



4331 EUCALYPTUS AVE. ~~ CHINO, CA 91710
909-597-7800 Fax 909-597-7185

FTR10045
RHINO HEAVY DUTY STEERING KIT
(for use with Stock Suspension)

PARTS LIST:

Qu a	Part #	Description
2	FT95077GR	Hvy Duty Tie Rod Adjuster
4	FT95017	Low Pro Mis-Alignment
1	FT95025	Inner Tie Rod Bracket Drv
1	FT95026	Inner Tie Rod Brkt Pass
4	FTS43	Mis-Alignment
2	FT95011	Steering Arm Hat HD
2	FTS98003	3/4" Heim RH
2	FTS98009	3/4" Heim LH
1	FT95062	Hardware Kit
2	1200140710 0	14" Zip Tie
4	0600100700 0	1/16" x 1" Cotter Pin
2	FTR10045	Instruction Sheet

HARDWARE LIST:

Qu a	Description	Location
2	1/2"-20 x 3 1/2" Hex Cap Bolt	Otr Tie Rod (Heim Joint)
2	1/2"-20 x 2 1/4" Hex Cap Bolt	Inr Tie Rod (Heim Joint)
4	1/2"-20 C-Lock Nut	
6	1/2" SAE Flat Washer	
2	3/4"-16 Jam Nut (rt hand thread)	
2	3/4"-16 Jam Nut (lft hand thread)	
2	12mm x 1.25 x 20mm Bolt	Clevis Hardware
1	FTLock	Thread-locking Comp.

TOOL LIST:

- Assorted Metric & Standard Wrenches
- Torque Wrench
- Floor Jack
- Jack Stands

WARNING

THIS HEAVY DUTY STEERING KIT IS DESIGNED TO WORK WITH A STOCK TYPE SUSPENSION

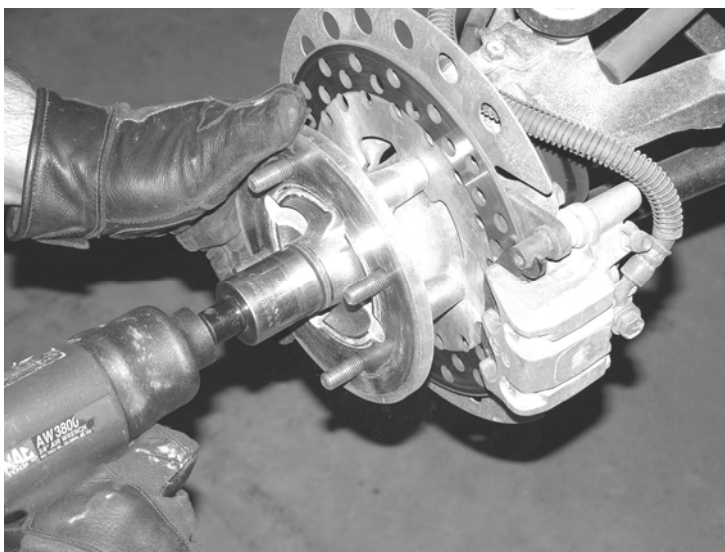
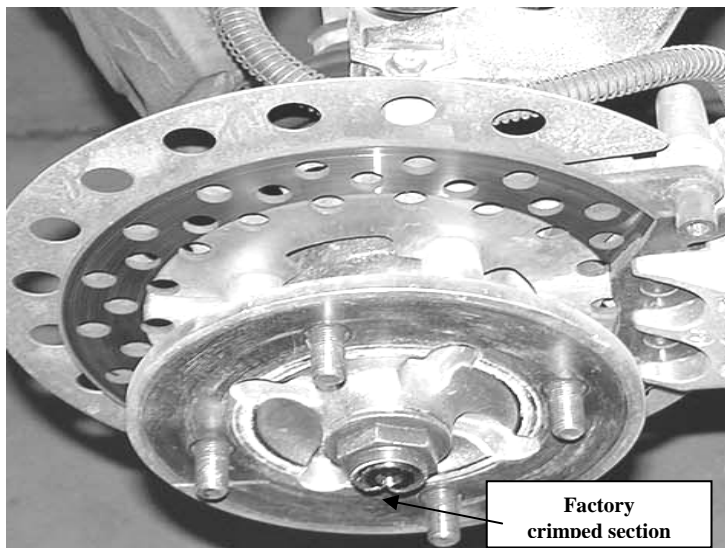
**READ ALL INSTRUCTIONS THOROUGHLY FROM START TO FINISH BEFORE BEGINNING
INSTALLATION.**

