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909-597-7800 Fax 909-597-7185

Rhino Long Travel System 2005-07 Yamaha Rhino
FTR10012, FTR10013, FTR10014

www.fabtechmotorsports.com

Rhino Long Travel System

FTR10012, FTR10013, FTR10014

2005-07 Yamaha Rhino

PARTS LIST:

	FTR10012	Box 1 (Arms)
Qty	**Part #**	**Description**
1	FT95067GR	Drv Frt Upper Control Arm **w/heim**
1	FT95068GR	Drv Frt Lower Control Arm **w/uni**
1	FT95069GR	Pass. Frt Upper Ctrl Arm **w/heim**
1	FT95070GR	Pass. Frt Lower Cntrl Arm **w/uni**
1	FT95006GR	Drv Rr Upper Control Arm
1	FT95162GR	Drv Rr Lower Control Arm
1	FT95008GR	Pass. Rr Upper Control Arm
1	FT95163GR	Pass. Rr Lower Control Arm
1	FT95202	Hdwr Sub-Assembly
2	FTS98003	3/4" x 3/4" Heim (Frt. Upper Arms)
2	FTS50	3/4" Jam Nut
1	FT95024	Hardware Kit

	FT95202	Hdwr Sub-Assembly Kit
Qty	**Part #**	**Description**
34	FT95000	Control Arm Bushing Half
16	FT95001	Control Arm Sleeve
2	FT95010	Upper Ball Joint Hat
2	FT95019	Lower Ball Joint Hat
2	FT95027	7/8" Mis Alignments
4	FT95066	Mis-Alignment
2	FT95079	Lower Ball Joint Mis-Alignments
2	FTLOCK	Thread Locking Compound
2	FTLUBE	Lube
2	FT10012i	Instruction Sheet

	FTR10013	Box 2 (Shocks & Steering)
Qty	**Part #**	**Description**
1	**FTR60138**	Front Shock w/ Mounting Hardware
1	**FTR60141**	Rear Shock w/ Mounting Hardware
1	FT95199	Hdwr Sub-Assembly

	FT95199	Hdwr Sub-Assembly Kit
Qty	**Part #**	**Description**
2	FT95015	Tie Rod End Extension
2	FT95020	Mis-Alignment 1/2" Heim (Short)
2	FT95021	Steering Arm Hat w/mis-alignment
2	FT95023	1/2" x 1/2" Heim

	FTR10014	Box 3 (Axles)
Qty	**Part #**	**Description**
2	FT95012	Front Drv / Pass Long Travel Axle
1	FT95013	Rear Passenger Long Travel Axle
1	FT95014	Rear Driver Long Travel Axle
1	FT95060	Boot Clamp Kit W/Snap Ring
4	FT95065	Grease Pack

O.E.M. <u>WHEELS & TIRES</u> CAN BE REINSTALLED WITH THIS KIT.
FABTECH RECOMMEND'S A 12"x7" WHEEL WITH A 5+2 OFFSET WITH A 26"x 9"x 12"TIRE IN FRONT AND A 26"x 9 x12" (may require minor trimming)

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Hardware Kit FT95024

	FT95024 Hardware Kit -	
Qty	**Description**	**Location**
2	3/8"-24 x 3 1/4" Bolt	Outer Tie Rod End
2	3/8"-24 C-Lock Nut	
2	3/8" USS Flat Washers	
2	3/8" SAE Flat Washers	
2	1/2"-20 Jam Nut	
2	10mm x 1.50 x 60mm Bolt	Frt Lwr Shock Mnt
2	10mm x 1.50 C-Lock Nut	
4	10mm SAE Flat Washer	
2	9/16-18 x 3" Bolt	Upr Ball Joint (Heim Joint)
2	9/16"-18 C-Lock Nut	
2	9/16" SAE Flat Washer	
2	9/16"-18 x 3 1/2" Bolt	Lwr Ball Joint (Uni-Ball)
2	9/16"-18 C-Lock Nut	
4	1/4"-20 x 3/4" Bolt	Brake Line Tabs
4	1/4"-20 C-Lock Nut	
8	1/4" SAE Flat Washer	
4	7/16 SAE Flat Washers	Rr Lwr Shock Bolt
4	5/8" I.D. Adel/Line Clamp	

TOOL LIST:

- **Assorted Metric & Standard Wrenches**
- **Torque Wrench**
- **Floor Jack**
- **Jack Stands**
- **Air Saw**
- **Die Grinder w/ sanding discs**
- **CV Boot Clamp Crimping Tool**

OPTIONAL COMPONENTS:

FTR10004BK/RW Front Bumper w/ overrider & skid plate
FTR10005BK/RW Rear Bumper
FTR10006 Heavy Duty Tie Rod End System
FTR10009 Rear Differential Support Bracket (2005 – 2007 only)

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Rhino Long Travel System

FTR10012, FTR10013, FTR10014

2005-07 Yamaha Rhino

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.

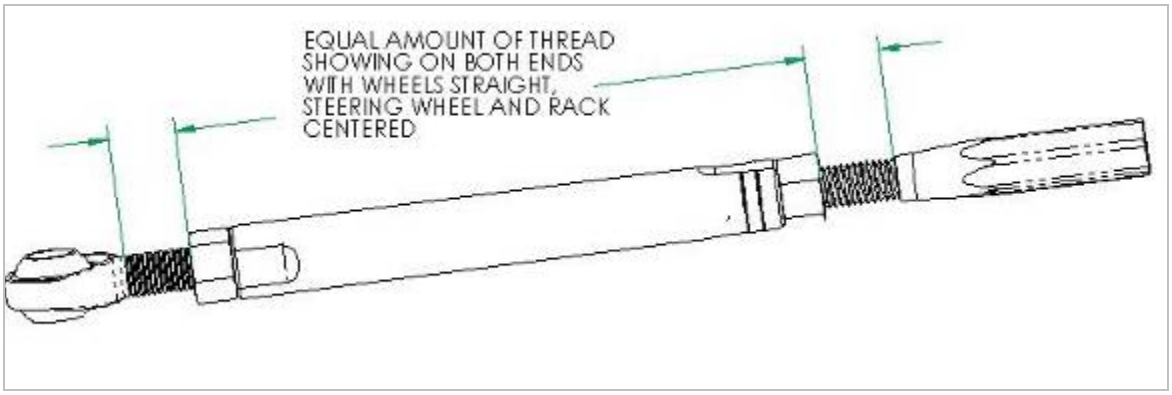
DUE TO THE TIGHT TOLERANCES OF THE BUSHINGS, HEIM ENDS, AND UNIBALLS, THE VEHICLE MAY EXHIBIT A VERY FIRM RIDE IN THE FIRST FEW MILES OF OPERATION. THIS IS NORMAL AND ONCE THE VEHICLE IS DRIVEN OVER S SHORT PERIOD THESE TIGHT TOLERANCES WILL LOOSEN SLIGHTLY ALLOWING THE VEHICLE'S SUSPENSION TO OPERATE SMOOTHLY FOR OUTSTANDING PERFORMANCE

PRIOR TO JACKING THE FRONT OF THE RHINO TO START THIS INSTALLATION, MAKE SURE THAT THE ENTIRE STEERING ASSEMBLY (STEERING WHEEL, RACK & PINION, AND TIE ROD ASSEMBLY)OF THE RHINO IS CENTERED AND STRAIGHT WITH A FRONT END ALIGNMENT 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.

TO INSTALL THE STEERING ASSEMBLY CORRECTLY, ADJUST THE TIE ROD EXTENSION SO THERE IS AN EQUAL AMOUNT OF THREADS ON THE 1/2" HEIM AND THE FACTORY INNER TIE ROD END (APPROX. A ½" OF THREADS ABOVE THE JAM NUT). SEE DIAGRAM BELOW

RECOMMENDED TIRE AIR PRESSURE IS 12 TO 15 PSI. TIRE PRESSURE HIGHER THAN THE RECOMMENDATION WILL RESULT IN AN UNDERSIREABLE RIDE

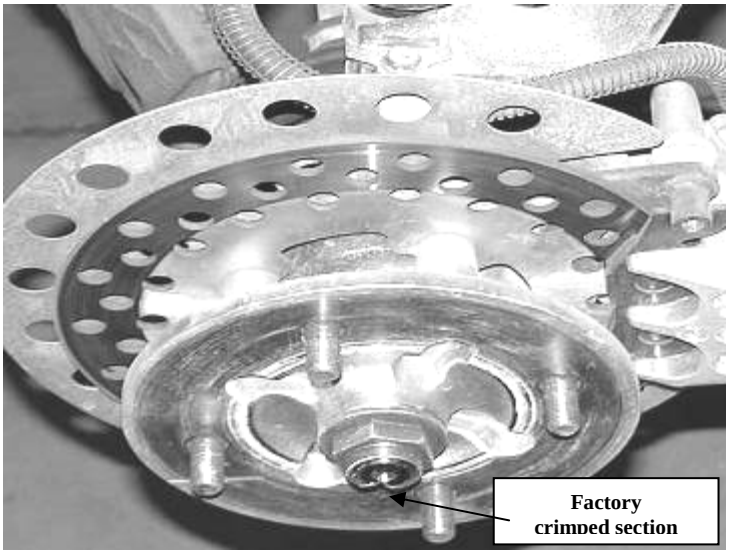
SPANNER WRENCH NOT INCLUDED IN THIS KIT,IF NEEDED ORDER FTS98006.

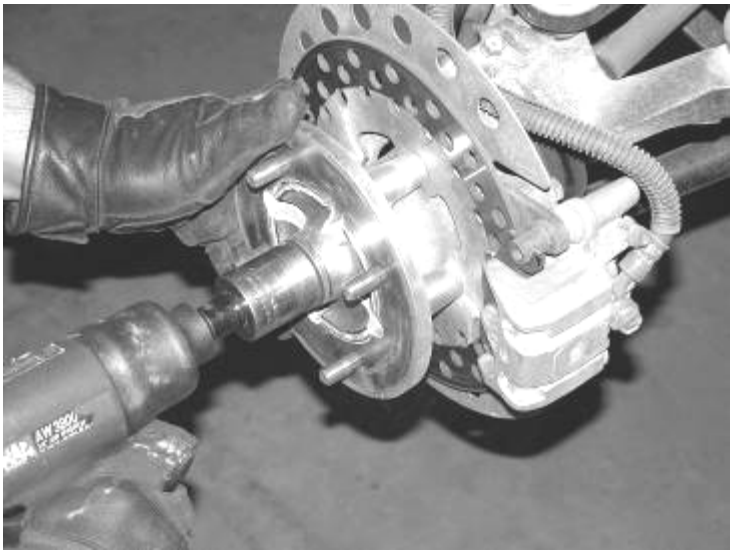


INSTALLATION INSTRUCTIONS:

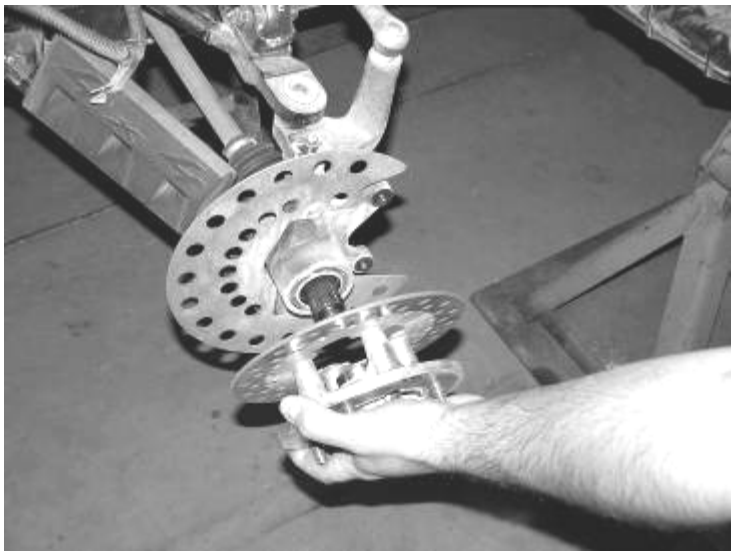
1. Disconnect the negative terminal on the battery. With the Rhino on level ground, set the emergency brake and block the rear tires. **Center the steering wheel, rack & pinion, and wheels and tires**. Jack up the front end of the Rhino and support the frame rails with jack stands. **NEVER WORK UNDER AN UNSUPPORTED VEHICLE!** Remove the front tires.

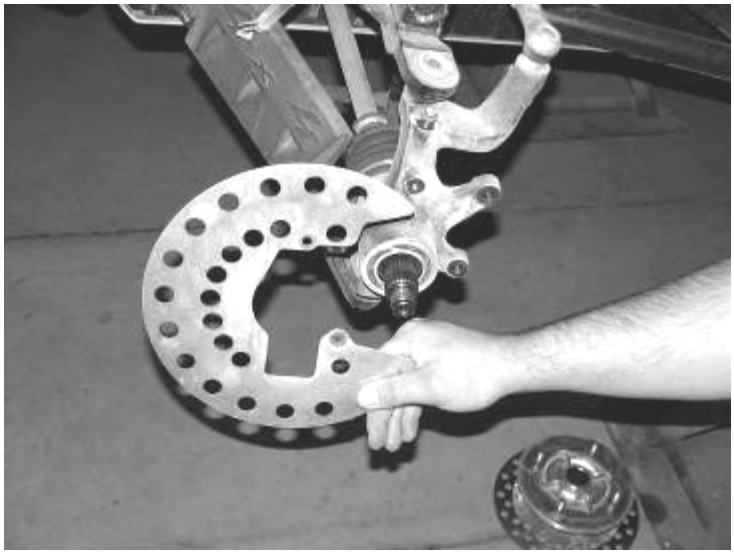
2. Working from the driver's side, use a small center punch and a hammer and carefully lift the factory crimped section of the axle shaft nut from the axle shaft. Remove the axle shaft nut and save. SEE PHOTOS BELOW





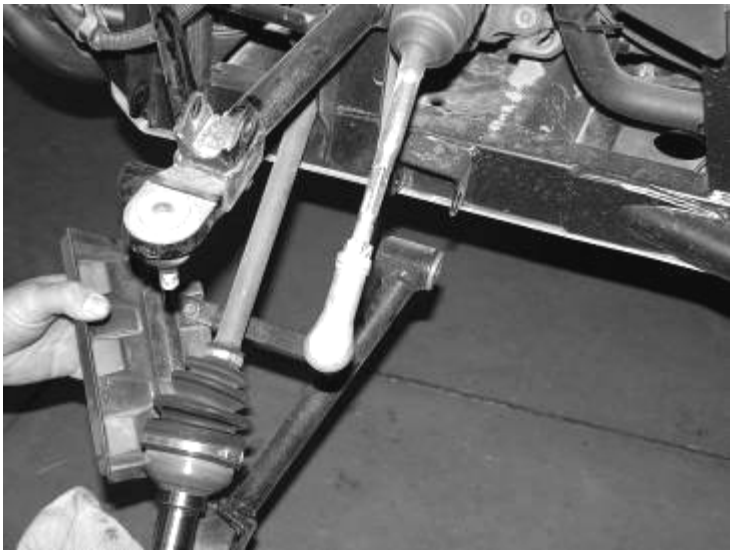
3. Remove the two 10mm bolts that attach the brake line to the spindle and the upper control arm and save the hardware. Remove the brake caliper and hang on the frame. DO NOT LET THE CALIPER HANG BY THE BRAKE HOSE. Remove the rotor and hub assembly and save. Remove the brake rotor shield from the spindle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



