

## **INSTALLATION INSTRUCTIONS**



# 2009-13 FORD F150 4WD SUPERCREW MODEL ONLY 6" PERFORMANCE SYSTEM

FTS22130 / FTS22131



## - PARTS LIST -

	FTS22130	COMPONENT BOX 1
1	FTS30374D	DRIVER SIDE SPINDLE 4WD
1	FTS30374P	PASS SIDE SPINDLE 4WD
2	FT30378	DIFF DROP BRKT UPPER
1	FT30585BK	DIFF DROP BRKT REAR
1	FT30564	DIFF DROP BRKT CENTER
2	FT30382BK	SHOCK EXTENSION UPPER
2	FT30383BK	SHOCK EXTENSION UPPER
2	FT30384BK	SHOCK EXTENSION LOWER
1	FT30388	HARDWARE SUB-ASSEMBLY
1	FT30377BK	SKID PLATE
2	FT44017BK	IMPACT TUBES
2	FT30064BK	IMPACT TUBES MOUNT

	FT30389	HARDWARE SUB-ASSEMBLY
2	FT83159	WASHER
2	FT90056	NUT TAB
1	FT70033	RR DIFF BRAKE LINE TAB
1	FT30387	RR E-BRAKE CABLE BRACKET
1	FT916H	U-BOLT HARDWARE
1	FTAS12	FABTECH STICKER
1	FTL0CK	THREAD LOCKING COMPOUND
1	FTREGCARD	REG. CARD
1	FTAS16	DECAL

	FT30388	HARDWARE SUB-ASSEMBLY
2	FT20277	TIE ROD END
4	FT1036	BUSHING HALF
2	FT99	SLEEVE 1.250X.813X2.350
4	FT30386	ALUMINUM SHOCK BUSHINGS
4	FT107	SLEEVE .630 X .501 X 1.480
2	FT181	SLEEVE - DIFF MOUNT
4	FT1020	BUSHING
2	FT70032	FRT BRAKE LINE BRK.
2	FT22130i	INSTRUCTION SHEET
1	FT1044	IMPACT STRUT BUSHINGS

	FT295	ALIGNMENT CAM HALF KIT 09 F150
4	50000005652	WASHER FLAT M18 ZINC
4	50180004382	LOCKNUT M18-2.5 CL8 ZINC
8	FT292-1	ALIGNMENT CAM 04 FORD F150 4WD
2	FT292-2	ALIGNMNT BOLT 150MM LONG
2	FT295-1	ALIGNMNT BOLT 180MM LONG

	FTS22131	COMPONENT BOX 2
1	FT30375BK	FRONT CROSSMEMBER 4WD
1	FT30376BK	REAR CROSSMEMBER 4WD
2	FTBK52	LIFT BLOCK W/BUMPSTOP
1	FT30062BK	SWAY BAR DROP PASSENGER
1	FT30063BK	SWAY BAR DROP DRIVER
1	FT30389	HARDWARE SUB-ASSEMBLY
4	FT737U	U-BOLT
1	FT30390	HARDWARE

