



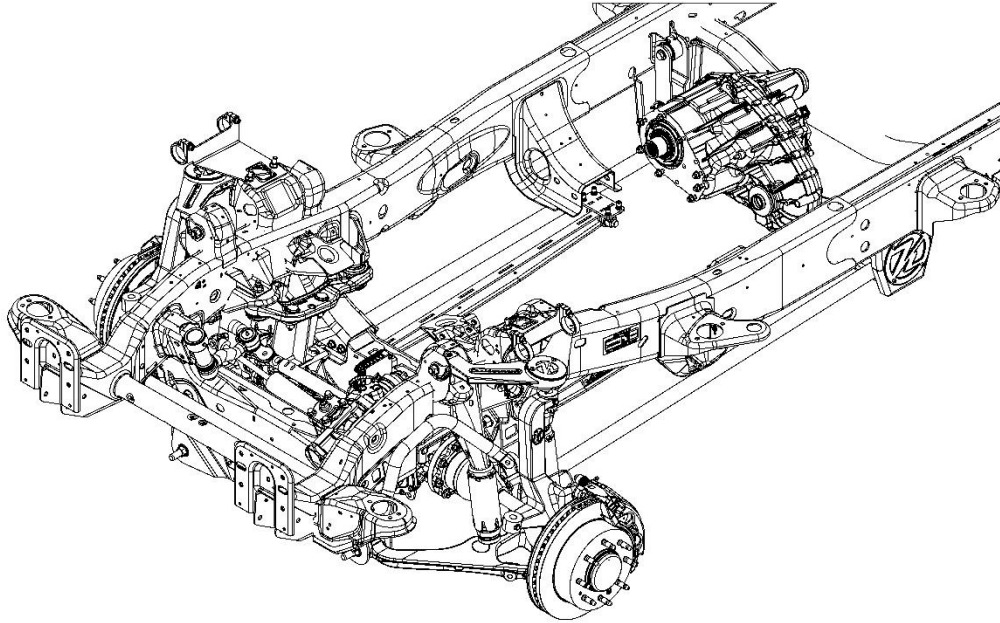
kelderman

**7-9 in. Lift Torsion
Bar Independent
Front Kit Installation
Manual**

- 2020+ GM 2500-3500 HD

Kit Number: 10008513

Kelderman Independent Torsion Front



7-9 in. Lift Kit

Optional Equipment Shown

- **Contents**
 - Kit Numbers..... (3)
 - Introduction..... (4)
 - Safety..... (5)
 - Product Owner Responsibilities..... (6)
 - Disassembly..... (7)
 - Kit Installation..... (14)
 - Parts Key..... (24)
 - Contact Information..... (28)

Kit Numbers

- This installation manual covers the following lift kits.

Kit Number	Description
10008513	2020+ Chevrolet 2500/3500 HD – 4wd – Independent Torsion Front – 7-9” Lift Kit 2020+ GMC 2500/3500 HD – 4wd – Independent Torsion Front – 7-9” Lift Kit

- This installation manual also covers the following optional upgrades.

Kit Number	Description
10006483	2020+ GM 2500/3500 HD – Upper Control Arm Kit
10008606	2020+ GM 2500/3500 HD – Raptor, Single Shock Steering Stabilizer - Complete Kit
10008663	2020+ GM 2500/3500 HD – Raptor, Front Shock Reservoir Bracket Kit
10008668	2020+ GM 2500/3500 HD – Raptor Steering Stabilizer - Shock Only Kit
10008695	2020+ GM 2500/3500 HD – Raptor, Front Shocks – 7-9” Lift Kit



Introduction

- Important

It is important that the entire installation instructions be read thoroughly before proceeding with installation. This kit reuses several OEM components that will be removed during disassembly then reinstalled. Kelderman recommends bagging and labeling all hardware removed during disassembly.

Before painting open every box and locate all parts. There are several smaller bushing pieces and bolts that are packaged separately inside the main box.

- Product Installer Responsibilities

Installer is responsible for installing this product in accordance with Kelderman Mfg. Inc. specifications and installation instructions.

Installer is responsible for providing proper installation of vehicle components and attachments as well as required or necessary clearance for suspension components, axles, wheels, tires, and other vehicle components to ensure a safe and sound installation and operation of this product.

- Definition of Terms

- **Warning:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- **Caution:** A potential hazardous situation may result in property damage.
- **Note:** Provide information or suggestions that help correctly perform a task.
- **Torque:** When italicized "*torque*" alerts the installer to tighten fasteners to a specified value.

Safety

- **Your Safety and the Safety of Others is Very Important.**
Read and understand all safety precautions and instructions before installing this product.

- **CAUTION: Trucks Equipped with Parking Sensors or Other Like Devices.**
Relocation of these devices will alter the field of view. It is the responsibility of the owner to understand how these changes affect the operation of these systems.

- **WARNING: Careless Installation Can Result in Serious Injury or Property Damage**
 - Wear eye protection.
 - Disconnect the battery before doing any work on the vehicle.
 - Work on flat level ground.
 - Ensure truck is properly supported by jack stands. Never work under a vehicle supported only by hydraulic jacks.
 - Take precautions when lifting product. Due to the size and weight of this product two people are recommended for installation.
 - Never work directly under the product until it has been securely fastened to the vehicle.
 - Avoid sharp, hot, and moving components when routing electrical cables and air lines.
 - If drilling inspect both sides of the surface and remove/relocate any objects located in the way.
 - Ensure all bolts are properly tightened before driving.

- Product Owner Responsibilities

- Product owner is solely responsible for pre-operation inspection, periodic inspections, maintenance, and use of the product as specified by Kelderman Mfg. Inc. Of particular importance is the re-torque of fasteners. This re-torque must be performed within 90 days or 1000 miles of this product being put into service.
- Product owner is responsible for “*down time*” expenses, cargo damage, and all business costs and losses resulting from a warrantable failure.

- **Service Intervals**

- First 1,000 Miles**

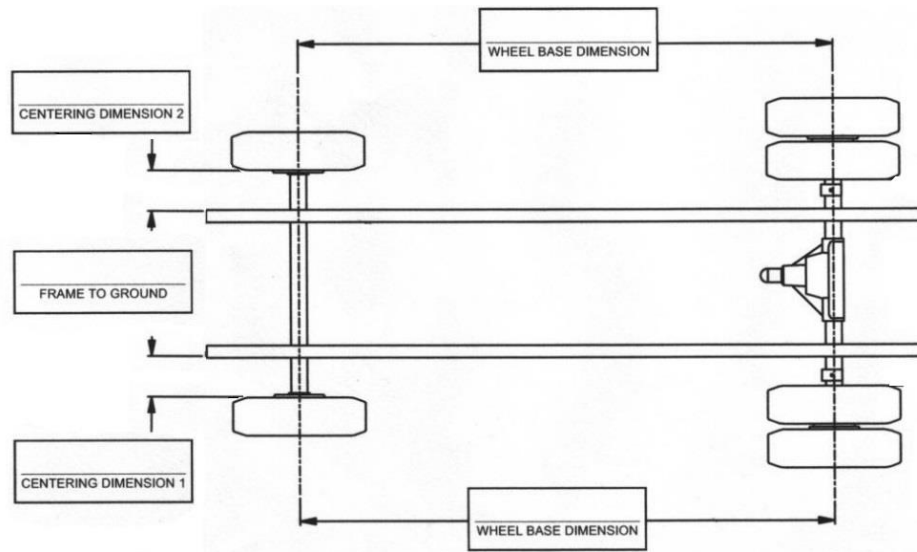
- Check ride height $\pm 1/4$ ”
 - Check for any loose or rubbing hoses and wires.
 - Re-torque all hardware.

- Every 30,000 Miles**

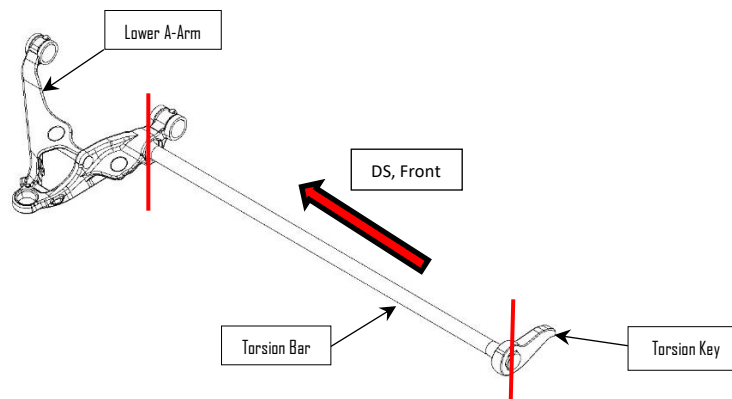
- Check ride height $\pm 1/4$ ”
 - Grease suspension components
 - Inspect bushings for wear; replace if required.

Disassembly

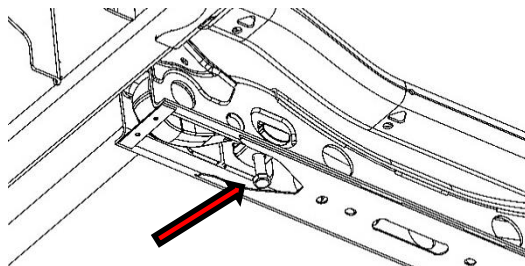
- 1: Take the following measurements for future reference. These measurements will be used to adjust the suspension after installation.



