



# **FABTECH FTS21137 4WD Front Dirt Logic Kit Installation** Guide

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**FABTECH FTS21137 4WD Front Dirt Logic Kit** 



## **Specifications**

• Product Name: GM C/K1500 2WD/4WD 6 Basic & Performance Systems

• Manufacturer: Fabtech Motorsports

• Model Number: FTS21138

• Address: 2213 Industrial Park Rd. Lancaster, SC 29720

• Contact: Tech Line - 909-597-7800

Website: <u>www.fabtechmotorsports.com</u>

## **Product Usage Instructions**

## Installation

- 1. Refer to the detailed parts list provided in the manual and ensure all components are available.
- 2. Follow the step-by-step instructions for installing the basic or performance system based on your preference.
- 3. Use the included hardware kits for proper assembly.
- 4. Make sure to securely fasten all brackets and components to avoid any issues during operation.

## **Basic System Installation Steps**

- 1. Install the front crossmember, rear crossmember, and crossmember support tube.
- 2. Mount the differential skid plate and sway bar frame brackets.
- 3. Attach the differential brackets and hardware subassembly.
- 4. Complete installation of spacer kit components and rear performance shock.

## **Performance System Installation Steps**

- 1. Follow the basic system installation steps first.
- 2. Install the front Dirt Logic 2.5 coilovers and rear Dirt Logic 2.25 non-resi shocks from the performance system boxes.
- 3. Ensure all components are securely fastened for optimal performance.

## PARTS LIST - 6" BASIC SYSTEM - FACTORY FORGED STEEL SUSPENSION

	K1067	6" BASIC SYSTEM W/PERFORMANCE SHOCKS
1	FTS21137	COMPONENT BOX 1
1	FTS21138	SPACER KIT
1	FTS21140	COMPONENT BOX 2 – STEEL
2	FTS7240	REAR PERFORMANCE SHOCK

	FTS21137	COMPONENT BOX 1
1	FT20610BK	FRONT CROSSMEMBER
1	FT20611BK	REAR CROSSMEMBER
2	FT20284BK	CROSSMEMBER SUPPORT TUBE
1	FT20304BK	DIFF SKID PLATE
1	FT20634	HARDWARE KIT
1	FT20312	SWAY BAR FRAME BRACKET (DRIVER)
1	FT20318	SWAY BAR FRAME BRACKET (PASSENGER)
1	FT20365	DIFF BRACKET
1	FT20347	DIFF BRACKET (DRIVER)
1	FT20633	DIFF BRACKET (PASSENGER)
1	FT20615	HARDWARE SUBASSEMBLY

	FTS21138	SPACER KIT
1	FT20295	HARDWARE KIT
2	FT20323BK	SHOCK EXTENSION
2	FT20339BK	SHOCK MOUNT TO ARM
1	FT20733	HARDWARE SUBASSEMBLY
4	FT20568BK	SHOCK BRACKET

	FTS21140	COMPONENT BOX 2 – STEEL
4	FT1500U-3	U-BOLT SQ 9/16-18 X 12.50 X 2.63
2	FT20743	REAR ADD-A-LEAF
2	FT20025	REAR BUMP STOP SPACERS
2	FT20289	CV SPACER
1	FT20616	HARDWARE SUBASSEMBLY
2	FTBK5	BLOCK 5.0 IN
1	FTS20613D	SPINDLE (DRIVER)
1	FTS20613P	SPINDLE (PASSENGER)

	FT20615	HARDWARE SUBASSEMBLY
2	FT20602	SWAY BAR LINK BRACKET
1	FT20313	FRONT BRAKE LINE BRACKET (DRIVER)
1	FT20314	FRONT BRAKE LINE BRACKET (PASSENGER)
1	FT90085	BUSHING KIT

	FT20733	HARDWARE SUBASSEMBLY
4	FT1036	BUSHING HALF
2	FT148	SLEEVE 1.250 X .530 X 2.400
4	FT20342	ALUMINUM SHOCK MOUNT BUSHING
4	FT20352	LOWER MOUNT SHIM TRUCK
4	FT20351	ALUMINUM SHOCK MOUNT BUSHING (AUTO)

	FT20634 – HARDWARE KIT	LOCATION
20	M10 FLAT WASHER ZINC	
4	M10-1.5 C-LOCK NUT	
4	M10-1.5 X 30MM HEX HD	
12	M10-1.5 X 50MM HEX HD	
6	7.5" STANDARD CABLE TIE BLACK	
4	M18 FLAT WASHER	
2	M18-2.5 GRADE C LOCK NUT	
2	M18-2.5 X 50MM HEX HEAD	
10	1/4 SAE WASHER	
2	1/4 LOCK WASHER	
4	1/4-20 C-LOCK NUT	
6	1/4-20 X 3/4 HEX BOLT G5 ZINC	
12	7/16 SAE WASHER G8 ZINC	
6	7/16-14 C-LOCK NUT ZINC	
2	7/16-14 X 1 1/4 HEX HD	
4	7/16-14 X 2-1/4 HEX BOLT	
1	1/2-13 X 4 1/2 HEX BOLT	
12	1/2 SAE WASHER	
7	1/2-13 C-LOCK NUT	
1	1/2-13 X 1-1/4 HEX BOLT	
3	1/2-13 X 1-3/4 HEX BOLT	
1	1/2-12 x 2" CARRIAGE BOLT	
8	5/8 SAE WASHER G8	
4	LOCK NUT STOVER 5/8"-11	
2	5/8-11 X 5" HEX HEAD	
2	5/8-11 X 5-3/4 HEX HEAD	
2	CLAMP 3/8X1/2W .26THK NEOPRENE	
1	THREAD LOCKING COMPOUND 1 MIL	

	FT20616	HARDWARE SUBASSEMBLY
4	12008007100	ZIP TIE 8" BLACK 40 LBS
2	37240003952	CENTER PIN NUT
2	CB-06X5	CENTER PIN BOLT 3/8"-24 X 5"
2	FT20277	OUTER TIE ROD
1	FT20300	6 LUG 1/4" WHEEL SPACER
1	FT20349	REAR BRAKE LINE BRACKET
1	FT20353	HARDWARE KIT
1	FT21138I	INSTRUCTIONS
1	FT916H	9/16" U-BOLT HARDWARE KIT

	FT20295 – HARDWARE KIT	LOCATION
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	

	FT20353 – HARDWARE KIT	LOCATION
1	5/16"-16 X 1" HEX CAP BOLT	REAR BRAKE LINE
1	5/16"-16 C-LOCK	
2	5/16" SAE FLAT WASHER	
2	10MM-1.5 X 20MM BOLT	BUMP STOP
2	10MM-1.5 X 25MM BOLT	
2	10MM FLAT WASHER	

## PARTS LIST -6" PERFORMANCE SYSTEM – FACTORY FORGED STEEL SUSPENSION

	K1067DB	6" PERFORMANCE SYSTEM W/DIRT LOGICS
1	FTS21137	COMPONENT BOX 1
1	FTS21140	COMPONENT BOX 2 – STEEL
1	FTS210431	FRONT DIRT LOGIC 2.5 COILOVERS
2	FTS810561	REAR DIRT LOGIC 2.25 NON-RESI

	FTS21137	COMPONENT BOX 1
1	FT20610BK	FRONT CROSSMEMBER
1	FT20611BK	REAR CROSSMEMBER
2	FT20284BK	CROSSMEMBER SUPPORT TUBE
1	FT20304BK	DIFF SKID PLATE
1	FT20634	HARDWARE KIT
1	FT20312	SWAY BAR FRAME BRACKET (DRIVER)
1	FT20318	SWAY BAR FRAME BRACKET (PASSENGER)
1	FT20347	DIFF BRACKET (DRIVER)
1	FT20633	DIFF BRACKET (PASSENGER)
1	FT20615	HARDWARE SUBASSEMBLY

