

Taps required: 1/4-20 and 3/8-24
Drill bits required: ,13/64,21/64, 7/16

Version 1.3



kelderman

AIR SUSPENSION SYSTEMS

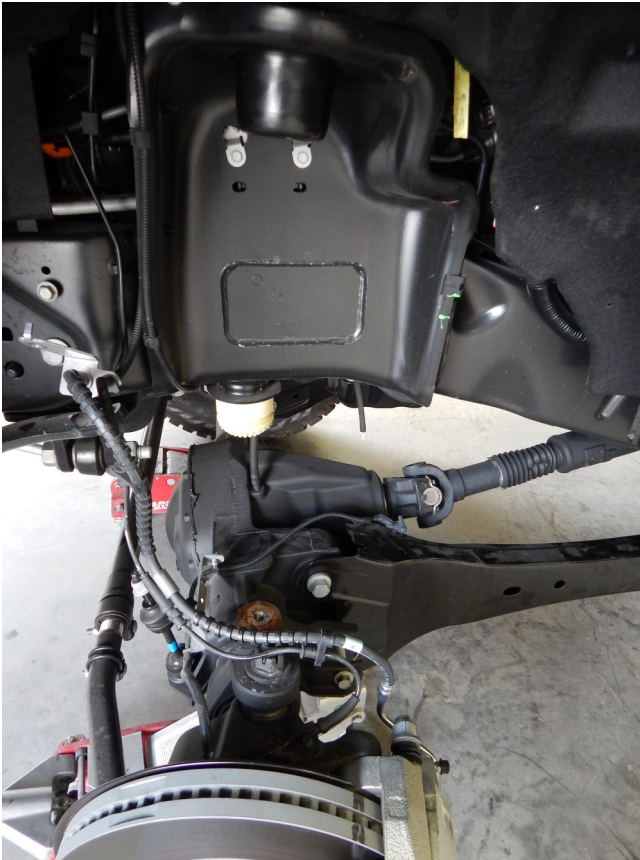
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2017 Ford Super Duty 4x4 Front 5-6" Lift Kit Installation Instructions



1) Before you remove anything off the truck, measure the pinion angle on the bottom of the differential. Record the measurement here _____. Once the kit is installed, check to see that the pinion angle is close to original. This will keep the correct caster and camber.

2) Jack the truck up from the axle until the wheels are off the ground. Place a jack stands under the front of the frame. Keep the jack under the axle and remove the wheels. Remove the shocks and unhook the sway bar end links. Unbolt the brake line bracket from the lower coil spring mount and lower the jack down. Remove the coils and cast spring perch bolted on top of the axle.



Front ready for installation

Remove bump stops before starting the installation process. Remove rubber and then un-bolt the metal stop plate.

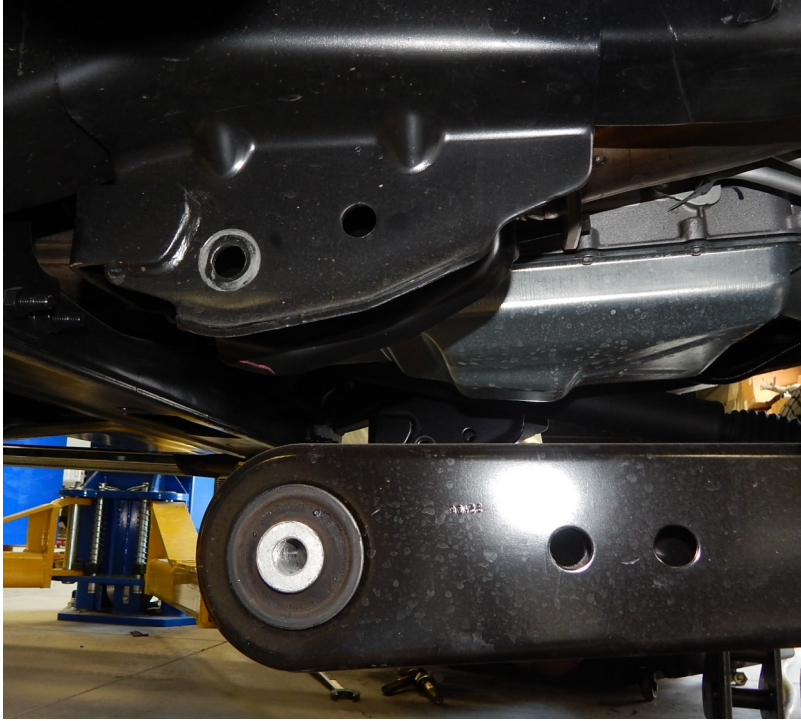


3) Locate the side badges (P/N # 69373DS and P/N # 69375PS) and the backing plates (P/N # 69374). They attach to the factory radius arms. Lay the backing badges on the side of the trailing arm like in the picture below. Using the holes in the badges as a template, mark the center of the holes. Remove the template and drill four holes 13/64". Tap these holes with a 1/4-20" tap. Place the backing plates on the trailing arms and the badges over top. Fasten the backing plates and side badges with the 1/4" bolts.