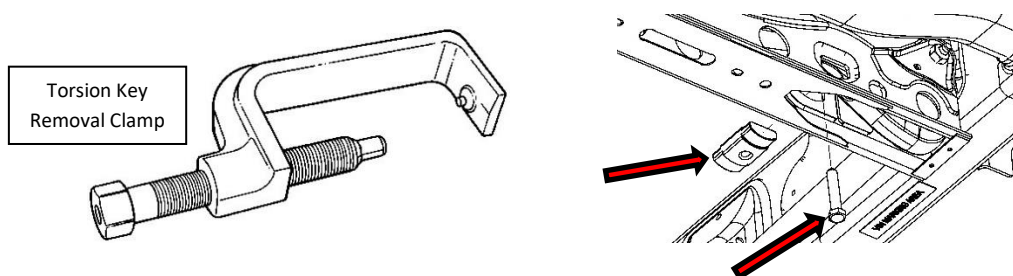
- 2: Break the front lug nuts loose, but do not remove.
- 3: Apply the parking brake. Lift the front of the vehicle until the tires are off the ground and the suspension is at full droop. Support the truck with jack stands and remove the front wheels.
- 4: Remove the plastic belly tray or factory skid plate if equipped.
- 5: Mark and label each torsion bar, they will need to be reinstalled in the same orientation. Take note of driver side (DS) vs passenger side (PS), front vs back, and indexing in the lower A-arm and in the torsion keys.



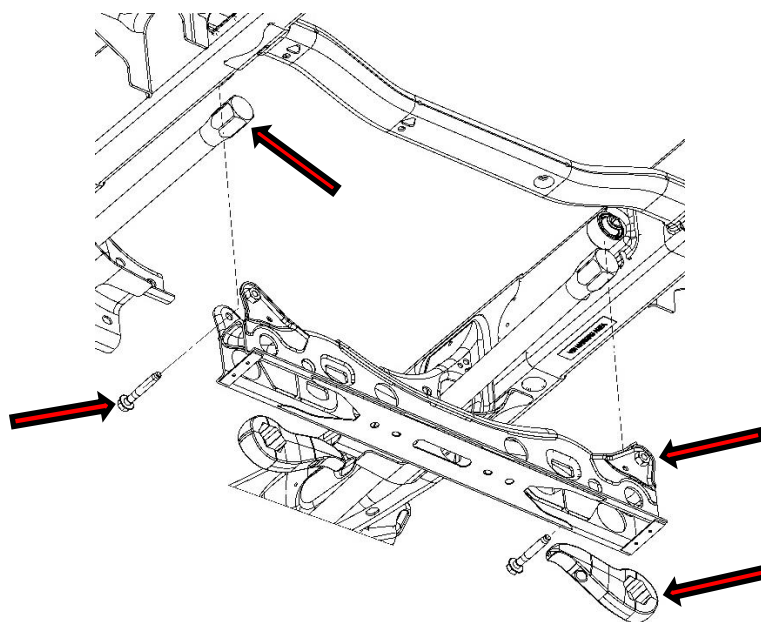
- 6:** Locate the torsion key bolts and measure the length of bolt visible _____, count the number of turns as you remove the bolt _____. It is important that this bolt is set back to the correct length when re-installing the torsion key.



- 7:** Use a torsion key removal clamp to release pressure from the threaded block. Once the block is free remove it from the crossmember. Slowly back off the clamp until torsion pressure is released. **NOTE:** The bolt and threaded block will be reused.

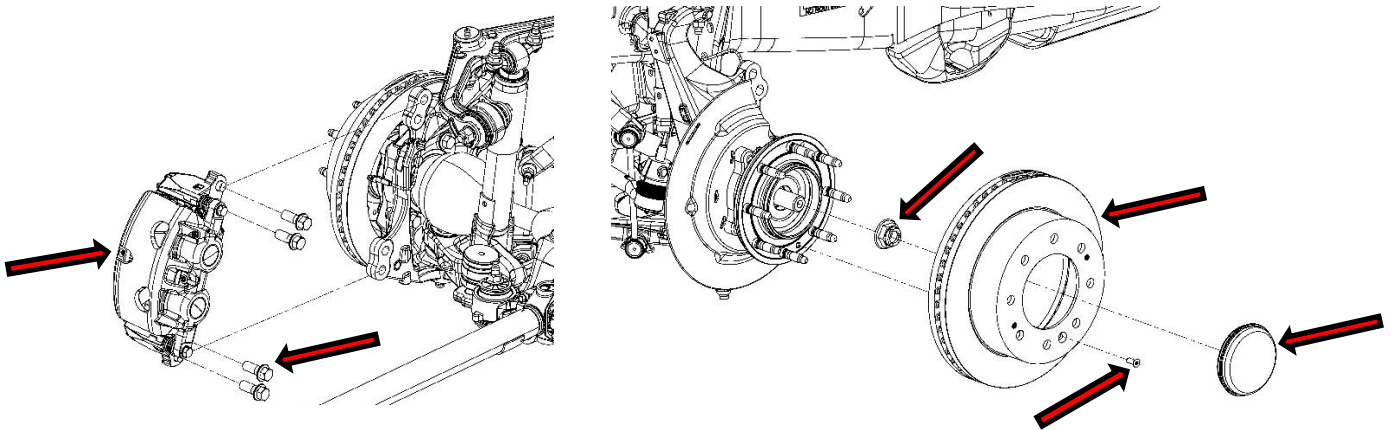


- 8:** Slide the torsion bars forward and remove the torsion keys. Remove the two bolts from the torsion bar crossmember and drop the crossmember out the bottom. Remove the torsion bars by sliding them out backward. **NOTE:** All these parts will be reused.



9: Remove the front flex brake lines (*these will be replaced with longer flex lines*). Disconnect the wiring from the wheel speed sensor and remove any clips or brackets that hold lines or wires to the cast knuckle/spindle.

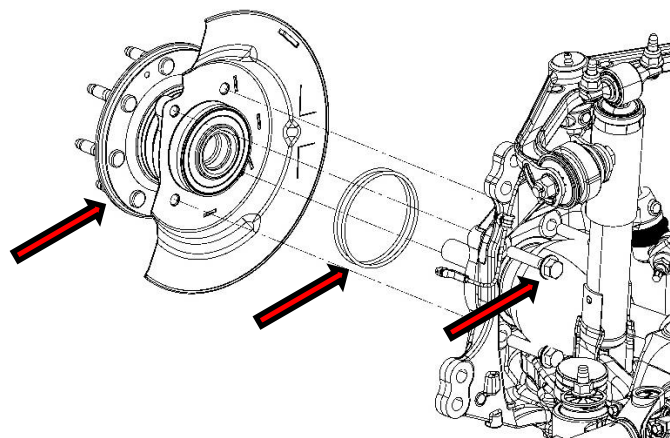
10: Remove the four bolts that fasten the caliper assembly to the knuckle and remove the caliper.



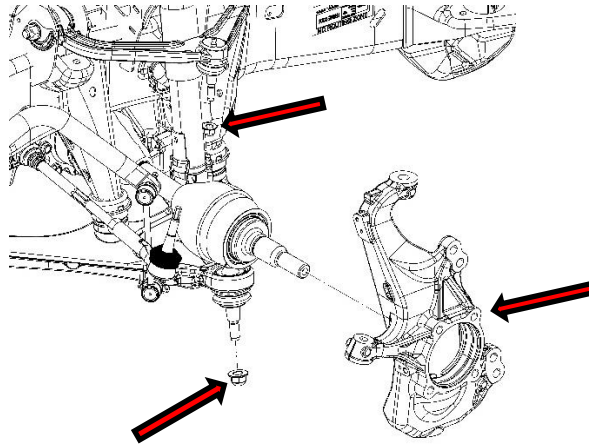
11: Remove the keeper bolt and rotor. Remove the hub cap and axle nut.

12: Remove the nut from the tie rod end ball joint. Use a pickle fork to disconnect the ball joint from the knuckle.

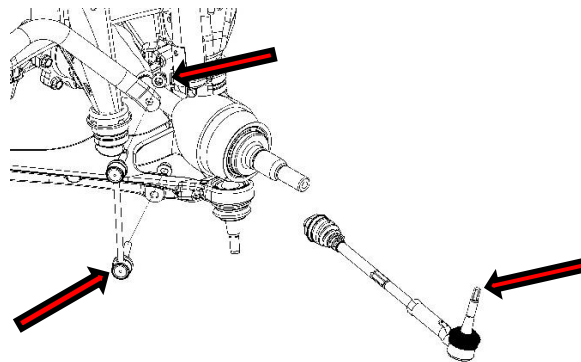
13: Remove the bearing assembly from the knuckle, it is attached with four bolts. **NOTE:** Take care while removing the bearing assembly not to damage the O-rings, they will be reinstalled in the new knuckle.



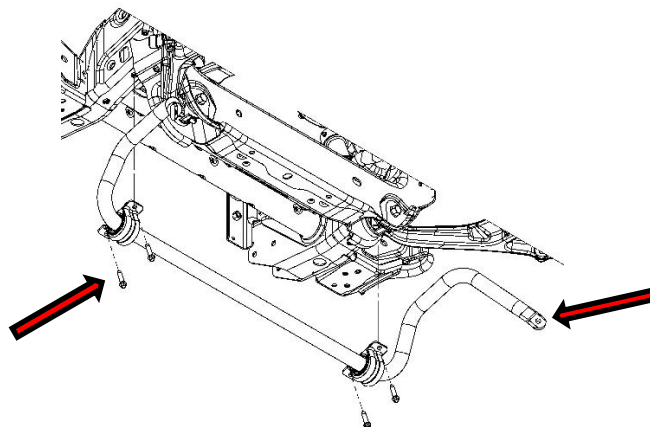
14: Remove the upper A-arm ball joint nut, use a pickle fork to break the ball joint loose from the knuckle. Repeat the process on the lower A-arm ball joint. Remove the knuckle.