	FTS21140	COMPONENT BOX 2 – STEEL
4	FT1500U-3	U-BOLT SQ 9/16-18 X 12.50 X 2.63
2	FT20743	REAR ADD-A-LEAF
2	FT20025	REAR BUMP STOP SPACERS
2	FT20289	CV SPACER
1	FT20616	HARDWARE SUBASSEMBLY
2	FTBK5	BLOCK 5.0 IN
1	FTS20613D	SPINDLE (DRIVER)
1	FTS20613P	SPINDLE (PASSENGER)

	FT20615	HARDWARE SUBASSEMBLY
2	FT20602	SWAY BAR LINK BRACKET
1	FT20313	FRONT BRAKE LINE BRACKET (DRIVER)
1	FT20314	FRONT BRAKE LINE BRACKET (PASSENGER)

	FT20616	HARDWARE SUBASSEMBLY
4	12008007100	ZIP TIE 8" BLACK 40 LBS
2	37240003952	CENTER PIN NUT
2	CB-06X5	CENTER PIN BOLT 3/8"-24 X 5"
2	FT20277	OUTER TIE ROD
1	FT20300	6 LUG 1/4" WHEEL SPACER
1	FT20349	REAR BRAKE LINE BRACKET
1	FT20353	HARDWARE KIT
2	FT21138I	INSTRUCTIONS
1	FT916H	9/16" U-BOLT HARDWARE KIT

	FT20634 – HARDWARE KIT	LOCATION
20	M10 FLAT WASHER ZINC	
4	M10-1.5 GR C (CL 10) C-LOCK NUTS	
4	M10-1.5 X 30MM HEX HD	
12	M10-1.5 X 50MM HEX HD	
6	7.5" STANDARD CABLE TIE BLACK	
4	M18 FLAT WASHER	
2	M18-2.5 GRADE C LOCK NUT	
2	M18-2.5 X 50MM HEX HEAD	
10	1/4 SAE WASHER	
2	1/4 LOCK WASHER	
4	1/4-20 C-LOCK NUT	
6	1/4-20 X 3/4 HEX BOLT G5 ZINC	
12	7/16 SAE WASHER G8 ZINC	
6	7/16-14 C-LOCK NUT ZINC	
2	7/16-14 X 1 1/4 HEX HD	
4	7/16-14 X 2-1/4 HEX BOLT	
1	1/2-13 X 4 1/2 HEX BOLT	
12	1/2 SAE WASHER	
7	1/2-13 C-LOCK NUT	
1	1/2-13 X 1-1/4 HEX BOLT	
3	1/2-13 X 1-3/4 HEX BOLT	
1	1/2-12 x 2" CARRIAGE BOLT	
8	5/8 SAE WASHER G8	
4	LOCK NUT STOVER 5/8"-11	
2	5/8-11 X 5" HEX HEAD	
2	5/8-11 X 5-3/4 HEX HEAD	
2	CLAMP 3/8X1/2W .26THK NEOPRENE	
1	THREAD LOCKING COMPOUND 1 MIL	

PARTS LIST -6" BASIC SYSTEM – FACTORY ALUMINUM & STAMPED STEEL SUSPENSION

	K1068	6" BASIC SYSTEM W/PERFORMANCE SHOCKS
1	FTS21137	COMPONENT BOX 1
1	FTS21138	SPACER KIT
1	FTS21139	COMPONENT BOX 2 – ALUMINUM
2	FTS7240	REAR PERFORMANCE SHOCK

	FTS21137	COMPONENT BOX 1
1	FT20610BK	FRONT CROSSMEMBER
1	FT20611BK	REAR CROSSMEMBER
2	FT20284BK	CROSSMEMBER SUPPORT TUBE
1	FT20304BK	DIFF SKID PLATE
1	FT20634	HARDWARE KIT
1	FT20312	SWAY BAR FRAME BRACKET (DRIVER)
1	FT20318	SWAY BAR FRAME BRACKET (PASSENGER)
1	FT20347	DIFF BRACKET (DRIVER)
1	FT20633	DIFF BRACKET (PASSENGER)
1	FT20615	HARDWARE SUBASSEMBLY

	FTS21138	SPACER KIT
1	FT20295	HARDWARE KIT
2	FT20323BK	SHOCK EXTENSION
2	FT20339BK	SHOCK MOUNT TO ARM
1	FT20733	HARDWARE SUBASSEMBLY
4	FT20568BK	SHOCK BRACKET

	FTS21139	COMPONENT BOX 2 – ALUMINUM
4	FT1500U-3	U-BOLT SQ 9/16-18 X 12.50 X 2.63
2	FT20743	REAR ADD-A-LEAF
2	FT20025	REAR BUMP STOP SPACERS
2	FT20289	CV SPACER
1	FT20687	HARDWARE SUBASSEMBLY
2	FTBK5	BLOCK 5.0 IN
1	FTS20612D	SPINDLE (DRIVER)
1	FTS20612P	SPINDLE (PASSENGER)

	FT20615	HARDWARE SUBASSEMBLY
2	FT20602	SWAY BAR LINK BRACKET
1	FT20313	FRONT BRAKE LINE BRACKET (DRIVER)
1	FT20314	FRONT BRAKE LINE BRACKET (PASSENGER)

	FT20733	HARDWARE SUBASSEMBLY
4	FT1036	BUSHING HALF
2	FT148	SLEEVE 1.250 X .530 X 2.400
4	FT20342	ALUMINUM SHOCK MOUNT BUSHING
4	FT20352	LOWER MOUNT SHIM TRUCK
4	FT20351	ALUMINUM SHOCK MOUNT BUSHING (AUTO)

	FT20634 – HARDWARE KIT	LOCATION
20	M10 FLAT WASHER ZINC	
4	M10-1.5 (CL 10) C-LOCK NUT	
4	M10-1.5 X 30MM HEX HD	
12	M10-1.5 X 50MM HEX HD	
6	7.5" STANDARD CABLE TIE BLACK	
4	M18 FLAT WASHER	
2	M18-2.5 GRADE C LOCK NUT	
2	M18-2.5 X 50MM HEX HEAD	
10	1/4 SAE WASHER	
2	1/4 LOCK WASHER	
4	1/4-20 GR C-LOCK NUT	
6	1/4-20 X 3/4 HEX BOLT G5 ZINC	
12	7/16 SAE WASHER G8 ZINC	
6	7/16-14 C-LOCK NUT ZINC	
2	7/16-14 X 1 1/4 HEX HD	
4	7/16-14 X 2-1/4 HEX BOLT	
1	1/2-13 X 4 1/2 HEX BOLT	
12	1/2 SAE WASHER	
7	1/2-13 C-LOCK NUT	
1	1/2-13 X 1-1/4 HEX BOLT	
3	1/2-13 X 1-3/4 HEX BOLT	
1	1/2-12 x 2" CARRIAGE BOLT	
8	5/8 SAE WASHER G8	
4	LOCK NUT STOVER 5/8"-11	
2	5/8-11 X 5" HEX HEAD	
2	5/8-11 X 5-3/4 HEX HEAD	
2	CLAMP 3/8X1/2W .26THK NEOPRENE	
1	THREAD LOCKING COMPOUND 1 MIL	

