



DON'T FORGET
These instructions can be found in color and expandable at QA1.net

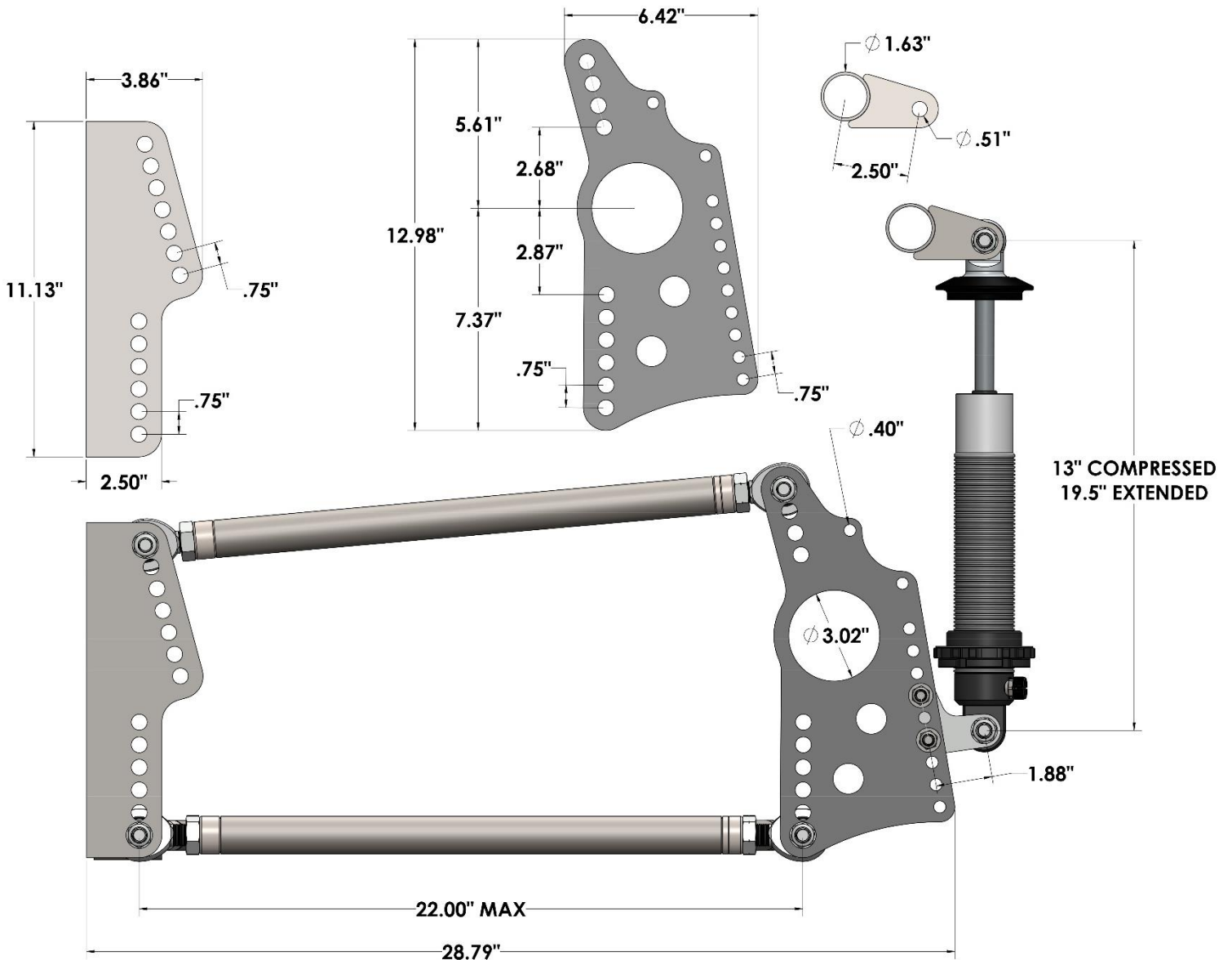
Technical Support Line: (952) 985-5675 Email: sales@QA1.net

INSTALLATION INSTRUCTIONS

QA1 P/N Rx70-000, Rx70-110, Rx70-150, 7838-1067
Universal HD Pro Rear Drag 4-Link

TOOLS AND SUPPLIES REQUIRED

- Floor Jack
- Jack Stands
- Ratchet & Socket Set
- Torque Wrench
- Masking Tape
- Cut-off wheel
- Jack Stands
- Level
- Plumb Bob
- Anti-seize
- Mig Welder (capable of 1/4" penetration)
- Tape Measure



