

Red Loctite and welding is required

**Front driveshaft is lengthened 1.75"*

**A 1/4-220 and 3/8-24 tap, 13/64",
21/64", and 7/16" drill bits required**

VERSION 1.7

Read the instructions and
inspect contents of the
shipment before beginning
any installation steps



2686 Highway 92 - Oskaloosa, IA 52577

Phone: 641.673.0468 - Fax: 641.673.4168

www.kelderman.com

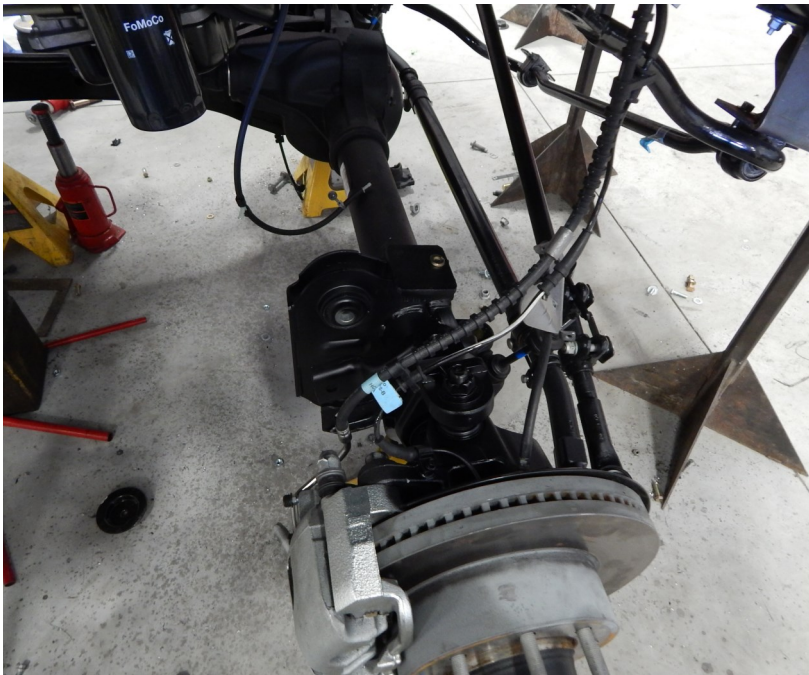
2017+ Ford F-250/F-350 4x4 10-12" Front Lift Kit Install Instructions



1.) Measure the pinion angle on the bottom of the differential. Make sure to record the measurement here _____. Once the kit is installed, it is required to put the axle back to this measurement. This will keep the correct caster and camber. REMOVE THE FRONT DRIVESHAFT AND HAVE IT LENGTHENED 1 3/4".

2.) Remove the transmission skid plate and remove the rear driveshaft. Disconnect the front sway bar end links and remove the front sway bar. Place a jack under the differential and lift the truck until the wheels are 4-5" off the ground. Place a jack stand on each side of the frame under the radiator support.

3.) Remove the wheels, shocks, steering arm, pitman arm, track bar, pan hard bar and factory steering stabilizer shock. *You will need an air hammer to press the passenger side ball joint up and out of the axle.* Lower the jack and remove the coil springs (they should have some tension on them). Remove the cup on top of the axle that held the bottom of the coil in place, as well as the 8mm bolts that hold the ABS wire in place. Remove the upper brake line bolt that holds the brake hose located by the rear side of upper coil bucket.

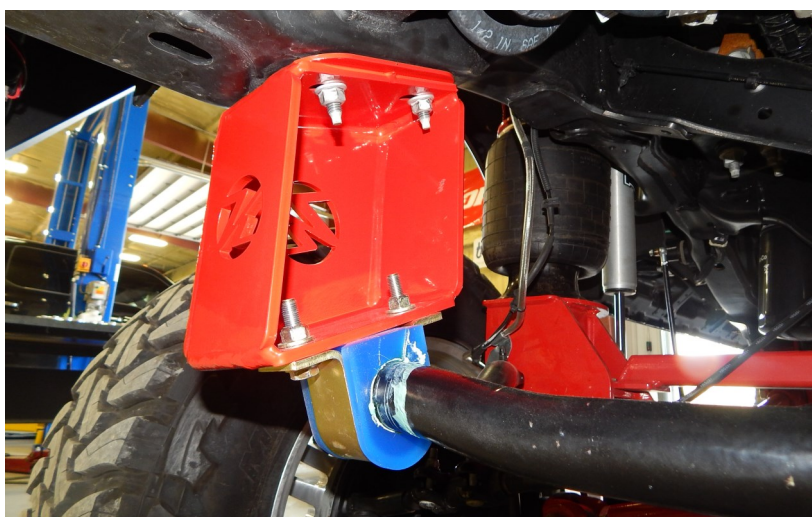


4.) Remove the factory front trailing arms. Remove the yellow bump stop and remove the bolt that held the mounting cup in place. These will not be reused.

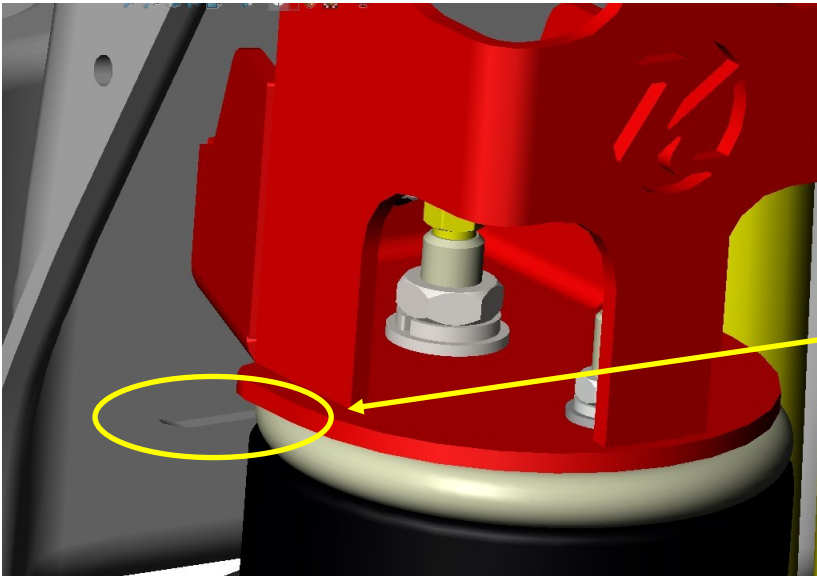
5.) Install the Sway Bar Drop Brackets (# 69109-DS and 69110-PS). Use the factory bolts that go into the frame.



*Do not install the sway bar yet.
It will be installed in step 16*



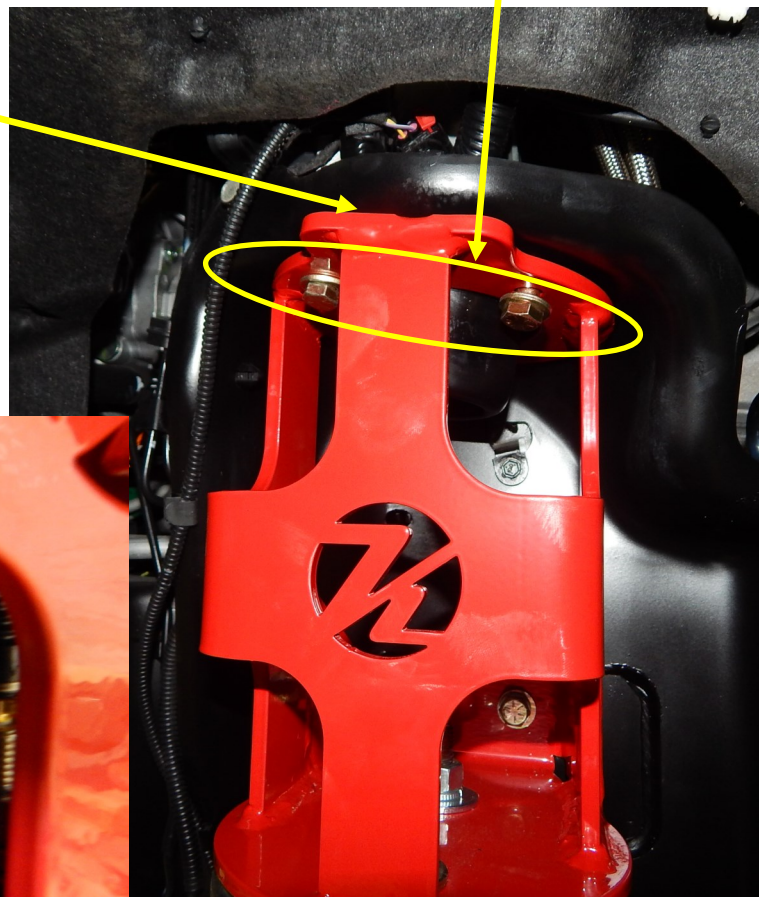
6.) Locate the upper air bag mounts (#69090-DS & 69094-PS) and remote reservoir mounts (#10003917-DS and 10003918-PS). Before installing upper bag mounts, you will need to grind/sand down weld edge of inner plates. Failure to do so will cause the air bag to rub against the edge at full droop, cutting a hole in the air bag. The top will fasten to the upper coil mounting brackets with (2) 3/8"-24 x 1-1/2" bolts. Drill (2) 7/16" holes in the upper parts of the spring bucket. **NOTE: If your upper has 3 holes in the top, do not drill the rear hole. When drilling, make sure not to drill into any wires or modules that are located above the spring perch.** The lower (2) bolts will fasten to the side wall of the frame. These holes will need to be drilled with a 21/64" drill bit and threaded with a 3/8-24 tap.



Grind/Sand down welded edge to avoid cutting hole in air bag from sharp edge, during full droop of bag.