	FT20687	HARDWARE SUBASSEMBLY
4	12008007100	ZIP TIE 8" BLACK 40 LBS
2	37240003952	CENTER PIN NUT
2	CB-06X5	CENTER PIN BOLT 3/8"-24 X 5"
2	FT20277	OUTER TIE ROD
1	FT20300	6 LUG 1/4" WHEEL SPACER
1	FT20349	REAR BRAKE LINE BRACKET
1	FT20353	HARDWARE KIT
2	FT21138I	INSTRUCTIONS
1	FT916H	9/16" U-BOLT HARDWARE KIT
2	FT20613	WASHER UPPER BALL JOINT
2	FT20614	WASHER LOWER BALL JOINT

	FT20295 – HARDWARE KIT	LOCATION
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 BRACKETS
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	

	FT20353 – HARDWARE KIT	LOCATION
1	5/16"-16 X 1" HEX CAP BOLT	REAR BRAKE LINE
1	5/16"-16 C-LOCK	
2	5/16" SAE FLAT WASHER	
2	10MM-1.5 X 20MM BOLT	BUMP STOP
2	10MM-1.5 X 25MM BOLT	
2	10MM FLAT WASHER	

	K1068DB	6" PERFORMANCE SYSTEM W/DIRT LOGICS
1	FTS21137	COMPONENT BOX 1
1	FTS21139	COMPONENT BOX 2 – ALUMINUM
1	FTS210431	FRONT DIRT LOGIC 2.5 COILOVERS
2	FTS810561	REAR DIRT LOGIC 2.25 NON-RESI

	FTS21137	COMPONENT BOX 1
1	FT20610BK	FRONT CROSSMEMBER
1	FT20611BK	REAR CROSSMEMBER
2	FT20284BK	CROSSMEMBER SUPPORT TUBE
1	FT20304BK	DIFF SKID PLATE
1	FT20634	HARDWARE KIT
1	FT20312	SWAY BAR FRAME BRACKET (DRIVER)
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1	FT20633	DIFF BRACKET (PASSENGER)
1	FT20615	HARDWARE SUBASSEMBLY

	FTS21139	COMPONENT BOX 2 – ALUMINUM
4	FT1500U-3	U-BOLT SQ 9/16-18 X 12.50 X 2.63
2	FT20743	REAR ADD-A-LEAF
2	FT20025	REAR BUMP STOP SPACERS
2	FT20289	CV SPACER
1	FT20687	HARDWARE SUBASSEMBLY
2	FTBK5	BLOCK 5.0 IN
1	FTS20612D	SPINDLE (DRIVER)
1	FTS20612P	SPINDLE (PASSENGER)

	FT20615	HARDWARE SUBASSEMBLY
2	FT20602	SWAY BAR LINK BRACKET
1	FT20313	FRONT BRAKE LINE BRACKET (DRIVER)
1	FT20314	FRONT BRAKE LINE BRACKET (PASSENGER)

	FT20687	HARDWARE SUBASSEMBLY
4	12008007100	ZIP TIE 8" BLACK 40 LBS
2	37240003952	CENTER PIN NUT
2	CB-06X5	CENTER PIN BOLT 3/8"-24 X 5"
2	FT20277	OUTER TIE ROD
1	FT20300	6 LUG 1/4" WHEEL SPACER
1	FT20349	REAR BRAKE LINE BRACKET
1	FT20353	HARDWARE KIT
1	FT21138I	INSTRUCTIONS
1	FT916H	9/16" U-BOLT HARDWARE KIT
2	FT20613	WASHER UPPER BALL JOINT
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	FT20634 – HARDWARE KIT	LOCATION
20	M10 FLAT WASHER ZINC	
4	M10-1.5 C-LOCK NUT	
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12	M10-1.5 X 50MM HEX HD	
6	7.5" STANDARD CABLE TIE BLACK	
4	M18 FLAT WASHER	
2	M18-2.5 GRADE C LOCK NUT	
2	M18-2.5 X 50MM HEX HEAD	
10	1/4 SAE WASHER	
2	1/4 LOCK WASHER	
4	1/4-20 C-LOCK NUT	
6	1/4-20 X 3/4 HEX BOLT G5 ZINC	
12	7/16 SAE WASHER G8 ZINC	
6	7/16-14 C-LOCK NUT ZINC	
2	7/16-14 X 1 1/4 HEX HD	
4	7/16-14 X 2-1/4 HEX BOLT	
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12	1/2 SAE WASHER	
7	1/2-13 C-LOCK NUT	
1	1/2-13 X 1-1/4 HEX BOLT	
3	1/2-13 X 1-3/4 HEX BOLT	
1	1/2-12 x 2" CARRIAGE BOLT	
8	5/8 SAE WASHER G8	
4	LOCK NUT STOVER 5/8"-11	
2	5/8-11 X 5" HEX HEAD	
2	5/8-11 X 5-3/4 HEX HEAD	
2	CLAMP 3/8X1/2W .26THK NEOPRENE	
1	THREAD LOCKING COMPOUND 1 MIL	

## **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**

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

## Read this before you begin the 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 before the installation of this system for legality. Do not install if not legal in your area.
- Before 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
  before 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 rollover as compared to stock.
- Vehicles that receive oversized tires should check ball joints, uniballs, tie rod ends, pitman arm, nd idler arm every 2500-5000 miles for wear and replacements as needed.
- Verify differential fluid is at the manufactures recommended level before 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 manufacturer
  recommends 3 quarts of fluid, make sure the diff has 3 quarts of fluid). Check your specific manual for the
  correct amount of fluid.
- Do not operate a vehicle in 4WD on hard surfaces. Some vehicles may experience front driveline vibration in 4WD. Order FTS21192 CV Driveshaft Kit if occurs.

#### **FOOTNOTES**

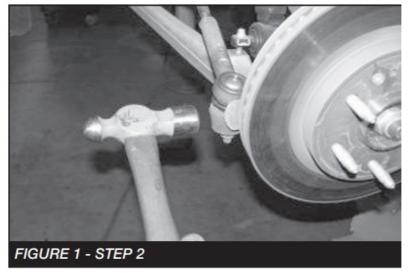
- · Will not fit models with Factory AutoRide shocks.
- Will not fit all wheel drive models.
- · Cannot use OEM wheel and tire.
- Does not fit standard cab.
- Some Vehicles May Experience Front Driveline Vibration, Order FTS21192 CV Driveshaft Kit.

#### INSTRUCTIONS

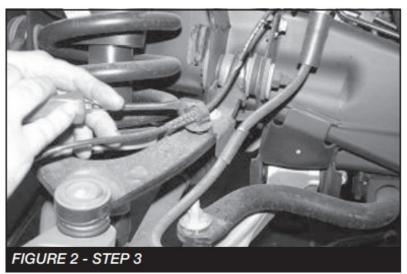
#### FRONT SUSPENSION

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. Working from the front of the truck, disconnect the tie rod ends from the steering knuckle by striking the knuckle to dislodge the tie rod end. Use care not to damage the tie rod end when removing. SEE FIGURE 1

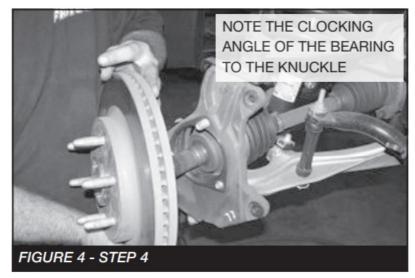


3. Unplug the ABS brake connection from the frame and control arm. Remove the brake hose bracket from the steering knuckle. Remove the brake hose bracket from the coil bucket and save the hardware. Remove the caliper from the rotor and secure the brake caliper to the frame out of the way. DO NOT ALLOW THE BRAKE CALIPER TO HANG FROM THE BRAKE LINE HOSE. SEE FIGURE

