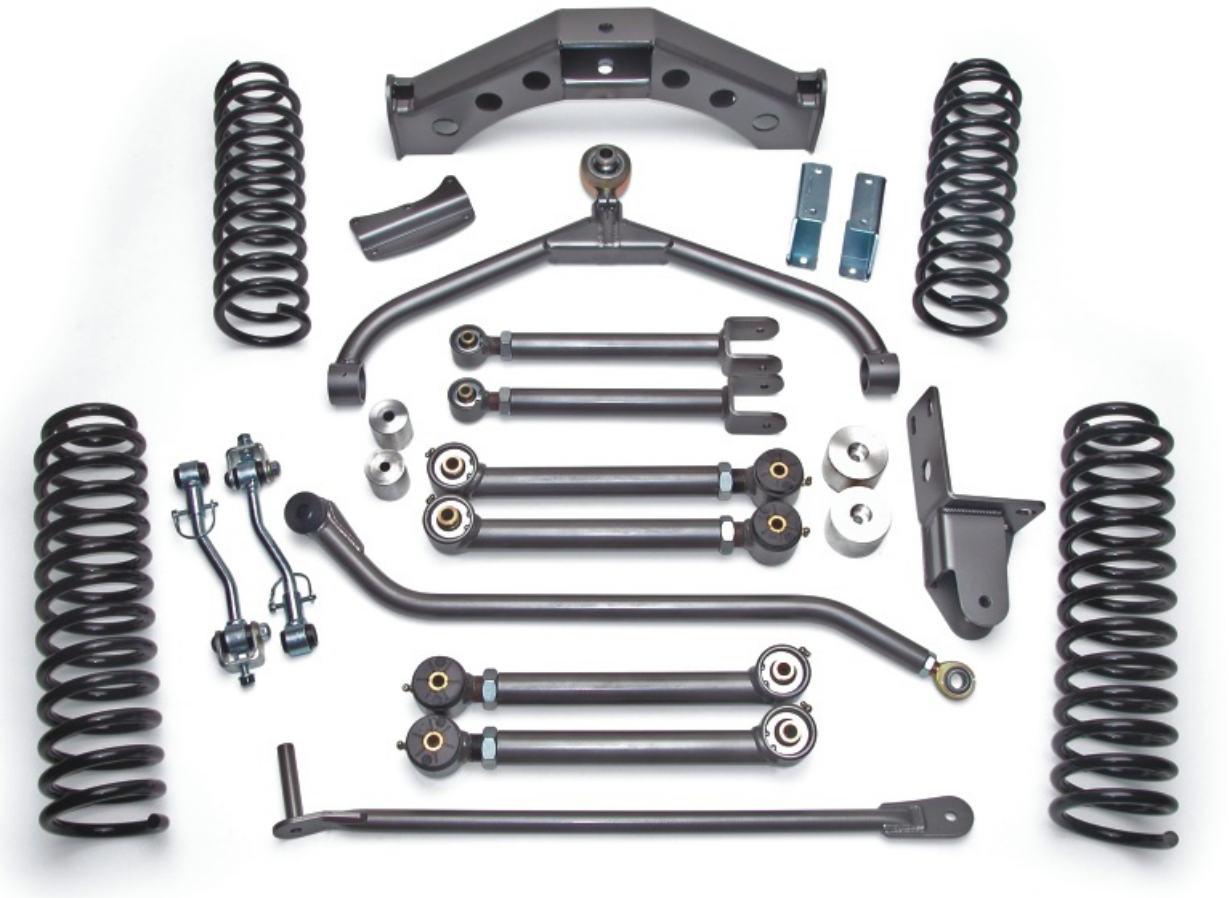
FTS7407 Jeep ZJ Ultimate 4”
Suspension System



This kit includes:
FTS7407A
FTS7407B
FTS7407C

INSTALLATION INSTRUCTIONS
Part FTS7407 / FTS7407H / FTS7407M
94-98 Jeep Grand Cherokee ZJ
4.0" "Ultimate" Suspension System