Drill these holes to 7/16"

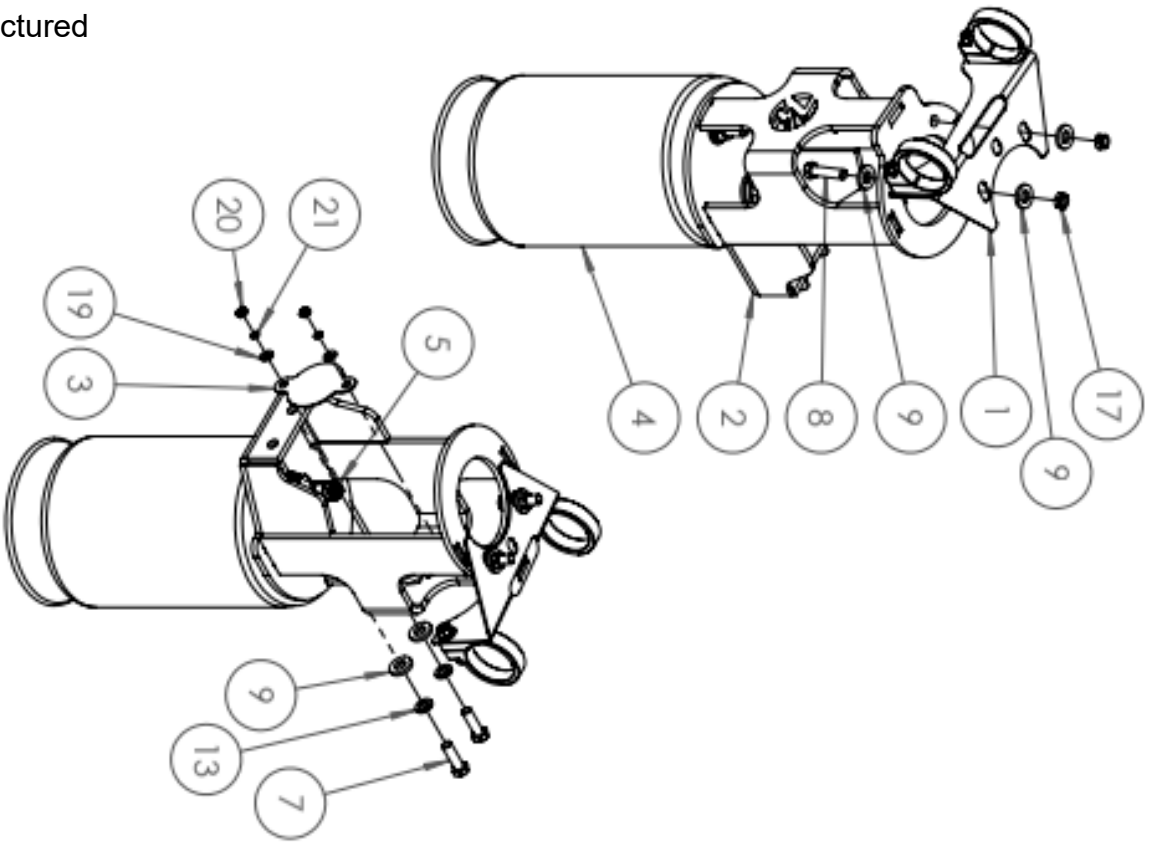
Reservoir shock mount fastens between the upper air bag mount and spring bucket. The long ear of the reservoir mount goes forward.



Drill these holes to 21/64" and thread with 3/8"-24 tap



Drivers side pictured

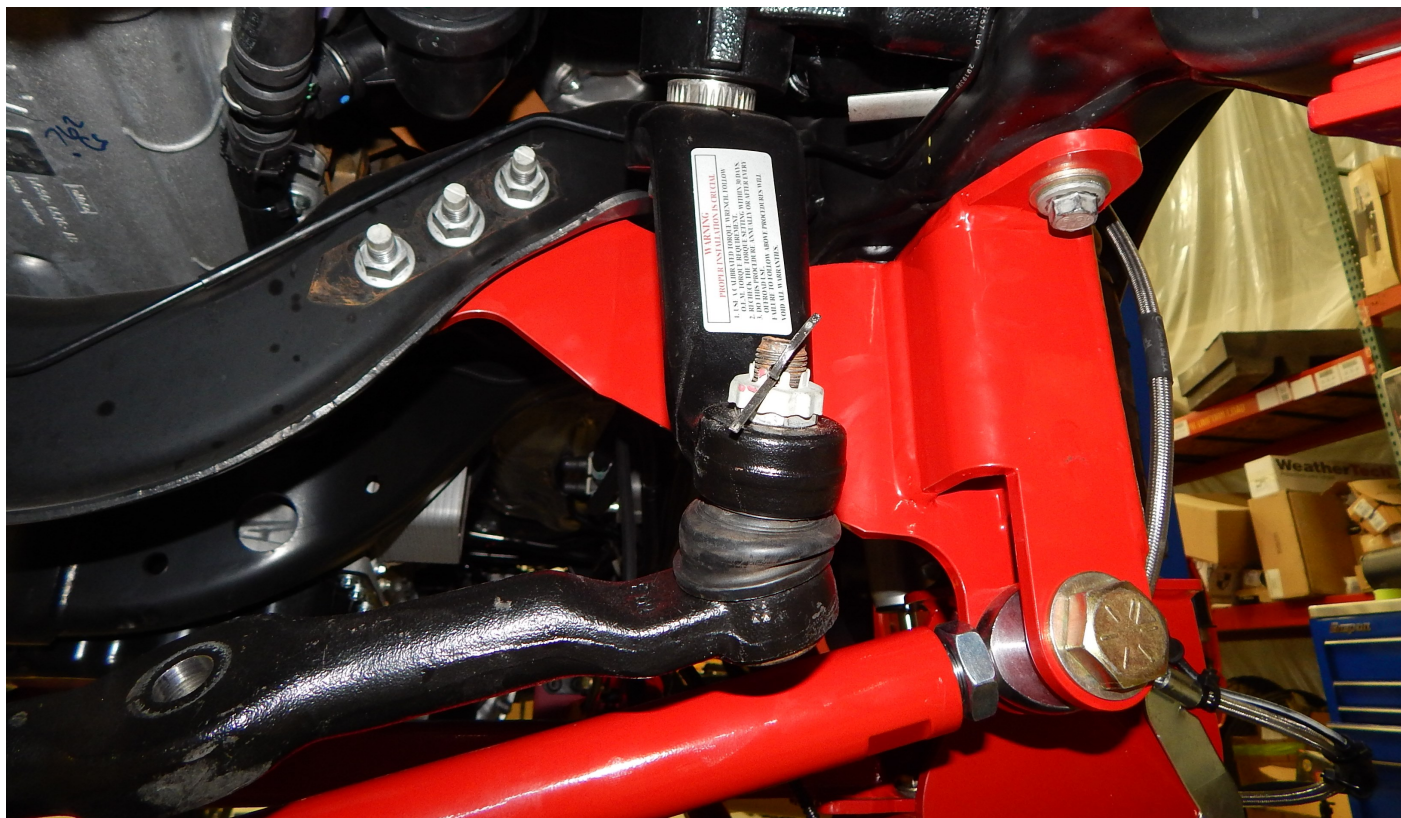


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	10003917	<i>Assemblies</i> Assembly - (DS) Raptor Shock Reservoir Bracket	1
2	69557	<i>Weldments</i> Weldment - (DS) Upper Frame/Bag Mount	1
3	69566	<i>Parts</i> Plate - 1/4ga - Round Paint Plate	1
4	80012-8979	<i>Purchased Parts</i> Frestone 8979	1
5	80089	Straight Male Connector Tube 3/8" x 1/4-18 NPT	1
6	12032	<i>Hardware</i> Bolt - 1/2"-13 X 4 1/2" Gr.5	1
7	12213	Bolt - 3/8"-24 X 1 1/4" Gr.8	2
8	12217	Bolt - 3/8"-24 X 1.5" Gr. - 8 YZ	2
9	13003	7/16" Flid Washer	6
10	13004	1/2" Flid Washer	1
11	13008	3/4" Flid Washer	1
12	13024	1/2" Flid Washer	1
13	13046	Spill Lock Washer - 3/8" - YZ	2
14	13050	1/2" Lock Washer	2
15	13056	3/4" Lock Washer	1
16	13144	Hex Nut - 1/2"-13 - Gr.5	1
17	13162	Hex Nut - 3/8"-20 Gr. 8 YZ	2
18	13208	Jam Nut - 3/4"-16 - GR5 - Z - (RH)	1
19	14062	FLAT WASHER - SAE - #10	2
20	14070	HEX NUT - #10-24 - SS	2
21	14086	SPLIT LOCK WASHER - #10 - SS	2

REV	ECN	CHANGE DESCRIPTION	ISSUED BY	DATE			A DO NOT RECALC DRAWING APPROXIMATE WEIGHT = 85	SHEET 1 OF 1
					ORIGINAL DESIGNED BY ORIGINAL DRAWING NUMBER STD. DIMENSIONS A.XX 1/16 X.XXX 1/10 FRAC.DIM. 1/32 DIM. 1/32	DISCREPANCY: Assembly - (DS) Upper Frame/Bag Mount - 10-12" PROJECT: 2017+ Ford F250/350 Pickup 4WD PART NUMBER: 100091588 DESIGNER: Boy Anderson DATE: 6/21/2021		

7.) Remove the factory pitman arm and install the dropped pitman arm provided (FA 450). Torque to 275 lb./ft. Reconnect the steering arm and make sure to reinstall the cotter pin and nut cover. You will rotate the steering arm ball joint 180 degrees **NOTE: You will need to re-torque the pitman arm at 400 miles.**

8.) Install the pan hard bar drop bracket (Part # 4701). Use the factory bolts and nut tabs to fasten into the bottom of the frame. Use the 3 bolt flange and factory nuts to fasten into the engine cross member. Torque these bolts to 135 ft./lbs. (You will install the track bar later on in step 15). **NOTE: The Panhard bar upper heim has been converted to a johnny joint and is different than the red one pictured below**

