



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

### INSTALLATION INSTRUCTIONS

88-98 C1500 Level 3 Front Suspension  
P/N 52613-S550, 52613-D600

### TOOLS AND SUPPLIES REQUIRED

- Floor Jack
- Two (2) Jack Stands
- Drill with 3/8" & 7/16" drill bit
- SAE Wrench Set
- Anti-seize
- Ratchet & SAE Socket Set
- Metric wrenches & socket set
- Torque Wrench
- Reciprocating Saw
- Angle Grinder

### PRE-INSTALLATION NOTES:

QA1 does not recommend driving the vehicle until it has been properly aligned due to major changes in suspension geometry that will affect the handling characteristics of the vehicle. *A front end alignment to the QA1 specs at the end of page three should be performed by a qualified alignment shop after installation.*

These control arms are equipped with QA1 Low Friction Ball Joints; please refer to the ball joint instructions on page four for setting the initial preload. Preload is set from the factory, but the ball joint stud should be checked for play before installing the control arms.

To use the factory sway bar with these arms use sway bar end link kit 1681-117.

### LOWER CONTROL ARM DISASSEMBLY-

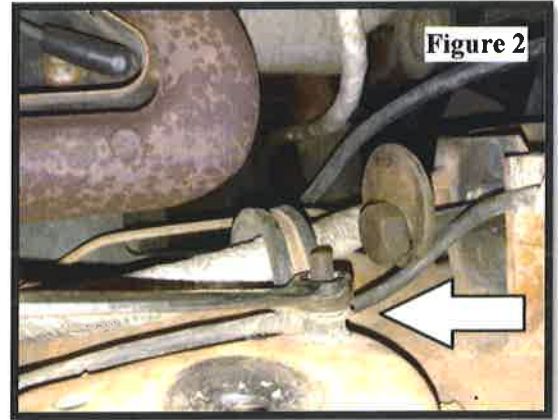
1. Raise and support the vehicle by the frame with jack stands on a stable surface and remove the front wheels.
2. Remove factory style shock. If using coil-overs do not remove shock/spring until step 7.
3. Remove sway bar end links.
4. Remove the brake calipers and disconnect the tie rods from the spindle.
5. Remove the cotter pin from the lower ball joint and loosen the castle nut. **Do not remove the nut at this time.**
6. Separate the lower ball joint from the spindle using a ball joint separator.
7. Support the lower control arm using a floor jack (or use a spring compressor) to contain the remaining spring energy. **(Figure 1)**
8. For coil-over removal, lower the spring seat all the way down until there is no pressure on the spring.
9. Unbolt the lower shock mounting bolts.
10. Remove the ball joint nut and slowly lower the control arm to release all spring pressure. Do not move onto step 9 if the spring still has any load on it.
11. Remove the spring/coil-over
12. With the spring and shock removed, remove the spindle from the upper and lower control arm.
13. Remove the control arm pivot bolts from the existing arms.



Figure 1

### UPPER CONTROL ARM DISASSEMBLY-

14. Remove the brake line hose from the upper control arm.
15. Unbolt the upper control arm mounting bolts and remove the arm.
16. Remove the inner fender liners. The passenger side fender liner supports the battery and battery tray so be sure you have removed both during Step 1.
17. Remove the battery cable bracket attached to the spring cap of the frame. (Figure 2)

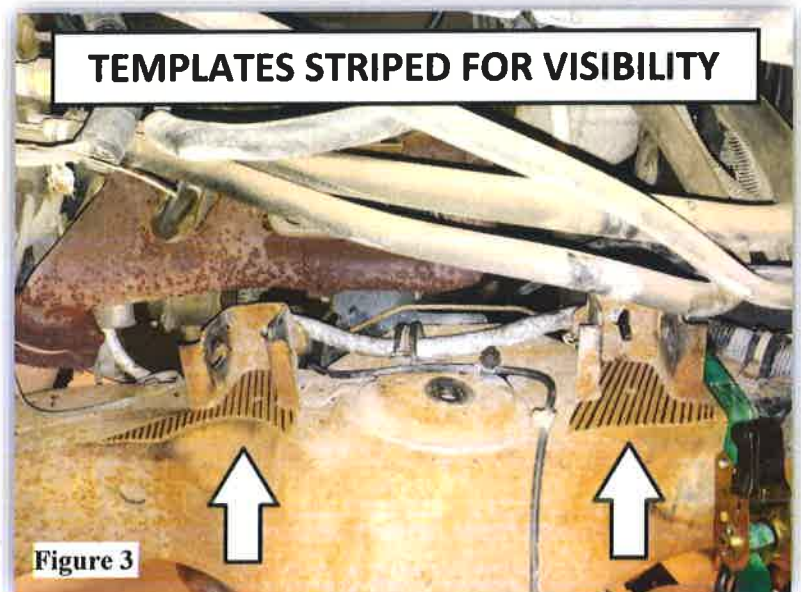


### UPPER CONTROL ARM PREPARATION-

#### **NOTE:**

This suspension system includes three templates for mounting the new control arm bracket. Two templates fit into the stock control arm mounts. The templates are mirrored when flipped and will be used for both sides of the truck.

18. Place the front and rear templates into the factory control arm mounts. (Figure 3) The outer edge of the templates will follow the contour of the frame. The contour of the template should be at the edge of the frame contour for correct placement.
19. Mark the two holes in the template. These holes will end up positioning the new control arm bracket. (Figure 4)
20. Use a punch on the center of your marks, then drill the two holes using a 7/16" drill bit.



#### **NOTE:**

The hardware to mount to the bracket is 3/8", but drilling the two initial holes to 7/16" will give the bracket a little bit of play when positioning before marking/drilling the remaining holes. With variances and differences in frames, the first two slightly larger holes will allow the bracket edge to match the frames edge.

21. Ensure there are not any wires/brackets behind the factory control arm mounts before cutting them off flush with a reciprocating saw. (Figure 5)
22. Grind any remaining portion of the arm mounts flush with the frame (Figures 6 & 7)





Figure 5

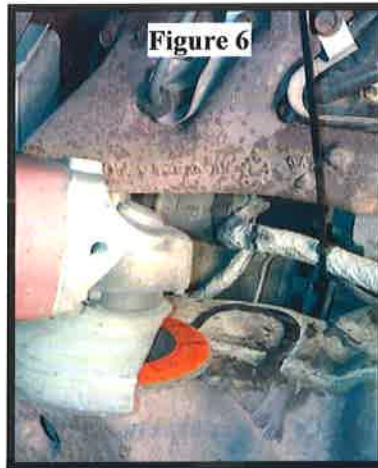


Figure 6



Figure 7

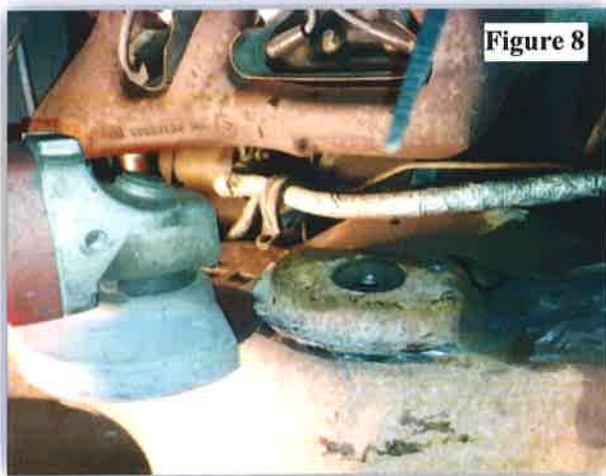


Figure 8

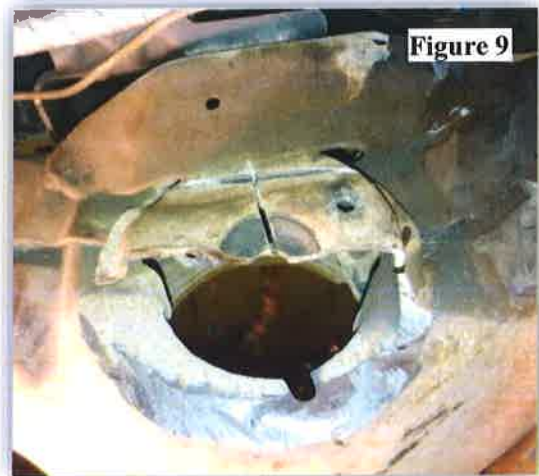


Figure 9

23. Using a cutoff wheel, cut the circular spring perch off flush with the frame. The spring perch is easier to cut off when sectioned. (Figures 8 & 9)
24. Grind any remaining portion of the spring perch flat with the frame.
25. Position the new control arm bracket onto the frame using 3/8" hardware in the two holes drilled with the templates. Position the bracket so the outboard edge of the bracket matches the edge of the frame rail. Tighten the two bolts once in place. (Figure 10)



