Installation Instructions

6" Performance Suspension System

1997-03 Ford 4WD F150, Super Crew & Expedition

Fabtech Motorsports 4331 Eucalyptus Ave. Chino, CA 91710
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6" 1997-2003 Ford 4WD F150
FTS2200BK / FTS22001BK / FTS22002BK
FTS22000 / FTS22001 FTS22002

PARTS LIST

	FTS22000	F150 BX 1 OF 2 ALL
Qty	Part #	Description
2	FT20040	Sway Bar links
1	FT30003	Pass Diff Drop Bracket
1	FT30004	Frt. Driver Bump Stop Ext.
1	FT30005	Frt. Pass Bump Stop Ext.
1	FT30007	Skid Plate
1	FT30013	Hardware Kit
2	FT30018	CV Spacer
1	FT30350	Hdwr Sub-Assembly Kit
1	FT290	Cam Kit
1	FT30006D	Driver side Spindle
1	FT30006P	Passenger side Spindle

	FTS22001	F150 BX 2 OF 2 P/U
Qty	Part #	Description
1	FT30001	Front Crossmember
1	FT30002	Rear Crossmember
2	FT20599BK	Impact Strut
2	FT30009	Impact Strut Mount
2	FT30011	Torsion Bar Drop Bracket
2	FT30008	Impact Strut Mount Nut Plate
2	FTBK4	4" Blocks
4	FT724U	U Bolts
1	FT916H	U Bolt Hardware
1	FT30014	Hardware Kit
1	FT30015	Hardware Kit

	FT30350	Hdwr Sub-Assembly Kit
Qty	Part #	Description
1	FT1044	Bushing Kit
2	FT22000i	Instruction Sheet
2	FT30017	Brake Hose Bracket Frt.
1	FT30042	B-Line Bracket
1	FT30043	E-Brake Tab
2	FT90084	Sway Bar Stem Bushings
1	FTAS12	Fabtech Sticker
1	FTAS16	Driver Warning
1	FTREGCARD	Registration Card

	FTS22002	EXPEDT. BX 2 OF 2
Qty	Part #	Description
1	FT30001	Front Crossmember
1	FT30002	Rear Crossmember
2	FT20599BK	Impact Strut
2	FT30009	Impact Strut Mount
2	FT30008	Impact Strut Mount Nut Plate
2	FT30011	Torsion Bar Drop Bracket
1	FT30014	Hardware Kit
1	FT30015	Hardware Kit

NOTE- Expedition Require FTS97159-4 or FTS97159-5BK Rear Kit to complete installation

NOTE= SOME 97-98 MODEL WILL HAVE METAL ABS SENSOR,IF SO MODIFY TO FIT INTO SPINDLE OR REPLACE WITH FACTORY PLASTIC SENSOR OFF 99 MODEL.

READ BEFORE INSTALLATION:

Some 4WD Expeditions may Experience Rear Drive Line Vibration
If You Experience Rear Drive Line Vibration, You May Need to Order The Following Kit:
FTS22008BK – Rear Upper Link Arm Kit (this kit will be used only if your truck is equipped with a factory c.v. style rear drive shaft)

HARDWARE LIST:

	FT30013 Hardware Kit
Qty	**Description**
2	12mm-1.75 x 100 Bolt
1	12mm-1.75 x 110 Bolt
3	12mm- 1.75 Steel Lock Nut
3	1/2-13 x 1-1/4" Bolt
4	1/2-13 Nyloc Lock Nut
1	1/2" USS Flat Washer
17	1/2" SAE Flat Washer
2	1/2-13 x 1-1/2" Bolt
2	1/2-13 Steel Lock Nut
2	3/8-16 x 1-1/2" Self Tapping Screw
2	3/8" SAE Flat Washer
2	3/8" Split Lock Washer
12	12mm- 1.75 x 45 Bolt
12	12 mm Flat Washer
2	Adel Clamps
2	1/4-20 x 3/4" Bolt
2	1/4" Split Lock Washer
2	1/4" SAE Washer
4	1/2-13 X 3" Button Head
1	Thread lock compound
1	1/2-13 x 1-1/2" Bolt

	FT30014 Hardware Kit
Qty	**Description**
4	16mm - 2.0 x 140 Hex Cap Bolt
4	16mm - 2.0 Steel Lock Nut
8	16mm Flat Washers
4	1/2-13 x 1-1/2" Hex Cap Bolt
4	1/2-13 Steel Lock Nut
8	1/2" SAE Flat Washer

	FT30015 Hardware Kit
Qty	**Description**
2	1/2-13 x 1-1/4" Hex Cap Bolt
2	1/2-13 Steel Lock Nut
2	1/2" USS Flat Washer
2	1/2" SAE Flat Washer
4	7/16-14 x 1-1/4" Hex Cap Bolt
4	7/16-14 Steel Lock Nut
4	7/16" SAE Flat Washer
4	7/16" USS Flat Washer
6	3/8-16 x 1-1/4" Hex Cap Bolt
6	3/8-16 Steel Lock Nut
12	3/8" SAE Flat Washer
4	7/16-14 x 3-1/2" Hex Cap Bolt
4	7/16-14 x 1-1/4" Hex Cap Bolt
8	7/16-14 Nyloc Lock Nut
16	7/16" SAE Flat Washer

TOOL LIST: (NOT INCLUDED)

- **FLOOR JACK & JACK STANDS**
- **ASSORTED METRIC AND S.A.E SOCKETS, & WRENCHES**
- **TORSION BAR REMOVAL TOOL**
- **TORQUE WRENCH**

READ ALL INSTRUCTIONS THOROUGHLY FROM START TO FINISH BEFORE BEGINNING INSTALLATION! IF THESE INSTRUCTIONS ARE NOT PROPERLY FOLLOWED, SEVERE FRAME, DRIVELINE AND / OR SUSPENSION DAMAGE MAY RESULT.