Read instructions from start to finish before installation

50-7407H Master Hardware Box Kit
Included in Component Box A

70-7481 Master Hardware Kit

1/4" Grease Zerk	2
½ x 3.0" NC Gr.8 Bolt	4
½ x 3.5" NC Gr.8 Bolt	2
½ SAE Flat Washer	12
½ Metal Lock Nut	5
5/16" x 1-1/4" Bolt	11
5/16" Flat Washer	11
5/16" Lock Washer	1
5/16" Metal Lock Nut	1
3/8" x 1 Tek Screw	1
3/8" x 1-1/4" Gr.8 Bolt	2
3/8" Metal Lock Nut	2
3/8" Flat Washer	4
1/4-20 Tek Screw	1
CA1006L Brake Line Bracket L	1
CA1006R Brake Line Bracket R	1
1/4" x 3/4" Bolt	2
1/4" Metal Lock Nut	2

FTS3001 Pitman Arm **1**

70-7409 Rear Support & V-Link Component Kit

JM-16T 1" X 1-1/4"-12 Male Rod End	1
50-750609-04 High Mis-Alignment Spacer	2
50-740712 Large Aluminum Barrel Spacer,	2
5/16 x 1.5 Gr.8 Bolt	1
5/16 Metal Lock Nut	1
5/16" Flat Washer	2
3/4" x 4.5" Gr.5 Bolt	1
3/4" Flat Washer	1

70-7560 Front Track Bar Hardware Kit

KMX-12 3/4" Chromoly Rod End	1
N34J 3/4" Jam Nut	1
50-750615-004 Mis-Alignment Spacers	2
CA1018 Black Vecton Track Bar Bushing	2
SLE151 Track Bar Sleeve	1

70-7410 Control Arm Bolt Kit

9/16" x 4" Gr.8 Bolt	8
9/16" Metal Lock Nut	8
9/16" Flat Washer SAE	16
10mm X 1.50 X 80mm L Gr.10.9 Bolt	2
10mm x 1.50 LockNut	2
10mm Flat Washer	4

Pre-installed FB Rubber Control Arm Bushing **4**
Pre-Installed SNJ25 Spanner Joints **4**

70-7411 Bushing,Heim & Mis-Alignment Spacers

MO2789 V-Link Bushings	4
S10092 V-Link Sleeve	2
JMX12-T Chromoly Heim	2
3/4" Jam Nuts	2

Jeep ZJ / XJ Front Sway Bar Link Kit *(Assembled)*

50-750513 Front Sway Bar Disconnects	2
50-5000 Disconnect Ends	2
U0120677 Bail Pins	2
MOO392-BK-01 5/8" Hourglass Bushing	2
MOO393-BK-01 3/4" Hourglass Bushing	2
SLE104 1/2" x 1-3/8" Sleeves	2
CA1005 5/8" Shock Saddle	2
1/2" x 2 1/2" Bolt	2
B10x1.5x30 Bolt	2
FW10 Flat Washer	2
N10M Metal Lock Nut	2

70-7412 Bump Stop & Hardware Kit

CA1003 2" X 3" Poly Bump Stop Extension	2
3/8" x 2.5" Self Tapping Bolt	2
CA1008 Jeep ZJ Rear Bump Stop Blocks	2
3/8" x 1" Bolt	4
3/8" Metal Lock Nut	4
3/8 Flat Washers	8

FTS Decal **4**
Installation Instructions **1**

COMPONENTS

FTS7407A COMPONENTS IN BOX A		QTY
50-7407H Master Hardware Box Kit		**1**
50-750702 Upper Frt Control Arms	***Assembled***	2
Lower Frt Control Arms	***Assembled***	2
Lower Rear Control Arms	***Assembled***	2
Track Bar Frame Mount Bracket		1
Backing Plate with welded nut		1
Under Axle Saddle Brackets		2