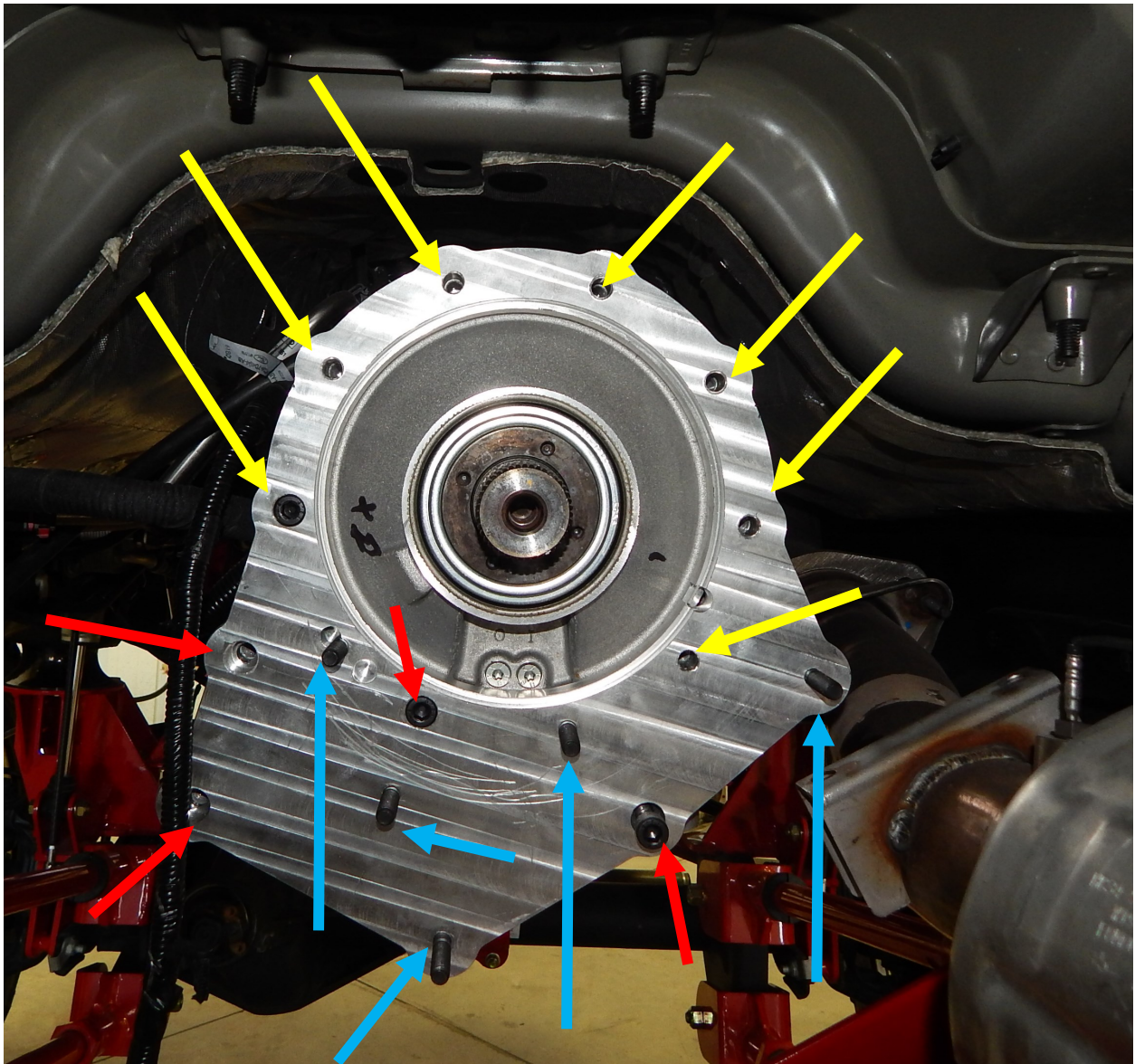


9.) Place a jack under the transmission. Remove the transmission cross member.

10.) Remove the transfer case from the back of the transmission. Locate the indexing plate (Part # 70536) and studs.

11.) The indexing plate installs to the back of the transmission with the four M10 x 35 Allen head bolts. Use red Loctite and torque these bolts to 30 ft./lbs.

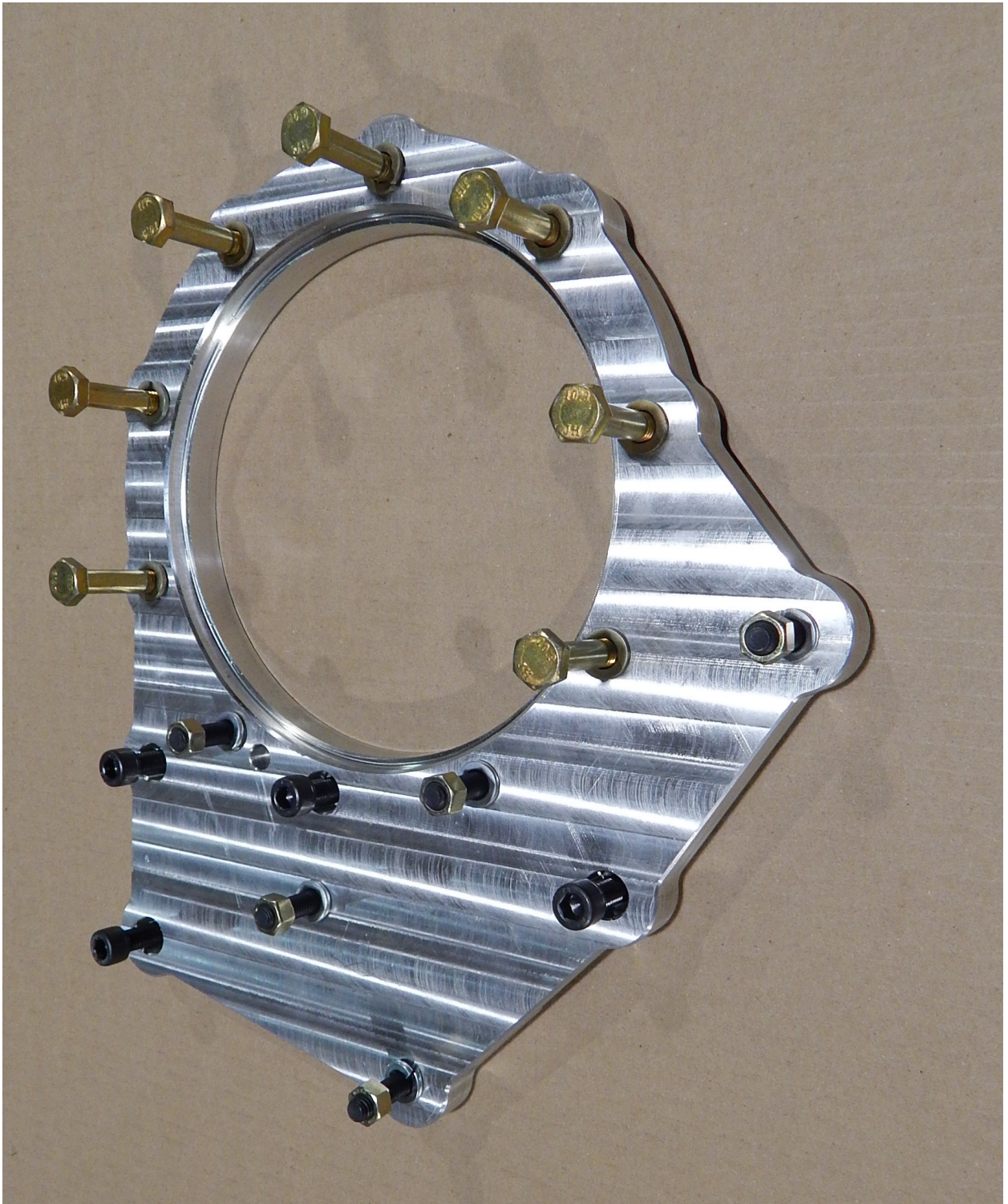
10mm x 60 bolts fasten transfer case to indexing plate and transmission



Blue = 5) 3/8" studs

Yellow =7) M10 x 65 bolts

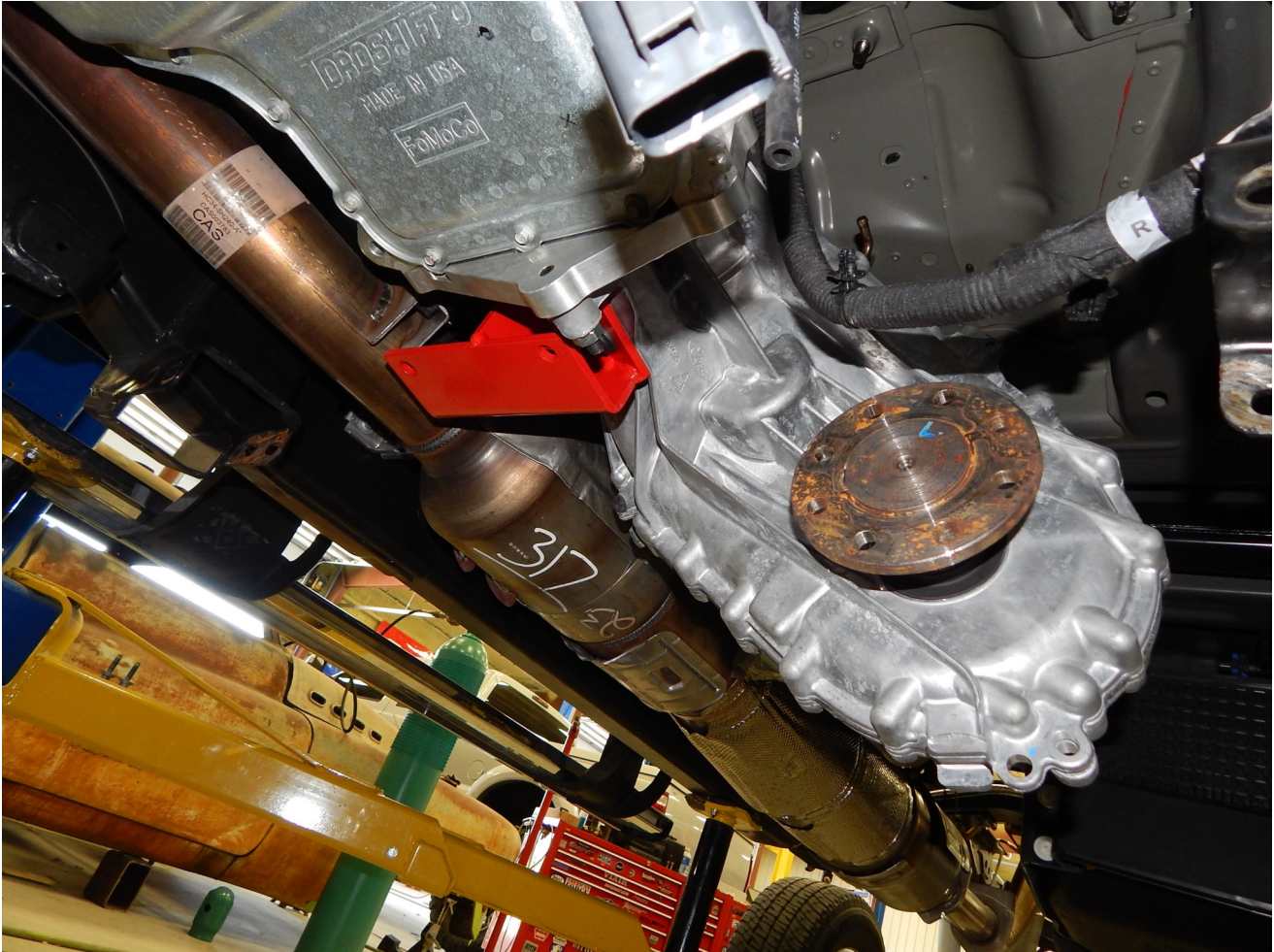
**USE RED LOCTITE
ON ALL THE BOLTS
AND STUDS.**



Part # 70536

12.) Install the transmission to the indexing plate with the seven 10mm x 65 bolts. Torque these bolts to 30ft/lbs. *Use red Loctite.*

13.) Once the indexing plate is installed, locate the wedge (part # 69100) and install on the bottom of the transfer case with the factory bolts.. Install the factory rubber mount to the bottom of the wedge. **NOTE: YOU WILL HAVE TO CUT THE LAST FEW THREADS OFF THE STUD THAT HITS THE WEDGE.**



Side Plate Cover Installation/Hardware

ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
35	92196A537	1/4"-20 x 1/2" SS Socket Head Cap Screw	8
36	10003864	Washer - 1/4" O.D. .4625"	8
37	13307	SCREW-HCS-.31-24X1.00-GR8-YZ	4
38	13021	WASHER-FITSAE-.31-.34X.69-.14-YZ	4
39	13004	1/2" Flat Washer	8
40	13164	1/2"-20 Hex Nut Gr.8	4
41	12007	Bolt - 1/2"-20 x 1.50" Gr.8	4