CHECK ALL PARTS INCLUDED IN THIS KIT TO THE PARTS LIST ABOVE BEFORE BEGINNING INSTALLATION OF THE KIT. IF ANY PIECES ARE MISSING, CONTACT FABTECH AT 909-597-7800

NOTE- PRIOR TO THE INSTALLATION OF THIS SUSPENSION SYSTEM A FRONT END ALIGNMENT MUST BE PERFORMED AND RECORDED. DO NOT INSTALL THIS SYSTEM IF THE VEHICLE ALIGNMENT IS NOT WITHIN FACTORY SPECIFICATIONS. CHECK FOR FRAME AND SUSPENSION DAMAGE PRIOR TO INSTALLTION. THIS SUSPENSION SYSTEM DOES NOT REQUIRE WELDING FOR INSTALLATION. DO NOT WELD ANY OF THESE COMPONENTS.

VEHICLES THAT WILL RECEIVE OVERSIZED TIRES SHOULD CHECK BALL JOINTS, TIE RODS ENDS AND IDLER ARM EVERY 2500-5000 MILES FOR WEAR AND REPLACE AS NEEDED

NOTE- VEHICLES WITH E40D TRANSMISSIONS REQUIRES IMPACT STRUTS NOT INCLUDED IN THIS SYSTEM. CALL FABTECH FOR PARTS 909-597-7800

DO NOT ALTER THE FINISH OF THESE COMPONENTS, EXAMPLE- CHROMING, ZINC PLATING OR PAINTING. CHANGING THE FINISH CAN CAUSE STRUCTURAL FATIGUE OF COMPONENTS.

NOTE- THIS SYSTEM MUST BE INSTALLED WITH FABTECH SHOCK ASBORBERS TO PREVENT POSSIBLE BALL JOINT & CV DAMAGE

THE INSTALLATION OF THIS SUSPENSION SYSTEM SHOULD BE PERFORMED BY TWO PROFESSIONAL MECHANICS.

THIS KIT WILL NOT WORK ON F-150'S OR EXPEDITIONS EQUIPPED WITH FRONT AIR ADJUSTABLE SHOCKS.
THIS KIT WILL NOT WORK ON ALL WHEEL DRIVE (AWD) MODEL F-150'S OR EXPEDITIONS.

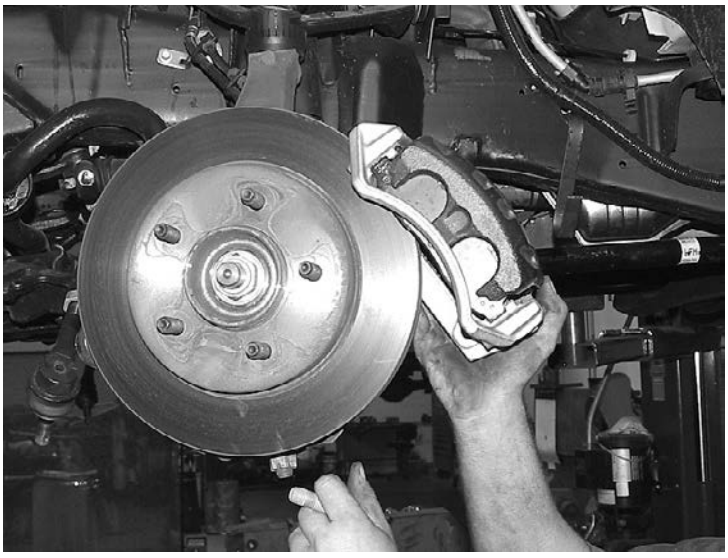
FRONT SUSPENSION INSTRUCTIONS:

1. Disconnect the negative terminal on the battery. With the vehicle on level ground set the emergency brake and block the rear tires. 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.

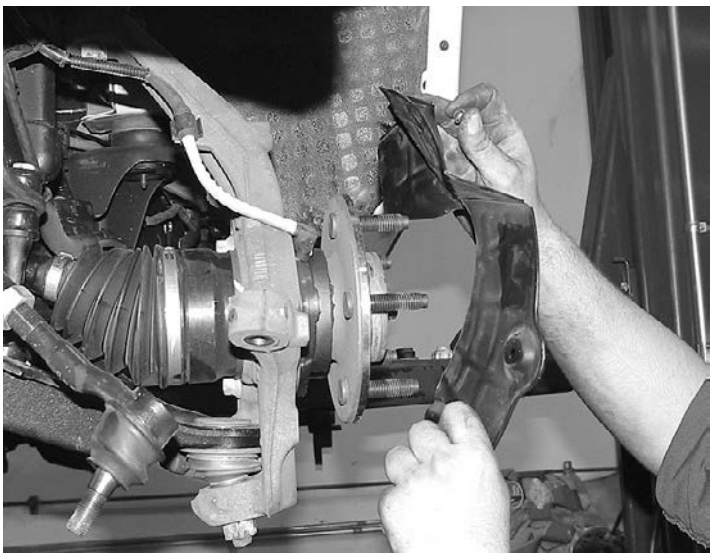
2. Locate the torsion bar adjusting cams and threaded bolts. Measure exposed threads of torsion bar adjusting bolts and record for reinstallation. Mark torsion bars indicating driver and passenger. Using a torsion bar removal tool unload the torsion bars and remove the crossmember and bars. Retain the hardware for reinstallation. NOTE- Do not attempt to unload or remove torsion bars without the proper torsion bar tool. Torsion Bars are under extreme spring load.

3. 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. Use care not to damage the tie rod end when removing.

