



## INSTALLATION INSTRUCTIONS



**2019 GM 1500 4WD**

**6" BASIC SYSTEM**

**FTS21250**

**NOTE:** TO ORDER WEARABLE REPLACEMENT COMPONENTS DO NOT USE PART NUMBERS SHOWN ON THIS INSTRUCTION SHEET. GO TO FABTECH WEBSITE AND LOOK UP WEARABLE REPLACEMENT PARTS TO FIND THE PROPER PART NUMBER TO ORDER.

**- PARTS LIST -**

Qty	<b>K1132</b>	<b>6" BASIC SYSTEM W/PERF SHOCKS</b>
1	FTS21250	COMPONENT BOX 1
1	FTS21251	COMPONENT BOX 2
1	FTS21252	SHOCK EXT KIT
2	FTS7240	REAR PERFORMANCE SHOCK

<b>FTS21250 COMPONENT BOX 1</b>		
1	FT20841	FRONT CROSSMEMBER
1	FT20842	REAR CROSSMEMBER
1	FT20843	DIFF BRACKET (DRIVER)
1	FT20844	DIFF BRACKET (PASSENGER)
1	FT20850	HARDWARE SUBASSEMBLY
1	FT20853	SWAY BAR FRAME BRACKET (DRIVER)
1	FT20854	SWAY BAR FRAME BRACKET (PASSENGER)
1	FT20856	DIFF SKID PLATE
1	FT20858	HARDWARE KIT

<b>FT20850 HARDWARE SUBASSEMBLY</b>		
1	FT20849	NUT TAB (DRIVER DIFF BRACKET)
1	FT20855	NUT TAB (SKID PLATE)
1	FT21250i	INSTRUCTIONS
1	FTAS12	STICKER FT BLUE 10X4
1	FTAS16	DRIVER WARNING DECAL
1	FTREGCARD	REGISTRATION CARD

<b>FTS21252 6" SHOCK EXT KIT</b>		
4	FT20568BK	SHOCK BRACKET
2	FT20847	SHOCK EXTENSION
2	FT20848	SHOCK MOUNT TO ARM
2	FT20872	BOTTOM PLATE
1	FT20852	HARDWARE SUBASSEMBLY

<b>FTS21251 COMPONENT BOX 2</b>		
4	FT1500U-3	UBOLT SQ 9/16-18 X 12.50 X 2.63
1	FTS20840D	SPINDLE (DRIVER)
1	FTS20840P	SPINDLE (PASSENGER)
1	FT20851	HARDWARE SUBASSEMBLY
2	FTBK5	BLOCK 5.0 IN
2	FT20664	AXLE SPACER

<b>FT20851 HARDWARE SUBASSEMBLY</b>		
2	FT44288	TIE ROD END
2	FT20846	TIE ROD EXTENSION
2	FT20870	REAR BUMPSTOP SPACERS
1	FT20859	REAR BRAKE LINE BRACKET
1	FT20860	REAR BRAKE LINE BRACKET

<b>FT20852 HARDWARE SUBASSEMBLY</b>		
4	FT1036	BUSHING HALF
2	FT148	SLEEVE 1.250 X .530 X 2.400
4	FT20871	ALUMINUM SHOCK MOUNT BUSHING
1	FT20295	HARDWARE KIT
1	FTLUBE	GREASE PACKET

**- PARTS LIST -**

<b>FT20858 - HARDWARE KIT</b>		<b>LOCATION</b>
	<b>BAG 1</b>	
4	M18-2.5 X 120MM HEX BOLT 10.9	CROSSMEMBER
8	M18 FLAT WASHER	
4	M18-2.5 GRADE C LOCK NUT	
2	M14-2.0 X 100MM HEX BOLT 10.9	LOWER DIFF MOUNTS
1	M14-2.0 X 120MM HEX BOLT 10.9	PASS UPPER DIFF
6	M14 FLAT WASHER	
3	M14-2.0 C-LCOK NUT	
1	1/2-13 X 1-1/4 HEX BOLT	DRIVER DIFF NUT TAB
1	1/2" SAE WASHER	
1	1/2" SPLIT WASHER	
2	THREAD LOCKING COMPOUND 1 MIL	
	<b>BAG 2</b>	
2	7/16-14 X 1-1/2 HEX BOLT	SKID PLATE
4	7/16 SAE WASHER	
2	7/16-14 C-LOCK NUT ZINC	
1	1/2-13 X 1-1/2 HEX BOLT	SKID PLATE
2	1/2" SAE WASHER	
1	1/2-13 C-LOCK NUT	
4	3/8-16 X 1-1/2" HEX BOLT	SWAY BAR
8	3/8" SAE WASHER	
4	3/8-16 C-LOCK NUT	
2	1/4-20 X 3/4 HEX BOLT G5 ZINC	SPINDLE ABS
2	1/4 LOCK WASHER	
	<b>BAG 3</b>	
8	9/16-18 NYLOCK NUT	UBOLTS
8	9/16" SAE WASHER	
3	1/4-20 X 1" HEX BOLT	REAR BRAKE LINE
6	1/4 SAE WASHER	
3	1/4-20 C-LOCK NUT	
2	M10-1.5 X 70MM SOCKET HEAD BOLT	REAR BUMPSTOP

<b>FT20295 - HARDWARE KIT</b>		<b>LOCATION</b>
4	7/16"-14 X 2 1/2" HEX CAP BOLT	STRUT MOUNT BRACKET
4	7/16"-14 C-LOCKS	
8	7/16" SAE FLAT WASHER	
4	1/2"-13 X 4" HEX CAP BOLT	STRUT. EXT. TO BRACKET
2	1/2"-13 X 3 3/4" HEX CAP BOLTS	FRONT LOWER STRUT
6	1/2"-13 C-LOCKS	
12	1/2" SAE FLAT WASHER	
8	5/16"-18 X 1 1/2" HEX CAP BOLT	STRUT MOUNT BRACKETS
8	5/16"-18 C-LOCKS	
16	5/16" SAE FLAT WASHER	

## - TOOL LIST -

### **Required Tools (Not Included)**

- Basic Hand Tools
- Floor Jack
- Jack Stands

- Assorted Metric and S.A.E sockets, and Allen wrenches
- Torque Wrench
- Die Grinder w/ Cutoff Wheel or Sawzall

## - PRE-INSTALLATION NOTES -

### **READ THIS BEFORE YOU BEGIN INSTALLATION -**

Read all instructions thoroughly from start to finish before beginning the installation. If these instructions are not properly followed severe frame, driveline and / or suspension damage may occur.

Check your local city and state laws prior to the installation of this system for legality. Do not install if not legal in your area.

Prior to the installation of this suspension system perform a front end alignment and record. Do not install this system if the vehicle alignment is not within factory specifications. Check for frame and suspension damage prior to installation.

The installation of this suspension system should be performed by two professional mechanics.

This suspension must be installed with Fabtech shock absorbers.