FTS7407B COMPONENT BOX B	QTY
50-750612 Upper Rear V-Link Support Bridge	1
50-751014 Rear Upper V-Link Bar	1
50-750605 Front Adjustable Track Bar	1
Front Track Bar Frame Cross Brace	1
Rear Differential Cover Aft Brace Bracket	1

FTS7407C COIL SPRINGS SET/4	QTY
FTS720501 Front Coil Springs	2
FTS740501 Rear Coil Springs	2

IMPORTANT NOTES

WARNING: This suspension system will enhance the off-road performance of your vehicle. It will handle differently, both on and off-road, from a factory equipped passenger car or truck. Extreme care must be used to prevent loss of control or vehicle rollover during abrupt maneuvers. Failure to drive this vehicle safely may result in serious injury or death to the driver and passengers. ALWAYS WEAR your seat belts. Reduce your speed, and AVOID sharp turns and other abrupt maneuvers.

Before installing this system, have the vehicle's alignment checked by a certified technician. The alignment must be within factory specifications and the frame of the vehicle must be sound (no cracks, damage or corrosion).

Do not chrome, cad or zinc plate any of the components in this system. Changing the coated surface of components will void the warranty of your Full Traction Suspension.

This suspension system was developed using 32" x 11.50 tires.

Mandatory Requirements

92-98 Jeep ZJ

***Slip Yoke Eliminator**
***Rear CV Drive Shaft Replacement**
***Exhaust Modification - See Pg.4**

The required installation time for this system is approximately 6-10 hours. Installation time will vary. Allow time for transfer case and exhaust modifications.

Thank you for purchasing the best suspension system available. For the best installed system, follow these instructions. If you do not have the tools or are unsure of your abilities, have this system installed by a certified technician.

FULL TRACTION SUSPENSION IS NOT RESPONSIBLE FOR DAMAGE OR FAILURE RESULTING FROM AN IMPROPER OR MODIFIED INSTALLATION.

FULL TRACTION® SUSPENSION

ADDITIONAL INFORMATION

Congratulations on your purchase of the highest quality suspension system available for the Jeep ZJ. Some of the service procedures require the use of special tools designed for specific procedures. The following tools and supplies are recommended for proper installation of this system.

- **Jeep Factory Service Manual**
- **Pitman Arm Puller Tool**
- **Coil Spring Compressor**
- **Universal Steering Linkage Puller**
- **Ball Joint Separator**
- **Drill Motor**
- **Assorted Drills: 1/8" & larger**
- **Torque Wrench**
- **1/2" drive Ratchet and Sockets**
- **Assorted Combination Wrenches**
- **Heavy Duty Jack Stands**
- **Wheel Chocks or Blocks**
- **Hydraulic Floor Jacks**
- **Hammer**
- **Wire Brush (to clean mounting surfaces)**
- **White Lithium, Moly or similar Lubricant**
- **Grease Gun**
- **Tape measure**
- **Safety Glasses (wear safety glasses at all times)**

IMPORTANT
READ BEFORE YOU BEGIN INSTALLATION

The installer of this system should be prepared to modify the exhaust system. The new suspension system cannot be installed around the stock exhaust, therefore the vehicle is disabled without the exhaust. Remove the rear tailpipe section of the exhaust system. Removing the rear tailpipe section will allow the FTS rear suspension components and the v-link to be mounted easily.

After installation of the rear v-link and the remaining suspension components, a new tailpipe must be fabricated to complete the exhaust system. *Alternative:* The exhaust may also be unbolted from the "B" pipe flange next to the engine block. ** *It is the installers decision how to do the exhaust.*

A rear slip yoke eliminator conversion & CV type drive shaft is not required up to 4.0" of suspension lift. However, we recommended to change the shaft in terms of strength and eliminate any vibration that may occur in the rear drive shaft . Typically, no change in the front drive shaft is required. Check the parts and hardware against the parts list to assure that your kit is complete. Refer to page #2 of these instructions for a list of tools and supplies needed to perform the installation. Use these instructions as a guide, however experienced installers may want to change the order of installation procedures to suit their needs.