DETAIL A SCALE 1 : 5

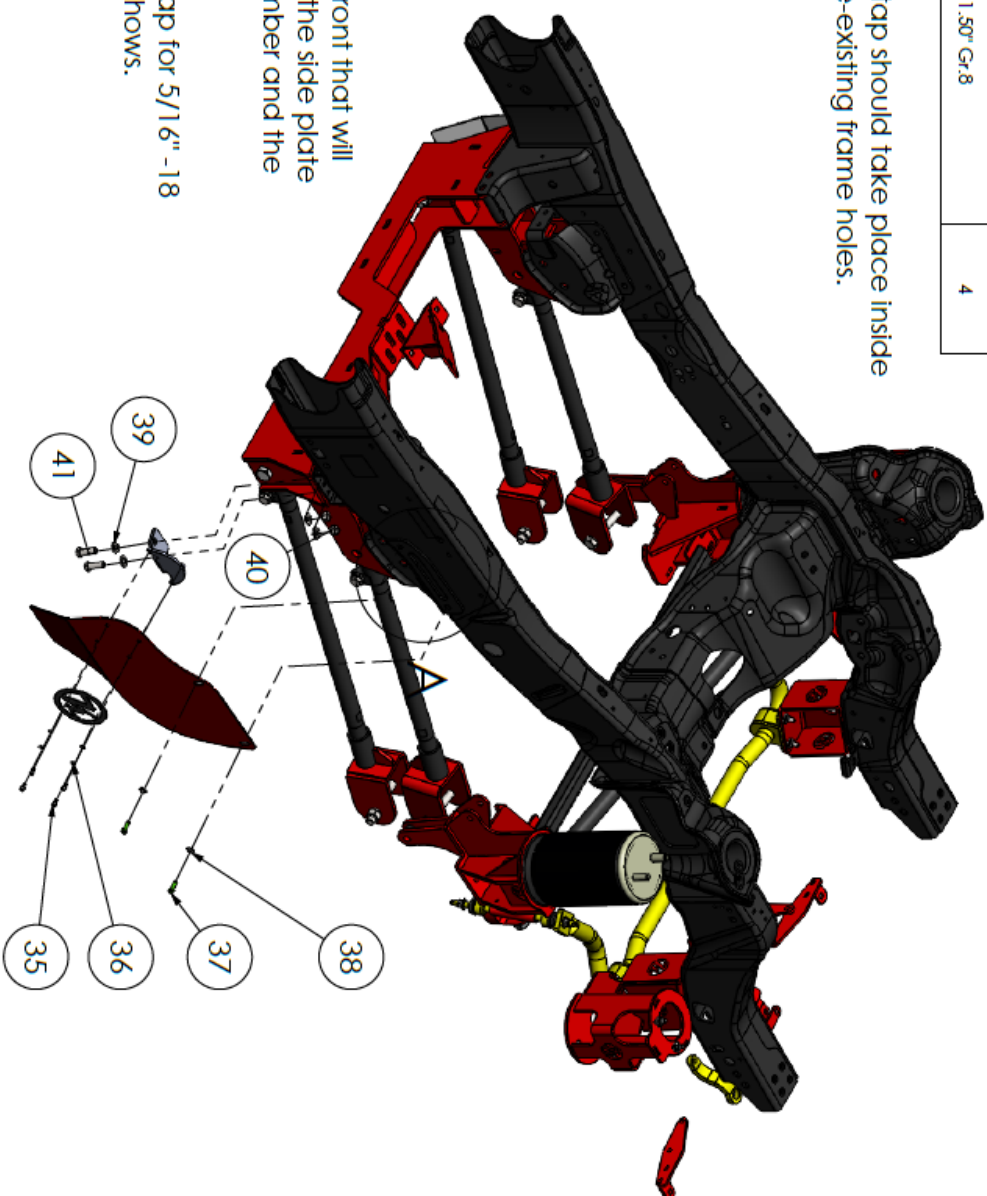
Drill and tap should take place inside these pre-existing frame holes.



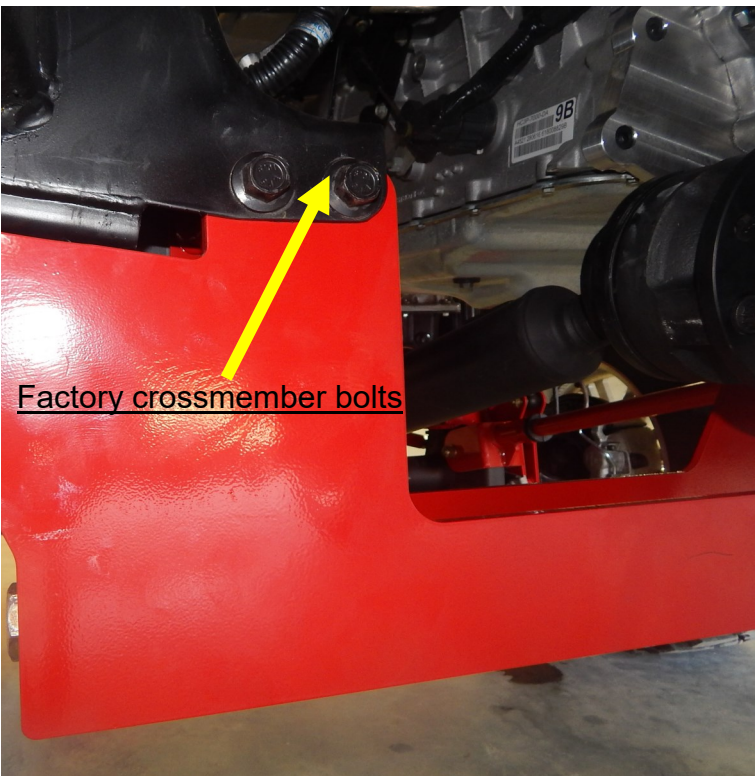
1. Mark for the two bolts on the top front that will be drilled and tapped, by fastening the side plate bracket to the transmission crossmember and the side plate to the side plate bracket.

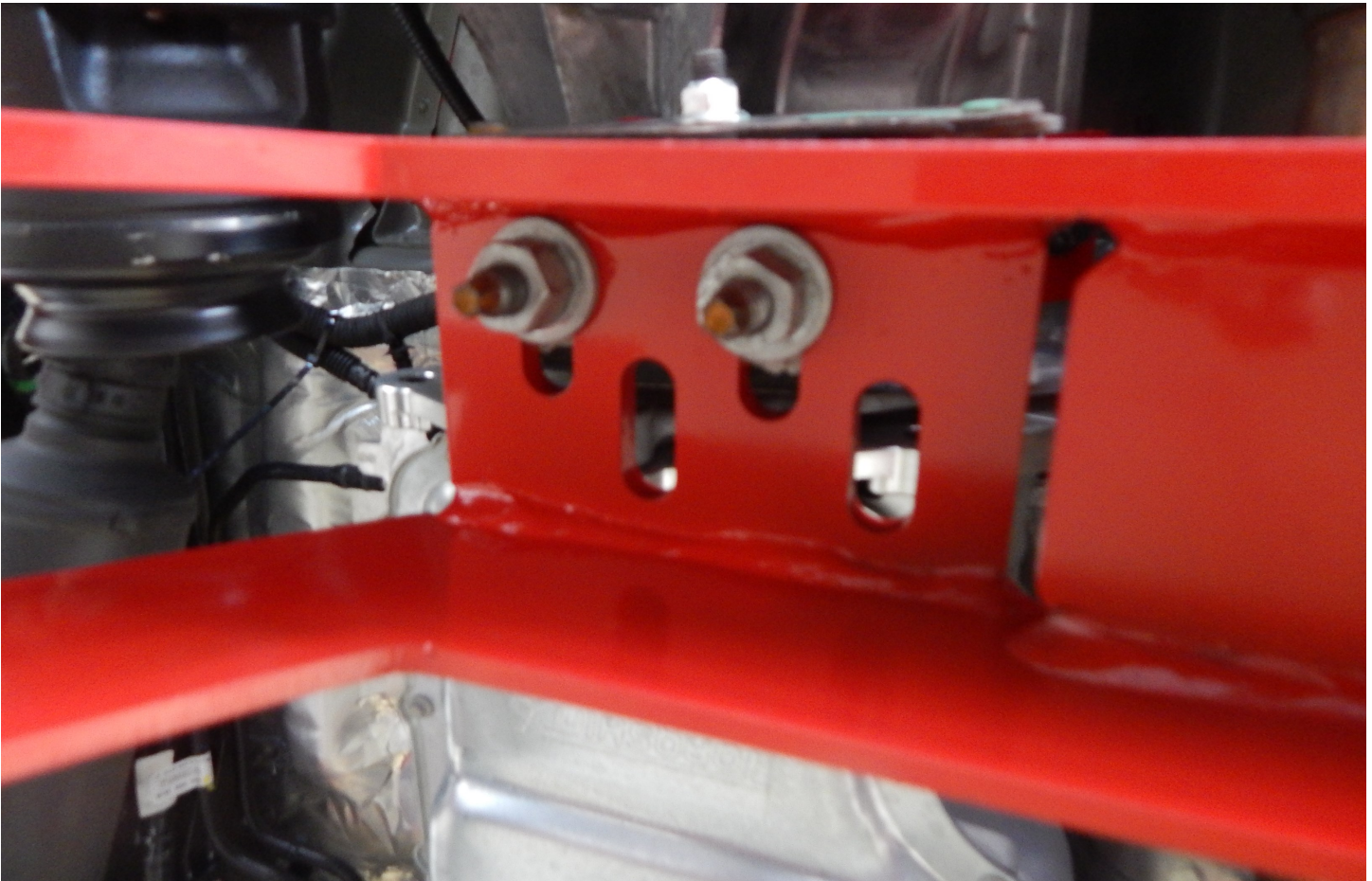
2. Once holes are marked Drill and tap for 5/16"-18 bolts in frame as the above picture shows.

3. Repeat all steps for driver side.



12. Locate the crossmember (Part # 69121) and the upper control arm mounts (Part # 69116) and side badge mounts. Use the exploded diagram on the previous page for the cover plate instructions. The crossmember bolts into the original factory crossmember location with the factory bolts. You will need to drill two 1/2" holes in the bottom of the frame flange. Use the crossmember to mark your holes. Insert the four 1/2 x 1 1/2" bolts and torque to 85 ft./lbs. Torque the factory bolts to 85 ft./lbs.



