

## INSTALLATION INSTRUCTIONS:

Dana 44 Disc Brake Conversion, 66-75 Broncos & 71-75 F-150

**PART #3730 Conversion Kit only**

**PART #3737 Conversion with Adjustable Tie Rod & Drag Link**

**NOTE:** Some items which are not included as part of the kit, but you may want to change or add at this time are shown on the last page.

### CONTENTS:

- 2 Knuckles (with studs & nuts)
- 2 Spindles (with roller bearings & seals)
- 2 Caliper mounting brackets
- 2 Disc brake rotors
- 2 Hubs (with bearing races & studs)
- 2 Caliper assembly and brake pads (with wedges & springs)
- 2 Brake hoses with washers
- 2 Caliper to Hose Banjo Bolt
- 2 Tapered Bushings

Please read all instructions before beginning.

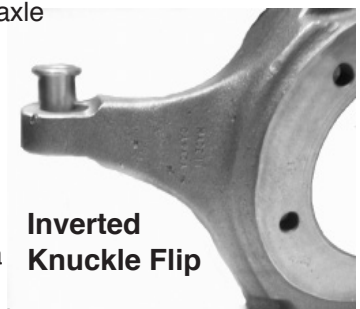
**Note:** Our knuckles are now machined 3/4" straight through. This allows the use of bolts for Heim Joint Steering Systems. We have included tapered bushings for standard tie rod ends. Using a rubber mallet, tap the enclosed bushings into the steering arms in the desired position as shown until the hat part of the bushing is seated. They can be pressed out later if you change your steering setup.