15: Remove the tie rod end from the drag link and remove the sway bar end link. **NOTE:** Tie the sway bar up out of the way it does not need to be removed.

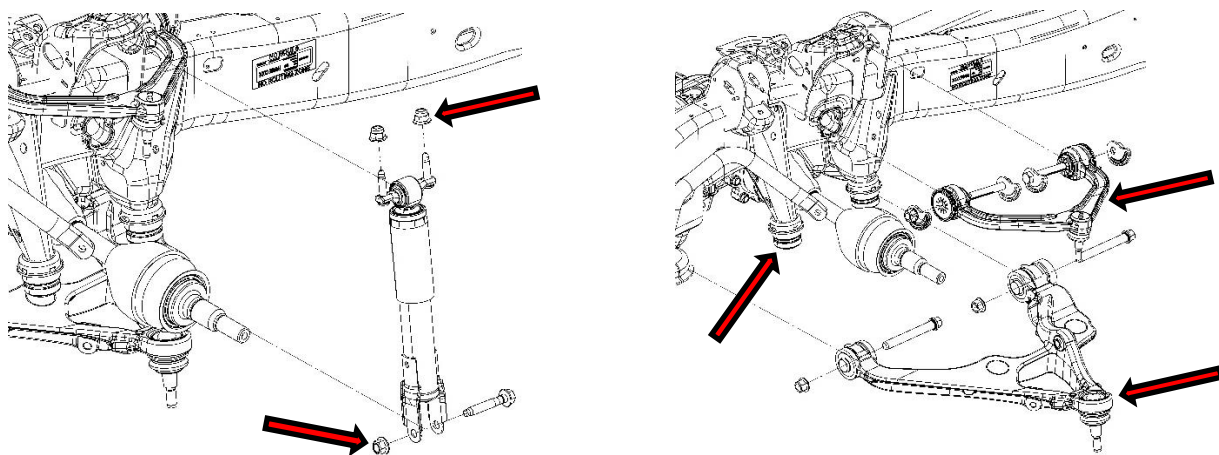


16: Remove the sway bar and sway bar bushings. **NOTE:** The sway bar and bushing will be reused.



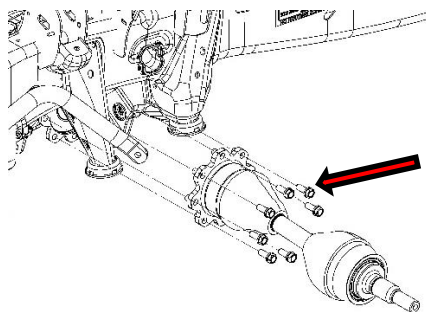
17: Unbolt and remove the shock.

18: Unbolt and remove the upper and lower A-arm. **NOTE:** Mark where the camber adjusters are positioned on the upper A-arm bolts before removing.



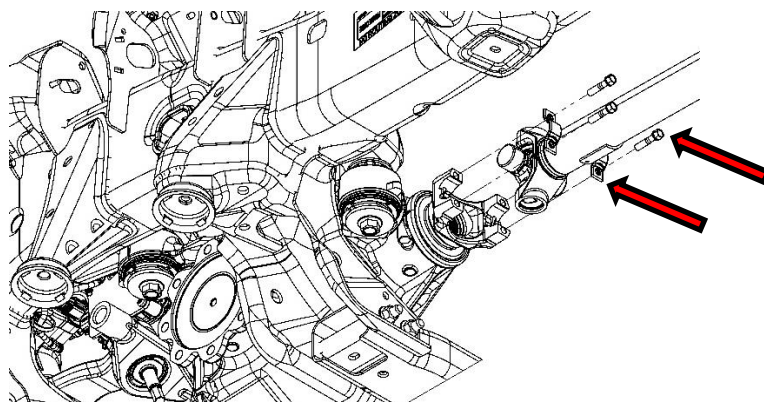
19: Remove the two lower A-arm bump stops.

20: Remove the eight bolts that fasten the CV axle to the differential.

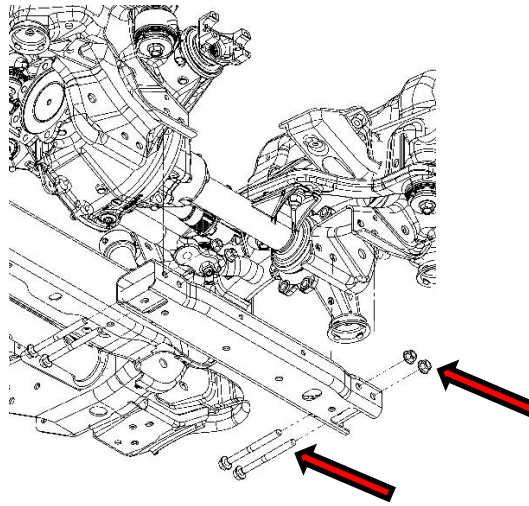


21: Return to *step 10* and repeat all steps on the opposite side of the truck.

22: Remove the front drive shaft from the differential. **NOTE:** Be careful not to remove the needle bearing caps from the u-joint or the needle rollers will spill out. Wrap or tape the caps in place and tie the drive shaft up out of the way, it does not need to be removed from the transfer case.

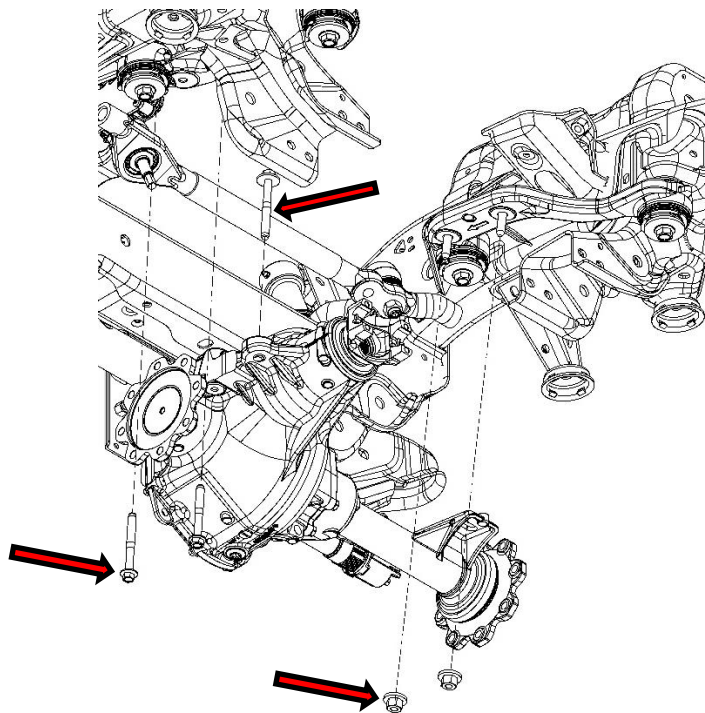


23: Remove the four bolts from the rear crossmember. **NOTE:** The crossmember will not be reused.

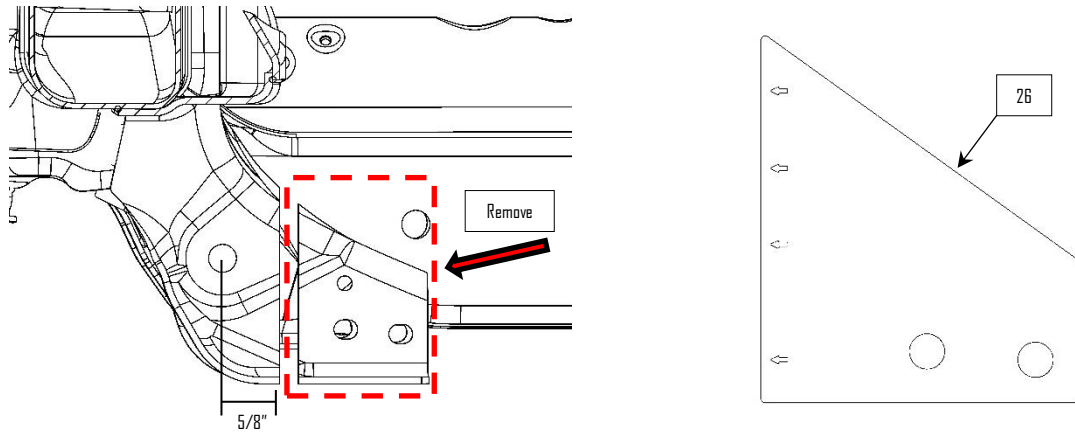


24: Disconnect the breather tube and the locking differential wiring from the front differential. Remove any other lines that maybe attached to the differential.

25: Support the differential with a jack and remove the three bolts and two nuts that fasten it to the rubber mounted isolator brackets. **NOTE:** The two nuts will be reused.