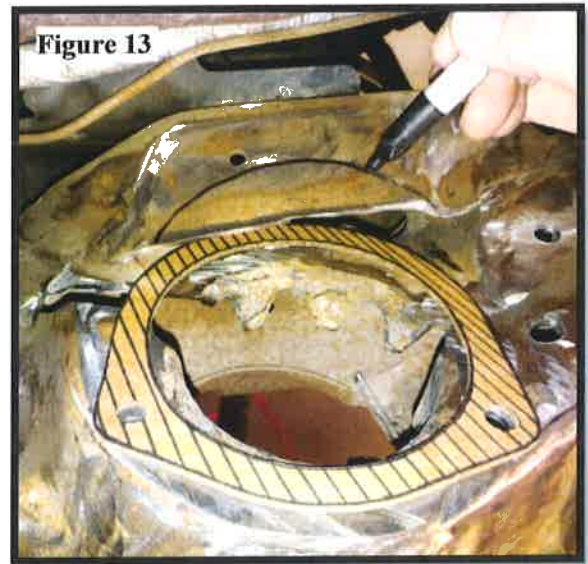
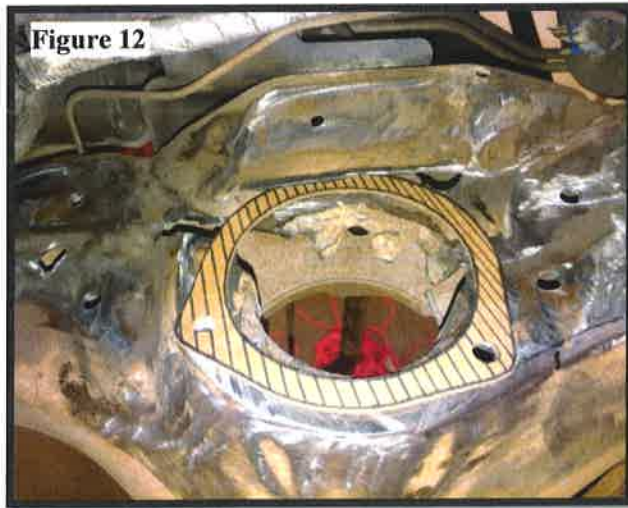
Figure 10



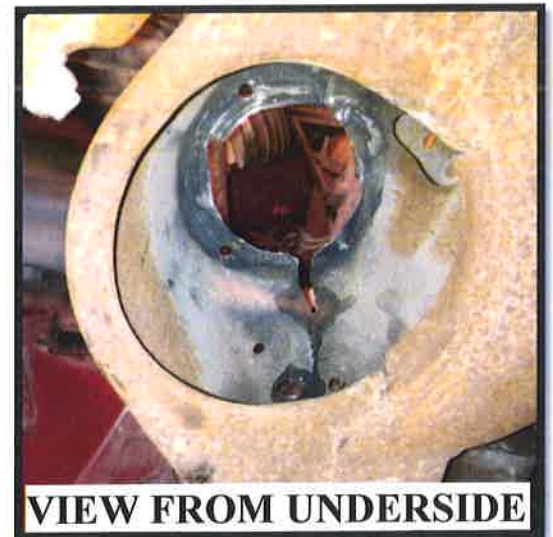
Figure 11

26. With the bracket bolted down, drill the remaining mounting holes using a 3/8" drill bit. (Figure 11)

27. Remove the new control arm mounting bracket from the frame.
28. Place the circular template on top of the spring perch lining up the two drilled holes. **(Figure 12)** This template will be used to remove the inner "fingers" of the factory spring perch and a small portion of frame above the spring perch.



29. Mark the inner circle of the template and visually mark the template outer circle on the frame just above the template. **(Figure 13)**
30. Cut the marked portions from the frame. **(Figure 14)**
31. Temporarily place the new control arm bracket on the frame. Ensure the bracket sits flat on the frame with nothing obstructing the final install.
32. Prep and paint the frame surface as desired to prevent future corrosion.

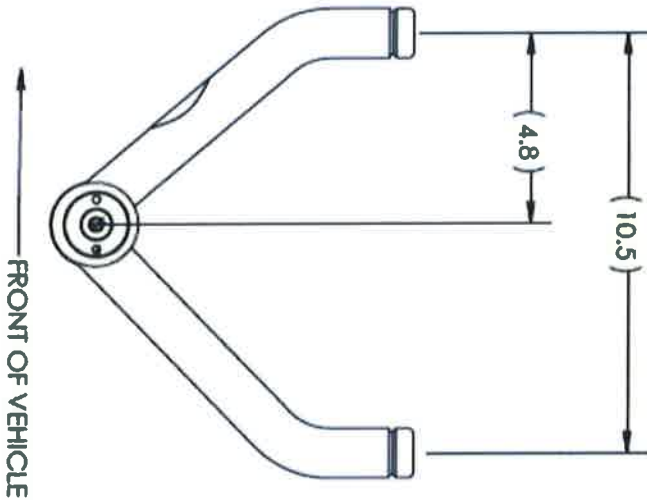


**INSTALLATION-**

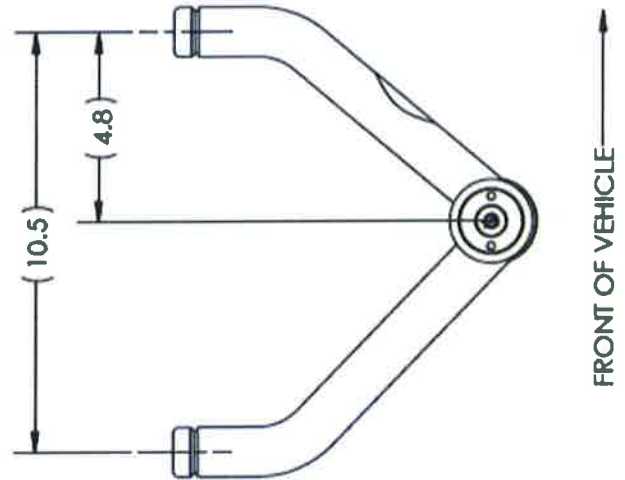
33. Bolt the control arm bracket to the frame using 3/8" x 1.25" hardware with two washers per connection. Torque to 31 lb. ft.



34. Identify the driver and passenger side control arms using the diagram below, noting that the ball joint is biased towards the front of the truck.



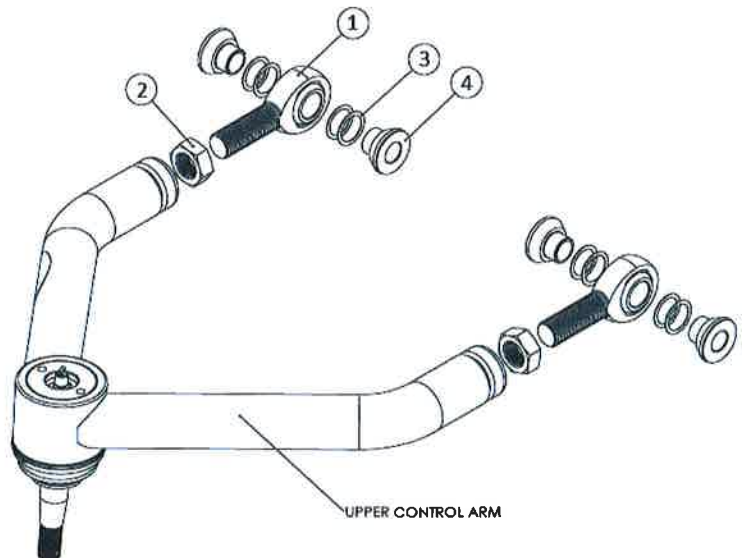
**DRIVER SIDE**



**PASSENGER SIDE**

35. Prep the upper control arms for installation by threading the 5/8" jam nuts onto the 5/8" male rod ends. Thread the jam nuts all the way to the base of the rod end. Using anti-seize, thread the rod ends into upper control arms until 2-3 threads are seen between jam nut and control arm assembly. Leave jam nuts loose until arms are installed to allow alignment with mounting bolts. The rod ends can be adjusted during alignment for caster/camber adjustment.