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

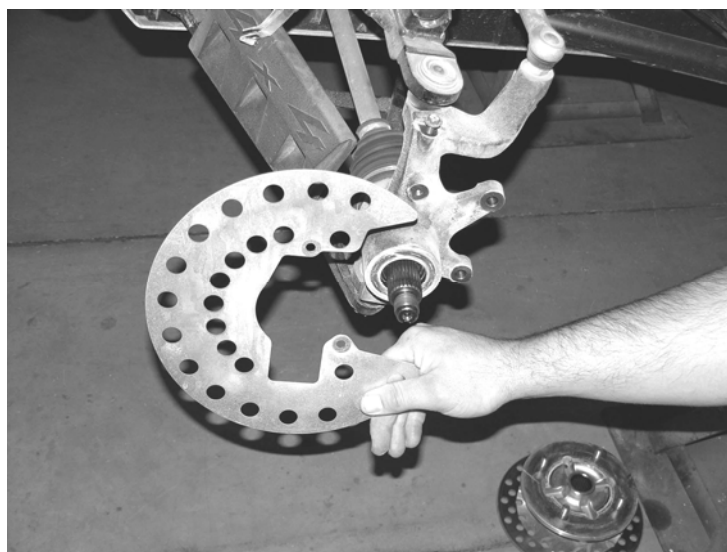
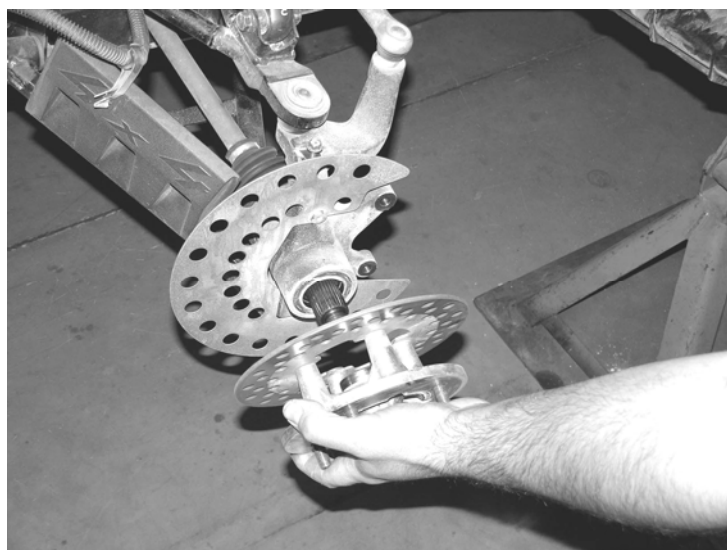
DO NOT ALTER THE FINISH OF THESE COMPONENTS, EXAMPLE- CHROMING, ZINC PLATING OR PAINTING. CHANGING THE FINISH CAN CAUSE STRUCTURAL FATIGUE OF COMPONENTS.

INSTALLATION INSTRUCTIONS:

1. Disconnect the negative terminal on the battery. **Center the steering wheel, rack & pinion, and wheels and tires.** Jack up the front end of the Rhino and support the frame rails with jack stands. **NEVER WORK UNDER AN UNSUPPORTED VEHICLE.** Remove the front wheels and tires.
2. Working from the driver's side, use a small center punch and a hammer and carefully lift the factory crimped section of the axle shaft nut from the axle shaft. Remove the axle shaft nut and save. SEE PHOTOS BELOW