General Disassembly

1. Raise and support the vehicle frame with jack stands. Support the front axle with a floor jack. Remove all wheels. Place reference marks on the front drive shaft and axle. Disconnect and remove the front drive shaft from the axle.

2. With the front axle supported, remove the front shocks, steering stabilizer, pitman arm, front track bar, and front sway bar links. Do not remove the "D"bushings or the front sway bar from the frame.

3. Remove the front brake line bracket from the frame to allow the axle to drop down far enough to remove the front coil springs. New brake line extension brackets will be installed later during this installation. Remove both lower front control arms. **Fig.1**

4.Remove both front coil springs.

5. Before removing the factory front upper control arms, support axle so it does not rotate or pivot. Remove front factory upper arms. Save factory bolts to be reused on new FTS control arms. All FTS control arms are shipped pre-assembled, however arms must be adjusted for length to correct the castor angle.

Installing Full-Traction Upper Front Control Arms

Upper Front Control Arm

1. Insert Mis-Alignment spacers into Heim joint on the end of the control arm. Install new FTS upper front control arms using supplied 10mm bolts. Torque bolts to 35lbs/ft.

Install the axle end of the upper arms using factory bolts and nuts. **Fig.2** Refer to factory service manual for torque specs on factory bolts.

2. Install new drop pitman arm on the steering box. .

Installing the Full-Traction Track-Bar Bracket

Fig.3 *XJ Cherokee Shown for reference*

1. Install the track bar bracket to the frame using factory hardware as shown in **Fig.3** No drilling is required.

2. Install the cross brace to the frame and track bar bracket as shown in **Fig.4** Install track bar and cross brace using ½ x 3.5" bolt as shown in **Fig. 4**

On the Right side frame rail, locate the factory holes in the metal and install 1/4" and 3/8" Tek screws to secure th crossbrace.

Fig.4 *XJ Cherokee Shown for reference*

3. Attach the track bar to the drop-down bracket as shown in **Fig.4.** Before the track bar is installed onto the axle, enlarge hole in axle bracket to 1/2" Diameter.

. Install **KMX-12 3/4" Chromoly Rod End** and **#50-750608-04 Mis-Alignment Spacers** into the new track bar. Mount track bar to axle using 1/2" x 2.5" bolt, nut, and washers.

NOTE: *Attach track bar to the axle after vehicle is sitting on level pavement with weight on the suspension. The axle must be centered under the vehicle before the Track Bar is attached to the new bracket. Vehicle must be professionally aligned after all parts have been installed.*

2. <u>Front Lower Bump Stop -</u> Drill a 5/16” hole into the coil spring base cup. Install the front lower **CA1014** 3”x2” Black Poly bump stop extensions using the 3/8 x 2” self tapping bolts. Screw the bolts into the spring seat as shown in **Fig.5** Retain the factory upper foam bump stop as is.

NOTE: Failure to install bump stop extensions will void the warranty of your Full-Traction Suspension system.


Fig.5

<u>Installing Upper Rear Differential “V” Link Support</u>

1. Support rear frame with stands.

2. Using a jack to support the rear axle, **r**emove the rear factory trac bar from axle and frame. Remove factory rear shocks. Remove rear coil springs. Discard these items.