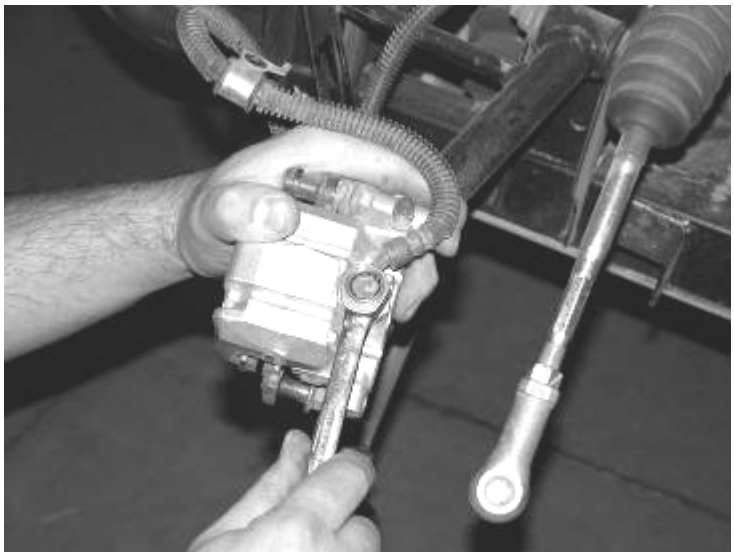


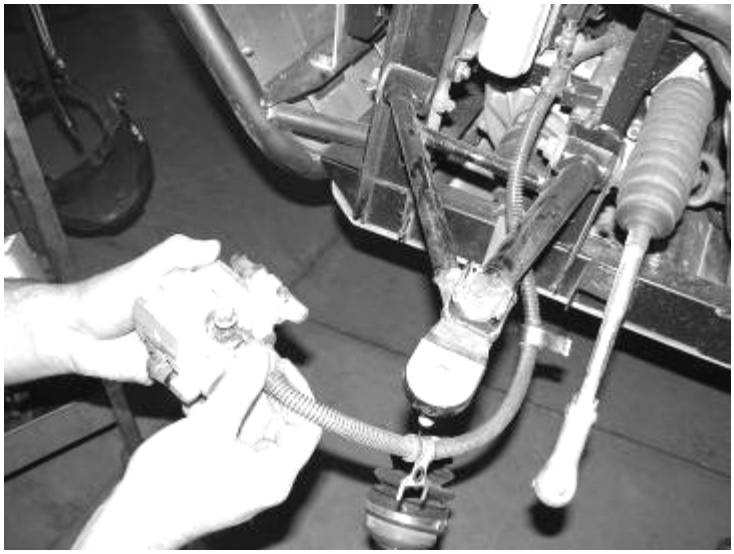
4. Remove the cotter pins in the outer tie rod end and the upper and lower ball joints and discard. Use a ball joint fork and separate the ball joints and tie rod from the knuckle. Remove and save the knuckle, discard the hardware. SEE PHOTO BELOW

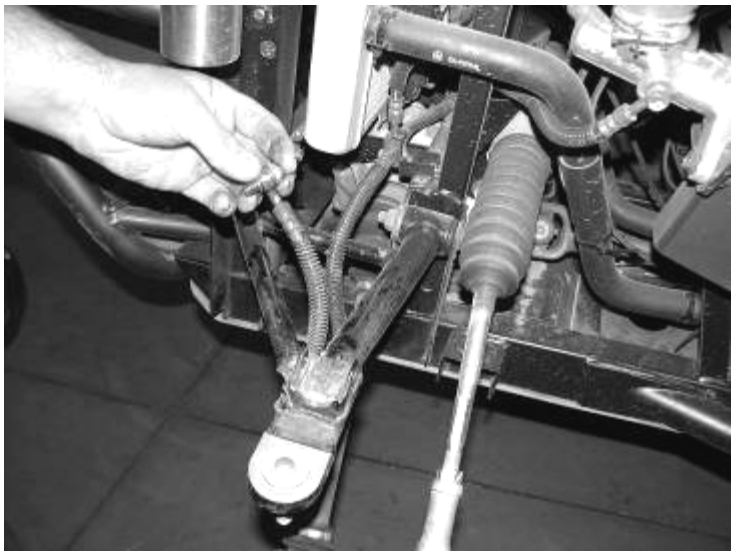
5. Remove the shock assembly and discard, save the hardware. Remove the lower control arm and discard, save the hardware. SEE PHOTO BELOW



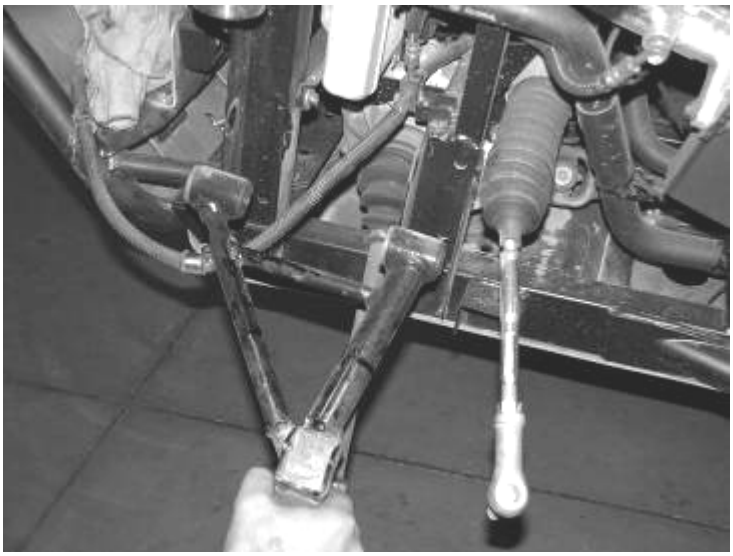
6. Remove the banjo bolt and brake hose from the caliper. Re-route the brake hose back through the upper a-arm and re-connect the hose to the caliper. Re-tighten the banjo bolt. SEE PHOTOS IN NEXT COLUMN



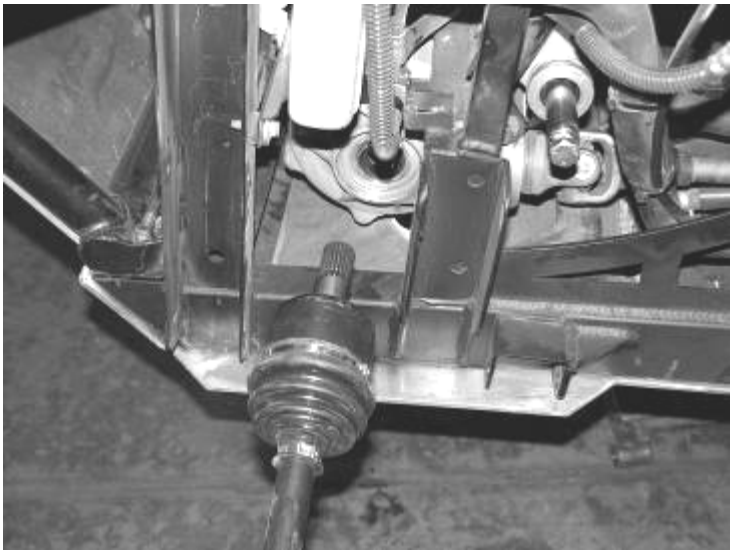




7. Remove the upper control arm and save the hardware. SEE PHOTO ON NEXT PAGE



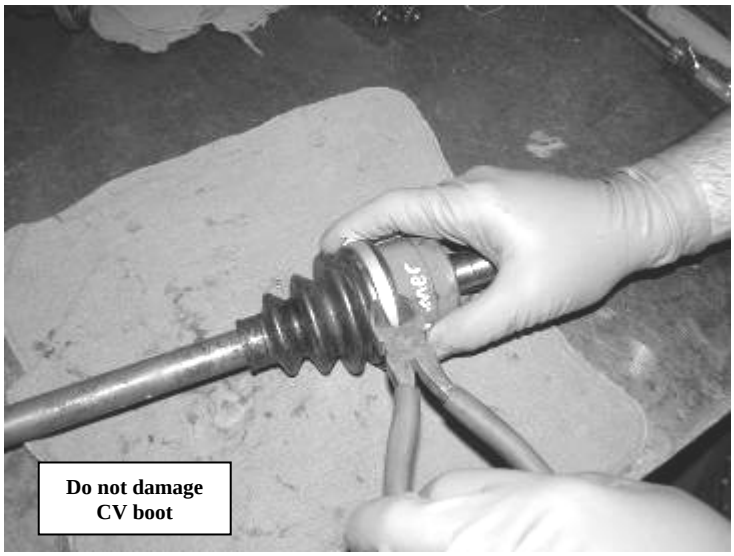
8. Remove the axle CV shaft from the front differential and with a paint pen, mark on the inner and outer CV's and axle where they were removed from (drv front inner / drv. front outer). The CV's and axle shafts are front and rear / inner and outer specific. They MUST go back into the proper locations. SEE PHOTO BELOW

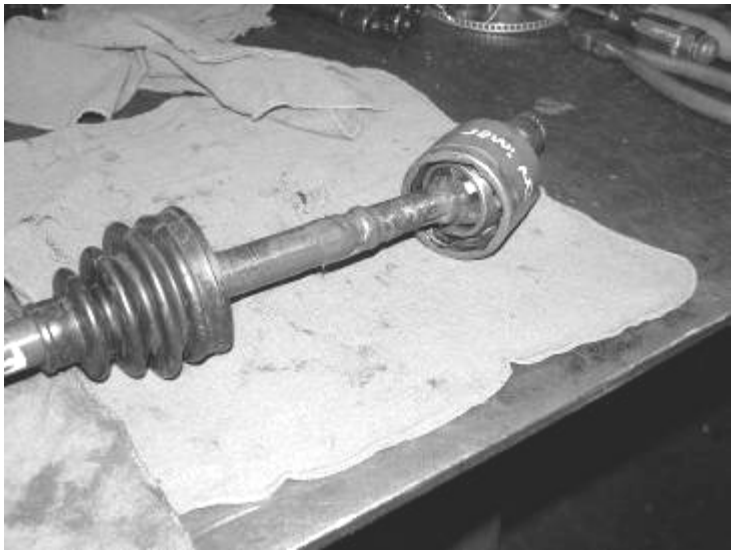


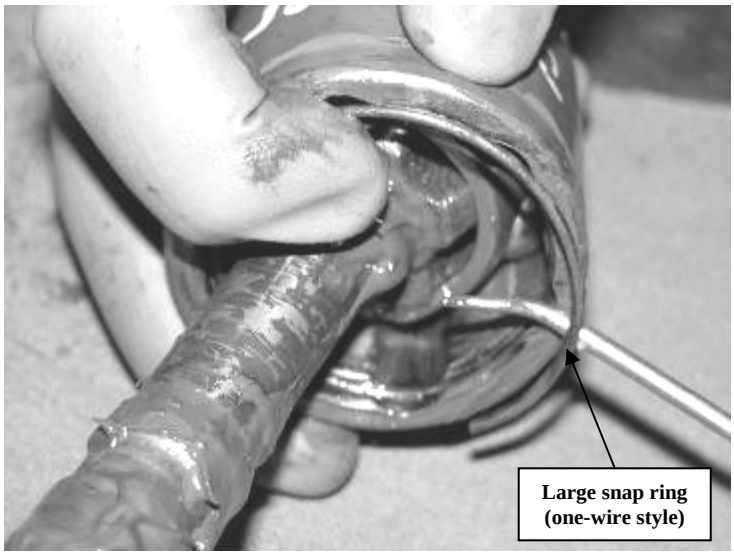
9. Repeat steps two through eight on the passenger side

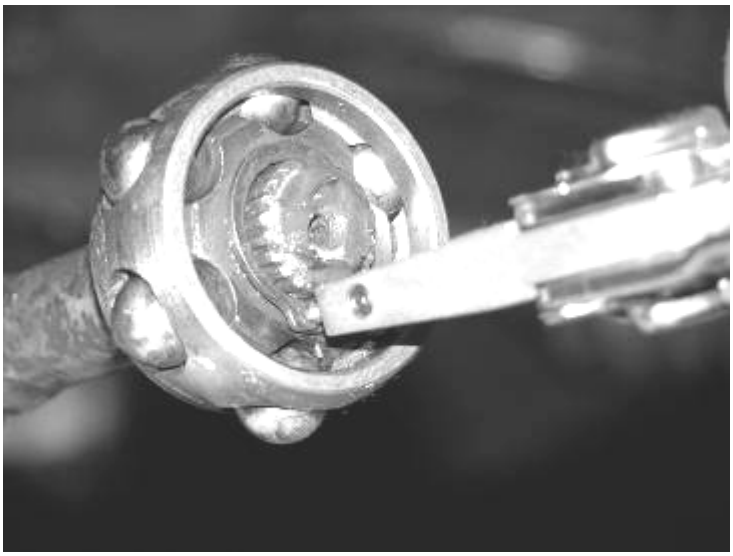
10. If you are installing the optional weld on gusset kit, do so at this time.

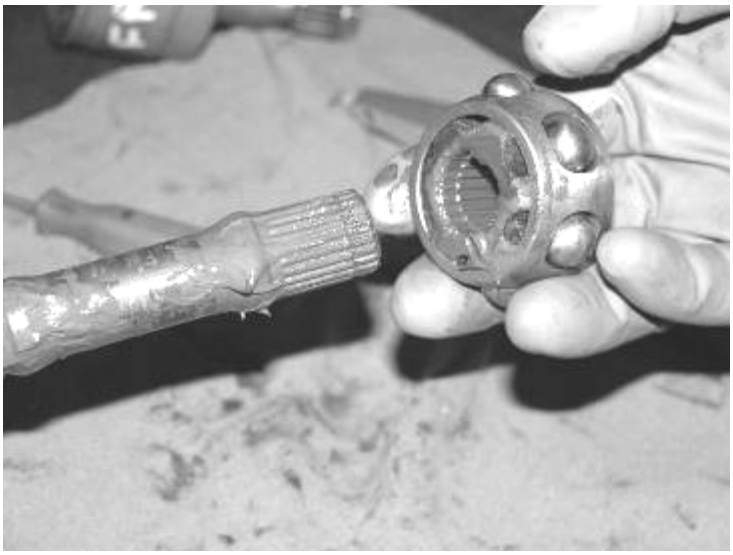
11. Locate the passenger front CV axle. Carefully cut the factory boot clamps from the CV boots **(DO NOT CUT THE CV BOOT. THEY WILL BE RE-INSTALLED).** Starting with the inner CV, **s**lide the boot down the axle to access the inside of the CV. First remove the large snap ring right at the base of the CV and pull the CV housing from the assembly. Using a snap ring tool, remove the small snap ring from the end of the CV shaft. Carefully remove the CV cage from the axle shaft making sure not to loose any of the CV balls. Remove both of the CV boots and save with all of the clips and internal parts, discard the old CV boot clamps. SEE PHOTOS IN NEXT COLUMN AND PAGE



