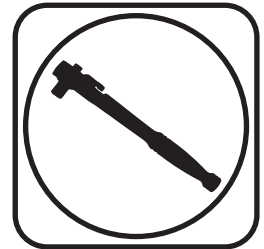
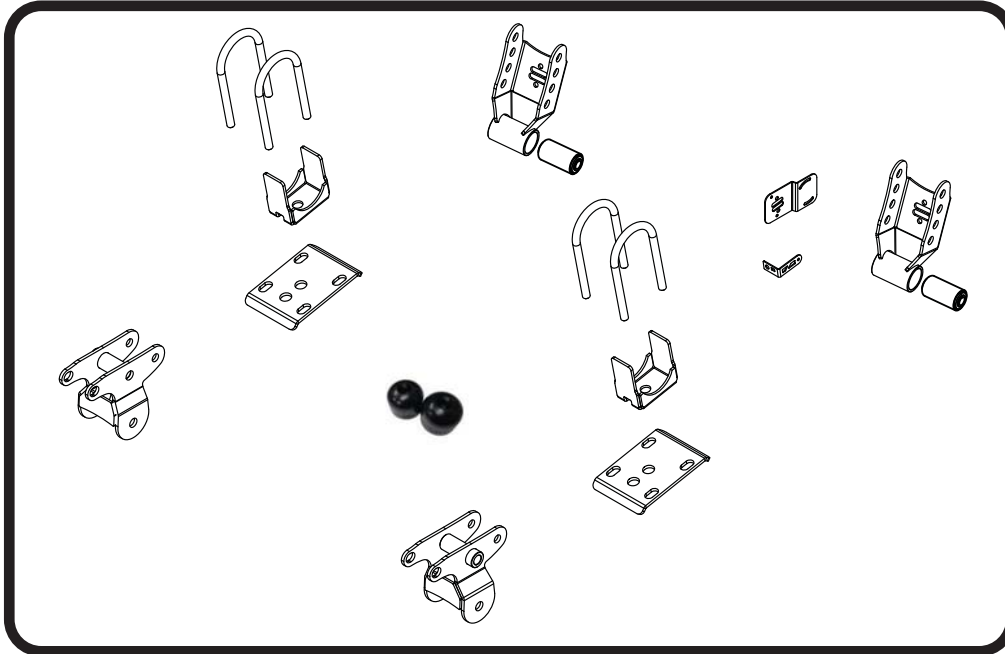