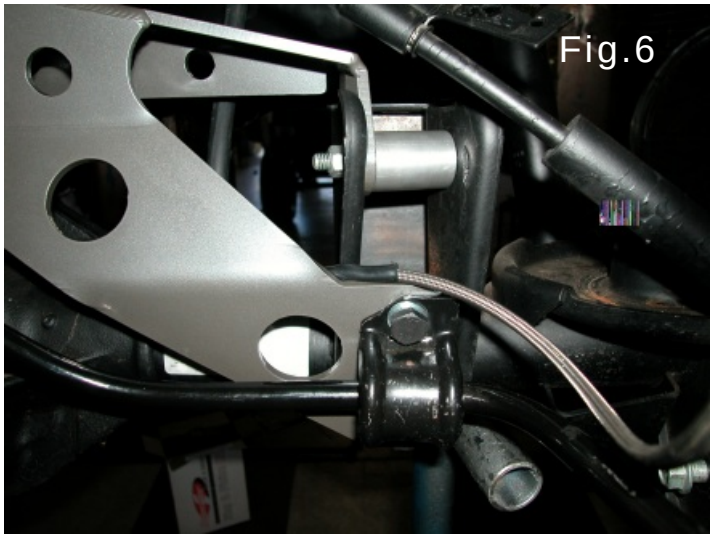


Fig.6

TJ Shown for reference

3. Save factory shock bolts to be reused.

4. Remove the rear sway bar (if equipped) and save all hardware to be reused.

5. Disconnect the parking brake cable attached to the rear upper control arms. Remove the factory rear upper and lower control arms.

6. Position the new Full-Traction Upper “V” Link Support bridge over axle. Install **50-740712** Aluminum barrel spacers on each side and secure to the axle using 10mm x 80mm bolts as shown in **Fig.6**

Install new saddle brackets to the bottom surface of the axle tube and secure with 1/2” x 3” bolts, nuts and washers. Torque all hardware. *Not shown.*

Installing Upper Rear “V” Link

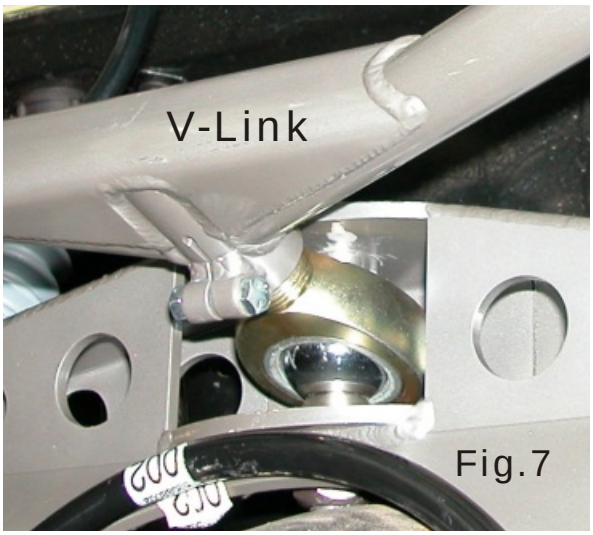


Fig.7

1. Insert **MO2758** bushings & sleeve **S10092** into eyelets of the V-Link. The bushings must be greased liberally with moly grease or similar type assembly lube. Failure to lube bushings prior to assembly will result in suspension squeaks and premature wear of the bushings. Install **JM-16T 1” x 1-1/4” Male Rod End into threads of the V-Link. Fig.7**

Insert **5/16 x 1.5” bolt** and metal lock nut through the clamp collar to secure the male rod end to the V- Link **Fig.7** Install the 2 grease zerks into each eyelet.

2. To install the V-Link to the vehicle, align the eyelets to the upper rear control arm frame contact point and install using 10mm x 80mm Long Bolts, nuts and washers. Leave bolts and nuts hand tight.

3. Insert # **50-750609-04** high mis-alignment spacers on both sides of **JM-16T 1” x 1-1/4” Male Rod End.**
To install the V-Link to the axle, tilt (pivot) the rear axle backwards to align male rod end bearing with bolt hole in upper “V” link support. Carefully guide the assembly into the Well of the support.

