JT Outfitters Front Disc Brake Conversion
INSTALLATION GUIDE

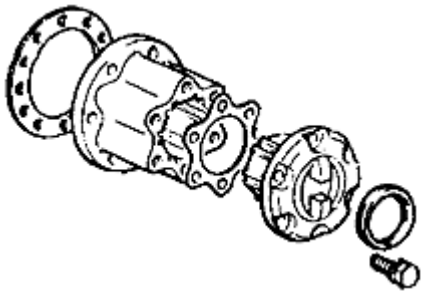
THIS KIT IS FOR THE FOLLOWING APPLICATIONS:
Land Cruiser FJ40/55 8/70 to 9/75

Before installation or disassembling any parts, please read this guide thoroughly. If you have any questions please call at 1 (336) 591-1108.

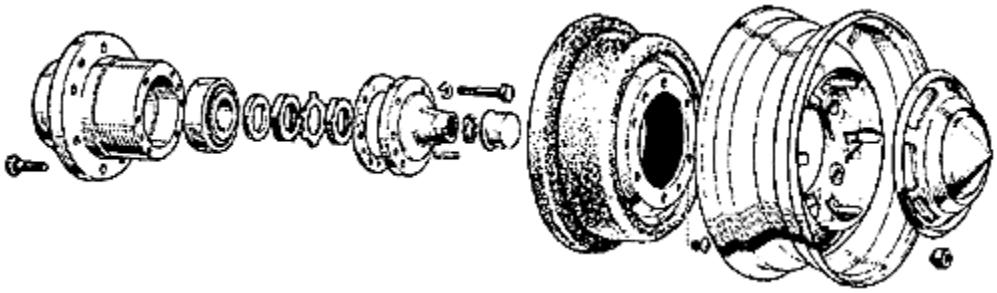
Thank you for purchasing a JT Outfitter's front disc brake conversion kit. This conversion kit will allow you to remove and replace your old, inadequate drum brake set with a superior disc brake set. This conversion was designed for use on 8/70 to 9/75 FJ40 or 55 (may work on early years but brake line fits are different and you will need a dual circuit hydraulic system).

This kit was designed and sold for Off-Road Use Only. It was not designed or tested for on road use. This instruction set will cover doing one side, simply repeat for the other.

Step A : Removal of Current Brake Components



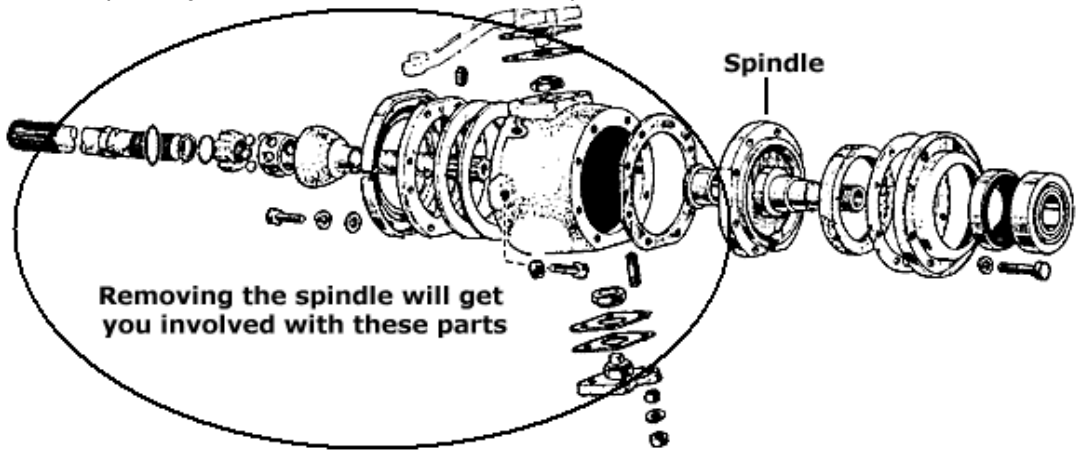
1. Disconnect positive terminal on battery. Jack up front end and secure, remove front wheels.
2. Remove front locking hub cover or drive plate cap. This will allow access to your axle snap ring. This will be removed but will be reused. Snap ring pliers work best here.
3. Remove brake drum. This drum may be difficult if shoes are tightly adjusted. Backing off the wheel cylinder will relieve this.
4. Remove hub body or drive plate. This will allow you to see and remove the axle nuts. You will bend locking tab washer up and remove both nuts and retain for later use. The hub will slide off now.



5. You should at this point have a bare spindle and backing plate showing. This is where finesse and mechanical skills are a little higher. The spindle bolts are interconnected with a wire that runs through the head. You will cut this wire and remove it. The backing plate

contains the wheel cylinders. They are still connected to the brake line. Remove the flexible brake line that connects at the end of the axle housing.

6. The backing plate is next to come off. This requires a gentle hand. There are 8 12mm bolts that connect it to the knuckle housing. Remove them making sure NOT to bump or disturb the spindle. If you do, you will have to repacked the steering knuckle (this is a very messy job). For most, leaving the spindle in place will prevent you from exhausting your mechanical skill. The backing plate should be loose and come off. Once it does, remove it, and temporarily install two bolts back in the spindle.