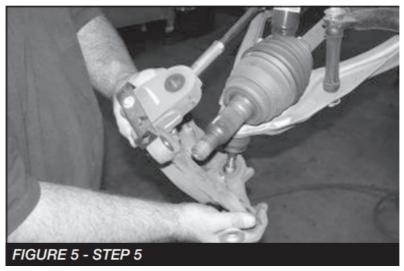


4. Remove the wheel stud clips and discard them. Remove bearing cover, axle nut, washer, and rotor with hub bearing. (DO NOT REMOVE THE HUB BEARING FROM THE ROTOR). Retain parts and hardware for reinstallation. SEE FIGURES 3-4

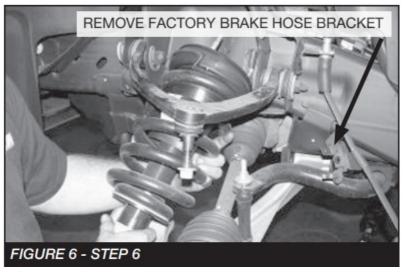




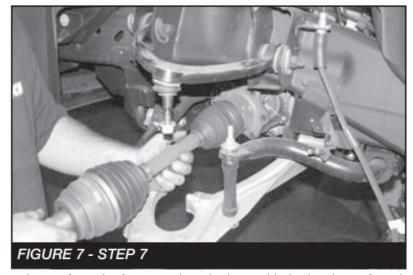
5. Remove the upper and lower ball joint nuts. Disconnect the upper and lower ball joints from the steering knuckle by striking the knuckle with a large hammer next to each ball joint on the knuckle to dislodge the ball joints. Use care not to hit the ball joints when removing. Save nuts and discardknucklese. SEE FIGURE 5



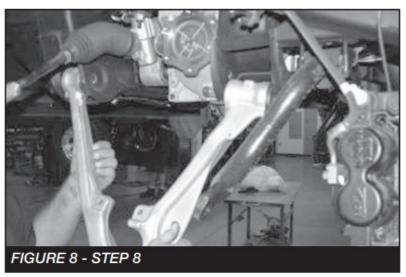
6. Remove the shock assembly and save e with the hardware. Remove and discard the factory brake line bracket from the brake hose that attached the hose to the upper control arm. SEE FIGURE 6



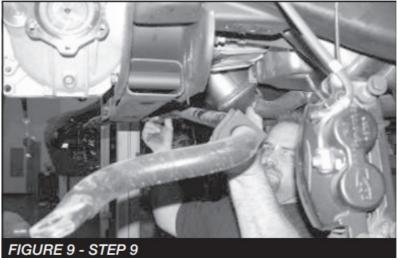
7. Disconnect and remove CV axles from the differential housing and the sway bar end links and save. Discarding ONLY the CV axle hardware. SEE FIGURE 7



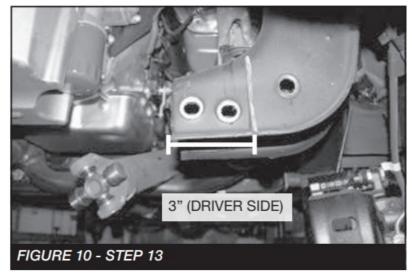
8. Remove the lower control arms from the frame and retain them with the hardware for reinstallation. SEE FIGURE 8



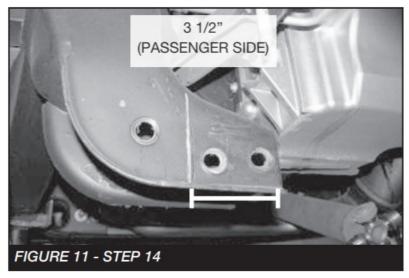
9. Locate, remove, and save the sway bar, and discard the hardware. SEE FIGURE 9



- 10. Remove the front factory differential skid plate and splash shield and discard.
- 11. Disconnect the front driveshaft from the differential housing and retain bolts and u-joint clamps for reinstallation. Locate, remove, and discard the factory rear crossmember with hardware.
- 12. Disconnect the electrical connection including the two retaining clamps and the vacuum line from differential housing. Remove the differential housing assembly from the vehicle. Retain hardware for reinstallation.
- 13. Locate the rear driver lower control arm mount on the frame. Measure 3" from the inside edge of the mount toward the frame and mark with a paint pen. Use a sawzall and cut the mount from the frame. SEE FIGURE 10

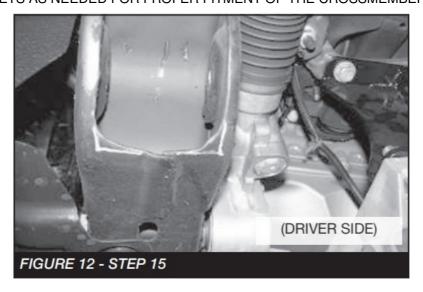


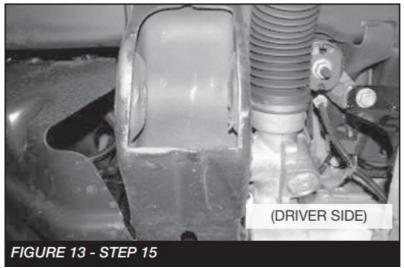
14. Locate the rear passenger lower control arm mount on the frame. Measure 3 ½" from the inside edge of the mount toward the frame and mark with a paint pen. Use a sawzall and cut the mount from the frame. SEE FIGURE 11



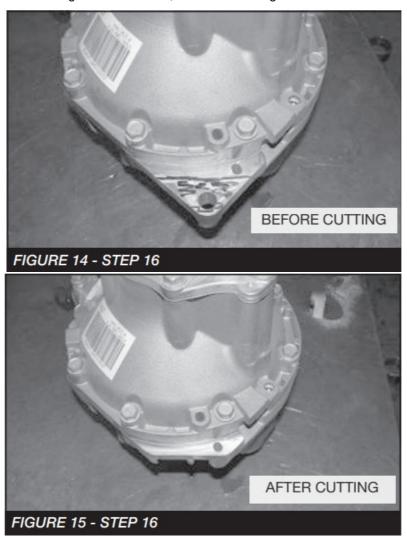
15. Locate the factory front lower control arm pockets. Grind 1/4" section from both Corners of the pockets. SEE FIGURES 12-13

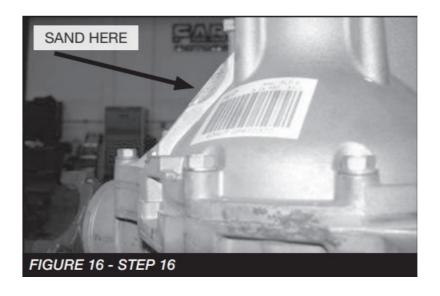
DUE TO VARIANCES IN EACH TRUCK, ADDITIONAL GRINDING MAY BE REQUIRED FOR PROPER FITMENT OF THE CROSSMEMBERS. USE THESE MEASUREMENTS AS A STARTING POINT AND CLEAR THE FRAME POCKETS AS NEEDED FOR PROPER FITMENT OF THE CROSSMEMBERS