BALLOON #	PART #	DESCRIPTION	QTY PER ARM
1	XMR10	5/8" MALE ROD END	2
2	JNR10S	JAM NUT, 5/8" -18 RH	2
3	9005-293	SHIM FLAT, .015" THICK	8
4	9004-177	STEPPED SPACER, .345" WIDTH	4



36. Install two stepped spacers (#4) into the bore of each rod end starting with two shims (#3) per side. One spacer and two shims per side of the rod end bore. Add/adjust shims for even fit front to rear in the bracket. The arm should sit evenly into the mount.
37. Using four eccentric spacers per arm, install the upper control arms with 1/2" x 3" cam adjust bolts and nylock nuts. Turn the bolt head to adjust the eccentric near the center of the eccentrics range and tighten the nut to 55 lb. ft. Final camber adjustment should be performed during the professional alignment. (Figures 15 & 16)



Figure 15



Figure 16

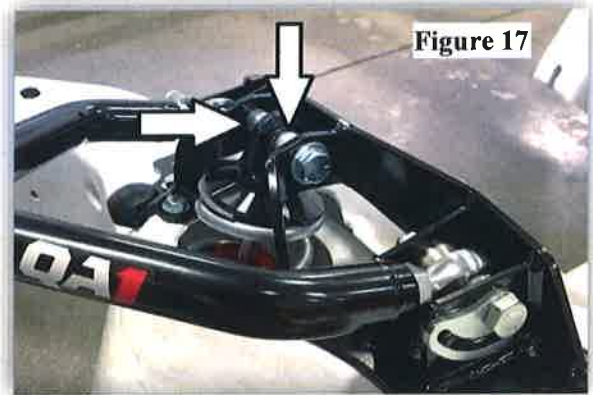


Figure 17

38. Install the upper coil-over connection to the mounting bracket using two 1/2" x 4.25" bolt with .6" long stepped spacers. One on each side of the shock bearing. The internal step of the spacer should be installed over the bearing of the shock connection. (Figure 17)

#### LOWER CONTROL ARM INSTALLATION-

39. Install the included bump stop onto the control arm. The bump stop mounting bolt will go through the bottom of the bump stop and the bump stop will be located on the arm with the locating nub and slot in the arm. (Figure 18) Torque to 31 lb. ft.
40. Install the included pivot sleeves into the control arm pivot points. The longer sleeve will be installed into the longer front pivot point of the control arm. The shorter sleeve will be installed into the short pivot point.
41. Install the new QA1 control arm in the frame and insert the included pivot bolts with the threads facing each other. (Figure 19) Torque to 90 lb. ft.
42. Install the spindle onto the upper and lower ball joint with washer, castle nut. Torque to 60 lb. ft. then tighten until cotter pin hole is visible. Install cotter pin to complete.
43. Compress the coil-over shock and connect it to the lower control arm using 1/2" hardware. Torque to 50 lb. ft.
44. Secure the brake line and ABS sensor wire to the control arms with enough slack for the spindle to turn lock to lock without tension.
45. Re-install wheels and sway bar end links (if equipped).
46. Adjust ride height as desired using the included T114W spanner wrench set.

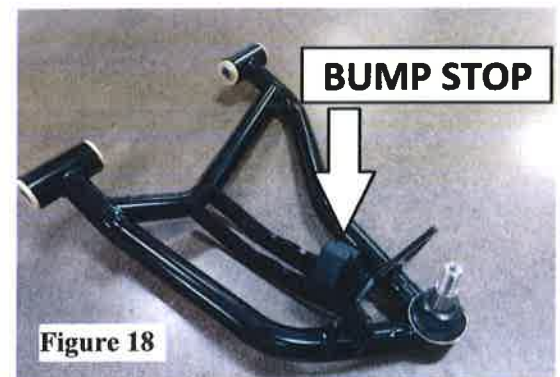


Figure 18



Figure 19

**Note: A front wheel alignment should be performed by a qualified alignment shop after any changes to the suspension system.**

**Recommended Alignment Specs**

Camber:	-.5 (+/- .5degree)
Caster:	4 to 7 degrees
Cross Caster:	.5 degrees
Toe	.20 degrees toe in (+/- .100 degrees)
Toe:	1/16" to 1/8" toe in



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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# QA1

## INSTALLATION INSTRUCTIONS

QA1 P/N R140-170, R240-200, R040-000  
'88-'98 C1500 Rear Coil-over Suspension System

### TOOLS AND SUPPLIES REQUIRED

- Floor Jack
- Two (2) Jack Stands
- SAE & Metric Wrench Set
- Anti-seize
- Torque Wrench
- Clamps
- Right Stuff gasket maker
- Loctite
- Drill with 5/8" & 7/16" drill bits
- Clamps
- Cutoff wheel
- Grinder or Air Chisel

### PRE INSTALLATION NOTES:

Installation of this system will reduce the load carrying capability of the vehicle.

This rear suspension system can be installed without removing the bed, although removing the bed is recommended.

A grinder or air chisel is recommended for removal of factory rivets.

### DISASSEMBLY INSTRUCTIONS:

1. Place the truck securely on jack stands to allow enough room for installation. If using a lift, place the rear arms just forward of the front leaf spring mount on the frame.
2. Remove the drive shaft, rear brake lines, and ensure the taillight wiring is out of the way of the frame rails.
3. With the axle supported, unbolt the leaf springs from the leaf spring mounts and remove the leaf springs and the axle.
4. Cut the factory shock mounts from the axle.
5. Remove the two rivets holding the original bump stops to the frame. Remove both drivers and passenger side bump stops. **(Figure 1)** The bump stop mounting holes will be used as the basis to locate the frame notch template.
6. Remove the rivets from the passenger side upper shock mount bracket from the frame and discard. **(Figure 2)** The drivers side upper shock mounting bracket does not need to be removed to install this suspension system.
7. Remove the rivets holding the front leaf spring hangers and discard. Do this on the Drivers side **(Figure 3)** and the Passenger side. **(Figure 4)**



Figure 1

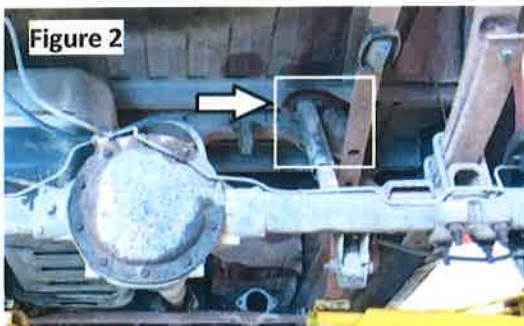


Figure 2

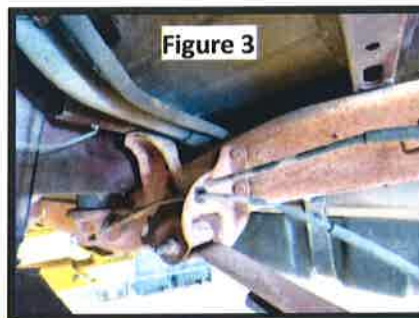


Figure 3



Figure 4



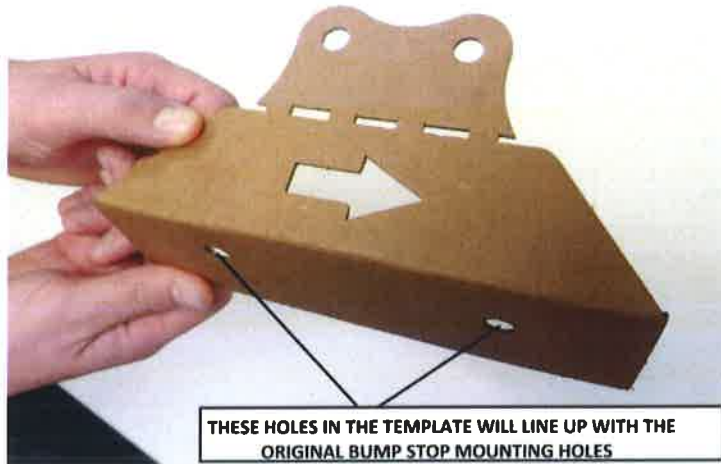
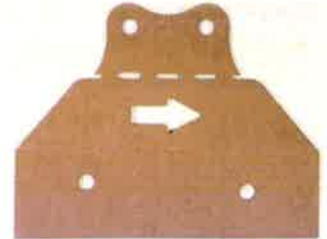
- Cut the bracket holding the e-brake cables to release the cables and discard the bracket. A new e-brake cable bracket is included with this suspension system.

