Installation Instructions

6” Performance Suspension System
2001-2003 GM 4WD K2500HD
K1500HD and K2500 Suburban, Avalanche

Fabtech Motorsports 4331 EUCALYPTUS AVE. Chino, CA. 91710
Tech Line 909-597-7800 Fax 909-597-7185 Web www.fabtechmotorsports.com

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6” 2001-2003 GM 4WD K1500HD K2500HD K2500

FTS21008 / FTS21009 / FTS21010

FTS21008BK / FTS21009BK / FTS21010BK

PARTS LIST

FTS21008 6” Box Kit 1

Qua	Part #	Description
1	FT20056D	Spindle -Driverside
1	FT20056P	Spindle - Passenger side
2	FT20146	CV Spacers
1	FT20069	Skid Plate
1	FT20061	Differential Drop Bracket (pass.)
1	FT20062	Differential Drop Bracket (driver)
1	FT20063	Frt Bump Stop Bracket (drv.)
1	FT20064	Frt Bump Stop Bracket (pass.)
1	FT20071	Sway Bar link Kit
1	FT20075	Weld in Plate
1	FT20074	Carrier Bearing Drop Bracket
1	FT20079	Bushing Kit
1	FT20076	Hardware
1	FT20077	Hardware

FTS21009 6” Box Kit 2

Qua	Part #	Description
1	FT20057	Front Crossmember
2	FT20058	Crossmember Tab Bolt
1	FT20059	Rear Crossmember
2	FT20060	Crossmember Support Tube
2	FT20065	Impact Strut
2	FT20106	Impact Strut Rear Mount
2	FT20067	Strut Mount Tab Nut
2	FT20144	Torsion Bar Drop Bracket
2	FT20072	Rear Bump Stop Spacers
1	FT20078	Hardware Kit
2	FTBK4	4" Blocks
4	FT726U	U Bolts
1	FT58H	U Bolt Hardware
1	FT20085	Hardware Kit

FTS21010 6” Box Kit 2

1	FT20057	Front Crossmember
2	FT20058	Crossmember Tab Nut
1	FT20059	Rear Crossmember
2	FT20060	Crossmember Support Tube
2	FT20065	Impact Strut
2	FT20106	Impact Strut Rear Mount Dual Hole
2	FT20067	Strut Mount Tab Nut
2	FT20122	Torsion Bar Drop Bracket
2	FT20072	Rear Bump Stop Spacers P/U
2	FT20133	Rear Bump Stop Spacers SUV
1	FT20140	Brake Hose Bracket RR
1	FT20078	Hardware Kit
1	FT20139	Hardware Kit
2	FTBK4	4" Blocks
4	FT726U	U Bolts
1	FT58H	U Bolt Hardware

NOTE- THIS SUSPENSION SYSTEM REQUIRES WELDING FOR INSTALLATION. ALL WELDING MUST BE PERFORMED BY A CERTIFIED WELDER. ONLY WELD THE SINGLE COMPONENT CALLED OUT IN THESE INSTRUCTIONS. DO NOT WELD ANY OTHER COMPONENTS IN THIS SYSTEM.

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

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

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

EXHAUST MODIFICATION IS REQUIRED TO INSTALL THIS SYSTEM AND CAN BE PERFRORMED BY A MUFFLER SHOP

SUSPENSION SYSTEM MUST BE INSTALLED WITH FABTECH SHOCK ASBORBERS

VEHICLES WITH ONE PIECE REAR DRIVESHAFTS MAY EXPERIENCE DRIVELINE VIBRATION

HARDWARE LIST:

FT20076 Hardware Kit

Qua	Description
2	5/8-11x 6-1/4" Hex Cap Bolt
2	5/8-11x 5" Hex Cap Bolt
4	5/8-11 Steel Lock Nut
8	5/8" SAE Flat Washer
2	1/2-13 x 1-1/4" Hex Cap Bolt
2	1/2-13 Nyloc Lock Nuts
4	1/2 SAE Flat Washer
2	3/8-16 x 1" Hex Cap Bolt
4	3/8-13 Nyloc Lock Nut
8	3/8" SAE Flat Washer
1	9/16-12 x 5" Hex Cap Bolt
2	9/16-12 x 1-3/4"
5	10mm x 1.5 x 60mm
6	9/16" SAE Flat Washer
5	10mm Flat Washer
3	9/16-12 Steel Lock Nut

20085 Hardware Kit

Qua	Description
8	7/16-14 x 1-1/4" Hex Cap Bolt
8	7/16-14 Nyloc Lock Nut
12	7/16" SAE Flat Washer