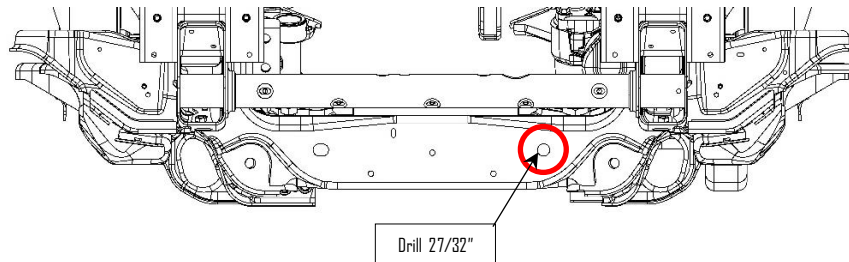
26: Trim the driver's side rear crossmember mount. Measure 5/8" over from the center of the lower A-arm mounting hole and make a vertical cut thru both sides of the mount.
NOTE: This cut provides room for the differential drop. A trim template (26) is provided to help mark this cut.



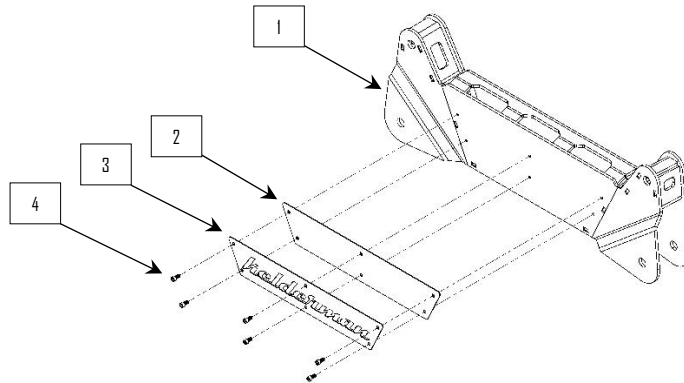
27: Paint or undercoat the exposed edge to prevent corrosion.

Kit Installation

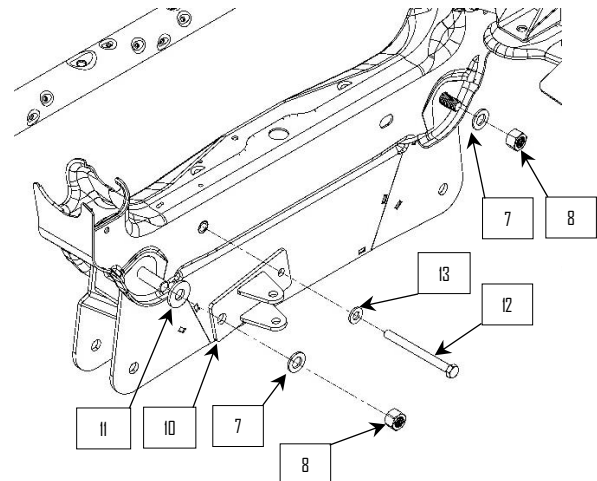
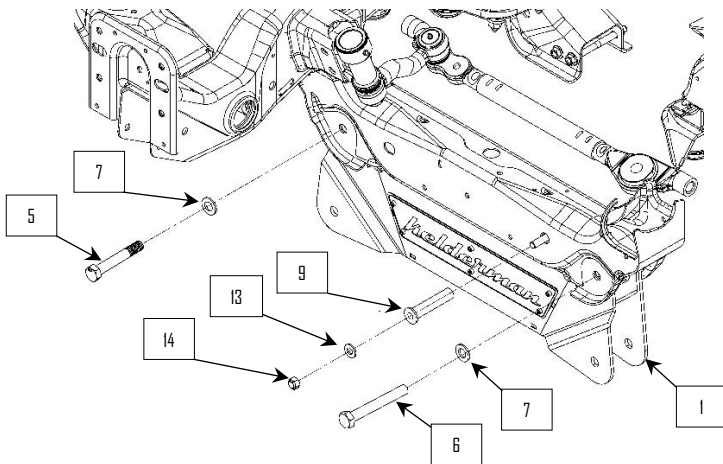
- 1:** Chase the hole on the driver's side of the front crossmember with a 27/32" drill bit. Drill out both side of the crossmember.



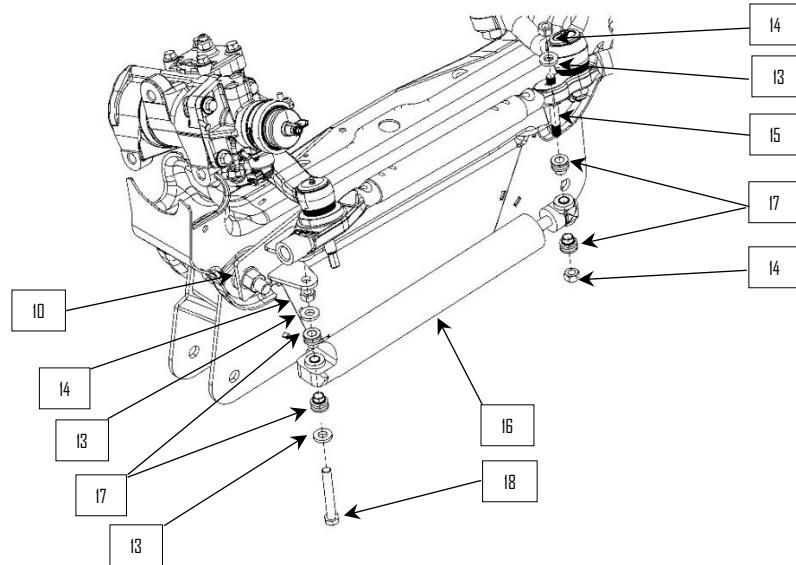
- 2:** Install the badge plates (2 & 3) onto the front crossmember (1) using the 1/4" socket head cap screws (4).



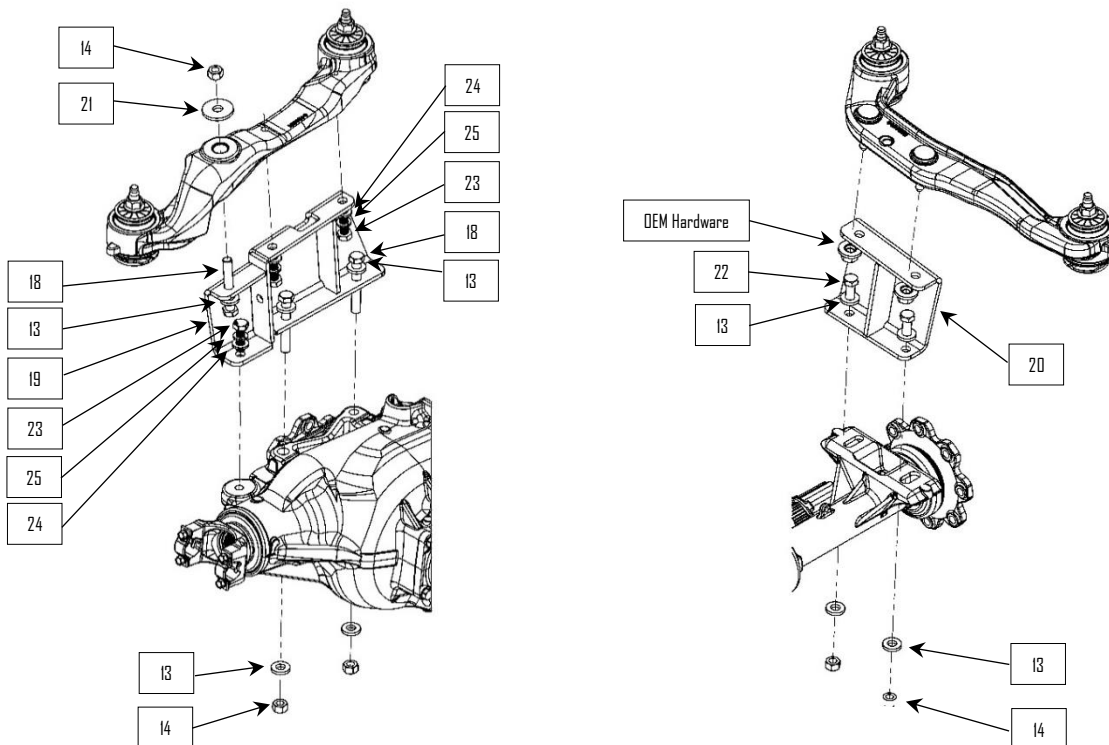
- 3:** Install the front crossmember (1) onto the frame using M18 hardware (5, 6, 7, & 8). Insert the anti-crush bushing (9) into the drilled hole. On the back side of the crossmember install the steering stabilizer bracket (10). Place laser cut washer (11) between the OEM crossmember and the steering stabilizer bracket. Use 1/2" hardware (12, 13, & 14) to bolt thru the crossmember and bracket.



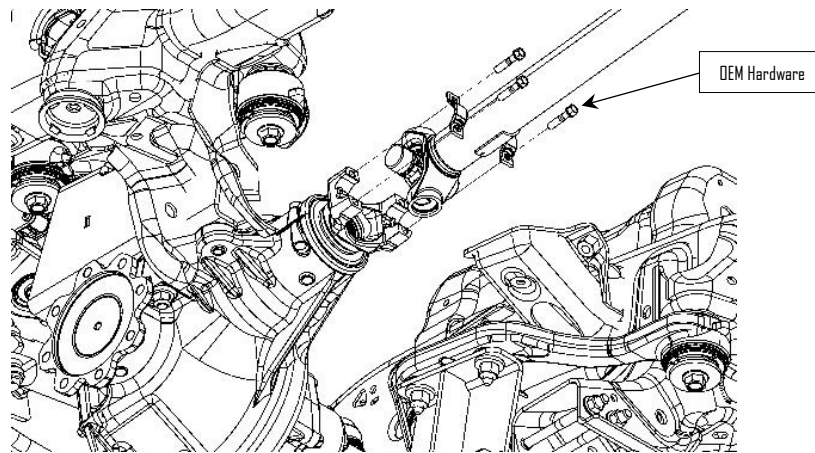
- 4:** Install the tapered end of the steering stabilizer stud (15) into the drag link, use 1/2" hardware (13 & 14). Insert the reducer bushings (17) into the steering stabilizer shock (16). Install the shock into bracket (10) and onto stud (15) using 1/2" hardware (13, 14, & 18).



