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 ¼" penetration)

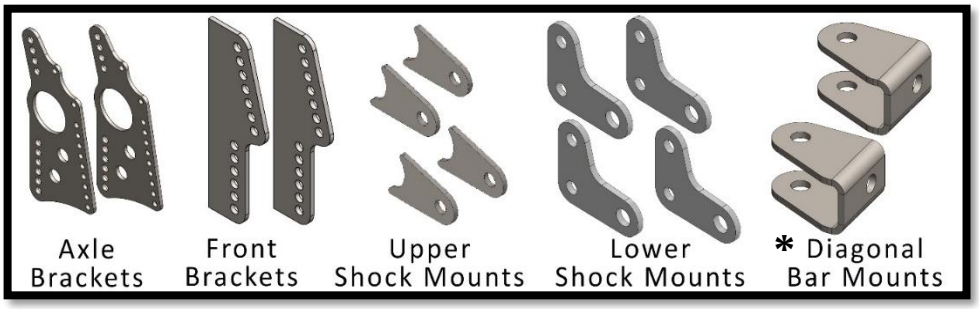
PRE-INSTALLATION NOTES-

This universal, equal length four-link suspension for 3" axle tubes requires a professional level of fabrication skills and an in-depth knowledge of instant centers to correctly install. The front plates and crossbar for the upper shock mounts of this kit will need to be welded to the vehicles frame using additional bracing, which is not included.

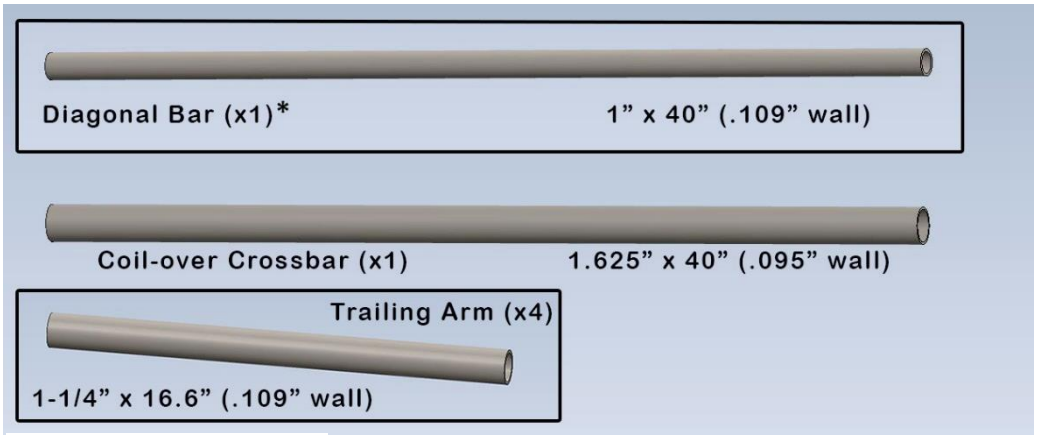
Inventory all items included with this kit to ensure all components are on-hand before beginning the installation.

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		

DIAGONAL BAR INSTALL KIT (If Included)-

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)**

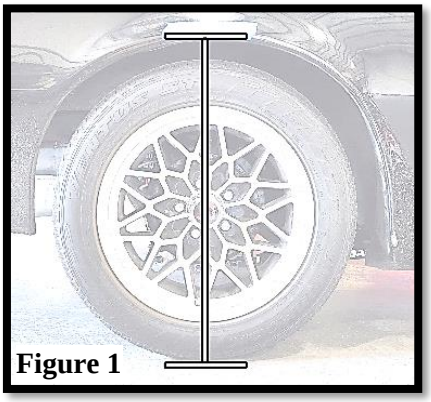


Figure 1

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, install a piece of masking tape level across the wheel opening. **(Figure 3)** Measure the wheel opening front to back before dividing the measurement by 2. Mark the tape at the center.

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.