PRE-INSTALLATION NOTES-

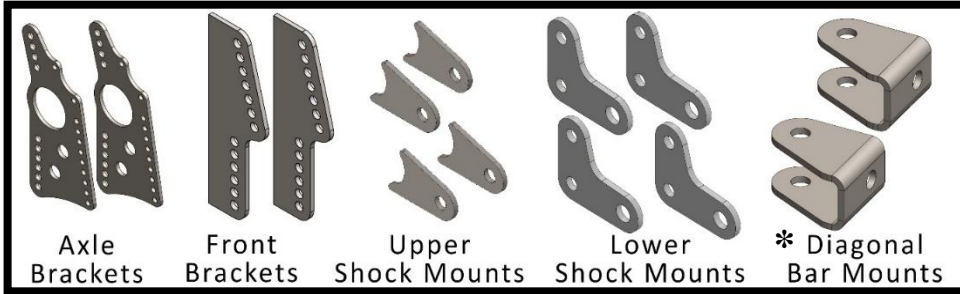
This universal 4 link rear suspension includes MIG weldable components and is intended for 3" diameter axle tubes. This system should be fully mocked up on the vehicle and the suspension cycled prior to finish welding.

For general setup please refer to page 4. For in-depth instant center and tuning information, suspension calculator programs are available such as Performance Trends. (www.performancetrends.com/4link.htm)

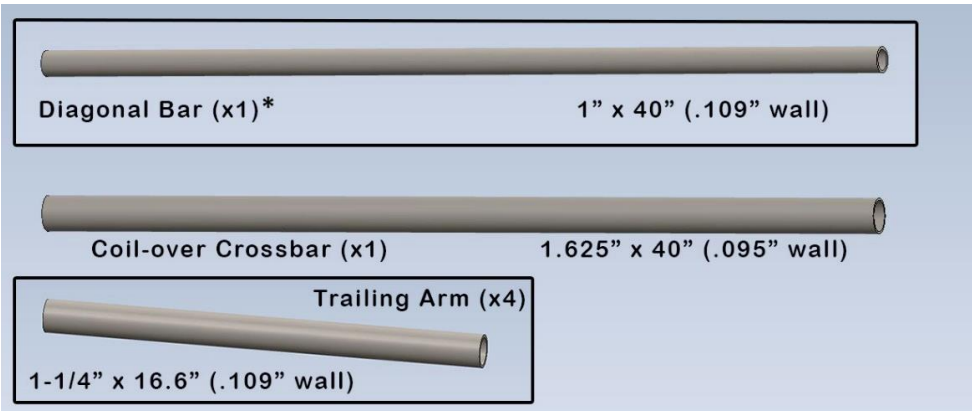
Inventory all items included with this kit to ensure all components are on-hand before beginning the installation.

A lateral locating device is required. Some QA1 kits include a diagonal link, but a panhard bar or watts link can be used.

BRACKETS-



TUBES-



* Not included in all kits.

4-LINK INSTALL KIT-



HARDWARE-

QTY/KIT	DESCRIPTION	2ND DESCRIPTION	WHERE USED ON VEHICLE	TORQUE VALUES (FT-LBS)
4	BOLT, HEX 3/8-16 X 2.75"	GRADE 8, YELLOW ZINC, PARTIAL THREAD	SHOCK MOUNT TABS TO BRACKETS	44
8	WASHER, FLAT 3/8" SAE	.41" ID X .82" OD X .065", GRADE 5, CLEAR ZINC		
4	NUT, NYLOCK 3/8-16	GRADE 8, YELLOW ZINC		
4	BOLT, HEX 1/2-13 X 2.5"	GRADE 8, YELLOW ZINC, PARTIAL THREAD	SHOCK MOUNTS	106
8	WASHER, FLAT 1/2" AN960-816	.515" ID X .875" OD X .062", CLEAR ZINC		
4	NUT, NYLOCK 12-13	GRADE 8, YELLOW ZINC		
8	BOLT, HEX 1/2-13 X 3.0"	GRADE 8, YELLOW ZINC, PARTIAL THREAD	TRAILING ARM TO BRACKETS	106
16	WASHER, FLAT 1/2" AN960-816	.515" ID X .875" OD X .062", CLEAR ZINC		
8	NUT, NYLOCK 12-13	GRADE 8, YELLOW ZINC		

QTY/KIT	DESCRIPTION	2ND DESCRIPTION	WHERE USED ON VEHICLE	TORQUE VALUES (FT-LBS)
2	BOLT, HEX 1/2-13 X 2.5"	GRADE 8, YELLOW ZINC, PARTIAL THREAD	DIAGONAL LINK TO BRACKETS	106
4	WASHER, FLAT 1/2" AN960-816	.515" ID X .875" OD X .062", CLEAR ZINC		
2	NUT, NYLOCK 12-13	GRADE 8, YELLOW ZINC		