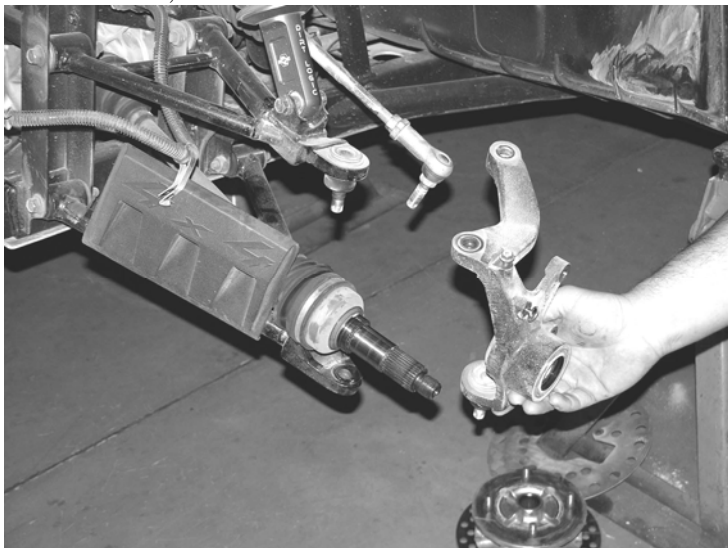


3. Remove the two 10mm bolts that attach the brake line to the spindle and the upper control arm and save the hardware. Remove the brake caliper and hang on the frame. **DO NOT LET THE CALIPER HANG BY THE BRAKE HOSE.** Remove the rotor and hub assembly and save. Remove the brake rotor shield from the spindle and save with the hardware. SEE PHOTOS IN NEXT COLUMN

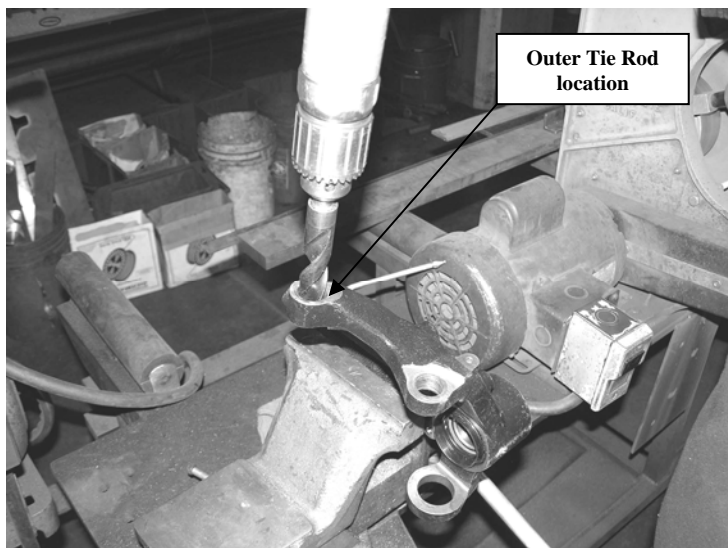


4. Remove the cotter pins in the outer tie rod end and the upper and lower ball joints and discard. Use a ball joint fork and separate

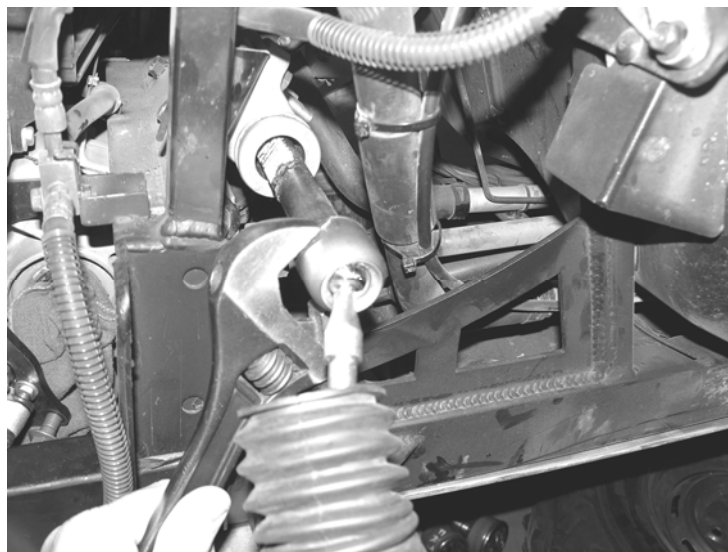
the ball joints and tie rod from the knuckle. Remove and save the knuckle, discard the hardware. SEE PHOTO BELOW



