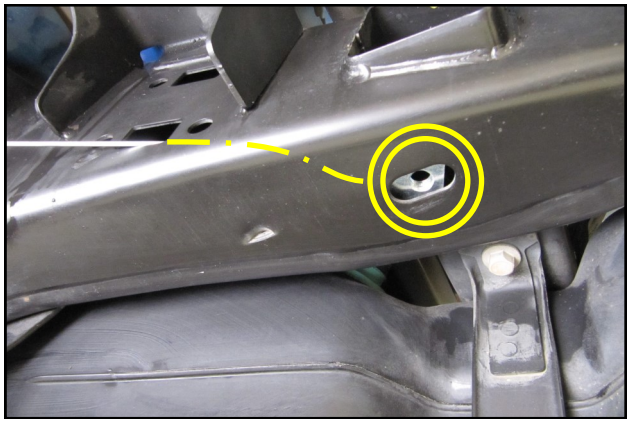
20. Using the supplied Socked Head Cap Screws, install the supplied sort Bump Stops onto the frame.



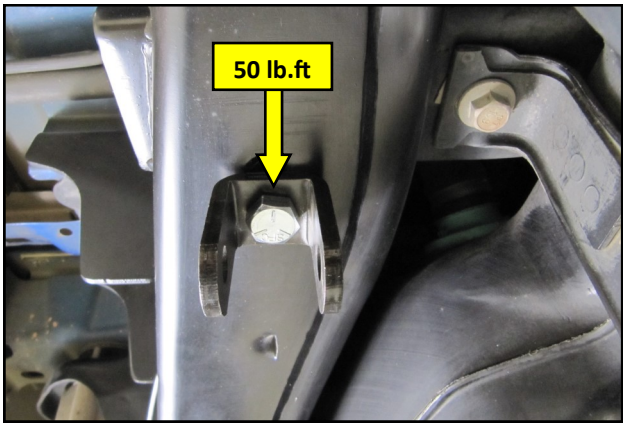
21. Install the RTR Coilover Shocks into the upper mounts with the springs at the top and them using the OEM hardware.



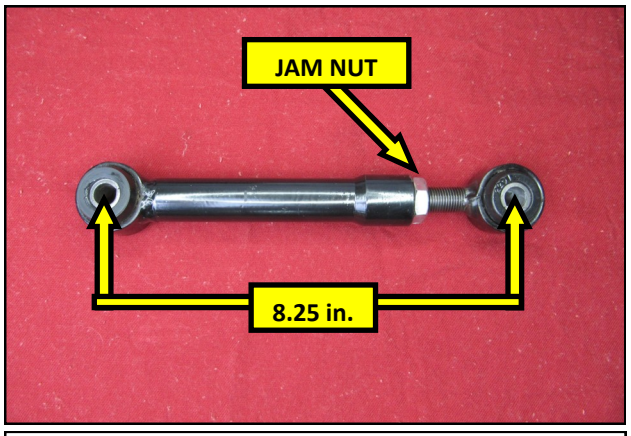
22. Install the RTR Coilover Shocks into the lower mounts secure them using the OEM hardware. Torque the upper and lower bolts to 66 lf-ft.



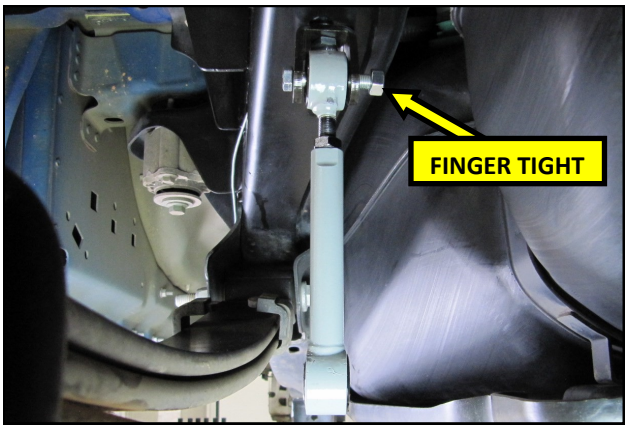
1. REAR SWAY BAR: Feed the threaded Clevis Blocks into the frame on both sides of the vehicle, as shown.



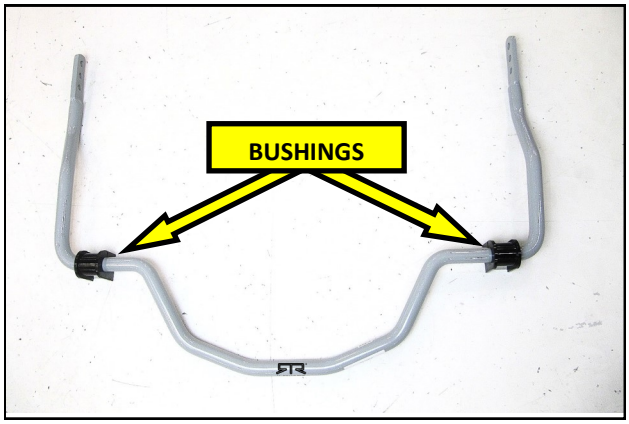
2. Bolt the Link Clevises to the Threaded Blocks inside of the frame using the 1/2” Bolts. Cut the excess wire extending beyond the frame.