FTS30390 - HARDWARE KIT 9			
18       5/16" SAE Washers         9       5/16"-18 C-Lock Nuts         2       5/16"-18 x 1" Hex Cap Bolt         4       5/16" SAE Washers         2       5/16"-18 C-Lock Nuts         1       1/2"-13 x 3 1/2" Hex Cap Bolt         2       1/2" SAE Washers         1       1/2"-14 C-Lock Nuts         3       7/16"-14 x 3-1/2" Hex Cap Bolt         6       7/16" SAE Washers         3       1/2"-13 x 1-1/4" Hex Cap Bolt         6       1/2" SAE Washers         3       1/2"-13 C-LockNuts         2       1/2"-13 x 1-1/4" Hex Cap Bolt         4       1/2" SAE Washers         2       1/2"-13 x 3-1/2" Hex Cap Bolt         4       1/2"-13 x 3-1/2" Hex Cap Bolt         5       1/2"-13 C-LockNuts         1       1/2"-13 C-LockNuts         2       1/2"-13 C-LockNuts         2       1/2"-13 C-LockNuts         3       1/2"-13 X 4" Hex Cap Bolt         4       1/2"-13 X 4" Hex Cap Bolt         5       1/2"-13 X 4" Hex Cap Bolt         6       1/2"-13 X 6-1/4" Hex Cap Bolt         7       1/2"-13 X 6-1/4" Hex Cap Bolt         8       1/2"-13 X 6-1/4" Hex Cap Bolt <td< th=""><th></th><th>1</th><th></th></td<>		1	
9 5/16"-18 C-Lock Nuts 2 5/16"-18 x 1" Hex Cap Bolt Brake Line 4 5/16" SAE Washers 2 5/16"-18 C-Lock Nuts 1 1/2"-13 x 3 1/2" Hex Cap Bolt Differential mount 2 1/2" SAE Washers 1 1/2"-14 C-Lock Nuts 3 7/16"-14 x 3-1/2" Hex Cap Bolt Impact tube 6 7/16" SAE Washers 3 1/2"-13 x 1-1/4" Hex Cap Bolt Skid plate 6 1/2" SAE Washers 3 1/2"-13 x 1-1/4" Hex Cap Bolt Impact tube mounts 4 1/2" SAE Washers 2 1/2"-13 x 1-1/4" Hex Cap Bolt Impact tube mounts 4 1/2" SAE Washers 2 1/2"-13 C-LockNuts 1 1/2"-13 C-LockNuts 1 1/2"-13 x 3-1/2" Hex Cap Bolt Differential mount 2 1/2" SAE Washers 1 1/2"-13 x 4" Hex Cap Bolt Differential 4 1/2" SAE Washers 2 1/2"-13 x 4" Hex Cap Bolt Differential 5 1/2"-13 x 4" Hex Cap Bolt Differential 6 1/2" SAE Washers 7 1/2"-13 x 4" Hex Cap Bolt Differential 8 1/2" SAE Washers 9 1/2"-13 x 6-1/4" Hex Cap Bolt Differential mount / Impact tube 9 1/2"-13 x 6-1/4" Hex Cap Bolt Differential mount / Impact tube 9 1/2"-13 x 6-1/4" Hex Cap Bolt Differential mount / Impact tube 9 1/2"-13 x 6-1/4" Hex Cap Bolt Differential mount / Impact tube	9	5/16"-18 x 1-1/4" Hex Cap Bolt	Shock Extension
2       5/16"-18 x 1" Hex Cap Bolt       Brake Line         4       5/16" SAE Washers       2         2       5/16"-18 C-Lock Nuts       1         1       1/2"-13 x 3 1/2" Hex Cap Bolt       Differential mount         2       1/2" SAE Washers       Impact tube         3       7/16"-14 c-Lock Nuts       Impact tube         6       7/16" SAE Washers       Skid plate         3       1/2"-13 x 1-1/4" Hex Cap Bolt       Skid plate         6       1/2" SAE Washers       Impact tube mounts         3       1/2"-13 C-LockNuts       Impact tube mounts         4       1/2"-3 C-LockNuts       Impact tube mounts         5       1/2"-13 C-LockNuts       Impact tube mounts         6       1/2"-13 C-LockNuts       Impact tube mounts         1       1/2"-13 C-LockNuts       Impact tube mount         2       1/2"-13 C-LockNuts       Impact tube mount         3       1/2"-13 C-LockNuts       Impact tube mount         4       1/2"-13 C-LockNuts       Impact tube mount         5       1/2"-13 C-LockNuts       Impact tube mount         6       1/2"-13 C-LockNuts       Impact tube mount         7       1/2"-13 C-LockNuts       Impact tube mount <t< td=""><td>18</td><td>5/16" SAE Washers</td><td></td></t<>	18	5/16" SAE Washers	
4       5/16" SAE Washers         2       5/16"-18 C-Lock Nuts         1       1/2"-13 x 3 1/2" Hex Cap Bolt       Differential mount         2       1/2" SAE Washers         1       1/2"-14 C-Lock Nuts         3       7/16"-14 x 3-1/2" Hex Cap Bolt       Impact tube         6       7/16" SAE Washers         3       7/16"-14 C-Lock Nuts         3       1/2"-13 x 1-1/4" Hex Cap Bolt       Skid plate         6       1/2" SAE Washers         3       1/2"-13 C-LockNuts       Impact tube mounts         4       1/2"-3 X 1-1/4" Hex Cap Bolt       Impact tube mounts         4       1/2"-13 C-LockNuts       Differential mount         2       1/2"-13 C-LockNuts       Differential         4       1/2"-13 C-LockNuts       Differential         4       1/2"-13 C-LockNuts       Shock Extension         4       1/2"-13 C-LockNuts       Shock Extension         4       1/2"-13 C-LockNuts       Differential mount / Impact tube         1       1/2"-13 C-LockNuts       Differential mount / Impact tube	9	5/16''-18 C-Lock Nuts	
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8 1/2" SAE Washers 4 1/2"-13 C-LockNuts 1 1/2"-13 x 6-1/4" Hex Cap Bolt Differential mount / Impact tube 2 1/2" SAE Washers	2	1/2"-13 C-LockNuts	
4 1/2"-13 C-LockNuts 1 1/2"-13 x 6-1/4" Hex Cap Bolt Differential mount / Impact tube 2 1/2" SAE Washers	4	1/2"-13 x 4" Hex Cap Bolt	Shock Extension
1 1/2"-13 x 6-1/4" Hex Cap Bolt Differential mount / Impact tube 2 1/2" SAE Washers	8	1/2" SAE Washers	
2 1/2" SAE Washers	4	1/2"-13 C-LockNuts	
	1	1/2"-13 x 6-1/4" Hex Cap Bolt	Differential mount / Impact tube
1 1/2"-13 C-LockNuts	2	1/2" SAE Washers	
	1	1/2"-13 C-LockNuts	



Required Tools (Not Included)

Floor Jack Jack Stands Assorted Metric and S.A.E sockets, and Allen wrenches Die Grinder w/Cut-off Wheel Torque Wrench 1-1/2" Barrel Sand Wheel 1/2" Barrel Sand Wheel

#### - PRE-INSTALLATION NOTES -

#### Read this before you begin installation-

Check all parts to the parts list above before beginning installation. If any parts are missing contact Fabtech at 909-597-7800 and a replacement part will be sent to you immediately.

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.

Use the provided thread locking compound on all hardware.

Do not combine this suspension system with any other lift device or parts.

This suspension must be installed with Fabtech shock absorbers.

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

For technical assistance call: 909-597-7800 or e-mail: info@fabtechmotorsports.com

On EcoBoost 3.5L models, discard all air shields.

OEM Wheels and tires cannot be used after the installation of this kit. Larger tires cannot be installed on the OEM wheels.

Verify differential fluid is at manufacture's 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.

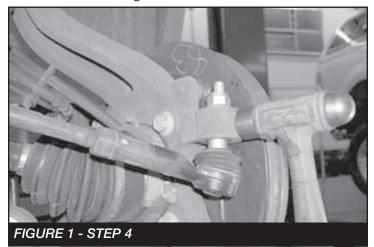
#### Recommend Tires and Wheels:

Use 325/65R18 tire w/ 18x9 wheels w/ 5" BS w/ minor trimming Use 35/13.50R18 tire w/ 18x9 wheels w/ 5" BS w/ minor trimming Use 35/13.50R20 tire w/ 20x9 wheels w/ 5" BS w/ minor trimming

#### - INSTRUCTIONS -

#### FRONT SUSPENSION

- 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 the factory splash guard under the differential.
- Locate the sway bar end links and disconnect from the factory lower control arms, save the hardware. Locate the sway bar frame mounts and disconnect them from the frame, remove the sway bar from the truck. Save the hardware and sway bar.
- 4. Working from the driver side of the vehicle, disconnect the tie rod ends from the steering knuckle by striking the knuckle to dislodge the tie rod end. **SEE FIGURE 1**