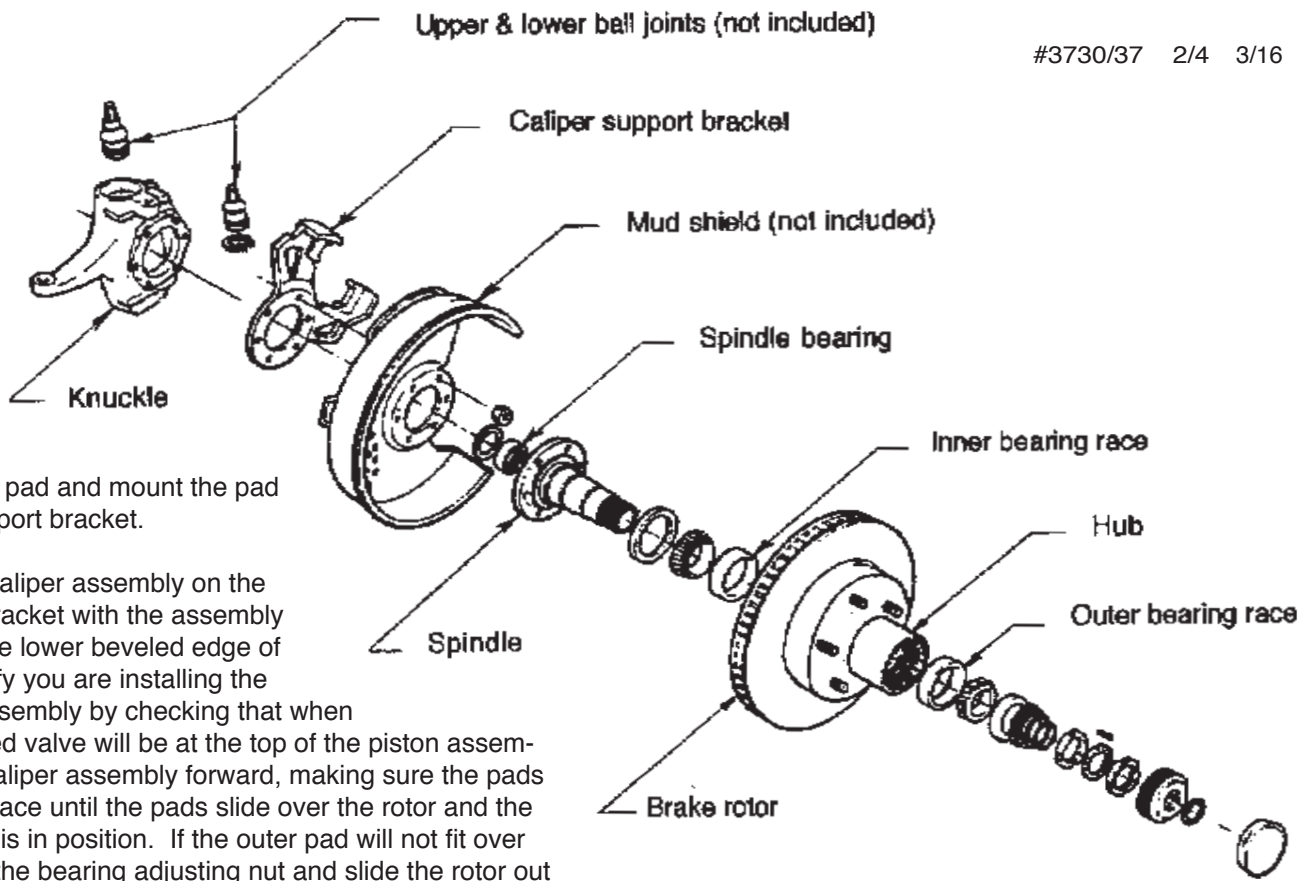
1. Raise the vehicle and support it on jack stands.
2. Remove the front wheels.
3. Remove hub, drum, backing plate, spindle and flexible brake lines. Plug the remaining brake line to prevent fluid loss.
4. Disconnect the tie rod from the steering knuckles.
5. Remove the top & bottom ball joint retainer nuts and remove the steering knuckle from the axle yoke.
6. If you wish to reuse your existing ball joints, we recommend taking the knuckles to a reputable machine shop and have the ball joints pressed out of the old knuckles and installed in the new ones. NOTE: This is the time to replace the ball joints, if needed.
7. With the ball joints installed in the knuckle, position the assembly on to the axle yoke and install the upper and lower ball joint retaining nuts. If you are reusing your old ball joints use a new lower ball joint nut. It is self locking and should be replaced after every use. Torque the lower ball joint to 70-90 ft. lbs. and the upper to 100 ft lbs. Be sure to install a new split pin in the upper ball joint nut.
8. Install the caliper mounting bracket and mud shield, if so equipped. These are marked "right" and "left" to avoid confusion. Remember, "left" is the driver side.
9. Verify that the spindle bearing and seal are properly greased, set the spindle in place on the knuckle studs and tighten the stud nuts to 50-60 ft. lbs.
10. Install the wheel studs through the back of the rotor and into the hub. You may want have your local parts store or machine shop do this step for you.
11. Grease the new wheel bearings (not included). Install the rear bearing and new seal into the hub. Carefully install the hub/rotor assembly on to the spindle along with the outer wheel bearing.
12. Using a hub tool (#5900) install the bearing adjusting nut, leave nut finger tight for now.



865.938.6696 www.dufftuff.com  
6609 Bronco Lane  
Knoxville, TN 37921

1/4 3/16





13. Install the anti-rattle clip on the rear brake pad and mount the pad in the caliper support bracket.

14. Position the caliper assembly on the caliper support bracket with the assembly resting against the lower beveled edge of the bracket. Verify you are installing the correct caliper assembly by checking that when installed, the bleed valve will be at the top of the piston assembly. Rotate the caliper assembly forward, making sure the pads and clip stay in place until the pads slide over the rotor and the caliper assembly is in position. If the outer pad will not fit over the rotor, loosen the bearing adjusting nut and slide the rotor out until the pad will clear the rotor and retighten the bearing adjusting nut.

15. With the caliper assembly in position, use a screwdriver to hold the caliper against the upper caliper anchor plate. Put the caliper retaining spring and key in place and carefully tap them into position and install the caliper retaining bolt.

16. Torque the bearing adjusting nut to 50 ft lbs., while rotating the wheel back and forth to seat the bearings.

17. Back off the adjusting nut approximately 90° and install the lock ring and dowel pin. Note: The dowel pin must seat in a lock ring hole for proper bearing adjustment and wheel retention.