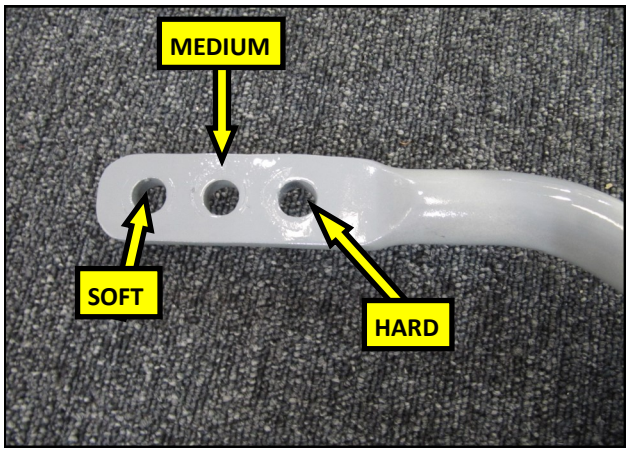
3. Create the link assembly. Using the supplied grease pack. Press the bushings and sleeves into the Link ends. Thread the Male end into the Jam Nut and Female end to an approximate length of 8.25 in. , center to center. Leave the Jam Nut snug at this time.



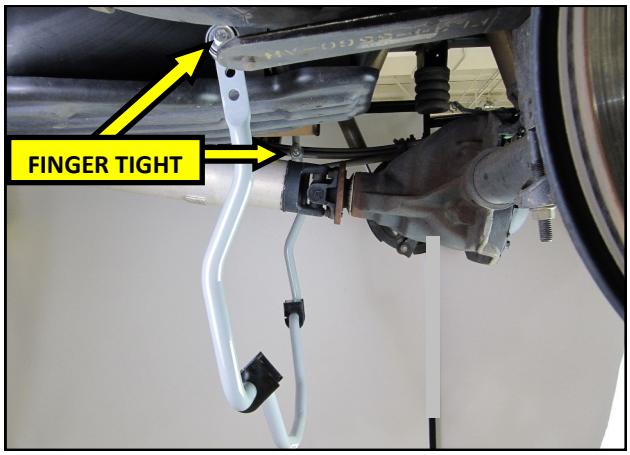
3. Loosely install the Drop Links into the Clevises using the 7/16” Bolts and the 7/16 Nuts.



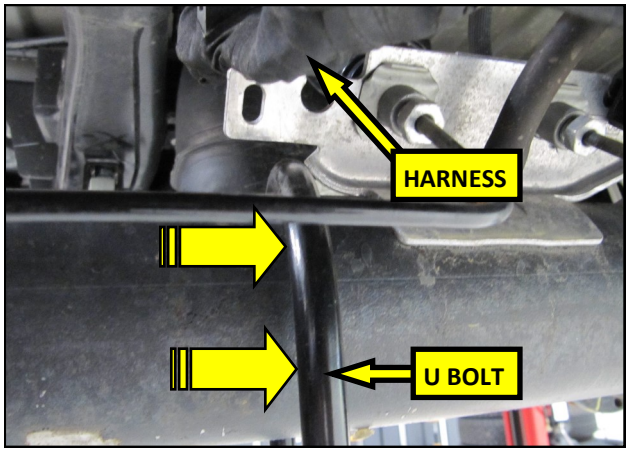
4. Using the supplied Grease, lubricate the inner contact surfaces of the Bushings and install them onto the bar as shown.



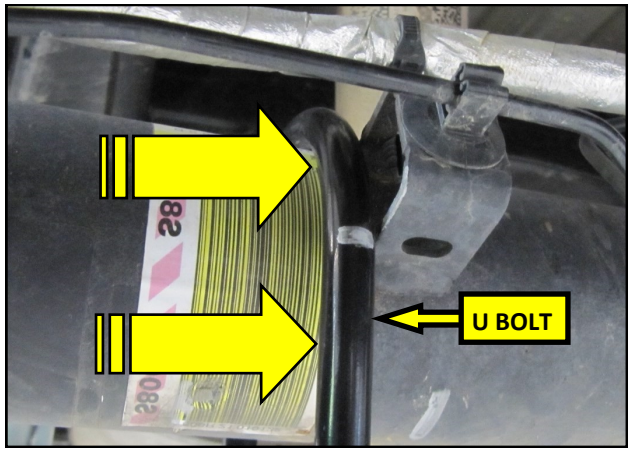
5. The RTR Sway Bar can be set at three different rates: Hard, Medium, and Soft. RTR Recommends starting with the Soft position to familiarize yourself with the change in handling and reposition as necessary.