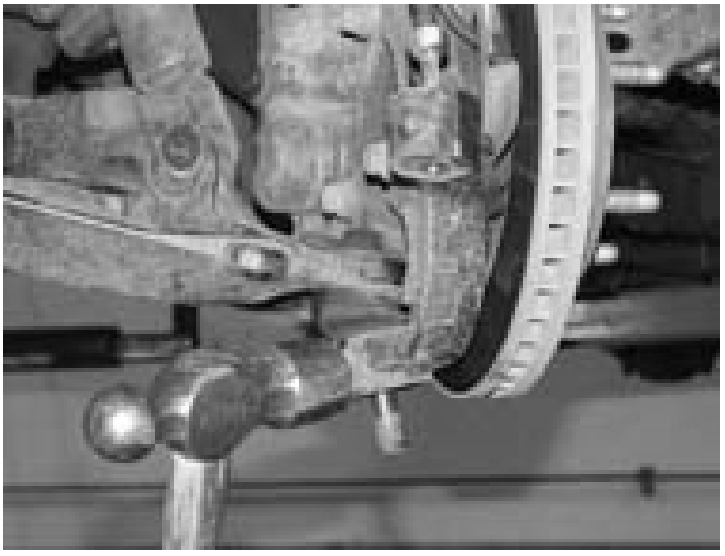
4. Remove brake caliper and place next to frame. Do not overstretch bake hose when doing so. Retain hardware for reinstallation SEE PHOTO BELOW.



5. Remove brake rotor, axle nut dust cover, cotter pin and axle nut. Remove ABS line and retaining clip from steering knuckle. Remove dust shield and discard SEE PHOTO BELOW.



6. Remove the upper and lower ball joint nuts and cotter pins. 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 discard knuckle. SEE PHOTO BELOW.

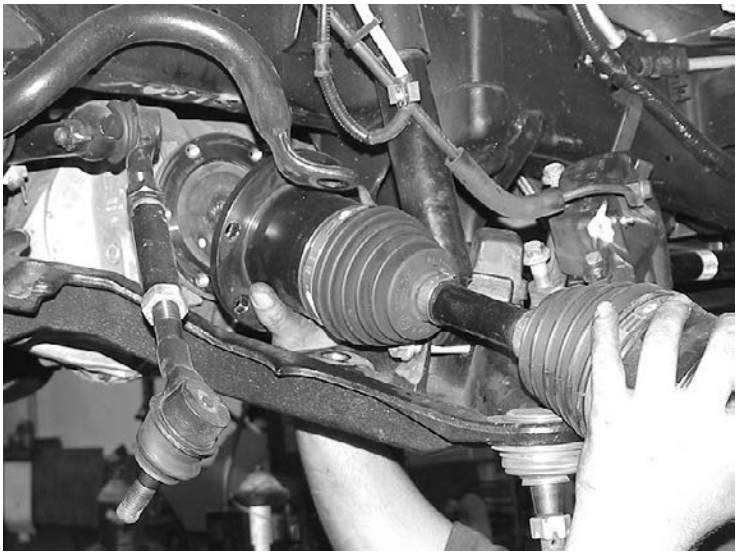


7. Working off the vehicle remove hub assembly from steering knuckle, retain hardware and parts for reinstallation SEE PHOTO BELOW.

8. Taking care remove the stock wheel seal from the stock steering knuckle noting the direction of the seal lip. Reinstall this factory seal in to the new steering knuckle FT30006D for driver side and FT30006P for passenger side with lip in same direction. SEE PHOTO BELOW.

9. Remove the sway bar end link and discard. Remove stock shock absorber and discard, retain hardware for reinstallation

10. Remove the bolts that attach the CV axle shaft to the differential housing and remove CV axle assembly. SEE PHOTO IN NEXT COLUMN.



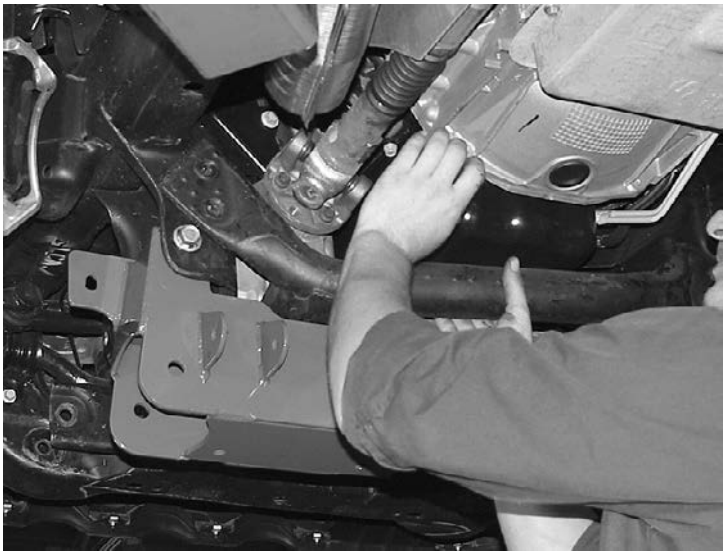
11. Remove the lower control arm pivot bushing crossbolts and remove arm. Retain hardware for reinstallation.