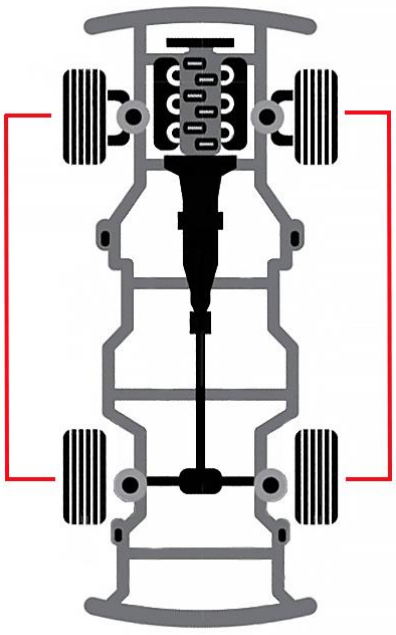


Figure 2


Figure 3

AXLE BRACKETS-

1. Place the axle bracket onto the axle by sliding it onto the axle tube (before installing the axle flanges if building/shortening the axle) **(Figure 4)** or by cutting a section from the axle bracket. **(Figure 5)** The metal removed with the cutting option should be replaced and fully welded only after complete mock up. Do not weld the brackets to the axle at this time. Once the complete 4-link is mocked up, these axle brackets should be welded with the lower trailing arm mounting holes completely vertical. **(Figure 5)**

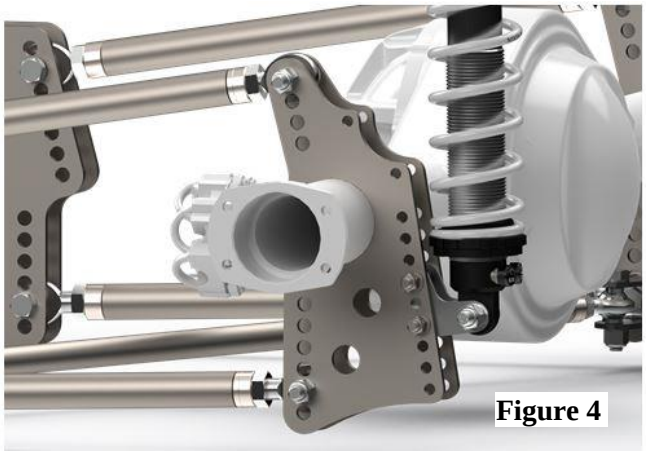


Figure 4

AXLE MOCK UP-

1. Mock the axle up to the vehicle to the exact ride height location desired with the pinion angle facing 1° down. 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.

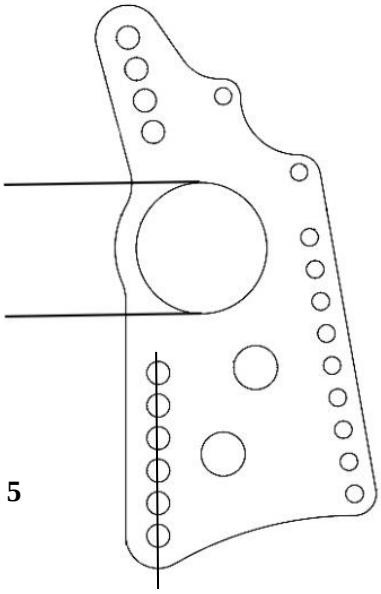


Figure 5

Holes should be vertical upon final installation.

FRONT PLATES AND UPPER SHOCK MOUNT CROSSBAR-

1. The front plates and upper shock mount crossbar will need to be attached to the vehicles chassis using the fabrication design and skills of the installer. 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. Common 4-link bar widths are 19" to 24", but may need to be wider depending on axle center section, extra tire width, etc. Install one clevis mount for the diagonal bar to the front driver side plate (if using the QA1 Diagonal Link) **(Figure 10)**

2. The crossbar for the upper shock mounts will also need to be mounted to the vehicles chassis and the shock mount tabs welded to the bar. **(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.