Use the provided thread locking compound on all hardware.

**WARNING-** Installation of this system will alter the center of gravity of the vehicle and may increase roll over as compared to stock.

Vehicles that receive oversized tires should check ball joints, uniballs, tie rods ends, pitman arm and idler arm every 2500-5000 miles for wear and replace as needed.

Verify differential fluid is at manufactures recommended level prior to kit installation. Installation of the kit will reposition the differential and the fill plug hole may be in a different position. (For example, if the manufacture recommends 3 quarts of fluid, make sure the diff has 3 quarts of fluid). Check your specific manual for correct amount of fluid.

### **FOOTNOTES -**

- Can not use OEM wheel and tire
- Fits crew cab, short bed models only
- Will not fit models equipped with Adaptive Ride Control
- Does not fit GMC AT4 or Chevy Trail Boss models

### **TIRE & WHEEL SIZES -**

- 35/12.50R18 tires w/18x9 wheels w/5" BS w/minor trimming
- 295/70R18 tires w/18x9 wheels w/5" BS w/minor trimming
- 35/12.50R20 tires w/20x9 wheels w/5" BS w/minor trimming
- 295/65R20 tires w/20x9 wheels w/5" BS w/minor trimming

# - INSTRUCTIONS -

## FRONT SUSPENSION

1. Disconnect the negative terminal on the battery. Jack up the front end of the truck and support the frame rails with jack stands. **NEVER WORK UNDER AN UNSUPPORTED VEHICLE!** Remove the front tires.
2. Remove and discard both the lower plastic cover and skid plate from the vehicle. **SEE FIGURES 1-2**



FIGURE 1 - STEP 2

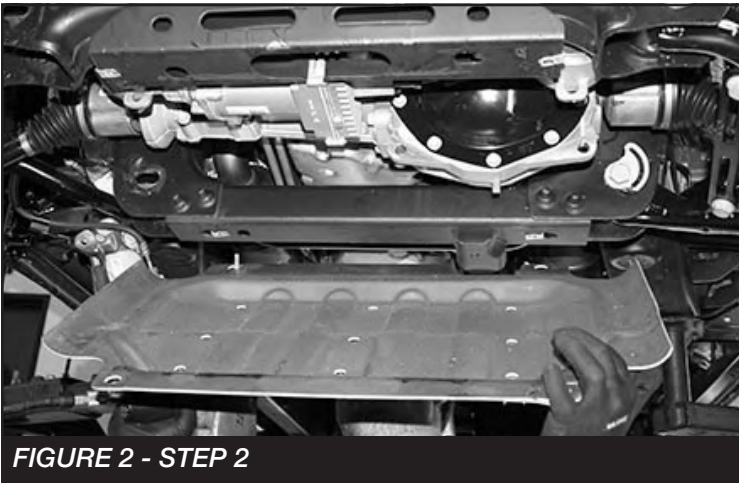


FIGURE 2 - STEP 2

3. Remove the tie rod end nut, then disconnect the tie rod end from the factory steering knuckle by striking the knuckle to dislodge the tie rod end. Repeat on the other side. **SEE FIGURES 3-5**



FIGURE 3 - STEP 3

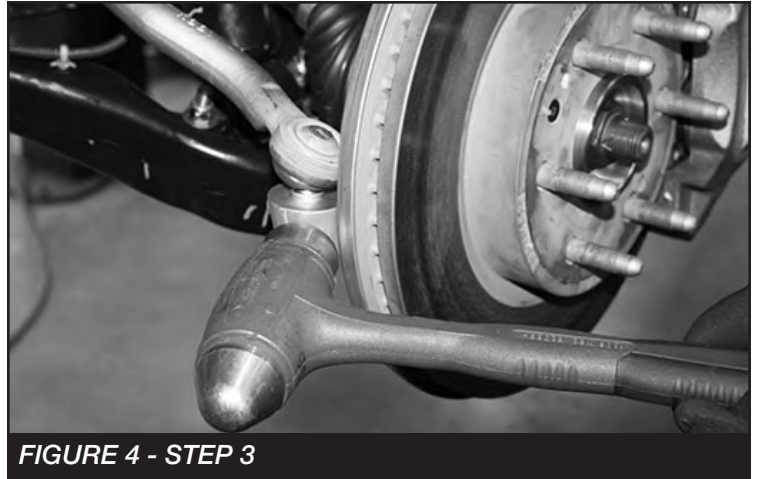


FIGURE 4 - STEP 3



FIGURE 5 - STEP 3

4. Disconnect the sway bar end links from the factory knuckle on both sides. Save hardware. **SEE FIGURE 6**



**FIGURE 6 - STEP 4**

5. Remove the sway bar completely from the frame and set aside. Save hardware for re-installation.

6. **Driver side:** Disconnect the ABS wire bracket from the upper control arm and the brake line bracket from the knuckle. Save hardware. **SEE FIGURES 7-8**



**FIGURE 7 - STEP 6**



**FIGURE 8 - STEP 6**

7. Remove the ABS sensor from the factory knuckle. Save hardware. **SEE FIGURE 9**



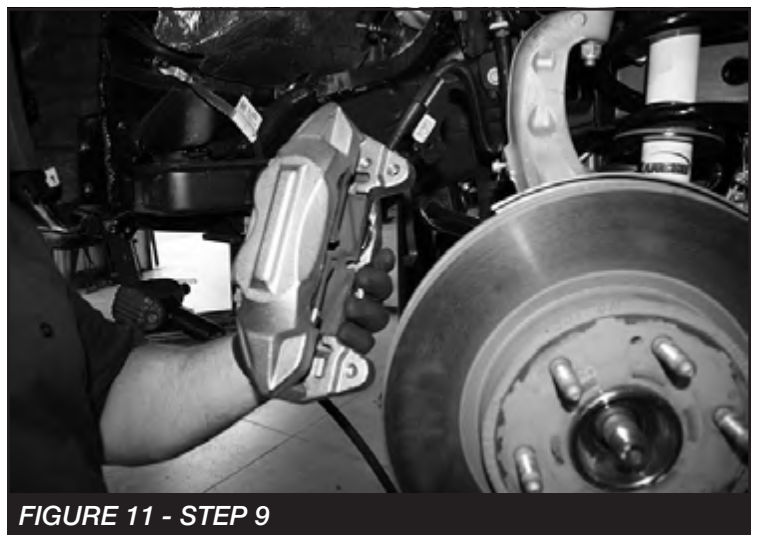
**FIGURE 9 - STEP 7**

8. Using a 36mm socket, remove and save the axle hub nut. **SEE FIGURE 10**



**FIGURE 10 - STEP 8**

9. Remove the brake caliper and secure it to the frame. **DO NOT ALLOW THE BRAKE CALIPER TO HANG FROM THE HOSE.** **SEE FIGURES 11-12**

