
Is your
Br 760 aking
Ba 650 d?
We can fix that.

Any XJ rider knows that it's fun to put in the key, push the starter button, twist the throttle, and go.

Every XJ rider also knows that it's also a good thing to be able to bring your noble steed to a halt, sometimes quickly. After all, there aren't many people out there whose goal in life is to eat the rear bumper of an SUV.

With that in mind, this file will go through the process of removing, cleaning, replacing, and reinstalling the rear drum brakes on the XJ bikes. Needless to say, this doesn't apply to those models with a rear disk brake (I'm looking at you, Mr. XJ900. And you, Mrs. XJ1100. Plus a cautious side glance at little XJ750RL for good measure). A list of currently available parts (which is subject to change at any time) can be found at the end of the document.

Tools you'll be wanting:

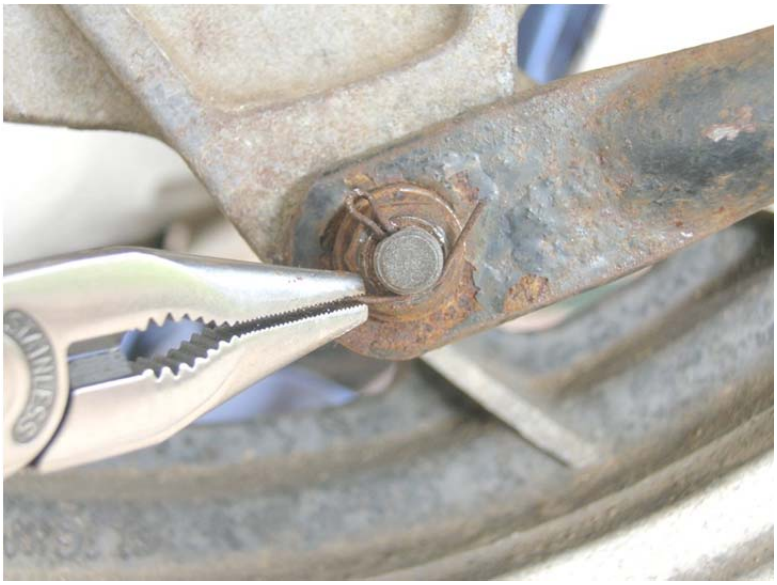
- Pliers for removing the cotter pins
- Breaker bar, and a 19 or 22mm socket for removing the castle nut
- A big honking torque wrench for putting it back on later
- 10mm wrench for removing the bolt holding on the brake actuator lever
- 12mm wrench for removing the nut for the tension bar
- 13mm wrench(es) for loosening the axle pinch bolt
- Punch or long, thin rod for removing the axle
- Brake cleaner. Get more if you need it… and you probably will
- A vacuum cleaner for the brake dust
- A respirator wouldn't hurt, either
- Gloves. Blue nitrile would be nice
- Grease for the drive splines, and possibly the bearings

For the purposes of illustration, we'll be using a ratty-looking 1982 XJ750 Maxim. Accordingly, the part numbers and torque specs shown are appropriate for that model. Consult your reference material of choice (be it Haynes, Clymer or factory) for proper specs for your model, be it XJ650, XJ700, or XJ750 (again, not the XJ750RL, which has a rear disk). XJ550 owners get the added joy of taking off and reinstalling the chain.

We'll start by placing the bike on the center stand.

After that, we remove the cotter pin from the castle nut on the axle. Don't worry about saving it – it will be replaced.

Next, the castle nut itself. Depending on what you have, it will likely require either a 19 or 22mm socket. Oh, and here's where you use the aforementioned breaker bar. Set the nut and washer aside. Don't worry about the axle turning… that's what the pinch bolt is for. You'll see it shortly.



Move over to the right side. You'll see what the parts list calls a "tension bar". It holds the brake assembly in place with a bolt, which also has its own cotter pin. Remove said cotter pin. No, you don't need to keep this one, either.