**FRAME NOTCHING:**

This suspension system comes with a cardboard frame notch template (Figure 5) that can be used on both driver and passenger side. Depending on which direction the lower template is folded the arrow should point towards the front of the truck. The lower holes in the template will line up with the original bump stop holes.

- Mount the template to the frame matching the original bump stop holes with the lower holes on the template. Fold the template up the side of the frame with the arrow pointing towards the front of the truck.
- Trace the lower portion of the template below the dotted cutout.
- Mark the two holes in the upper template above the dotted cutout. The top portion of the template is for locating the two holes. DO NOT CUT THE TOP PORTION OUT OF YOUR FRAME.

Figure 5



- Repeat steps 1-4 on the opposite side of the frame.
- Using a cut off wheel, notch the frame along the outline drawn. Only cut out the lower portion of the notch template.
- Drill the marked holes using 7/16" drill bit.
- Clean the frame of dirt, rust and under coating to allow the QA1 notch bracket to fit tightly to the frame. Paint as desired.

**INSTALLATION:**

- Using 7/16" x 1.25" bolts, two washers per bolt, and nylock nut, fit the passenger side notch bracket (Figure 6) to the two holes drilled into the frame.
- Using clamps, evenly draw the notch bracket to the frame.
- Mark and drill the additional notch bracket holes into the frame.
- Using 7/16" x 1.25" bolts, two washers per bolt, and nylock nut evenly tighten the notch bracket to the frame. (Figure 6)
- Torque notch bracket hardware to 49 lb. ft.
- Complete steps 1-5 for the driver side notch bracket. (Figure 7)

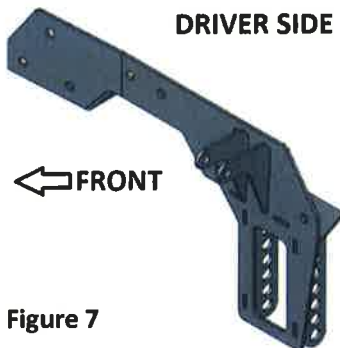


Figure 7

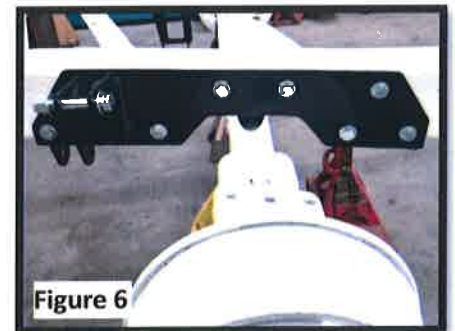
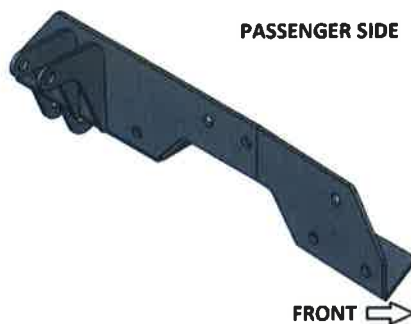
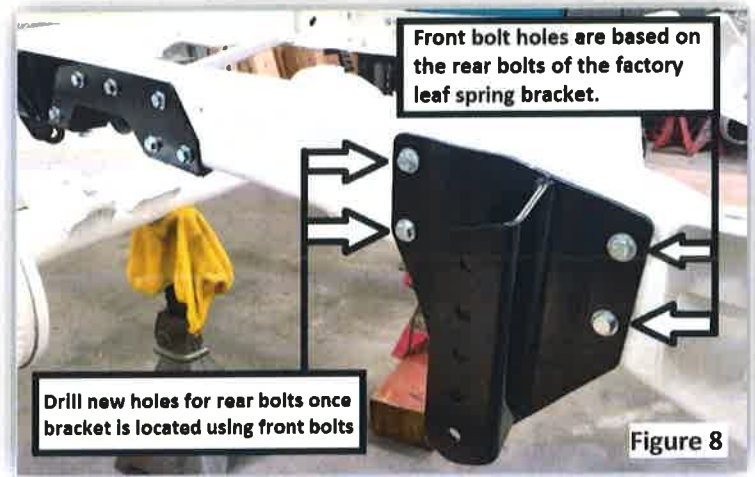
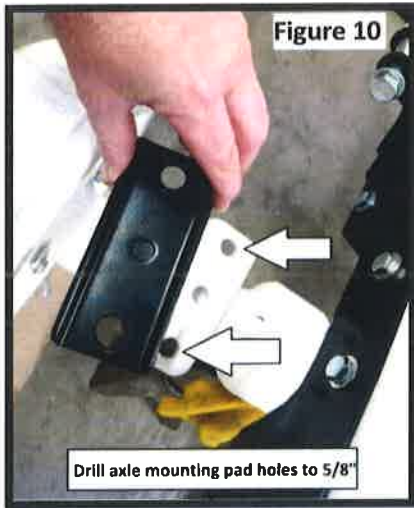


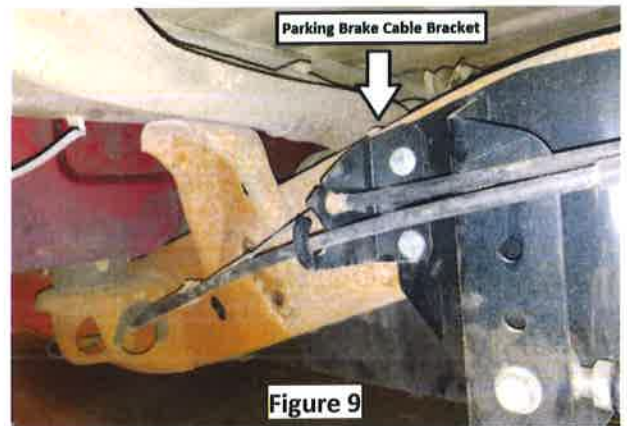
Figure 6



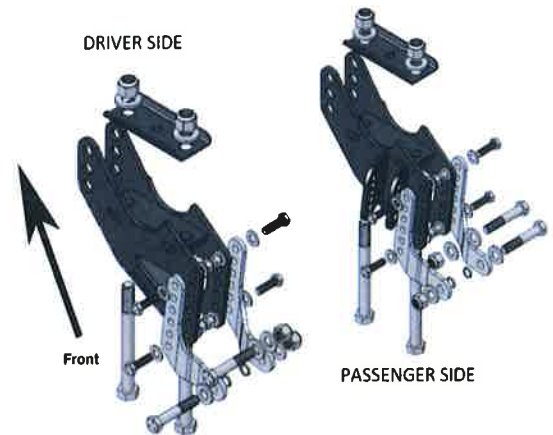
7. Locate the driver and passenger side front trailing arm mount.
8. Match the front bracket holes to the rear holes of the factory leaf spring mount and secure with 7/16" x 1.25" bolts, two washers per bolt and nylock nut. **(Figure 8)**
9. Install the ebrake cables into the bracket before mounting the brake cable bracket on the front mounting holes. The ebrake cable bracket will share the front two holes of the drivers side notch bracket. **(Figure 9)**
10. With the bracket located with the front two mounting holes, drill the rear mounting bolt holes into the frame using a 7/16" drill bit.

**NOTE:**

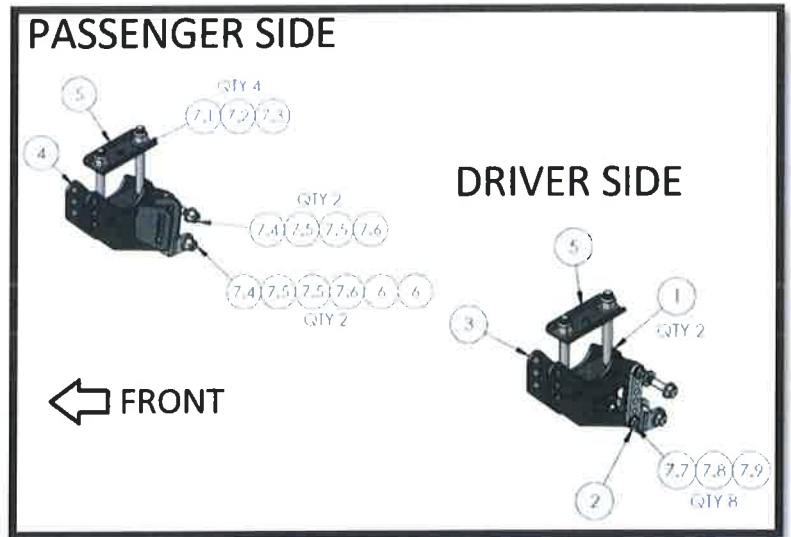
With the bed and stock fuel tank in place the driver side inner frame nuts will be difficult to get in place with the bed and stock fuel tank in place. Use the small access holes in the frame to fish the nuts into place.