12. Moving to the passenger side of the vehicle repeat same above directions.

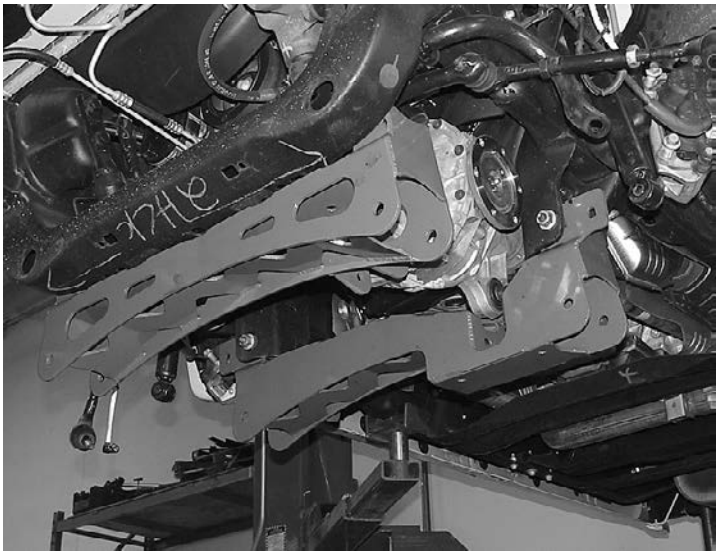
13. Once the above steps have been completed locate and loosen the differential housing mounting bolts. Do not remove bolts or housing, leave loose

14. Locate the rear Fabtech crossmember FT30002 with the four tabs facing rearward and place inside of the stock lower control arm pockets and attach using the retained factory control arm hardware. Leave hardware loose. SEE PHOTO BELOW.

15. Remove the factory rear crossmember behind the Fabtech crossmember. Discard factory crossmember and hardware. **Note- Do not remove this factory crossmember if the Fabtech crossmember has not been already installed, as the frame will spring open**. SEE PHOTO ON NEXT PAGE.



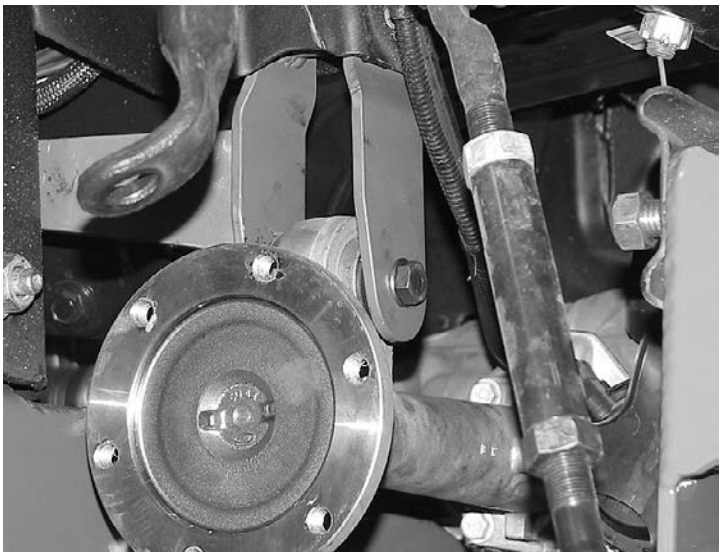
16. Locate and install the Fabtech front crossmember FT30001 with the two tabs facing rearward into the front lower control arm pockets using the retained factory control arm hardware, leave hardware loose. SEE PHOTO BELOW.



17. Locate the passenger side diff mounting bolts and remove, retain hardware for reinstallation.

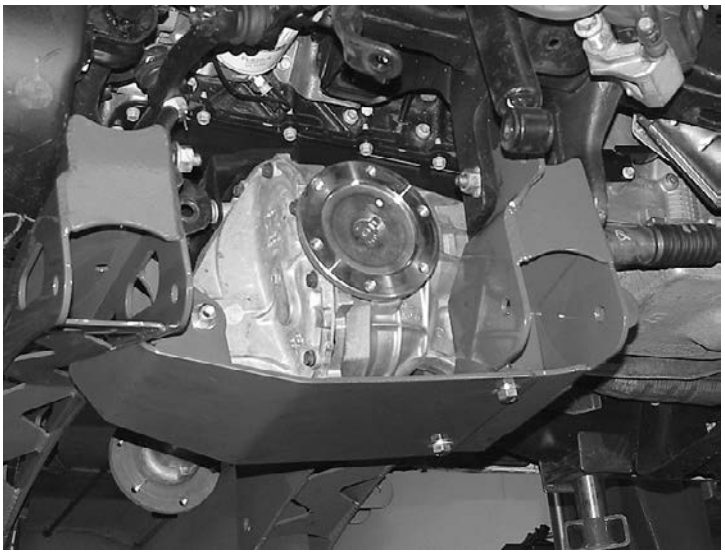
18. Remove the stock driverside differential housing mounting bolts and lower the diff housing into the new crossmembers and reattach using the stock bolts, leave loose. SEE PHOTO IN NEXT COLUMN.

19. Locate diff mount FT30003 and place it inside the passenger side factory diff pocket on the frame using the stock hardware leave loose. Attach the passenger side of the diff housing to the new mount using 12mm x 1.75 bolt, nut and washers, leave loose. SEE PHOTO BELOW.



20. Attach the leg of this bracket to the backside of the control arm pocket using ½ x 1-1/4" bolt, nut and USS washers. Use the large USS ½" washer on the outside of the control arm pocket. Torque the new passenger side diff mounting bolts to 60LBS. SEE PHOTO ON NEXT PAGE.

21. Locate the skid plate FT30007 and place tabs around new diff mount on the front crossmember and attach using 12mm x 1.75 x 2.5 bolt, nut and washer. Attach rear of skid plate to rear crossmember using ½" x 1-1/4" bolts, nuts and washers. Leave loose. SEE PHOTO BELOW.