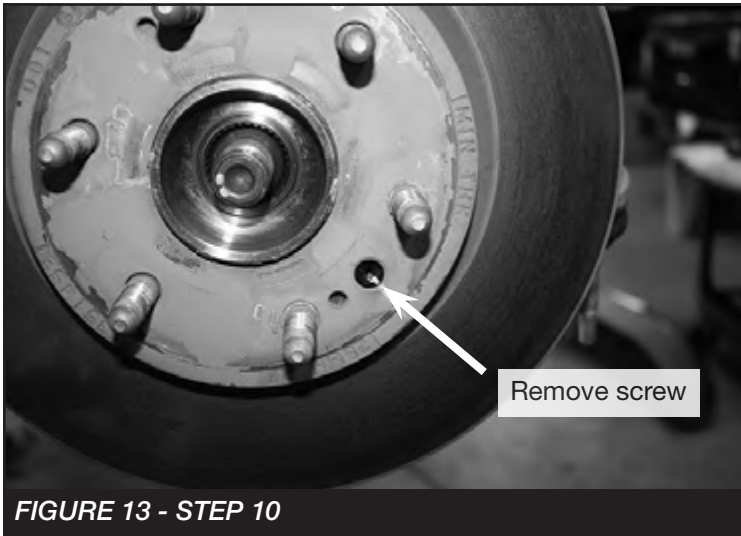


**FIGURE 11 - STEP 9**

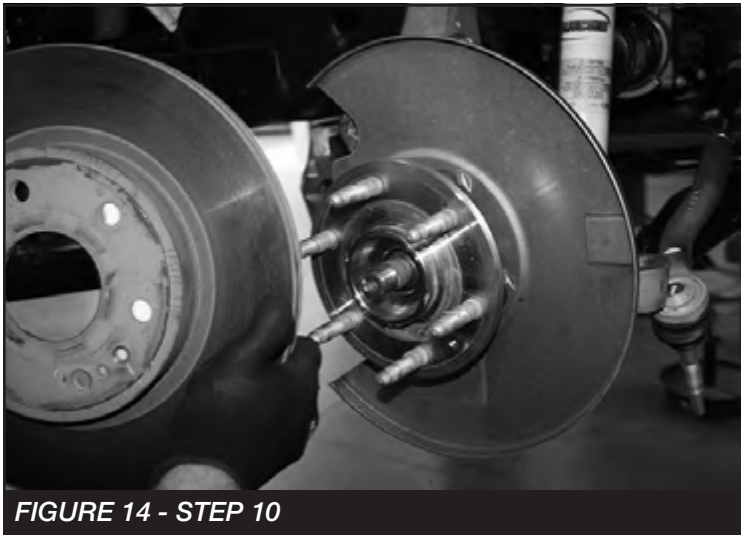


**FIGURE 12 - STEP 9**

10. Remove and save the positioning screw from the brake rotor. Then, remove the rotor and set aside. **SEE FIGURES 13-14**

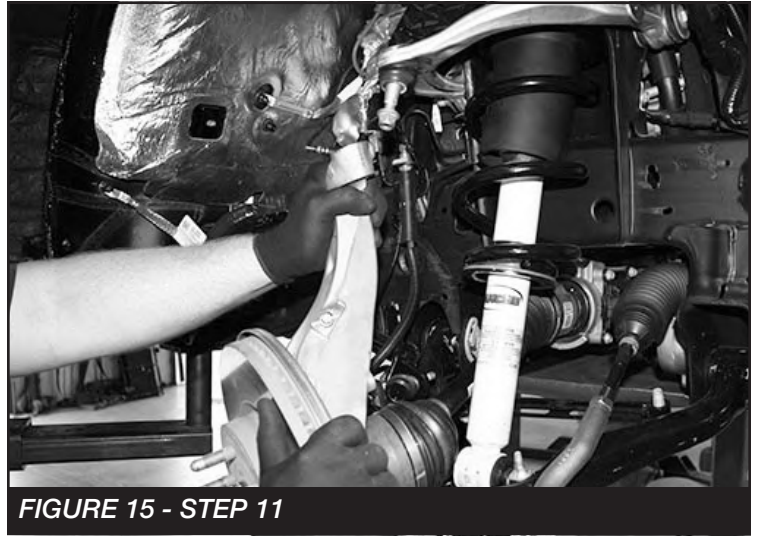


**FIGURE 13 - STEP 10**

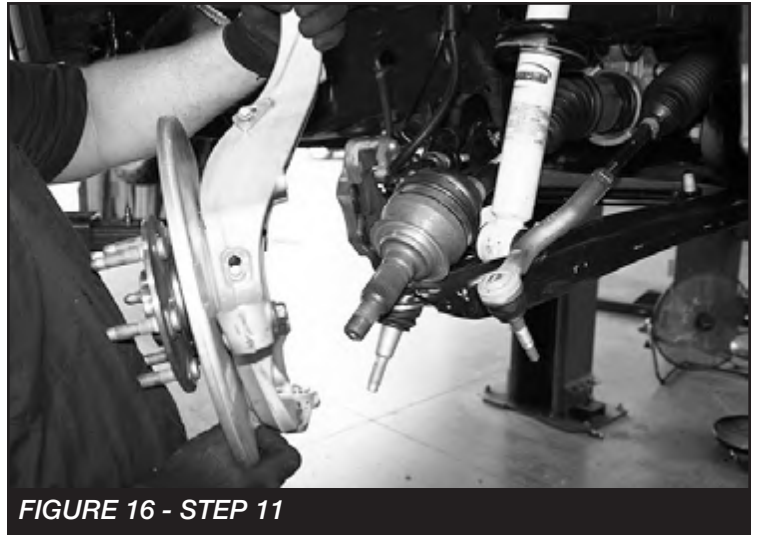


**FIGURE 14 - STEP 10**

11. Loosen the upper and lower ball joint. Using a large hammer, carefully strike the spindle at the ball joint to dislodge the ball joint. Use care not to hit the ball joints when removing. **SEE FIGURES 15-16**. Remove and save the nuts. Discard the factory spindle.