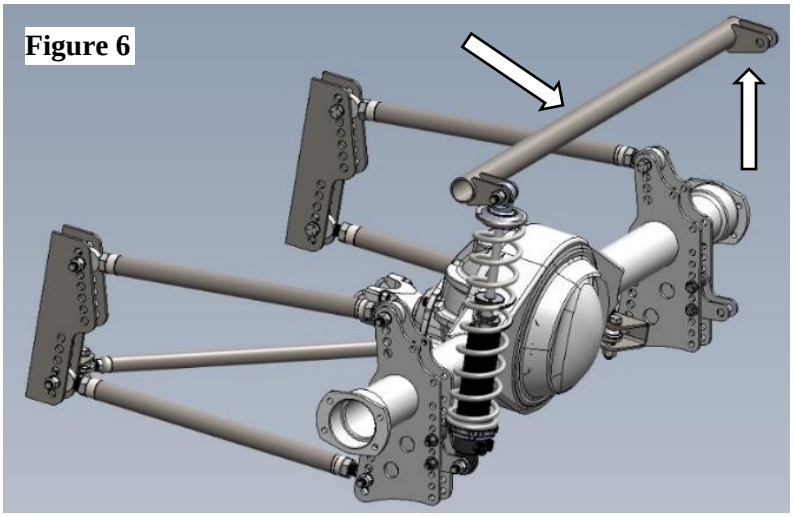
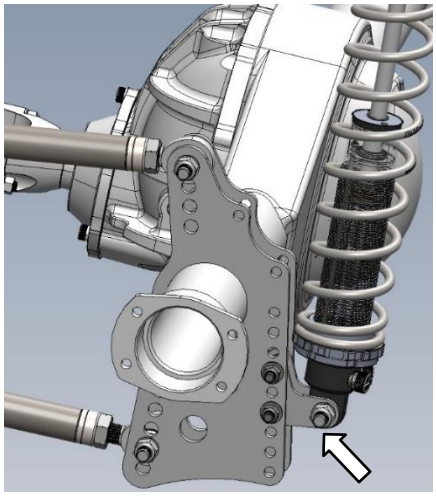


Figure 6

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"

3. 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)** The height of the “L” brackets should be chosen based on the shocks length at the desired 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.



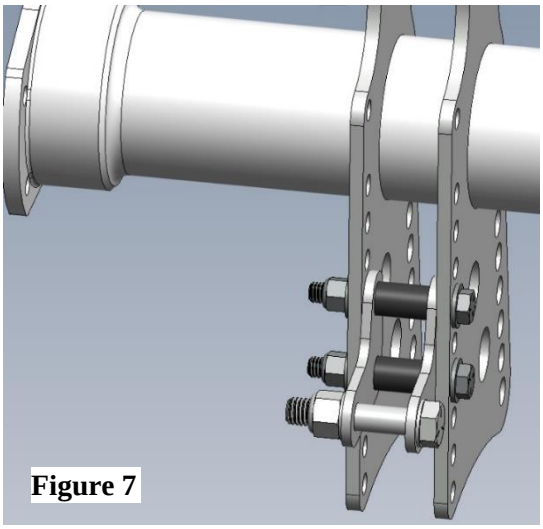


Figure 7

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.

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 8 & 9)**

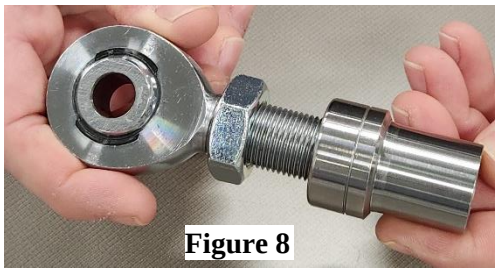


Figure 8

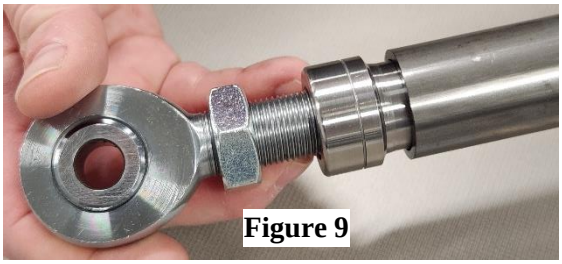


Figure 9

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.

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 10)** 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 11)** Use two washers and one nyloc nut per connection. Torque to 106 lb. ft.