Backing plate

Side badge



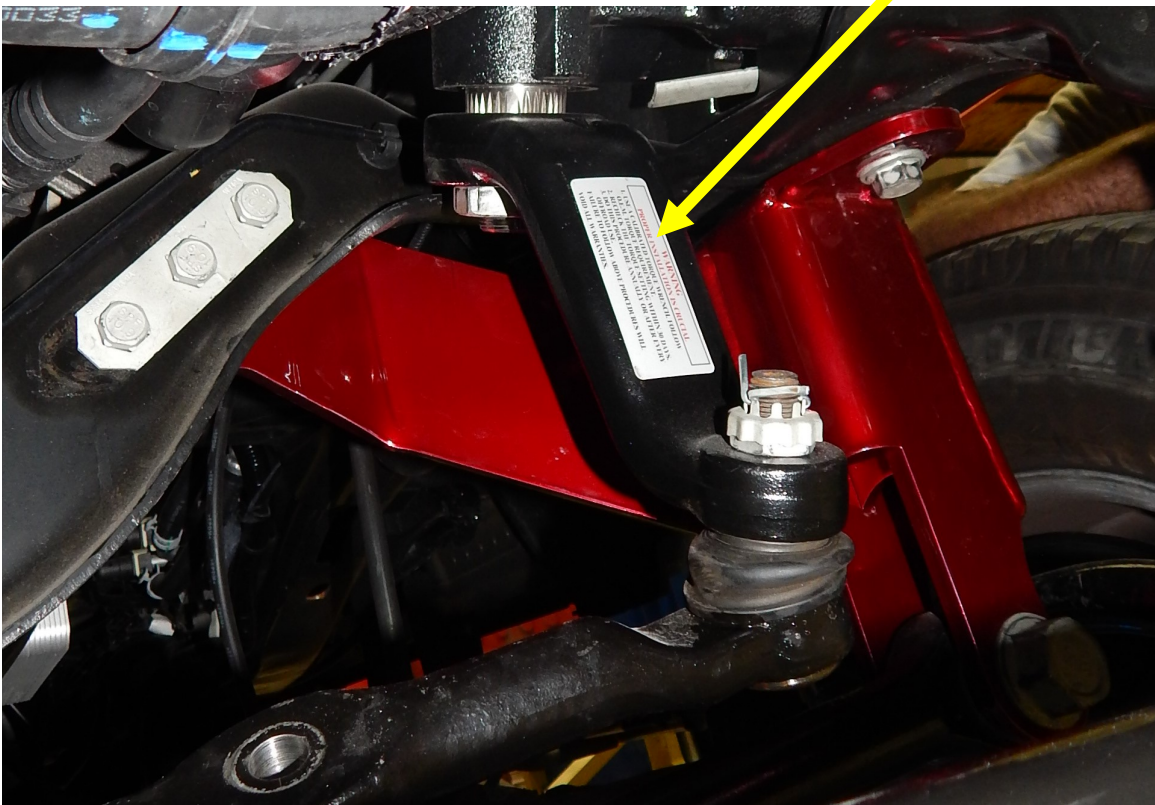
4) Remove the rear bolts that hold the factory radius arms to the frame. Locate the trailing arm drops (P/N # 69455). They fasten into the factory trailing arm mount with four 3/4 x 5 1/2" bolts. Torque these bolts to 175 ft./lbs. Insert the factory trailing arm into the drop and fasten with the 3/4x 5 1/2" bolts. Torque this bolt to 175 ft./lbs. also. Do both sides at the same time.





5) Locate the pan hard bar/track bar drop bracket (P/N # 69471 is F250/350 and P/N # 69460 is for the F450 pickup kits) Install the pan hard bar drop with the factory bolts. It fastens just like the OEM bracket. Torque these bolts to 95 ft./lbs. Remove the steering arm from the stock pitman arm. Set aside the nut, locking crown and cotter pin. Remove the pitman arm. You will reuse the nut and lock washer. Remove the pan hard bar bolt and pan hard bar mount. Locate and install the drop pitman arm (part# FA 450 is F250/350 and Part# 80115 is F450). Torque the factory nut to 275 ft./lbs. and torque the steering arm ball joint nut to 115 ft./lbs. Reinstall the locking crown and cotter pin. NOTE: After 15 miles, re-torque the pitman arm.

Pitman arm installed



6) Locate the upper air bag mounts (P/N # 69090DS and 69094PS) and shock reservoir mounts (P/N # 69468 DS and part# 69469PS). The shock reservoir mounts mount in between the upper air bag mounts and upper coil bucket with two 3/8 x 2" bolts. The back of the upper air bag mount fastens to the frame with two 3/8 x 1 1/2" bolts to the side of the frame. Use the upper air bag mount to Mark where to drill the holes in the frame. Drill the upper holes to 7/16". Drill the holes in the side of the frame to 21/64". Use a 3/8-24 tap to thread the side of the frame. Put the upper bag mount in place and snug the bolts in the frame (use Loctite 242 Blue). Next install the upper bolts and torque them to 40 ft/lbs.