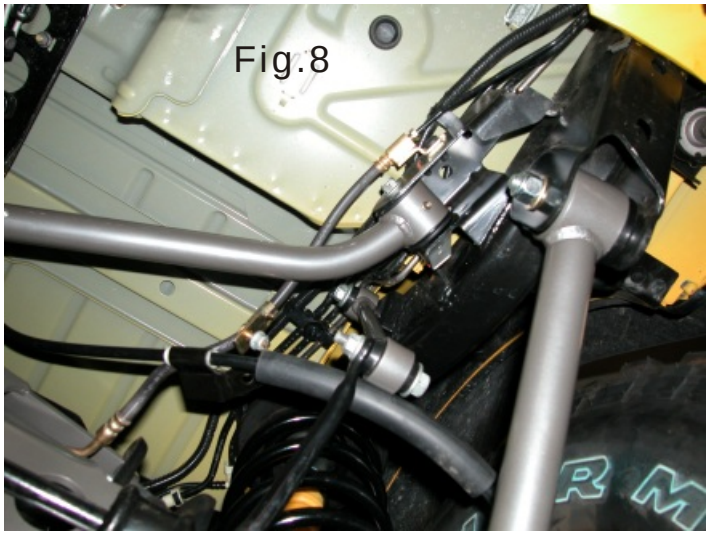


Fig.8

Insert 3/4”x 4.5” bolt & washer. Attach Rectangular shaped flat backing plate with nut to secure the bolt. *The plate with nut is mounted under the support. Torque to 150 lbs./ft. Not Shown.*

The V-Link is shown in place with the grease zerks facing downward. **Fig.8**

4. Drain oil from rear differential (this is an installers option) and remove the factory bolts from rear differential cover.

Install rear differential cover brace bracket using new longer 5/16” dia bolts and flat washers.

Install 3/8” x 1” bolts, nuts and washers into the two upper holes and secure the differential cover bracket to the axle bridge bracket.

NOTE: Failure to install differential reinforcement plate may cause damage to the drivetrain, and axle bridge and will void the warranty of your Full-Traction Suspension system.

Installing Rear Coil Springs & Rear Lower Control Arms & Adjustments

Shock absorbers are required to complete the installation of this suspension system
- Optional with this system -

1. Remove factory rear bump stops located on the frame. Reuse factory hardware to bolt the new extension block to the frame. Install rear bump stops to the new blocks using 3/8" x 1" bolts, flat washers and nuts.

Install the rear coil springs one at a time. Check to see that the upper factory rubber insulator is in place on top of the coil prior to assembly. Install rear shocks to hold rear coil springs in place.

2. The rear lower control arms measure longer than the front lower arms.

Front Track Bar Mis-ALignment Spacers Installed

NOTE:
Apply anti-seize or similar lubricant to ALL threads of the control arms to ensure smooth operation. Check for damage on all threaded surfaces to ensure ease of length adjustment to control arms, track bars, etc.

2. Rotate the adjustable end of the control arm counterclockwise to expose some of the threads

NOTE: As a starting measurement, the new FTS control arms should measure slightly longer than factory arms. Adjust length as necessary. Final length adjustments of the control arms will need to be made after vehicle is professionally aligned and road tested. Install rear lower control arms with the adjustable end toward the frame using 9/16" x 4" Gr.8 bolts.
See photo next page. Fig.10

NOTE: All lower control arms are welded with the large 2.25" eyelet offset to the control arm tube. Mount front and rear lower control arms to the vehicle with the offset away from the axle tube. Fig.22

After all adjustments are performed, apply final torque to the large 1-1/4" jam nuts on the control arms.

Front Coil Springs with bump stop extensions correctly installed.

Installing Front Coil Springs

Shock absorbers are required to complete the installation of this suspension system
- Optional with this system -

1. With front axle supported and front bump stop extensions in place, install front coil springs. The top of the coil has a smaller tapered opening than the bottom of the coil. Rotate thecoil spring until it rests in the coil cup properly. Install front shock absorbers. **Fig.9**