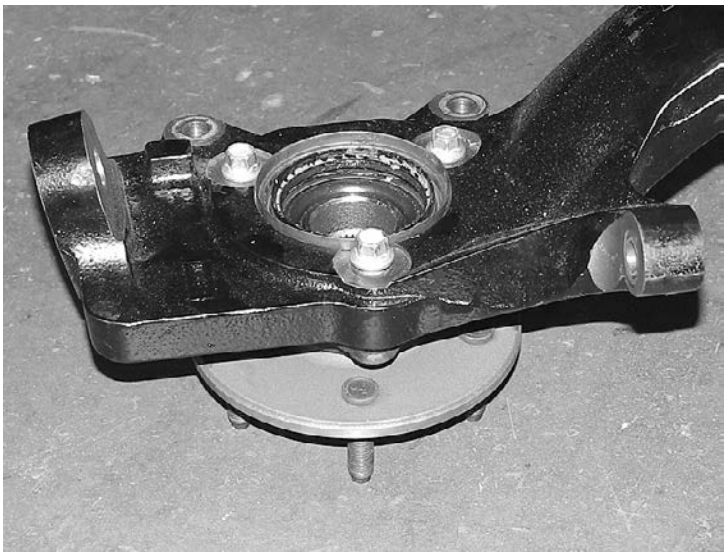
22. Using 16mm x 2.0 bolt, nut and washers install the driver and passenger side lower control arms into the new crossmembers, Leave loose.

23. Locate and center punch the holes in the bottom side of the front crossmember to the frame. Drill out to ½" and install ½" x 1-1/2" bolt nut and washers. Torque to 60LBS. SEE PHOTO IN NEXT COLUMN.

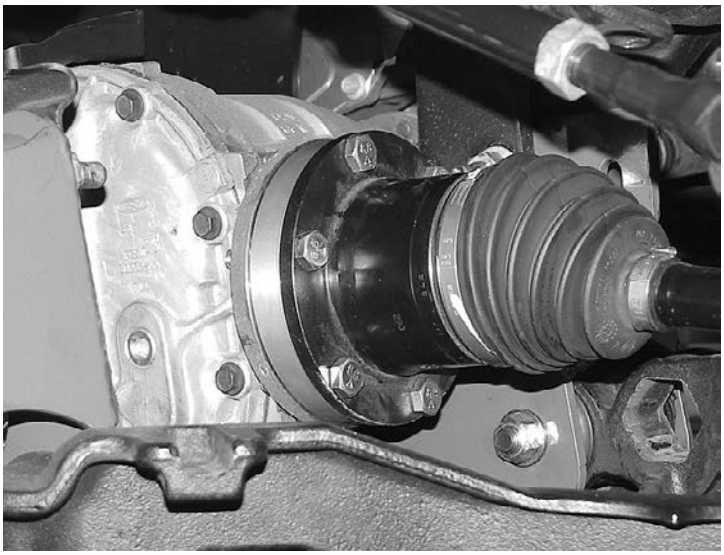
24. Torque all previously installed bolts to the following torque specifications, except the control arm pivot bolts, leave loose.
Stock Passenger side Differential mounting bolts- 60LBS
Stock Driver side Differential mounting bolts- 60LBS

25. Double check that all bolts are torqued properly before proceeding to next step. 16mm bolts – 145LBS,
12mm bolts- 60LBS, ½" Bolts-60LBS

26. Reinstall the wheel hub assembly into new steering knuckle using the provided thread locking compound attach with stock hardware and torque to 80LBS SEE PHOTO BELOW.



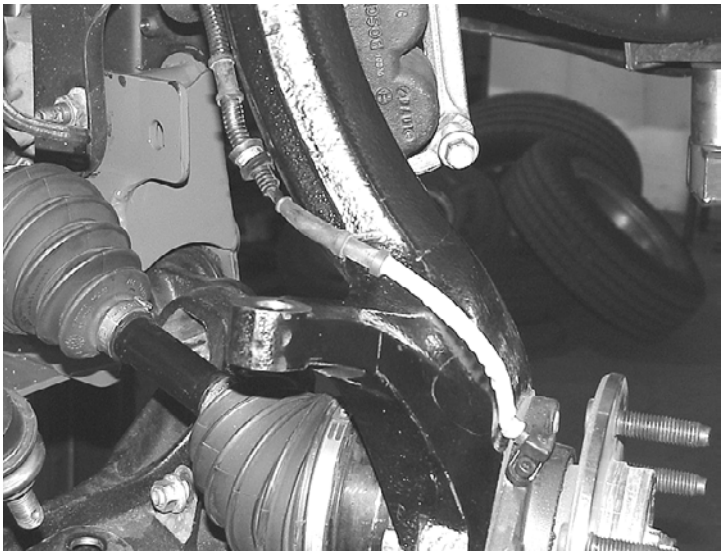
27. Locate CV spacer FT30018 and place between the differential housing drive flange and the CV axle assembly. Using 12mm x 1.75 x 45mm bolts, and thread lock compound attach CV axle and spacer to flange and torque to 60LBS in a cross pattern. . SEE PHOTO ON NEXT PAGE.



28. Sliding the CV axle into the new steering knuckle attach the steering knuckle to the upper and lower control arm ball joints and reattach using the factory hardware. Torque the upper control arm ball joint to 65LBS and the lower control arm ball joint to 95LBS. Reinstall the factory cotter pins. Torque the lower control arm pivot bolts to 125LBS

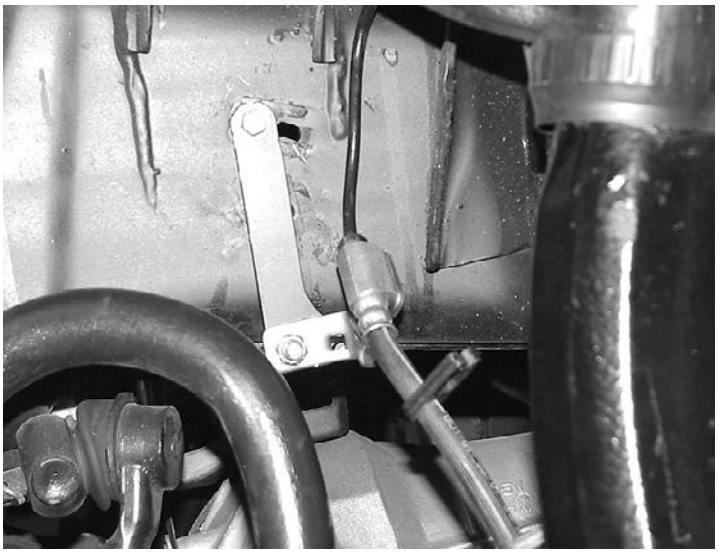
29. Reinstall the factory axle nut and torque to 190LBS, reinstall cotter pin and axle dust shield.