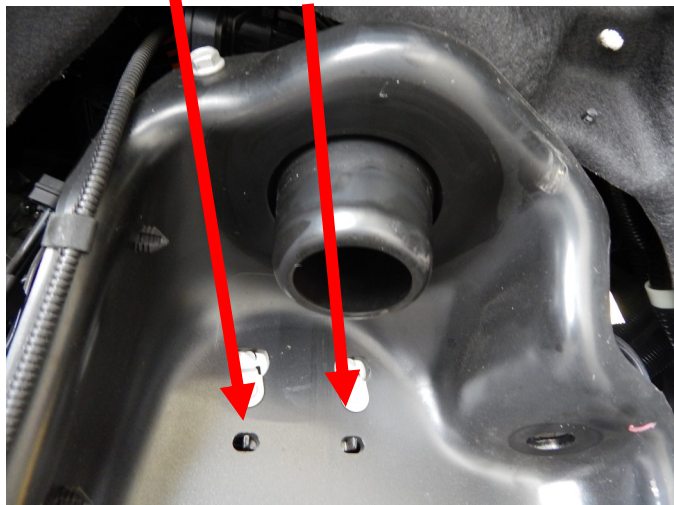


Drill the upper holes in the spring perch 7/16"

CAUTION: THERE ARE WIRES ABOVE THE SPRING PERCH PLACE A FLAT PIECE OF STEEL ABOVE THE PERCH TO PREVENT DRILLING INTO THE WIRING HARNESS

Insert the shock remote reservoir mounts here on top of the upper air bag mount and under the factory spring perch See picture on following page

Drill the holes in the side of the frame with a 21/64 drill bit and thread the holes with a 3/8-24 tap.





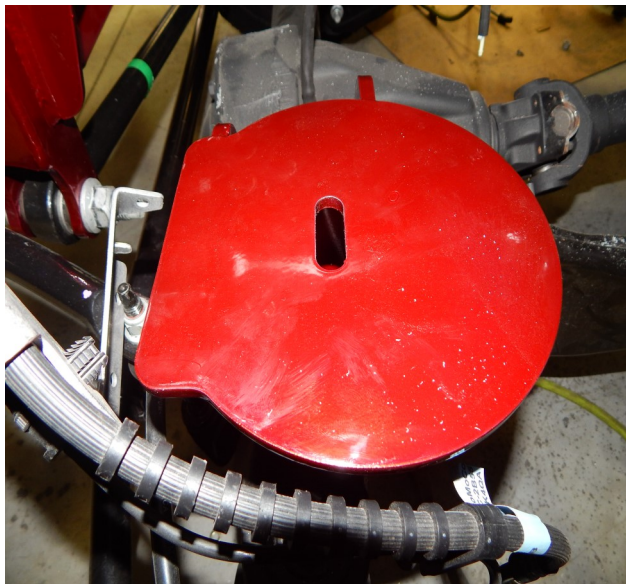
Upper bag mount installed with backing plate behind K logo and shock reservoir mount in place. Notice the shock mount is angled. The long side goes towards the front of the truck.

Use blue Loctite on the bolts going into the frame. Tighten these bolts first. Just run the bolts down snug. Once these are snug, next tighten the top bolts (with the remote reservoir