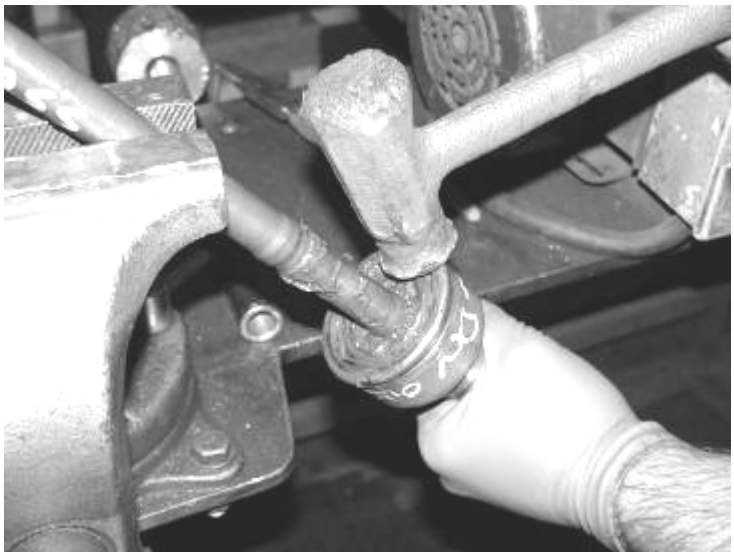






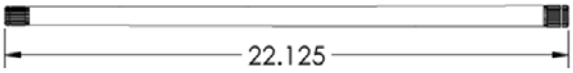


12. Place the CV axle into a vise with aluminum or soft jaws. Use a soft brass or rubber mallet and carefully strike the outer CV downward to disengage the inner snap ring which holds the CV onto the axle. **USE CARE NOT TO DAMAGE THE CV OR CV HOUSING.** SEE PHOTOS IN NEXT COLUMN

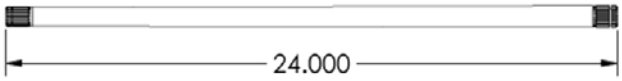


13. Locate FT95012 Front Long travel Axle, FT95060 Clamp Kit with Snap Rings, and the factory outer CV and Boot. Open the clamp and snap ring kit and the factory snap rings which were just removed. Match the old snap rings to the new ones in the kit (provided FT95060 kit has snap rings for all EIGHT CV's). Place the CV boot onto the axle and follow with the small snap ring (one wire style) onto the large splined end of new long travel axle. Place the outer CV into a vise and LIGHTLY tighten enough just to hold the CV. With the boot and C-Clip installed, insert the axle into the CV to where the clip makes contact with the CV. Use a soft brass or rubber mallet and carefully strike the axle downward to engage the inner snap ring into the CV. Slide boot down over the CV. SEE PHOTOS & DIAGRAM ON NEXT PAGE & LAST PAGE OF INSTRUCTIONS

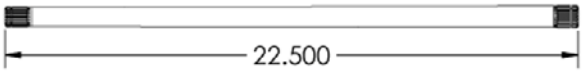
FT95012
DRIVER & PASSENGER FRONT AXLE

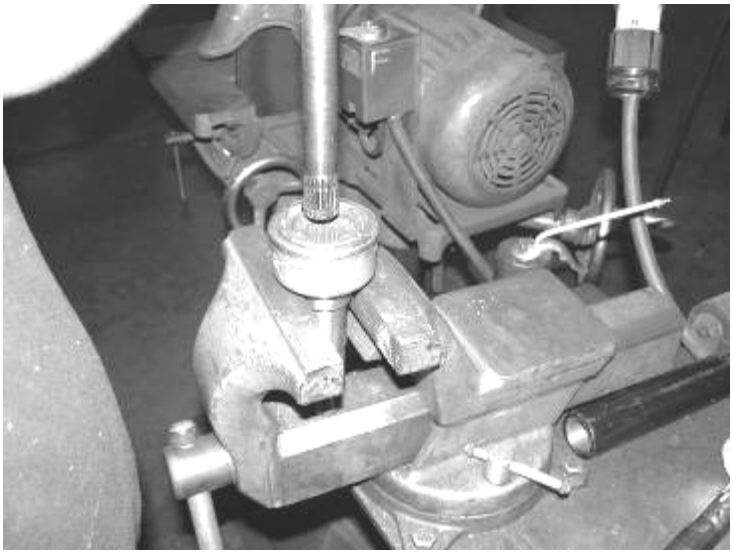


FT95013
PASSENGER REAR AXLE

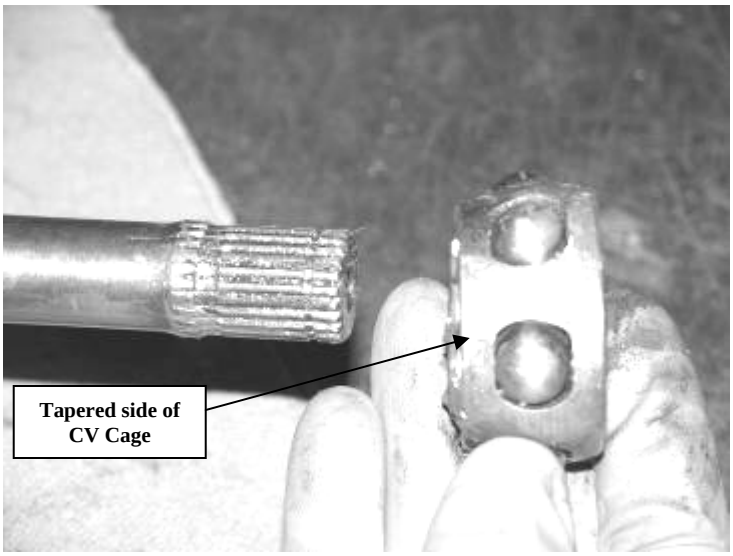


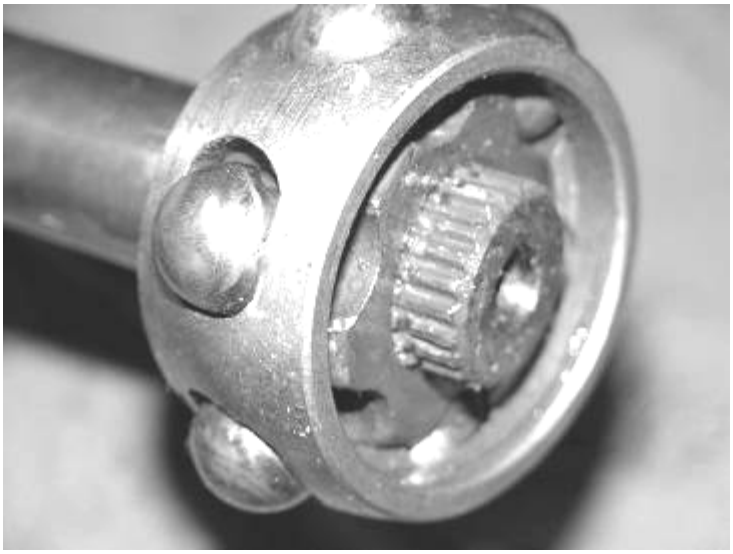
FT95014
DRIVER REAR AXLE





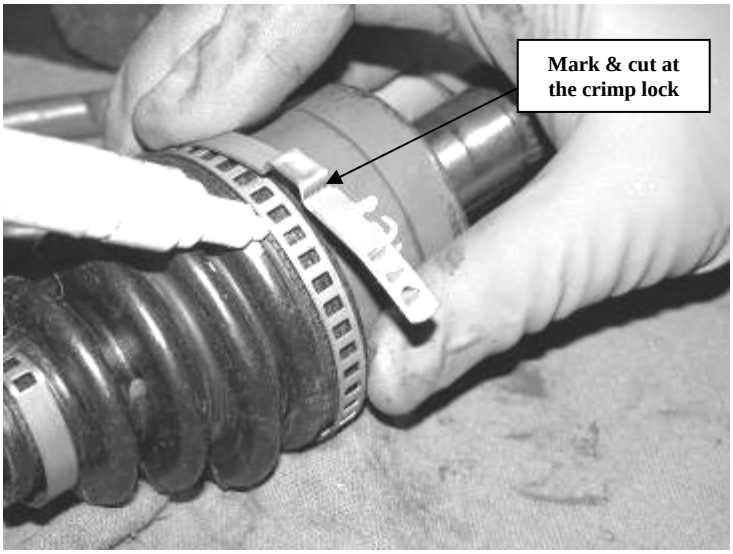
14. Locate the Factory inner CV and internal parts, CV Boot, and new supplied snap ring. Install the CV boot onto the axle followed by the CV Cage (tapered end on first). If necessary, use a soft brass or rubber mallet and carefully strike the CV cage downward to access the snap ring groove on the axle shaft. Using snap ring pliers, install the snap ring onto the end of the axle shaft. SEE PHOTOS ON NEXT PAGE





15. Locate the Inner CV housing and factory large snap ring (one wire style). Install the housing onto the axle over the CV cage and install the large snap ring. Slide the CV boot over the CV and Housing. SEE PHOTOS BELOW AND ON NEXT PAGE

16. Locate two large and two small CV boot clamps from the FT95060 clamp kit. Position the large clamp around the boot and CV. Pull the clamp tight around the boot and mark the clamp where it overlaps at the crimp lock with a paint pen. Remove the clamp from the boot and cut the excess from the strap. Repeat this step for the other three clamps on this axle. SEE PHOTOS BELOW



17. Using a CV boot band clamp tool, clamp only the inner boot clamps. Locate one of the supplied CV boot grease bags **(4 bags are provided with this kit, one for each axle, half a bag for each CV)**. Carefully pull back the boot from the inner CV and insert **HALF** of the bag into one inner CV boot. Re-install the boot onto the CV and use the clamp tool and tighten the clamp. Repeat this step for the outer CV. SEE PHOTO BELOW

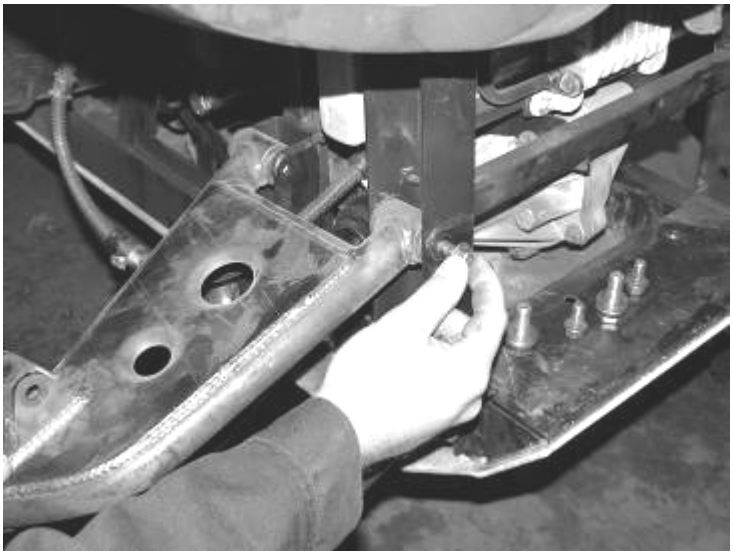
18. Repeat steps eleven through seven-teen for the driver side CV axle.

19. Working from the passenger side, locate the assembled front Long Travel axle and install into the front differential. Use a large rubber mallet and tap the outer end of the axle shaft. SEE PHOTO BELOW

20. Locate FT95067GR (driver upper), FT95068GR (driver lower), FT95069GR (pass. upper), and FT95070GR (pass. lower) control arms, FT95000 bushings, FT95004 sleeves, and the supplied bushing lube. Place a small amount of lube into each of the barrels on the arms. Using a press, press a bushing into both ends of each barrel. Place more of the lube onto the sleeves and use the press to install one into each set of bushings.

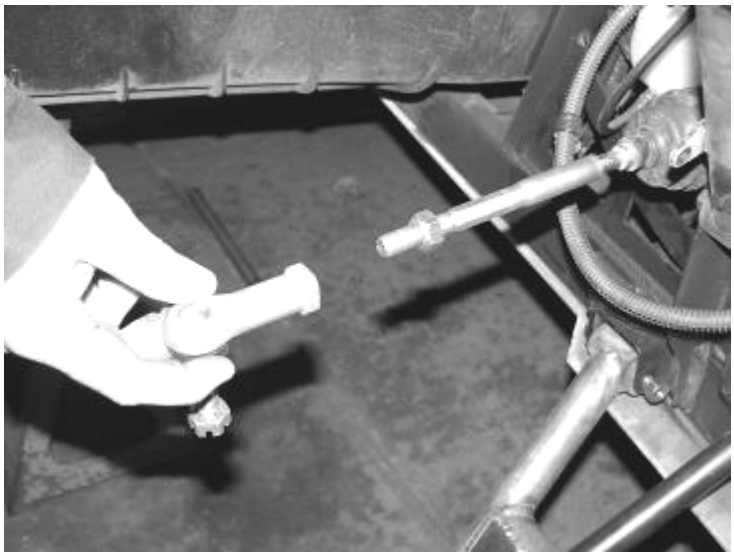
21. Install the passenger lower a-arm into the factory a-arm mounts and attach with the factory a-arm hardware (use supplied thread-locking compound). Leave loose. SEE PHOTO BELOW

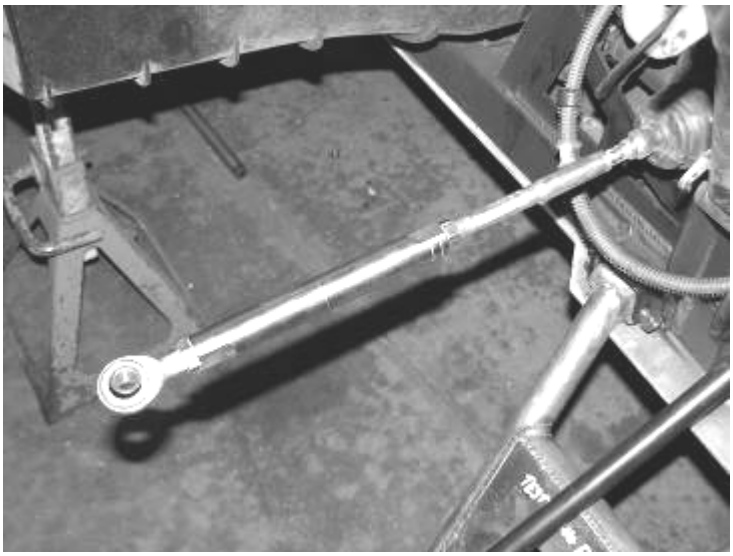
22. Install the passenger upper a-arm with pre-installed ¾" heim and jam nut into the factory a-arm mounts and attach with the factory a-arm hardware. (use supplied thread-locking compound) Leave loose. SEE PHOTO BELOW



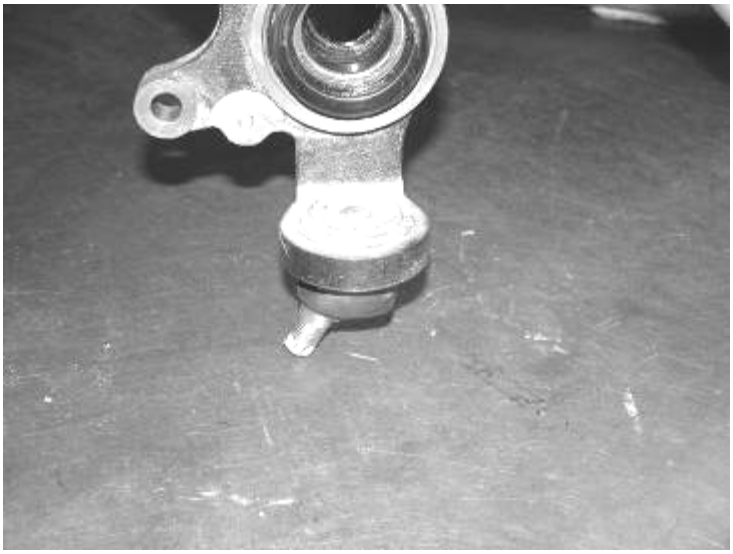
IF YOU ARE INSTLLING THE HEAVY DUTY STEERING KIT, DO SO NOW FOLLOWING THE INSTRUCTIONS PROVIDED WITH THAT KIT AND SKIP STEP 23 IN THIS INSTRUCTION SHEET