FT20139 Hardware Kit

Qua	Description
2	10mm-1.5 x 25mm Hex Cap Bolt
1	10mm Flat Washer
1	10mm Split Lock Washer
1	1/4-20 x 1-1/4" Hex Cap Bolt
1	1/4-20 Nyloc Lock Nut
2	1/4" SAE Washer

FT20077 Hardware Kit

Qua	Description
12	10mm x 1.5 x 70mm
12	10mm Flat Washer
1	Thread Lock Compound
1	1/2-13 x 1-1/4" Hex Cap Bolt
1	1/2-13 Steel Lock Nut
2	1/2" SAE Flat Washer
2	1/4-20 x 3/4" Hex Cap Bolt
2	1/4" SAE Flat Washer
2	1/4" Split Lock Washer

FT20078 Hardware Kit

Qua	Description
4	7/16-14 x 3-1/2" Hex Cap Bolt
2	1/2-13 x 1-1/4" Hex Cap Bolt
4	7/16-14 x 1-1/4" Hex Cap Bolt
4	7/16-14 Nyloc Lock Nut
2	1/2-13 Steel Lock Nut
16	7/16" SAE Flat Washer
4	1/2" SAE Flat Washer
2	9/16-12 x 2-1/2" Hex Cap Bolt
2	9/16-12 Steel Lock Nut
4	9/16" SAE Flat Washer
2	3/8-16 x 2" Hex Cap Bolt
8	3/8-16 Nyloc Lock Nut
16	3/8" SAE Washer
4	3/8-16 x 1-1/2" Hex Cap Bolt
4	3/8-16 x 1-1/4" Hex Cap Bolt
4	3/8-16 x 1-1/4" Hex Cap Bolt

TOOL LIST: (NOT INCLUDED)

- **FLOOR JACK & JACK STANDS**
- **ASSORTED METRIC AND S.A.E SOCKETS, & WRENCHES**
- **LARGE C CLAMP OR C CLAMP VISE GRIPS**
- **DIE GRINDER WITH CUTOFF WHEEL OR SAWZALL**
- **TORSION BAR REMOVAL TOOL**
- **TORQUE WRENCH**
- **MIG WELDER**

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

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.

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.

FRONT SUSPENSION INSTRUCTIONS:

1. 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. Remove the sway bar link ends from the sway bar and lower control arm. Discard links and bushings.

4. Remove the stock shocks and discard.

5. Remove the stock lower rubber bump stops from the frame and retain.

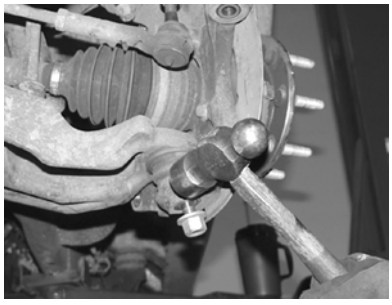
6. Remove front factory differential skid plate and splash shield and discard. Retain hardware for front crossmember installation.

7. 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 PHOTO NEXT COLUMN

8. Remove the brake hose bracket from the top of the steering knuckle. Unplug the ABS brake connection from the frame and control arm. Remove the caliper from the rotor and place above the upper control arm during this portion of the installation.

9. Remove brake rotor from the steering knuckle. Remove axle nut, washer and the 4 hub bolts on backside of knuckle. Remove bearing hub assembly including O ring from knuckle. Retain parts and hardware for reinstallation.

10. 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 nuts and discard knuckle.
SEE PHOTO BELOW



11. Disconnect CV axles from differential housing and remove axle assembly.

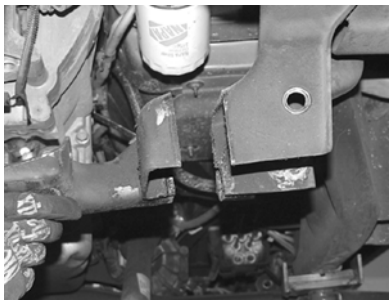
12. Remove the lower control arms from the frame and retain the arms and hardware for reinstallation.

13. Disconnect front driveshaft from differential housing and retain bolts and u joint clamps for reinstallation.

14. Disconnect the differential housing electrical connection and vacuum line from differential housing.

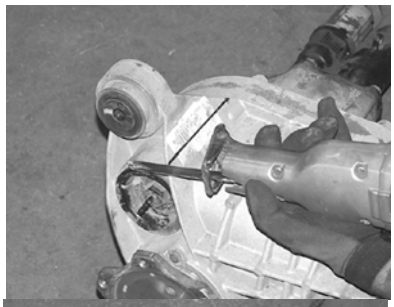
15. Remove the stock differential rear crossmember and discard. Remove the differential housing assembly from vehicle. To ease removal turn the steering wheel to the left for centerlink clearance. Note- Some diesel models may require step 16 first in order to remove housing. Retain hardware for reinstallation.