**FIGURE 15 - STEP 11**



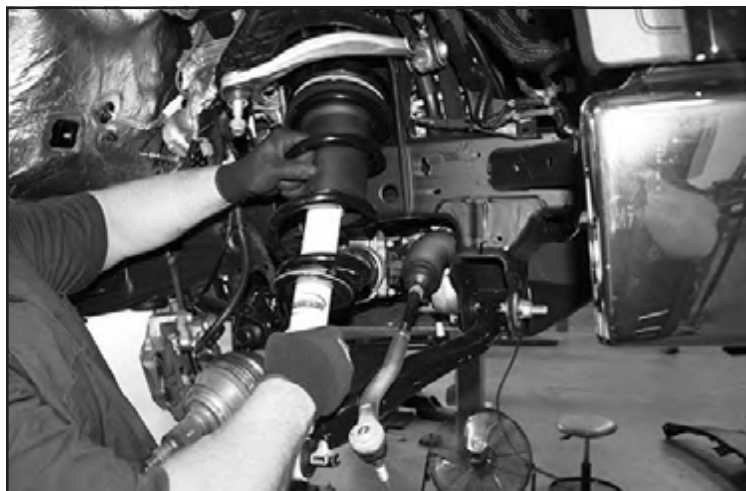
**FIGURE 16 - STEP 11**

12. Remove the lower bolts attaching the strut to the lower control arm. **SEE FIGURE 17**



**FIGURE 17 - STEP 12**

13. Next remove the upper three nuts attaching the strut to the frame mount. Then, remove the strut assembly from the vehicle. Save hardware. **SEE FIGURES 18**



**FIGURE 18 - STEP 13**

14. Repeat steps 6-13 on the passenger side. **NOTE: To access the top three strut assembly nuts on the passenger side push up and back on the plastic wire harness channel to remove the nuts. SEE FIGURE 19**



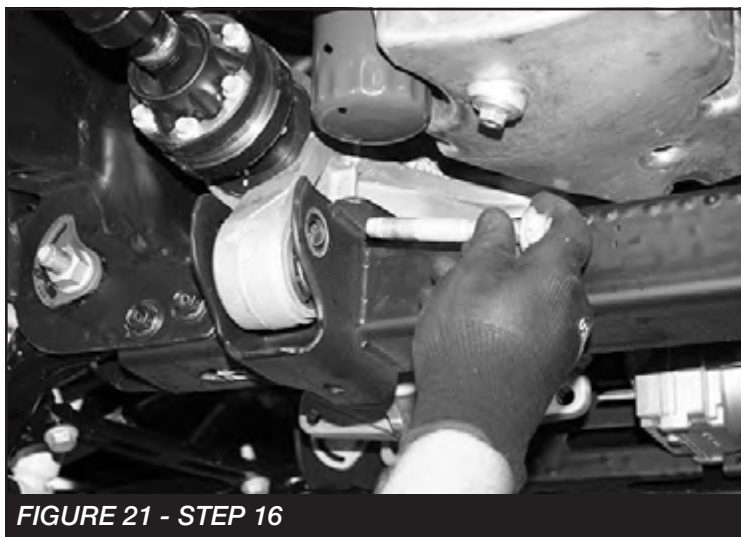
**FIGURE 19 - STEP 14**

15. Remove both driver and passenger side lower control arms. Save arms and all hardware. **SEE FIGURE 20**



**FIGURE 20 - STEP 15**

16. Remove the bolt attaching the differential to the rear cross member. Save hardware. Then, remove and discard the rear crossmember. **SEE FIGURES 21-22**



**FIGURE 21 - STEP 16**



**FIGURE 22 - STEP 16**

17. Disconnect the front driveshaft from the differential. Save hardware. **SEE FIGURE 23**



FIGURE 23 - STEP 17

18. Disconnect the electrical plug from the diff as well as the breather tube from the top of the diff. **SEE FIGURE 24**



FIGURE 24 - STEP 18

19. With the front diff supported. Remove the 2 bolts that attach the differential to the frame. The driver bolt is located on the outside of the frame under the strut mount. The passenger side bolt is up inside the frame. **NOTE: To remove the diff bolt, remove the 10mm bolt attaching the actuator and move the actuator enough to completely remove the bolt. Then reinstall the actuator in its original location.** Remove the differential from the truck. **SEE FIGURES 25-28**

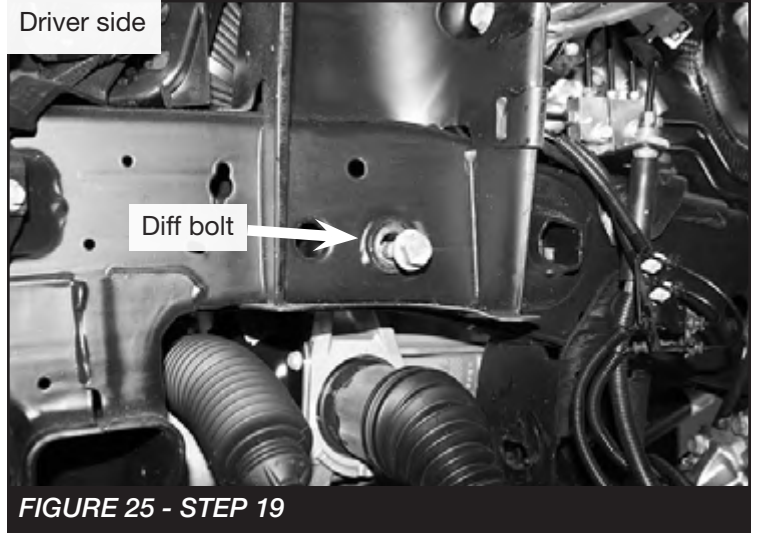


FIGURE 25 - STEP 19



FIGURE 26 - STEP 19

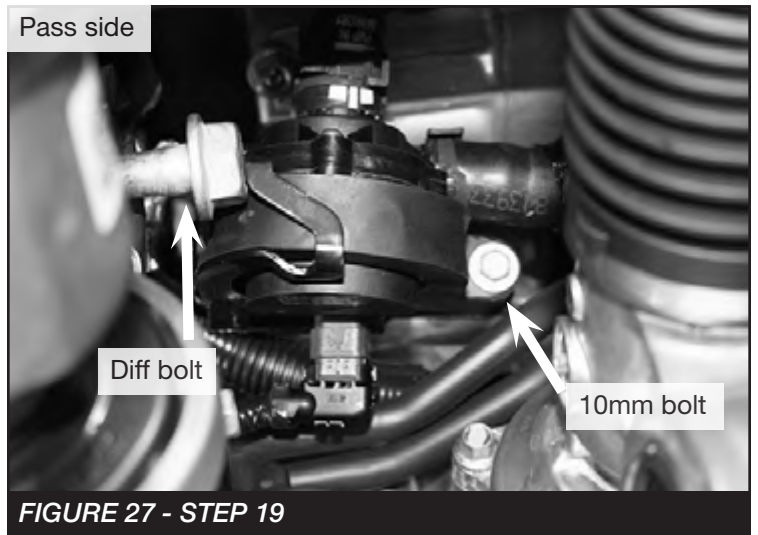


FIGURE 27 - STEP 19

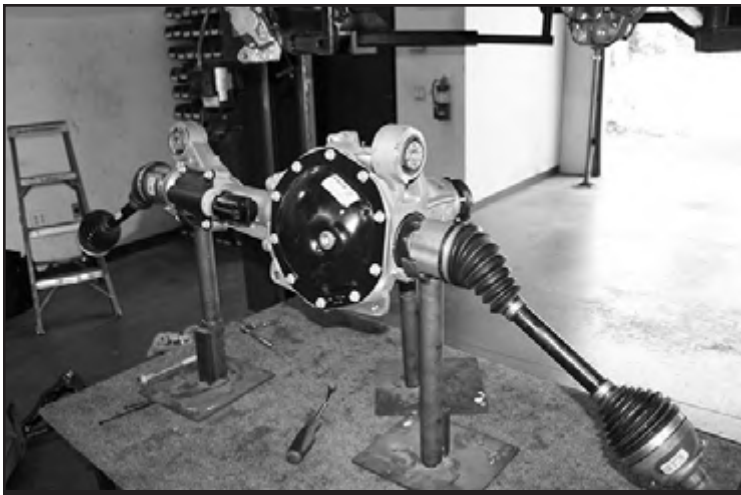


FIGURE 28 - STEP 19

20. Locate the driver side rear crossmember/control arm mount. Measure 2" from the inside end and mark a vertical line on both the front and back side of the mount. Using a sawzall cut the 2" part off of the mount. **SEE FIGURES 29-31**