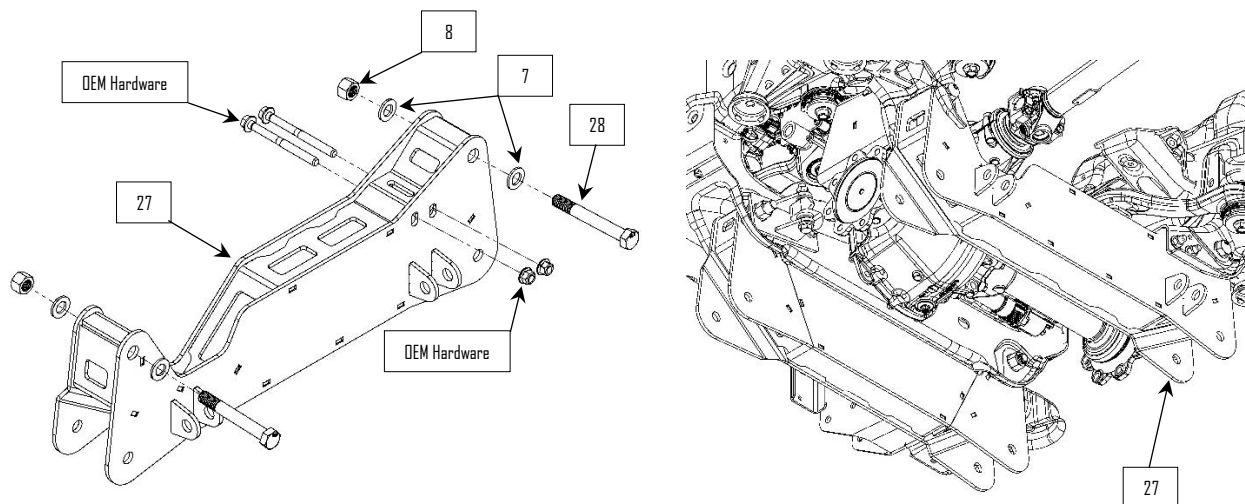
- 5:** Install DS differential drop bracket (19) on the truck. Use M12 hardware (23, 24, & 25), 1/2" hardware (13, 14, & 18) and oversized washer (21) to fasten the bracket to the truck. Install the PS differential drop bracket (20) on the truck. Use OEM hardware removed in *disassembly step 25* to fasten the bracket to the truck. **NOTE:** Snug up, but do not tighten brackets, some movement will be required for the next step.



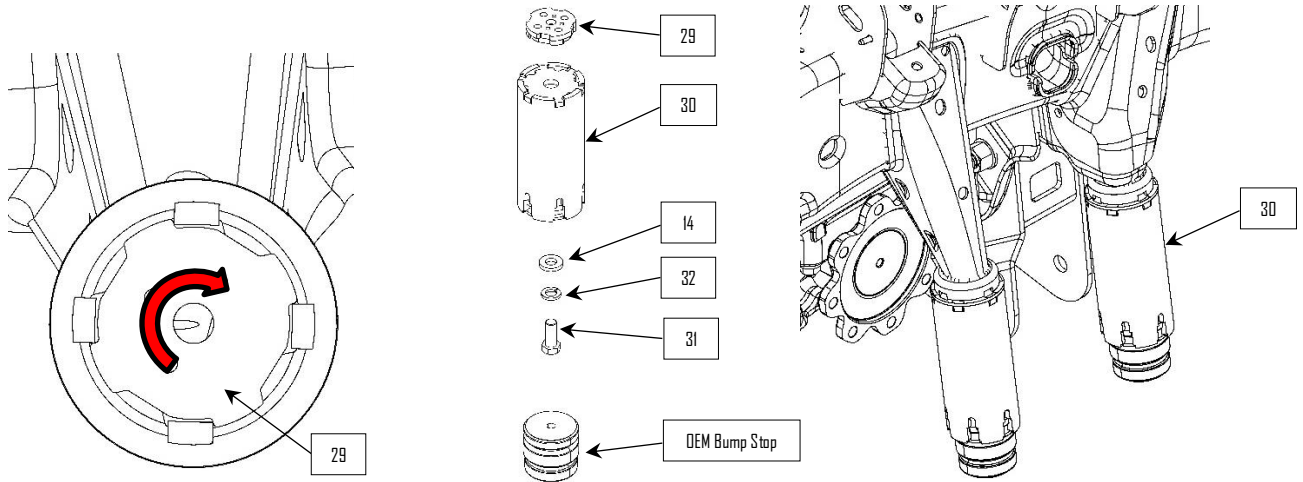
- 6:** Install the differential onto the drop brackets. On the PS use 1/2" hardware (13, 14, & 22). On the DS use 1/2" hardware (13, 14, & 18) and M12 hardware (23, 24, & 25).
- 7:** Tighten the DS hardware then the PS hardware from *installation step 5*. Now tighten the DS hardware then the PS hardware from *installation step 6*.
- 8:** Plug the wiring back into the differential and reconnect the breather tube. **CAUTION:** Route hoses and wiring away from hot or moving components.
- 9:** Reinstall the front drive shaft, use the OEM hardware from *disassembly step 22*. **NOTE:** Use thread locker on these bolts.



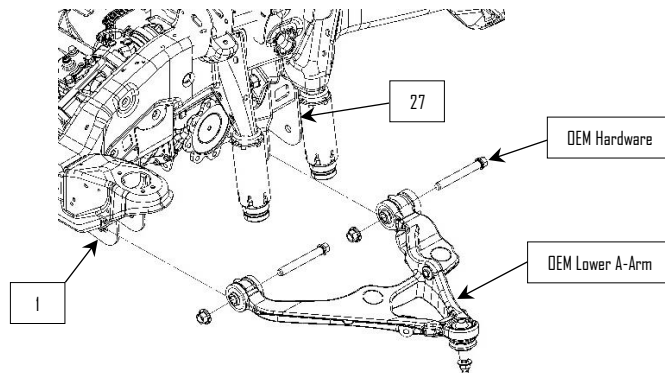
- 10:** Install the rear crossmember (27) use M18 hardware (7, 8, & 28) to fasten the crossmember to the frame. On the passenger side of the truck reinstall the OEM hardware removed in *disassembly step 23*.



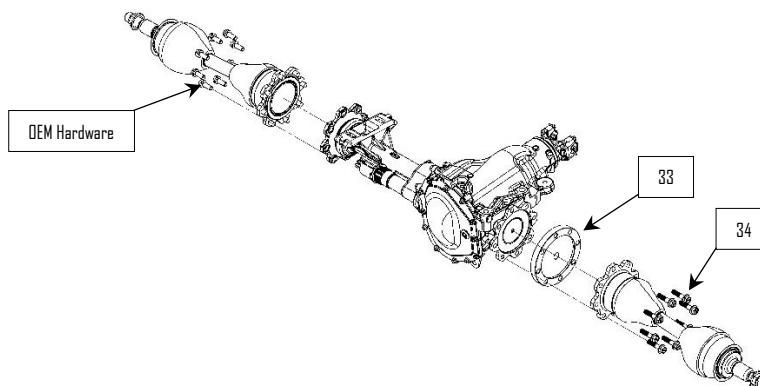
11: Insert the locking rings (29) into the factory bump stop cups and turn clockwise to lock into place. Use 1/2" hardware (14, 31, & 32) to fasten the bump stop extension (30) to the locking ring (29). Push the OEM bump stops into the bump stop extensions (30).



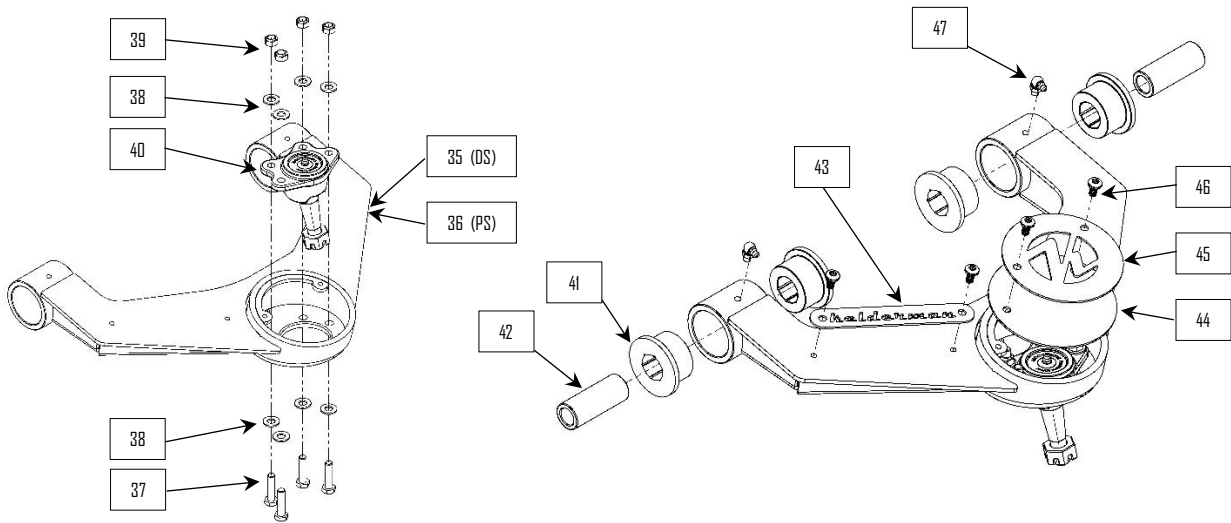
12: Reuse the hardware from *disassembly step 18* to reinstall the OEM lower A-arms onto the new front and rear crossmember drops (1 & 27).