23. Remove the outer tie rod end and leave the factory jam nut on the inner tie rod end. Locate FT95015 Tie Rod Extension, FT95203 ½" Male Heim, and supplied ½" jam nut. Thread the supplied ½" jam nut onto the ½" heim and insert into the tie rod extension. Thread on the tie rod extension (end with two reliefs cut into end of extension) onto the inner tie rod to the factory jam nut. Adjust the tie rod extension so there is an equal amount of thread on the ½" heim and the factory inner tie rod end **(approx. ½" above the jamb nut).** SEE PHOTOS IN NEXT COLUMN, NEXT AND LAST PAGE

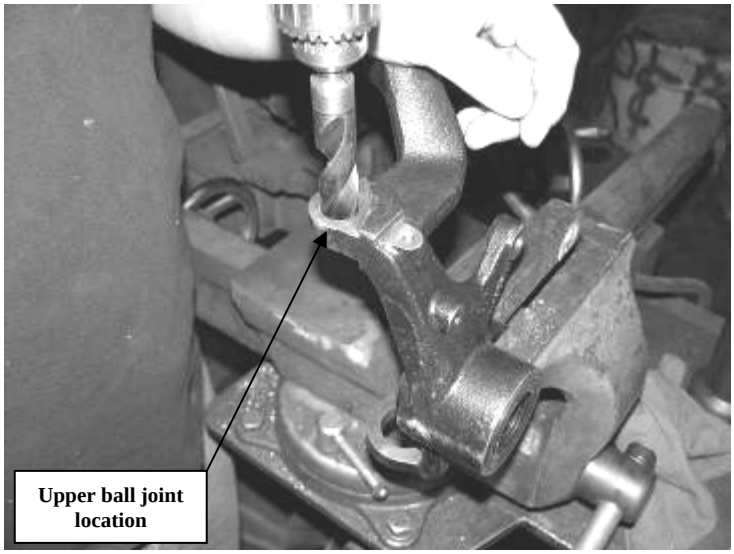


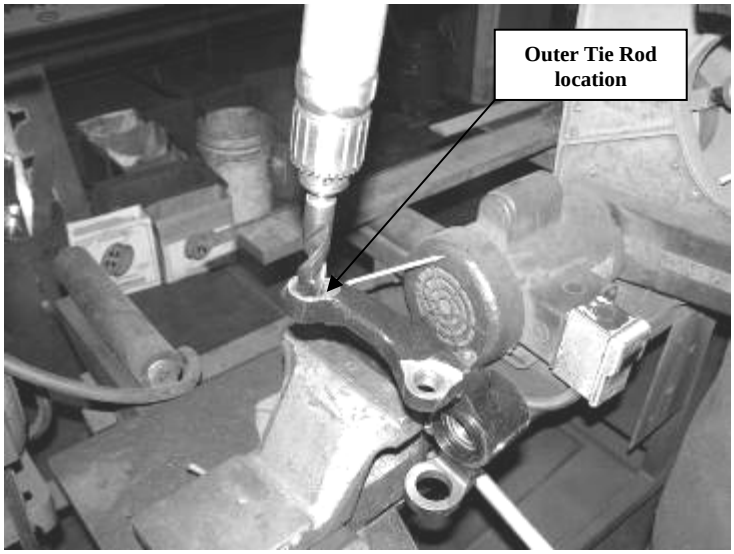


24. Locate the factory knuckle. Remove the C-clip retainer and then use a ball joint press and press out the lower ball joint from the knuckle. Discard the ball joint and the C-clip. SEE PHOTOS BELOW

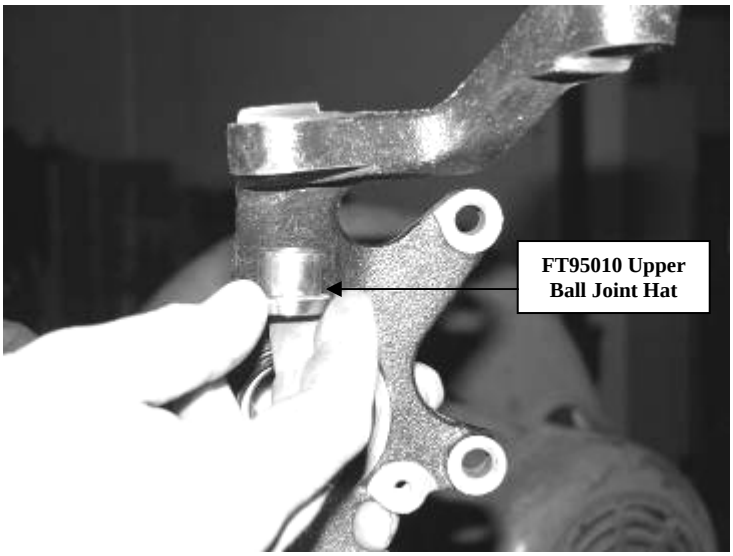


25. Place the knuckle into the vise with aluminum or soft jaws and use care not do damage. Use a drill with a ¾" drill bit and drill out the knuckle at the upper ball joint location and at the tie rod location. SEE PHOTOS BELOW

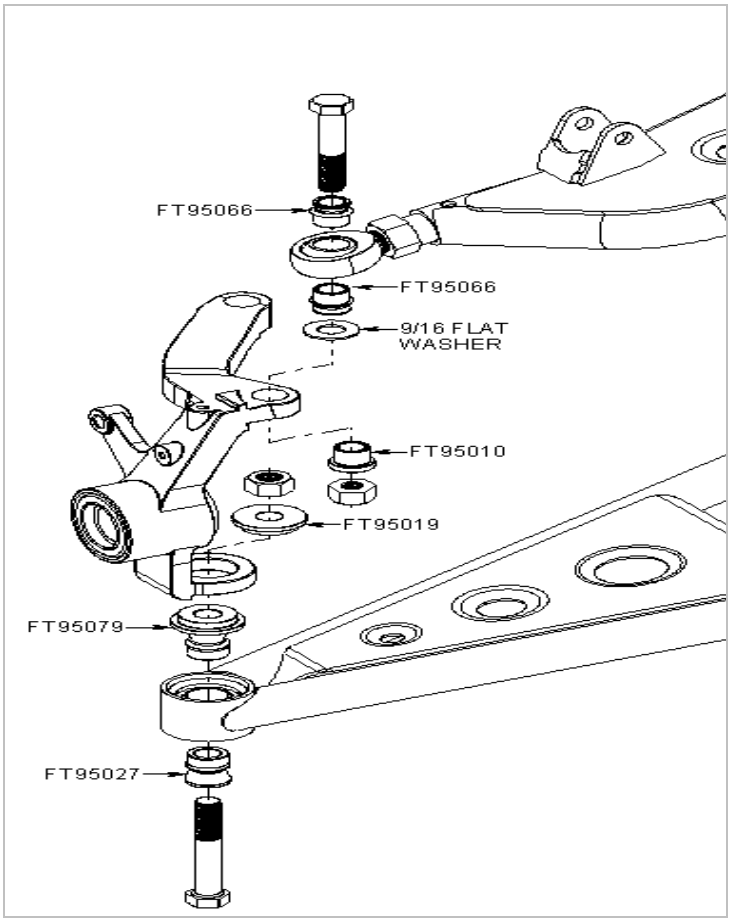




26. Locate FT95010 Upper Ball Joint Hat, FT95019 **"top"** Lower Ball Joint Hat, FT95079 "**bottom**" Lower Ball Joint Hat, and FT95021 Steering Arm Hat. Insert the upper ball joint hat up into the previously drilled upper ball joint location. Insert the lower ball joint hats into the lower ball joint location (FT95019 in the top of the knuckle and FT95079 in the bottom of the knuckle) and the FT95021 steering arm hat into the previously drilled tie rod location. (use a rubber mallet only if necessary). SEE PHOTOS AND DIAGRAMS ON NEXT PAGE AND LAST PAGE

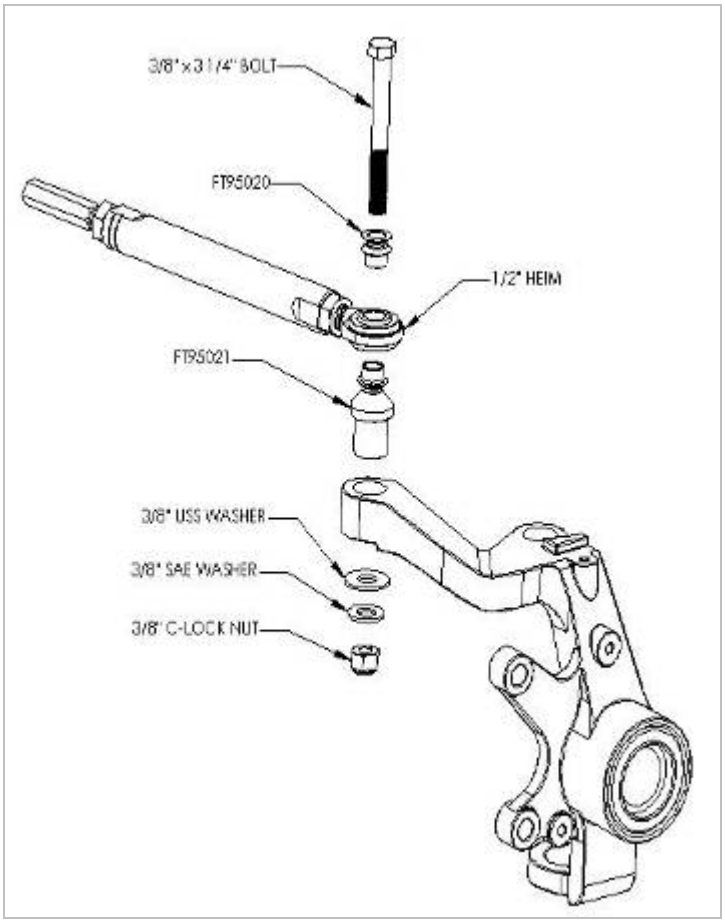


27. Install the knuckle assembly onto the CV shaft. Insert the supplied FT95027 7/8" mis-alignment up into the bottom of the uni-ball in the lower control arm and the FT95079 Mis-alignment down into the top of the uni-ball. Then attach the knuckle to the lower control arm with the supplied 9/16" x 3 ½" hardware. Insert the FT95066 mis-alignments in the heim joint in the upper control arm and then attach the knuckle to the upper control arm using the supplied 9/16" x 3" hardware with a flat washer between the mis-alignment and the knuckle. The ¾" heim and jam nut are set at just a starting point, final adjustment can be made during the toe set if necessary. (use supplied thread-locking compound) Leave loose.

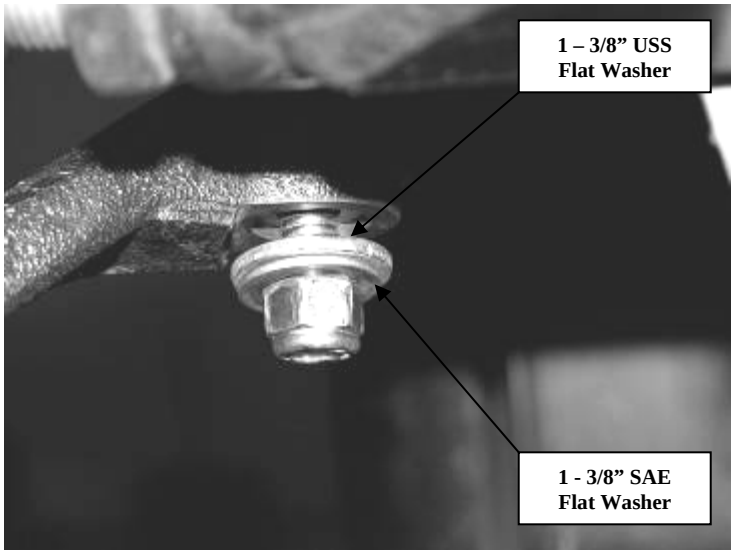


Upper and Lower Control Arm @ Knuckle

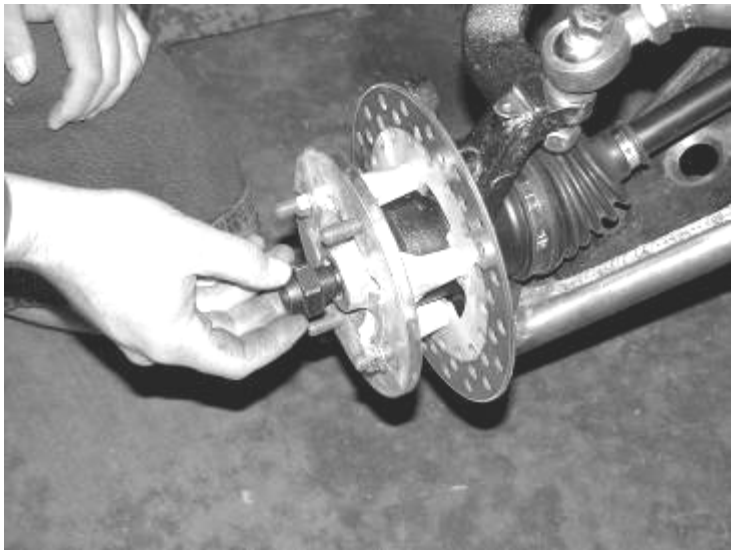
28. Locate FT95020 ½" Short Mis-alignment and the supplied 3/8" x 3 ¼" hardware. Insert the mis-alignment into the top of the ½" heim in the new extended steering shaft followed by the 3/8" bolt. Position the ½" heim and hardware onto the FT95021 steering arm hat and through the knuckle. Place one of the supplied 3/8" SAE Flat Washers and one of the 3/8" USS Flat Washers on the bottom of the knuckle along with the 3/8 C-lock nut. Torque upper and lower control arm bolts to 32 lbs, the 9/16" hardware to 95 lbs, and the 3/8" hardware to 35 lbs (use supplied thread-locking compound). **Tighten the jam nut on the pre-installed ¾" heim on the upper control arm**. SEE DIAGRAM ON NEXT PAGE AND LAST PAGE