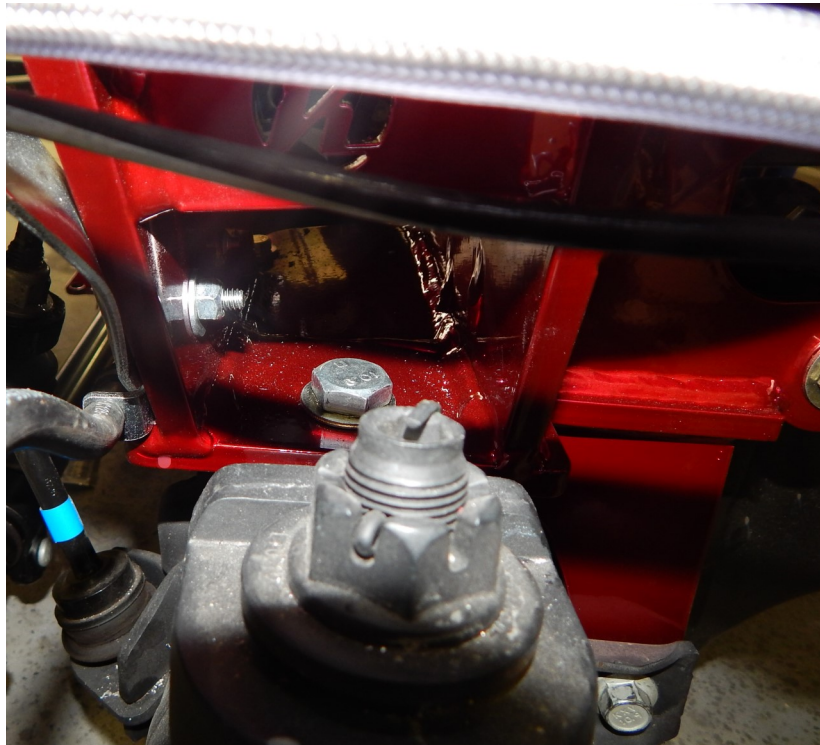


7) IF THE TRUCK IS A F-450 PICKUP, GO TO PAGE 8. THE LOWER AIR BAG MOUNTS ARE DIFFERENT THAN THE F250-350 P/U. THE F450 ALSO REQUIRES SHOCK SPACERS. Locate the lower air bag mounts (P/N # 69476 DS and 69485 PS). They fasten to the axle with the M14 X 25 bolt and the 3/8 x 1 1/2" bolt. The bottom extension of the lower air bag mount fastens to the shock mount on the axle with the factory shock mount. You will need to drill a hole in the pad on each side. The driver side uses the hole furthest away from the tire and the passenger side uses the hole closest to the tire. Drill this hole with a 3/8" drill bit. Use the air bag mount as a drill jig. Once you finish drilling the holes, insert the 3/8 x 1 1/4" bolt and torque to 40 ft./lbs. Torque the M14 bolt to 85 ft./lbs. Torque the shock bolt to 85 ft./lbs.

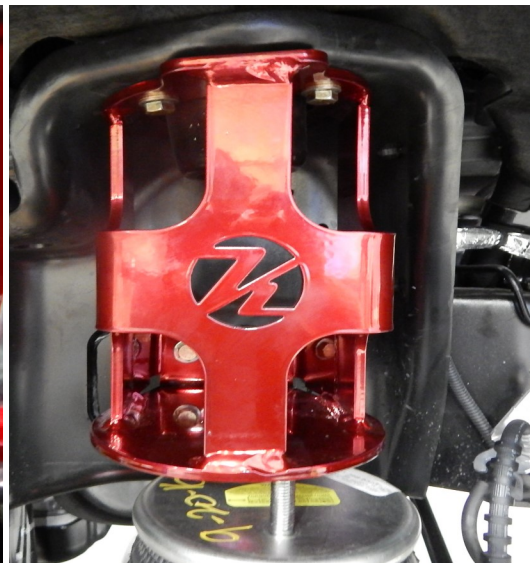
Drivers side uses hole closest to the truck frame



8) Locate the F5323 (P/N # 80012-5323) air bags. They fasten into the upper air bag mount with the 1/2 and 3/4" nuts and washers. The bottom of the air bag fastens to the lower air bag mount with the 1/2 x 3 3/4" bolt. Torque the nuts and bolts to 35 ft./lbs. NOTE: THE BOTTOM OF THE AIR BAG IS SLOTTED. AFTER THE ISNTALL IS COMPLETE, MAKE SURE THE AIR BAG IS STRAIGHT UP AND DOWN AND THERE IS AT LEAST 3/8" CLEARANCE BETWEEN THE AIR BAG AND TIRE AND INSIDE OF THE FRAME.



Drivers side uses hole closest to the truck frame



9) **F450 pickup trucks only.** Locate the lower air bag mounts (P/N # 69487DS and 69459PS). They fasten to the axle with the M14 x 25 bolt and the 3/8 x 1 1/2. Place the lower bag mounts on top of the perch. Start the 14mm bolt to locate the mount in position. No need to tighten this bolt. Use a paint marker to locate on the axle where to drill a hole for the 3/8" bolt. Remove the bracket and drill the hole with a 7/16" drill bit. Place the brackets on the axle and fasten with the 14mm bolt and the 3/8" bolt. Torque the 14mm bolt to 95 ft./lbs. and the 3/8" bolt to 45 ft./lbs.