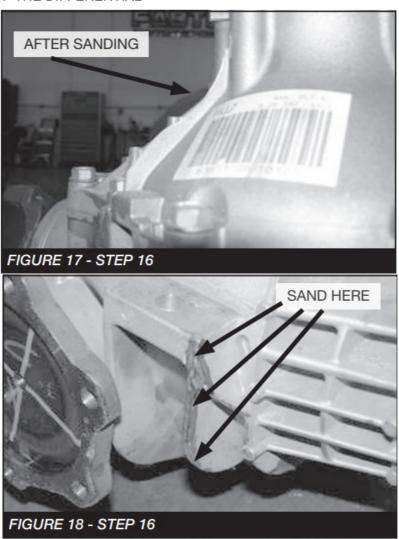


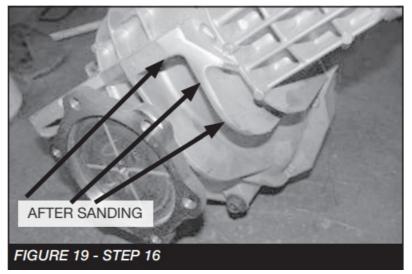
16. Locate the front differential. The diff will need to be trimmed/cut in three places. The first is the 90-degree tab on the bottom front of the diff. Measure in 1 ¼" from the outer edge and cut with a sawzall as shown in photos. The second cut is the bottom rear gusset on the passenger side of the diff. Measure down ¼" from the pinion side of the gusset and mark 1 ½" long and ½" deep. Using a barrel sander, sand down the gusset as shown in the photos below. The third cut is the second gusset from the rear on the driver's side of the diff. Mark the gusset 2 ¼" from the top and a ¼" in. Using a barrel sander, sand down the gusset. SEE FIGURES 14-19





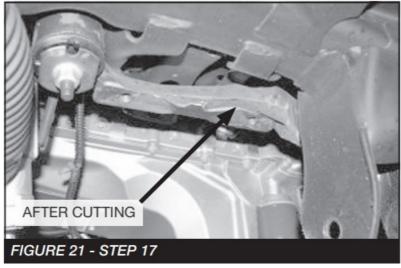
USE THESE MEASUREMENTS AS A STARTING POINT AND CLEAR THESE AREAS AS NEEDED FOR PROPER FITMENT OF THE DIFFERENTIAL



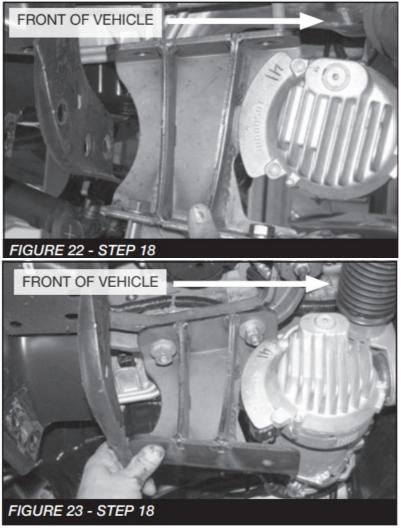


17. Locate the driver's upper differential mount. The locating pin on this mount needs to be cut off. Using a die grinder with a cutoff wheel, cut the pin flush with the bracket. SEE FIGURES 20-21

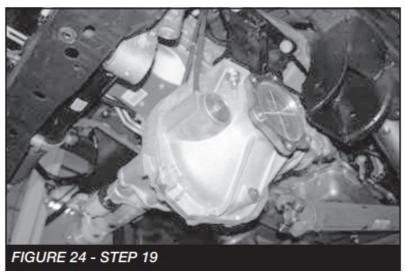




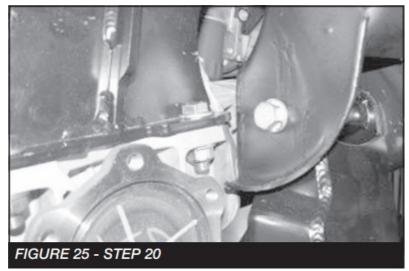
18. Locate FT20347 (driver) & FT20633 (pass) Diff. bBracketsand the factory diff hardware. Install the brackets to the factory mounts with the taller part of the bracket to the front of the truck with the factory hardware. NOTE: Use the provided 1/2-13 X 2" Carriage bolt on the passenger side diff bracket. Torque to 127 ft-lbS. SEE FIGURES 22-23



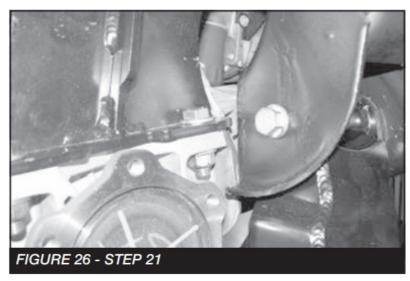
19. Locate the supplied ½" x 1 ¾" hardware and the front diff. Install the diff onto the new drop brackets using the ½" hardware. Torque the ½" hardware to 127 ft-lbs. Re-connect the electrical and vacuum connections back onto the diff. (CHECK THE CLEARANCE OF THE DIFF TO THE FRAME IN SANDED AND CUT SPOTS ON THE DIFF. FOR ADEQUATE CLEARANCE TO THE FRAME AND CROSSMEMBER). SEE FIGURE 24



20. Locate and install FT20611BK rear crossmember into the factory lower control arm pockets using the stock hardware and leave it loose at this time. (CHECK THE CLEARANCE OF THE DIFF TO CROSSMEMBER WHERE IT WAS SANDED DOWN IN STEP #17 FOR ADEQUATE CLEARANCE TO THE FRAME AND CROSSMEMBER). SEE FIGURE 25

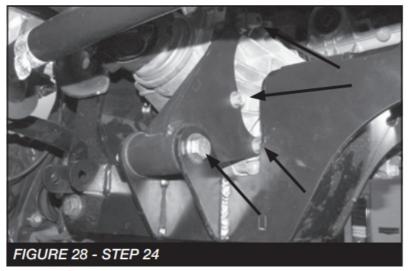


21. Locate and install FT20610BK front crossmember into the factory lower control arm pockets using the stock hardware. Leave loose. (CHECK THE CLEARANCE OF THE DIFF TO CROSSMEMBER WHERE IT WAS SANDED DOWN IN STEP #18 FOR ADEQUATE CLEARANCE TO THE FRAME AND CROSSMEMBER). SEE FIGURES 26-27

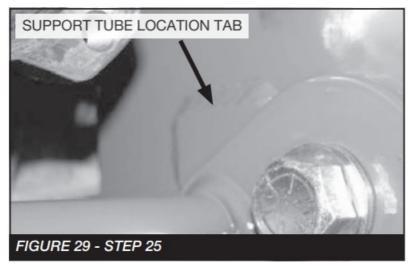




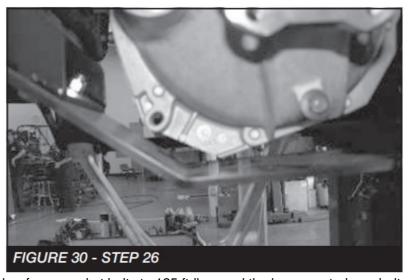
- 22. Install FT90085 bushing kit into FT20365 diff bracket.
- 23. Remove the 3 factory diff housing bolts.
- 24. Install diff bracket using the factory bolts and the 1/2-13 x 4-1/2" bolt, nut, and washers. Torque 1/2" hardware to 127 ft-lbs and factory hardware to 58 ft-lbs SEE FIGURE 28



25. Locate FT20284 Crossmember Support Tubes. Install the lower control arms into the new crossmembers using the 5/8" x 5" hardware in the front pocket. Position the control arms into the crossmember and insert only the front 5/8" bolt just so that it is through the arm. Position the Support tube between the cross members and rotate them up to the locating tabs on the crossmember. Install 5/8" x 5 ¾" hardware in the rear pocket and the front bolt with hardware. Leave loose. SEE FIGURE 29