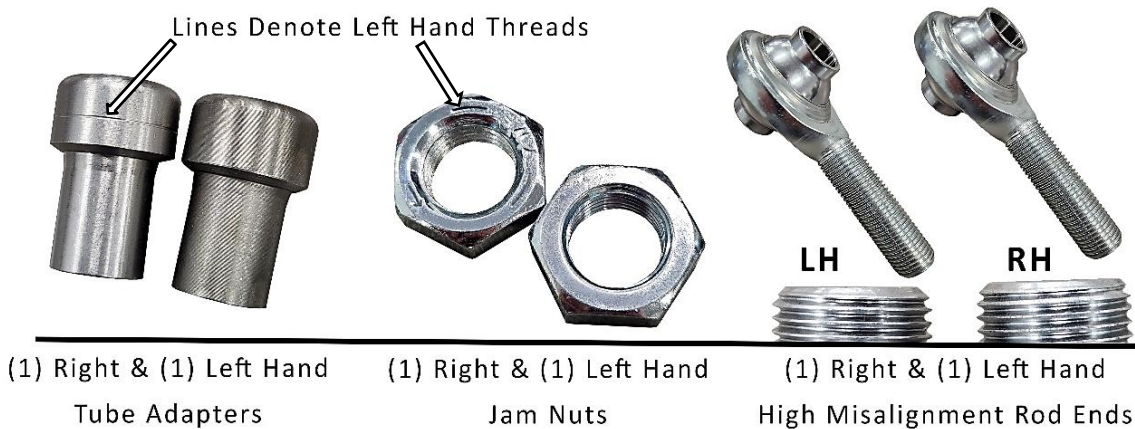
* Not included in all kits.



DIAGONAL BAR INSTALL KIT (If Included)-

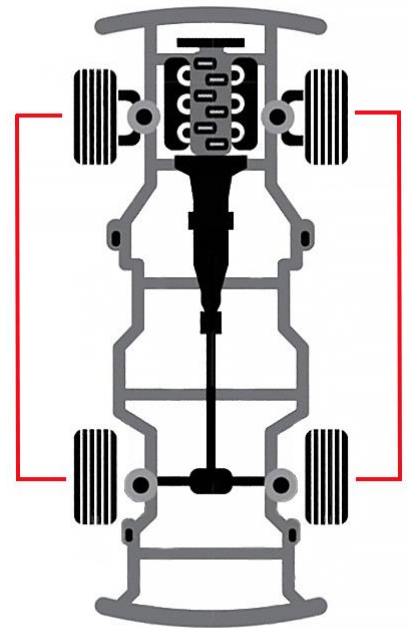
DIAGONAL BAR INSTALL KIT

Lines Denote Left Hand Threads



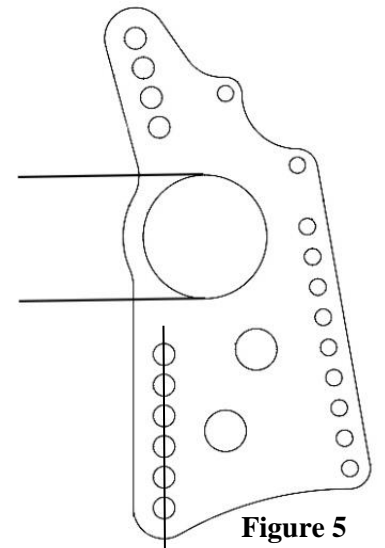
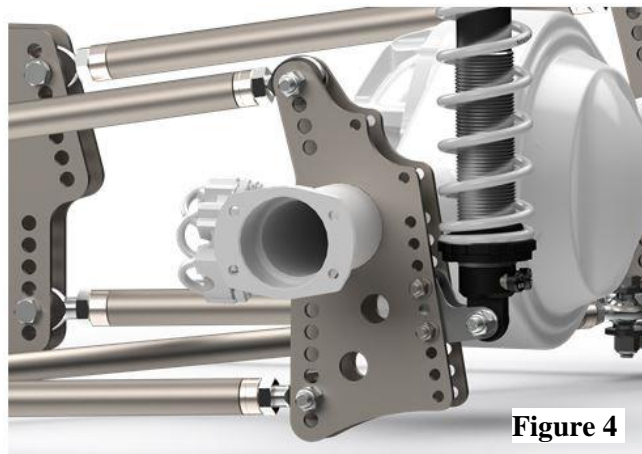
VEHICLE PREPARATION-

1. Measure the vehicles beginning ride height from the center of the wheel opening down through the center of the wheel to the ground. Although a new ride height might be desired with this installation, it's always good to know the starting point. **(Figure 1)**
2. Measure the vehicles wheelbase on the left and right side from the center of the front hub to the center of the rear hub. **(Figure 2)**
3. On a flat and true surface, set the vehicle on jack stands or a chassis table and ensure the chassis is completely level.
4. Remove the rear axle from the vehicle, including any leaf springs, trailing arms, panhard bars, etc.
5. To find the center of the wheel opening, mock the wheel and tire up at ride height in the wheel opening. Once the wheel position has been determined, mark the axle centerline. **(Figure 3)**
6. Install a piece of tape on the floor or chassis table and hang a plumb bob from the lip of the fender through the marked tape line. Mark the floor tape to show the axle centerline. **(Figure 3)** This floor tape will be used throughout the installation to show the axle centerline.