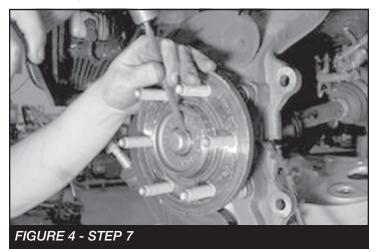
5. Remove factory Tie Rod end and discard. SEE FIGURE 2



6. Remove the brake caliper and place it next to the frame. Do not overstretch the brake hose when doing so. Retain the hardware for reinstallation. Remove the brake rotor and save. Disconnect the vacuum lines attached to the rear of the hub assembly. Allow the vacuum lines to hang freely. Remove the electronic stability control (ESC) sensor from the top of the hub. Cover the sensor to keep it free from dirt and debris. SEE FIGURE 3



 Carefully remove the dust cap covering the hub assembly nut. Remove the C.V. bearing nut and save the nut and dust cap. SEE FIGURE 4

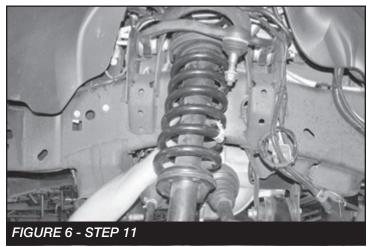


8. Remove the upper and lower ball joint nuts. Disconnect

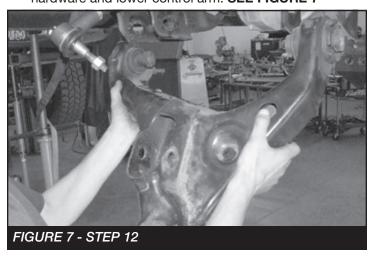
the upper and lower ball joints from the steering knuckle by striking the knuckle with a large hammer next to each ball joint on the knuckle to dislodge the ball joints. Use care not to hit the ball joints when removing. Retain hardware and remove the knuckle with the dust shield and the hub. Use extra care not to over extend the C.V. axle shaft when removing the knuckle. **SEE FIGURE 5** 



- Remove the four large bolts and three small bolts on the back side of the knuckle. Remove the hub and the actuator from the knuckle. Save hardware for install in the Fabtech knuckle.
- 10. Remove the bolts on the front side holding the dust shield. Remove the dust shield and discard the factory knuckle.
- 11. Locate the lower shock mount bolt and remove. Save the hardware. Locate the three upper nuts and remove. Save the hardware. Remove the shock assembly from the vehicle and mark "Driver" for assembly to install later with Fabtech shock extensions. SEE FIGURE 6

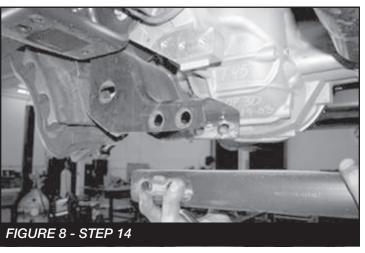


12. Remove the lower control arm bolts from the frame pivots and remove the lower control arm from the truck. Save hardware and lower control arm. **SEE FIGURE 7** 



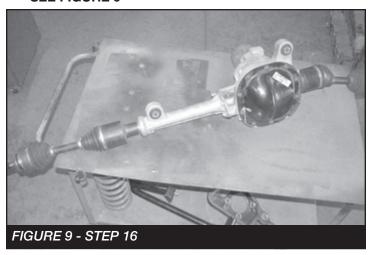
- Repeat steps four through twelve on the passenger side of the truck.
- 14. Remove the factory rear crossmember from the vehicle and discard the crossmember and hardware.

#### **SEE FIGURE 8**

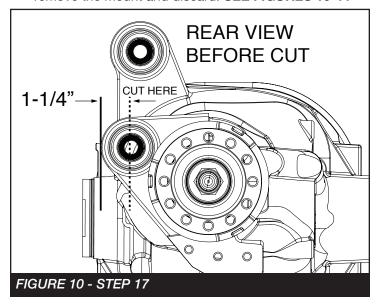


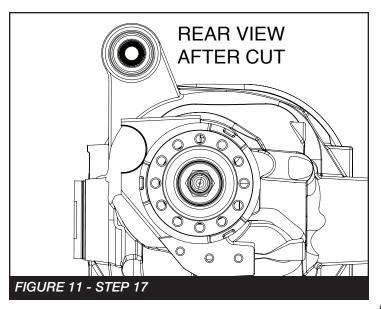
15. Remove the front drive shaft bolts where they attach to the front differential. Support the end of the driveshaft before removing the front differential.

16. Remove the driver side rear differential mount hardware and discard. While supporting the differential, remove the two upper differential mount bolts and remove the differential and axles from the vehicle. Save the hardware. SEE FIGURE 9

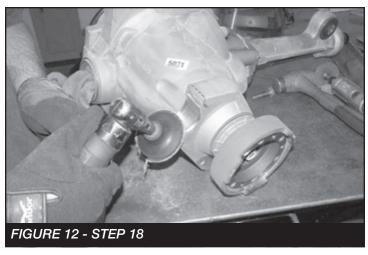


 Locate rear differential mount closest to the pinion shaft.
 Mark the mount behind the bushing. Using a die grinder, remove the mount and discard. SEE FIGURES 10-11

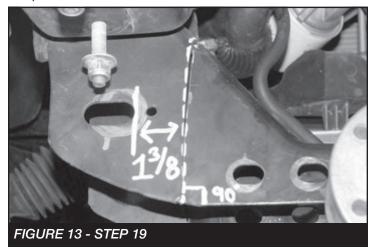


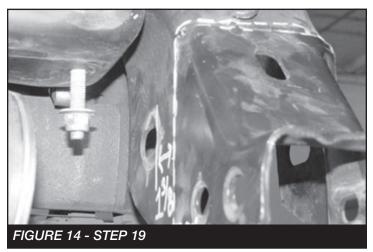


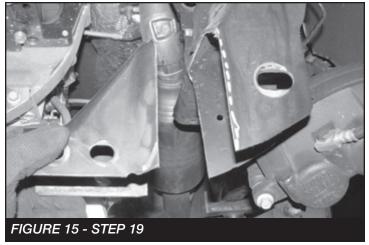
18. Use a sander and remove all sharp edges and burs after the cut. **SEE FIGURE 12** 