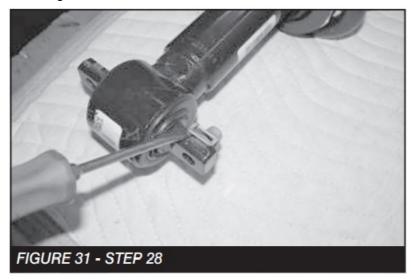


26. Locat the FT20304 Skid Plate and the supplied ½" x 1-1/4" hardware and attach the rear of the skid plate to the bottom of the rear crossmember. Use the supplied 7/16" x 1 ¼" hardware and attach the front of the skid plate to the front crossmember (MAKE SURE THAT THE DIFF IS CLEARANCED ENOUGH TO CLEAR THE SKID PLATE). SEE FIGURE 30



27. Torque the crossmember frame pocket bolts to 125 ft-lbs., and the lower control arm bolts to 254 ft-lbs. the  $\frac{1}{2}$ " skid plate hardware to 127 ft-lbs., and the 7/16" to 83 ft-lbs.

28. 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 31-33







29. Locate Box 3 FTS21042BK which has FT20339 Shock Mount to Arm, FT20323 Shock Extensions, FT20568 Shock Brackets, FT20342 or FT20351 Aluminum Bushings (Due to vehicle Variances), Hardware Kit FT20295, FT1036 Bushings, and FT148 Sleeves. Using a press. Press the bushings and sleeves (IMPORTANT: Use the provided lube to prevent squeaking) into the shock extension. Insert the Aluminum Bushings into the bottom of the factory shock. SEE FIGURE 34-36

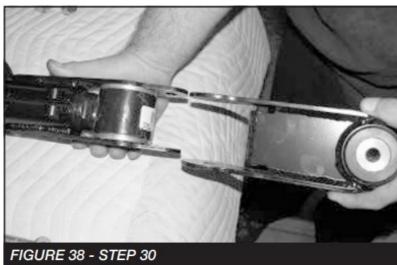


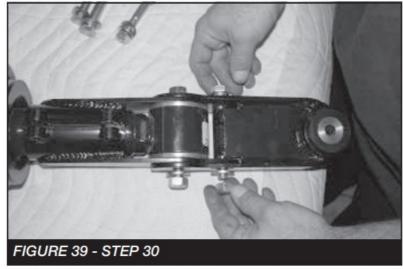


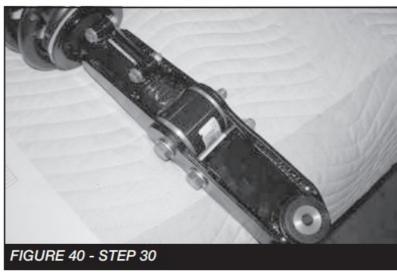


30. Place the Shock Brackets around the bottom of the shock and align with the aluminum sleeves. Position the shock extension over the brackets and also align with the aluminum sleeves. Locate the supplied ½" x 4" bolts and hardware and install them through the aluminum bushing and the shock mount. Leave loose. Locate the 5/16" x 1 ½" bolts and hardware and install them into the shock brackets. Tighten the 5/16" hardware so the brackets are evenly spaced on the shock. Torque to 20 ft-lbs. Torque the ½" hardware to 127 ft-lbs. SEE FIGURE 37-40

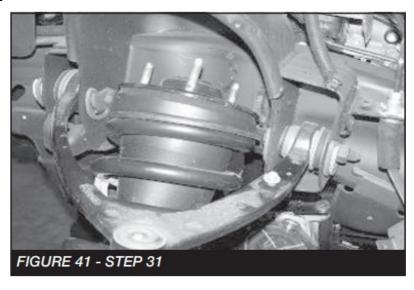






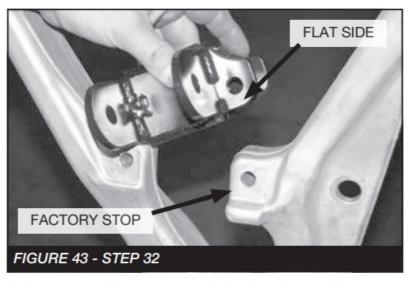


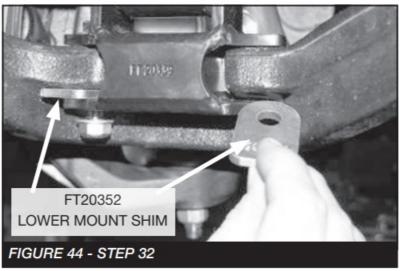
31. Locate the factory upper shock hardware. Install the shock into the factory shock bucket and leave it loose. SEE FIGURES 41-42

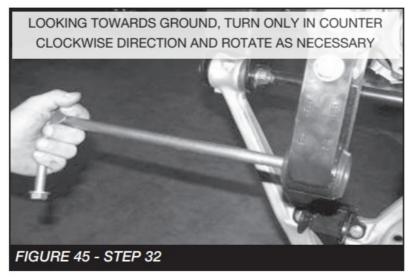


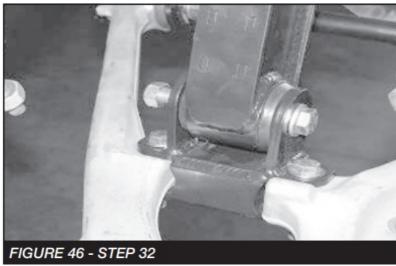


32. Locate FT20339 Lower Shock Mount, FT20352 LowerMount Shim, and the supplied 7/16" x 2 ½" hardware. Position the mount onto the lower control arm so the flat side of the bracket will be flush with the stop on the arm. Position the shim (ONLY USE THE SHIMS ON THE FORGED STEEL CONTROL ARMS) in between the new mount and the control arm. Attach with the 7/16" hardware and torque to 50 ft-lbs. Rotate the lower control arm up and attach the strut to the new mount with the provided ½" x 3 ¾" hardware and torque to 127 ft-lbs. (it may be necessary to rotate the shock and extension to attach). Torque the top shock bolts to 83 ft-lbs. SEE FIGURES 43-46

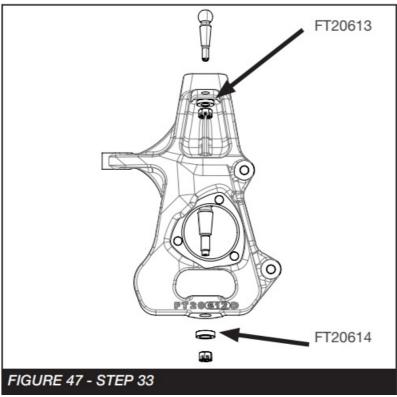






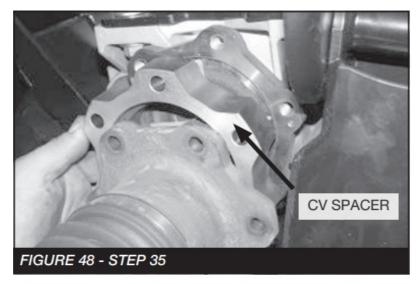


33. If you have the factory aluminum or stamped steel control arms locate FTS20612D and FTS20612P you need to install the FT20613 and FT20614 ball joint spacer under the nut when installing the knuckle. Attach the lower control arm to the knuckle using the stock hardware and torque to 70 ft-lbs. Attach the upper control arm to the new knuckle using the factory hardware and torque to 75 ft-lbs. SEE FIGURE 47



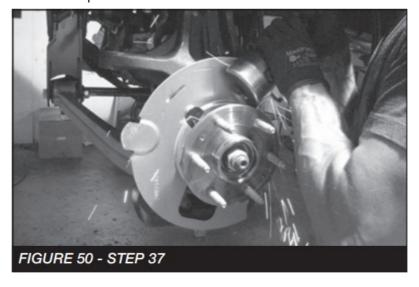
34. Reinstall axle shaft through new knuckle and torque axle nut to 150 ft-lbs. And install a bearing cover.