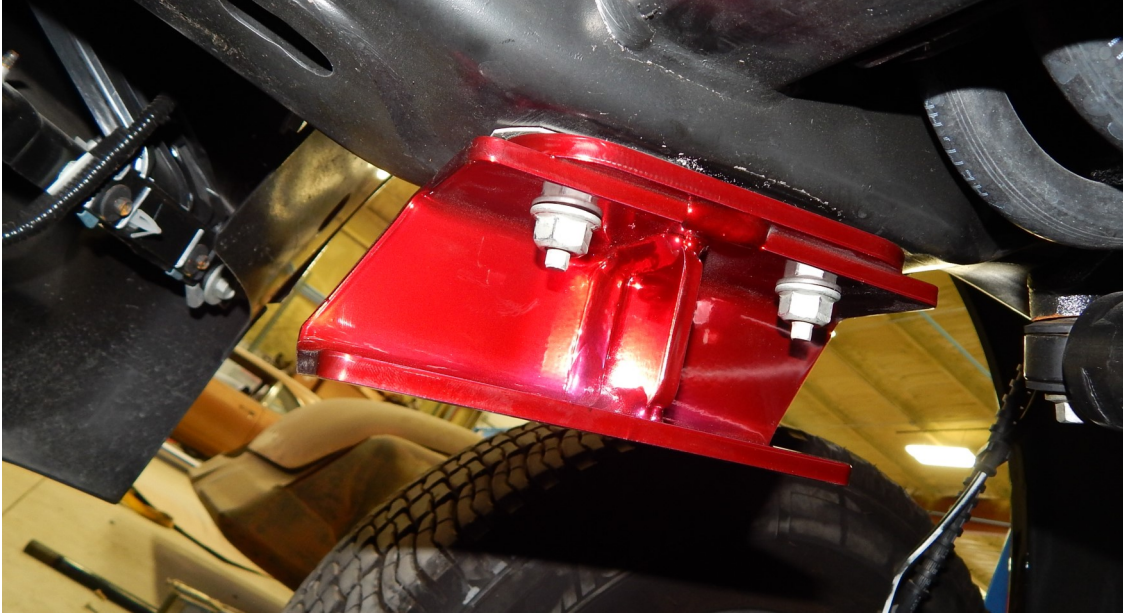
10) Locate the shock relocation brackets (part# 69389). Use the factory shock bolt to fasten into place. Torque this bolt to 95 (F-450 only). Use the 1/2 x 2 1/2" to fasten the shock to the relocation bracket. Torque to 55 ft./lbs.



11) Locate the shocks. On the F250-/F-350 the top of the shock fastens into the original shock location and the bottom of the shock fastens into the lower air bag mount with the 1/2 x 3" bolt. torque the top nut to 35 ft./lbs. and the 1/2" shock to 85 ft./lbs. The F450 trucks use the factory upper location and the bottom fastens into the shock relocation bracket. The remote reservoir fastens to the reservoir mount with the hose clamps that comes with the shocks.

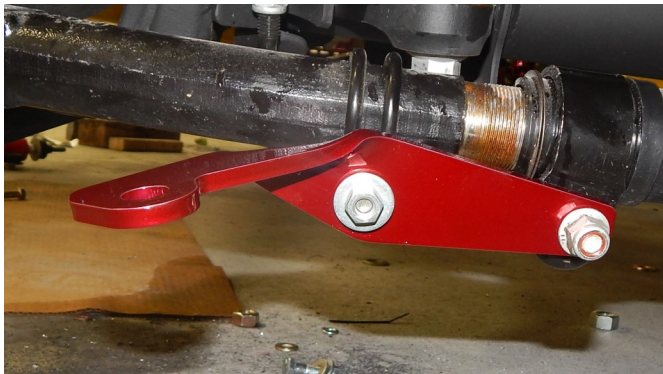
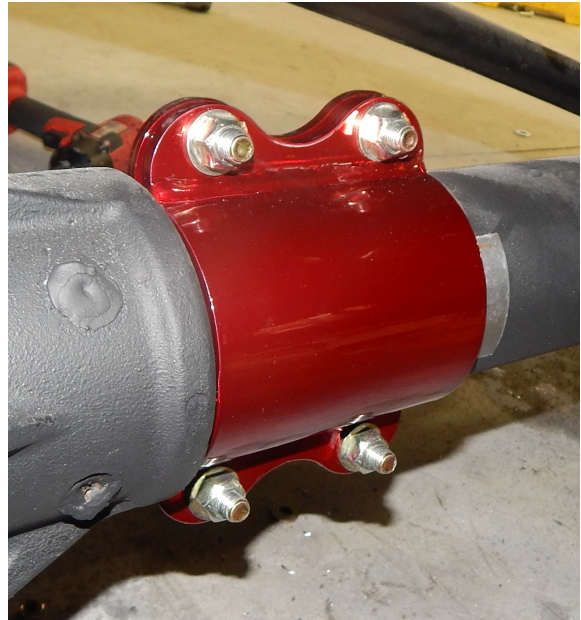


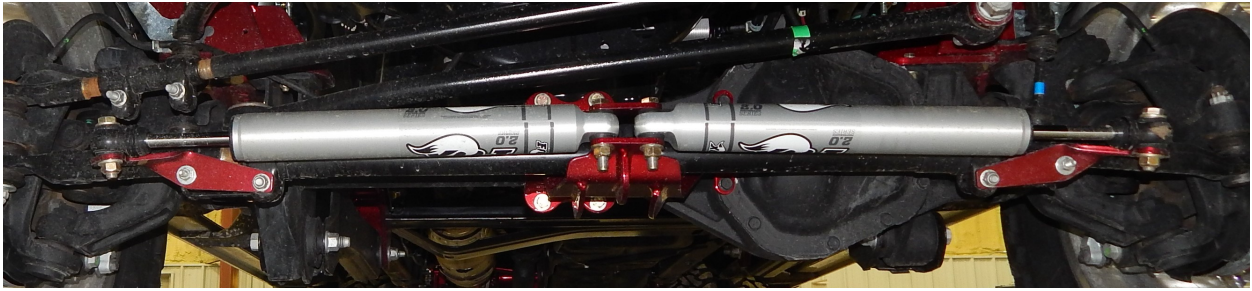
12) Locate the sway bar drops (P/N # 69173DS and 69174PS). They fasten to the frame with the OEM sway bar bolts. Fasten the sway bar to the sway bar drop with the 3/8 x 1 1/2" bolts. Torque these bolts to 55 ft./lbs. Reconnect the sway bar to the factory end links.