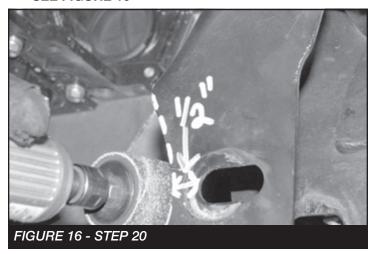
19. Locate the driver side rear lower control arm pocket. Mark the frame 1-3/8" from the control arm pivot hole and 90 degrees to the bottom of the pocket where the cross member was mounted. Using a die grinder, cut all the way around the pocket. Discard removed portion of the pocket. SEE FIGURES 13-15





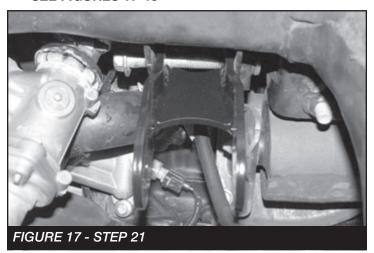


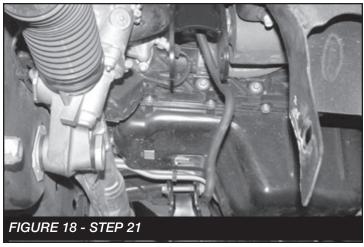
20. Still working on the driver side rear lower control arm pocket, locate the tab on the pocket closest to the front of the vehicle. You will need to sand a radius in the front side of the pocket in order to clear the differential housing. SEE FIGURE 16



21. Locate the two Fabtech upper differential mounts (FT30378). These upper differential mounts will be placed into the factory upper differential mounts using the factory upper differential mount hardware. Leave the hardware loose in preparation for the differential installation.

#### **SEE FIGURES 17-18**





#### On 2010-12 Models

22. Using an 1-1/2" barrel sander, radius the lower control arm shock pocket. This is to add clearance for the coil over shock extension. **SEE FIGURES 19-21** 

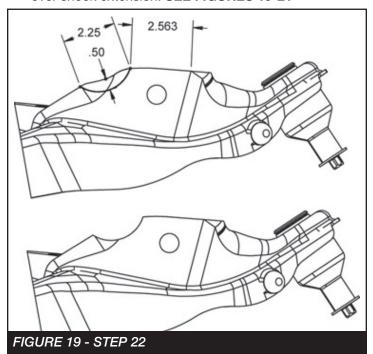
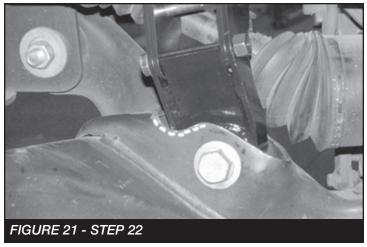


FIGURE 20 - STEP 22



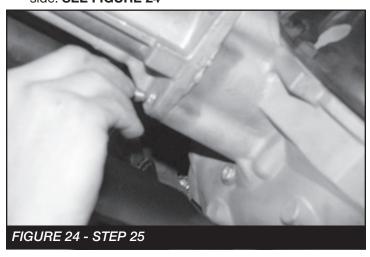
23. Locate the factory front differential and install into the Fabtech upper differential mounts using two ½"-13 x 4" hex cap bolts, washers and lock nuts. Leave all hardware loose in preparation of the installation of the remaining differential mounts. **SEE FIGURE 22** 



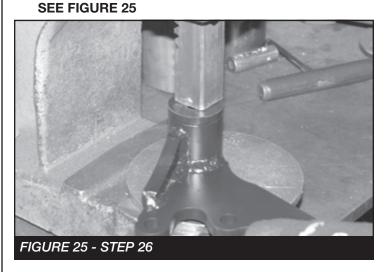
24. Locate the Fabtech rear crossmember (FT30376BK). Install the rear crossmember in the factory rear lower control arm pockets. Mount the crossmember using the factory control arm pivot hardware. Leave all hardware loose. All the tabs on the face of the crossmember should be pointed to the rear of the vehicle. **SEE FIGURE 23** 



25. Remove the center two differential housing bolts on the back side of the differential and the one on the bottom side. **SEE FIGURE 24** 

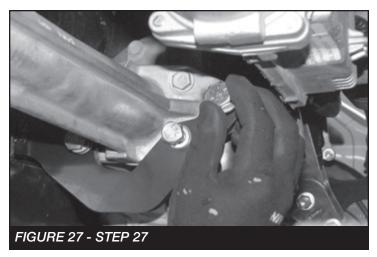


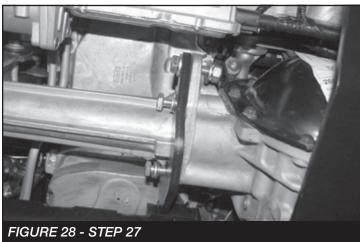
26. Locate the center differential bracket (FT30564). Install two of the Fabtech (FT1020) bushings and one sleeve (FT181) into the barrel on the differential bracket.