35. Locate and install the FT20289 CV spacers between the CV axle and the differential housing using a 10mm x 50mm bolt and washer with the provided thread lock compound and torque to 58 ft-lbs. In a cross pattern. SEE FIGURES 48-49



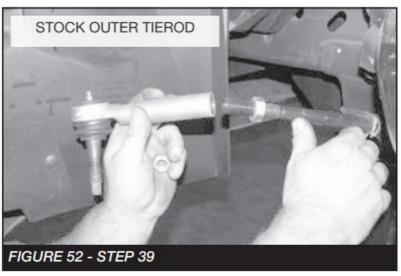


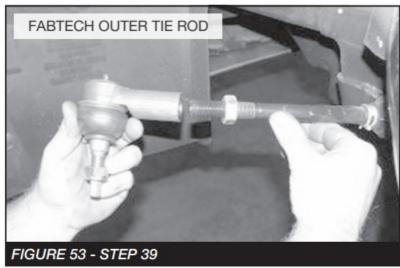
- 36. Reinstall the dust shield and hub bearing assembly using the stock hardware and torque flange bolts to 125 ft-lbs.
- 37. Trim the dust shield to clear the caliper. SEE FIGURES 50-51



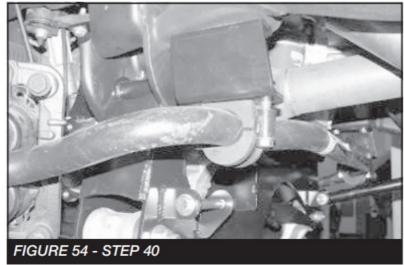


- 38. Reinstall the brake rotor and caliper. Torque caliper bolts to 100 ft-lbs.
- 39. Locate FT20277 outer tie rods. Loosen the jam nut remove the factory outer tie rods and discard, leaving the factory jam nut on the inner tie rod. Install the new outer tie rod onto the inner tie rod until it makes contact with the jam nut. Attach the new tie rod end to the knuckle with the supplied nut and torque to 40 ft-lbs. (THIS IS JUST A STARTING POINT; A FINAL ALIGNMENT MUST BE PERFORMED UPON COMPLETION OF SUSPENSION SYSTEM). SEE FIGURES 52-53

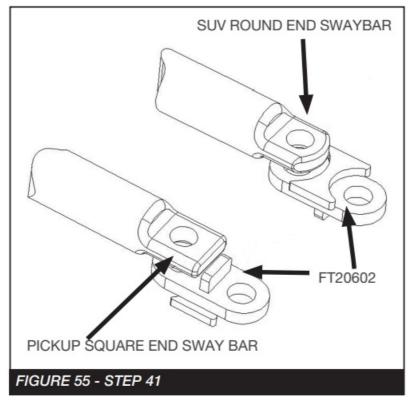




40. Locate FT20312 (Drv), FT20318 (Pass) Sway Bar Frame Bracket, and the supplied 7/16"x 2 1/4" and 10mm x 30mm hardware. Position the frame bracket on the frame so that the sway bar will be farther back from the suspension and attach with the 10mm hardware. Locate the factory sway bar with the factory mounts and attach it to the new brackets with the 7/16" hardware and torque to 83 ft-lbs. And the 10mm hardware to 58 ft-



41. Locate FT20602 Sway Bar Mounts and the supplied 18 mm x 50mm hardware. Position the Sway Bar Mount so that it is on the bottom of the sway bar with the SHORTER side of the mount against the stop plate end of the mount. Attach with the 18mm hardware and torque to 300 ft-lbs. Locate the factory sway bar end links and attach them to the new mount and the lower control arm. (NOTE – SOME PICKUP TRUCKS MAY BE EQUIPPED WITH SSUV-STYLESWAY BAR). SEE FIGURE 55



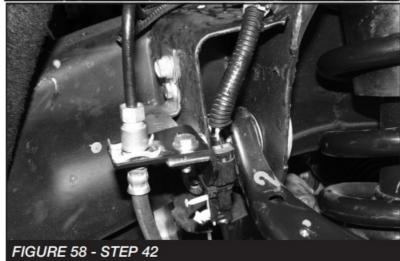
42. Locate FT20313 (drv.) FT20314 (pass) Brake Line Bracket and ¼" x ¾" hardware. Remove the ABS plug from the top of the control arm pocket and factory bracket. Position the new bracket into the factory brake line bracket location and attach it with the factory hardware and the ¼" hardware. Attach the factory brake line bracket to the new Fabtech bracket. Carefully bend the hard brake line and attach it with the supplied ¼" hardware. Torque to 10 ft-lbs. SEE FIGURES 56-60

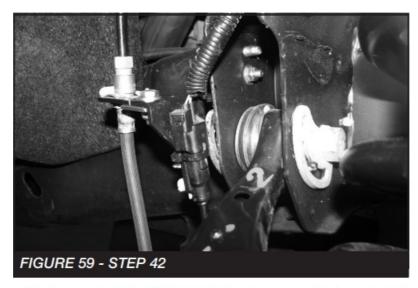


FIGURE 56 - STEP 42



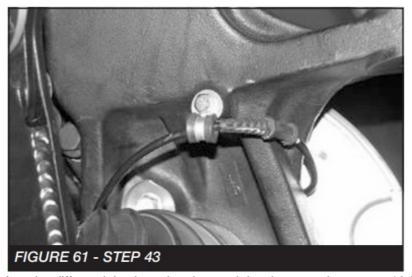
FIGURE 57 - STEP 42







43. Re-route the brake hose and the ABS Line to the steering knuckle using the model clamp to the back of the steering knuckle and attach with ½" x 3/4" bolt and washer. Torque to 10 ft-lbs. Route the ABS line next to the brake hose. Re-connect the ABS line to the harness in the wheel well. Using the provided plastic zip ties, secure the line to the hose and away from the tire and wheel. SEE FIGURE 61



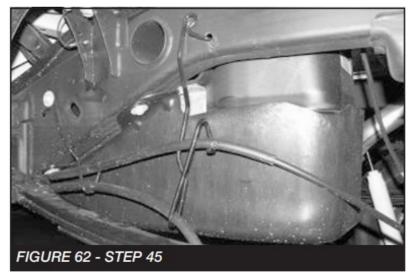
44. Reattach the driveshaft to the differential yoke using the stock hardware and torque to 19 ft-lbs.