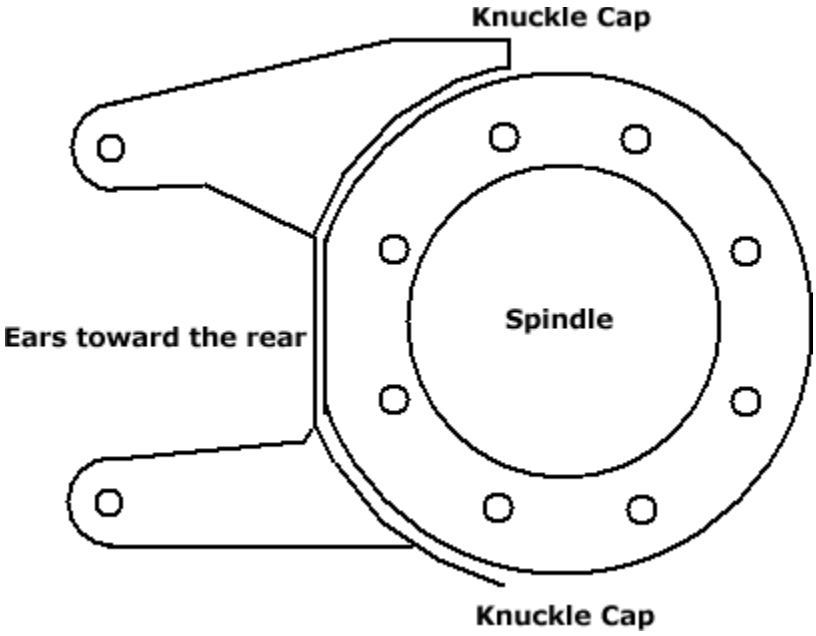
7. Looking straight on at the knuckle housing. At the 9 o'clock position on the back side is an axle housing steering bump stop. It will need to be removed. Not to worry, there is one on the front as well, leave it in place. It is a 17mm jam nut with a 14mm bolt. It will not be used after the conversion.

8. Clean the knuckle housing as much as possible. Years of mud and grease will cause a build up and may affect how component fit and move.

Step B : Installation of Disc Brake Components

1. Identify parts; from the kits you will need the replacement backing plate bracket, rotors, loaded caliper, 8 bolts / lock washers and brake hose. The old parts you will keep are the hub, c-clip, axle nuts, axle nut washer, wheel bearings, locking hub or drive plate.

2. Placement of the bracket is essential to proper function. The bracket has two ears that will point towards the rear of the vehicle. They are offset; they should be installed so that the offset is toward the engine. Once again looking straight at the spindle, the ears should point toward 8 and 10 o'clock.



3. Remove temporary spindle bolts, once again do not remove spindle. The bracket will go on now. This should be fairly straightforward because the bolts holes will line up. If they do not, you have it on wrong, readjust the position.

4. Install the 8 spindle bolts with lock washers supplied in the kit. Tighten in an alternating pattern. These bolts should be tighten to 25 ft/lbs.

5. Reinstall hub in side of rotor. The hub and studs should stick through. There is a possibility that rotor may not fully seat. This occasionally happens due to irregularity in rotors, simply grind the outside edge of the hub flange. An electric bench grinder does nicely, but grind sparingly. There should be no need in shaving more than 1/8" off. Do not go past the factory cast mark. Use the original lugs to secure the rotor on the hub.

6. Install hub and rotor assembly on spindle. Install axle nuts and axle nut washer and set preload on bearings. Spin to test. Install locking hub assembly and c-clip.

7. At this point, you are going to install the caliper. The caliper is side specific, otherwise bleeding will be extremely difficult. The hose inlet should be at the bottom and the bleeder at the top. The calipers have 2 3/8 allen head bolt pins remove these, and slide caliper over rotor and align with the bracket ears. The bolt holes should line up. Reinstall caliper bolt pins. Your axle should look like the picture at the right.



8. The line you were supplied has two distinctly different ends, one is a banjo fitting, and the other is a female metric. Installed the banjo bolt through the hose into the caliper. Use the crimp washers supplied with the caliper. One on top and one on bottom. Tighten the banjo bolt and the line should come off perpendicular to the caliper. The other

end will fit in the factory hard mount and accept your brake line and clip.



Step C : Operation and Hydraulics of Front Disc Brake

1. The system should be plumbed at this point. Front disc brakes need a dual circuit system. This usually means two brake lines going into the master cylinder.

2. Master cylinders and proportioning are more of an art than a science at this point. It is all a combination of rear brakes, booster, tire size and vehicle weight. *For our vehicles*, we use an 84-88 Toyota 4 WD pickup master cylinder on the stock booster when in use with rear drums. If going to 4 wheel disc, we offer a 4 wheel disc master, which is what we use. Once driven, the proportioning will become apparent, and an adjustable proportioning valve can be purchased to tune this.



84 Toyota 4wd P'up

3. Bleeding the next step after you have installed both sides. It is extremely important that you get all of the air out of the system.

4. Reinstall tires, checking for any rubbing. Spin test.

5. At this point you are ready to drive. Caution should be used when operating new brakes. We suggest several short stop and go jaunts as well as a complete lock up to get the feel of your brakes. If they feel spongy, you need to rebleed. Common sense during initial use is the best recommendation.



Four Wheel Disc Master

<u>Service Parts of Disc Brake Components</u>

The calipers are off of an 85 Monte Carlo, the brake pads will be the same vehicle. The common numbers for the calipers are A1 16-4071 and 16-4072. The rotor is from an 89

Chevy / GMC 4wd Regular Cab Pickup. The common number for this part is a Bendix 141454. The center of this rotor has been milled out to an opening of 4.20".