Installing Front Lower Control Arms & Adjustments

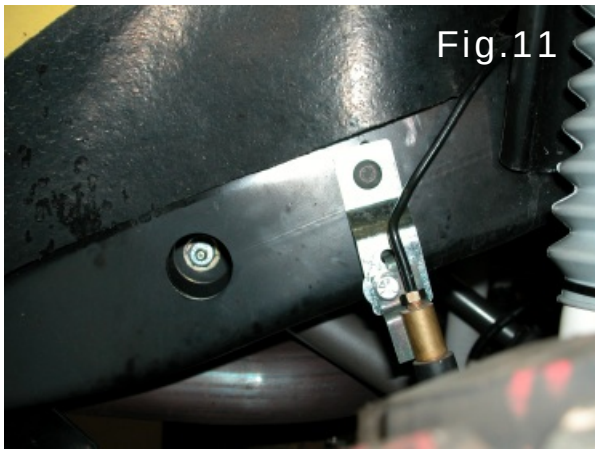
1. The front lower control arms measure shorter than the rear lower arms. Prior to assembly, apply anti-seize or similar lubricant to the threads of the arms to ensure smooth operation.
Install **1-1/4" Jam nut** onto the threads. Install male rod end all the way inside the threaded end of each control arm. Check for damage on threads of rod end and clean or file as necessary to ensure smooth rotation/adjustment of the rod end prior to assembly.

Fig.10

Approx Control Arm Lengths
Front Upper Arms: 14 - 7/8" center to center
Front Lower Arms: 16" center to center
Rear Lower Arms: 17" center to center

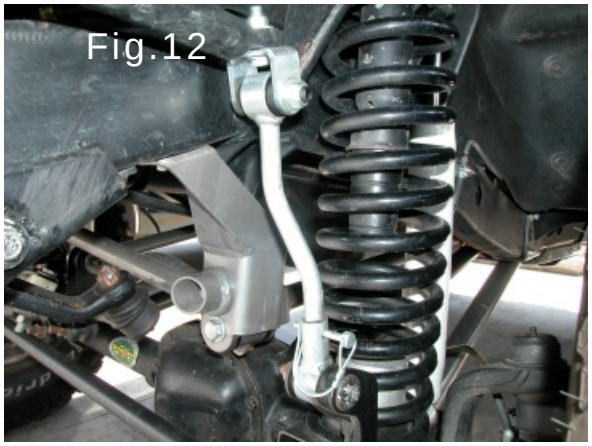
Note: All lengths are approximate

2. Rotate the Male rod end counterclockwise to expose approx 1/8" of threads prior to installing control arm on vehicle. Final length adjustments of the control arm will need to be made after vehicle is road tested. Install front lower control arms with the adjustable end toward the frame using 9/16" x 4" Gr.8 bolts. After all length adjustments are performed, apply final torque to the 1-1/4" jam nuts. **Fig.10** Next, **i**nstall front drive shaft.



Installing Front Brake Line Extension Brackets

1. Remove factory brake bracket from the frame and replace with new FTS brake line brackets. Install CA1006 front right & left brackets. **Fig.11**



Installing New Front Sway Bar Disconnect Links

1. Sway bar disconnect links are pre-assembled. Remove **CA1005** upper bracket and install onto the sway bar as shown in **Fig.12** Rotate bracket and secure button head bolt using an allen wrench. Install disconnect links to bracket and secure to lower factory bracket using factory hardware.
Return vehicle to flat level pavement and attach front adjustable Track Bar to the axle. Axle must be centered under the vehicle for easy installation of the Track Bar. Install using 1/2" x 3.5" Bolt, nut, washers and mis-alignment spacers.. Torque Track bar bolt to 75lb./ft.

IMPORTANT - READ THIS
Basic Specifications Chart

Rear CV Drive Shaft & Slip Yoke Eliminator

CV drive shaft and Slip yoke eliminator is not mandatory, but highly recommended. After installation of this system, the installer must measure for the correct length rear CV drive shaft. There is **NO** front drive shaft modification required on 97-05 models.

Exhaust Modification

Custom fabricated type required. Exhaust must be custom built to allow proper clearance of all suspension components. Small catalytic converters and turbo type mufflers are available from major manufacturers.