Part # 12299512 - 2015-2022 Ford F150 Rear Lowering Kit

Recommended Tools



2015-2022 Ford F150 Rear Lowering Kit Installation Instructions

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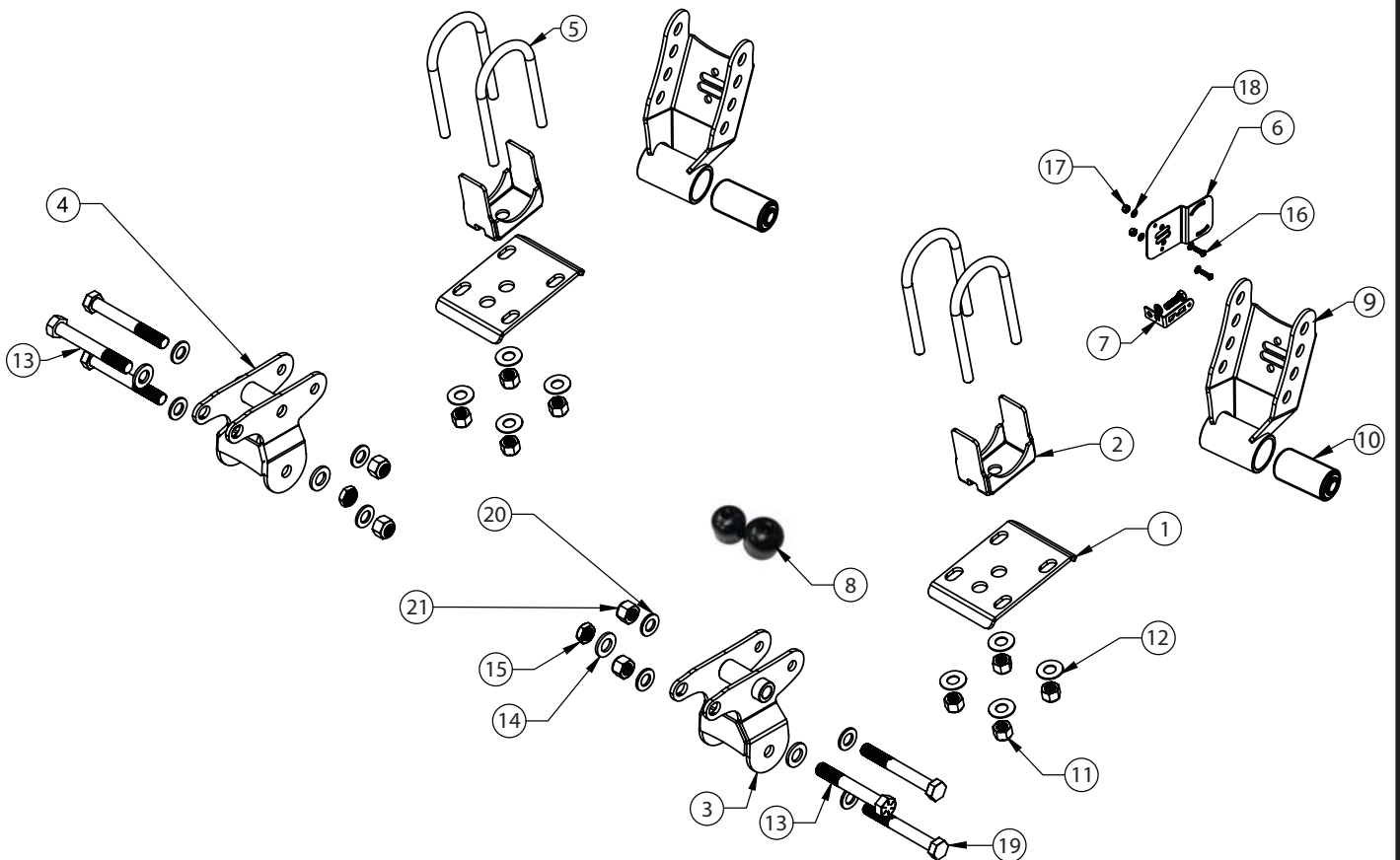
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Major ComponentsIn the box

Item #	Part #	Description	QTY
1	90003275	Rear Axle Mounting Plate	2
2	90003274	Axle Flip Bracket	2
3	90003272	Front Leaf Spring Relocation Bracket - Driver	1
4	90003273	Front Leaf Spring Relocation Bracket - Passenger	1
5	99626004	U-bolt - 3.375" W x 7.00" long x 5/8"-18 thread	4
6	70015487	2021 Rear Headlight Sensor Relocation Bracket	1
7	70015489	2021 Rear Headlight Sensor Bracket	1
8	70015647	Bump Stops, Pair	1
9	90003364	Adjustable Shackle	2
10	70015559	Shackle Bushing - installed in shackle	2