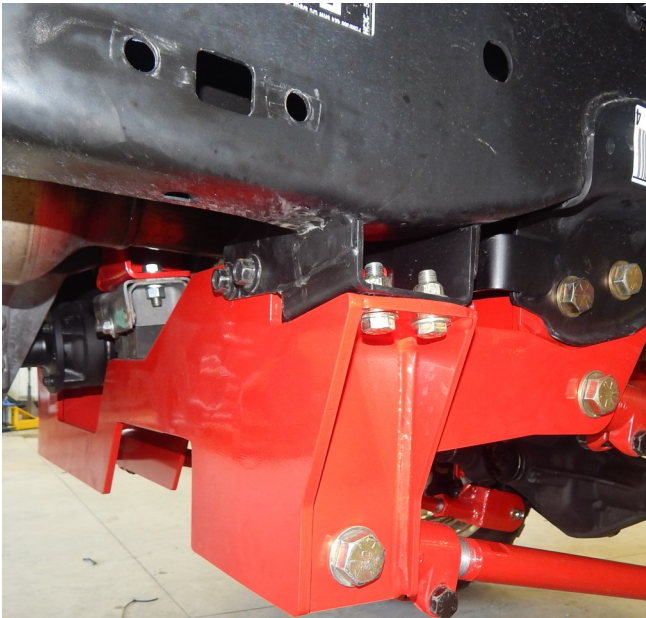


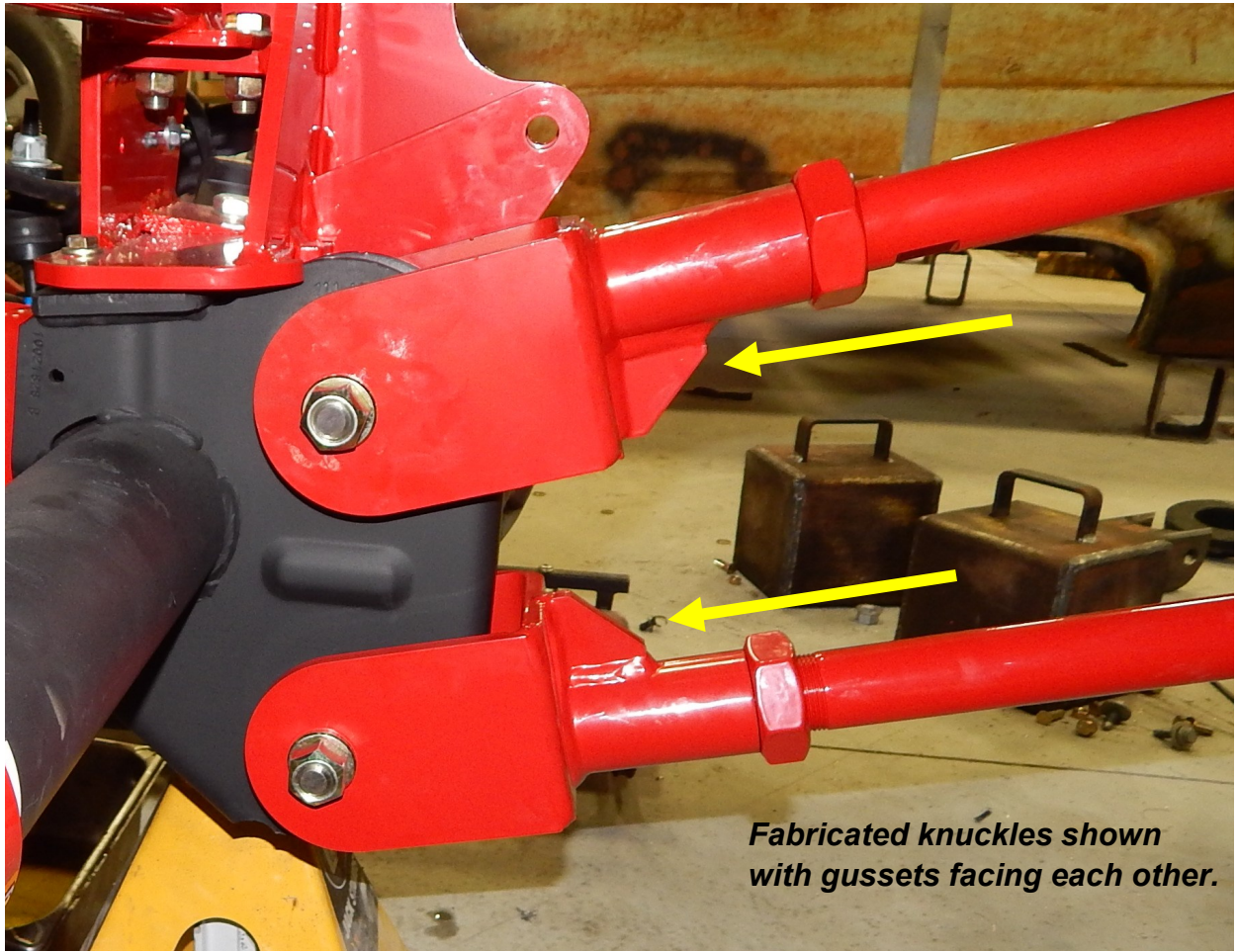
13.) The upper control arm mounts fasten into the OEM trailing arm mounts with (2) 3/4 x 5" bolts. They also fasten to the crossmember with four 1/2 x 1 1/2" bolts. Torque the 3/4" bolts to 175 ft./lbs. and the 1/2" bolts to 85 ft./lbs. Fasten the rubber transfer case mount to the crossmember with the factory nuts. Torque to 30 ft./lbs.



14.) Locate the trailing arms. Adjust the upper trailing arms (Part # 52127) so there is 21 1/8" between the back knuckle and the front jam nut. Adjust the bottom trailing arm (Part # 52136) to 31 5/8". Use the 7/8 x 5" bolts to fasten the lower trailing arm into the crossmember. Use the 7/8 x 6" bolt to fasten the upper trailing arm into the upper rear mount. The upper knuckle needs uses a 3/16" spacer on the inside of the knuckle between the crossmember to take up the gap. Use the M18 x 130 bolts to fasten the fabricated knuckles into the axle.

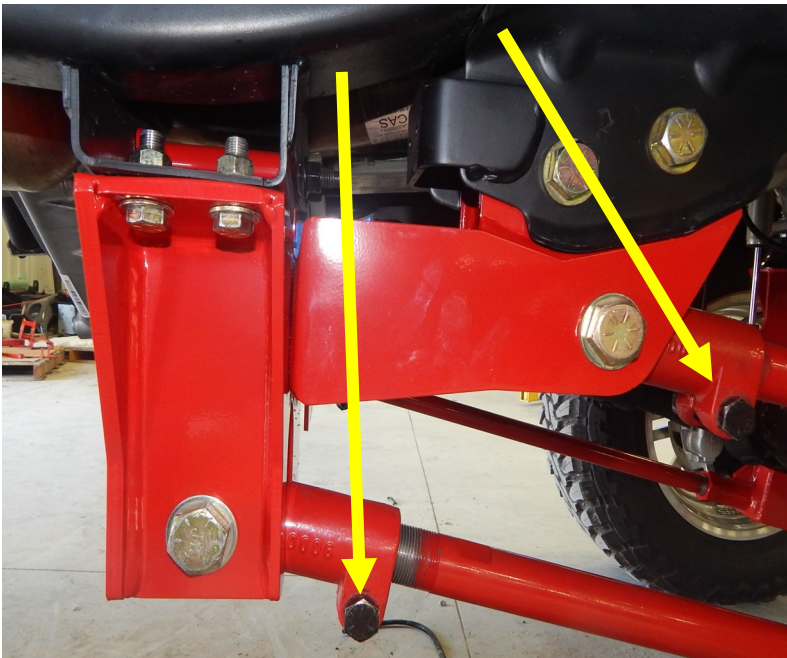
NOTE: Make sure the gussets on the fabricated knuckles are facing each other (shown on Page 11). The measurements provided should get you very close to the measurement needed at final install. Final adjustments will likely be needed once installation is complete.





Fabricated knuckles shown with gussets facing each other.

Pinch bolts shown on the lower side of the cast trailing arm knuckle.

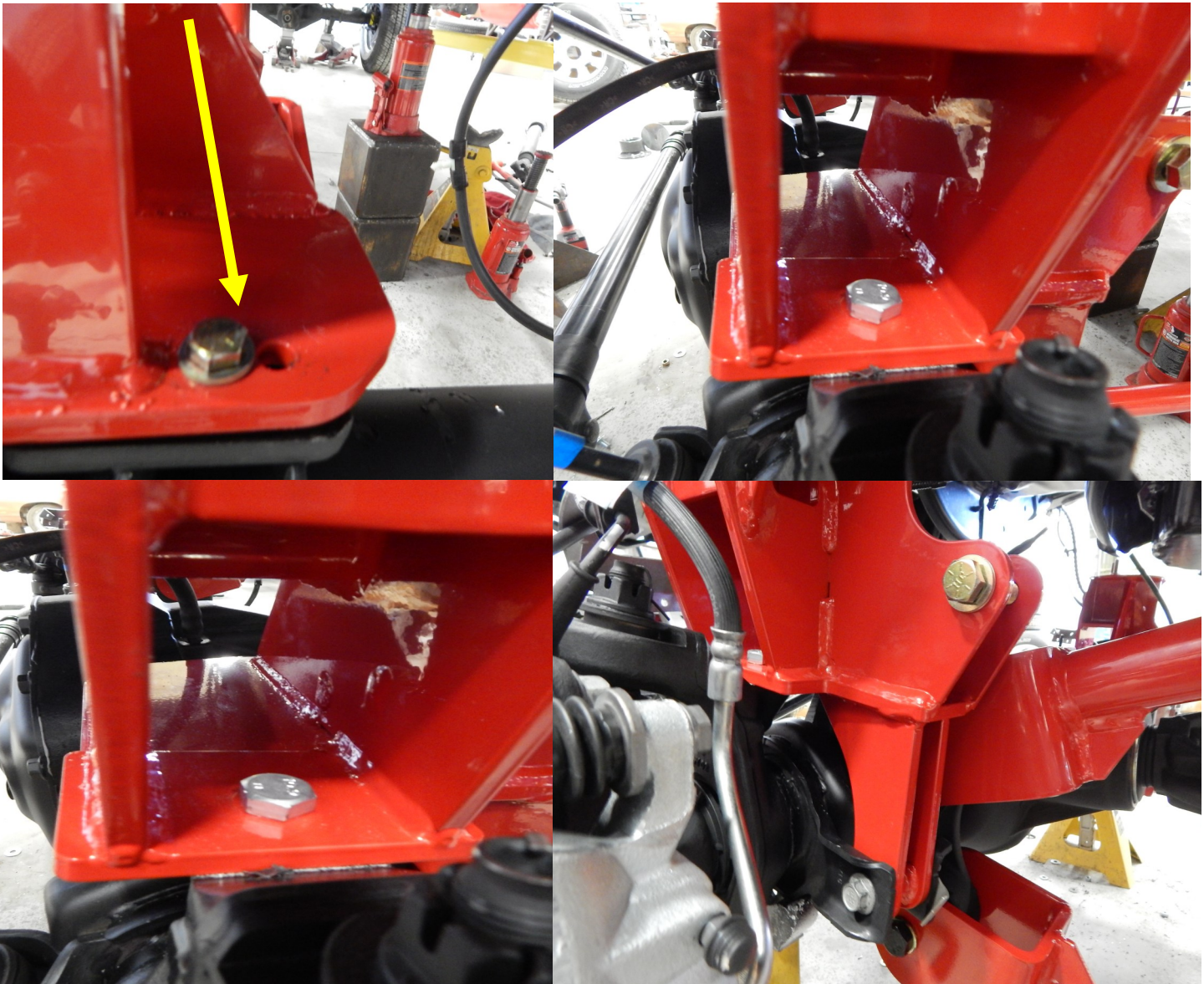


15.) Locate the lower bag mounts (Part # 69132DS and 69144PS) and the crossmember (Part # 69097). The lower bag mounts fasten to the axle with the M14 x 25 bolt and into the factory shock mount with the factory shock bolt. You will also have to drill the axle for a 3/8" bolt.