27. Mount the differential bracket to the center of the differential using three M10-1.5 x 45mm bolts, lock washers, and flat washers. Mount the front tab on the diff to the center bracket using one ½-13 x 2" bolt, nut and washers. Leave loose at this time. **SEE FIGURES 26-28** 

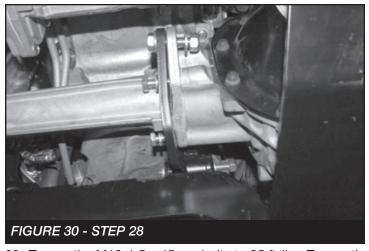




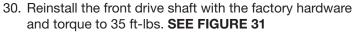


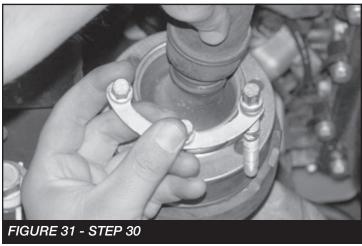
28. Install a ½ -13 x 4" bolt washers and nut through the tabs on the rear crossmember and the bushing on the center bracket. Leave loose at this time. **SEE FIGURE 29-30** 





29. Torque the M10-1.5 x 45mm bolts to 35 ft-lbs. Torque the  $\frac{1}{2}$ -13 x 2" bolt to 90 ft-lbs.





31. Locate the Fabtech impact tubes (FT44017BK) Locate the Fabtech impact tube bushings (FT1044). Install the bushing into the barrels on the end of each impact tube. On one end of the driver side impact tube, you will need to drill out the bushings to ½". NOTE - ONLY ON THE DRIVER SIDE AND ONLY ON ONE END. **SEE FIGURE 32** 



9 of 18

- 32. Locate the end of the strut tube that has been drilled out to ½". You will need to install this end into the tabs on the driver side of the crossmember next to the rear diff mount using ½"- 13 x 6-1/4" bolt, washers and a C lock nut. This bolt will run though the impact tube bushing and the rear diff mount bushing. Leave loose.
- 33. Locate the rear diff mount (FT30585BK). Install two of the Fabtech (FT1020) bushings and one sleeve (FT181) into the barrel on the differential bracket. **SEE FIGURE 33**

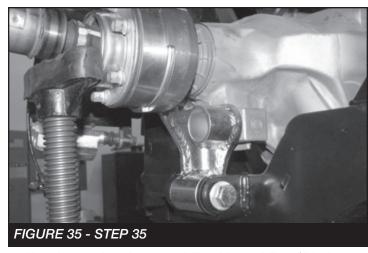


34. Install the rear diff bracket into the tabs on the rear crossmember, in line with the driver side impact tube, using a ½-13x4" bolt, washers, and nut. **SEE FIGURE 34** 

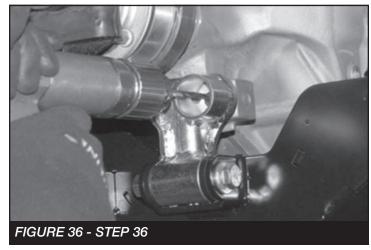


35. Support the diff to make sure the block on the diff is centered with the hole in the rear bracket.

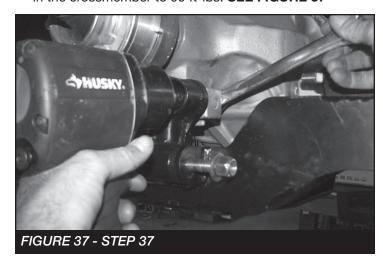
SEE FIGURE 35-36



36. Use the rear bracket as a drill guide to drill a 1/2" hole through the block on the rear of the diff. **SEE FIGURE 36** 



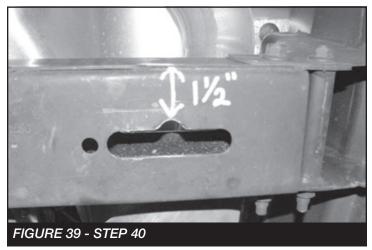
37. Install a ½-13x2 bolt, washers and nut through the bracket and diff. Torque the bolt in the diff to 90 ft-lbs and the bolt in the crossmember to 90 ft-lbs. **SEE FIGURE 37** 



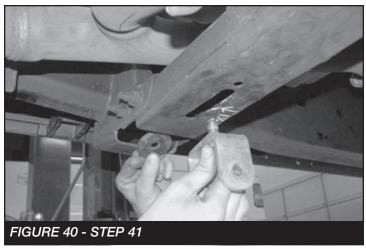
- 38. At this time locate upper differential brackets and torque the factory upper bolts to 90 ft-lbs and lower  $\frac{1}{2}$ " bolts 127 ft-lbs. Locate the center diff mount on the cross member and torque the  $\frac{1}{2}$ -13 x 4" bolt to 90 ft-lbs.
- 39. Locate the passenger side of the rear crossmember and install the passenger impact tube into the tabs on the crossmember using 7/16" - 13 x 3 1/2" bolt, washers and a c-lock nut.
- 40. Locate the factory transfer case crossmember. You will need to cut a radius in the slots on the bottom of the crossmember. The ½"radius will be centered in the factory slot on the back side of the crossmember.

**SEE FIGURES 38-39** 

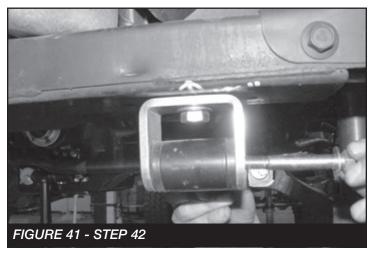




41. Locate the Fabtech impact tube mounts (FT30064BK) the two large washers (FT83159) and the nut tabs (FT90056). Locate the ½"-13 x 1-1/4" bolt. Use this hardware to install this assembly. The impact tube bracket will mount on the bottom side of the crossmember. The washer will go inside the crossmember over the slot. The nut tab will mount on top of the washer inside the crossmember holding the assembly together. Leave the assembly loose until the impact tube is installed. **SEE FIGURE 40** 

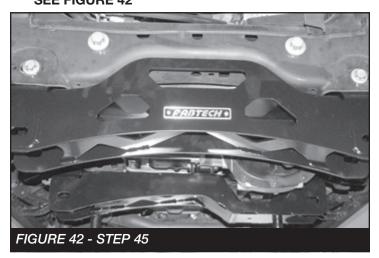


42. Swing up the Fabtech impact tubes and install them into the impact tube bracket using the 7/16"- 14 x 3-1/2" bolts, washers and c-lock nuts. Torque the ½" bolts holding the impact tube brackets to 59 ft-lbs. Torque the three 7/16" bolts to 83 ft-lbs. **SEE FIGURE 41** 