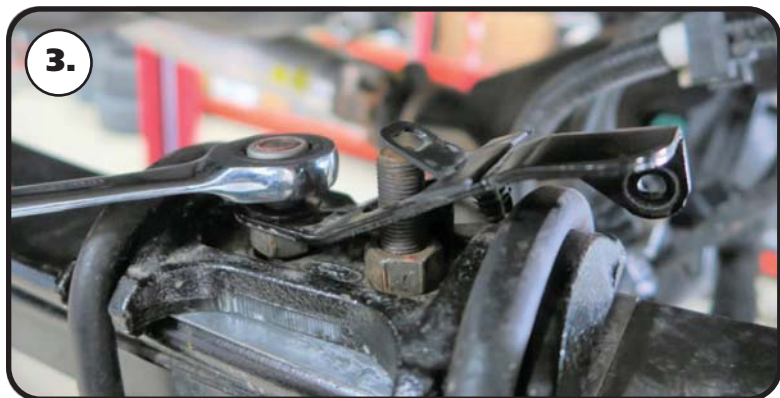
Hardware Kit# 99010169

Item #	Part #	Description	QTY	Item #	Part #	Description	QTY
U-BOLT				HANGER TO FACTORY LEAF SPRING HOLE			
11	99622001	5/8"-18 Nylok Nut	8	19	99181001	M18-2.5 X 130 Hex Bolt	2
12	99623001	5/8" SAE Flat Washer	8	20	99183001	M18 Flat Washer	4
PASSENGER FRONT LEAF SPRING MOUNT				21	99182001	M18-2.5 Nylok Nut	2
13	99751011	3/4"-16 X 5" Hex Bolt	2	LEAF SPRING TO HANGER			
14	99753004	3/4" SAE Flat Washer	4	19	99181001	M18-2.5 X 130 Hex Bolt	2
15	99752001	3/4"-16 Thin Nylok Nut	2	20	99183001	M18 Flat Washer	4
HEADLIGHT SENSOR TO RELOCATION BRACKET				21	99182001	M18-2.5 Nylok Nut	2
16	99101006	10-24 X 3/4" Phillips Head	2	BUMPSTOP			
17	99102002	10-24 Nylok Nut	2			M10-1.5 X 30mm SHCS	2
18	99103001	#10 SAE Flat Washer	4			M10 Flat Washer	2

Getting Started.....

THIS KIT CAN BE SETUP TO LOWER THE REAR OF YOUR TRUCK 4 DIFFERENT HEIGHTS. THERE IS 3" DIFFERENCE BETWEEN THE 4 SETTINGS. THIS HEIGHT ADJUSTMENT IS BUILT INTO THE REAR SPRING SHACKLE. THE PICKUP STYLE AND ACCESSORIES WILL AFFECT WHICH HOLE IS THE BETTER CHOICE. IF YOU HAVE A REGULAR CAB SHORT BED, WE SUGGEST STARTING WITH THE LOWEST SETTING(LONGEST SETTING ON THE SHACKLE). IF YOU HAVE A CREW OR EXTENDED CAB, START WITH THE HIGHEST SETTING(SHORTEST SETTING ON THE SHACKLE). BEFORE YOU START THE INSTALL, MEASURE THE HEIGHT OF YOUR TRUCK TO HELP DETERMINE HOW YOU WANT IT TO SIT. THE RIDETECH FRONT KIT HAS SOME ADJUSTMENT TOO. THE FRONT KIT WILL LOWER THE TRUCK 1 1/2"-3 1/2". YOUR TIRE HEIGHT WILL PLAY A FACTOR ON HOW LOW YOU CAN SET THE FRONT SUSPENSION.

1. Raise the vehicle to a safe and comfortable working height and support it by the frame. You will need to be able to move the rear differential up and down. Use a jack under the rear axle to raise and lower it during the install.
2. Jack up the rear end slightly to remove the tension from the rear shocks. Remove the shock absorbers. For proper function, they should be replaced with the Ridetech HQ Series shocks 12299510. Shocks are included with Kit # 12299511. Shocks are NOT included with Kit # 12299512.