11. Use 7/16" x 1.25" bolt with two washers per bolt and nylock nut.
12. Torque mounting bolts to 49 lb. ft.
13. Set the right and left axle mounting pads on the axle and drill the axle holes to 5/8". **(Figure 10)**
14. The right and left axle brackets can be identified by the pan hard mounts facing inboard. Identify the right and left axle brackets and install onto the axle using 5/8" x 6" bolts. Install one 5/8" washer on top of the axle pad. Torque to 158 lb. ft.
15. Install left and right shock mount onto the outside of each axle mount using 3/8" x 1.25" hardware. **(Figure 11)** The shock mount brackets are adjustable for ride height changes. Torque to 31 lb. ft.

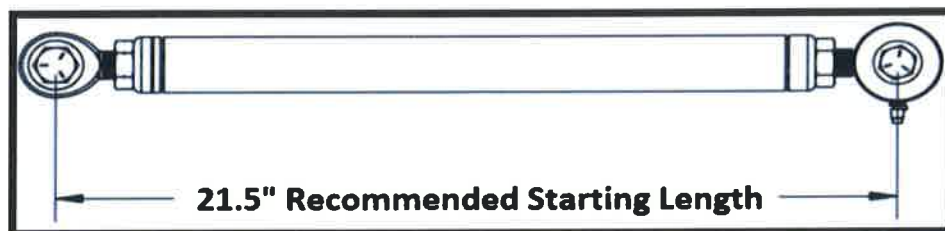
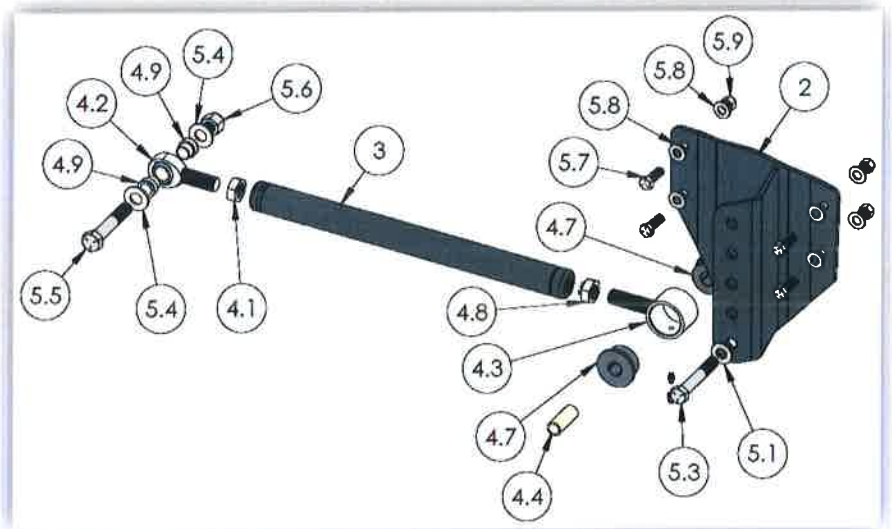


BALLOON #	ITEM #	DESCRIPTION	QTY.
1	9037-654	BRACKET,SHOCK MOUNT, LEFT, BOLT ON	2
2	9037-655	BRACKET, SHOCK MOUNT, RIGHT, BOLT ON	2
3	9037-718	WELDMENT, DRIVER SIDE AXLE MOUNT	1
4	9037-722	WELDMENT, PASSENGER SIDE AXLE MOUNT	1
5	9037-727	PLATE, TOP MOUNT, AXLE PAD	2
6	9033-430	SLEEVE, .500" ID X .625" OD X .125"	4
7	9037-863	HARDWARE KIT, AXLE MOUNT	1
7.1	-	WASHER, 5/8	4
7.2	-	NUT, NYLOCK, 5/8-11	4
7.3	-	BOLT, 5/8-11 X 6.0"	4
7.4	-	BOLT, 1/2-13 X 2.75"	4
7.5	-	WASHER, 1/2, SAE	8
7.6	-	NUT, NYLOCK, 1/2-13	4
7.7	-	BOLT, 3/8-16 X 1.25"	8
7.8	-	WASHER, 3/8, SAE	16
7.9	-	NUT, NYLOCK, 3/8-16	8



- Using anti-sieze on the threads, loosely thread the left-hand threaded rod end with jam nut into the left-hand threaded side of the trailing arm as far as possible.
- Loosely thread the fixed rod end with jam nut into the right hand threaded end of the trailing arm as far as possible.
- With an even amount of thread engagement for both rod ends, set the trailing arm length (center to center) at 21.5".

BALLOON #	ITEM #	DESCRIPTION	QTY.
1	9037-855	WELDMENT, DS TRAILING ARM MOUNT	1
2	9037-858	WELDMENT, PS TRAILING ARM MOUNT	1
3	9037-760	WELDMENT, TRAILING ARM	2
4	7039-244	INSTALL KIT, TRAILING ARMS	1
4.1	JNL125	NUT, JAM 3/4-16 LH	2
4.2	XML12	ROD END (X) ENDURA ALLOY HT	2
4.3	7039-157	Panhard Rod Asm, Short	2
4.4	9033-317	Sleeve, .56" ID X .75" OD X 1.88"	2
4.5	9023-116	CAP. GREASE ZERK	2
4.6	9023-119	GREASE ZERK, 1/4-28	2
4.7	9032-169	Bushing, Energy 2042G	4
4.8	JNR125	NUT, JAM 3/4-16 RH	2
4.9	SG12-106	High Misalignment Spacer, SS	4
5	9037-861	HARDWARE KIT, TRAILING ARM	1
5.1	-	WASHER, 9/16, SAE	4
5.2	-	NUT, NYLOCK, 9/16-12	2
5.3	-	BOLT, 9/16-12 X 3.5"	2
5.4	-	WASHER, 5/8, SAE	4
5.5	-	BOLT, 5/8-11 X 3.5"	2
5.6	-	NUT, NYLOCK, 5/8-11	2
5.7	-	BOLT, 7/16-14 X 1.25"	8
5.8	-	WASHER, 7/16, SAE	16
5.9	-	NUT, NYLOCK, 7/16-14	8
6	9037-825	BRACKET, E-BRAKE MOUNT	1



19. Install the QA1 differential cover using Right Stuff gasket maker **ONLY**, with blue thread locker on the 5/16" x 1.25" flanged head bolts. Do Not Use a pre-made gasket. (Figure 12) The differential cover is installed with the torque arm mounting points on the passenger side of the axle. Torque to 17 lb. ft.



Figure 12

20. Install the bushing end of the trailing arm into the middle hole of the front frame bracket using 9/16" x 3.5" bolts, two washers per bolt, and nylock nut.
21. Insert high misalignment spacers into the rod end of the trailing arm and mount to the middle hole of the axle mount using 5/8" x 3.5" hardware. (Figure 13)

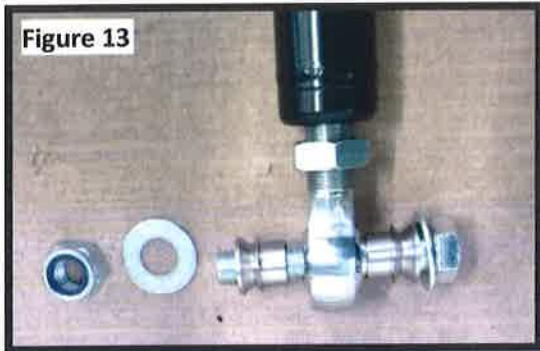


Figure 13

**NOTE:**

The mounting position of the trailing arm to the axle and front bracket should be adjusted after ride height is set to ensure the trailing arm is parallel with the ground.