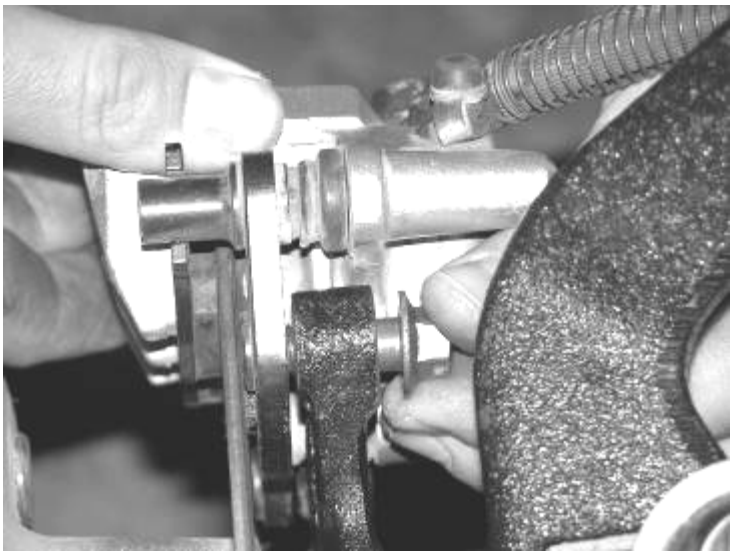
New Tie Rod Assembly @ Knuckle

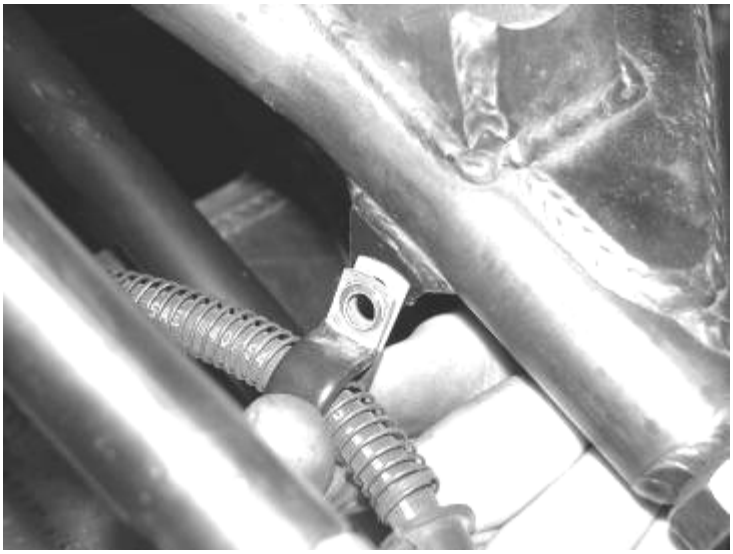


29. Locate and install the factory hub assembly onto the knuckle and axle shaft. Install the factory axle shaft nut and torque to 190 lbs. Use a center punch and re-crimp the hub nut in the key way of the axle. SEE PHOTO BELOW

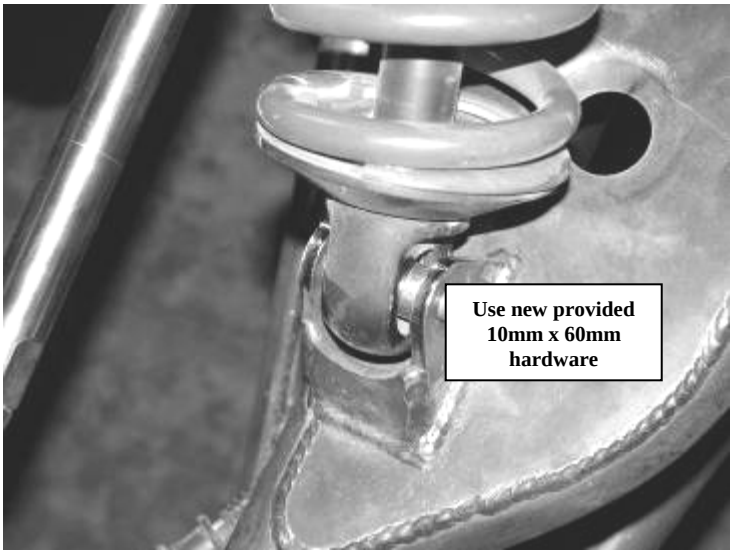


30. Locate the 10mm brake caliper bolts and re-attach the rotor. Torque to 35 lbs. (use supplied thread-locking compound) Locate the two of the supplied adel clamps and ¼" hardware. Position the adel clamps over the brake hose and attach to the tabs on the upper control arms. Torque to 10 lbs. SEE PHOTOS BELOW





31. Locate FTR60138 Front Shock, provided shock mis-alignments, and the factory shock hardware. Insert the mis-alignments into the top of the shock and mount into the stock upper mount with the factory hardware. Insert the mis-alignments into the heim on the bottom of the shock. Mount the bottom of the shock to the upper control arm mounts with the **SUPPLIED** 10mm x 1.50 x 60mm bolts and hardware. (use supplied thread-locking compound) Torque to 32 LBS. SEE PHOTOS BELOW AND ON NEXT PAGE. SEE DIAGRAM ON LAST PAGE FOR PROPER MIS-ALIGNMENT LOCATIONS



32. Locate FT83179 Front Resi Mount Bracket and FT86013 Hardware kit that is provided with the front shocks. **NOTE: some 2005 & 2006 model rhinos have a factory locating hole.** If your Rhino has this locating hole on the front of the frame section just above where the front upper control arm mounts to the frame, use a drill with a 5/16" drill bit and drill out to 5/16". Locate the supplied 5/16" hardware and attach the mount to the front of the frame and use a paint pen or center punch to mark the second hole. Remove the mount and drill the second hole in to the frame. Re-install the bracket to the front of the frame and attach with the supplied 5/16" hardware. If your Rhino **DOES NOT** have the factory locating hole, position the mount onto the front of the frame section just above where the front upper control arm mounts to the frame. With the mount on the front of the frame, hold the new bracket 3" from the top of the frame section. Use a paint pen or center punch to mark the two holes onto the back of the frame. Use a drill with a 5/16" drill bit and drill out these two holes. Re-install the bracket to the front of the frame section and attach with the supplied 5/16" hardware. Torque to 20 lbs. SEE PHOTOS IN NEXT COLUMN

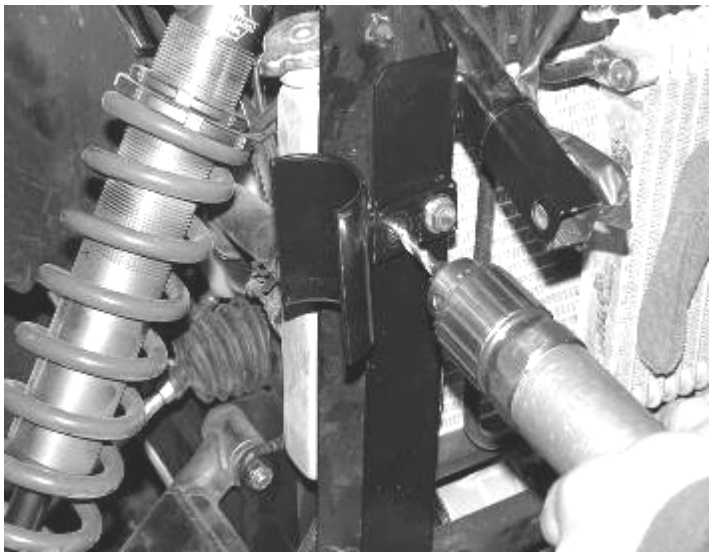
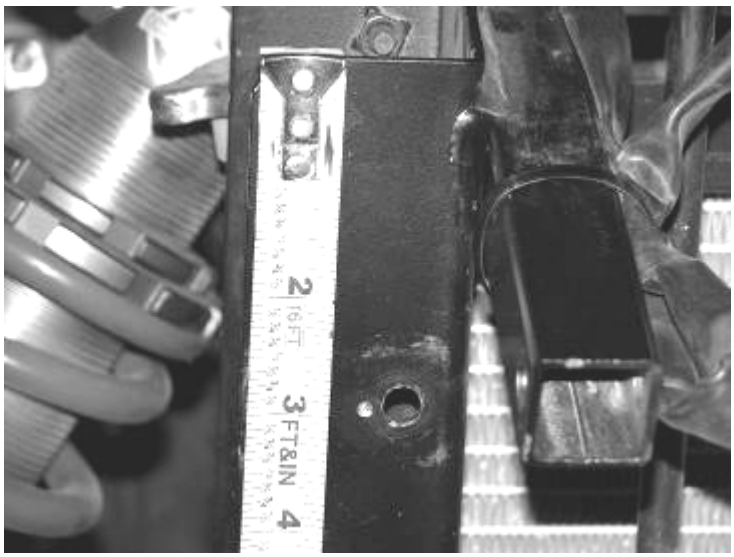
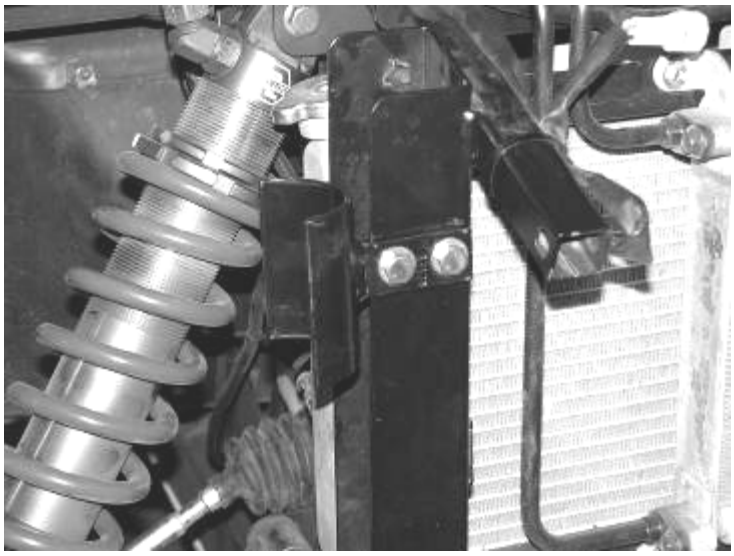


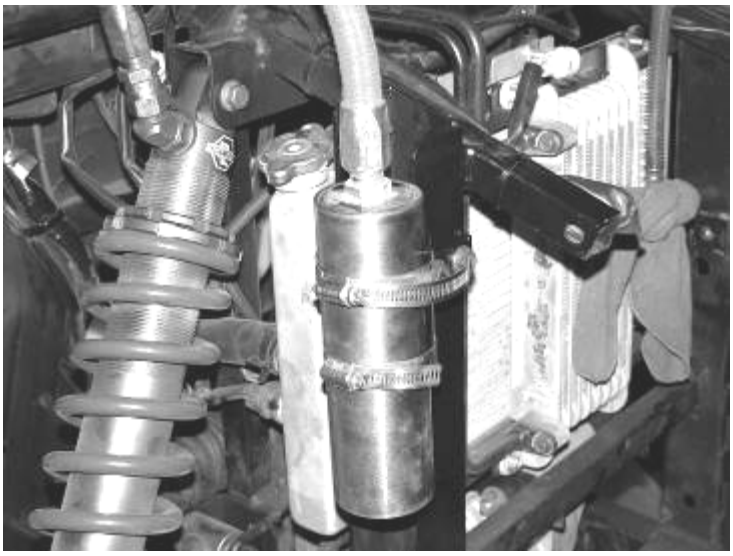
Photo of passenger front

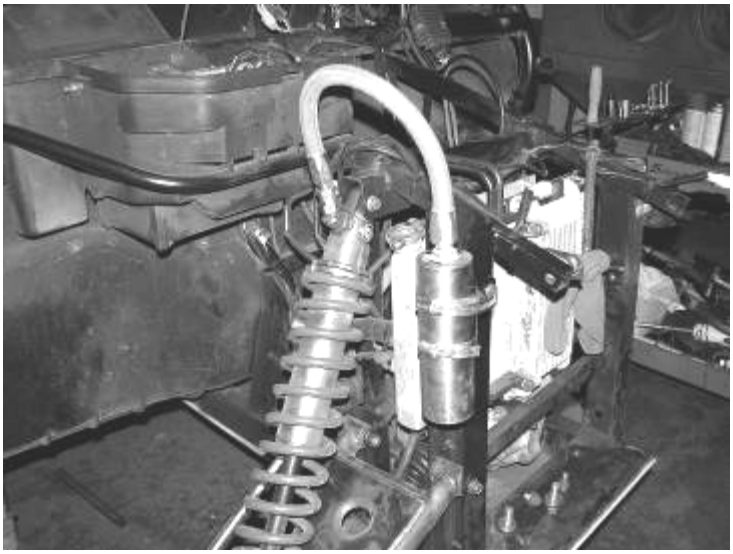


On Rhino's without locating hole, measure 3" from top of frame section



33. Locate FT89028 Hose Clamps and position the shock reservoir onto the new mount (as shown in photos) and attach with the new clamps. Position the reservoir so the hose does not make contact with the bottom side of the hood. (rotate / twist the reservoir in the mount) Do not over tighten the clamps or kink the reservoir hose. SEE PHOTOS BELOW





34. Repeat steps nine-teen through thirty-three on the passenger side.

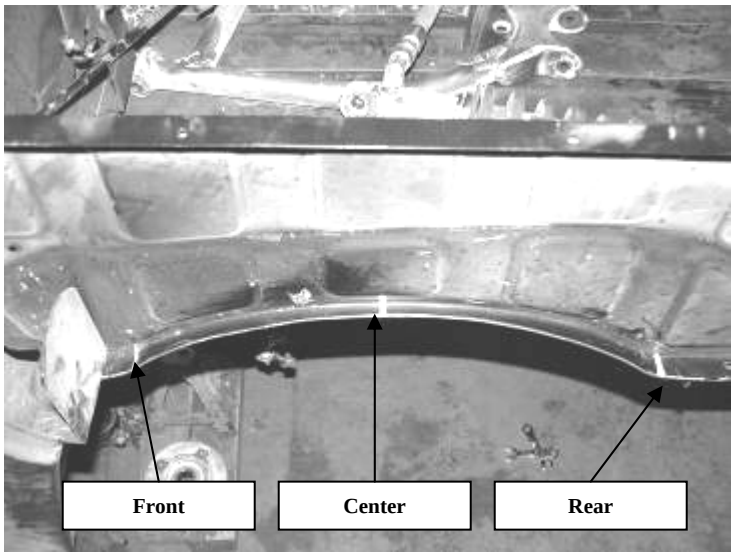
35. Check the fluid level in the brake reservoir and add as necessary. Bleed the brake system as per the manufacture's specification. See owners manual

36. Install tires and wheels and torque lug nuts to wheel manufacturer's specifications. Turn front tires left to right and check for appropriate tire clearance.

REAR INSTRUCTIONS

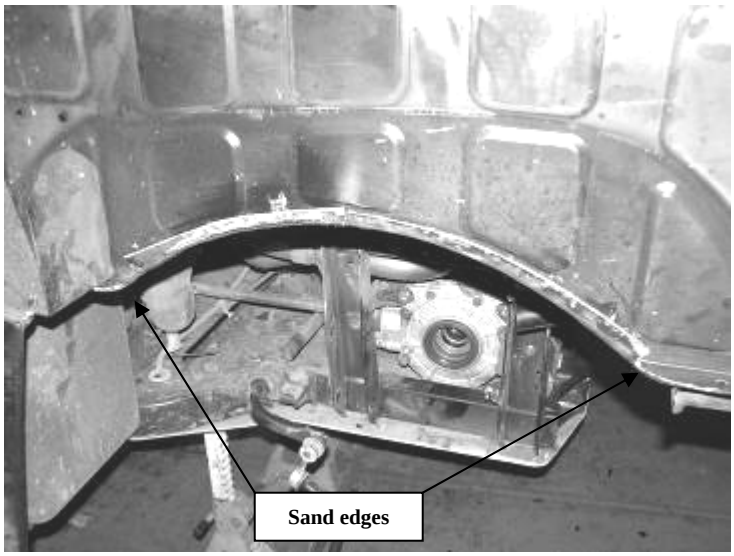
37. With the Rhino on level ground, jack up the rear end of the Rhino and support the frame rails with jack stands. Chock the front tires. **NEVER WORK UNDER AN UNSUPPORTED VEHICLE!** Remove the rear tires.