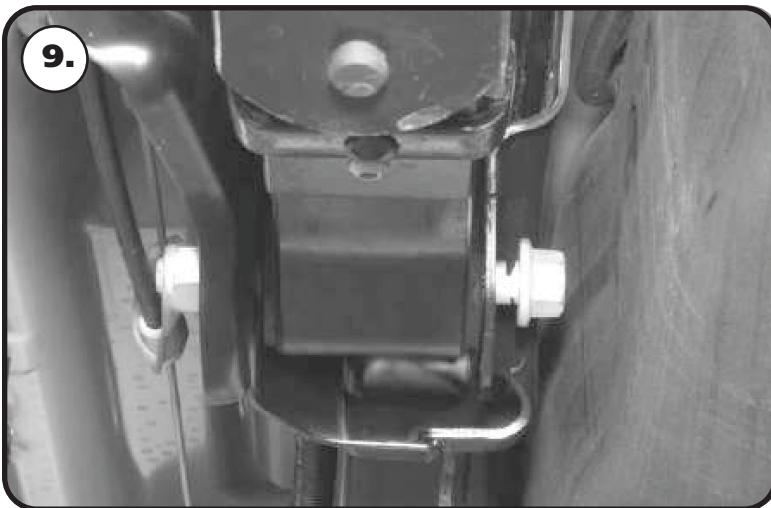


3. 2021-2022 ONLY! Disconnect the headlight sensor linkage from the Drivers side leaf spring mount. Remove the linkage bracket from the axle. There isn't a sensor on the Passenger side of the truck.



Disassembly

4. Mark the leaf springs driver and passenger.
5. **2015-2017 ONLY!** These year range of F150s may have a cable operated emergency brake. If your truck does, you will need to unbolt the emergency brake cable brackets from the drivers side front leaf spring mount and passenger side leaf spring axle pad. Retain the hardware, these will get reattached later.
6. Lower the jack to relieve the tension on the rear springs, but keep the jack touching the rear axle.
7. Remove the u-bolts and axle clamps to disengage the axle from the leaf springs.
8. Lower the axle to get clearance on the leaf springs, but **DO NOT** strain the brake lines.



9. The front of the leaf springs will need to be disconnected to install the front bracket and to move the springs under the axle. Due to the location of the fuel tank and exhaust, cutting the bolt head off is the easiest way to remove it. Loosen the nut enough to expose the shank of the bolt. Push the bolt in toward the fuel tank/exhaust. Cut off the head of the bolt, being careful to not damage the fuel tank, exhaust, or frame.

10. Support the front of the leaf spring and remove the remainder of the leaf spring hanger bolt.



11. The rear of the leaf springs will need to be disconnected to move the springs under the axle and to also replace the shackle. Support the rear of the leaf spring and remove the bottom leaf spring shackle bolt. Remove the rear shackle from the leaf spring.

Repeat Steps 9-11 on the 2nd leaf spring.



Disassembly



12. The leaf spring locating pins need to be flipped over. Currently, the nuts for the pins are on the top side of the leaf spring pack. The nuts will need to be on the bottom side for proper location of the flip bracket. The u-bolt locating plate will need to be removed and discarded. The pins can be held with a pair of vise grips to loosen and remove the nuts.



13. Next, remove the u-bolt locator and discard it.



14. Remove the locating pins from the leaf spring pack. Reinstall the locating pins from the TOP side. Reinstall the nuts on the BOTTOM side and tighten. Torque the nuts to 35 ftlbs Repeat on the second spring.



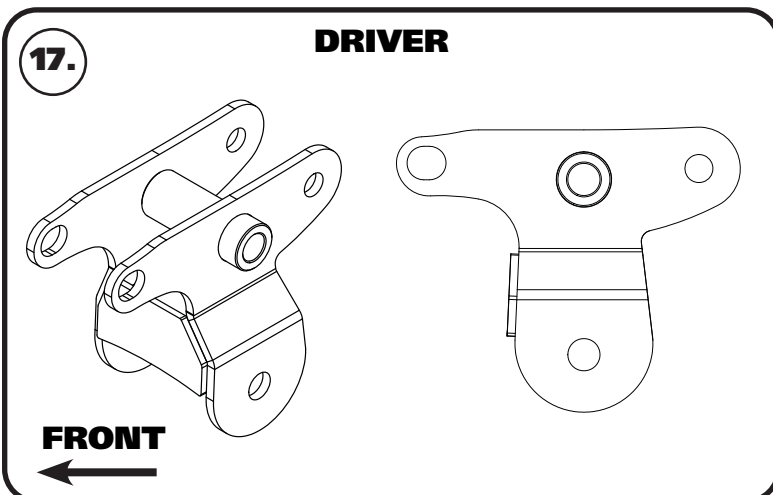
Bumpstop & Leaf Spring Bracket Installation