AXLE BRACKETS-

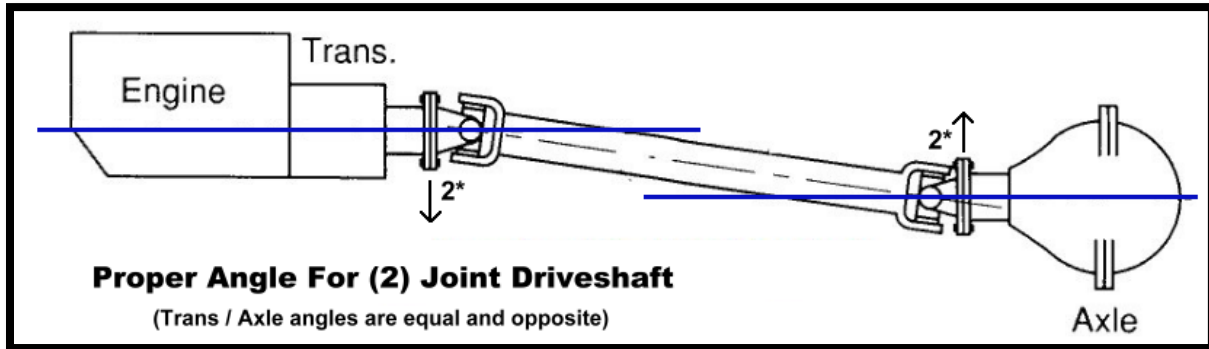
1. Slide the axle plates onto the axle prior to welding on axle flanges. If the flanges are already on the axle or if using a back braced housing the brackets will need to be cut to install. These axle brackets should be welded with the lower trailing arm mounting holes completely vertical. **(Figure 4 & 5)**



Holes should be vertical upon final installation.

AXLE MOCK UP-

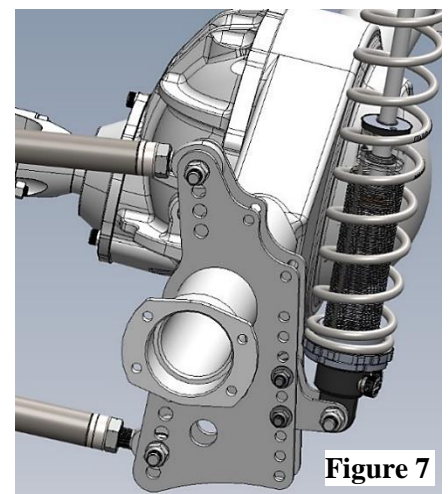
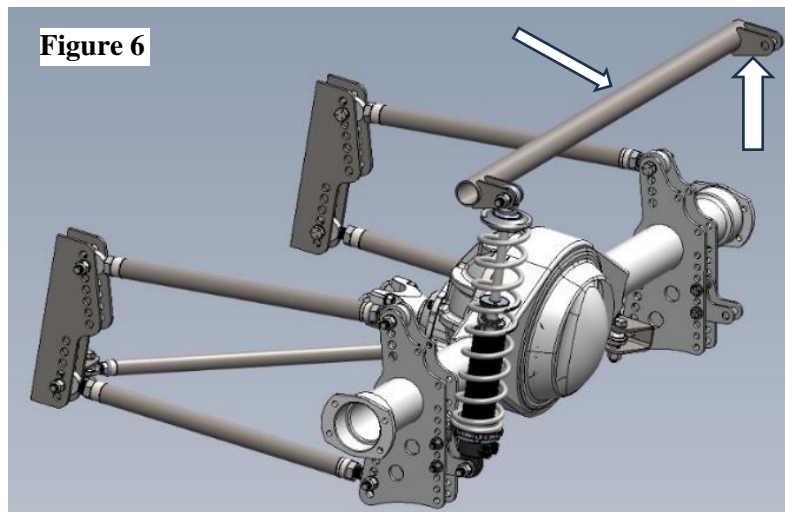
1. Mock the axle up to the vehicle to the exact ride height location desired and the desired pinion angle set. More information on pinion angles can be found at:
qa1.net/tech-center/driveline-angles-pinion-angle-explained.



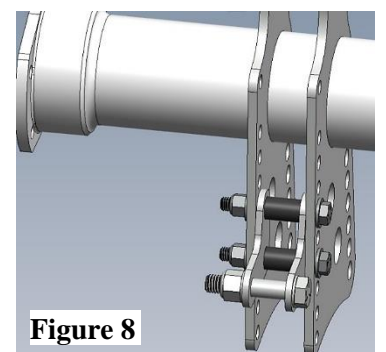
2. Using a plumb bob, ensure the axle centerline and left/right placement under the vehicle is true and straight. The axle should be in the exact placement that it will be at desired ride height.