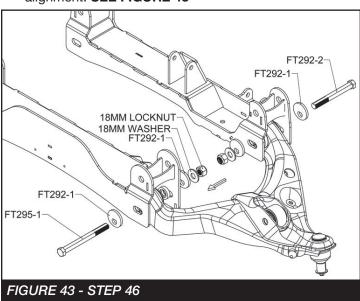


- 43. At this time locate all the differential brackets and torque to the specifications below.
  - Upper diff bracket pass and driver factory upper bolts 90 ft-lbs and lower ½" bolts 127 ft-lbs.
  - Center diff mount 1/2" bolt 127 ft-lbs.
  - Rear diff mount and the impact tube ½" bolt 127 ft-lbs.
- 44. Reinstall the factory vent hose back on to the differential.

45. Locate the Fabtech front crossmember (FT30375BK). Install the front crossmember into the factory front control arm pockets using the factory hardware. Make sure the skid plate tab on the crossmember is facing the Fabtech rear crossmember. Leave the hardware loose at this time. **SEE FIGURE 42** 



46. Locate the Alignment cam kit (FT295). Locate the factory control arms. Install the lower control arms into the Fabtech crossmembers using the hardware in the cam kit (FT295). Torque the cam bolts at 200 ft-lbs after alignment. SEE FIGURE 43



47. Locate the Fabtech skid plate (FT30377BK) the skid plate will span the distance between the front and rear crossmembers directly under the front differential. Attach the end of the skid plate with the single hole to the tab on the back side of the front crossmember using one ½"- 13 x 1-1/4 bolt, washers and a C-lock nut. Lift up the back side of the skid plate and install it to the rear crossmember using two ½"- 13 x 1-1/4 bolts, washers and a C-lock nut. Torque all hardware to 127 ft-lbs. Tourque crossmember bolts to 240 ft-lbs. **SEE FIGURE 44** 

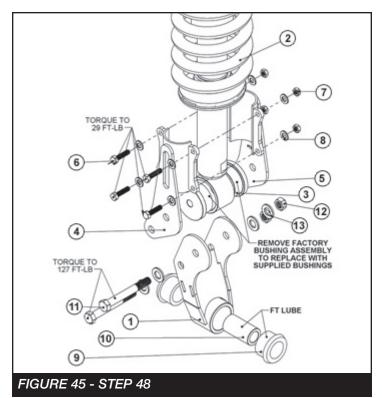


If installing Dirt Logic coilovers (FTS221341) do so at this time, using the instructions provided in the shock box. Once finished, you may skip to STEP 50.

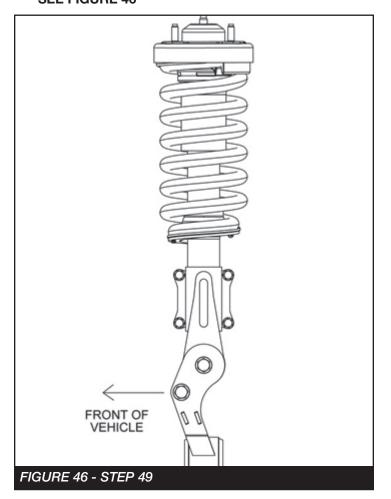
If using the factory coilover continue to STEP 48.

48. Locate the Fabtech upper shock extensions (FT30382BK and FT30383BK), the lower shock extension (FT30384BK) and all hardware listed below. Locate the factory coil over shocks. Assemble the shock extension using the hardware listed below and **FIGURE 45**.

ITEM NO.	DESCRIPTION	QTY.
1	SHOCK EXTENSION LOWER (DRIVER)	1
2	OEM COILOVER ASSEMBLY (DRIVER)	1
3	ALUMINUM SHOCK BUSHING	2
4	SHOCK EXTENSION UPPER	1
5	SHOCK EXTENSION UPPER	1
6	5/16"-18 X 1.25 HHCS	4
7	NUT 5/16"-18 CRIMP LOCK G5 Z1	4
8	WASHER 5/16" SAE G5 Z1	8
9	F150 BUSHING HALF	2
10	SLEEVE 1.250" X .813" X 2.350"	1
11	SCREW 1/2"-13 X 4 HEX G8 Z2	2
12	NUT 1/2"-13 CRIMP LOCK G5Z1	2
13	WASHER 1/2" SAE G8 Z1	4

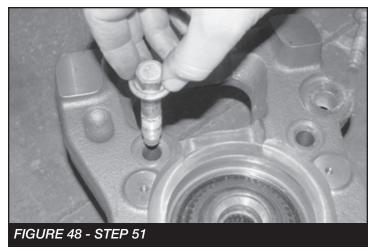


49. Install the coil over into the frame bucket. Rotate lower mount inline with the control arm tabs, and the pivot at the control arm using the factory hardware. Torque the upper nuts to 35 ft-lbs and the lower pivot to 100 ft-lbs. Refer to the drawing below for shock orientation in the vehicle. SEE FIGURE 46

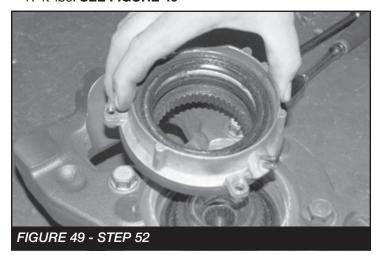


- 50. NOTE: Specifc IWE "Integrated Wheel End" installation procedures are necessary when servicing and/or IWE vacuum is released. When the IWE actuator is loosened at the knuckle and/or removed from CV shaft:
- Remove the two vacuum line, compress the IWE actuator and install a vacuum cap on the larger vacuum port (to keep it compressed).
- Install the IWE actuator onto the halfshaft outer end (if removed).
- Do not dislodge the IWE seal spring when installing an IWE on a CV halfshaft outboard end or component damage may occur.
- Allow the wheel knuckle to swing outward while keeping the halfshaft pushed inward.
- Once clearance is available, install the halfshaft outboard end into the wheel knuckle hub bearing.
- Connect the upper ball joint and install new nut; torque to 85 ft-lbs.
- Install the three IWE actuator to wheel knuckle retaining bolts; torque to 106 ft-lbs
- Remove the IWE vacuum cap and reconnect the vacuum tubes.
- Verify the spline engagement by checking for spline lash before installing the axle nut or component damage may occur.
- Install new axle nut; 30 ft-lbs
- Locate the Fabtech driver side spindle (FTS30374D) and install the factory hub. Torque the four 14mm bolts to 160 ft- lbs. SEE FIGURES 47-48