15. The OEM bump stop mount will need to be removed.



16. Install a M10 flat washer on a M10-1.5 x 30 mm socket head cap screw. Insert the washer/bolt in the center hole of the bumpstop. Use a hex key (allen) wrench to attach the bumpstop in the OEM location. Repeat on the other side and torque to 28 ftlbs.



17. The kit includes brackets to relocate the front of the leaf spring. The brackets have a "D" or "P" stamped into the side of the bracket. The Driver side is shown in **Image 17**. The bracket is mounted in the truck with the cross tube to the top and the long tabs to the front of the truck.



Leaf Spring Bracket Installation



18. Insert the leaf spring hanger bracket into the OEM leaf spring mount. The long tabs will point to the front of the truck and insert into the OEM mount. Position the bracket so that the tube lines up with the OEM leaf spring mounting hole.



19. Install a M18 flat washer on a M18-2.5 x 130mm bolt. Insert the bolt into the OEM leaf spring hole. Install a M18 flat washer & M18-2.5 nylok nut on the threads of the bolt. Do not tighten at this time.



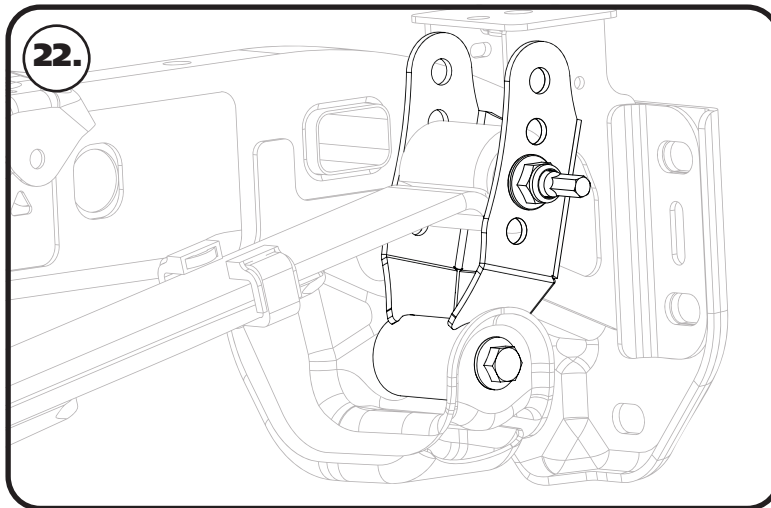
20. Make sure the holes in the front tab line up with the front hole of the OEM leaf spring mount. Install a 3/4" flat washer on a 3/4"-16 x 5" bolt. Insert the bolt/washer through the front hole of the leaf spring mount. Install a 3/4" flat washer & 3/4"-16 thin nylok nut on the threads of the bolt. Torque the hardware to 75 ftlbs.