16. Locate the driverside lower control arm pocket closest to the rear of the vehicle, measure 1-3/4" from the backside of the pocket and mark a vertical cut line around entire pocket. Using a Sawzall or die grinder cut the backside of the pocket and rear differential crossmember off the frame. SEE PHOTO BELOW. VIEW FROM FRONT OF TRUCK ON DRIVERSIDE.



17. With the back of the pocket now removed place the FT20075 plate up to the frame and weld in place. Let the plate cool and paint with a corrosive resistant paint or undercoating. SEE PHOTO BELOW

18. Locate the mounting bushing eye on the upper front side of the differential housing and mark the housing with a cut line smooth to the housing. Using a sawzall cut the entire ear off the housing. Take care not to cut into the flat portion of the housing. SEE PHOTOS BELOW & NEXT COLUMN



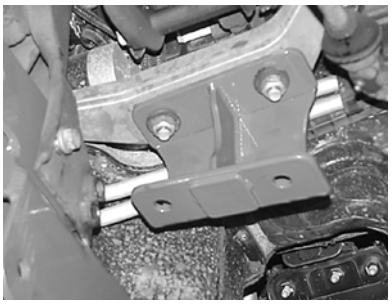
19. Locate the C shaped Fabtech differential bracket and install bushings and sleeve in bracket from Bushing Kit FT20079.

20. Place differential bracket to the differential housing and remove the appropriate 5 housing bolts. Bracket should be positioned with the bushing eye to the top side of the housing. Using provided the 10mm x 1.5 x 60mm bolts and washers in hardware kit FT20076 attach the differential bracket to housing using thread lock compound and torque to 30 lbs. Note- Some leakage of the differential oil is normal during this process. Recheck and fill diff housing oil once differential is mounted in vehicle. SEE PHOTO BELOW

Diff Housing Bracket

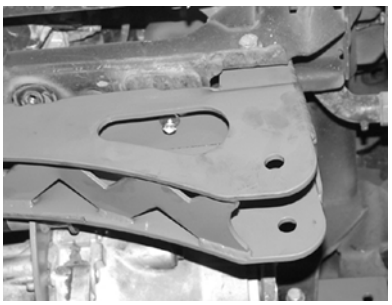
21. Locate and install the Fabtech rear crossmember into the factory lower control arm pockets using the stock hardware with the nuts to the rear of the truck. Leave loose

22. Locate and install the Fabtech Passenger side Diff bracket to the bottom of the factory frame mount, with the wide end of the bracket to front of the vehicle and the small locator plate towards the ground. Attach using the stock hardware. Torque to 70lbs. SEE PHOTO BELOW.



23. Place the differential housing into the Fabtech rear crossmember using the stock hardware on the driver side and 9/16”-12 x 1-3/4” bolts, nuts and washers on the passenger side from hardware kit FT20076, leave loose. SEE PHOTO ON NEXT PAGE.

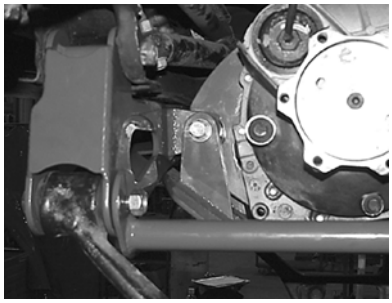
24. Locate and insert the square FT20058 tab bolts into the stock front control arm crossmember and through the holes outboard of the removed stock splash shield mounting holes. Attach the Fabtech front crossmember into the lower control arm pockets using the stock hardware and 3/8” nuts and washers from hardware kit 20076 to the tab bolts under the crossmember. Leave loose. SEE PHOTO BELOW.



25. Position the front differential urethane bushing mount into the front crossmember tabs. Locate and install the differential skid plate around the differential housing bushing using 9/16”x 5” bolt, nut and washers from hardware kit FT20076. Leave loose. SEE PHOTO BELOW.

26. Reconnect the electrical connection and the vacuum line to the differential housing.

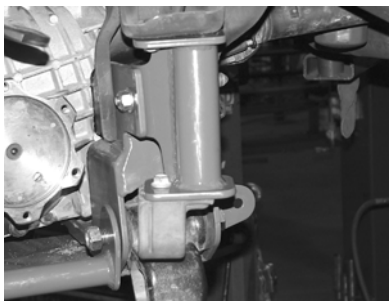
27. Install the lower control arms into the new crossmembers with the FT20060 support tubes placed over the pivot bolts between the crossmembers. Use the 5/8” x 5” and 5/8” x 6-1/4” bolts nuts and washers from hardware kit FT20076. Leave loose. SEE PHOTO NEXT COLUMN.