Removing the nut might help as well…

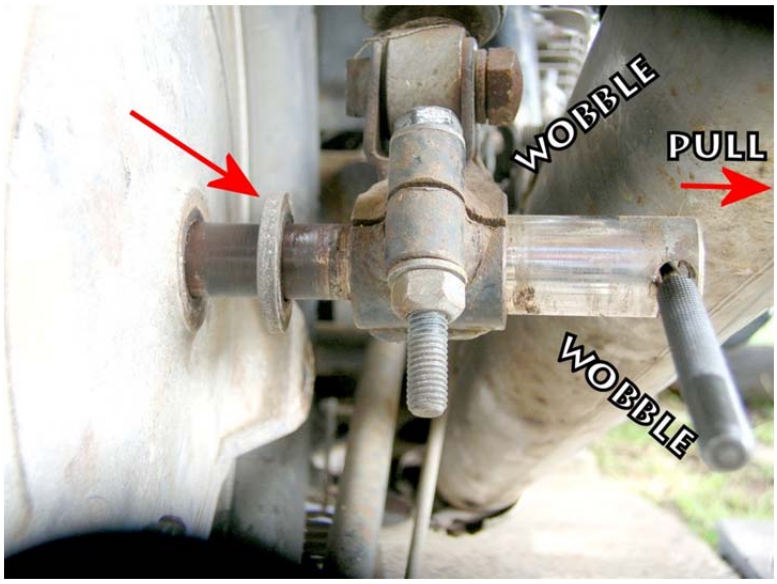
After removing the nut, flat washer and lockwasher, push the bar down out of the way. The bolt should pop out of the brake assembly plate. Put the bolt back through the hole in the bar, then the washers and nut back on – this way you don't lose them.

Next up on the hit parade: we disconnect the spring-loaded coupler rod going to the brake pedal. Push forward on the lever (the whole plate might turn) and back the retaining nut off. Rotate the plate back the other direction so that the rod comes out of the hole in the pin, then slide the pivot pin out the side.

As before, put them back on where they came from so as not to lose them. Let the rod hang.

Loosen the pinch bolt for the axle. 13mm – odd size, I know.

See that hole on the right? That's gonna come in real handy.

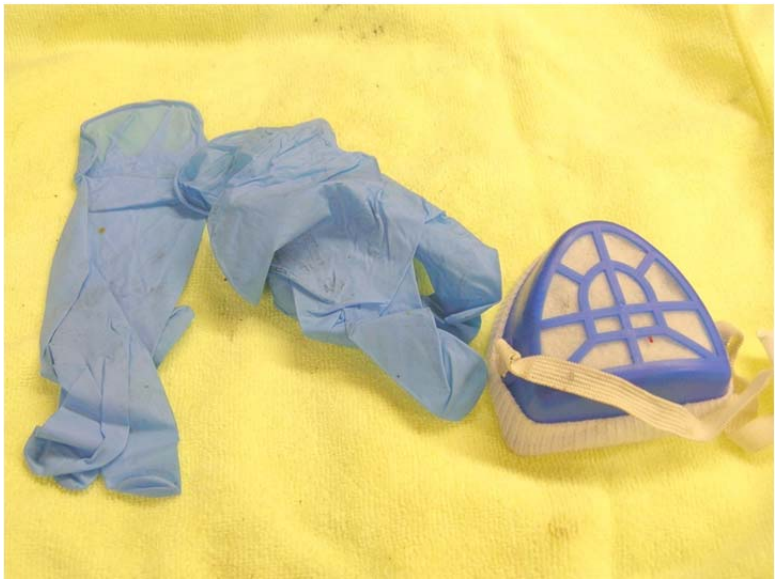


Stick a punch or some other long rod through the hole and wiggle it back and forth while pulling on it to remove the axle. (See that washer the red arrow is pointing to? Don't drop it.) If the axle doesn't want to come out, you might need to drive it through from the left side.

If it is necessary to drive it out, resist the urge to hammer on the castle nut. You'll end up buying an **HCP4801** replacement if you do.

After the axle is out, put the other washer and nut back on the shaft and set it aside… yes, we're kinda funny about not wanting to lose things.

Now that the axle is off, the wheel should slide right off the splines inside the final drive unit. If it doesn't, then "wobble wobble" the wheel until it does. Push the tension bar down as far as it will go, and maneuver the wheel out from under the fender.



Oh, and do be wearing gloves and a respirator, unless you want to be calling the shyster on TV because you've gotten yourself some mesothelioma.

"All these science spheres are made of asbestos, by the way; keeps out the rats. Let us know if you feel a shortness of breath, a persistent dry cough or your heart stopping, because that's not part of the test – that's asbestos." – Cave Johnson, Aperture Science

Seriously, though, we don't want to be inhaling brake dust, so wear a respirator.

Lay the wheel down on your work surface; if you haven't noticed already, the plate pops right off.

Remember how we said we don't want to be inhaling brake dust? We don't want anyone else to, either. Don't blow out the wheel hub with air – use a vacuum.