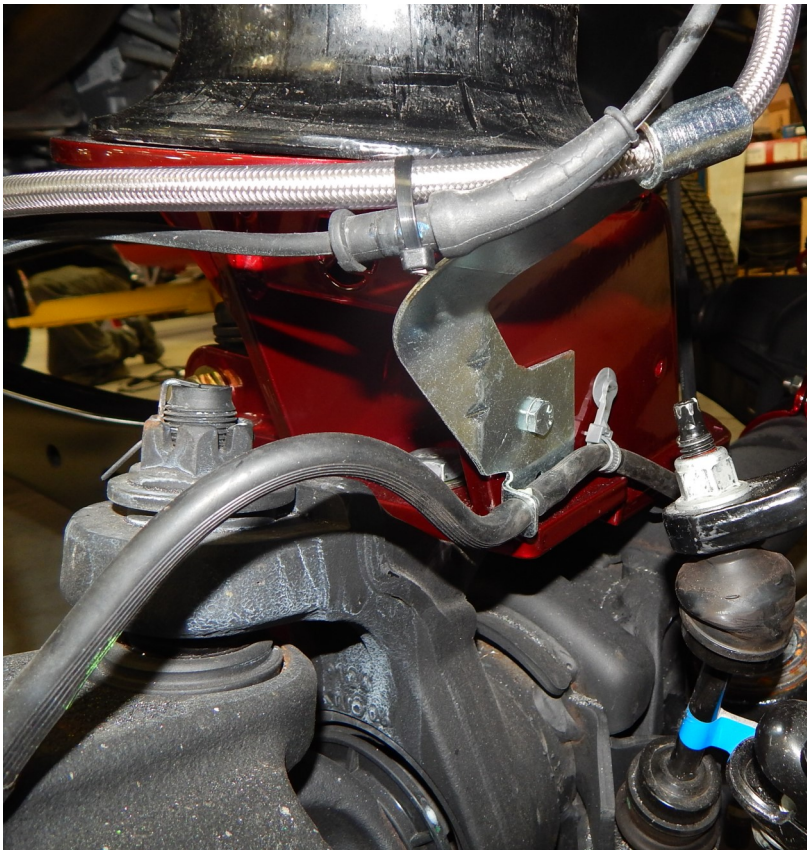
13) Locate the steering stabilizer kit. Take out the middle two bolts on the passenger side of the differential cover. Locate the steering stabilizer (part # 16005) and mounting ear spacer (part# 30168) and place it on the front side of the axle. Use the bolts that you took out of the diff cover to fasten the right side of the bracket and use four 7/16" x 1 1/2" bolts to fasten it to the steering stabilizer clamp (P/N # 16008). Locate the shock end mounts (P/N # 69356DS and 69355PS for F250/350 and P/N # 69386DS and # 69388PS for F450) and fasten them to the pinch bolts on the drag link.

14) Locate the steering stabilizer shocks (P/N # 985-24-068). Use the 1/2 x 3" bolts to fasten the shocks to the center bracket with the tie plate (P/N # 20227). Use the 1/2 x 2 1/2" bolts to fasten the shock end mounts to the other end of the shocks.





15) Locate the new brake lines. They will fasten to the lower air bag mount with the 1/4x1" bolt. You will want to shorten the bracket as it doesn't need to be near that large. Bleed the brakes once the brake lines are installed.