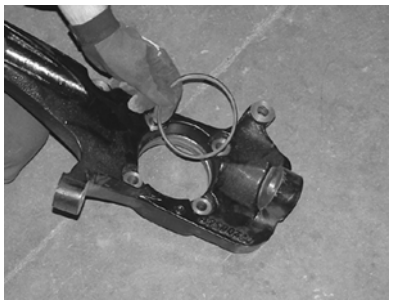
28. Using ½” x 1-1/4” Bolt, nut and washers attach the rear of the skid plate to the bottom of the rear crossmember and torque to 50lbs.

29. Torque the following bolts - Driver side diff bushing bolts to 70lbs, Passenger side diff bushing bolts to 70lbs, Crossmember frame pocket bolts to 105lbs, Control arm bolts to 105lbs, Crossmember tab bolts to 25 LBS. Recheck all bolts on the front end for proper torque before proceeding to next step.

30. Locate the two front bump stop brackets, FT20063 & FT20064. Attach to the rear crossmember using ½” x 1-1/4” bolts, nuts and washers and to the stock frame mount using 3/8” x 1” bolts, nuts and washers. Torque the 3/8” to 20LBS and ½” to 35LBS. Attach the stock rubber bump stop to the bottom of new bracket and torque to 15LBS. SEE PHOTO BELOW.

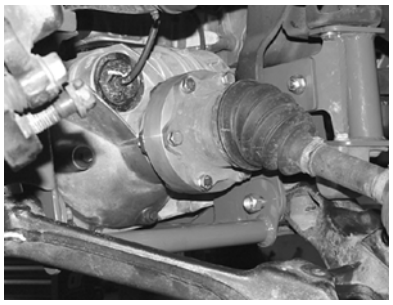


31. Locate the FT20056D & P steering knuckle and install the stock hub bearing assembly taking care to place O ring in the proper position. Apply thread lock compound to the stock hardware torque the flange bolts to 130lbs. SEE PHOTO BELOW



32. Attach the steering knuckle FT20056D for the driver side to the upper control arm and to the lower control arm using the stock hardware. Torque the upper ball joint to 35LBS and lower to 70 lbs. Reattach the tie rod and torque to 30LBS.

33. Reinstall axle shaft through new knuckle and attach nut and washer. Locate and install the Fabtech CV spacers between the CV axle and the differential housing using 10mm x 70mm bolts and washers from Hardware kit FT20077 with the provided thread lock compound and torque to 55 lbs. in a cross pattern. Torque axle nut to 150 lbs SEE PHOTO BELOW

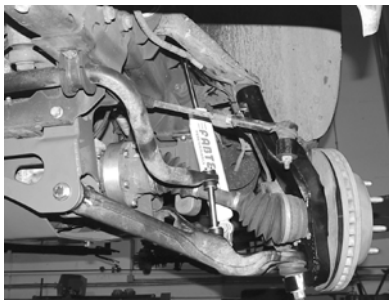


34. Install Fabtech shock part number FTS7191 (not included) using factory hardware. Torque the upper stem bushing to 15LBS and the lower bolt to 35lBS

35. Reinstall brake rotor and caliper. Torque caliper bolts to 70LBS. Route the brake hose and ABS line to the steering knuckle using the factory steel guide clamp to the rear side of the steering knuckle and attach with ¼" x 3/4" bolt and washer from Hardware kit FT20077. Torque to 10LBS. Check to make sure that the brake hose and ABS line is routed as to allow full turning radius to the steering without tire or suspension component contact. Use provided plastic tyraps to secure line and hose to the upper control arm and knuckle away from the tire and wheel. SEE PHOTO BELOW.

36. Reattach the driveshaft to the differential yoke using the stock hardware and torque u joint straps to 19lbs.

37. Remove sway bar and flip upside down and remount. Locate and install the Fabtech sway bar link ends and bushings. Torque to 10lbs. SEE PHOTO BELOW



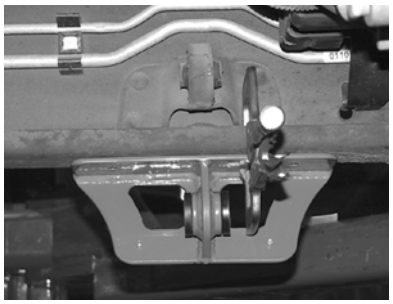
38. Recheck all bolts on front end for proper torque before proceeding to next step.