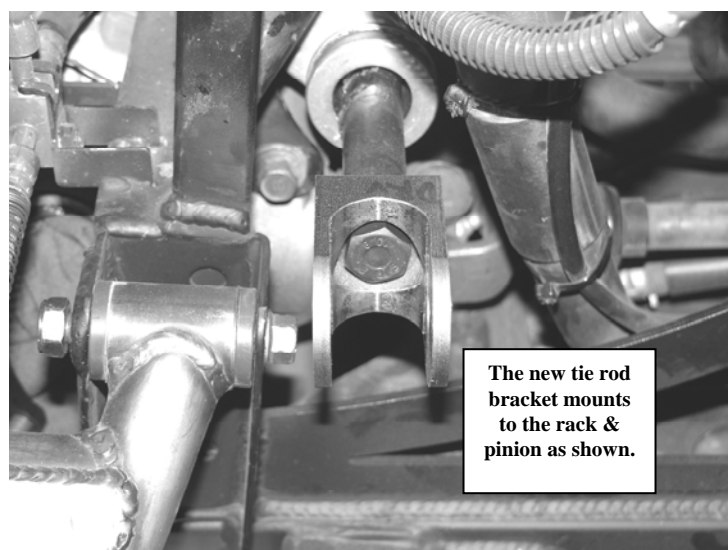
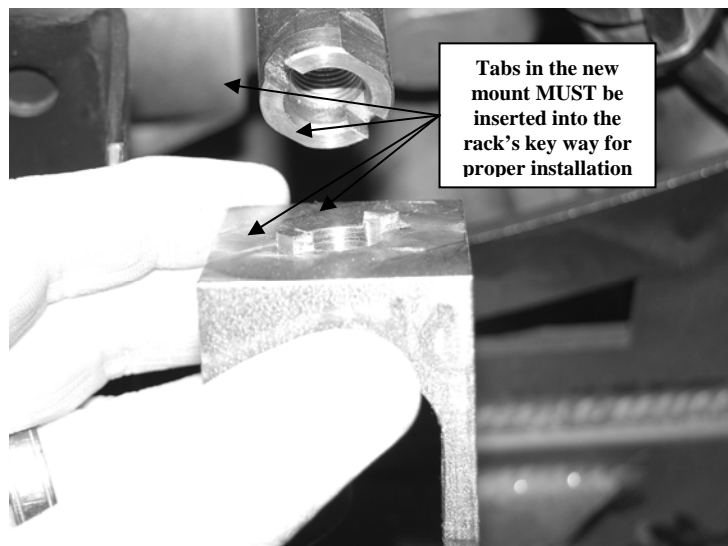
5. Place the knuckle into a vise with aluminum or soft jaws and use care not do damage. Use a drill with a $\frac{3}{4}$ " drill bit and drill out the knuckle at the tie rod location. SEE PHOTOS BELOW



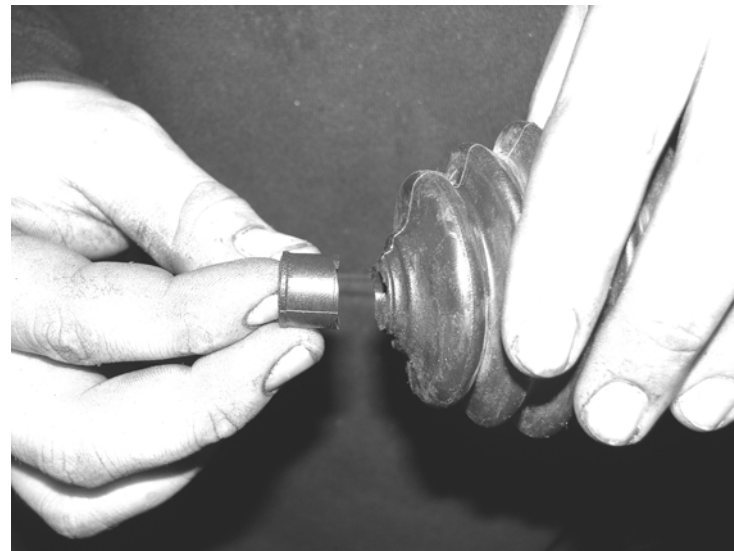
6. Cut the factory inner Tie Rod Boot Clamp from the boot (DO NOT CUT OR DAMAGE BOOT). Pull the boot outward toward the steering knuckle to gain access to the wrench flat on the inner tie rod. Remove the tie rod assembly from the rack & Pinion. Carefully remove and save the boot from the tie rod assembly and discard the rest of the tie rod assembly. SEE PHOTO BELOW AND ON NEXT PAGE