Typical Rear CV Drive Shaft & Slip Yoke Eliminator

Shock Absorbers

92-98 Jeep ZJ	Front Length:	24.50 Extended
92-98 Jeep ZJ	Rear Length:	24.50 Extended

NOTE: Length of all shocks is critical. There are NO EXCEPTIONS to extended length allowed from the listed shock sizes. Full-Traction Suspension is not responsible for breakage, damage or abuse to any installed component due to improper installation or misapplication of components.

CHECKS AND ADJUSTMENTS. VERY IMPORTANT

*Alignment of front wheels will be required, use factory specifications.
*Recheck all hardware for tightness after the first 100 miles.

*To adjust location of front axle (side to side), Adjust rod end located at the end of the Adjustable track bar to move axle to desired location. Tighten jam nut on Rod End, then torque.

*Steering stops can be adjusted by use of spacers behind welded jam nuts or by use of a secondary jam nut (not provided).

*Headlights should be adjusted.

*Rotate front and rear drive shafts with suspension hanging. Check for binding.

Place Warranty Sticker Here

WARRANTY

Full Traction Limited Warranty

About our warranty

Full Traction components may have minor finish damage to powder coated or plated surfaces which may occur during shipping and is not covered under warranty. Full Traction Suspension warrants each new Full Traction Component against factory defects in material and workmanship for 1 year after date of purchase. Full Traction Suspension systems are sold as complete systems and must be installed as such per Full-Traction installation instructions. Any substitutions of other manufacturers components or exemptions of required components will immediately void the warranty. Full-Traction suspension guarantees that all of its products are of the finest quality and free from manufacturing defects. Any product that has been manufactured incorrectly or is of a defective nature will be repaired or replaced at the discretion of Full-Traction Suspension. Returns: Only after written or verbal approval, send such part(s) and proof of purchase, via prepaid freight with an RGA (Return Goods Authorization) number to: Full-Traction Suspension 6951 McDivitt Dr. Bakersfield Ca 93313 USA. Shipments without an RGA number clearly designated on the outside of all containers or collect shipments will be refused. To obtain RGA(s) call 661/398-9585

What is not covered

Suspension and steel fabricated components: Limited (12) month warranty excluding the following items: Tie rod ends, bushings, hardware, brake lines, heim joints. These parts are subject to wear and are not considered defective when worn. They are warranted for 90 days from the date of purchase for defects in workmanship. Shock absorbers are covered under our limited warranty. Products or components installed on vehicles other than those specifically indicated in the Full-Traction Suspension catalog or website. Products or components which have been subjected to abuse, accident, alteration, modification, improper installation, tampering, negligence, misuse, or products installed on a vehicle used in sanctioned racing events. 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 vehicles used for government or commercial purposes. Full Traction does not warrant any product not manufactured by Full Traction Suspension. Full Traction Suspension products are not covered under warranty outside the United States of America. Full Traction Suspension shall not be liable for any loss, damage, or injury, whether ordinary, direct, special, incidental or consequential damages, arising from the manufacture, sale, installation, re-sale, delivery, possession, handling or use of its products. Full Traction Suspension is not responsible for typographical errors either in pricing or in content. Warranties, policies, and prices subject to change without notice.

Installer's Safety Warning

Full-Traction Suspension recommends our products to be installed by certified technicians only. These recommendations pertain only to Full-Traction Manufactured Products. Efforts to install our system without experience and knowledge may jeopardize the operating safety of the vehicle.

Detach and mail or fax to the address below

-

Name _____ Phone Number ( ) _____

Address _____ City _____ State _____ Zip _____

Products Purchased from: _____ Date Purchased _____

Installed By _____ Date Installed _____

Vehicle
make _____ Model _____ Year _____

Installation Comments _____

Product Part Number FTS7407 Description: Jeep ZJ 4" Ultimate Suspension System

WARRANTY FORM

WARRANTY FORM

Mail or Fax To:
Full Traction Suspension
6951 McDivitt Dr
Bakersfield Ca 93313

Fax: 661-847-0189

Warranty Registration Number _____

FULL TRACTION SUSPENSION

Printed in U.S.A. Full-Traction Suspension 2005