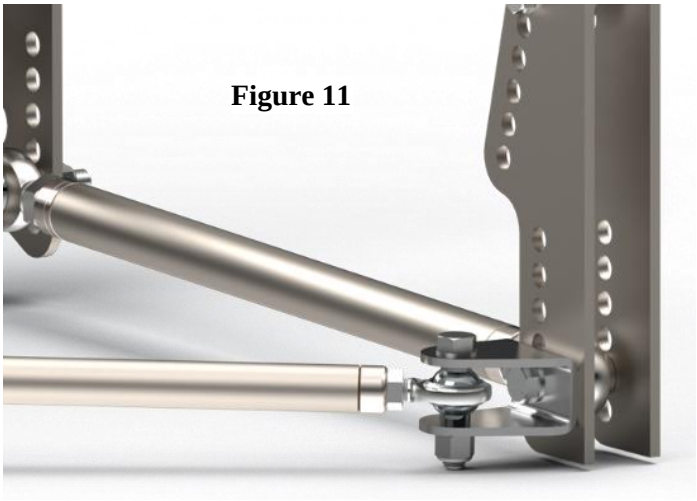


Figure 11

Figure 10

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

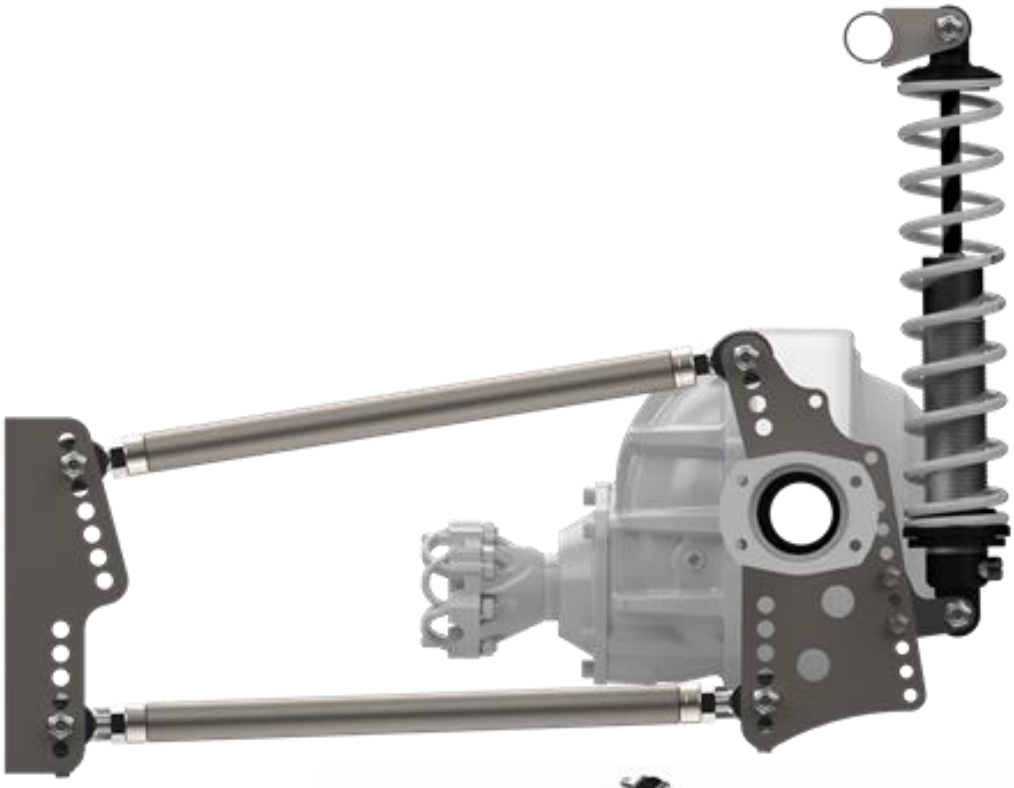
10. Mock up the entire 4-link <u>at ride height</u> and check ALL of the following before fully welding:

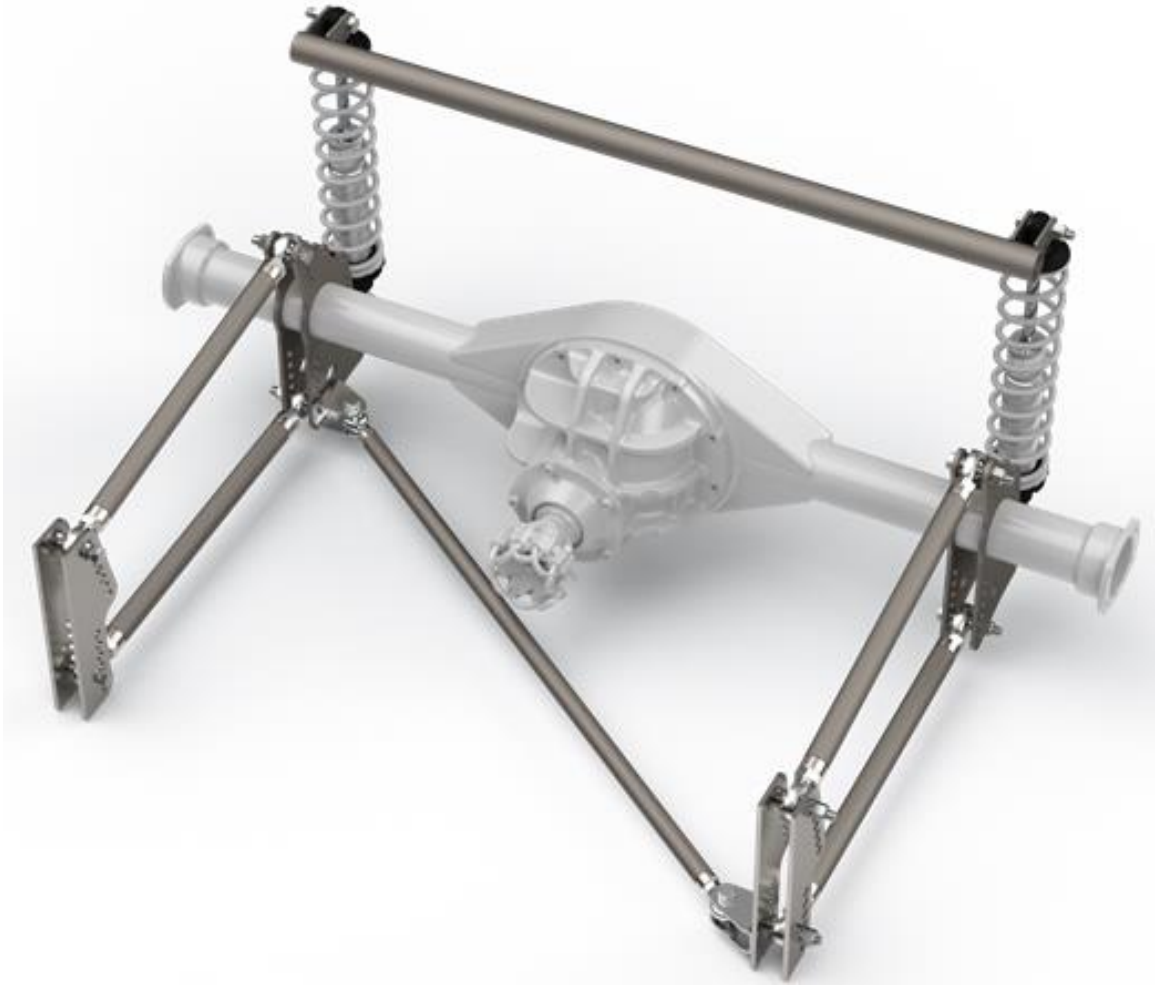
- Axle is at the marked centerline (front to rear)
- Ride height is established.
- Axle is centered left/right under the vehicle.
- Desired instant center is achieved.
- Pinion angle is 1° down.
- Shock length is within the recommended length at ride height.
- Front and rear plate width and shock width 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. 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. Install the wheels, brakes, and driveshaft to complete the installation.

13. Double check all work. It's a basic and overlooked practice that distinguishes the most effective builders from the rest.





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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