FRONT PLATES AND UPPER SHOCK MOUNT CROSSBAR-

1. The chassis plates will need to be cut to fit to the vehicle. The front plates will need to be mounted at a height that will achieve the desired instant center. During this step, choose a width for the front plates that will be able to be matched to the axle plates. This 4 Link kit was designed for widths up to 44", however frame and tire clearance will determine the actual width. The links should be mounted as wide as the frame and tires allow for maximize roll stability. If a cast iron center axle is used such as most GM or Dana Axles, mount the axle brackets in a location the weld bead will not be on the cast iron. NEVER WELD TO CAST IRON CENTERS.



2. Install the lower shock "L" mounts to the inboard side of the axle brackets with one black spacer inside the two "L" brackets. **(Figure 7 & 8)** The brackets can be installed up or down depending on user preference and ride height. Secure each connection with black spacers within the "L" tabs using 1/2" x 2.5" hardware with two washers and one nyloc connection per connection.
3. The upper shock mount tube will need to be cut to fit the vehicle and shock mounting tabs installed in the orientation that works best for the vehicle. The suspension should be fully traveled without springs to verify shock clearance. **(Figure 6)** Shock angle and clearance should be checked before welding the



crossbar/tabs in. With the adjustability of the lower shock mounts it is important to know the recommended shock length of the included 7" stroke shocks. This suspension is also offered without shocks. If using a different shock length, ensure the shock length at ride height will fall within the recommended ride height length.

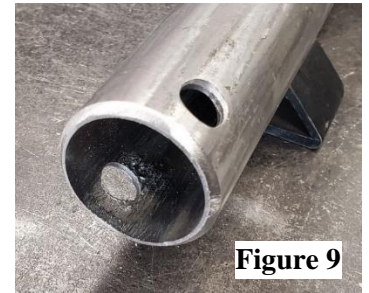
SHOCK PART NUMBER	COMPRESSED LENGTH	EXTENDED LENGTH	RECOMMENDED RIDE HEIGHT
DS701/DD701	13"	19.5"	16"-17.5"
M711PR/M711PL	12.875"	19.5"	16"-17.5"

TRAILING ARM ASSEMBLY-

NOTE:

The length of the trailing arms will vary depending on the distance between the mounted front plates and axle plates on the vehicle being assembled. The necessary length of trailing arms should be measured (at mocked up ride height) and shortened (if needed) before welding the tube adapters into the tube. Operational lengths are given below for the unmodified trailing arms, but if you should need to shorten the bars, set the links up to your desired lengths in the mid-range of the rod end threads so that further on-car adjustments can be made. The included rod ends have a 3/4" thread size. As a rule, 1.5 times the thread diameter (3/4") should be engaged in the tube adapter. The total thread length of these rod ends is 1.75".

1. Identify one right hand threaded tube adapter and one left hand threaded tube adapter. Tube adapters with a line around them signify that it is a left-hand thread.
2. Install one right-hand tube adapter into the end of the tube and one left-hand threaded tube adapter into the opposite end of the tube. Additional tube end strength can be gained by drilling holes in the trailing arm tube to also plug weld the tube adapters in addition to welding the lap joints around the circumference. **(Figure 9)** Tack welding these joints for mock up is recommended before fully welding.
3. Tack weld the tube adapters into the trailing arm tube. Cycling the suspension during mock up should be done before fully welding any components.
4. Each tube adapter will accept the corresponding (right or left) rod end and jam nut (also threaded right) **(Figure 10 & 11)**



5. Fully thread one jam nut onto each rod end before fully threading the rod end into the end of the tube.
6. To ensure the same amount of thread engagement, hold both rod ends and rotate the trailing arm so to achieve the desired center to center length. The safe operational length of the (un-shortened) trailing arms is 20.25" min to 22" max.

NOTE:

This 4-link kit was designed with equal length bars. The installer should understand the geometry and instant center changes resulting from running this 4-link with unequal length bars. For in-depth instant center and tuning information, suspension calculator programs are available, such as Performance Trends.