22. Connect the front of the trailing arm to the bracket.
23. Position the axle under the frame and connect trailing arm to the middle hole on the axle bracket. (Figure 14)



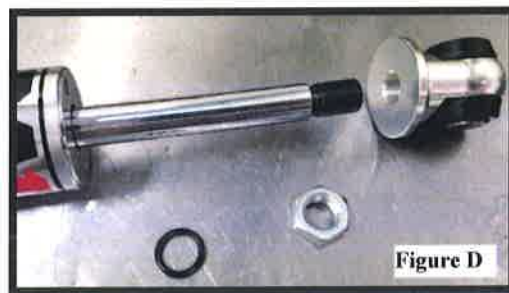
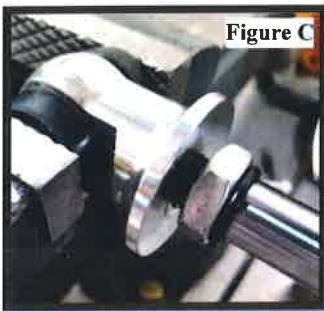
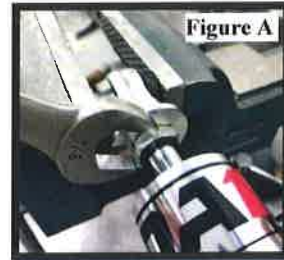
Figure 14

24. Refer to the instructions included with coil-over shocks and assemble the springs onto the shocks.

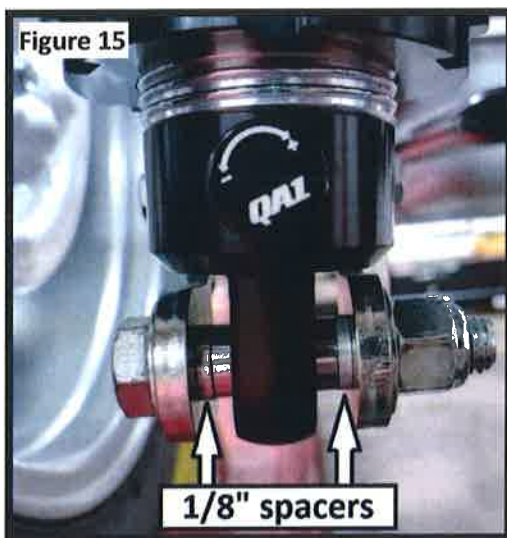
**NOTE:**

This rear suspension system comes with optional shaft mounted bump stops. The bump stops can be installed for added insurance for ride heights in the lower range.

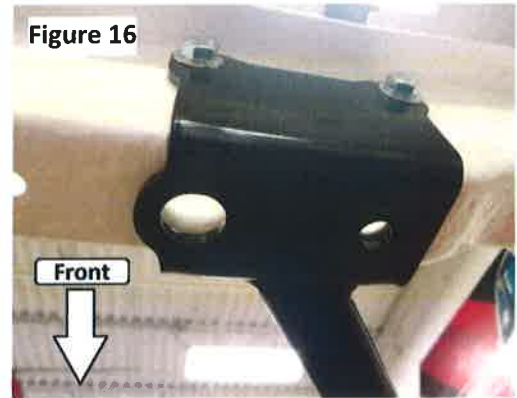
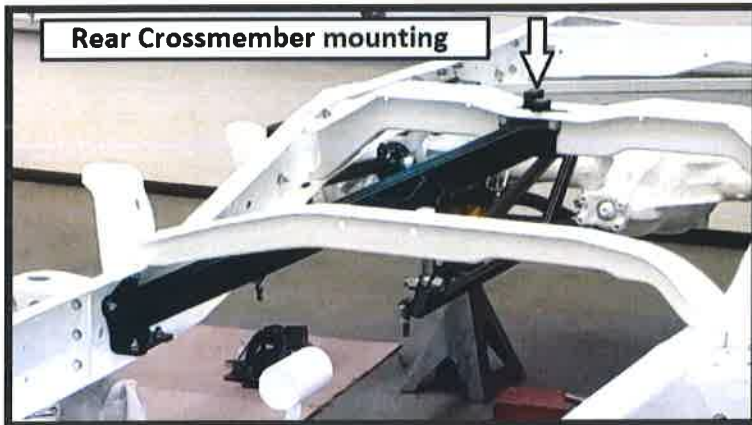
- A. Secure a bushing style shock connection in a vise or a bearing style shock connection with a 5/8" wrench and loosen the jam nut from the eyelet using a 7/8" wrench. **(Figure A & B)**
- B. Continue spinning the jam nut towards the shock until the nut engages the shaft and unthreads the shaft from the eyelet. **(Figure C)**
- C. Hold the shaft and remove the jam nut. **(Figure D)**
- D. Install the 9032-117 shaft mounted bump stop. You can re-install the travel indicator o-ring under the bump stop or use the bump stop as the travel indicator. **(Figure E)**
- E. Reinstall travel indicator and jam nut, followed by the shock eyelet.
- F. Snug jam nut to 12 lb. ft.



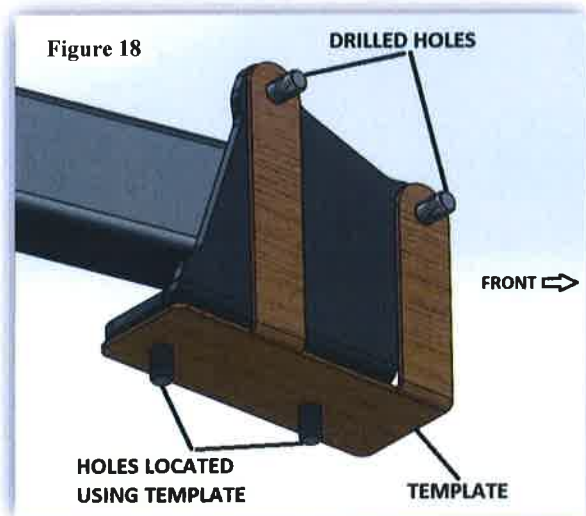
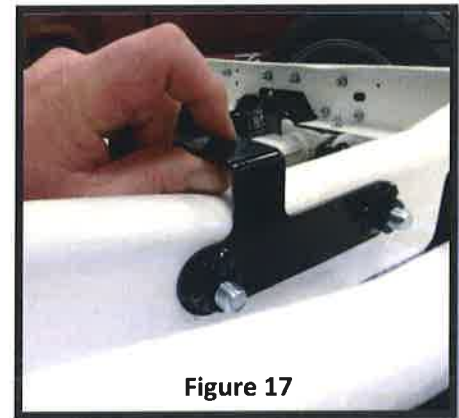
25. Install the coil-overs to the notch bracket and axle mount using 1/2" x 2.75" bolts, washers and nylock nuts. The lower shock connection will use two 1/8" spacers inboard of the shock brackets. **(Figure 15)**



26. Set the torque arm crossmember into place locating the rear bracket on the trucks crossmember. The underside of the rear mount will have one small and one large hole that will match the same two holes on the underside of the trucks crossmember. (Figure 16)



27. Clamp the bracket to match the holes in the frame and drill the four mounting holes in the crossmember to 7/16".
28. The inner crossmember nut plates were designed with tabs for installing with the truck bed on the truck. (Figure 17)
29. Install the rear mount to the crossmember using 7/16" x 1.25" bolts and one washer for all four connections.
30. The front portion of the diagonal support will land within the frame rail. Clamp the support to the frame to ensure the support is fully seated to the frame. Mark and drill the two horizontal holes with a 7/16" drill bit.
31. Using the included template on the outside of the frame, line up the template with the two drilled holes. Wrap the template around the bottom of the frame rail to locate the two lower bolt hole locations. (Figure 18)
32. Evenly draw the support to the frame using 7/16" x 1.25" bolts, two washers per bolt, and nylock nuts. Torque all support hardware to 49 lb. ft.