To remove the shoes, grab the outsides, lift upwards and twist them inward. They should pop out easily.

Go ahead and remove the springs from the shoes, and set them aside.

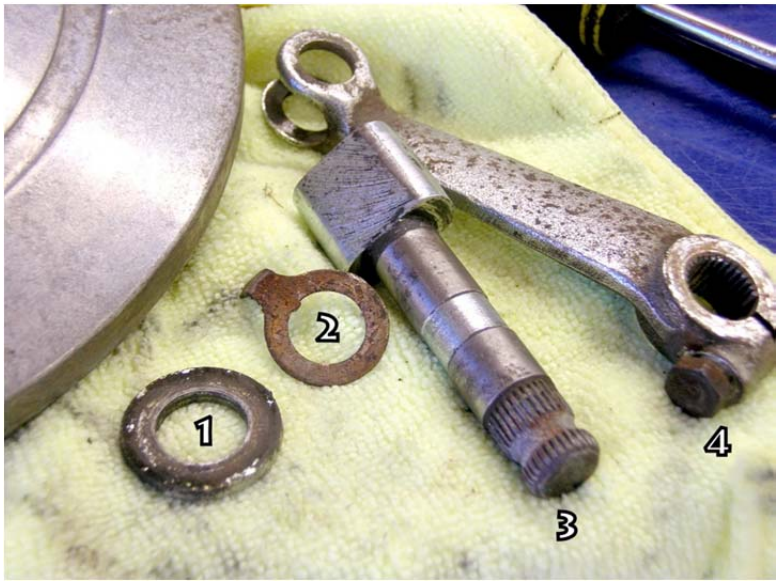
Let's go ahead and clean this puppy up before we put the new shoes on. Gloves, degreaser/parts cleaner, green pad… we don't open the rear wheel up very often, so when the opportunity presents itself, take it.

Oh, so it's supposed to be THAT color.

Since we have the opportunity, let's grease the shaft that the brake lever clamps onto. The one that spreads the pads outwards against the drum.

First, we mark the shaft with a sharpie – that way we can put the lever back on in the same spot. (Sorry, I don't have a neon-red Sharpie, so I had to fake it.) Then, loosen the pinch bolt with a 10mm wrench and remove the bolt completely.

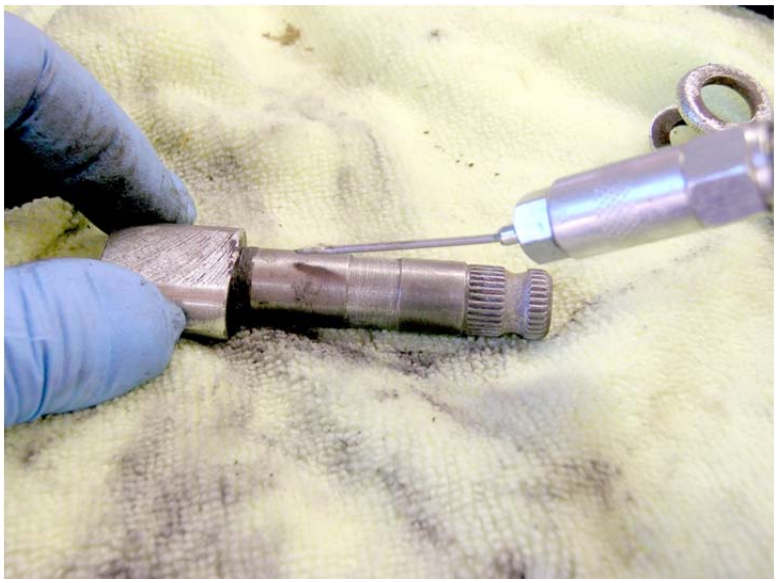
Hopefully, the lever should wiggle off the shaft. If not, lever it off with a screwdriver. Worst case scenario, drive the shaft out with a hammer and punch.



Once that's done, you'll have four pieces; 1) the washer/spacer that goes on the **inside** of the housing, 2) the wear indicator (which goes on the **outside** of the housing), 3) the shaft itself, and 4) the lever.

Worried about putting the wear indicator back on in the wrong spot? Don't be…

…they thought of that. There's a little tab on the wear indicator that fits in that groove.



Clean the shaft up, then a thin layer of grease. Put the washer/spacer back on the shaft, reinstall the shaft into the plate, followed by the wear indicator, then the lever. (Remember that mark?) Reinsert the pinch bolt and snug it down.

Now we're ready to put on our brand-spanking-new **HCP1712** brake shoes. But wait… what's this?

