



TOMS OFFROAD

Dana 30 & 44 Disc Brake Conversion Instructions

Please read entire set of instructions before beginning installation.



Scan for Video
Instructions

Recommended Specialty Tools for Installation:

#3220 Spindle Nut Socket & #3488 Spindle Removal Tool

NOTE: Grinding on the knuckles is required for clearance between the caliper support/backing plate and the steering knuckle. See the attached diagram for details.

Disassembly:

Jack up the Bronco front axle and place it on jack stands. Remove the tires and wheels.

Remove the lockout hubs. **NOTE: The factory locking hubs will not work with this kit. You must use aftermarket locking hubs such as Warn or Milemarker.** If you are installing new aftermarket hubs, the original factory hubs may be discarded (everything from the lockout cap to the spring and retainer plate)

Using a Spindle Nut Socket (part #3220, sold separately), remove the large spindle nuts inside the hub assembly. With these nuts removed, you can now remove the factory drum brake hubs and drums. Retain the spindle nuts for re-assembly. The hub & drum assembly will not be re-used.

Disconnect the flexible brake lines from the backing plates. Drain brake fluid in a can or jar for proper disposal, and remove flexible brake lines.

Remove the 6 bolts that hold the spindle and backing plate to each knuckle. Remove the backing plates and spindles. **NOTE: The spindle will be very difficult to remove, and may need “persuading” with a rubber mallet and/or brass hammer.**

Remove the axle shafts.

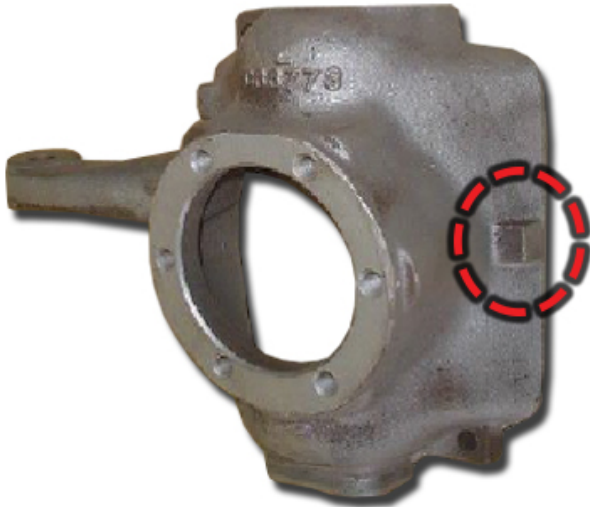
Using a vacuum cleaner, suck any dirt or debris out of the axle tubes.

..... PROCEED TO KNUCKLE GRINDING

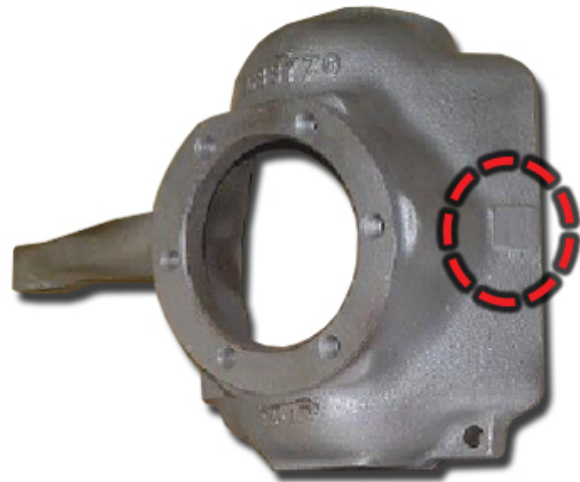
KNUCKLE GRINDING:

If using your old steering knuckles, grind the back side of each knuckle flat as shown in the provided diagram. This is necessary for clearance of the caliper when it is installed.

**DANA 30 KNUCKLE
BEFORE**



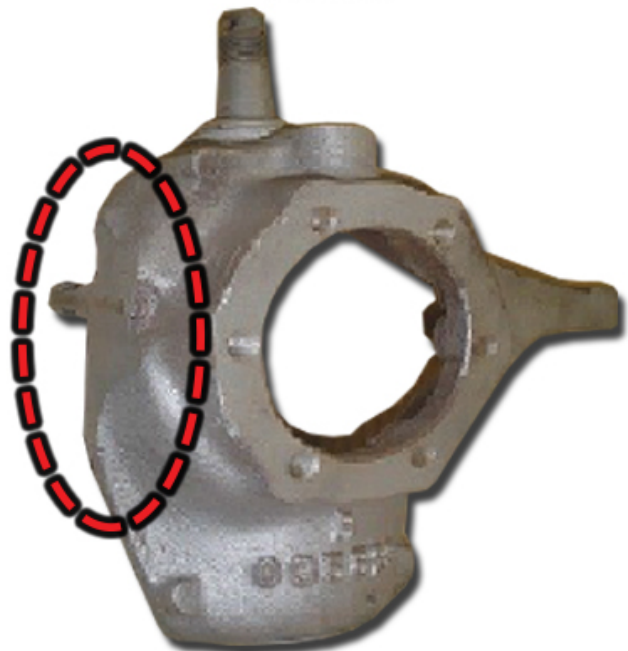
**DANA 30 KNUCKLE
AFTER**



**DANA 44 KNUCKLE
BEFORE**



**DANA 44 KNUCKLE
AFTER**



Installation:

With your steering knuckles properly ground for clearance of the calipers, you may proceed with installation of your new Tom's Bronco Parts Disc Brake Conversion Kit.

1. Reinstall Axle Shafts: Coat the inner axle shaft seal surface with grease or heavy oil to protect the inner axle tube seal from damage and install the axle shafts.

NOTE: If you haven't already done so, this would be a good time to replace the axle shaft u-joints (Part # 3205). If your old u-joints are rusted to the axle shafts, you may want to cut them out with a torch. If you bend the yokes, you will need to replace the axles.

With new u-joints installed (recommended) and inner axle shaft seal surface greased, re-install the axles into the housing so that they are seated in the carrier.

2. Install Spindle & Backing Plate: To install the spindle, first mount the Spindle Bellow Seal (*as shown in Figure 2 found in the "Installation Images" attachment*). Then install the Spindle Thrust Washer (*Figure 3*).

NOTE for Dana 30 Installation:

For Dana 30 Installation, you will need a **Dana 30 Spindle Seal** which will be used **IN PLACE OF the Spindle Bellow Seal**. Install the Bearing Seal, Thrust Washer and Spindle Seal into the back of the spindle (*See Figure 17 & 18*). This will require you to check if your outer stub axles have slingers or not so that you can order the correct spindle seals (*Figure 15 & 16*)

You will then need to install the Spindle Bearing Seal into the back of the spindle (*Figure 4 & 5*). With the spindle bearings & seals properly installed, you may now install the spindle (inboard) onto the axle shaft (*Figure 6 & 7*). Now mount the Caliper Support Plate to the steering knuckle with the caliper clearance cutout facing to the rear of the vehicle (*Figure 8 & 9*). Using the six grade 8 bolts and lock washers provided, secure the backing plate and spindle to the steering knuckle. Torque the bolts to 35-45 ft-lbs.

Now, check for clearance between the caliper support and the knuckle. If the knuckle is in contact with the caliper support, relieve the knuckle for clearance (*normally on the casting # area*).

3. Install Hub & Rotor: Prior to bearing installation, verify that the races are fully seated into the wheel bearing hub, then pack your wheel bearings with grease. With the inner wheel bearing well packed, install it into the back side of the hub assembly. Now install the provided hub seal into the back side of the hub using a soft rubber mallet, taking care not to bend the metal lip of the seal. Grease the seal. Now, slide the hub and rotor assembly over the spindle (*Figure 10*). With the Hub & Rotor Assembly in place, insert the well packed outer wheel bearing and then retain it with the spindle lock nuts using a Spindle Nut Socket (*Part #3220, sold separately*). To properly seat the bearings, torque the spindle adjusting nut to 50 ft-lb while rotating the wheel back and forth to seat the bearings. Back off the nut and retorque to 30-35 ft-lb. Then back off the adjusting nut approximately 90 degrees. Assemble the lock ring by turning the nut to the nearest hole and inserting the dowel pin. **NOTE: The dowel pin must seat in a lock ring hole for proper bearing adjustment and wheel retention.** Install the outer lock nut and tighten to 50-80 ft-lb. Final end play of the wheel on the spindle should be 0.001 to 0.010 inch. The goal when installing the spindle nuts is to ensure the bearings are properly seated

and that when installed, the hub & rotor spins by hand but not too loosely (should have a bit of a drag to it).

4. Install Locking Hubs: As a reminder, you **MUST** use aftermarket locking hubs with this conversion kit. Referring to the manufacturer instructions for your locking hubs, install them into the hub assembly. **NOTE: The SMALL snap ring that mounts to the end of the axle shaft is NOT used for installation. DISREGARD the SMALL snap ring that normally mounts on the end of the axle shaft.**

5. Install Caliper & Brake Pad Assembly: Install the loaded caliper assembly to the caliper support with the bleeder pointing UP and toward the center of the housing (*Figure 11 & 12*). Make sure there is at least 1/8" clearance between the caliper and the knuckle, grinding more on the knuckle if necessary for proper clearance. (*Figure 13*) Torque the caliper bolts to 45 ft-lbs. Attach the flexible stainless brake hose to the hard line at the axle. Attach the brake hose to the caliper using the provided banjo bolt. Tighten all fittings at this time. The brake line should point up from its mounting point at the caliper. (*Figure 14*)

6. Final Steps: Bleed the front brakes, starting with passenger side, to remove all air from the brake system. Mount your wheels and tires torquing to your wheels specs, and carefully road test.