BALLOON #	ITEM #	DESCRIPTION	QTY.
1	9037-828	WELDMENT, GM 10 BOLT, TA MOUNT	1
2	7039-261	HARDWARE KIT, GM 10 BOLT	1
2.1	-	BOLT, FLANGED, 5/16-18 X 1.25	10
3	9037-829	WELDMENT, TORQUE ARM	1
4	7039-260	INSTALL KIT FOR TORQUE ARM	1
4.1	9033-477	SLEEVE, .875" HEX ALUMINUM ANODIZED, 10"	1
4.2	JNR8S	Jam Nut, Left Hand Thread	1
4.3	JNR8S	Jam Nut, Right Hand Thread	1
4.4	XML8	ROD END (X) ENDURA ALLOY HT	1
4.5	XFR12	ROD END (X) ENDURA ALLOY HT	1
4.6	7039-157	Pinhard Rod Asm., Short	1
4.7	9032-169	Bushing, Energy 2042G	2
4.8	9033-317	Sleeve, .56" ID X .75" OD X 1.88"	1
4.9	JNR12S	JAM NUT, 3/4-16 RH	3
4.10	XMR10-12	ROD END (X) ENDURA ALLOY HT	2
4.11	AS12-12	LINKAGE ADJUSTER STEEL 3/4-16	1
4.12	-	Nut, Jam 3/4-16 LH Chrome	1
4.13	SG8-64	HIGH MISALIGNMENT SPACER, .5" OD	4
4.14	9037-840	BRACKET, BRACE BAR FRAME MOUNT	1
4.15	9012-179	BOLT, HEX 3/8-16 X 1.25"	2
4.16	9005-256	WASHER, FLAT 3/8" SAE	4
4.17	9014-253	NUT, NYLOCK 3/8-16	2
4.18	XML8	ROD END (X) ENDURA ALLOY HT	1
5	7039-232	HARDWARE KIT, TORQUE ARM	1
5.1	-	NUT, NYLOCK, 3/4-10	1
5.2	-	WASHER, 3/4 SAE	2
5.3	-	BOLT, 3/4-10 X 2.75	1
5.4	-	WASHER, 3/8 SAE	4
5.5	-	WASHER, 5/8 SAE	4
5.6	-	NUT, NYLOCK, 3/8-16	2
5.7	-	BOLT, 3/8-16 X 2.25	2
5.8	-	NUT, NYLOCK, 5/8-11	2
5.9	-	BOLT, 5/8-11 X 2.5"	2
5.10	-	NUT, NYLOCK, 9/16-12	1
5.11	-	WASHER, 9/16 SAE	2
5.12	-	BOLT, 9/16-12 X 3.25	1
6	9093-137	DECAL, DIFF COVER, C10 10/12 BOLT	1

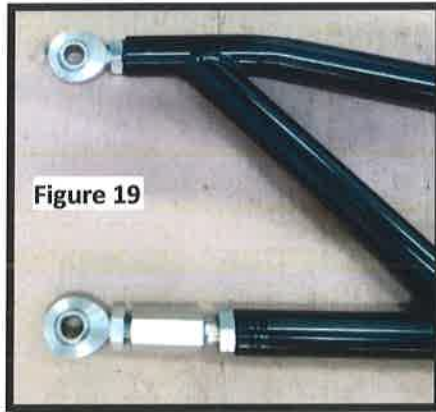


Figure 19

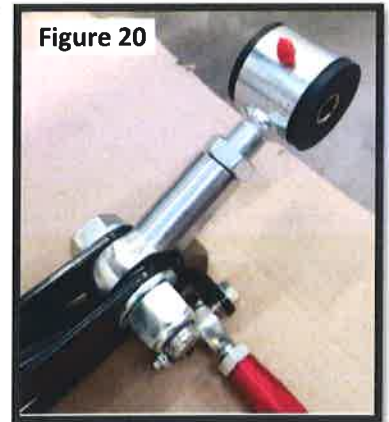
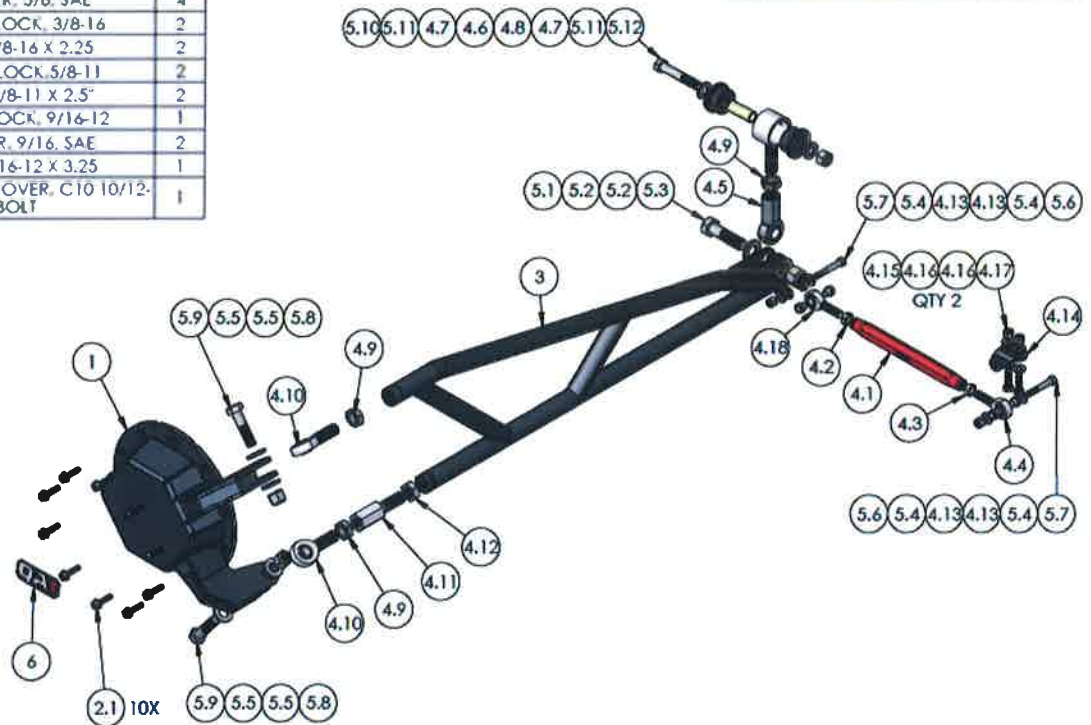


Figure 20



33. Install a jam nut onto the XMR10-12 rod end and fully thread into the rear upper torque arm connection. Back the rod end out two turns for initial install. **(Figure 19)**
34. Install left hand jam nut onto the linkage adjuster and fully thread into the lower rear torque arm connection. Both connections should be fully threaded. This is the connection for adjusting pinion angle. Final adjustments should be made with the truck at ride height. **(Figure 19)**
35. Thread an XMR10-12 rod end with jam nut into the linkage adjuster on the lower torque arm connection.
36. Thread the 3/4" jam nut onto the bushing rod end for the front connection. **(Figure 20)**

37. Thread the XFR12 female rod end onto the bushing rod end as far as possible to keep this linkage as short as possible. **(Figure 20)**
38. Install the rear rod end connections of the torque arm to the differential cover using 5/8" bolts, two washers per connection and nylock nut. Torque to 90 lb. ft.
39. Install the bushing end into the middle hole of the diagonal crossmember using 9/16" x 3.25" bolt, two washers and nylock nut. Torque to 79 lb. ft.
40. Install the opposite end of the linkage onto the front of the torque arm using 3/4" x 2.75" bolt, two washers and nylock nut. Torque to 90 lb. ft.

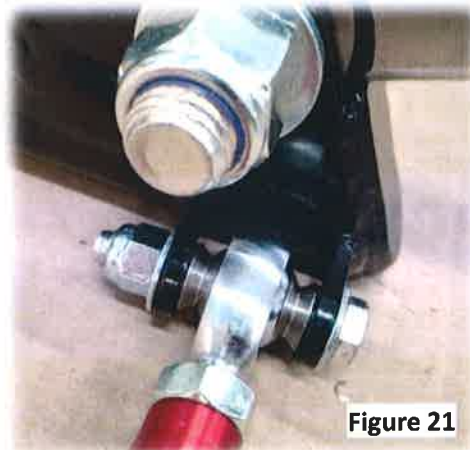
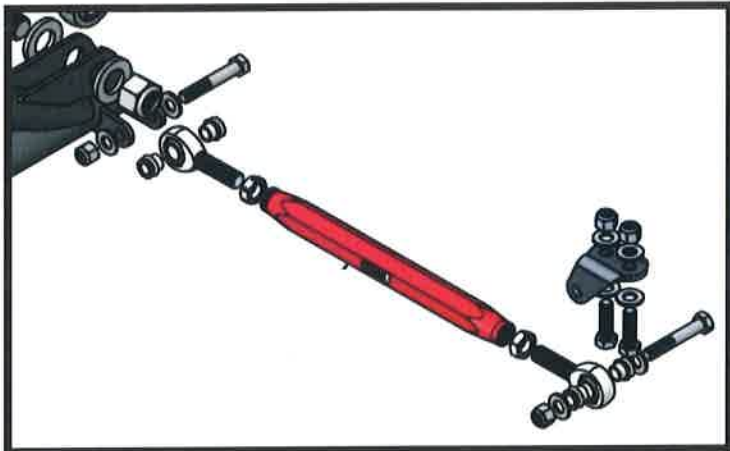