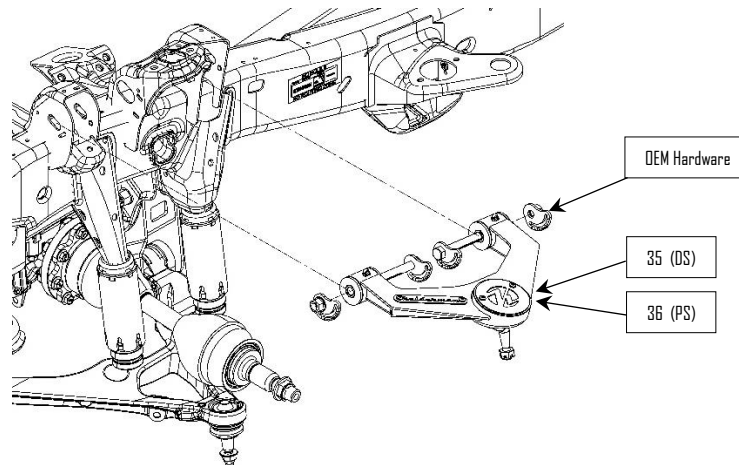
13: Reinstall the CV shafts from *disassembly step 20*. Reuse the OEM hardware on the passenger side. Install the 3/4" CV spacer (33) and M12 hardware (34) on the driver side.
NOTE: Use thread locker on the CV bolts.



14 : OPTIONAL PARTS: Assemble the upper A-arms (35 & 36). Use 5/16" hardware (37, 38, & 39) to install the upper ball joint (40). Press the poly hat bushings (41) and bushing sleeves (42) into the A-arm. Use 1/4" hardware (46) to install the dust cover plates (44 & 45) and the Kelderman badge (43). Install the grease zerks (47) pointing out toward the ball joint.

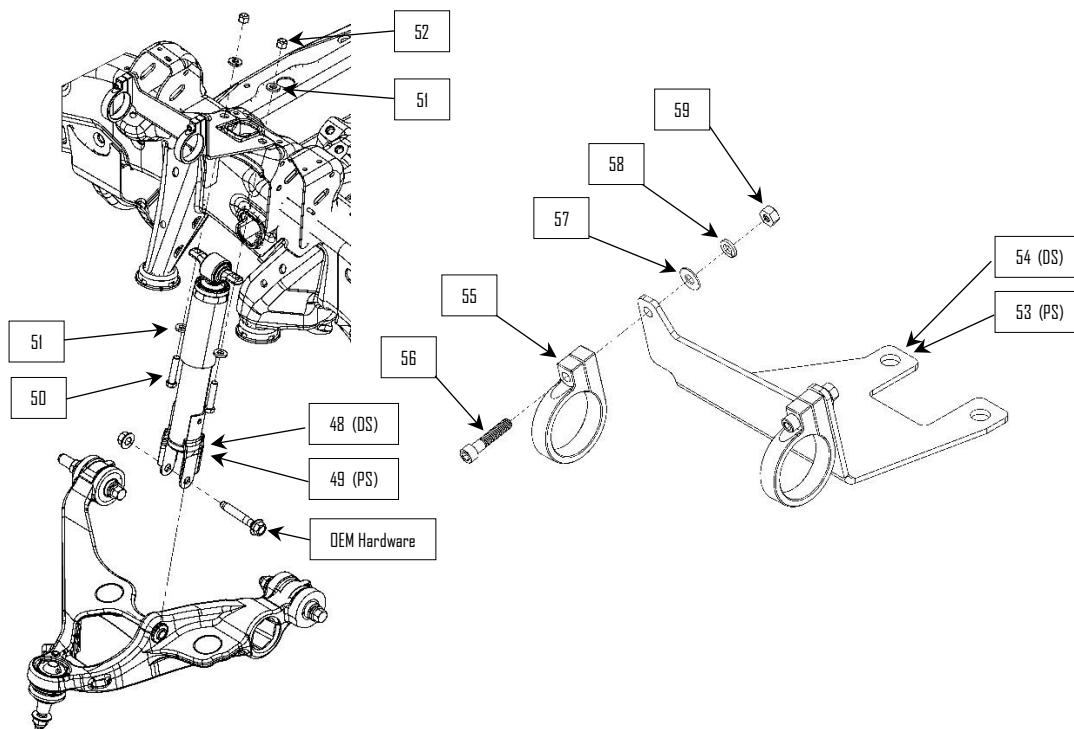


15 : Install the upper A-arms, reuse the OEM hardware from *disassembly step 18*. **NOTE:** Position the cam adjusters back on the marks made during disassembly.

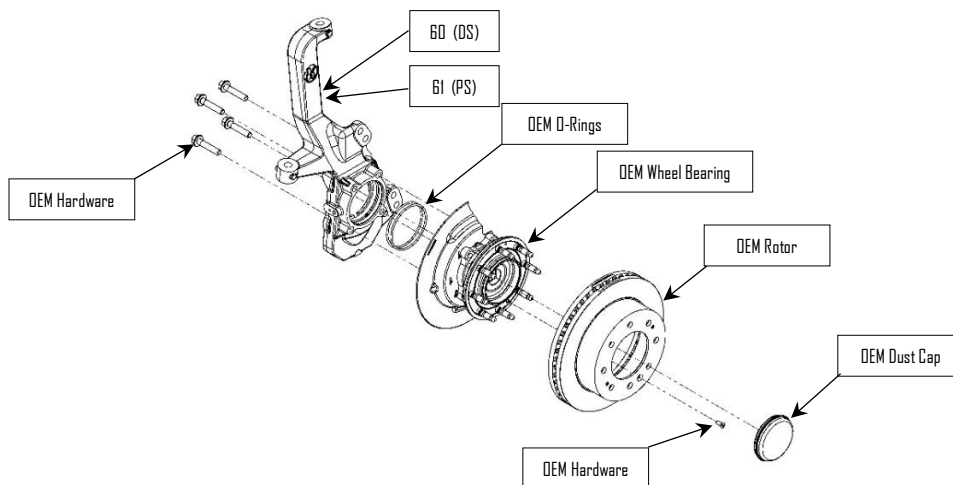


16 : OPTIONAL PARTS: Install the shocks (48 & 49) along with the reservoir brackets (53 & 54). Use 7/16" hardware (50, 51, & 52) to fasten the top of the shock thru the frame and reservoir bracket. Use the OEM shock hardware from *disassembly step 17* to fasten the bottom of the shock to the lower A-arm.

17 : OPTIONAL PARTS: Slide the reservoir clamps (55) over the remote reservoir. Use 5/16" hardware (56, 57, 58, & 59) to fasten the clamps to the reservoir brackets (53 & 54).



18: Insert the OEM O-rings into the 7-9" lift knuckles (60 & 61). Carefully install the wheel bearing assembly into the knuckle so as not to damage the O-rings. Use the OEM hardware from *disassembly step 13* to fasten the wheel bearing to the knuckle. **NOTE:** Use thread locker on these bolts. Use the OEM keeper bolt to fasten the rotor to the wheel bearing.

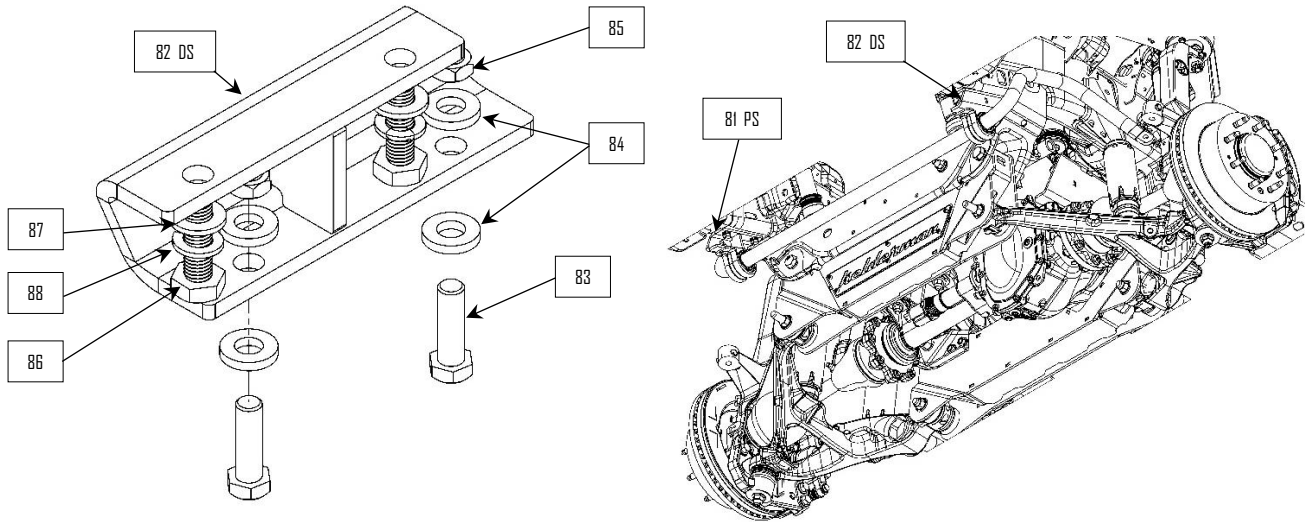


19: Install the assembled knuckles onto the A-arms. Reuse the OEM nut on the lower ball joint. On the upper A-arms (35 & 36) use the nut supplied with the greasable ball joint (40). Install the OEM axle nut and dust cover.