There are two holes in each lower air bag mount. You will use the hole closest to the tire on the passenger side and the hole furthest away from the tire on the drivers side. The crossmember fastens in between the lower air bag mounts with two 1/2 x 1 1/2" bolts on each side.

It works best to put the crossmember in-between the lower bag mounts before you tighten the bolts on the lower bag mounts. Torque the 3/8" bolt to 35 ft./lbs. and the 14mm to 55 ft./lbs. and the 1/2" bolts to 85 ft./lbs.

Passenger side uses hole closest to the tire. Opposite of the drivers side.

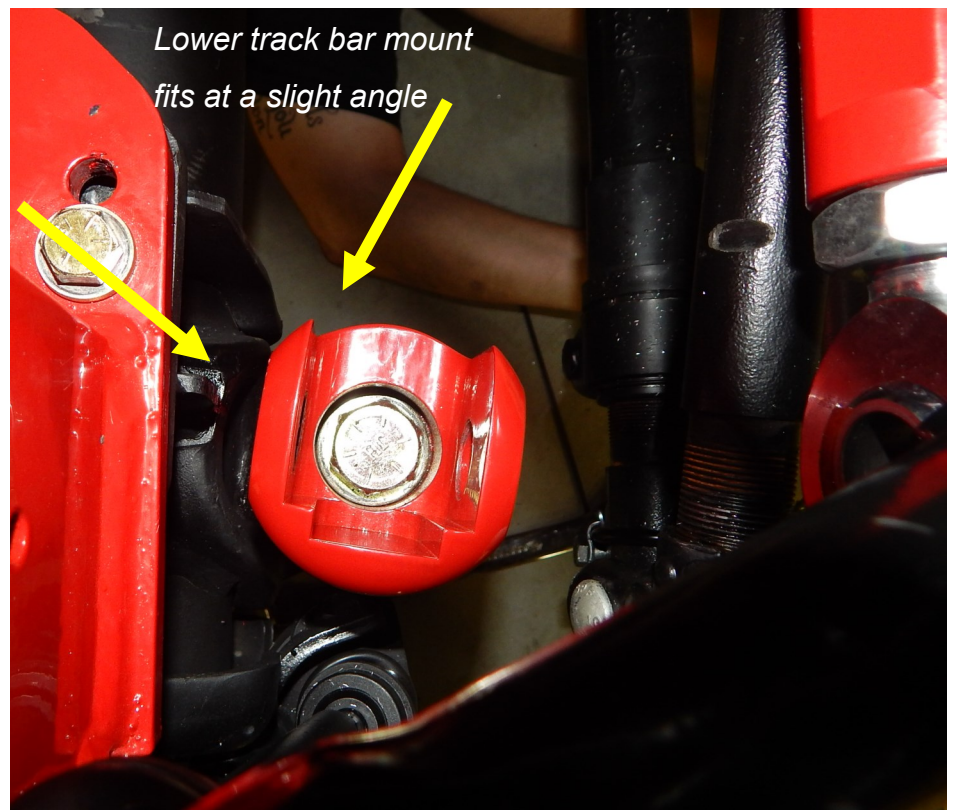


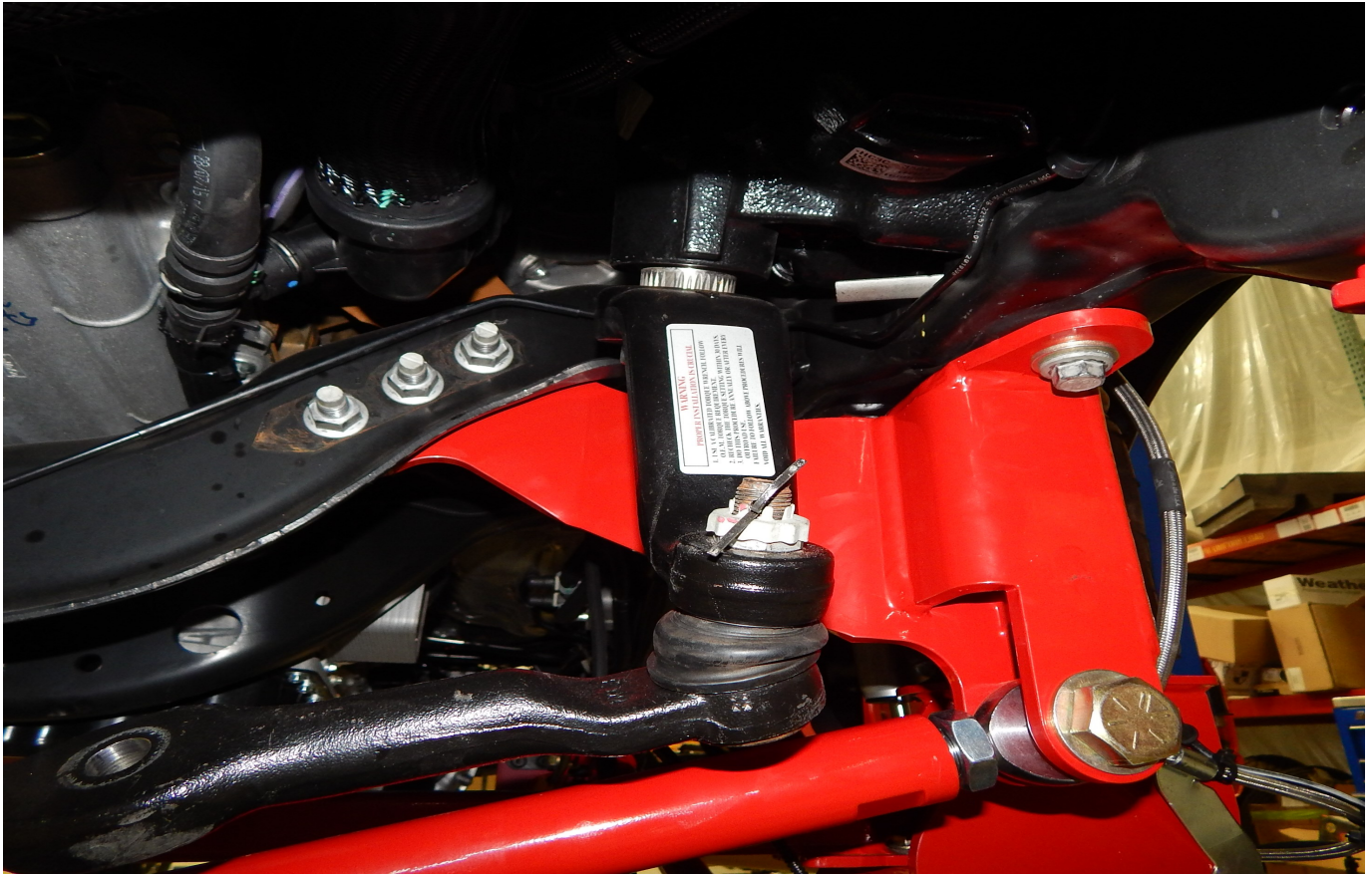


16.) Locate the provided track bar (Part # 69448) and the lower pan hard bar mount (Part # 69447). The lower pan hard bar mount fastens on the passenger side where the factory track bar mounted. Use the 3/4 x 3 1/4" bolt to fasten the machined bracket into the axle. Make sure it has a slight twist to it. It needs to be about 3 degrees towards the front of the truck. It should face (line up) with the pan hard bar drop. Torque to 175ft./lbs. **THE LOWER PANHARD BAR MOUNT MUST BE WELDED TO THE AXLE. LOOK AT PICTURE ON PAGE 14.**

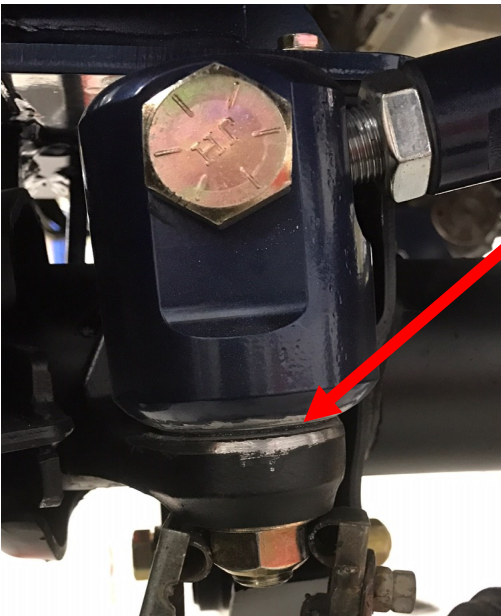
You will need to grind some of the axle brace for clearance for lock nut here. Make sure you grind before you insert the lower track bar mount.

Make sure to grind a 1/8" extra away from the lock nut for clearance for a couple threads on the bolt.





17.) Grind the bottom of the lower pan hard bar mount and the axle where they meet. Weld the lower pan hard bar mount to the axle. Weld as far around as you can reach.