38. Rhino's equipped with the rear inner wheel well lip must be trimmed and flattened for maximum tire clearance during rear suspension travel. Tilt the rear bed and use a paint pen and mark the front, center, and rear of the inner wheel well lip. SEE PHOTO BELOW

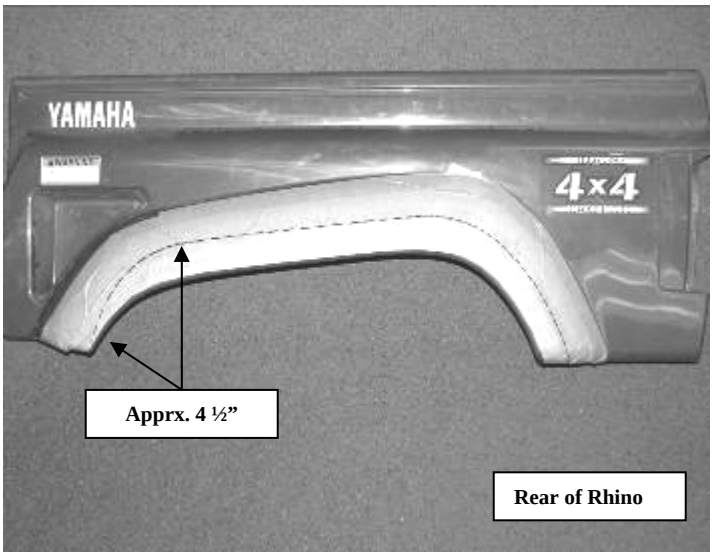


Bedside removed for photo only

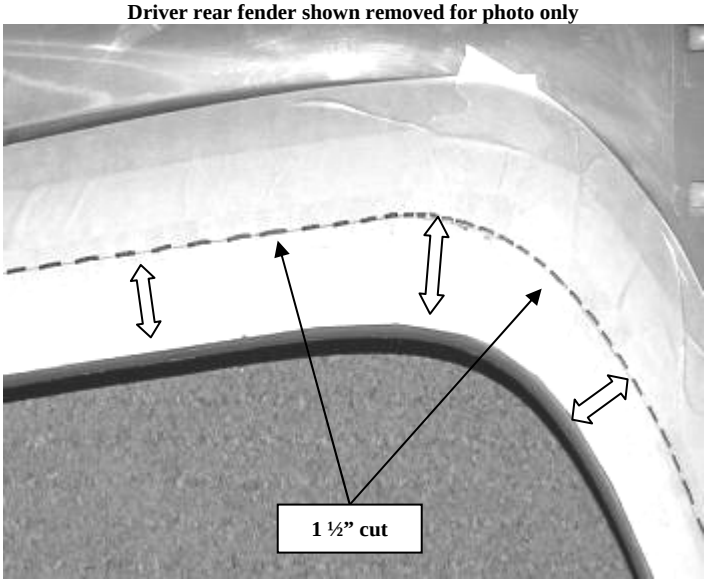
39. Use a die grinder with a cut off wheel and cut the lip just flush with the wheel well at the three marked spots. Once the lip has been cut, use a hammer and flatten the lip upwards until it is flush with the wheel well. Use a die grinder with a sanding disc and sand down / round out the front and rear lip where it was cut. Paint any bare metal areas after all cutting and sanding is done. SEE PHOTOS ON NEXT PAGE


Sand edges

40. Next, the flared portion of the rear wheel well needs to be trimmed for adequate tire clearance during rear suspension travel. Apply masking tape to the lower 4" of the entire flared portion of the fender. Starting from the rear, mark a 1 ½" line above the lower edge. At the front of the wheel well, the distance needs to be gradually reduced starting at the radius to meet the existing front corner. SEE PHOTOS BELOW

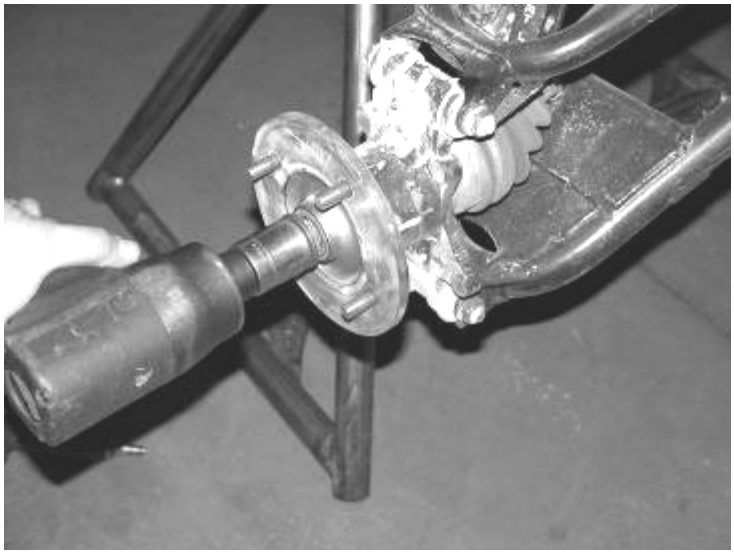


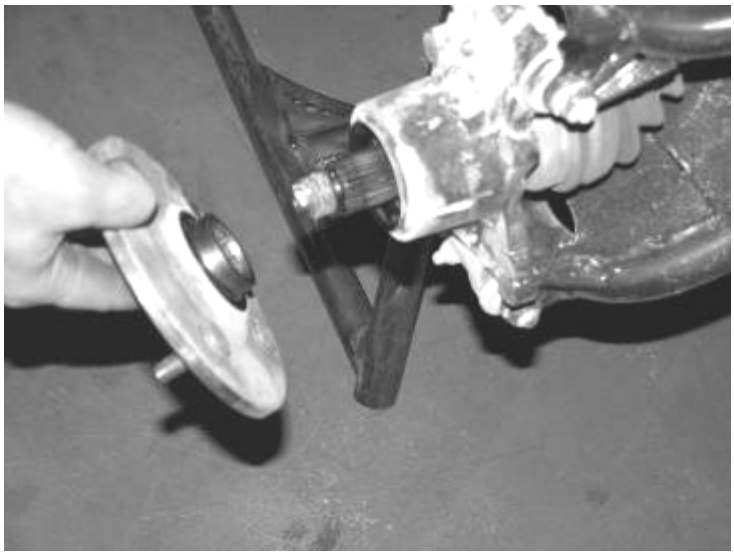
Driver rear fender shown removed for photo only



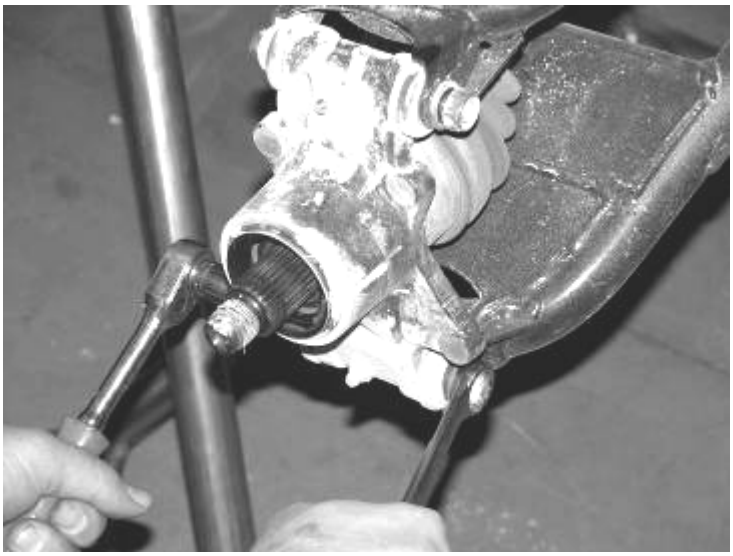
41. Using an air saw, carefully cut the fender following the mark. Follow with a die grinder with a sanding disc to smooth out any rough edges or other imperfections.

42. 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 the hub assembly and save. SEE PHOTOS IN NEXT COLUMN

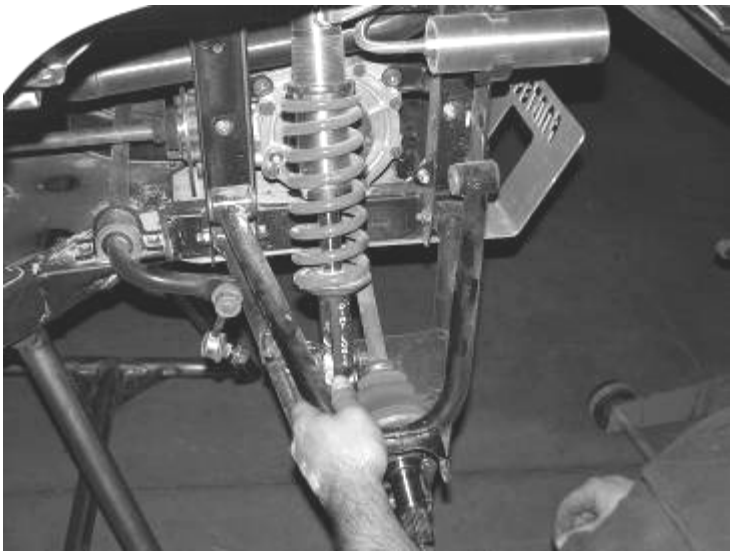




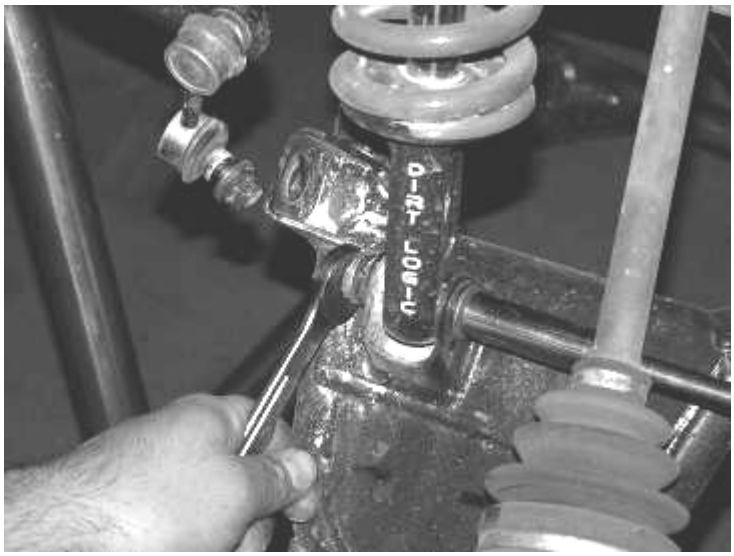
43. Remove the upper and lower knuckle assembly hardware and remove the knuckle assembly. Save the knuckle and the hardware. Remove the sway bar end link from the lower control arm and save the hardware. SEE PHOTOS ON NEXT PAGE

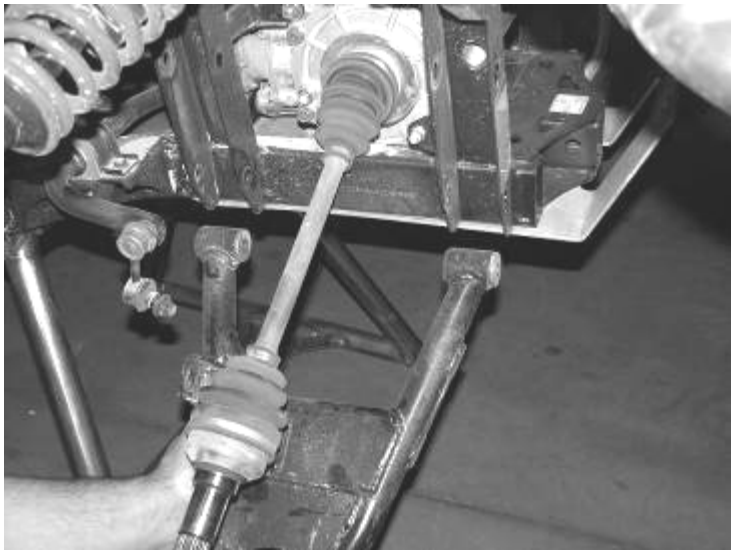


44. Remove the upper control arm and save the hardware. SEE PHOTO BELOW

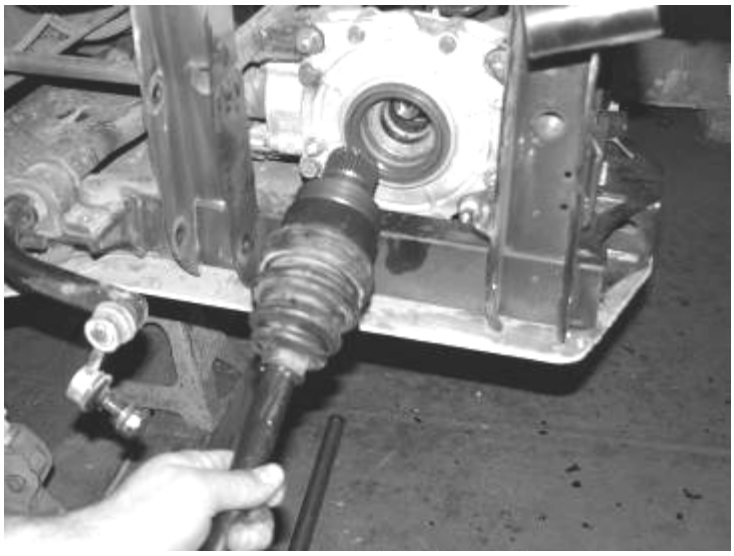


45. Remove the shock assembly and discard, save the hardware. Remove the lower control arm and discard, save the hardware. SEE PHOTO IN NEXT COLUMN





46. Remove the axle CV shaft from the rear differential. with a paint pen, mark on the inner and outer CV's and axle where they were removed from (drv. rear inner / drv. rear outer) SEE PHOTO BELOW



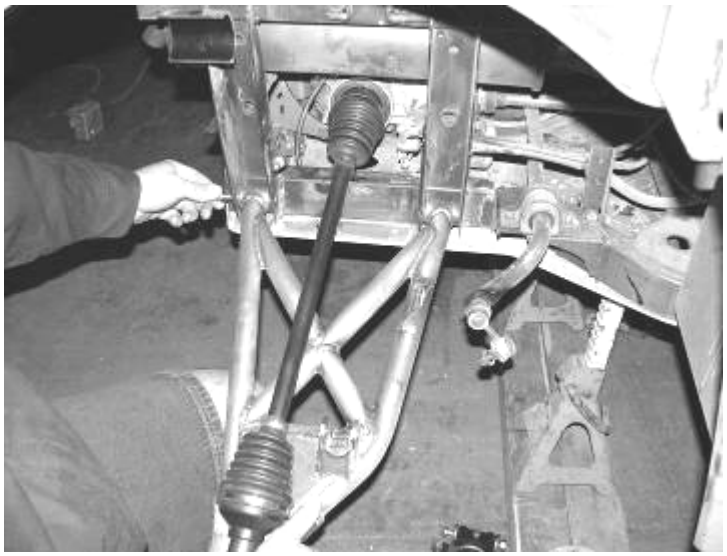
47. If you are installing the optional weld on gusset kit, do so at this time following those included directions.

48. Repeat steps eleven through seven-teen for rear CV axle assembly. **SEE DIAGRAM ON LAST PAGE OF INSTRUCTIONS FOR CORRECT CV AXLE IDENTIFICATION. THE REAR AXLES ARE DRIVER AND PASSENGER SPECIFIC**.