20: Install the Kryptonite tie rod ends (62).

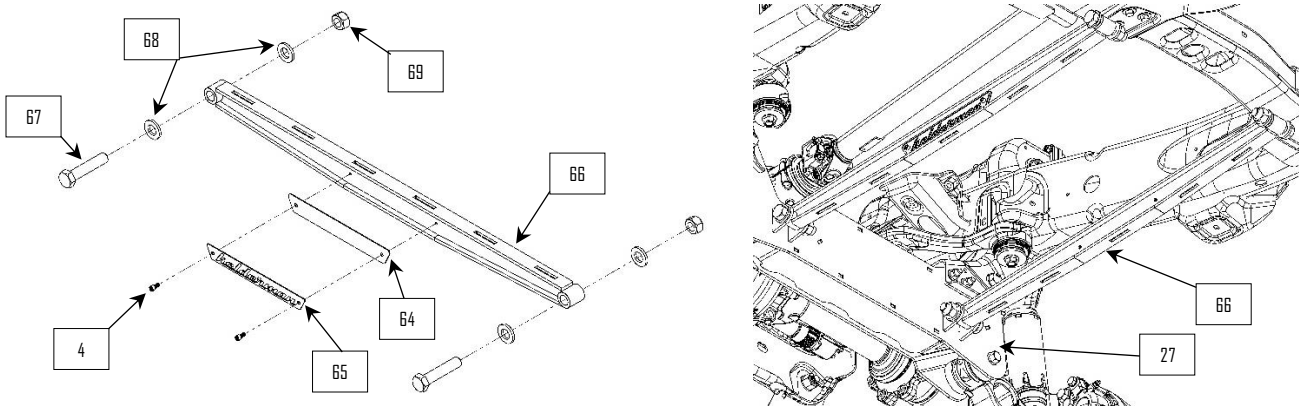
21: Install the sway bar drops (81 & 82) onto the frame, use M10 hardware (86, 87, & 88).

22: Reinstall the OEM sway bar and bushings onto the sway bar drops (81 & 82), use 3/8" hardware (83, 84, & 85).



23: Install the Kryptonite sway bar end links (63).

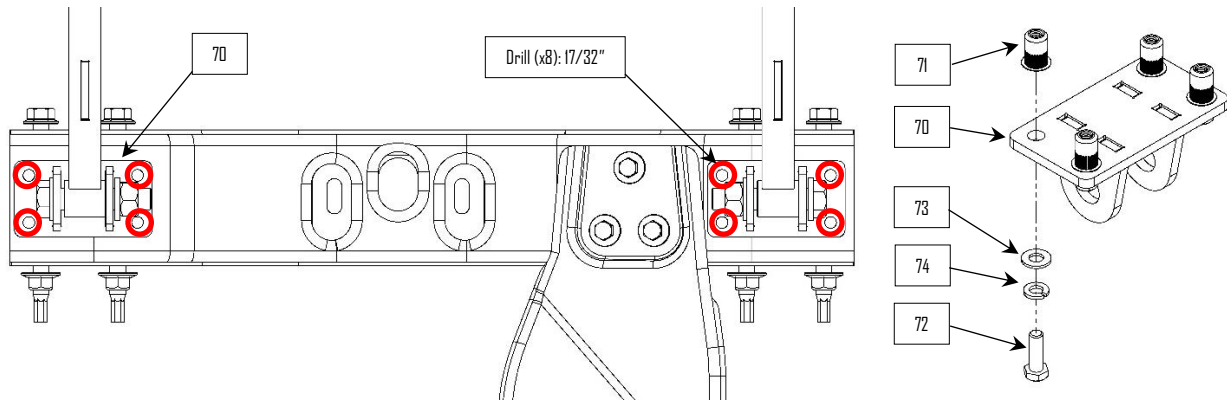
24: Use 1/4" hardware (4) to fasten the badge plates (64 & 65) to the crossmember support (66). Use 3/4" hardware (67, 68, & 69) to bolt the crossmember supports (66) to the rear crossmember drop (27).



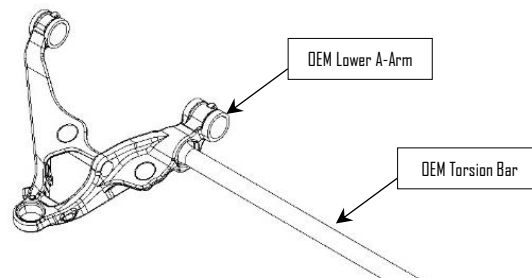
25: Use 3/4" hardware (67, 68, & 69) to bolt the crossmember supports (66) to the rear crossmember support brackets (70).

26: Use the rear crossmember support brackets (70) as a template to mark the holes on the transmission crossmember. Use a 17/32" dia. bit to drill the eight holes and install the

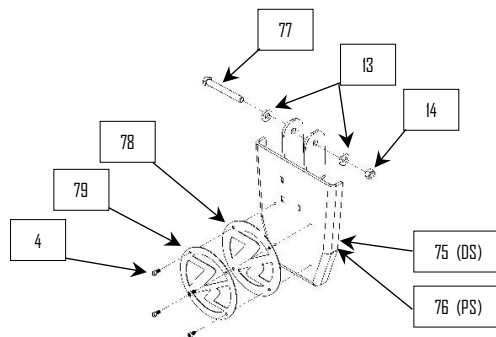
5/16"-18 rivet nuts (71). Fasten the crossmember support brackets (70) to the transmission crossmember using 5/16" hardware (72, 73, & 74).



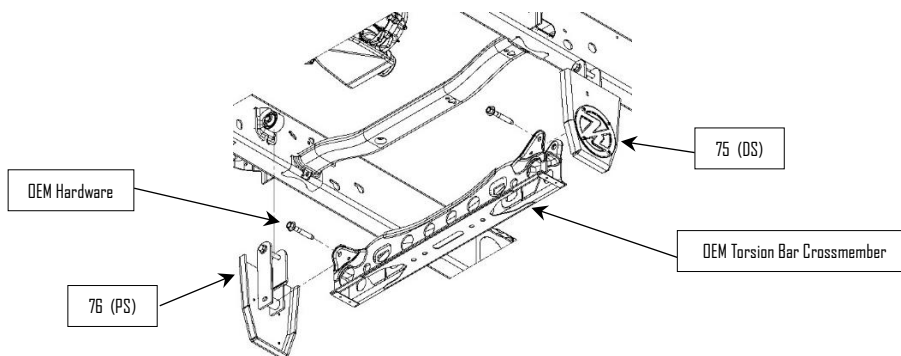
27: Reinstall the torsion bars into the lower A-arms. **NOTE:** Be sure to install the torsion bars in the same orientation as they were removed from the truck in *disassembly step 5*.



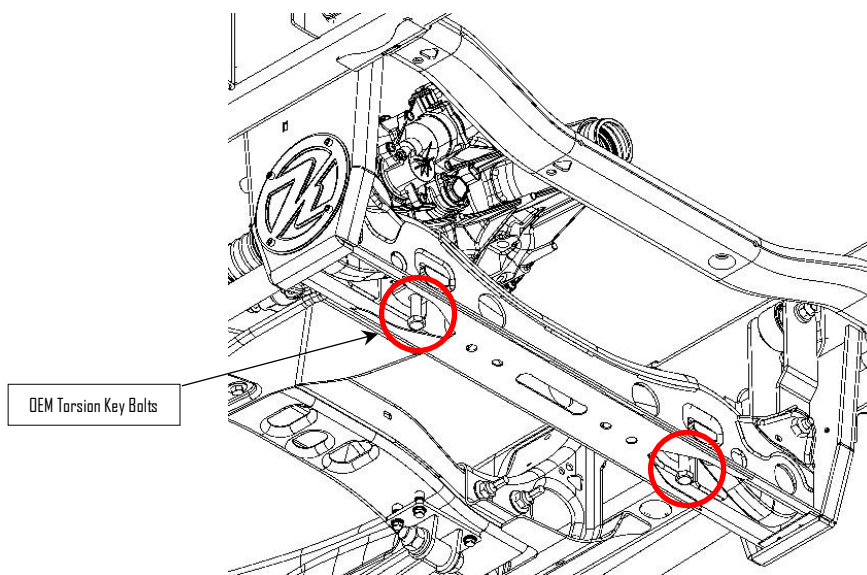
28: Use 1/4" hardware (4) to fasten the badge plates (78 & 79) onto the torsion crossmember drops (75 & 76).