NOTE: You will not use the small outer 1" snap ring when installing the Locking Hubs.

Packing List:

2 x Hub & Rotor Assembly
2 x Hub Seal #4250
2 x Spindle w/Bearing & Seal Kit
Spindle Bolts
2 x Caliper w/Pads
2 x Caliper Support Backing Plates

TIPS for Maximizing the Potential of your New Front Disc Brake Conversion

- 1. When converting from drum brakes to front disc brakes or 4-wheel disc brakes, the factory drum brake H-block junction should be replaced with a Front Disc Brake Proportioning Valve or a 4-wheel Disc Brake Proportioning Valve.**
- 2. It is HIGHLY recommended when installing front disc brakes that you also install a Power Brake Conversion to fully utilize the new disc brake conversion. This provides better stopping power and also replaces your drum brake master cylinder with a properly bored disc brake master cylinder.**

Installation Images



Figure 1: Grinding of Dana 44 Drum Brake Knuckle for Caliper Clearance

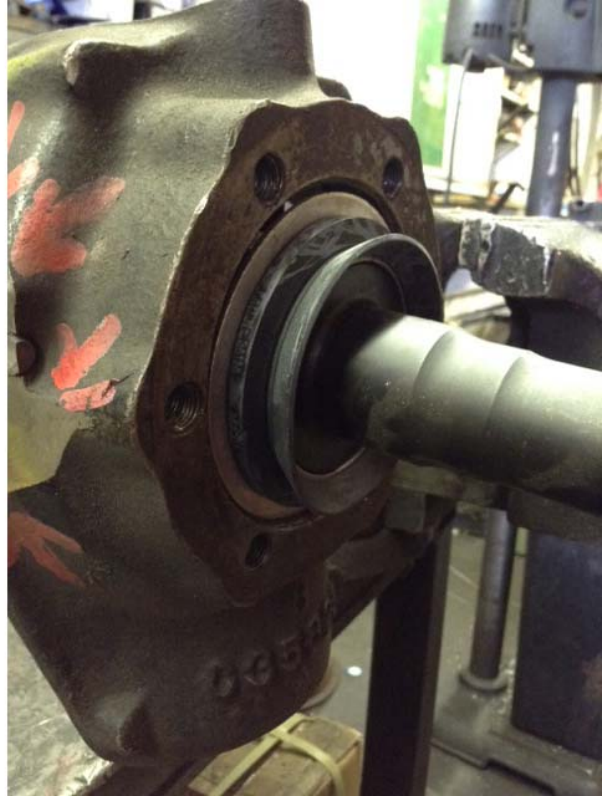


Figure 2: Installation of Spindle Bellow Seal



Figure 3: Installation of Thrust Washer (Inner Taper Facing Toward Knuckle)