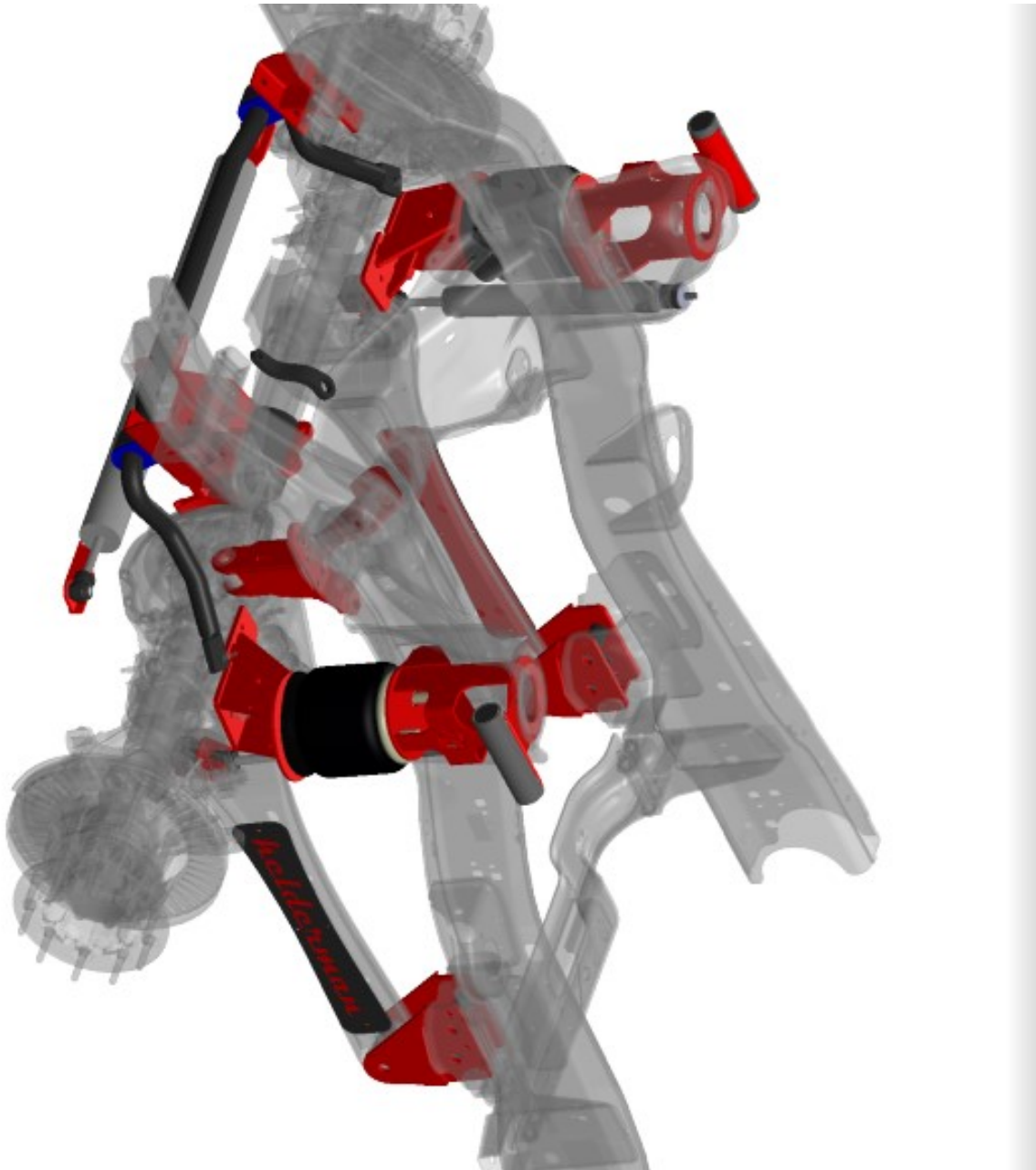


16) Set the air bags at 8.5" tall. You can use the jack to do this or air up the system. Measure in between the upper and lower air bag mounts. This will be the ride height and according to Firestone, this is the "sweet spot" where the air bag rides the smoothest. Locate the mechanical height control valve or electronic sensor, depending on what system you have purchased. When mounting the sensor or leveling valve you will have to drill (2) 13/64" holes and use a 1/4-20" tap to tap into the frame.

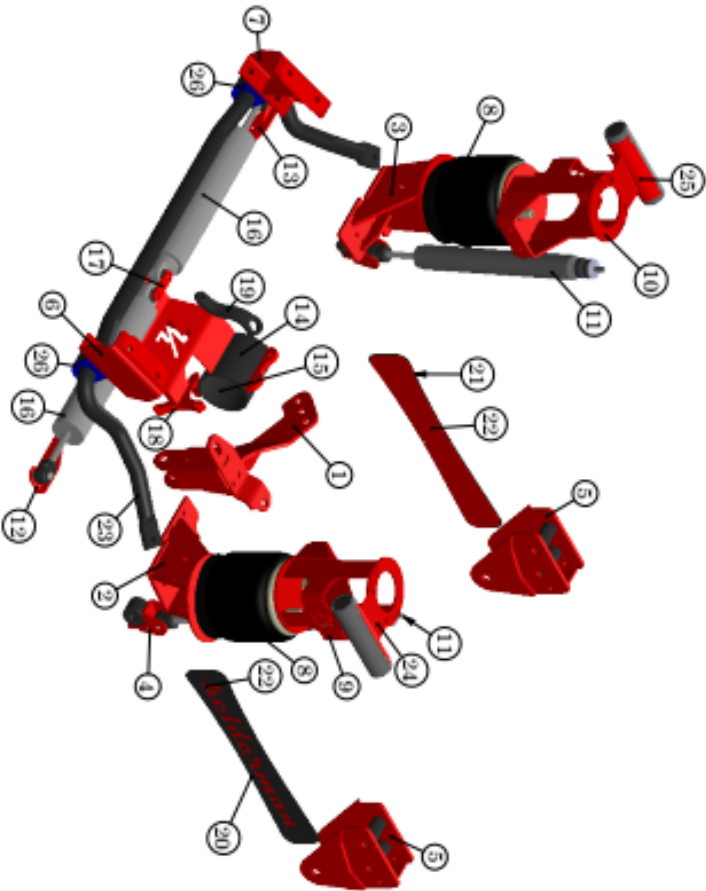




The mechanical valve at ride position. Note the arm is straight. Before installing rotate the arm 3 turns each way to get the internal parts ready for operation. The top port is exhaust, the bottom port is input from tank and middle port is out to air bags.