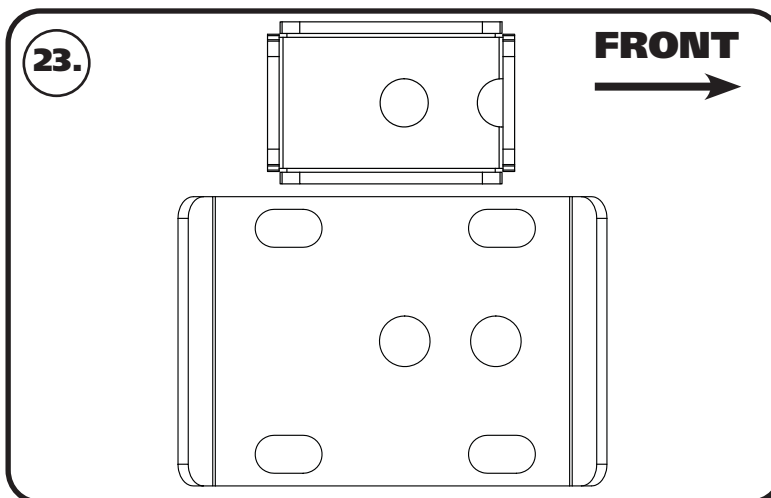
Leaf Spring Bracket & Flip Bracket Installation



21. Insert the front of the leaf spring in the new bracket. Install a M18 flat washer on a M18-2.5 x 130mm bolt. With the mounting holes aligned with the inner sleeve of the leaf spring, insert the bolt/washer. Install a M18 flat washer and M18-2.5 nylok nut on the threads of the bolt. Repeat on the second side. Do not tighten this hardware until the truck is sitting on the ground



22. Make sure the rear differential is raised high enough to get the leaf springs in position. The shackle will need to be bolted to the leaf spring with the OPEN side to the FRONT of the truck. Use the info on **Page 3** to help determine which holes to use. Line up the holes in the shackle with the through hole of the leaf spring. Insert the bolt/washer through the leaf spring and shackle FROM THE FRAME SIDE. The threads MUST point to the outside of the truck for clearance reasons. Line up the holes in the hanger with the inner sleeve of the shackle. Reinstall the OEM hardware. Do not tighten the hardware at this time.



23. The flip kit has the locating holes offset to center the wheel in the wheel opening. **Image 23** illustrates a top view of the flip bracket and the leaf spring plate. Notice the HOLES are offset to the FRONT of the truck.



Flip Bracket Installation



24. Raise the axle high enough to get the flip bracket positioned on the leaf spring.



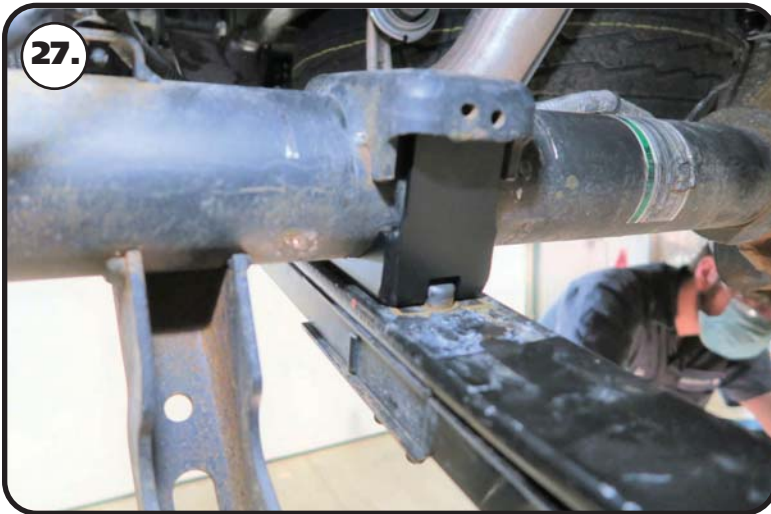
25. The flip bracket is positioned on the leaf spring locating pins. The locating pin holes will need to be positioned to the front of the truck.