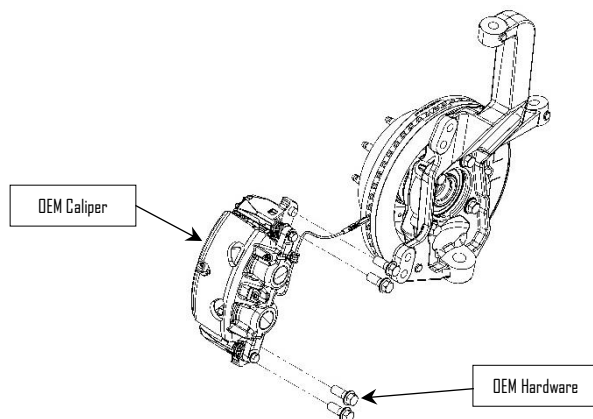
29: Reuse the OEM hardware from *disassembly step 8* to fasten the OEM torsion bar crossmember to the torsion bar crossmember drops (75 & 76). Use 1/2" hardware (13, 14, & 77) to fasten the crossmember drops to the frame.



30: Reverse the process from *disassembly steps 7 & 8* to reinstall the OEM torsion bars and torsion bar keys into the torsion bar crossmember. **NOTE:** Be sure to install the torsion bars in the same orientation as they were removed from the truck in *disassembly step 5*. Set the torsion key bolts to the original measurement taken in *disassembly step 6*.



31: Reinstall the OEM brake calipers using the hardware from *disassembly step 10*. Install the new longer front brake lines (80) and bleed the brakes. **NOTE:** Use thread locker on these bolts.



32: Torque all fasteners to the specifications in the chart below, unless noted elsewhere in the instructions.

Bolt Size	Grade 5 Torque	Grade 8 Torque
1/4"-20	6 <i>ft-lb</i>	7 <i>ft-lb</i>
3/8"-16	26 <i>ft-lb</i>	33 <i>ft-lb</i>
3/8"-24	30 <i>ft-lb</i>	37 <i>ft-lb</i>
7/16"-20	47 <i>ft-lb</i>	58 <i>ft-lb</i>
1/2"-13	64 <i>ft-lb</i>	80 <i>ft-lb</i>
1/2"-20	72 <i>ft-lb</i>	90 <i>ft-lb</i>
9/16"-18	103 <i>ft-lb</i>	128 <i>ft-lb</i>
5/8"-11	128 <i>ft-lb</i>	159 <i>ft-lb</i>
5/8"-18	144 <i>ft-lb</i>	180 <i>ft-lb</i>
3/4"-16	253 <i>ft-lb</i>	315 <i>ft-lb</i>
7/8"-14	403 <i>ft-lb</i>	502 <i>ft-lb</i>
M12-1.75	55 <i>ft-lb</i>	78 <i>ft-lb</i>
M18-2.5	189 <i>ft-lb</i>	270 <i>ft-lb</i>

33: Reinstall the front tires.

34: Sweep the suspension and the steering thru the full range of motion and check that no components are binding, colliding, or rubbing.

35: With the truck sitting at ride height check the toe and steering wheel position, adjust the tie rod ends as required. Check the wheelbase measurements. **NOTE:** Refer to notes taken in Disassembly *steps 1 & 2*.

36: The truck is now ready for a test drive.

37: After test driving check all fasteners to make sure nothing has worked loose. Inspect suspension for signs that any component maybe binding, colliding, or rubbing, reposition if required.

38: Kelderman recommends that you take the truck to an alignment shop before doing any extensive driving as misalignment can cause premature wear and failure of suspension components.

Parts Key

Item Number	Part Number	Description
1	10008481	Weldment - Front Crossmember Drop
2	10007602	Front Crossmember Badge Backing Plate
3	10007601	Front Crossmember Badge
4	13503	Socket Head Cap Screw: 1/4"-20 x 1/2" - SS
5	14057	Hex Bolt: M18-2.5 x 120mm - YZ
6	13882	Hex Bolt: M18-2.5 x 130mm - YZ
7	14092	Flat Washer: M18 - YZ
8	14061	Top Lock Nut: M18-2.5 - YZ
9	10008510	Bushing – Steering Stabilizer Anti-Crush
10	10008498	Weldment – Steering Stabilizer Bracket
11	10008612	Plate – 7ga – Oversized Washer 3/4" ID
12	12041	Hex Bolt: 1/2"-20 x 5-1/2" - YZ
13	13024	Flat Washer: 1/2" - YZ
14	13124	Top Lock Nut: 1/2"-20 - YZ
15	10008613	Machined – Steering Stabilizer Tapered Stud
16 – Optional	10008661	Raptor – Steering Stabilizer Shock
17 – Optional	80301	Raptor – Reducer Bushing – Steering Shock
18	12025	Hex Bolt – 1/2"-20 x 3-1/2" - YZ
19	10008471	Weldment – Differential Drop (DS)
20	10008474	Weldment – Differential Drop (PS)
21	10008560	Plate – 7ga – Oversized Washer 9/16" ID
22	12007	Hex Bolt: 1/2"-20 x 1-1/2" - YZ
23	14087	Hex Bolt: M12-1.75 x 40mm - YZ
24	13888	Flat Washer: M12 - YZ
25	14075	Split Lock Washer: M12 - YZ
26	10007644	Plate – 16ga – Rear Crossmember Trim Template
27	10008495	Weldment – Rear Crossmember Drop
28	13985	Hex Bolt: M18-2.5 x 140mm - YZ
29	10007582	Weldment – Bump Stop Locking Ring
30	10008512	Weldment – Bump Stop Extension
31	12004	Hex Bolt: 1/2"-13 x 1-1/4" - Z
32	13050	Split Lock Washer: 1/2" - YZ
33	10007624	Machined - 3/4" CV Spacer
34	14141	Flange Hex Bolt: M12-1.75 x 50mm - YZ
35 - Optional	10005922	Weldment – Upper A-Arm (DS)
36 - Optional	10005959	Weldment – Upper A-Arm (PS)
37 - Optional	13308	Hex Bolt: 5/16"-18 x 1-1/4" - Z
38 - Optional	13001	Flat Washer: 5/16" – Z
39 - Optional	13101	Top Lock Nut: 5/16" - Z
40 - Optional	80034	MOOG - Upper Ball Joint – Greasable
41 - Optional	80035	Poly Hat Bushing
42 - Optional	18781	Bushing – Sleeve Insert
43 - Optional	23014	Plate – 14ga - Kelderman Badge
44 - Optional	10006465	Plate – 14ga – Ball Joint Dust Cover

45 - Optional	23015	Plate – 14ga – “K” Logo Dust Cover
46 - Optional	14009	Pan Head Torx Machine Screw: 1/4”-20 x 1/2” - SS
47 - Optional	80036	90° Grease Zerk
48 - Optional	10007295	Raptor Shock 7-9” Lift Front – 10137LH
49 - Optional	10007296	Raptor Shock 7-9” Lift Front – 10137RH
50 - Optional	13415	Hex Bolt: 7/16”-20 x 2” - YZ
51 - Optional	13023	Flat Washer: 7/16” - YZ
52 - Optional	13123	Top Lock Nut: 7/16”-20 - YZ
53 - Optional	10007303	Plate – 7ga – Shock Reservoir Mount (PS)
54 - Optional	10007300	Plate – 7ga – Shock Reservoir Mount (DS)
55 - Optional	80227	Raptor Shock Reservoir Aluminum Split Clamp
56 - Optional	13595	Socket Head Cap Screw: 5/16”-18 x 1-1/2” - SS
57 - Optional	13071	Flat Washer: 5/16” - SS
58 - Optional	13044	Split Lock Washer: 5/16” - SS
59 - Optional	13157	Hex Nut: 5/16”-18 - Z
60	80276	Cast Steering Knuckle 7-9” Lift (DS)
61	80278	Cast Steering Knuckle 7-9” Lift (PS)
62	80284	Kryptonite Tie Rod End
63	80304	Kryptonite Sway Bar End Link – 14-3/4”
64	10008486	Plate – 16ga – Crossmember Support Badge Backer
65	10008486	Plate – 16ga – Crossmember Support Badge
66	10008488	Weldment – Crossmember Support
67	12525	Hex Bolt: 3/4”-16 x 3-1/2” – YZ
68	13028	Flat Washer: 3/4” - YZ
69	13128	Top Lock Nut: 3/4”-16 - YZ
70	10008508	Weldment – Rear Crossmember Support Bracket
71	14155	Rivet Nut: 5/16”-18 - Steel
72	13306	Hex Bolt: 5/16”-18 x 1” - Z
73	13021	Flat Washer: 5/16” - YZ
74	13044	Split Lock Washer: 5/16” - Z
75	10008502	Weldment – Torsion Bar Drop Bracket (DS)
76	10008506	Weldment – Torsion Bar Drop Bracket (PS)
77	12029	Hex Bolt: 1/2”-20 x 4” - YZ
78	10007614	Plate – 16ga – Circle K Emblem Backing Plate
79	10003779	Plate – 16ga – Circle K Emblem
80	80300	Front Brake Lines 7-9” Lift
81	10008770	Weldment - 2-1/4" Sway Bar Drop Bracket (PS)
82	10008771	Weldment - 2-1/4" Sway Bar Drop Bracket (DS)
83	12213	Hex Bolt: 3/8”-24 x 1-1/4” - YZ
84	13022	Flat Washer: 3/8” – YZ
85	13122	Top Lock Nut: 3/8”-24 - YZ
86	14089	Hex Bolt: M10-1.5 x 35mm - YZ
87	13886	Flat Washer: M10 - YZ
88	13893	Split Lock Washer: M10 - YZ

Notes

Notes

Contact Information

- Kelderman Manufacturing appreciates your business. We strive to meet the needs of our customers by providing the highest quality products. If you have any questions concerning our products please call or email us at the following:

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