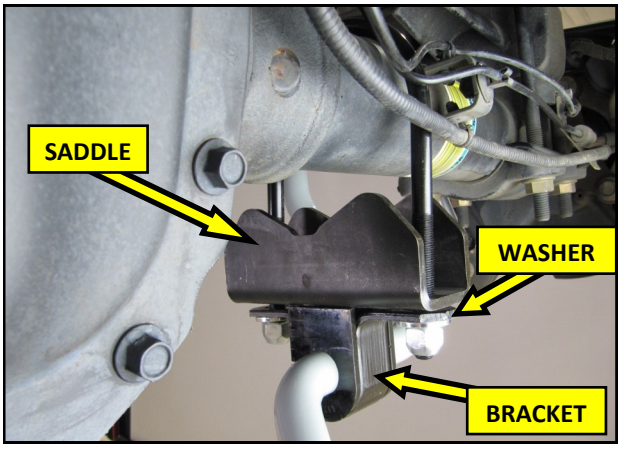
6. Loosely install the RTR Sway Bar onto the Drop Links using the remaining 7/16” Bolts, Nuts and Flat washers.



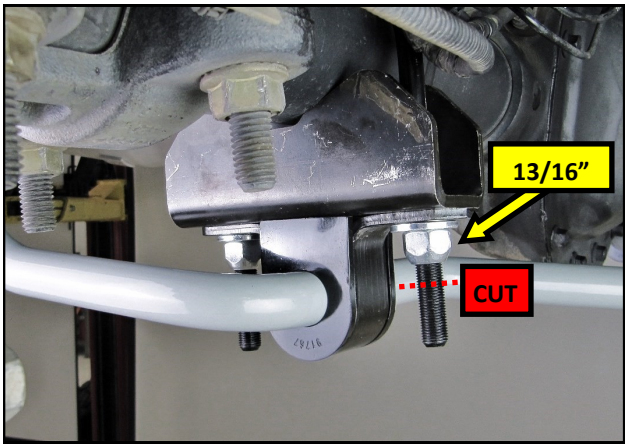
7. DRIVER SIDE: Slide the wire harness off of the brake hose bracket. Place one U Bolt over the axle tube and slide inboard, against the bracket. Reinstall the harness



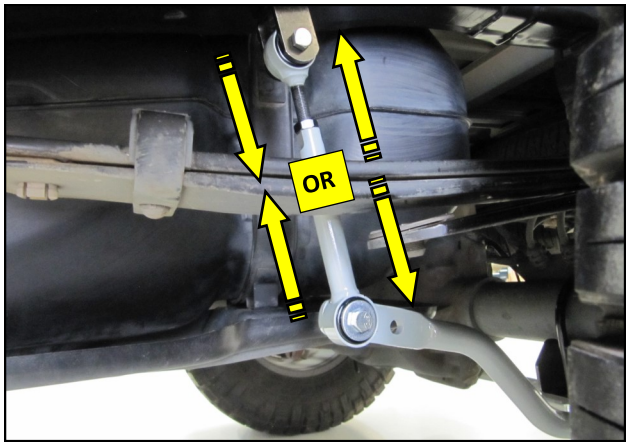
8. PASSENGER SIDE: Place the second U Bolt over the axle tube and slide it outboard and up against the brake hose bracket as shown.



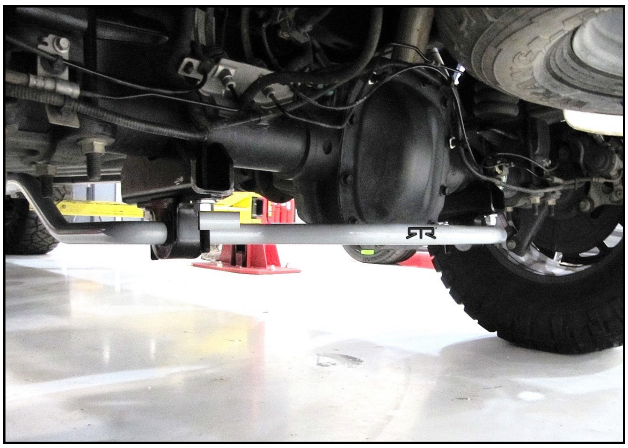
9. Slide the Brackets onto the Bushings and place the Axle Saddles on top of the Bushings as shown. Raise the Bar, Bushing, and Saddle up and onto the U Bolt, through the Bracket. Thread the 1/2” Nuts with the



10. Tighten the 1/2 inch Nuts evenly to 60 Lb.ft. The U bolts are intentionally long for ease of assembly. RTR Recommends cutting the excess U Bolt length to 1” past the Nut.



11. Lower the vehicle onto a flat surface. Adjust the Drop Link lengths to position the Sway Bar so it is in parallel with the ground.



12. When proper positioning is achieved, tighten the drop link fasteners to 40 Lb.ft using a 5/8 and 11/16 tool combination.

With the vehicle on the ground, torque the rear suspension to the following values:

Spring to frame	**258 lb-ft**
Spring to shackle	**173 lb-ft**
Shackle to frame	**173 lb-ft.**

Following comprehensive test drive, have the vehicle aligned.

♦ **Warranty information can be found at www.RTRVehicles.com**