49. Working from the passenger side, locate the assembled rear passenger long travel axle and install into the rear differential. Use a large rubber mallet and tap the outer end of the axle shaft into the differential. SEE PHOTO BELOW

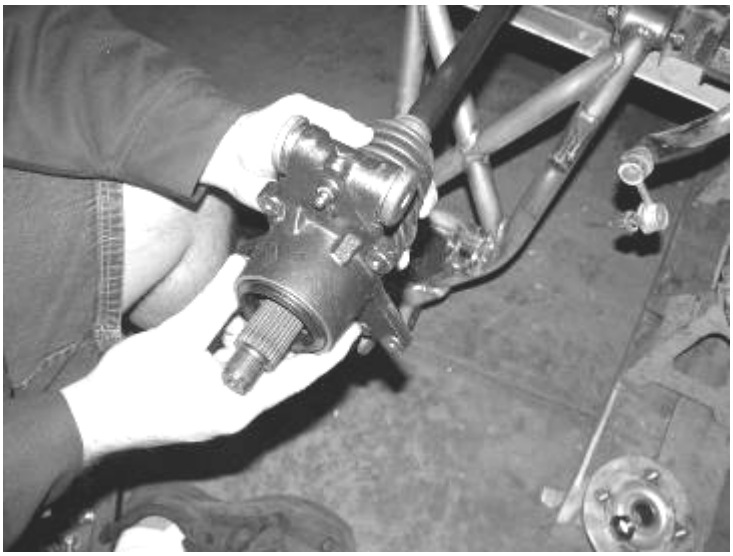
50. Locate FT95006GR (driver upper), FT95007GR (driver lower), FT95008GR (pass. upper), and FT95009GR (pass. Lower) control arms, FT95000 bushings, FT95004 sleeves, and the supplied bushing lube. Place a small amount of lube into each of the barrels on the arms. Using a press, press a bushing into both ends of each barrel. Place more of the lube onto the sleeves and use the press to install one into each set of bushings.

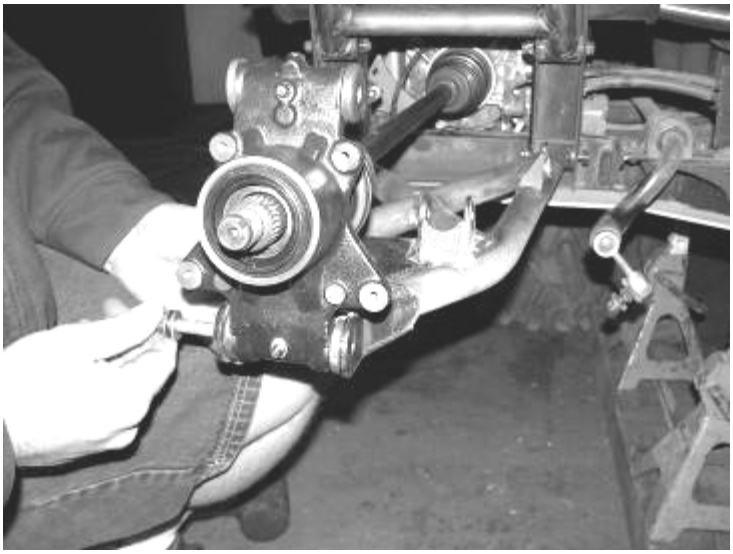
51. Install the passenger lower a-arm into the factory a-arm mounts and attach with the factory a-arm hardware. Leave loose. (use supplied thread-locking compound) SEE PHOTO

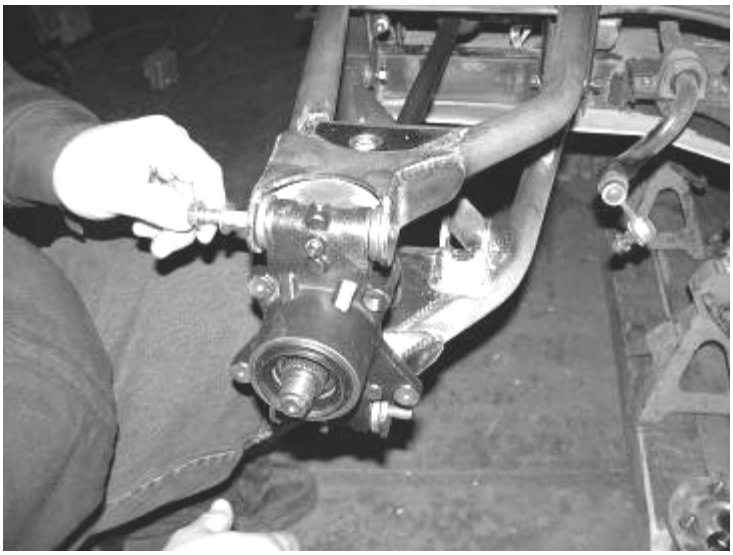


52. Install the passenger upper a-arm into the factory a-arm mounts and attach with the factory a-arm hardware. (use supplied thread-locking compound) Leave loose. SEE PHOTO BELOW

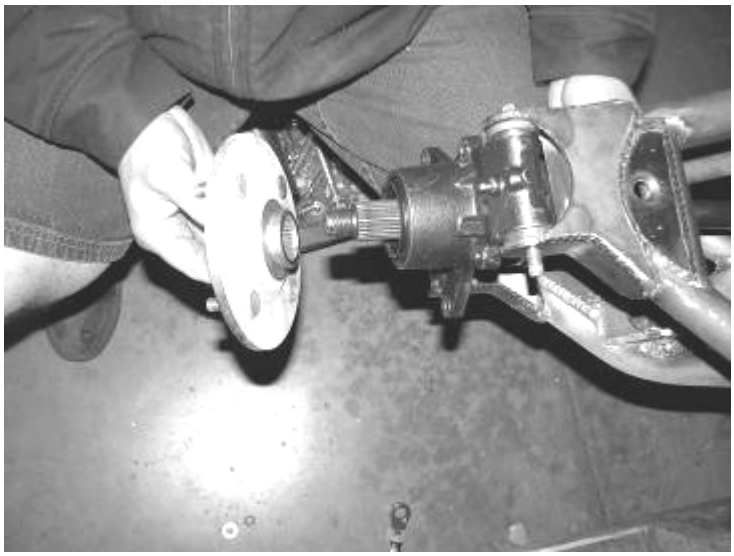
53. Locate the factory knuckle assembly and hardware. Position the assembly onto the CV shaft and attach to the lower control arm with the factory hardware. Then attach to the upper control arm also with the factory hardware. Torque upper and lower control arm bolts at the frame and at the knuckle to 32 lbs. (use supplied thread-locking compound) SEE PHOTOS BELOW AND ON NEXT PAGE

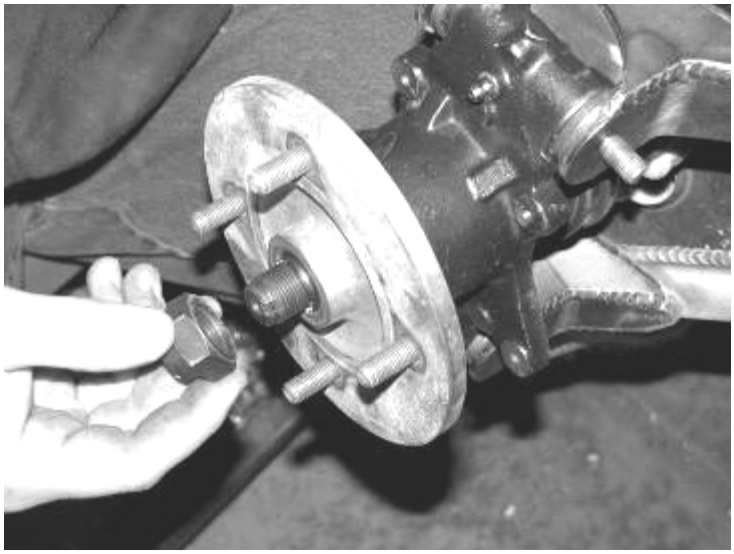




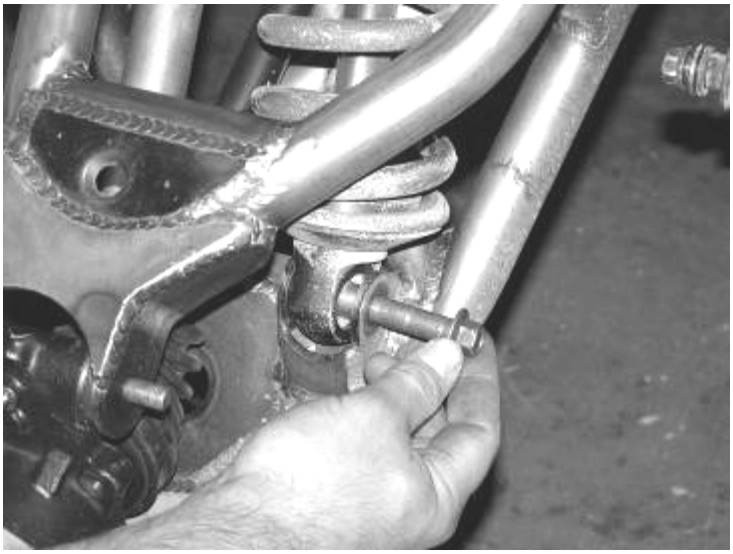


54. Locate and install the factory hub assembly onto the knuckle and axle shaft. Install the factory axle shaft nut and torque to 190 lbs. (use supplied thread-locking compound) Use a center punch and re-crimp the hub nut in the key way of the axle SEE PHOTOS BELOW AND IN NEXT COLUMN





55. Locate FTR60141 Rear Shock, provided shock mis-alignments, supplied (4) 7/16” washers, and the factory shock hardware. Insert the shorter mis-alignments into the heim on the bottom of the shock. Mount the bottom of the shock to the lower control arm mounts with the shock reservoir facing to the rear of the Rhino with the factory hardware with 2 of the supplied 7/16” washers. Insert the large mis-alignments into the top of the shock and mount into the stock upper mount with the factory hardware. (use supplied thread-locking compound) Torque the upper and lower shock bolts to 32lbs. SEE PHOTOS BELOW AND ON NEXT PAGE. SEE DIAGRAM ON LAST PAGE FOR PROPER MIS-ALIGNMENT LOCATIONS



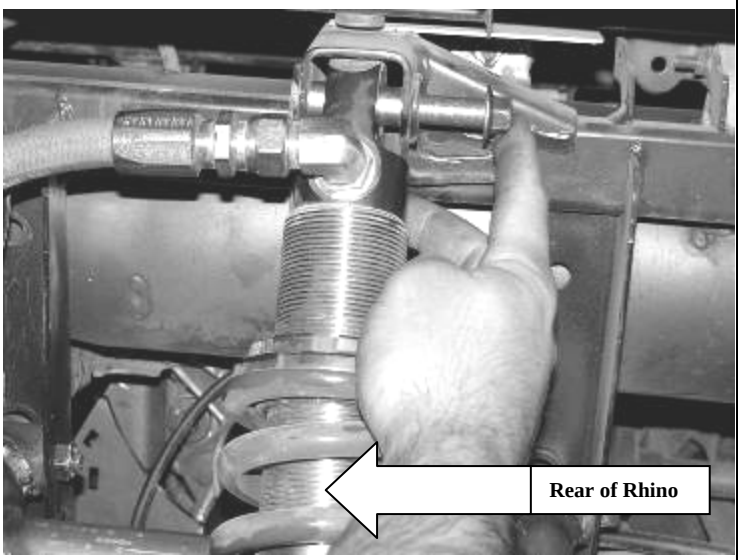


Photo of passenger rear

56. Locate FT83178 Rear Resi Mount Bracket and FT86013 Hardware kit that is provided with the rear shocks. **NOTE: some 2005 & 2006 model rhinos have a factory locating hole.** If your Rhino has this locating hole on the backside of the frame section just above where the rear upper control arm mounts to the frame, use a drill with a 5/16" drill bit and drill out to 5/16". Locate the supplied 5/16" hardware and attach the mount to the back of the frame and use a paint pen or center punch to mark the second hole. Remove the mount and drill the second hole in to the frame. Re-install the bracket to the **INSIDE** of the frame and attach with the supplied 5/16" hardware. If your Rhino **DOES NOT** have the factory locating hole, position the mount onto the backside of the frame section just above where the rear upper control arm mounts to the frame. With the mount on the back of the frame, hold the new bracket a ¼" below the upper frame rail and ¼" back of the inside of the frame section. Use a paint pen or center punch to mark the two holes onto the back of the frame. Use a drill with a 5/16" drill bit and drill out these two holes. Re-install the bracket to the **INSIDE** of the frame section and attach with the supplied 5/16" hardware. Torque to 20 lbs. SEE PHOTOS IN NEXT COLUMN

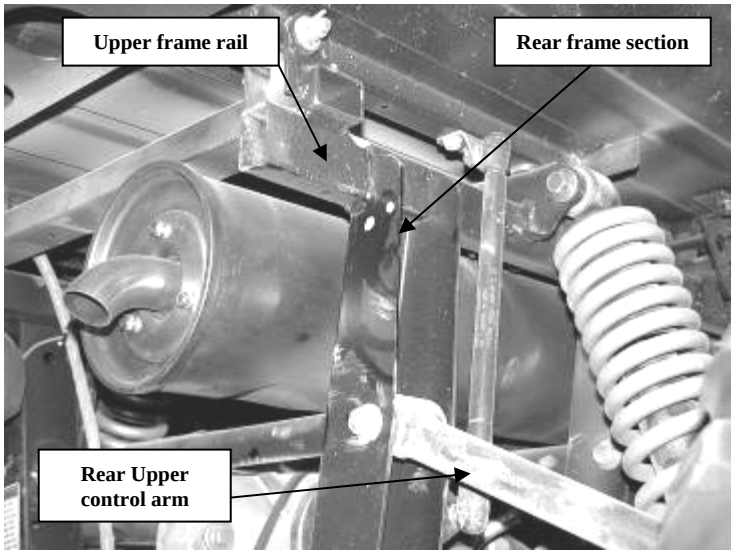


Photo of passenger rear

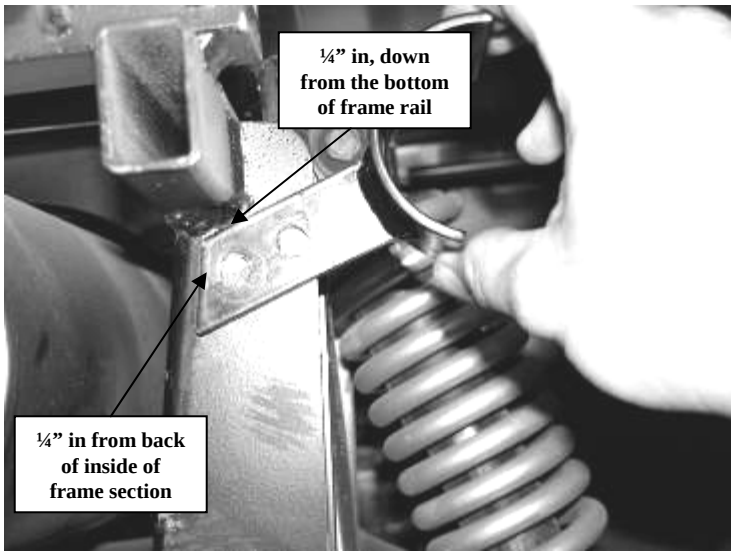


Photo of passenger rear

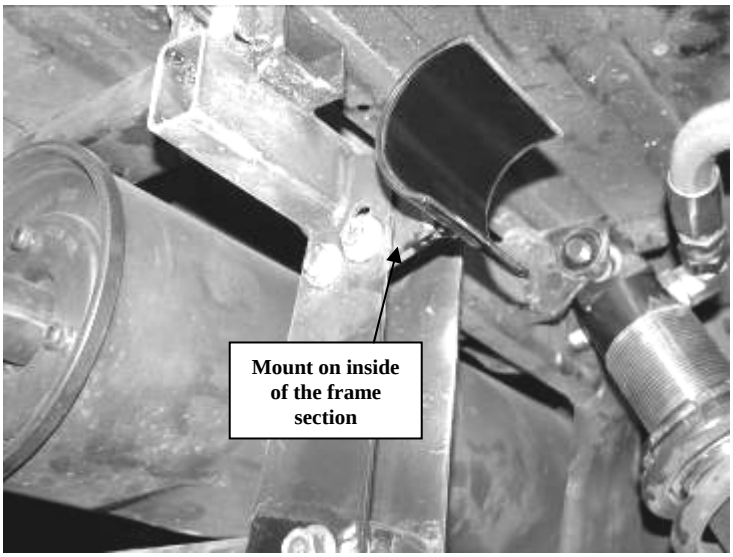


Photo of passenger rear

57. Locate FT89028 Hose Clamps and position the shock reservoir onto the new mount and attach with the new clamps. Do not over tighten the clamps. SEE PHOTOS BELOW