30. Reinstall the ABS line to the hub using stock hardware and torque to 5-10LBS. Route the ABS line to the front side of the steering knuckle and attach with provided Adel clamps with ¼"x 3.4" bolt and washer to the knuckle. Torque to 5LBS. SEE PHOTO BELOW.



31. Reinstall rotor and caliper using stock hardware and torque to 25lbs

32. Unbolt the bracket that retains the brake hose on the side of the frame and attach the new extension bracket FT30017 for the driverside using 5/16" x 1" bolt, nut, and washers to the stock bracket . The dogleg of the bracket should go to the rear of the vehicle. Taking care gently bend the hard line down to allow the stock bracket to be repositioned lower while attaching the new bracket to the side of the frame using the stock hardware. SEE PHOTO BELOW.

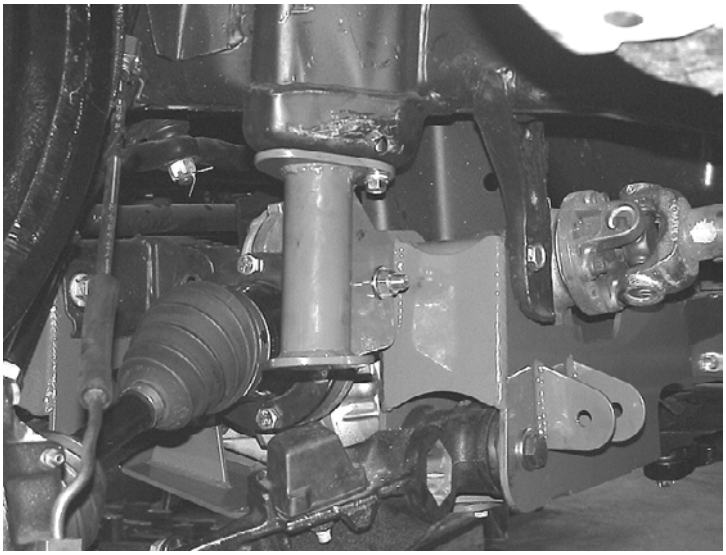


Brake Hose Bracket

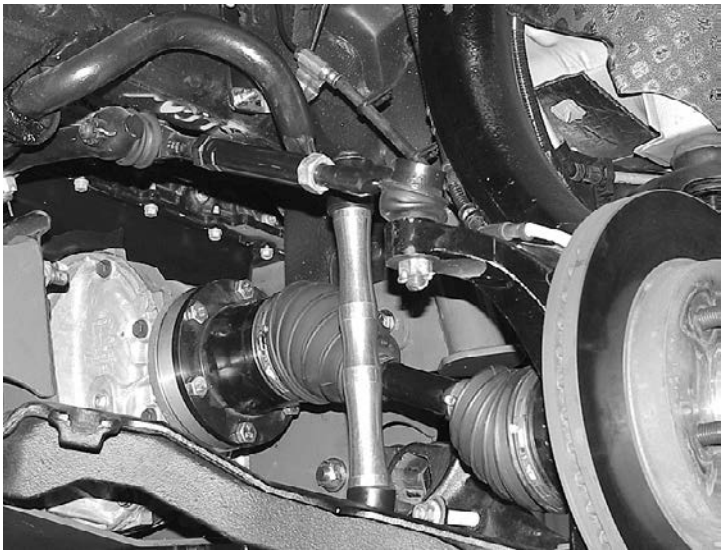
33. Slowly and gently bend the hard line at the caliper as to properly route the line up to the frame. Check for proper brake hose length and routing at full lock to lock turning at full suspension extension and compression. Adjust routing as required as to not interfere with tire or suspension. SEE PHOTO BELOW.

34. Locate the front bump stop bracket FT30004 for the driver side and attach to the crossmember using ½" x 1-1/2" bolt, nut and washers and swing the mount up tight to the bottom of the stock bump stop. Center punch hole and remove bracket to drill out to 11/32"

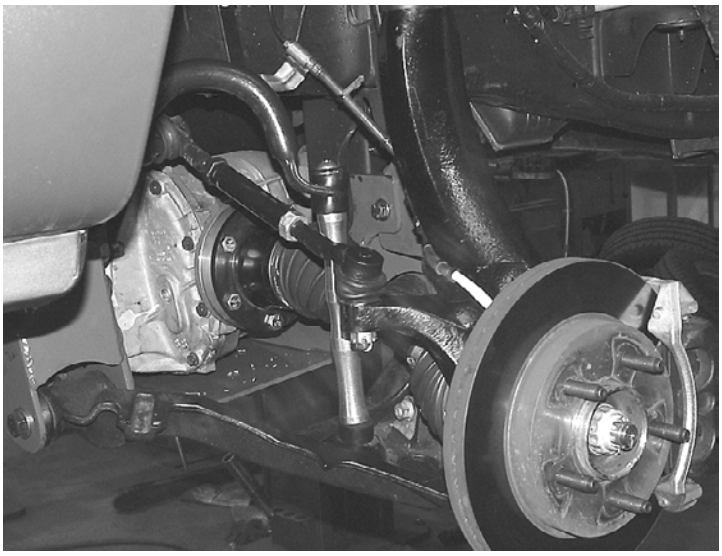
35. Reattach the bump stop bracket to crossmember and to bottom of stock mount using 3/8" self-tapping bolts. Torque ½" bolt to 60LBS. SEE PHOTO BELOW.