Front side

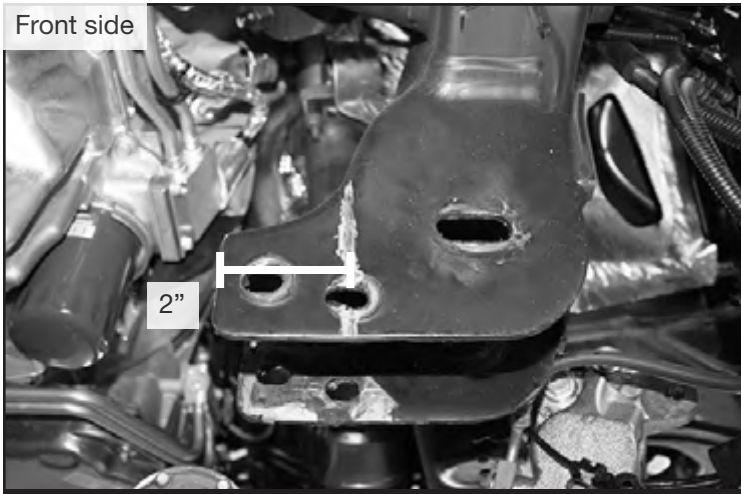


FIGURE 29 - STEP 20

Back side

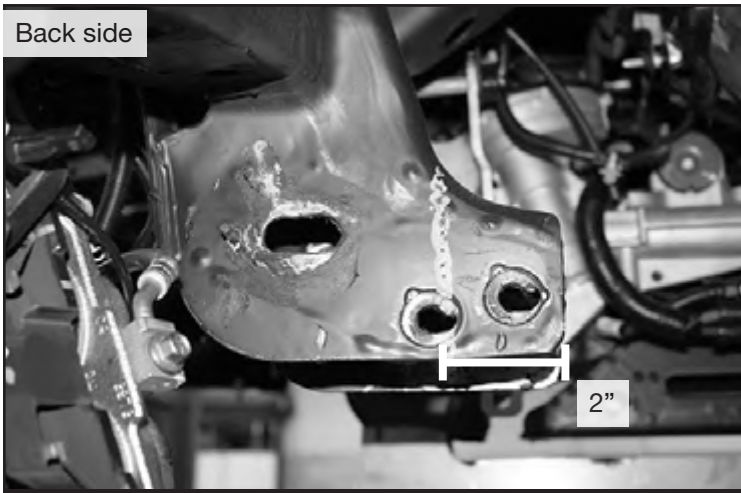


FIGURE 30 - STEP 20



FIGURE 31 - STEP 20

21. Install FT2084 (Pass diff bracket) to the frame using the supplied M14 x 120mm bolt, washers and nut. Leave loose. **SEE FIGURES 32-33**