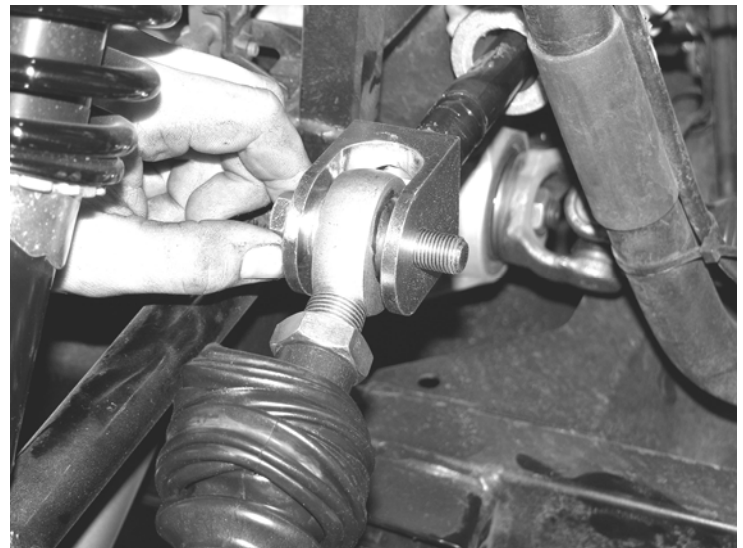
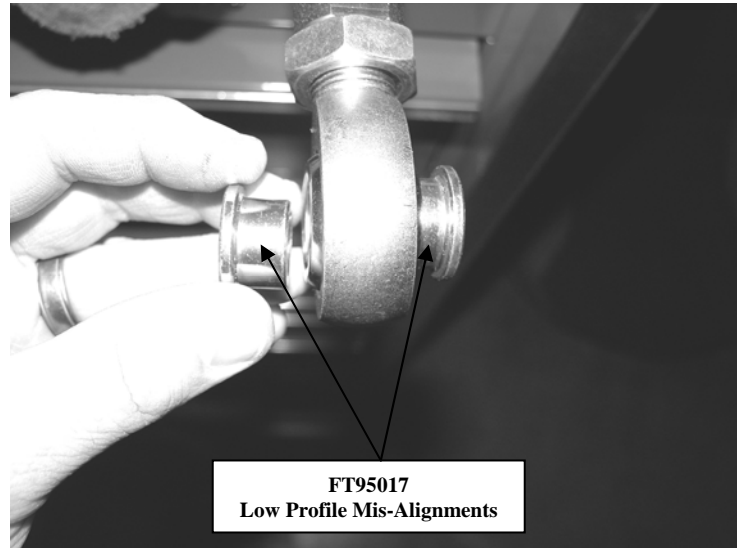
7. Locate FT95025 Driver Inner Tie Rod Bracket and the supplied 12mm bolt and thread-locking compound. Position the bracket to the rack & pinion and attach with the 12mm hardware. Use some of the supplied thread-locking compound and torque to 75 lbs. SEE PHOTOS BELOW