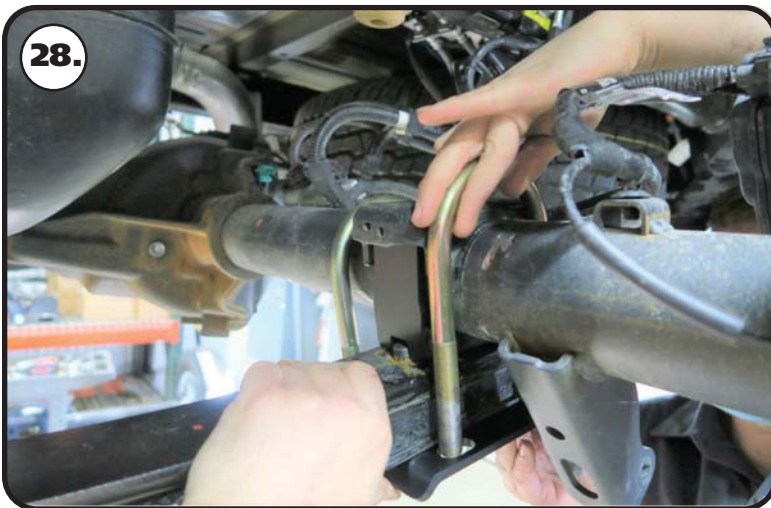
26. Position the flip bracket on the locating pins. Again, the locating pin holes go to the front of the truck.



Flip Bracket Installation



27. Slowly lower the axle into the flip bracket, making sure the tabs go up into the leaf spring saddle. THE FLIP BRACKET WILL POSITION THE PINION AT THE CORRECT ANGLE.



28. Slip the u-bolts over the axle tube with the threads pointing down.



29. Slip the leaf spring bracket up onto the u-bolts WITH THE OFFSET HOLES FORWARD. . Hold the leaf spring bracket in place and install a 5/8" flat washer & 5/8"-18 nylok nut on the threads of the u-bolts. Snug the nuts down evenly and tighten them in a criss-cross fashion to 130 ftlbs.

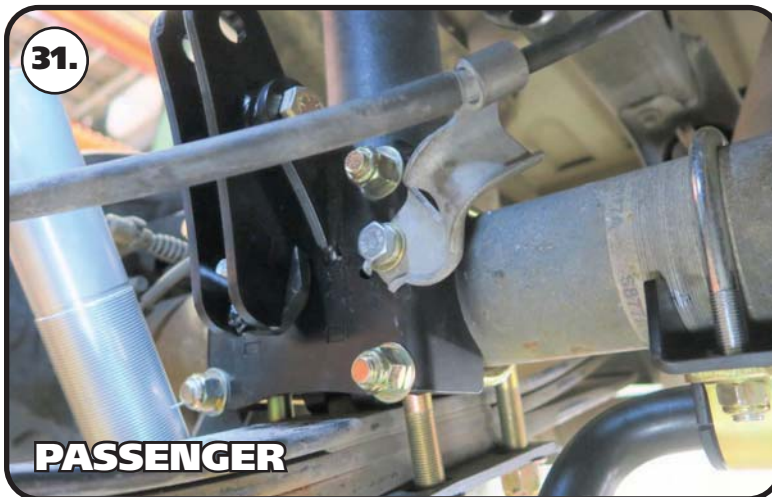


2015-2017 Emergency Brake Cable Brackets



2015-2017 WITH CABLE OPERATED EMERGENCY BRAKE ONLY!

30. Reattach the drivers side emergency brake cable bracket to the front leaf spring mount. You may need to trim the back edge of bracket to clear the leaf spring mount. Use the OEM hardware to reattach the bracket.



2015-2017 WITH CABLE OPERATED EMERGENCY BRAKE ONLY!

31. Reattach the passenger side emergency brake cable bracket. If you are using the Traction Bar kit, it will go back in the OEM location. If you are using the traction bar kit, there is a provision for reattaching the bracket. Use the OEM hardware to reattach the bracket.