NOTE:

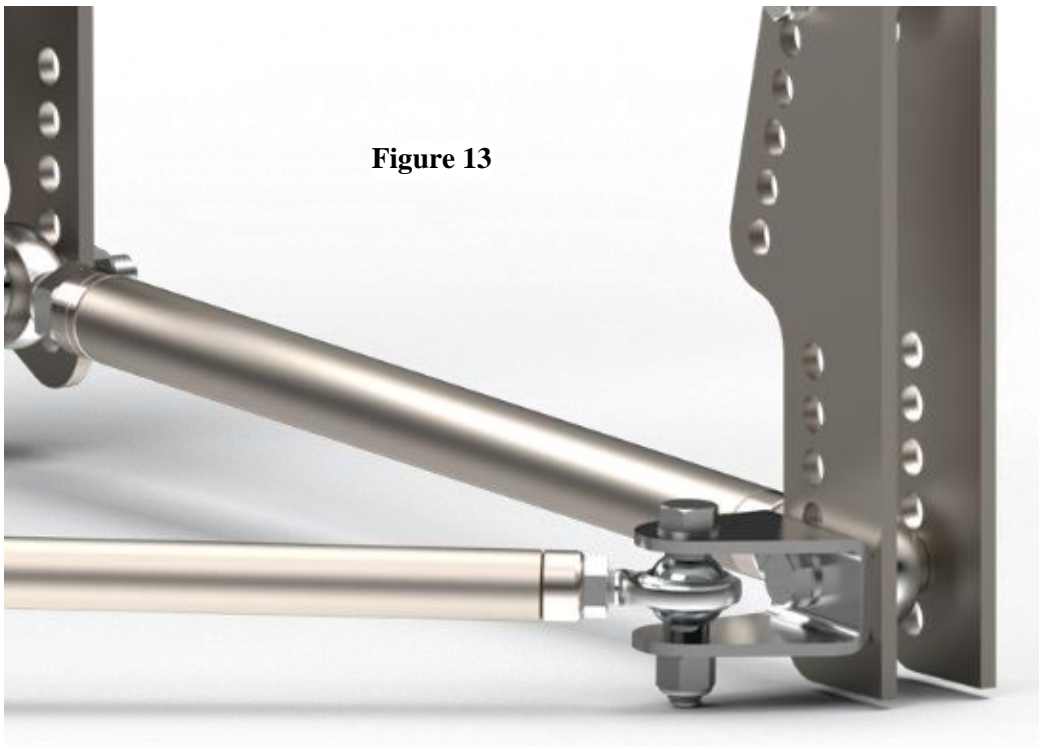
During the mock up stage, keep in mind the thickness of any coating that may be applied to the brackets, as well as leaving additional adjustment holes above/below the mounted trailing arms for future adjustments.

Figure 12

7. With all four trailing arms adjusted to the desired length, install two upper trailing arms with SG85 spacers on both sides of the rod end. **(Figure 12)** Secure to the axle bracket using 1/2" x 3" hardware with two washers per connection and one nyloc nut. Torque to 106 lb. ft.
8. Install two lower trailing arms to the axle bracket with the passenger side bracket having one diagonal bar clevis sharing the connection (if using the QA1 diagonal link) with 1/2" x 3" hardware. **(Figure 13)** Use two washers and one nyloc nut per connection. Torque to 106 lb. ft.