**Lower pan hard bar mount
and axle ground**

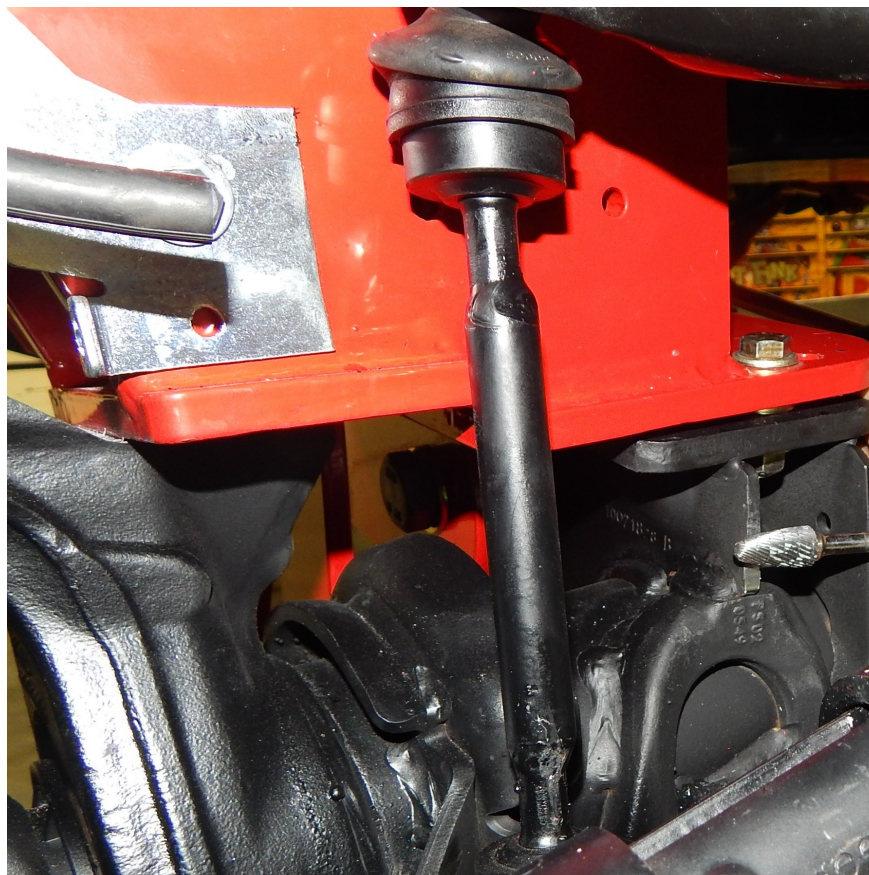


**Lower pan hard bar
mount welded to axle**

18.) Locate the air bags (Part # 80012-8979). They fasten to the upper air bag mounts with the 1/2 and 3/4" washers and nuts. Torque these bolts to 35 ft./lbs. The bottom of the air bag fastens to the lower bag mount with the 1/2 x 4 1/2" bolts. Torque this bolt to 35 ft./lbs. Do not install the shocks until step 21.



19.) Install the new longer front end links (Part # 69420). Locate the front sway bar (Part # 80140) and install the sway bar to the previously installed sway bar drop brackets.



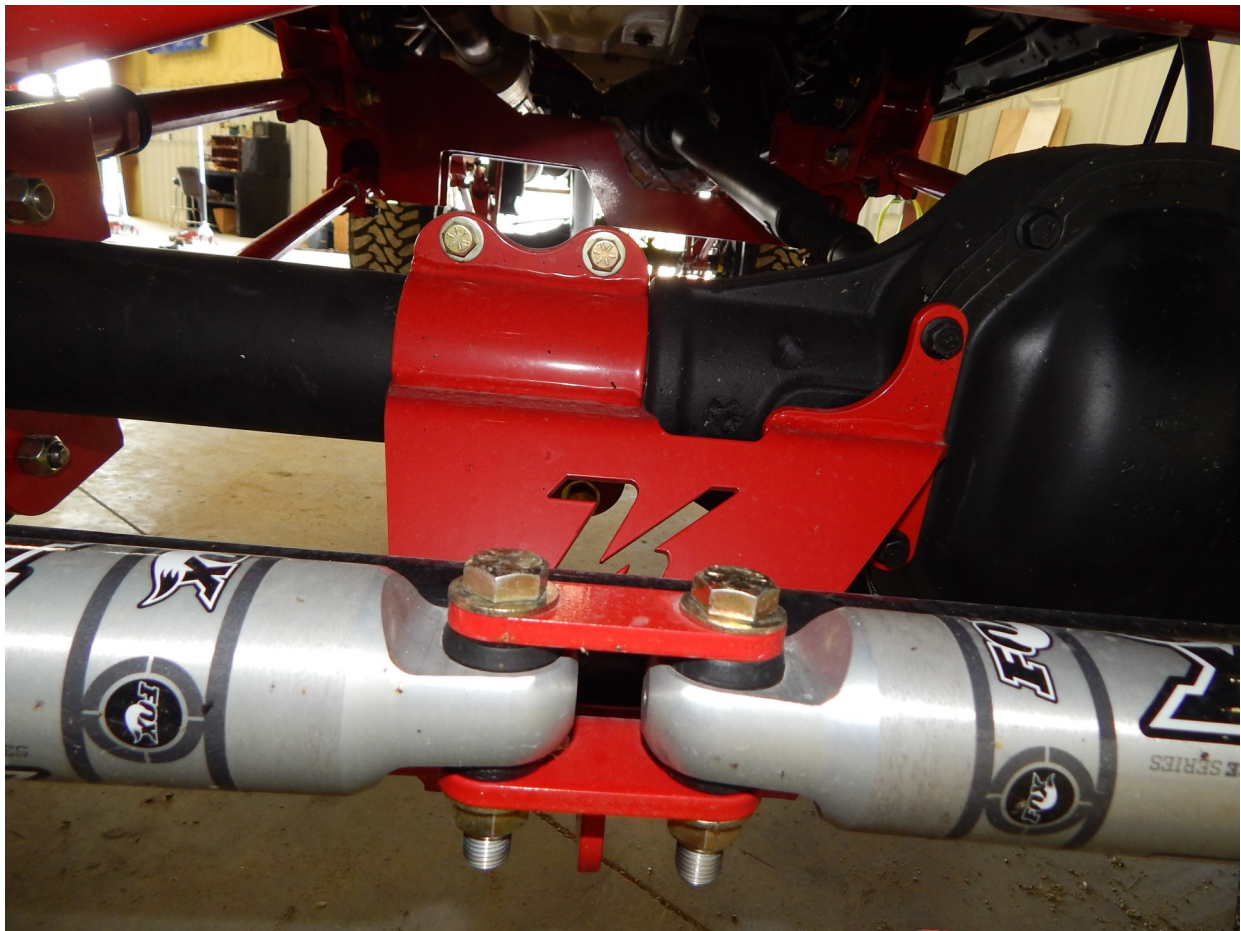
20.) Locate the brake line extensions. They attach to the frame (shown below). The bottom attaches to the front of the lower air bag mount with the 1/4 x 1 1/4" bolt. Install and bleed the brake lines.

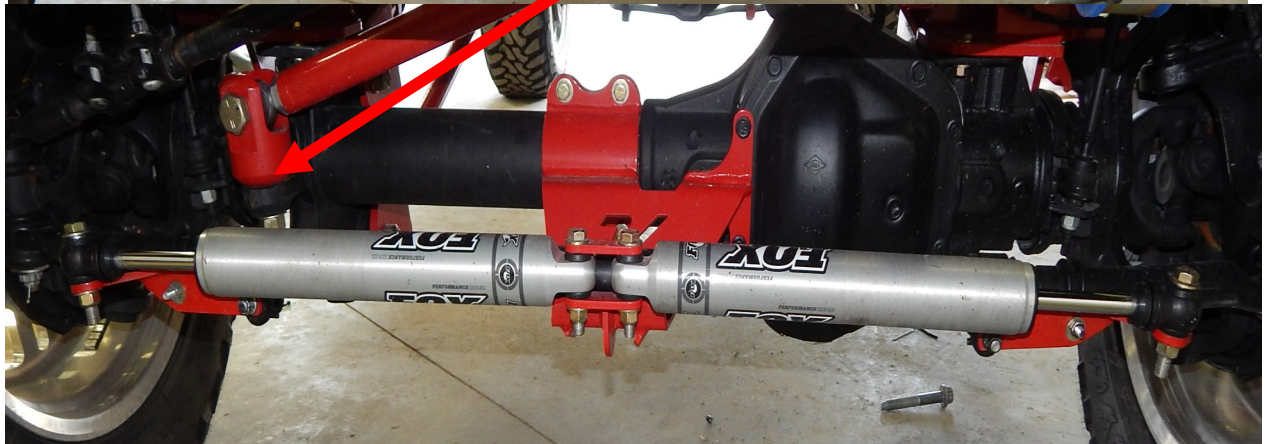
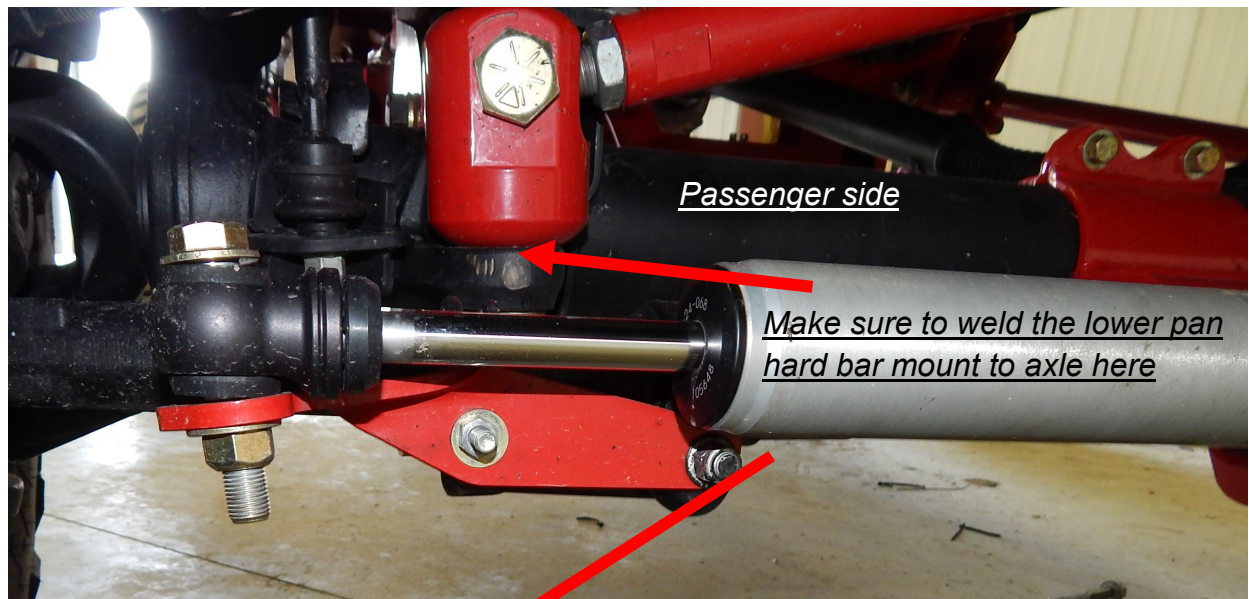
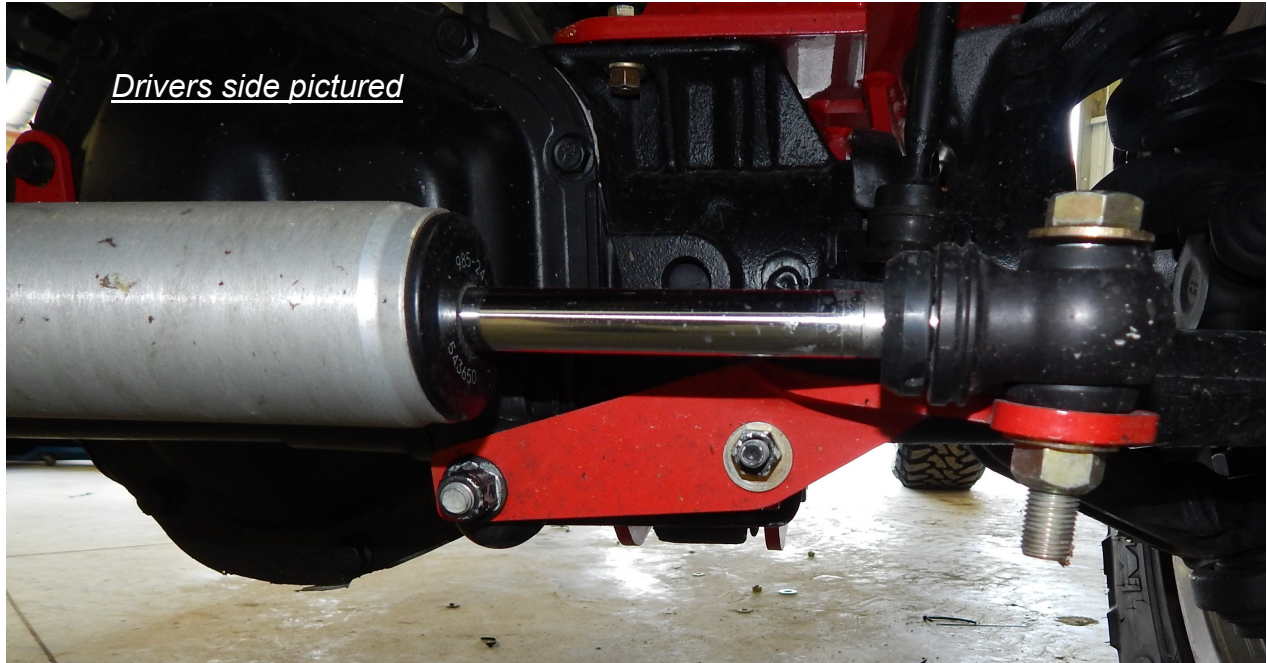
21.) Locate the front shocks and install. You will want to make sure there is clearance on the shocks when the install is complete when running the system all the way up and down.