Front of vehicle

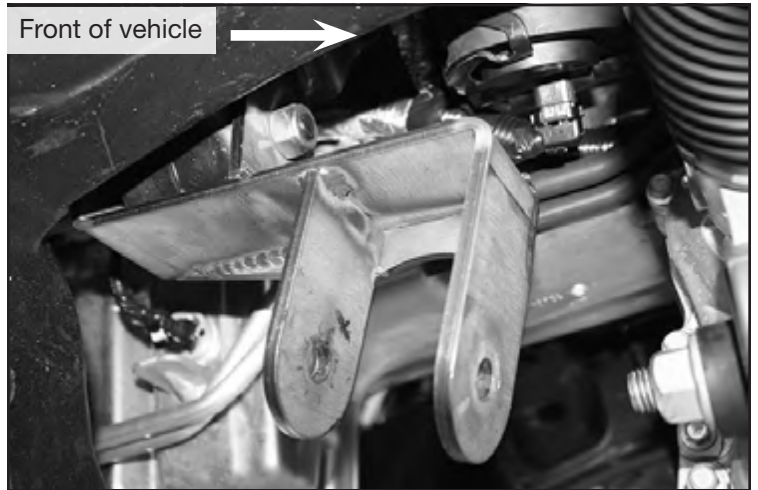


FIGURE 32 - STEP 21

Front of vehicle

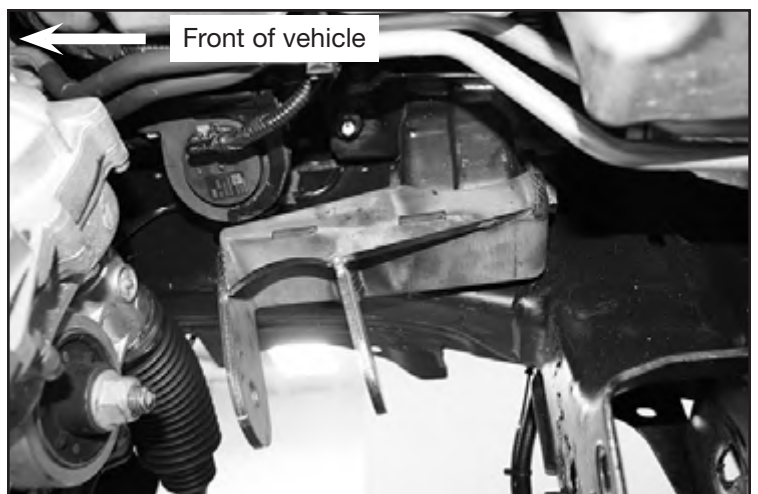
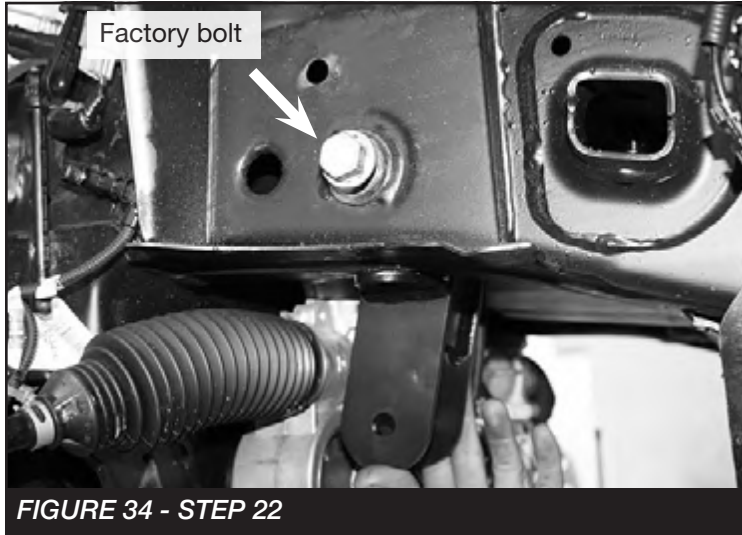
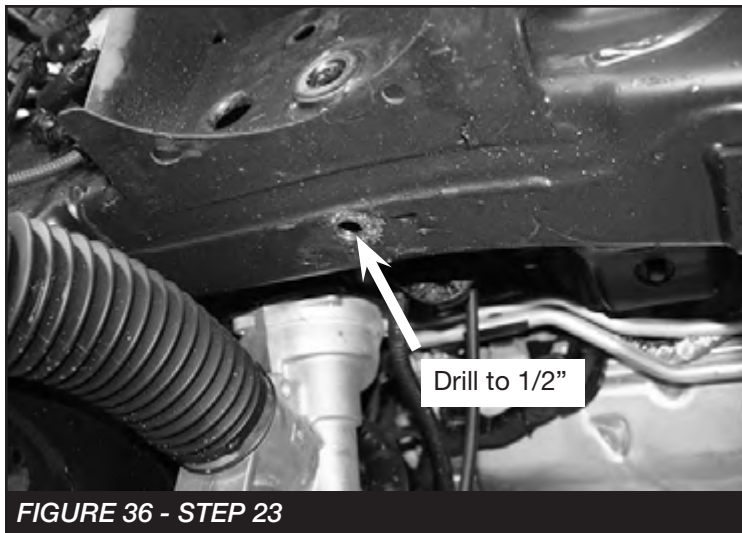


FIGURE 33 - STEP 21

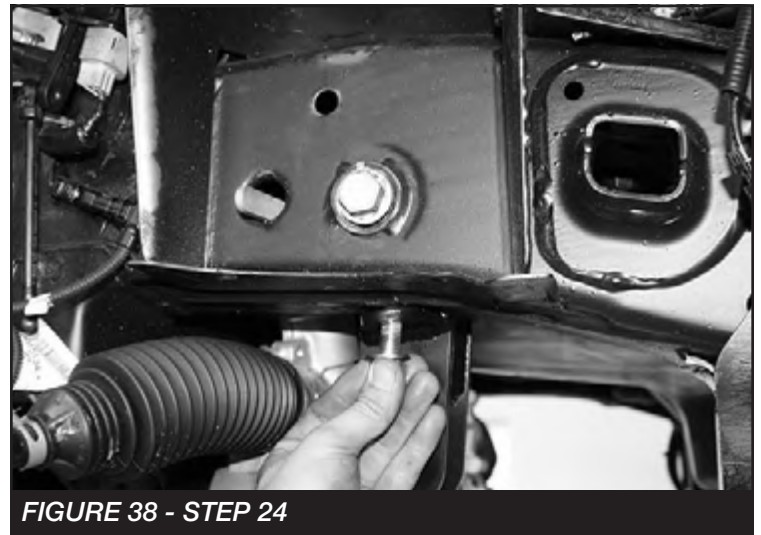
22. Install FT20843 (Driver diff bracket) using the factory bolt removed in step 19 like shown in **FIGURE 34**. Make sure the bracket is flush to the frame and mark the hole to drill. **SEE FIGURE 35**.



23. Remove the bracket and drill the hole using a 1/2" drill bit. **SEE FIGURE 36**



24. Re-install the FT20843 bracket using the factory bolt. Leave loose. Install FT20849 (Nut tab) through the factory hole on the side of the frame. Then, install the supplied 1/2" X 1-1/4" bolt, washer and lock washer up through the bracket and frame to the nut tab. Torque 1/2" hardware to 106 ft-lbs and the factory bolt to 148 ft-lbs. **SEE FIGURES 37-38**



25. Install the differential to the new Fabtech diff brackets using the supplied M14 x 100mm bolts, washers and nuts. Leave loose. **SEE FIGURES 39-40**

Pass side



FIGURE 39 - STEP 25

Driver side



FIGURE 40 - STEP 25

26. Install the FT20842 (Rear crossmember) to the factory frame pockets using the supplied M18 x 120mm bolts, washers and nuts. Then, install the factory rear diff bolt (removed in step 16) through the new rear crossmember. Leave loose. **SEE FIGURES 41-42**



FIGURE 41 - STEP 26



FIGURE 42 - STEP 26

27. Re-install the front driveshaft to the diff using the factory hardware. Torque to 53 ft-lbs. **SEE FIGURE 43**



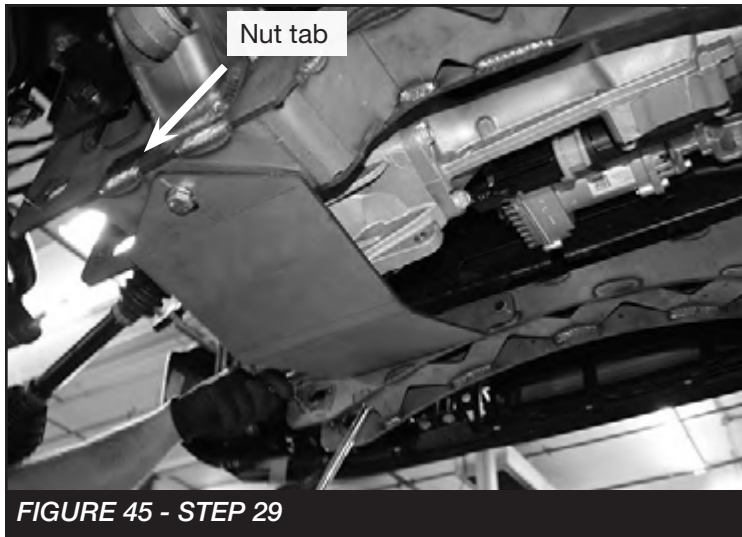
FIGURE 43 - STEP 27

28. Install FT20841 (Front crossmember) using the supplied M18 x 120mm bolts, washers and nuts. Leave loose. **SEE FIGURE 44**