Figure 4: Installation of Spindle Bearing Cup Seal

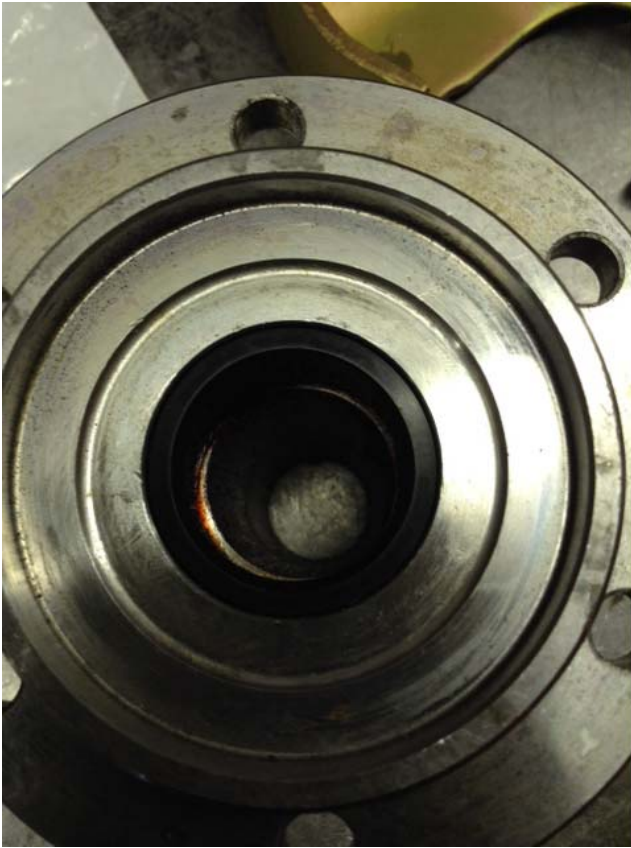


Figure 5: Spindle Bearing Cup Seal Installed



Figure 6: Spindle Assembly Going Together

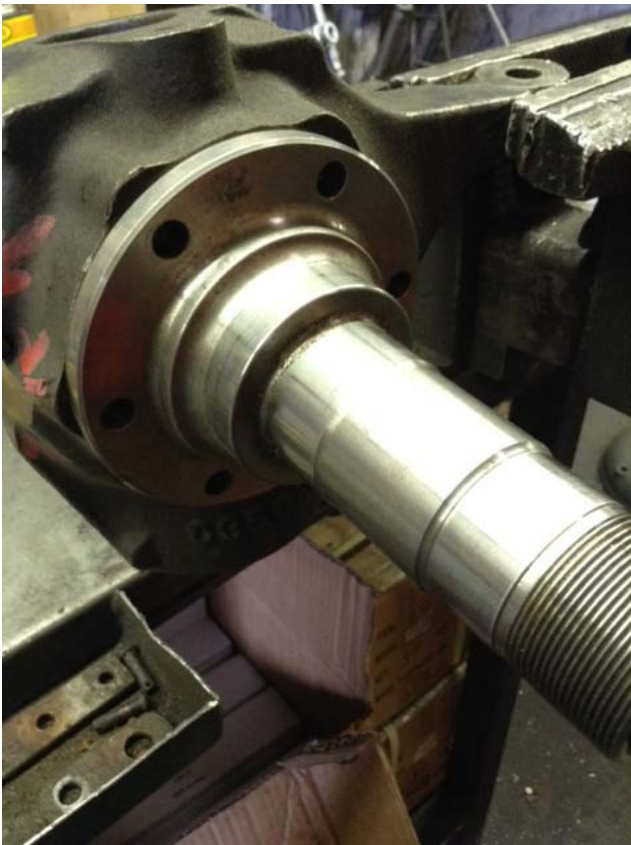


Figure 7: Installation of Spindle



Figure 8: Installation of Backing Plate



Figure 9: Installation of Backing Plate – Side View

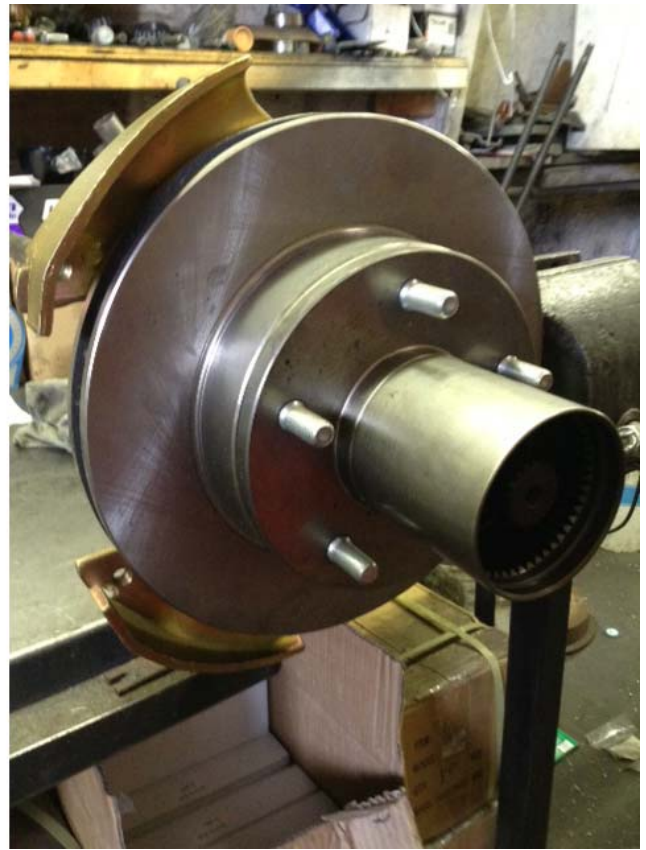


Figure 10: Installation of Hub & Rotor



Figure 11: Installation of Disc Brake Caliper



Figure 12: Installation of Caliper Bleeder Screw UP



Figure 13: Caliper to Knuckle Clearance
1/8" Minimum Clearance



Figure 14: Brake Hose Installation – LINE UP

**Thank you for choosing Tom's
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Dana 30 Installation Images



Figure 15. Dana 30 Axle w/Slinger



Figure 16: Dana 30 Axle w/o Slinger



Figure 17: Dana 30 Spindle Seal



Figure 18: Spindle Installation w/D30 Spindle Seal (Pound Seal Flush)