18. Install the outer lock nut and tighten to 50-80 ft lbs.

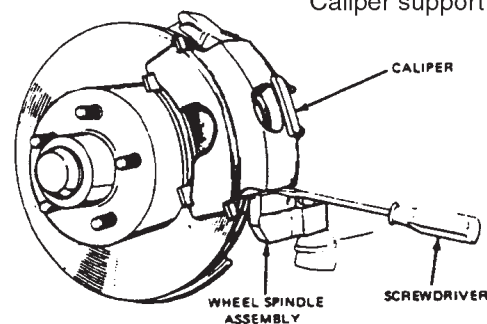
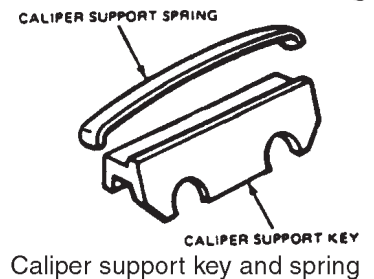
19. Install the new brake hoses. Be sure to install a copper washer on each side of the banjo fitting.

20. Bleed the brakes either manually or with a pressure bleeder. Make sure that the bleeder valve on the proportioning valve is held open to allow flow to the front brakes during the bleeding operation.

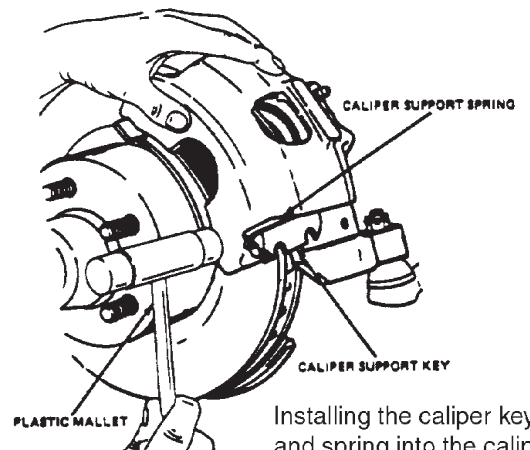
21. **If reinstalling stock steering, reattach your tie rod, install the locking hubs and wheels, do step 22 then skip to step 31. If installing our Inverted Tie Rod & Drag Link flip kit, install locking hubs and wheels and continue on. If installing our Heim Joint Steering System #5640, do step 22, then refer to those instructions.**

22. Rotate the steering wheel from lock to lock to verify that the tires/wheels don't make contact with the radius arms. If they do, adjust the wheel stops outward on each knuckle.

23. Remove the stock track bar castle nut and discard. Install the 3/4" NF Lock nut and torque to 155-205 ft-lbs. NOTE: Do not reuse this nut,



Prying on the caliper assembly to ease support key installation



Installing the caliper key and spring into the caliper

if removed for any reason, replace with a new one. Cut all remaining threads off that are sticking out past the lock nut.

24. Install the new double adjustable tie-rod so that the passenger side outer tie rod end (the side with the hole near the end for the drag link) is threaded all the way into the adjustment sleeve and the inner tie rod is threaded all the way into the sleeve on the passenger side. The two ends should be just shy of touching at the ends. The studs on the tie rod should point down through the knuckle and not up like stock. Install the cotter pins and grease fittings. Torque the castle nuts to 50-75 ft-lbs.

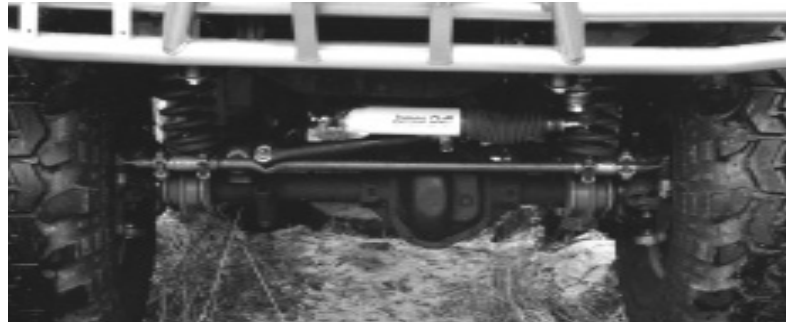


25. Thread the driver side end of the inner Tie-Rod into the other adjustment sleeve so that at least 1" of thread is engaged into the sleeve. Do the same with the driver side tie rod. Adjust the driver side adjustment sleeve to set the proper toe-in of approximately 1/8".