39. Locate and install the bushings and sleeves into the Impact Strut bars. Attach the Impact Struts into the tabs on the back side of the lower control arm crossmember using 7/16" x 3-1/2" bolts, nuts and washers from Hardware kit FT20078. Leave loose. When attaching the impact tube to the crossmember the end of the tube with the angle barrel will attach to the crossmember so the impact tube will angle inboard of the truck.

40. Locate and attach the Impact Strut mount to the other end of the strut, with the flair of the bracket to the rear of the vehicle. For vehicles with Allison transmissions place the bushing eye in the forward position, vehicles with 4L80-E transmissions rear position using 7/16" x 3-1/2" bolts, nuts and washers, leave loose.

41. Swing mount up to bottom of crossmember, mark and drill holes to 7/16" Diameter. Note- Some models may require cutting of the transfer case skid plate to allow the strut mount to become flush with the bottom of the crossmember. Locate and insert long tab nut bracket inside of crossmember and thread 7/16" x 1-1/4" bolts and washers though the impact mount into the tab nut bracket. Torque mounting bolts and bushing pivot bolts to 30LBS SEE PHOTO BELOW.

42. Locate the torsion bar drop down mounts and install bushings and sleeves. Placing the Fabtech mount with the bushing eye directly below the factory torsion bar bushing eye, clamp to the mount to the bottom and side of the frame. Center punch and drill out frame to 7/16" diameter. Attach torsion bar mounts using 7/16" x 1-1/4" bolts, nuts and washers from hardware kit 20085. Torque to 65lbs. Repeat same procedure for the opposite side. SEE PHOTO BELOW



43. Re install the driver and passenger side torsion bars with the factory torsion bar crossmember into the new Torsion Bar mounts using the factory hardware and torque to 70lbs.

44. Set Torsion Bar adjusters to the pre-recorded thread measurement from the disassembly. DO NOT ADJUST TORSION BARS HIGHER THAN 30" FROM BOTTOM OF FENDER LIP TO CENTER OF FRONT WHEEL HUB WITH VEHICLE ON THE GROUND.

REAR SUSPENSION INSTRUCTIONS:

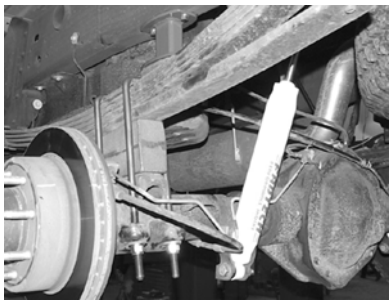
45. Jack up the rear end of the vehicle and support the frame rails with jack stands. Supporting the rear differential remove and discard the rear shocks and u bolts. Lower axle down slowly. Use care not to over extend the brake hose.

46. For Truck Models remove rear rubber bump stops and install extension bracket between frame and stop using 3/8" x 1-1/2" bolts, nuts and washers, Torque to 20lbs.

47 For Suburban and Avalanche remove rear rubber bump stops and install extension bracket using 10mm x 25mm bolt and lock washer, Torque to 20lbs. Reinstall factory rubber bumps stop to the bottom of the new bracket.

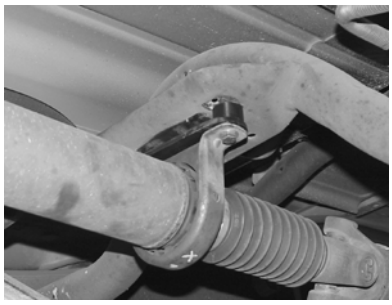
48. Locate and install small rear brake hose extension bracket between differential housing and brake hose using ¼" x 1-1/4" bolt. nut and washers and stock hardware. Torque to 10LBS. Check brake hose for proper extended length and routing as to allow full rear travel without over extending hose.

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 to the front of the vehicle. Using the provided U bolts, nuts and washers align axle, lift blocks, and springs and torque to U Bolts to 90lbs. SEE PHOTO BELOW



50. Install Fabtech shock part number FTS7333 (not included) with the factory hardware and torque bolts to 65lbs.

51. For vehicles with a two-piece rear driveshaft locate and install FT20074 spacer between the carrier bearing and frame. Push out stock mounting bolts and use 3/8" x 2" bolts, nuts and washers. Torque to 30LBS SEE PHOTO BELOW



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

53. Check the fluid in the front differential and fill if need with factory specification differential oil.

54. 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 front bumper & valance.

55. Check front end alignment and set to factory specifications. Readjust 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.

Coil over 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.