22.) Locate the steering stabilizer kit (part # 16970). Remove the middle two bolts on the passenger side of the differential cover. Locate Part # 16005 and place it on the front side of the axle. Use the bolts that you removed from the differential cover to fasten the right side of the bracket to the differential cover. Use four 7/16" x 1 1/2" bolts to fasten it to the backing clamp (Part # 16608). Locate the shock end mounts (Part # 69355PS and #69356DS) and fasten them to the pinch bolts on the drag link.

23.) Locate the steering stabilizer shocks. Use the 1/2 x 3" bolts to fasten the shocks to the center bracket with the shock strap (Part # 20227). Use the 1/2 x 2 1/2" bolts to fasten the shock end mounts to the other end of the shocks. On the drivers side, when installing the outer shock mount, be sure to insert the 5/16" bolts from front of the truck to back for clearance on the shock. If the bolts are not inserted front to back, it is required to cut the excess threads off the bolt.







24.) If the trailing arms and pan hard bar are set to the measurements provided earlier in the instructions, the axle should be good to go. If some fine tuning is needed to get the original pinion angle, adjust the axle until it is centered in the wheel well and squared up with the rear axle.

At ride height, the bag should measure around 12" tall. The airbag will be nearly straight up and down. Adjust the axle so it is centered in the wheel well while keeping the pinion angle correct. Once the rear kit has been installed, measure from the front side of the rear axle to the kingpin on the front axle. Make sure the measurement is within 1/8" on each side.

25.) Locate two of the Hadley ride height sensors (if equipped). They will mount to the side of the frame with the 1/2 x 1" bolts. You will need to drill two holes in the frame with a 13/64" drill bit and then tap the holes 1/4-20. Use the picture below for reference.

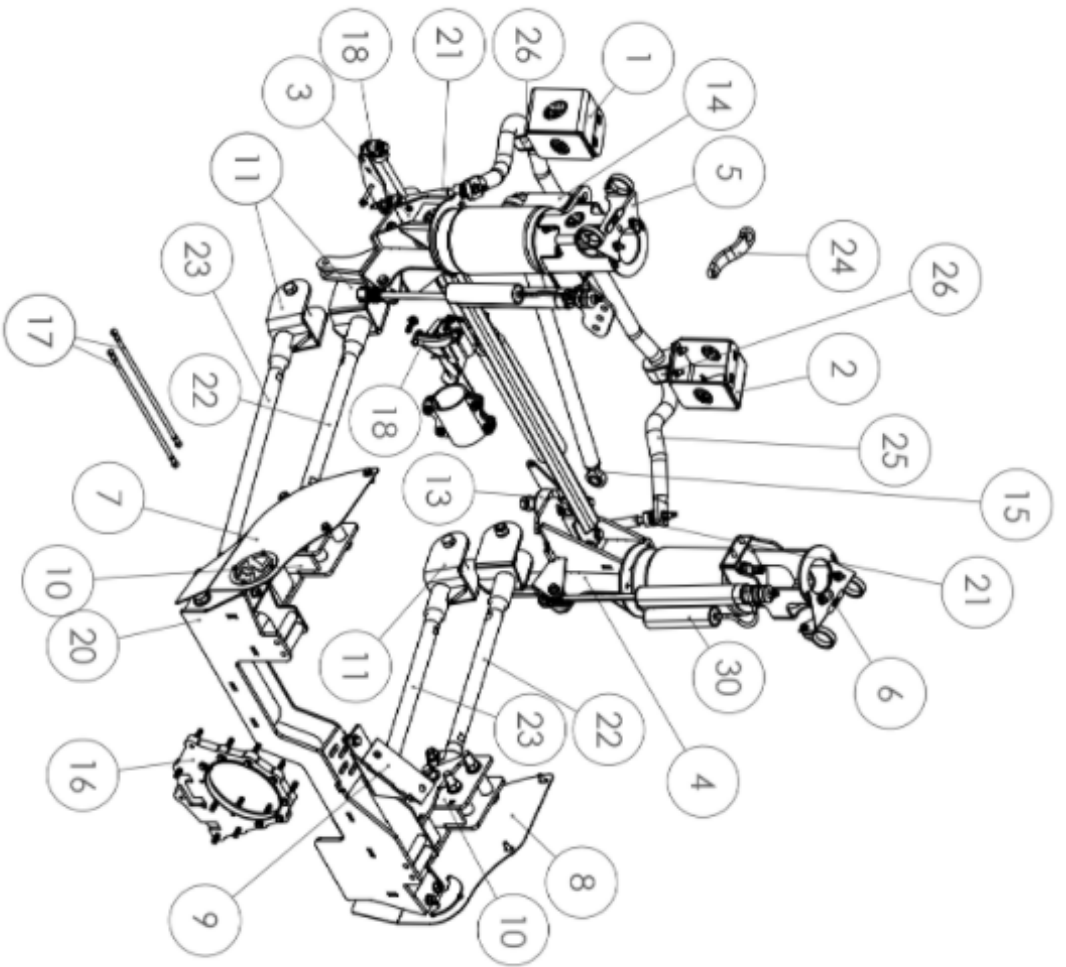
26.) Make sure the holes for the sensor are straight up and down from each other. The sensor should have the arm straight out when the air bags are at 12" (ride height). Once the sensor holes are tapped, fasten the sensor to the frame. Locate the collars and place them on the upper trailing arm about 1/4" from the jam nut. Adjust the sensor linkage to be 13 3/4" long. There is a little wire clip on the linkage end. Pull the retaining clip out, push over the ball and reinstall the retaining clip.



27.) The front bag measurement should be between 10.5-12" when at the designed ride height. Measurements should be taken between the airbag mounting surfaces as shown above. All the measurements for the trailing arms in these instructions are for a bag at 12" tall.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	10009418	Assembly - (DS) Sway Bar Drop Bracket - (6-8") (8-10") (10-12") Front Lift Kits	1
2	10009417	Assembly - (PS) Sway Bar Drop Bracket - (6-8") (8-10") (10-12") Front Lift Kits	1
3	10009564	Assembly - (DS) Lower Axle/Bog Mount - 10-12" Lift	1
4	10009571	Assembly - (PS) Lower Axle/Bog Mount - 10-12" Lift	1
5	10009558	Assembly - (DS) Upper Frame/Bog Mount	1
6	10009561	Assembly - (PS) Upper Frame/Bog Mount - 10-12" Lift	1
7	10009507	Assembly - (DS) Drop Crossmember Soil Panel	1
8	10009506	Assembly - (PS) Drop Crossmember Soil Panel	1
9	10009428	Assembly - Transfercase Mounting Bracket - Wedge	1
10	10009501	Assembly - Upper Trailing Arm Mount	2
11	11109	Assembly - Trailing Arm Knuckle	4
12	18498	Assembly - Cast Knuckle 10006	4
13	69537	Assembly - Lower Panhard Bar Mount	1
14	10007408	Assembly - Panhard Bar Drop (4.41") - (3/4" Bolt)	1
15	10007409	Assembly - Adjustable PH8 - 34" Tube Length	1
16	10006732	Assembly - 37.50" Indexing Ring	1
17	51742	Assembly - 15-1/2" C/C Height Control Ball End Linkage Rod	2
18	69170	Assembly - Dual Steering Stabilizer	1
19	69097	Weldment - Front Axle Crossmember Support	1
20	69121	Weldment - Transfercase Crossmember	1
21	69420	6" Sway Bar End Link - Ball Joint Ends	2
22	52127	27" Trailing Arm Bar	2
23	52136	36" Trailing Arm Bar	2
24	80072	Pitman Arm #FA450	1
25	1139-180KLD	1139-180 Sway Bar	1
26	80140	4139-180 Sway Bar Bushing Kit 1.5"	2
27	28678	Plate - 1/4" - (PH8) Crossmember Spacer (3/4" Bolt)	1
28	18769	CRR - 1" OD x .562" ID x .3" Long - Bushing	1
29	50737	CRR - 2-1/4" OD x 7/8" ID x 1/4" Long Spacer Bushing	1
30	10003380	Purchased Parts - Raptor Shocks	2



REV	ECN	CHANGE DESCRIPTION	ISSUED BY	DATE

MANUFACTURE PRODUCTION 10-12" LH (Front)	PROJECT 2017 7250-350 Pickup	DATE 6/21/2021
OTHERS DIMENSIONS IN INCHES STD. TOLERANCES X.X & 0.00 X.XXX & 0.000 FRACTION 1/16"	PART NUMBER KLM-69012	DESIGN BY 2017

SHEET 1 OF 3