26. Center the steering wheel, pitman arm and tires. Measure the distance from the center of the pitman arm hole to the center of the hole in the tie rod.

27. Assemble the adjustable Drag link so that there is a minimum of 1" engagement of the thread into the adjusting sleeve for each side and so that the center-to-center measurement on the studs matches the measurement in step 25 above. Install the new drag link so that the end with the hole near the end is at the pitman arm. Install the new castle nuts, cotter pins and grease fittings. Torque the castle nuts to 50-75 ft-lbs. The flat spot and hole in the Drag Link end is where the steering stabilizer bracket should be positioned. Depending on the stabilizer bracket it may be necessary to slightly modify the bracket so that the u-bolt clamps fit in this location.

28. Cycle the steering left to right. **It is absolutely necessary to make sure that the Drag link end on the tie rod clears the Track Bar nut/bolt.** It may be necessary to trim any excess threads on the Drag Link stud off in order to properly clear the Track Bar nut/bolt. Adjust where necessary in order for these items to fully clear each other. Failure to properly adjust can result in the two contacting each other with possible steering lock up resulting. NOTE: If the vehicle is equipped with shocks mounted in front of the coil springs then the lower shock mount will need ground back or relocated to clear the new Tie-Rod position. A 4" Grinder works well for clearancing the shock mount. If using a torch to remove material from the shock mount be careful not to heat the C bushing inside the C cap.



29. Once the toe-in is adjusted properly and the Drag Link is adjusted so that the steering wheel is centered, cycle the steering left to right and set the steering stops on the knuckles. It is important to set the steering stops so that the tires do not rub any other components during turning. Torque the adjusting sleeve clamp bolts on the Tie-Rod and Drag Link to 30-42 ft-lbs.

30. Inspect the angle of the Drag link in relation to the angle on the Track Bar. These should be as close to Parallel to each other as possible in order to minimize bump steer characteristics. Depending on the vehicle and the particular modifications done to the vehicle it may be necessary to use a drop pitman arm to get the angles correct. It also may be necessary to use a stock pitman arm if the vehicle is currently equipped with a dropped arm. It will all depend on the individual vehicle and the particular modifications done to it. If pitman arm replacement is necessary readjust the Drag Link to center the steering wheel.

31. Remove the jack stands and lower the vehicle to the ground.

32. Press the brake pedal several times before you attempt to drive it. It will take several strokes of the brakes to bring the pads into contact with the rotor.

33. Take the vehicle for a slow test drive and make the first several stops gentle ones to seat the brake pads. While driving slow turn all the way from left to right making sure that everything turns smoothly and freely. Drive immediately to an alignment shop and have the alignment checked and adjusted as necessary.

34. Inspect and check all fasteners, the condition of the components and clearances every 500 miles and after every off road excursion.

### LIMITED WARRANTY

James Duff Inc. warrants our products to the original purchaser to be free from defects in materials and workmanship. Warranty periods begin at the date of purchase and varies by product. Shocks have a limited lifetime warranty. Headers, Radiators and Suspension Products, Power Brake Boosters and Master Cylinders have a one year warranty. Adapters and soft goods such as Canvas tops, upholstery, vinyl and rubber products have a 90 day warranty. All warranties are to the original purchaser with proof of purchase only. Such obligations under this warranty shall be limited to the repair or replacement, at JDI's discretion, of any assembly or part which upon examination by JDI proves to be defective. Any costs of removal, installation, reinstallation or freight charges are expressly excluded from this warranty. This warranty covers only manufacturers defects, and does not cover product finish or damage resulting from abuse, misuse, negligence, racing, alteration, accident or damage in transit.