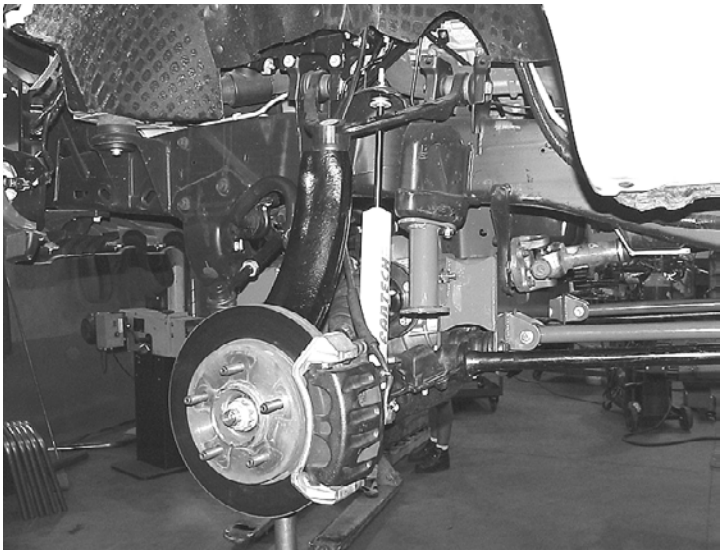
36. Locate sway bar end links, urethane bushings and cup washers and attach to sway bar and control arm using ½" x 3" button head bolts, leave loose. Only tighten bolts to swell urethane bushings after both sides of the sway bar have been attached. Do not over tighten. SEE PHOTO BELOW.



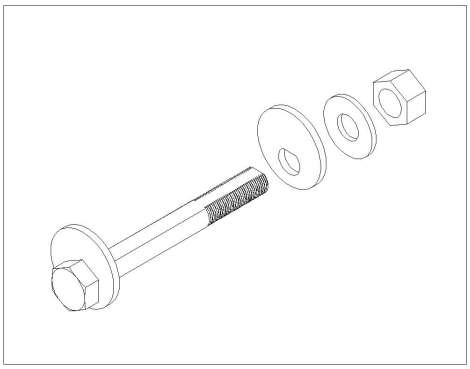
37. Reattach the tie rod to steering knuckle using the stock hardware. Torque to 65LBS, reinstall factory cotter pin. SEE PHOTO IN NEXT COLUMN.



38. Locate FTS7159 front shocks (not included in this system) and attach to vehicle using factory hardware. Torque the upper stem to swell the rubber bushing and the lower bolt to 45LBS SEE PHOTO BELOW.

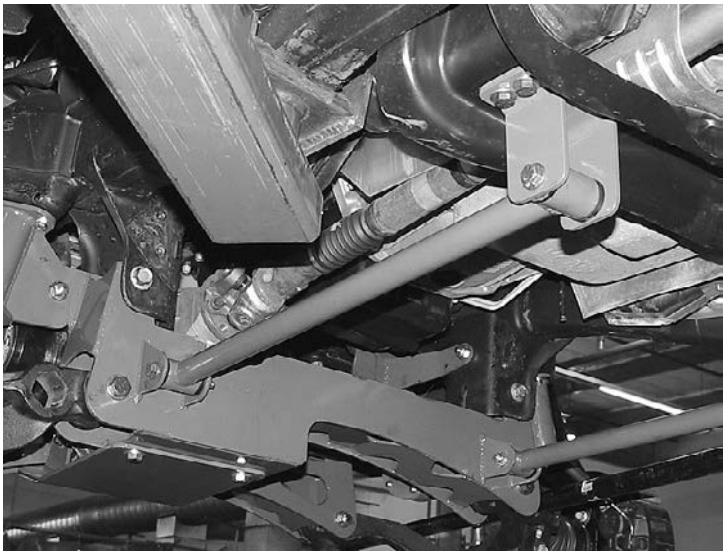


39. Locate and install the upper control arm eccentric cam washers and bolts on each side of the upper control arm pocket. Place the center of new cams in the middle of the eccentric pocket. SEE DRAWING BELOW.



40. Locate the impact struts and install provided FT1044 bushings. Attach struts to the rear crossmember tabs and to the rear mounts FT 30009 using 7/16" x 3-1/2" bolts, nuts and washers. When attaching the FT30009 brackets place the leg of the mount to the outside of the vehicle. Leave loose.

41. With the strut attached to the rear of the Fabtech crossmember pivot the strut and mount up to the factory frame crossmember under the transmission. Locate and center punch holes. Drill out crossmember to 7/16" and attach strut mount using 7/16" x 1-1/4" bolts, nuts and washer. On vehicles with E40D / 4.6 motor use FT30008 nut plate above factory crossmember and thread bolt from strut mount up to nut plate. Torque to 30 LBS SEE PHOTO BELOW.



42. Slide the stock torsion bars into the lower control arms 15 inches and leave hanging for reinstallation. This step will aid in reinstallation of torsion bars to the rear crossmember.

43. Locate the torsion bar bracket FT30011 for the driver side and attach to the bottom of the frame using 7/16' x 1-1/4" bolts, nuts and washers. And ½" x 1-1/4" bolt, nut and washers in the stock holes from the stock torsion bar crossmember. Torque to 60LBS

45. Attach the stock torsion bar crossmember to the inside of the new bracket using the stock hardware, leave loose.

46. Attach the passenger side bracket FT30011 to the stock torsion bar crossmember using the stock hardware, leave loose. Do this before you place the new Fabtech bracket up to the frame, as you will not be able to install the stock crossmember into the new bracket after the passenger side bracket is tight on the frame.