Photo of passenger rear

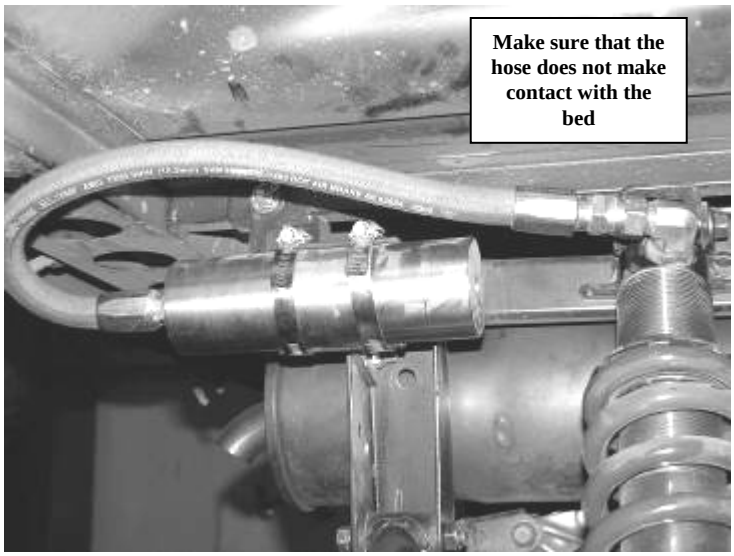


Photo of passenger rear

58. Rotate the rear sway bar to connect the end link to the tab on the new lower control arm using the factory hardware. Torque to 32 lbs. SEE PHOTOS IN NEXT COLUMN

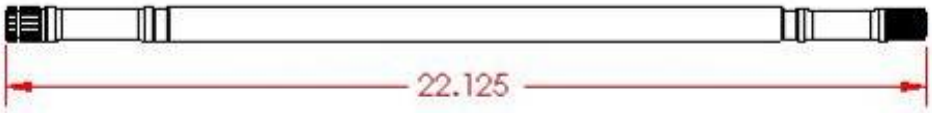
59. Repeat steps forty-nine through fifty-eight on the driver side.

60. Check the fluid in the front and rear differentials and fill if need with factory specification differential oil to the factory specified level.

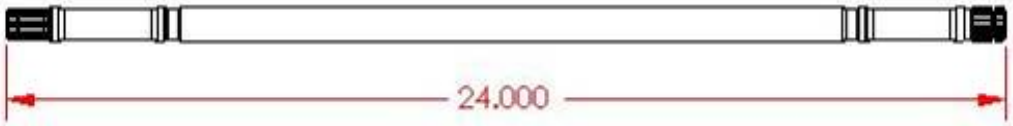
61. If installing optional rear differential support bracket, do so at this time.

62. Install tires and wheels and torque lug nuts to wheel manufacturer's specifications. Turn front tires left to right and check for appropriate tire clearance. Check the toe adjustment for the front tires and adjust as necessary. **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.** Adjust the ¾" heim and jam nut on front upper control arm if necessary. Apply thread-locking compound and tighten after final adjustment.

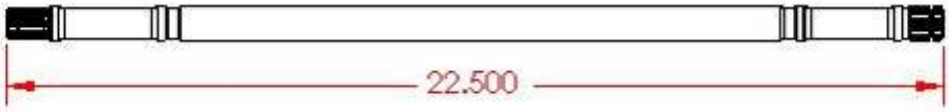
FT95012
DRIVER & PASSENGER FRONT AXLE

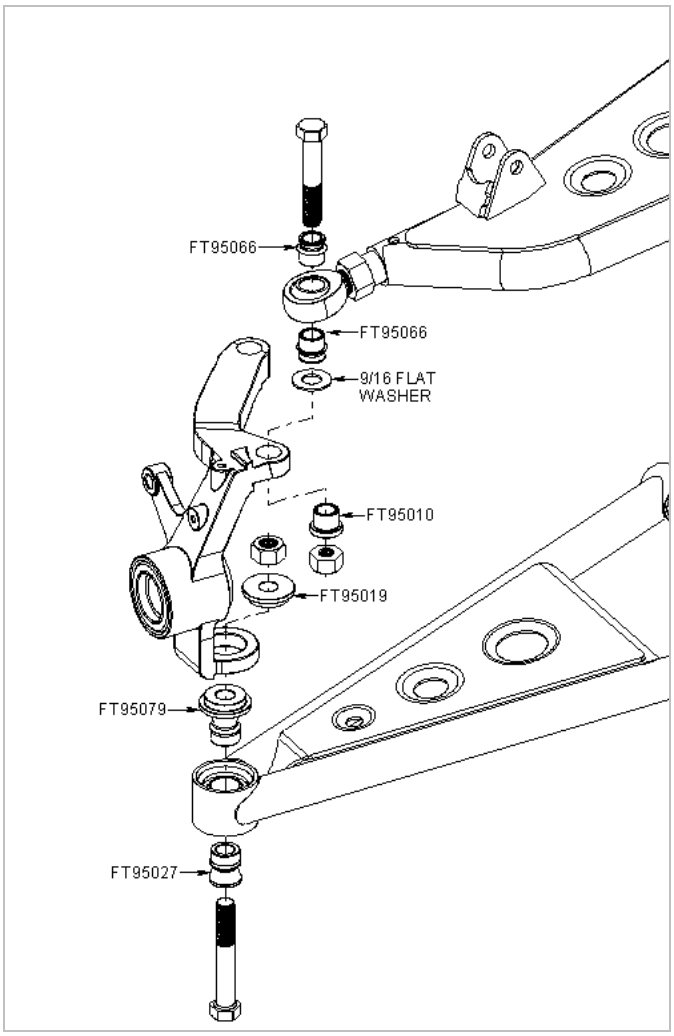


FT95013
PASSENGER REAR AXLE

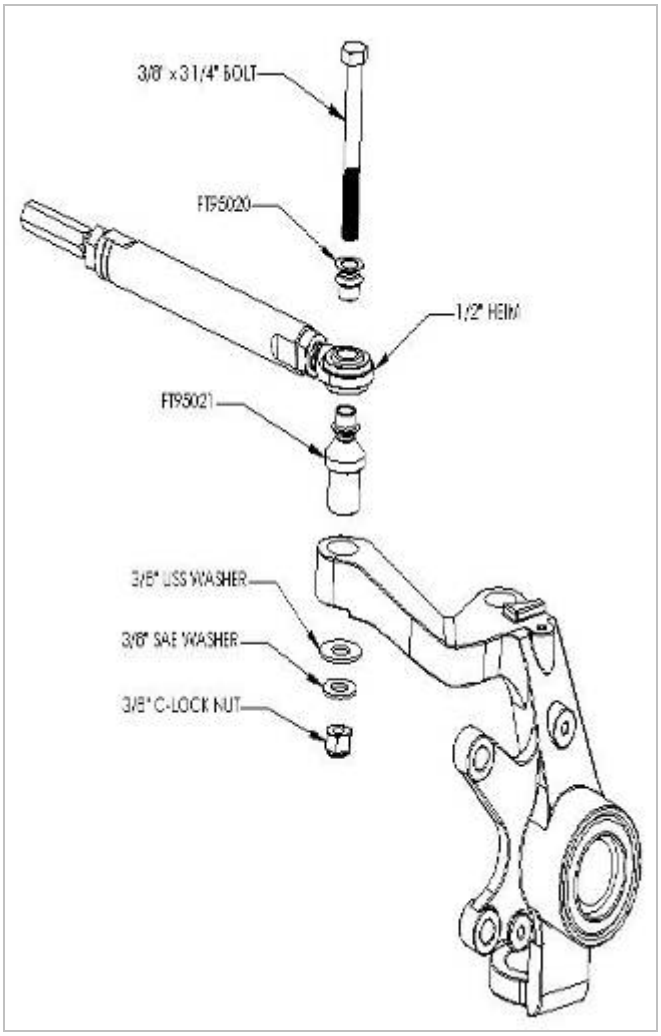


FT95014
DRIVER REAR AXLE

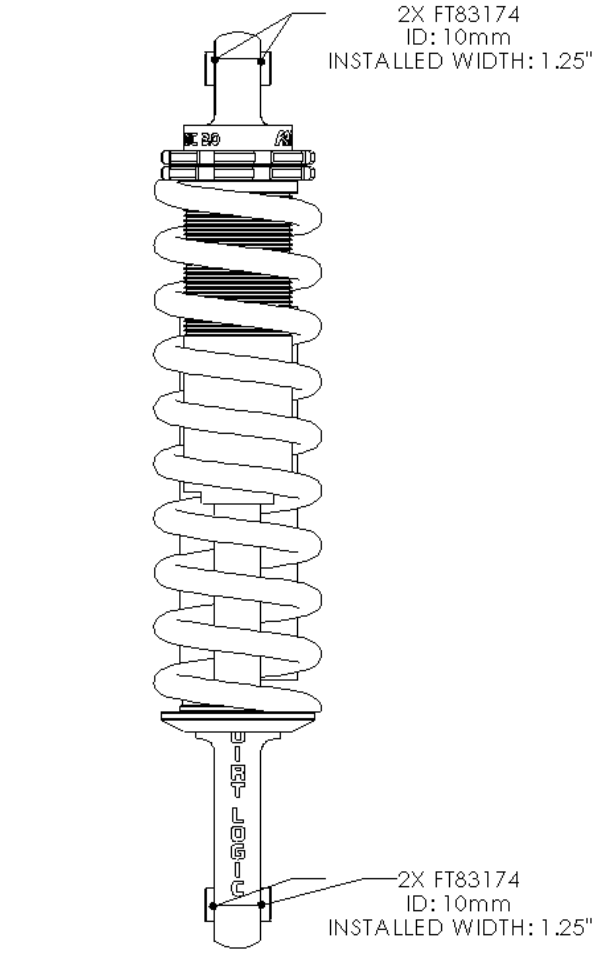




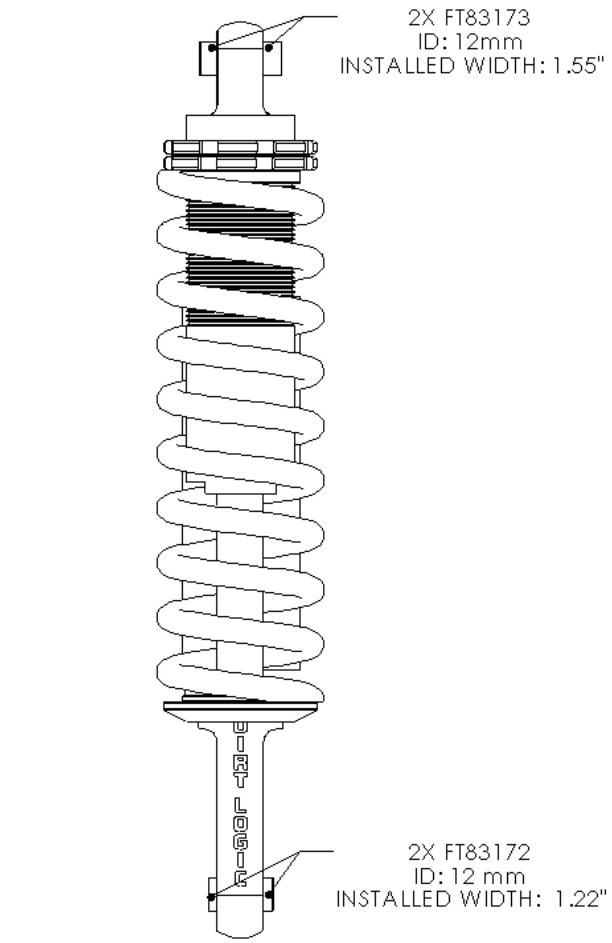
Upper and Lower Control Arm @ Knuckle



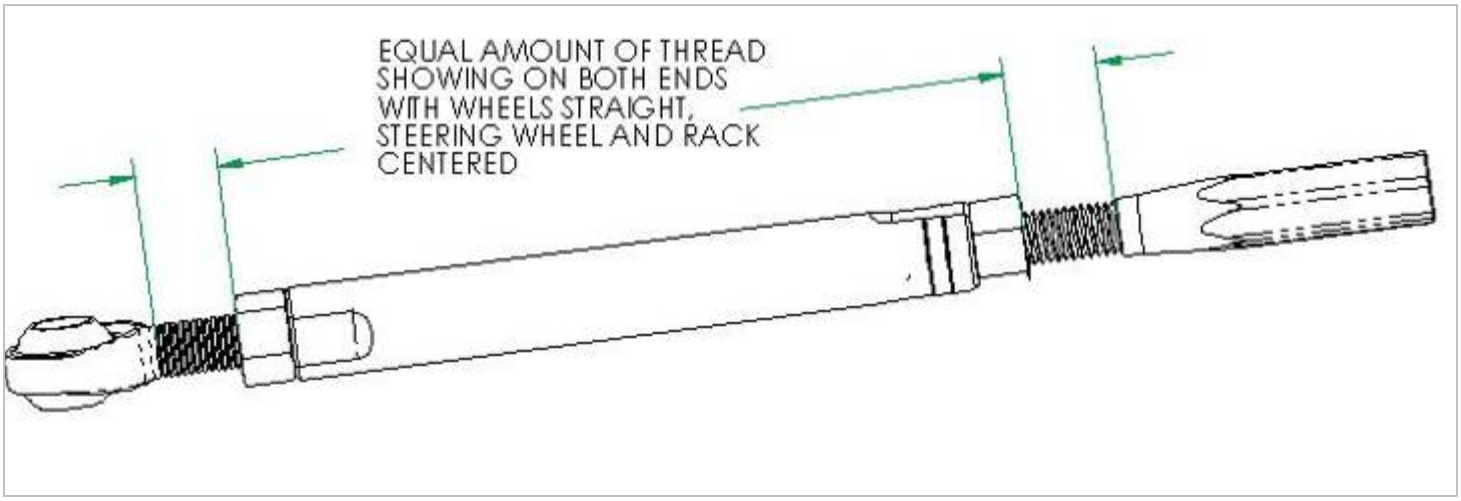
New Tie Rod Assembly @ Knuckle



FRONT RHINO OEM FTR60130 SHOCK SHOWN
(MISALIGNMENTS ARE SAME FOR FTR60136 RHINO LONG TRAVEL FRONT SHOCK)



REAR RHINO OEM FTR60133 SHOCK SHOWN
(MISALIGNMENTS ARE SAME FOR FTR60139 RHINO LONG TRAVEL REAR SHOCK)



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 manufacturer's production changes and/or inconstancies by the auto manufacturer, Fabtech cannot be responsible for 100% compatibility, including the fitment of tire and wheel sizes listed. The Tire and Wheel sizes listed 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.