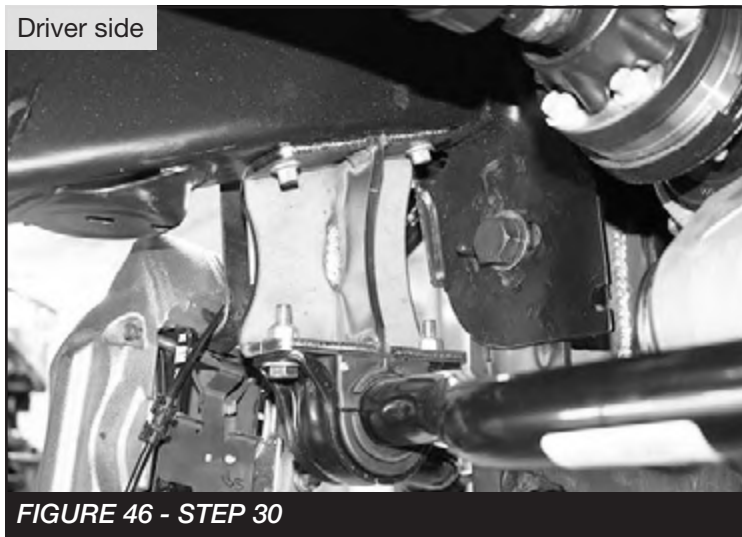


FIGURE 44 - STEP 28

29. Install FT20856 (Skid plate) to the front crossmember using the supplied two 7/16" x 1-1/2" bolts, washers and nuts. Then, install to the rear crossmember using the supplied 1/2" x 1-1/2" bolt, washer and FT20855 (Nut tab). Install the Nut tab through the open slot on the back side of the crossmember. **SEE FIGURE 45**



30. Install FT20853 & FT20854 (driver & pass sway bar drop brackets) using the factory hardware. Then install the factory sway bar to the new brackets using the supplied 3/8" x 1-1/2" hardware. **SEE FIGURE 46-47**



31. Re-install the factory lower control arms to the pockets on the Fabtech crossmembers using the factory cam bolts. **SEE FIGURE 48**



- **IF INSTALLING DIRT LOGIC COILOVERS SKIP TO STEP**

32. Locate the factory coilovers. Remove the nut clips from the cross-shaft and discard. Using a press, press out the cross-shaft and the bushing from the bottom of the coilover and discard. **SEE FIGURES 49-51**





FIGURE 50 - STEP 32



FIGURE 51 - STEP 28

33. Install two FT20871 (Aluminum half bushing) into the factory lower strut. **SEE FIGURE 52**



FIGURE 52 - STEP 33

34. Install two FT20568BK (shock brackets) around the bottom of the factory shock making sure the holes are lined up (use a supplied 1/2" bolt to line to hold in place). Then, Install four 5/16" x 1-1/2" bolts and hardware to secure the brackets to the strut body. Torque to 25 ft-lbs. Then remove the 1/2" bolt. **SEE FIGURE 53-54**



FIGURE 53 - STEP 34



FIGURE 54 - STEP 34

35. Install two FT1036 (Bushings) into FT20847 (Shock extension) using the supplied grease. Then using a press. Press the FT148 (Sleeve) into the bushings. **SEE FIGURES 55-56**



**FIGURE 55 - STEP 35**



**FIGURE 56 - STEP 35**

36. Install the FT20847 (shock extension) onto the factory strut using the supplied 1/2" x 4" bolts and hardware. Torque to 106 ft-lbs. **SEE FIGURES 57-58**



**FIGURE 57 - STEP 36**



**FIGURE 58 - STEP 36**

37. Install FT20848 (Lower shock mount) & FT20872 (shock mount plate) to the lower control arm using the supplied 7/16" x 2-1/2" bolts and hardware. Torque to 70 ft-lbs. **SEE FIGURES 59-60**



**FIGURE 59 - STEP 37**



**FIGURE 60 - STEP 37**

38. Install the factory coilover to the upper mount using the factory hardware and to the new lower mount using the supplied 1/2" x 3-3/4" bolt and hardware. **SEE FIGURE 61**



FIGURE 61 - STEP 38

39. Locate the factory spindles. Disassemble the factory spindles from the hub assemblies by removing the 4 bolts on each spindle. **SEE FIGURES 62-63**

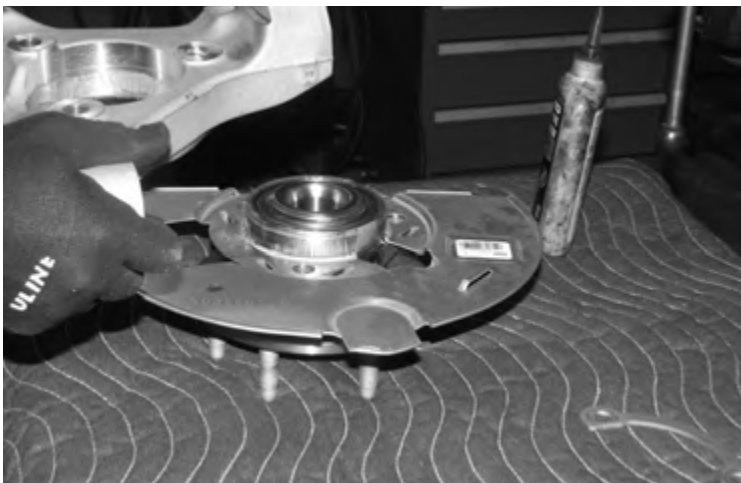


FIGURE 62 - STEP 39

40. Locate FT20840D (Driver spindle) & FT20840 (Pass spindle) assemble the new spindle on the hub assembly. Use thread lock on the factory hardware and torque to 125 ft-lbs. **SEE FIGURE 63**

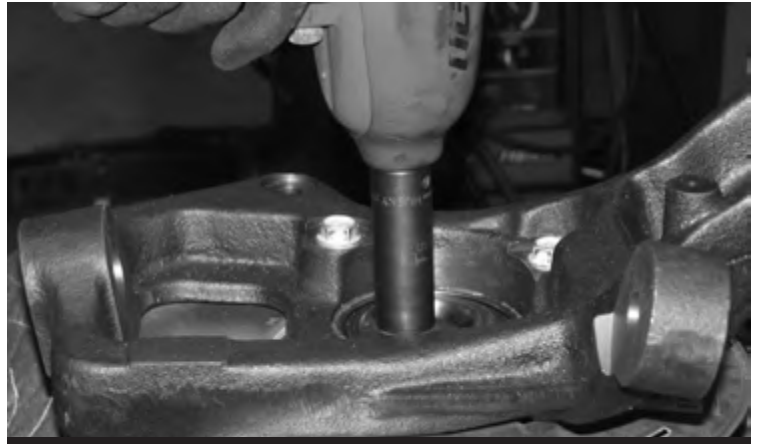


FIGURE 63 - STEP 40

41. Locate FT20664 (Axle spacer). Install the spacer onto the axle half shaft as you install the new spindle onto the lower & upper control arms. **NOTE: Make sure the spacer is centered on the back side of the spindle. SEE FIGURES 64-66** Torque the upper ball joint to 37 ft-lbs and the lower ball joint to 87 ft-lbs.