### **REAR SUSPENSION**

**NOTE:** Be sure not to over-extend any electrical harnesses attached to the rear axle.

45. 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, u bolts, and blocks. Disconnect the brake line bracket at the differential and save the hardware. Remove the ABS line clip from the top of the frame and at the axle. Remove the e-

brake cable bracket on the driver's side of the frame and save the hardware. Lower the axle down slowly. Use care not to over-extend the brake hose. SEE FIGURE 62



- 46. Clamp the leaf spring at both ends of the spring and remove the center bolt.
- 47. Separate the overload spring from the pack.
- 48. Install the provided add a leaf with the new center bolt in a pyramid pattern smallest on the bottom graduating to the longest on top. Align by using the secondary factory pin installed in the spring. The factory flat overload leaf should remain on the bottom of the pack. Clamp the spring and tighten the center bolt so as not to leave a gap between the springs. Cut the thread of the bolt smooth with the nut. The nut should be on the top of the leaf spring pack. SEE FIGURE 63



- 49. Locate and install the rear lift blocks with the provided short center pin on the bottom of the block, to the axle. The short end of the block should face the front of the vehicle. Using the provided U bolts, nuts, and washers, align the axle, lift blocks, and springs. Torque the U-Bolts to 184 ft-lbs.
- 50. Remove the rear bump stops from the frame. Take the factory bolts use a die grinder with a cut-off wheel and cut a ½" from the bottom. Locate FT20025 bump stop spacers and install them to the factory bump stops using the trimmed factory bolt. Use a drill with a 7/16 bit and drill out the weld nut in the frame that originally held the bump stops in place. Install the 10mm x 25mm bolt in from the inside of the frame and attach the nebump stopop spacer. Torque the bolts to 58 ft-lbs. SEE FIGURES 64

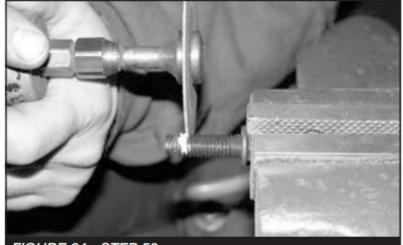


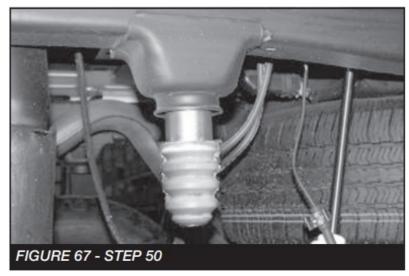
FIGURE 64 - STEP 50



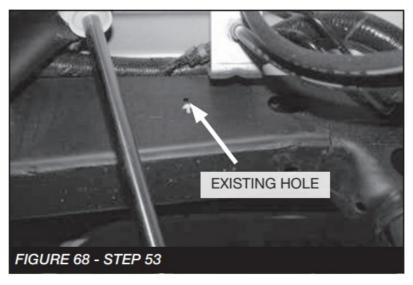
FIGURE 65 - STEP 50



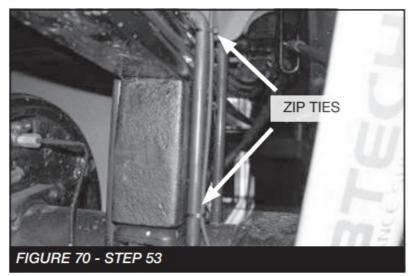
FIGURE 66 - STEP 50



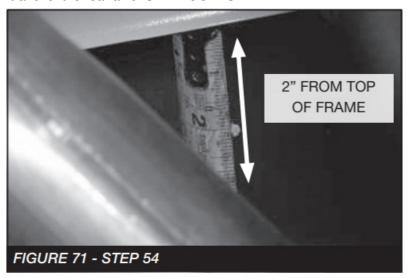
- 51. Locate te FT20349 Brake Line Bracket and the supplied 5/16" hardware. Attach the new bracket to the differential and attach the brake line to the new bracket. Torque to 29 ft-lbs.
- 52. Install new Fabtech shocks (not included with this kit) with the factory hardware and torque 100 ft-lbs.
- 53. Working from the driver's side, insert the previously removed upper ABS line clamp into the existing hole on the inside of the frame. Re-insert the lower ABS line clamp back into the stock location. Use two of the supplied zip ties and attach the ABS line to the U-Bolt. Keep the line taught at the block and ensure that there is enough slack in the line for full travel of the rear axle. SEE FIGURES 68-70

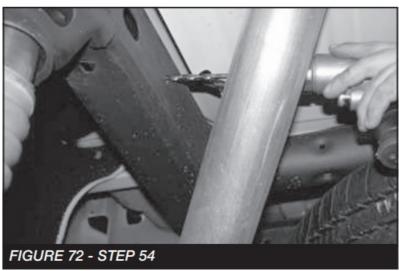




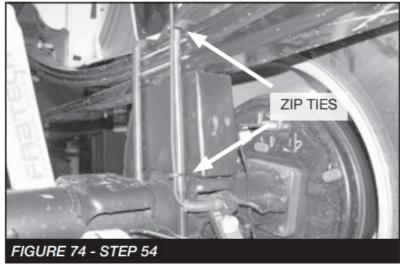


54. Working from the passenger side, locate the original line clamp hole in the top of the frame measure 2" down the inside of the frame, and drill a 1/4". Insert the previously removed upper ABS line clamp into the new hole on the inside of the frame. Re-insert the lower ABS line clamp back into the stock location. Use two of the supplied zip ties and attach the ABS line to the U-Bolt. Keep the line taught at the block and ensure that there is enough slack in the line for full travel of the rear axle. SEE FIGURES 71-74









- 55. Remove the driver's side E-brake cable from the previously removed bracket. Position the passenger side cable into the bottom position of the bracket where the driver's side was originally. Re-install the bracket back into the factory location with the factory hardware. SEE FIGURE 75
- 56. Install tires and wheels and torque lug nuts to the wheel manufacturer's specifications. Turn the front tires left to right and check for appropriate tire clearance. Note Some oversized tires may require trimming of the front bumper & valance.
- 57. Check ffront-endalignment and set to factory specifications. Readjust headlights.
- 58. Recheck all bolts for proper torque.
- 59. Recheck brake hoses, ABS wires, and suspension parts for proper tire clearance while turning tires fully left to right.
- 60. 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.
- 61. Install Driver Warning Decal. Complet the roduct registration card and mail it to Fabtech to receive future safety and technical bulletins on this suspension.
- 62. Have the vehicle properly aligned to factory specs.

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

RE-TORQUE 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 Coilovetake-apartrt shocks are considered serviceable shocks with aone-yearr
  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 for racing purposes or similar activities. (A "RACE" is defined as any contest between two or more vehicles, or any contest of one or more vehicles 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 the 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 on 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's option, of the defective product only. All costs of removal, installation, or re-installation, freight charges, and 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 nonrelated to the installed Fabtech product. This warranty is expressly iinstead ofall 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,n not all vehicles may have the same ride stance front to rear as described on the website. The blue color of suspension components shown in all Fabtech photographs is for display purposes only. MThe majority all Fabtech components will be black specifically where noted with part numbers ending in BK.
- Installation of Fabtech products may void thevehicle'ss 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 before 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 before purchase.
- Fabtech reserves the right to supersede discontinue, cor 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

Instruction Sheet Part# - FT21138i

- Fabtech Motorsports | 2213 Industrial Park Rd. Lancaster, SC 29720
- Tech Line: 909-597-7800 | Web: www.fabtechmotorsports.com

#### **FAQs**

#### Q: What should I do if I encounter missing parts during installation?

A: Contact Fabtech Motorsports Tech Line at 909-597-7800 for assistance in obtaining the missing components.

#### Q: Can I install this system on my own, or do I need professional help?

A: While installation instructions are provided, it is recommended to have a professional mechanic install for best results.

#### **Documents / Resources**



FABTECH FTS21137 4WD Front Dirt Logic Kit [pdf] Installation Guide FTS21137, FTS21138, FTS21140, FTS21137 4WD Front Dirt Logic Kit, FTS21137, 4WD Front Dirt Logic Kit, Dirt Logic Kit, Logic Kit

### References

- **Table Suspension Lift Kits & Truck Accessories**
- User Manual

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