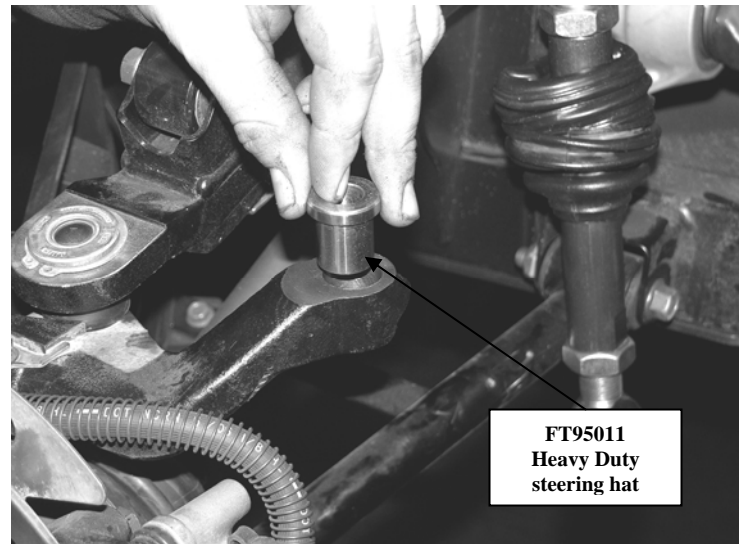
8. Position the modified knuckle onto the CV axle shaft and reinstall the steering knuckle with the factory ball joint hardware to the lower and upper control arm. Torque to 60 lbs and install the supplied cotter pins
9. Locate the factory inner tie rod boot and FT95077GR Heavy Duty Adjuster Sleeve. Cut the 1/2" end off of the boot that covered the factory tie rod end. Install the boot onto the adjuster sleeve so that it is in the same position that it was removed from the factory tie rod assembly. **(the end of the adjuster sleeve with the wrench flats need to be out at the knuckle).** SEE PHOTO BELOW

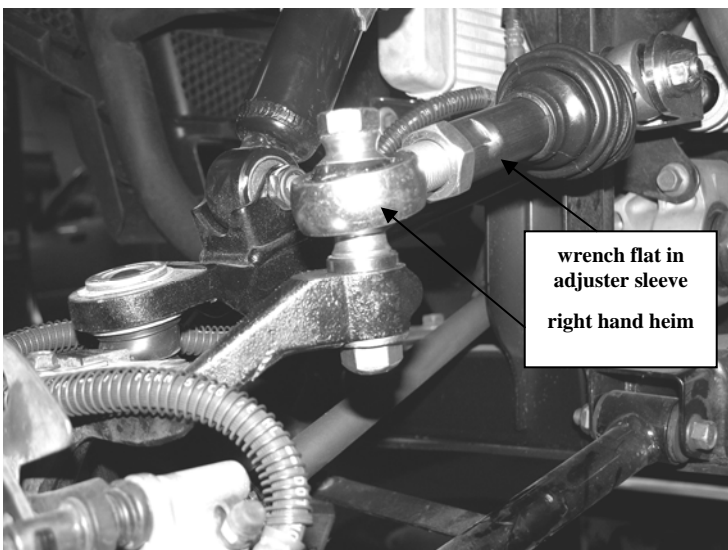
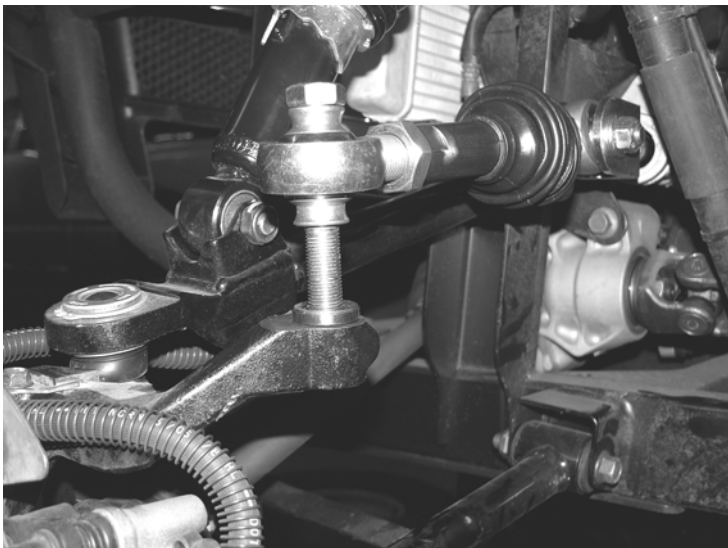
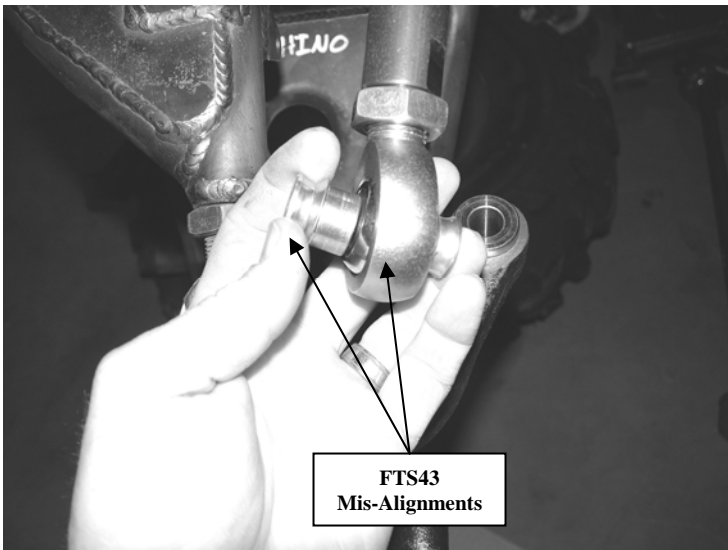