All returns must be pre-authorized by JDEI and accompanied with a Return Goods Authorization Number (RGA) and a dated proof of purchase. Returns must be shipped prepaid within 90 days of purchase, packaged in original cartons to prevent damage in shipment and sent to JDI, 6609 Bronco Lane, Knoxville, TN 37921 Returns without an RGA# will be refused.

This warranty is expressly in lieu of all other warranties, expressed or implied, including the implied warranties of merchantability and fitness for use. This warranty gives you specific legal rights including other rights that vary from state to state. Some states do not allow limitations on how long an implied warranty lasts, or do not allow the exclusion of limitation of incidental or consequential damages, so the above limitations and/or exclusions may not apply to you.

### SUSPENSION PRODUCT INFORMATION

Modifying your vehicle with JDI products to improve off road performance may result in the vehicle handling differently than a factory equipped vehicle. Taller tires will cause the vehicle's speedometer to read slow, so recalibration is required. Use of oversize tires, suspension lifts, body lifts, and other modifications may raise your vehicle's center of gravity, resulting in an increased tendency for the vehicle to pitch and roll during sudden turns or abrupt maneuvering. Failure to drive with extreme care to prevent loss of control or vehicle roll over may result in injury or death. Drive at a reduced speed to ensure your ability to maintain control of the vehicle under all driving conditions. We recommend installing functional roll bars and cages as well as double shocking all vehicles for more safety and stability on or off road. Always wear seat belts when in a vehicle. Consult your owners manual for recommended tire sizes, safety instruction and warnings unique to your vehicle. It is your responsibility to check state and local laws restricting vehicle height to ensure that modifications to your vehicle are legal.

**NOTE: Some items which are not included as part of the kit, but which you may want to change or add at this time are:**



### Balljoints

Better than OEM joints, these are splined to prevent spinning. Includes upper & lower for 1 side. #3825



### Wheel Bearings & Seal Kit

High Quality Bearings and races with a premium wheel seal. Each kit includes an inner and outer bearing with races and an inner wheel seal. One kit needed per side. #3840 Dana 44 with Ball joints (70.5-79)

### Hub Tool

Keep this item in your tool box at all times! It is necessary for front bearing, brake or inner axle shaft work. Don't let anyone use a chisel and screwdriver on your lock nuts as this not only damages them but guarantees and improperly torqued wheel bearing. This can lead to bearing failure or even the whole hub, rotor, tire and wheel coming off! Uses 1/2" drive. Works on Dana 30, 44 and Warn Full Floaters. #5900



### Power Brake Booster Kit

Specifically designed for the Early Bronco, our system brings the Broncos hydraulic brake system up to modern standards. This Premium 8" Vacuum brake booster provides better power brakes without denting the inner fender well! This brand new (not rebuilt) booster is cadmium plated for superior corrosion resistance and long lasting good looks. Even the master cylinder cap is Cadmium plated! Uses same booster bracket as our #3700 kit, designed just like OEM for optimum reliability and linkage alignment. We've included everything you'll need except the brake fluid, even a pair of hoses to go between the master cylinder and the proportioning valve or block valve. Stainless Steel Braid Hoses feature a smaller inner diameter over stock rubber hoses and won't swell- which means increased performance and improved brake feel. Plus there is NO fabricating brake lines to make it all work! 1 1/8" bore master cylinder for disc/drum or disc/disc set ups. #3707



### Proportioning Valve

Necessary for stock Discs or our Kit. This valve distributes pressure properly to the front and rear brakes depending on your rear setup.

#3746 Rear Drum  
#3747 Rear Disc

### Adjustable

### Proportioning Valve

Works great for front Disc/Drum or Disc/Disc applications. Helps eliminate premature rear wheel lock up. Easy turn dial means near infinite ability to fine-tune the front to rear brake bias. #3745



### Warn Hubs

If you're tired of your stock Ford hubs with worn out springs and collars, these make a quick and worthwhile replacement to end hassles. Alloy housing and internal wave spring ensure quality. Choose standard hub with plastic dial or the Premium Hub with Brass plated Aluminum dial.

#5905 Standard Hub  
#5910 Premium Hub