Head Light Sensor Relocation 2021-2022 F150 ONLY

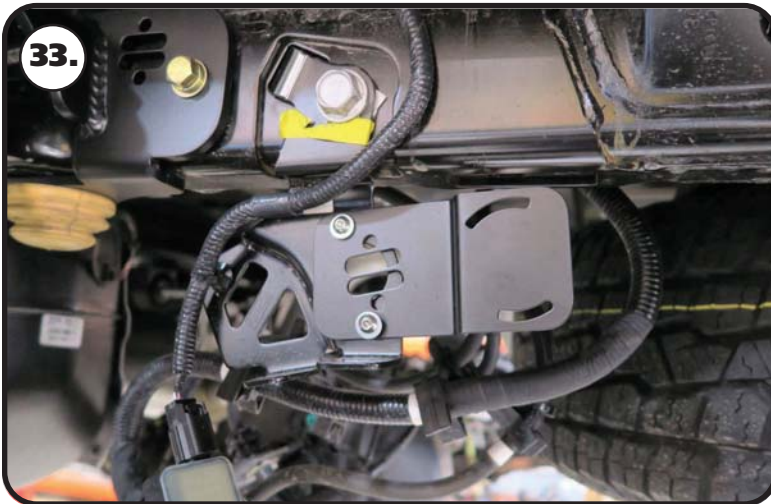


IF YOU ARE INSTALLING THE KIT ON A 2015-2020, SKIP TO STEP 38!!

32. Remove the headlight sensor from the frame bracket. Retain the hardware to reinstall the sensor.



Head Light Sensor Relocation 2021-2022 F150 ONLY



33. Align the relocation bracket holes with the mounting holes of the OEM bracket. Attach the new bracket using the supplied 10-24 x 3/4" bolts/ washer and nylok nuts. Tighten to 22 in-lbs.



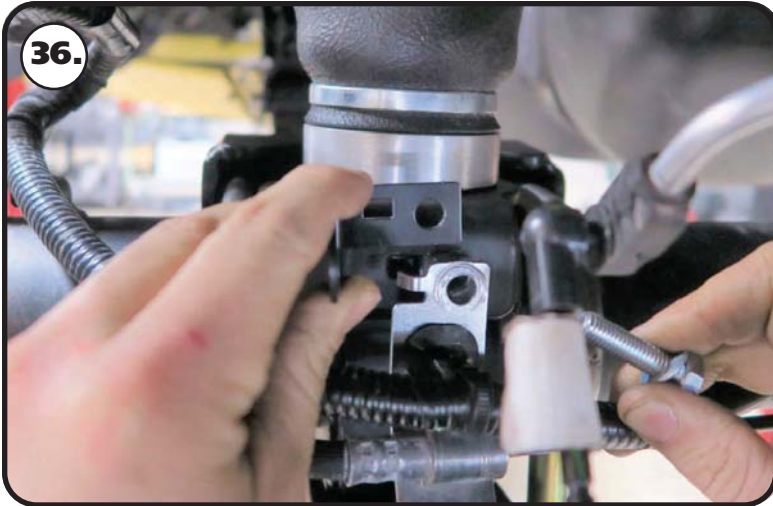
34. Reinstall the headlight sensor on the new bracket using the OEM hardware. The new bracket is slotted to allow for adjustment to set the headlights to your new ride height.



35. Remove the brake line bracket bolt from the rear of the drivers side leaf spring pad. Retain the hardware for assembly. If you are using the optional air springs, a longer bolt is supplied.



Head Light Sensor Relocation 2021-2022 F150 ONLY



36. The lower relocation bracket will get positioned under the brake line mount. The tab of the brake line mount needs to be engaged in the bracket and leaf spring pad. Reinstall the OEM hardware if you're not running the helper air spring kit. If you are using the helper air spring kit, use the supplied M8-1.25 x 30mm bolt and M8 flat washer. Torque to 169 in-lbs.



37. Reattach the headlight sensor linkage to the new bracket.

Final Assembly and Tightening.

38. Install the shocks using the instructions supplied with the shocks.

39. Set the truck on the ground and torque the leaf spring & shackle bolts to 167 ftlbs.

40. DOUBLE CHECK THE HARDWARE TO MAKE SURE IT IS TIGHT.

41. If you are doing the install on a 2021 F150, the headlight sensor will need to be adjusted at for your new ride height.