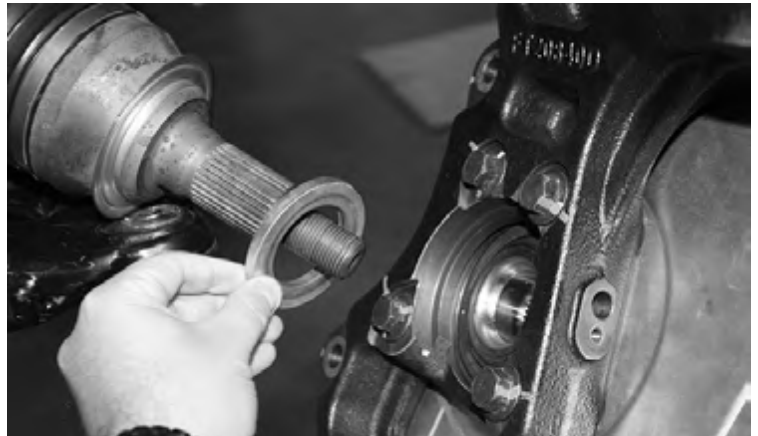


FIGURE 64 - STEP 41

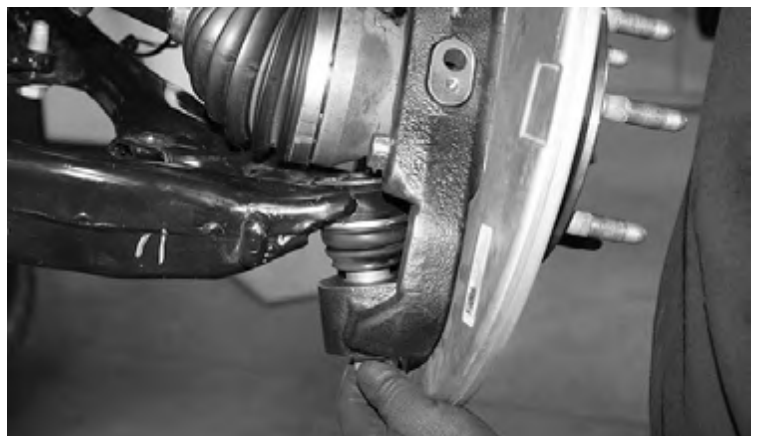


FIGURE 65 - STEP 41



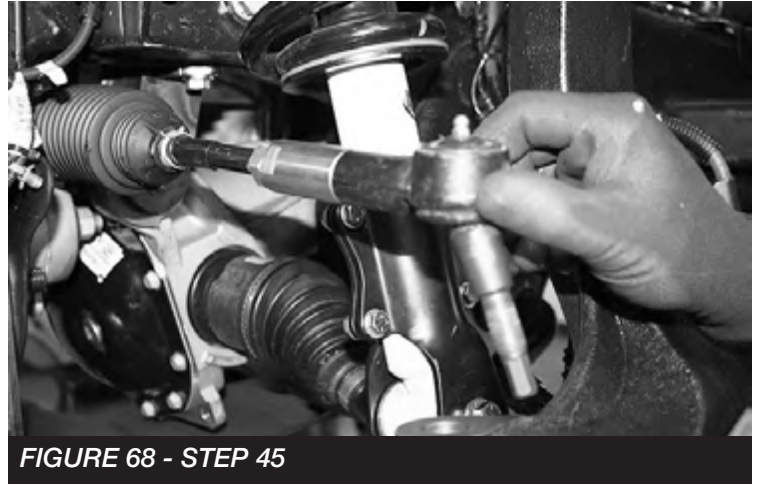
**FIGURE 66 - STEP 41**

42. Reinstall the axle center nut, locator screw, brake rotor and caliper. Torque the center nut to 177 ft-lbs, locator screw to 20 ft-lbs and the caliper mounting bolts to 74 ft-lbs.
43. Repeat steps 41-42 on the Passenger side.
44. Locate the factory tie rod ends. Remove the factory tie rod. Using a die grinder or cut off wheel. Cut off 3/8" from the end of the factory threaded end. **SEE FIGURE 67**



**FIGURE 67 - STEP 44**

45. Locate the FT44288 (Outer Tie Rod), install the zerk fitting that is provided. Using thread locking compound, install FT44288 (Outer Tie rod) onto FT20846 (Tie rod extension). Then, install to the factory tie rod to the spindle. Torque to 44 ft-lbs. **SEE FIGURE 68** Repeat on the passenger side.



**FIGURE 68 - STEP 45**

46. Locate the factory brake line bracket, using a cut off wheel. Cut the angled tab off and sand to a smooth finish. **SEE FIGURES 69-70**



**FIGURE 69 - STEP 46**



**FIGURE 70 - STEP 46**

47. Attach the factory brake line bracket to the back of the new spindle using the supplied 1/4" x 3/4" bolt and lock washer. Then, reinstall the ABS sensor into the spindle using the factory hardware. Torque both to 8 ft-lbs. **SEE FIGURE 71-72** Repeat on the passenger side.



*FIGURE 71 - STEP 47*



*FIGURE 72 - STEP 47*

## - REAR SUSPENSION -

48. Jack up the rear end of the vehicle and support the frame rails with jack stands. Supporting the rear differential, remove and discard the rear shocks and ubolts. Disconnect the factory brake line brackets from the top of the diff and save the hardware.
49. Remove the factory bumpstop from the frame and discard the bolt. Install FT20870 (Bumpstop spacer) in between the factory bumpstop and the frame using the supplied M10 x 70mm socket head bolt. Torque to 53 ft-lbs **SEE FIGURE 73**



50. Install FTBK5 (5" Block), FT1500U-3 (Ubolts) and 9/16" Hardware. Install the blocks with the new hardware, the short end of the block should be facing the front of the vehicle. Torque to 90 ft-lbs. **SEE FIGURE 74**



51. Install FT20859 & FT20860 (Rear brake line brackets) to the rear diff using the factory hardware. Then install the factory brackets to the new Fabtech brackets using the supplied 1/4" x 1" hardware. Torque all hardware to 12 ft-lbs. **SEE FIGURES 75-76**



52. Install tires and wheels and torque lug nuts to wheel manufacturer's specifications. Turn front tires left to right and check for appropriate tire clearance. **Note - Some oversized tires may require trimming of the front bumper & valance.**
53. Check front end alignment and set to factory specifications. Readjust headlights.
54. Recheck all bolts for proper torque.
55. Recheck brake hoses, ABS wires and suspension parts for proper tire clearance while turning tires fully left to right.
56. Check the fluid in the front and rear differential and fill if needed with factory specification differential oil. **Note - some differentials may expel fluid after filling and driving. This can be normal in resetting the fluid level with the new position of the differential/s.**
57. Install Driver Warning Decal. Complete product registration card and mail to Fabtech in order to receive future safety and technical bulletins on this suspension.

**Vehicles that will receive oversized tires should check ball joints, uniballs and all steering components every 2500-5000 miles for wear and replace as required.**