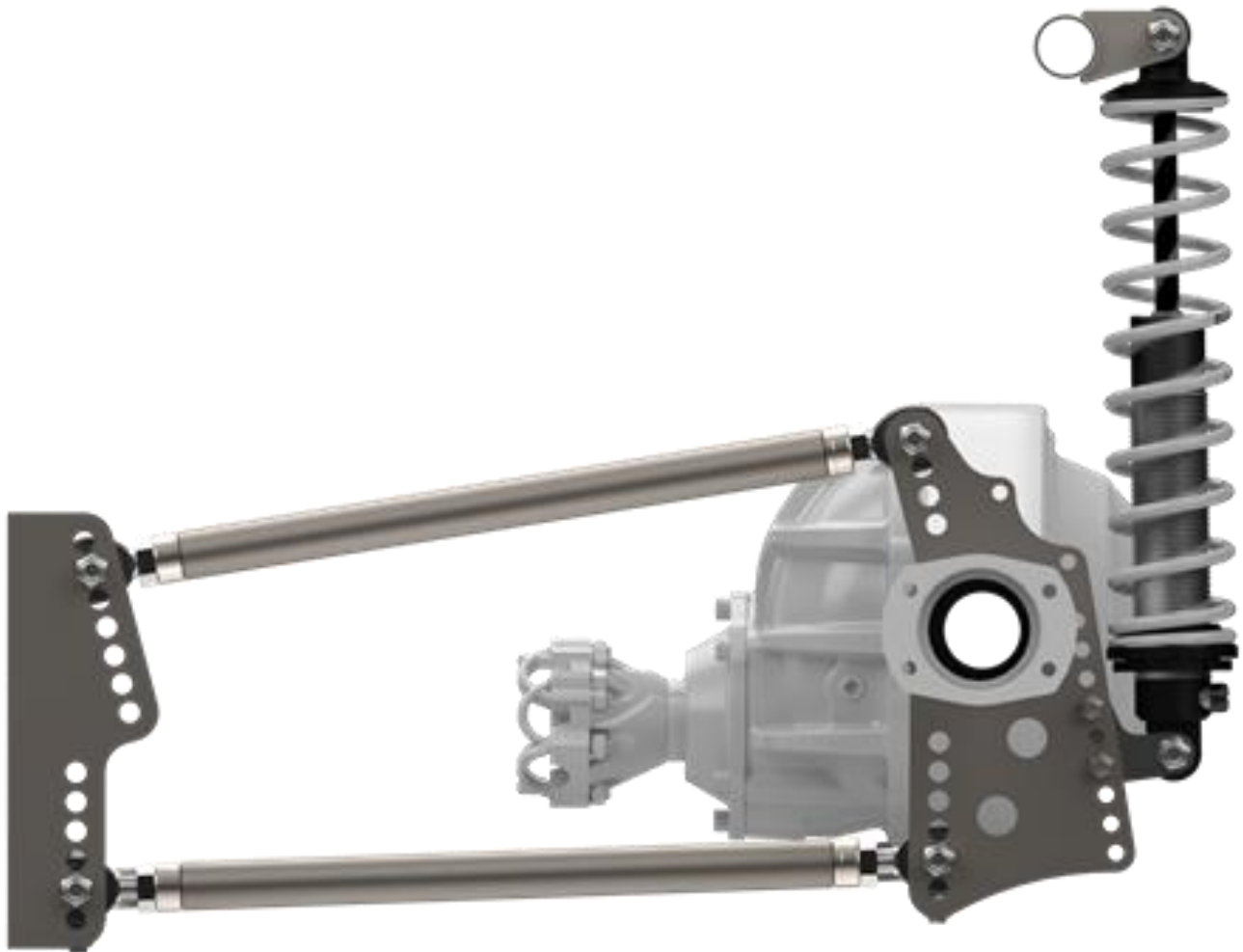


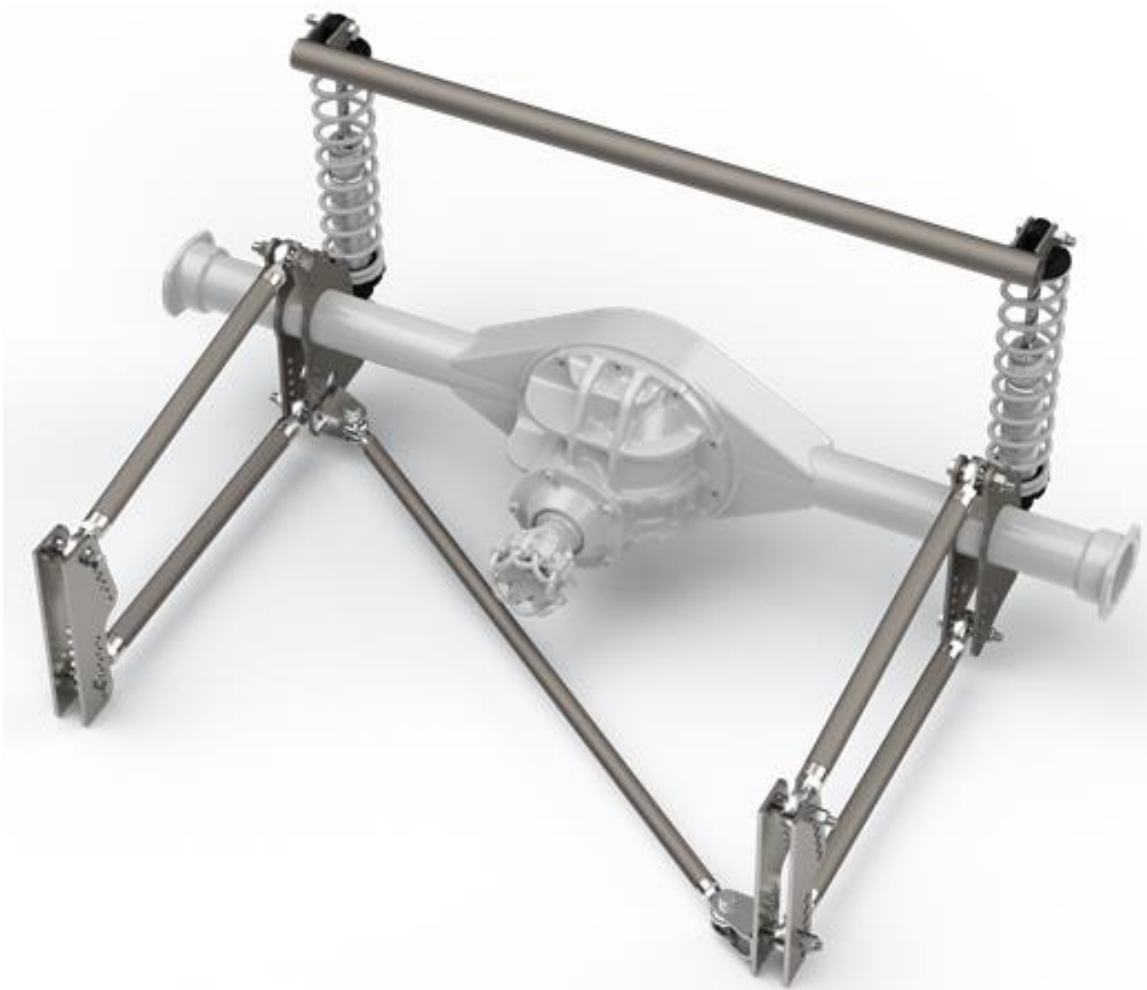
Figure 13



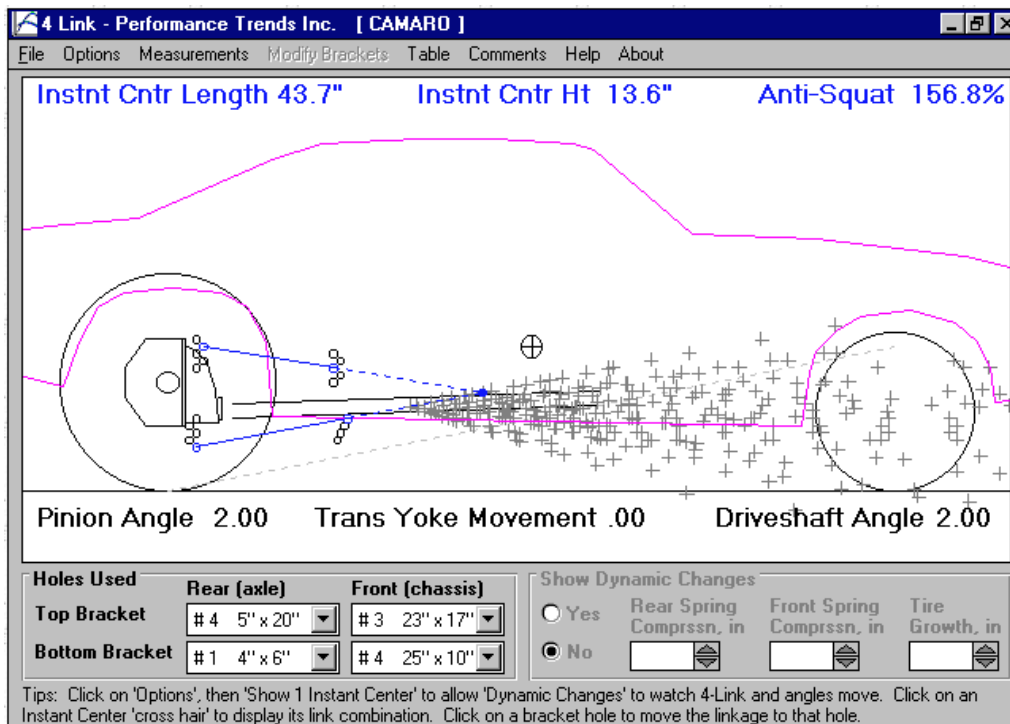
9. Refer to the instructions included with the shocks to install the coil-over hardware. It is recommended to install the shocks to the 4-link WITHOUT SPRINGS for mock up.

10. Mock up the entire 4-link at ride height and verify that the axle and rear suspension is square by measuring diagonals before fully welding:
 - Axle is at the marked centerline (front to rear)
 - Ride height is established.
 - Axle is centered left/right under the vehicle.
 - Desired instant center is achieved.
 - Pinion angle is 1° down.
 - Shock length is within the recommended length at ride height.
 - Front and rear plate width and shock width have sufficient clearance.
 - Lateral locating link (Diagonal bar, panhard bar, or watts link, etc.) is installed as parallel to the ground as possible. If using QA1 Diagonal Link, refer to the instructions included with the diagonal link.
11. Fully weld all outboard flange faces of the 4-link while all the above parameters are maintained. Remove all rod ends during this stage as the heat may reduce or destroy the Teflon liner of the rod ends. It is recommended not to weld the inboard flange faces fully as this may induce enough heat to warp the flanges. Some stitch welding of the inner flanges is acceptable.
12. Double check all work. It's a basic and overlooked practice that distinguishes the most effective builders from the rest.





Example of Performance Trends Instant Center Calculator





READ ALL INSTRUCTIONS CAREFULLY AND THOROUGHLY PRIOR TO STARTING INSTALLATION. PRODUCTS THAT HAVE BEEN INSTALLED ARE NOT ELIGIBLE FOR RETURN. USE THE PROPER JACKING LOCATIONS. DEATH OR SERIOUS INJURY CAN RESULT IF INSTRUCTIONS ARE NOT CORRECTLY FOLLOWED. A GOOD CHASSIS MANUAL, AVAILABLE AT YOUR LOCAL PARTS STORE, MAY ALSO AID IN YOUR INSTALLATION.

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