NO.	PART NUMBER	DESCRIPTION	QTY
1	69460	Weldment - 3.16" Track Bar Drop	1
2	69487	(DS) Lower Bag/Axle Mount	1
3	69459	(PS) Lower Bag/Axle Mount	1
4	69389	Shock Relocation Bracket	2
5	69455	5.5" Trailing Arm Drop	2
6	69173	(DS) Sway Bar Drop	1
7	69174	(PS) Sway Bar Drop	1
8	80012-5323	Firestone 5323	2
9	69090	(DS) Upper Frame/Bag Mount	1
10	69094	(PS) Upper Frame/Bag Mount	1
11	985-24-057	Fox Shock	2
12	69386	(DS) Axle/Shock Mounting Bracket (5.75")	1
13	69388	(PS) Axle/Shock Mounting Bracket (5.75")	1
14	16879	Steering Stabilizer	1
15	16008	(SS) Clamp	1
16	985-24-068	Fox Shocks	2
17	20227	Shock Strap	1
18	30168	Mounting Ear Spacer	1
19	80115	Pitman Arm (Reworked)	1
20	69373	(DS) Trailing Arm Logo Plate	1
21	69375	(PS) Trailing Arm Logo Plate	1
22	69374	Trailing Arm Backing Plate	2
23	1139-180KLD	1139-180KLD Sway Bar	1
24	69468	(DS) Shock Res. Holder	1
25	69469	(PS) Shock Res. Holder	1
26	80140	4139-180KLD	2



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES, UNLESS SPECIFIED FRACTIONAL ± 1/32" ANGULAR MATCH ± 5° TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .010	DESIGN BY ZPB	Monday, April 24, 2017 10:59:09 AM
MATERIAL	Sheet # / QTY NEW DXF	Project: 2017 F450 Pickup
PROPRIETARY AND CONFIDENTIAL	Run QTY	TITLE: Factory Drop 5-6" Lift (Rear)
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF EISENBUDN MFG. INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF	DWG. NO. KLM- 69021	SCALE: 1:24 DO NOT SCALE DRAWING



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Kelderman techs are available at 641-673-0468 M-F 7:00-4:00 CST

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Kelderman Air Suspension Systems must be contacted for warranty authorization before any diagnostic work or repairs are performed. At that time, Kelderman will provide diagnostic assistance and authorization for the repairs if warrantable. Any unauthorized diagnostic work performed before contacting Kelderman will not be covered under the warranty program if deemed unreasonable.

Kelderman Air Suspension System does not warrant any product for finish, alterations, modifications and/or installation different from Kelderman's instructions. Alterations / modifications to the final product include, but are not limited to powder coating, plating, and/or welding which will void the warranty. Some damage may occur to the finish of the parts during shipping. This is considered normal and is not covered under warranty.

Kelderman tries to ensure that the suspension parts fit the vehicles they were designed for, but due to unknown vehicle manufacturer's production changes and/or inconsistencies by the vehicle manufacture, Kelderman cannot be responsible for 100% fitment.

Kelderman's obligation under this warranty is limited to the replacement of the defective parts only. Freight charges, incidental or consequential damages are expressly excluded from this warranty. Kelderman is not responsible for damages and/or warranty of other vehicle parts related or non-related to the installed Kelderman Air Suspension System. This warranty is expressly in lieu of all other warranties expressed or implied. This warranty shall not apply to any product that has been subject to accident, negligence, alteration, abuse or misuse as determined by Kelderman.

Kelderman Air Suspension Systems are designed to be installed, and run at the recommended ride heights provided by Kelderman. All warranties will become void if Kelderman systems are run outside the recommended ride heights, or if the systems are combined/substituted with other suspension kits. Combination and/or substitution of other components may cause premature wear and inhibit the Kelderman Air Suspension from operating as designed, which may cause severe injury or death. Kelderman does not warrant parts not manufactured by Kelderman.

It is the installer and sellers reasonability to review all these warranties, warnings and disclaimers with the consumer prior to installation.

Kelderman reserves the right to supersede, discontinue, change designs, finishes, part numbers and/or applications of parts deemed necessary without written notice. Kelderman is not responsible for misprints, or typographical errors within the catalog or price sheets.

December, 2011