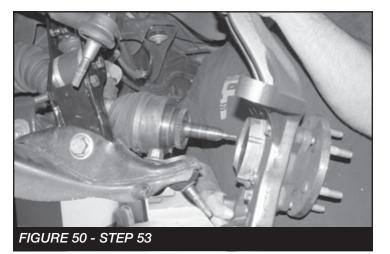




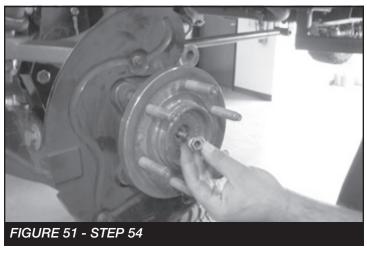
52. Locate the factory 4WD actuator and install into the Fabtech spindle. Torque the factory 8mm bolts to 17 ft-lbs. **SEE FIGURE 49** 



53. Install the Fabtech knuckle onto the upper and lower control arms. Torque the upper ball joint to 85 ft-lbs and the lower ball joint to 110 ft-lbs. **SEE FIGURE 50** 



54. Install the dust shield and torque to 14 ft-lbs. Install CV shaft nut and torque to 35 ft-lbs. Install the factory dust cover. **SEE FIGURE 51** 



55. Install the ABS wheel speed sensor. Make sure the end of the sensor is clean. **SEE FIGURE 52** 



56. Carefully pull some slack from the frame side and reconnect the vacuum line to the hub assembly. Install the Fabtech frame brake line bracket (FT70032). Using the factory hardware, mount factory brake line bracket to the side of the Fabtech knuckle. After installing the factory brake line bracket, check to insure full movement by steering the knuckle back and forth, and make sure none of the ABS lines, brake lines, or vacuum lines are inhibited during full test movement of the knuckle.

#### **SEE FIGURES 53-54**

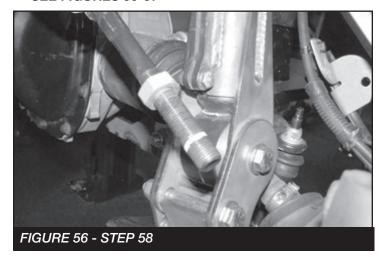


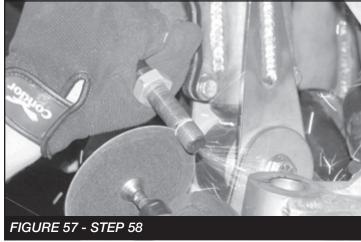


57. Reinstall the original brake rotor, followed by the brake caliper. Use a small amount of the supplied thread lock compound on the caliper bolts and torque to 145 ft-lbs. **SEE FIGURE 55** 



58. Locate the factory tie rod. Trim 1" off the end. **SEE FIGURES 56-57** 





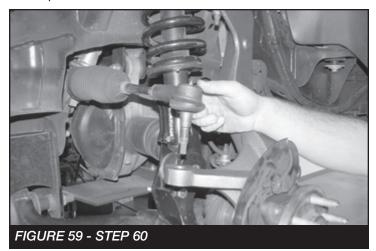
59. Locate the Fabtech tie rod end (FT20277). Install the tie rod end on the tie rod. Torque to 60 ft-lbs.

#### **SEE FIGURE 65**

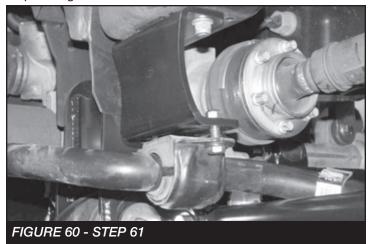


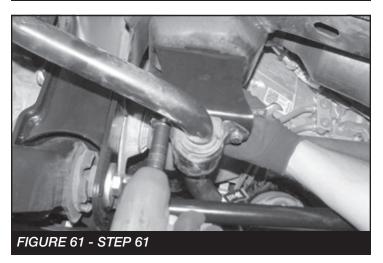
FIGURE 58 - STEP 59

60. Reconnect the tie rod end to the steering knuckle and torque to 60 ft-lbs. **SEE FIGURE 59** 

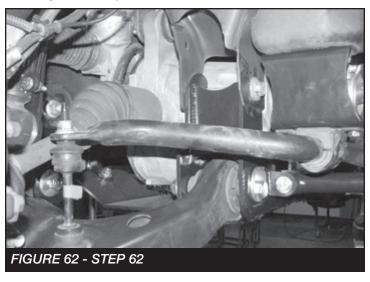


61. Install the factory sway bar to the frame using the FT30063BK driver side bracket and the FT30062BK passenger side bracket. **SEE FIGURES 60-61** 



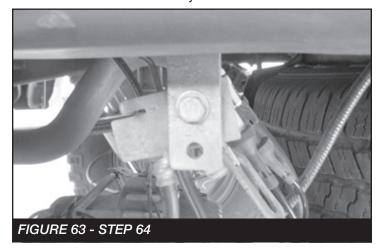


62. Install the sway bar end to the factory lower control arm using the factory end links. **SEE FIGURE 62** 



#### REAR SUSPENSION

- 63. Jack up the rear end of the vehicle and support the frame rails with jack stands. Release the parking brake at this time. Supporting the rear differential, remove the rear shocks, u-bolts, blocks and lower axle down. Use care not to over extend the brake hose.
- 64. Locate the factory brake line mount on the driver side of the frame. Locate the supplied brake line bracket (FT70033) and attach the bracket between the factory fame mount and the factory brake line. SEE FIGURE 63