Figure 21

41. Install the left hand jam nut onto the XML8 rod end and the right hand jam nut onto the XMR8 rod end.
42. Fully thread both rod ends into the red aluminum stabilizer rod keeping in mind one end is right hand threaded and one is left.
43. Install two high misalignment spacers into both rod ends before attaching to the torque arm using 3/8" x 2-1/4" bolt, two washers and nylock nut. Torque to 31 lb. ft. **(Figure 21)**
44. The frame side of the linkage rod will be secured using the included bracket (#4.14). Ensure that the bracket is mounted to the frame so that the linkage rod is perpendicular to the frame. Mark and drill the bracket holes into the frame using a 3/8" drill bit. **(Figure 22)** Use 5/16" x 1-1/4" bolts, two washers and nylock nut to secure the bracket to the trucks frame. Torque to 17 lb. ft.



Figure 22



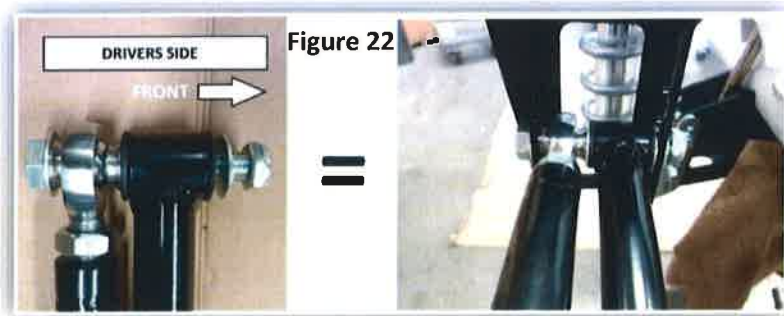
**NOTE:**

The rear of the suspension system includes a panhard bar (bar with curve) and a brace bar (straight bar).

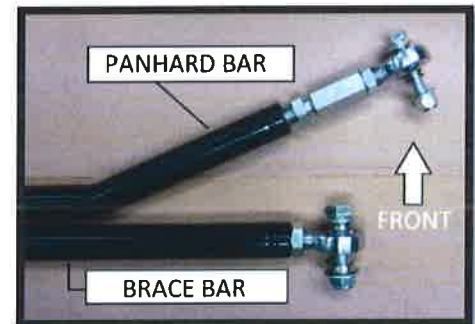
45. Install the left hand jam nut onto the XML10-12 and the right hand jam nut on the XMR10-12 rod end for the brace bar.
46. Fully thread the rod ends into the brace bar keeping in mind one end of the bar is right hand threaded and the other is left hand.
47. Thread the left hand threaded jam nut onto the male end of the linkage adjuster and thread assembly into the panhard bar.
48. Install right hand threaded jam nut onto the XMR10-12 rod end and thread into the back of the linkage adjuster.

**NOTE:**

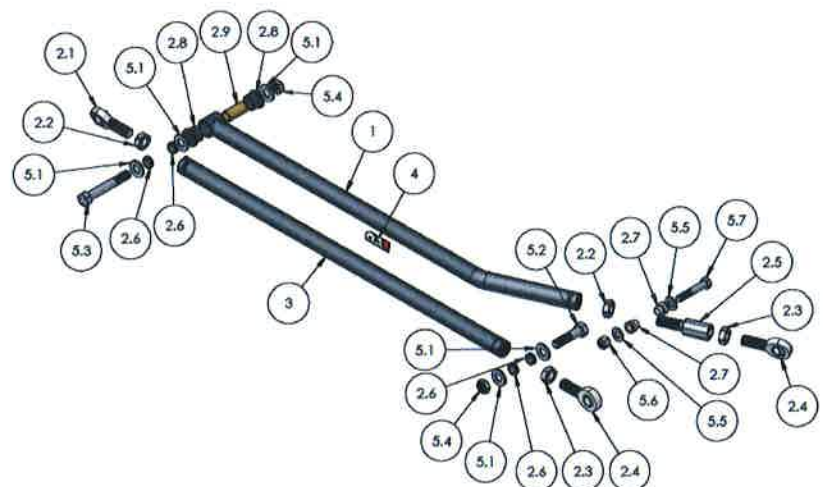
It is recommended to bottom out the threads of the linkage adjuster to bar and the rod end to linkage adjuster for even thread engagement during adjustment.



49. With high misalignment spacers on both sides of the brace bar rod end, install the brace bar and the bushing end of the panhard bar into the center hole of the drivers side notch bracket. Secure using 5/8" x 4-1/4" bolt with two washers and nylock nut. (Figure 22)
50. With high misalignment spacers on both sides of the brace bar rod end, install the passenger side of the brace bar onto the frame notch bracket using 5/8" x 2-1/2" bolt, two washers and nylock nut

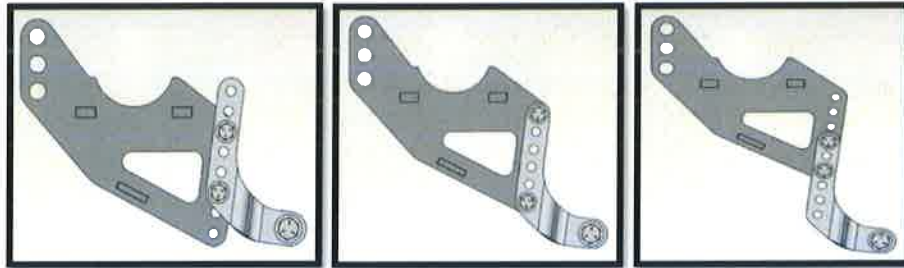


BALLOON #	ITEM #	DESCRIPTION	QTY.
1	9037-831	WELDMENT, PANHARD BAR	1
2	7039-245	INSTALL KIT FOR PANHARD BAR	1
2.1	XML10-12	ROD END (X) ENDURA ALLOY HT	1
2.2	JNL12S	JAM NUT, STEEL 3/4-16 LH	2
2.3	JNR12S	JAM NUT, 3/4-16 RH	2
2.4	XMR10-12	ROD END (X) ENDURA ALLOY HT	2
2.5	AS12-12	LINKAGE ADJUSTER STEEL 3/4-16	1
2.6	SG104	SPACER ROD END SS	4
2.7	SG10-86	High Misalignment Spacer, SS	2
2.8	9032-395	BUSHING, .875	2
2.9	9033-457	SLEEVE .625" ID x 0.875" OD x 1.75"	1
3	9037-833	WELDMENT, BRACE BAR	1
4	9093-122	DECAL, SUSPENSION DECAL, USA	1
5	7039-233	HARDWARE KIT, PANHARD BAR	1
5.1	-	WASHER, 5/8, SAE	5
5.2	-	BOLT, 5/8"-11 X 2.5"	1
5.3	-	BOLT, 5/8"-11 X 4.25"	1
5.4	-	JAM NUT, NYLOCK, 5/8-11	2
5.5	-	WASHER, SAE, 1/2	2
5.6	-	NUT, NYLOCK, 1/2-13	1
5.7	-	BOLT, 1/2-13 X 2.75"	1



## **FINALIZING THE INSTALL:**

1. The rear shocks have a recommended ride height length of 14" to 15". Set the ride height within this shock length and use the adjustable shock brackets to further dial in the desired ride height. The brackets should be mounted in the following orientation based on the desired drop.



**4" DROP**

**5"-6" DROP**

**7" DROP**

2. This suspension system will come with two sizes of bump stop. Install the larger of the two axle-bump stops onto the notch bracket unless your low ride height necessitates the shorter bump stop. **(Figure 23)**
3. Re-install brake lines and bleed the brake system.
4. Make any changes to the trailing arm and panhard bar mounting points to ensure both are parallel to the ground at ride height.
5. Adjust the torque arm front support so the torque arm is parallel with the frame rails and the front torque arm connection is as vertical as possible.
6. Make final pinion angle adjustments.
7. Double check all hardware connections and snug all jam nuts



**Figure 23**





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