47. Repeat same step 43-44 for passenger side bracket installation to the frame.

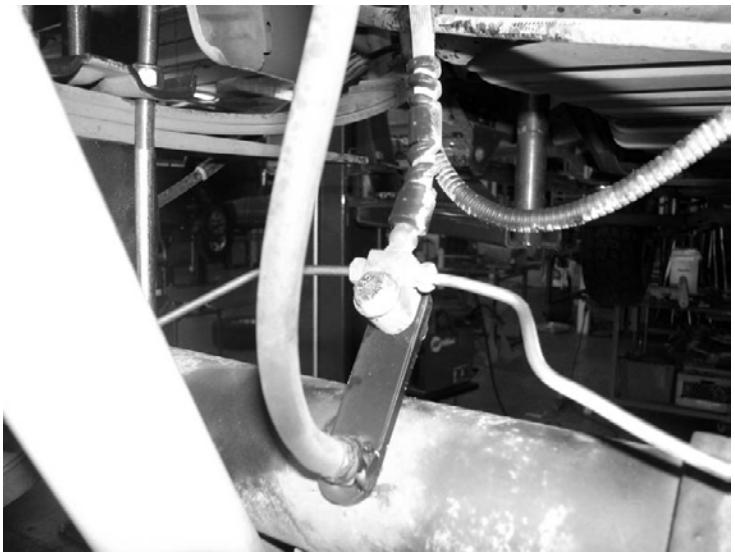
48. Insert torsion bars into stock torsion bar crossmember and adjusters. Adjust the torsion bar adjusters to the prerecorded bolt thread length. DO NOT ADJUST TORSION BARS HIGHER THAN 29" FROM BOTTOM OF FENDER LIP TO CENTER OF FRONT WHEEL HUB WITH VEHICLE ON THE GROUND.

Double check that all nuts and bolts are now tight before proceeding to the rear.

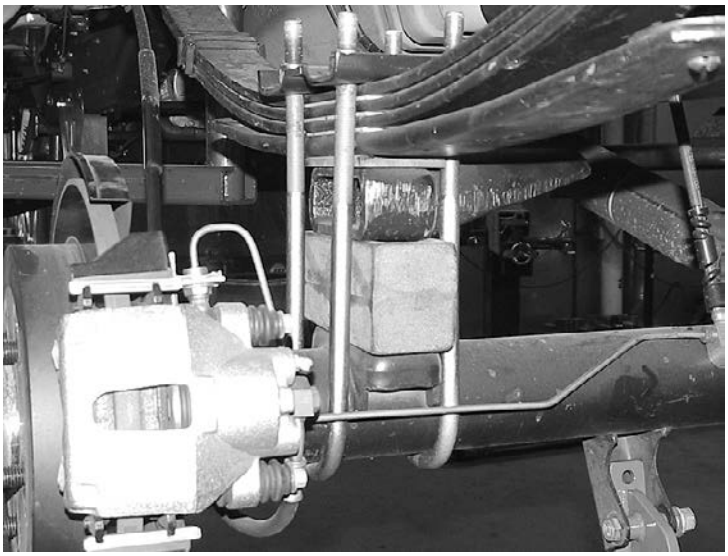
REAR P/U SUSPENSION INSTRUCTIONS:

49. Jack up the rear end of the vehicle and support the frame rails with jack stands. Supporting the rear differential remove the rear shocks, u-bolts, blocks and lower axle down. Save the stock block. Use care not to over extend the brake hose.

50. Locate the factory brake line mount on the driver side of the axle. Remove the vent line from the bolt and remove bolt, save hardware. Locate the supplied brake line bracket FT30042. Attach the side with the sleeve to the axle using the factory hardware. Using the supplied 3/8" x 2" bolt, nut and washer, attach the brake line to the other end. Reattach vent line. SEE PHOTO BELOW.



51. Locate and install the rear lift blocks and the stock lift blocks with the provided center pin on the bottom of the block, to the axle under the stock lift block. The short end of the Fabtech block should face to the front of the vehicle. Using the provided U bolts, nuts and washers align the axle, lift blocks, and springs and torque U Bolts to 90lbs. SEE PHOTO ON NEXT PAGE.



52. Install new Fabtech shocks with the factory hardware and torque upper bolts to 15lbs and lower bolts to 50lbs.

53. Locate the factory E-Brake Cable on the driver side rear hub and remove from the hub and bracket. Locate the supplied FT30043 E-brake cable extension, using the supplied ½"x 1 ½" bolt, nut and washer, attach to the factory bracket. Attach the E-Brake cable to the new extension and then to hub. SEE PHOTO BELOW.

EXPEDITION REAR SUSPENSION:

See Instructions from FTS97159-4 or FTS97159-5BK

FINAL STEPS ALL MODELS-

54. Recheck all bolts for proper torque. Recheck brake hoses and lines for proper clearances.

55. Install tires and wheels and torque lug nuts to wheel manufacturers specifications. Turn front tires left to right and check for appropriate tire clearance. Note- Some oversized tires may require trimming of the bumper and valance.

56. Check front end alignment and set to factory specifications. Some models may require the cutting of the outer tie rod end adjustment threads to obtain toe in adjustment. Remove tie rod ends from knuckles and adjusting sleeve. Thread jam nut all the way on until the tie rod until it bottoms out. Measure 3/8" from end of threads, mark and cut with die grinder. SEE PHOTO BELOW.

57. Unscrew jam nut to chase cut threads smooth and reinstall tie rods on to adjusting sleeve and knuckle. Both passenger and driverside tie rods ends must be cut equally and threaded back on to adjuster equally. Adjust toe to factory specifications.

58. Check front-end alignment and set to factory specifications. Re-adjust headlights.

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. 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.

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, powdercoating, 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 in the catalog, but due to unknown auto manufacturers 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 catalog 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'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 in our current catalog. 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.

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.

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 supercede, 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 catalog or price sheet.

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