65. Locate and install the rear lift blocks FTBK52. The extended bump stop perch will be facing inboard of the truck. Using the provided u-bolts, nuts and washers, align the axle, lift blocks, and springs and torque u-bolts to 90 ft-lbs. **SEE FIGURE 64** 



- 66. Locate FTS7266 rear shocks (not included with kit). Install the supplied shock sleeves from bag 143002 into each end of the shocks. Install the shocks using the factory hardware and torque upper and lower bolts to 45 ft-lbs.
- 67. Locate E-brake bracket (FT30387) and mount to the factory E-brake cable mount and reinstall the E-brake cable into the Fabtech bracket. **SEE FIGURE 65-67**

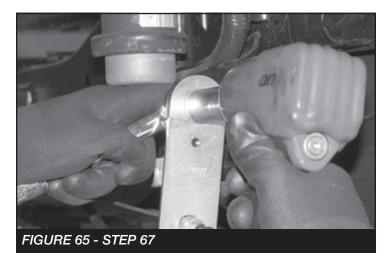


FIGURE 66 - STEP 67

- 68. 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.
- 69. Check front end alignment and set to factory specifications. Readjust headlights.
- 70. Recheck all bolts for proper torque.
- 71. Recheck brake hoses, ABS wires and suspension parts for proper tire clearance while turning tires fully left to right.
- 72. 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.
- 73. 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 and all steering components every 2500-5000 miles for wear and replace as required.

### RETORQUE ALL NUTS, BOLTS AND LUGS AFTER 50 MILES AND PERIODICALLY THEREAFTER.

For technical assistance call: 909-597-7800

## - Product Warranty and Warnings -

Fabtech provides a Limited Lifetime Warranty to the original retail purchaser who owns the vehicle, on which the product was originally installed, for defects in workmanship and materials.

The Limited Lifetime Warranty excludes the following Fabtech items; bushings, bump stops, ball joints, tie rod ends, limiting straps, cross shafts, heim joints and driveshafts. These parts are subject to wear and are not considered defective when worn. They are warranted for 60 days from the date of purchase for defects in workmanship.

Dirt Logic and Performance Coilover take apart shocks are considered a serviceable shock with a one year warranty on leakage only. Service seal kits are available separately for future maintenance. All other shocks are covered under our Limited Lifetime Warranty.

Fabtech does not warrant any product for finish, alterations, modifications and/or installation contrary to Fabtech's instructions. Alterations to the finish of the parts including but not limited to painting, powder coating, plating and/or welding will void all warranties. Some finish damage may occur to parts during shipping, which is considered normal and is not covered under warranty.

Fabtech products are not designed nor intended to be installed on vehicles used in race applications or for racing purposes or for similar activities. (A "RACE" is defined as any contest between two or more vehicles, or any contest of one or more vehicle against the clock, whether or not such contest is for a prize). This warranty does not include coverage for police or taxi vehicles, race vehicles, or vehicles used for government or commercial purposes. Also excluded from this warranty are sales outside of the United States of America.

Installation of most suspension products will raise the center of gravity of the vehicle and will cause the vehicle to handle differently than stock. It may increase the vehicle's susceptibility to a rollover, on road and off road, at all speeds. Extreme care should be taken to operate the vehicle safely at all times to prevent rollover or loss of control resulting in serious injury or death. Fabtech front end Desert Guards may impair the deployment or operation of vehicles equipped with supplemental restraining systems/air bag systems and should not be installed if the vehicle is equipped as so.

Fabtech makes every effort to ensure suspension product compatibility with all vehicles listed on the website, but due to unknown auto manufacturer's production changes and/or inconstancies by the auto manufacturer, Fabtech cannot be responsible for 100% compatibility, including the fitment of tire and wheel sizes listed. The Tire and Wheel sizes listed in Fabtech's website are only a guideline for street driving with noted fender trimming. Fabtech is not responsible for damages to the vehicle's body or tires. Fabtech is not responsible for premature wear of factory components due to the installation of oversized tires and wheels.

Fabtech's obligation under this warranty is limited to the repair or replacement, at Fabtech option, of the defective product only. All costs of removal, installation or re-installation, freight charges, incidental or consequential damages are expressly excluded from this warranty. Fabtech is not responsible for damages and/or warranty of other vehicle parts related or non related to the installed Fabtech product. 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 Fabtech.

Fabtech suspension components must be installed as a complete system including shocks as shown on our website. All warranties will become void if Fabtech parts are combined and/or substituted with other aftermarket suspension products. Combination and/or substitution of other aftermarket suspension parts may cause premature wear and/or product failure resulting in an accident causing injury or death. Fabtech does not warrant products not manufactured by Fabtech.

Depending on the condition of the factory suspension components retained after the installation of a Fabtech suspension not all vehicles may have the same ride stance front to rear as described in the website. The blue color of suspension components shown in all Fabtech photographs are for display purposes only. Majority of all Fabtech components will be black specifically where noted with part numbers ending in BK.

Installation of Fabtech product may void the vehicles factory warranty; it is the consumer's responsibility to check with their local vehicle's dealer for warranty disposition before the installation of the product. Some state laws may prohibit modification of suspension to a vehicle in whole or in part. It is the responsibility of the installer and consumer to consult local laws prior to the installation of any Fabtech suspension product to comply with such written laws.

It is the responsibility of the distributor and/or the retailer to review all warranties and warnings of Fabtech products with the consumer prior to purchase.

Fabtech reserves the right to super cede, discontinue, change the design, finish, part number and/or application of parts when deemed necessary without written notice. Fabtech is not responsible for misprints or typographical errors within the website or price sheet. For the most recent Product Warranty and Warnings visit our website www.fabtechmotorsports.com