10. Locate a FTS98003 3/4" Right Hand Heim, FTS98009 3/4" Left Hand Heim, and a supplied right and left hand jam nut from the hardware kit. Use some anti-seize compound on the heims and thread the jam nuts half way onto the appropriate heim. Thread the heim into the adjuster sleeve.
11. Locate FT 95017 Low Profile Mis-alignments and the supplied 1/2" x 2 1/4" hardware. Insert the mis-alignments into the left hand thread heim and attach the to the tie rod bracket with the head of the bolt toward the front of the Rhino (use a 1/2" flat washer on both outer sides of the tie rod bracket). Torque to 75 lbs. SEE PHOTOS BELOW



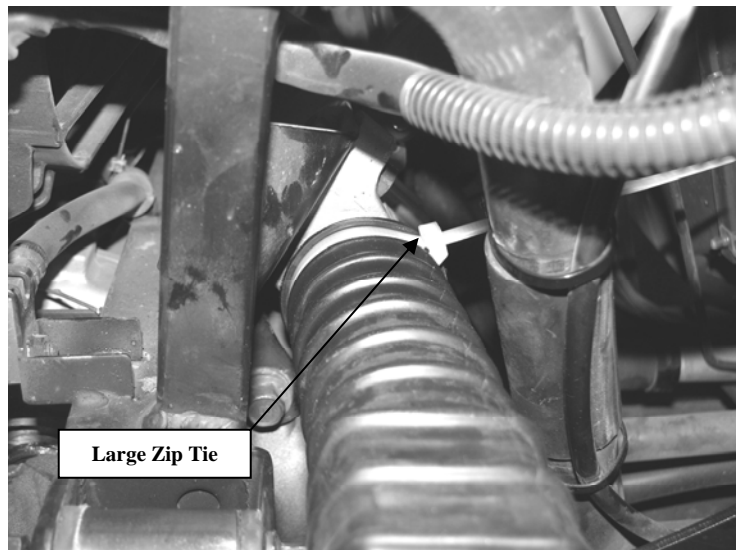
12. Locate FT95011 Heavy Duty Steering Arm Hat and install into the steering knuckle. Locate FTS43 Mis-alignments and the supplied 1/2" x 3 1/2" hardware. Install the mis-alignments into the right hand thread heim and place on top of the steering hat. Inset the 1/2" bolt from the top of the heim and down into the knuckle. Place one 1/2" washer on the bottom of the knuckle with a C-Lock nut. Torque to 75 lbs. SEE PHOTOS BELOW





13. Repeat steps two through six on the passenger side of the Rhino.

14. Install the wheels and tires and remove the jack stands. Move the Rhino 10 feet backward and forward a couple of times. **(DO NOT DRIVE THE RHINO WITH THE STEERING COMPONENTS LOOSE)**. Check the toe setting on the Rhino and adjust as necessary. Tighten the jam nuts on the heims. Re-torque after 100 miles **Make sure that the rack & pinion is centered before adjusting the inner and outer tie rods, and that both sides are adjusted equally for proper thread engagement on all the ends. This will ensure the correct amount of turns in the steering to both sides.**
15. Once the toe set has been made, pull the boot over the clevis and position it back onto the rack & pinion where it was factory on the rack & pinion. Secure the boot to the rack using the supplied 14" zip tie. SEE PHOTO BELOW



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 inconsistencies 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.