Hrm. Guess we didn't need to remove those springs from the old shoes after all. Oopsie!

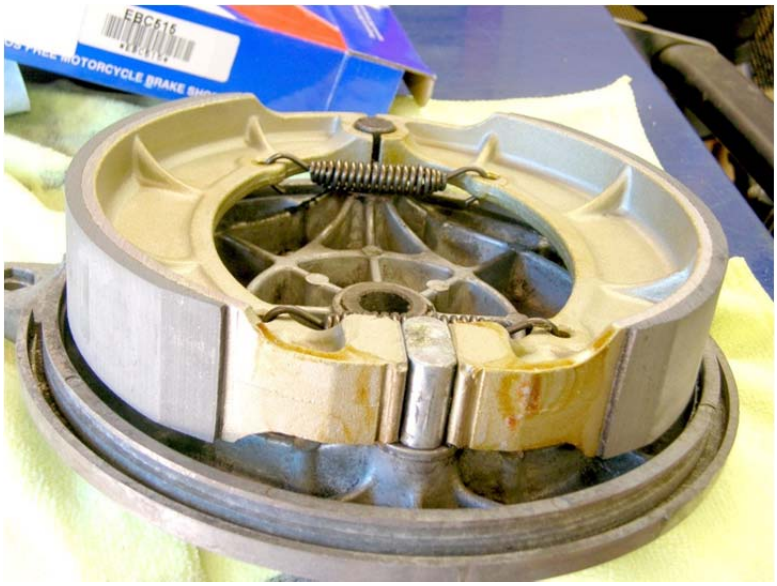
Actually, some kits don't come with them, so you might need to do it anyway. If the new kit has springs, then clean the old ones up and put them aside somewhere. As we've said before – you likely won't need them, but why throw away good used parts?

Next step is to put a light coat of grease on the pin up top, and the cam down at the bottom that turns when you press down on the pedal.

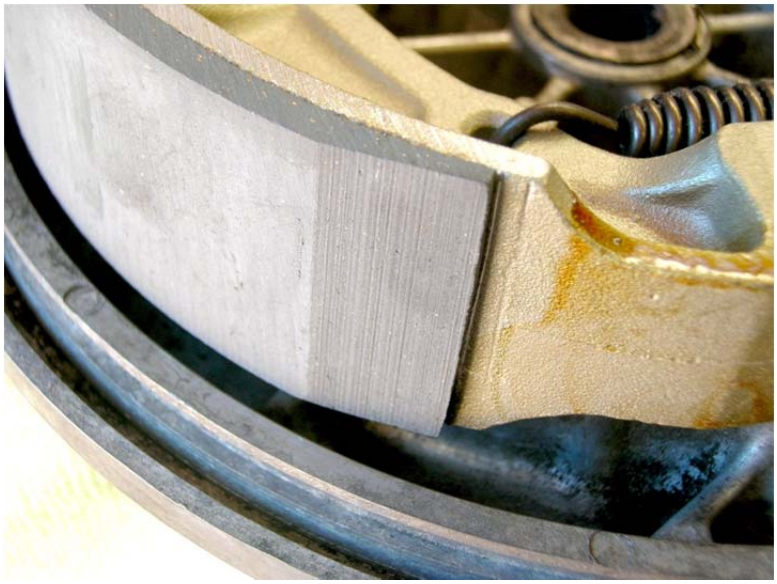
Install your brand new springs onto your brand new asbestos-free brake shoes.

We put the new shoes on the way we took the old ones off – position them in a V shape on the pin and cam, and fold them down. They won't sit flat at first – you'll have to push down on them to get them to seat.

The bottom part with the cam is easier, but the pin has a groove in it, and the shoes have a rib that fits in that groove. You'll know when it's in place.



All set – the edge of the shoes are even with the edge of the cam and the pin. This looks good; you can set it aside for now.



You'll hear people suggest putting a chamfer, or beveled edge, on the leading edge of the brake material to stop or reduce squeal. As you can see, the nice folks at EBC have done this for us.

Boy, these new ones on the bottom look a lot better than the old ones, don't you think?

Now, let's turn our attention to the wheel assembly.

That hub we vacuumed out earlier? Go ahead and finish cleaning it up. Maybe run some 200-400 grit sandpaper over the inside and deglaze the drum.

Call me crazy, but I'm thinking there should be a wee bit more grease inside there than what we're seeing here. Remember, they don't need to be swimming in the stuff, but we do need some. Do both sides while we've got the chance.

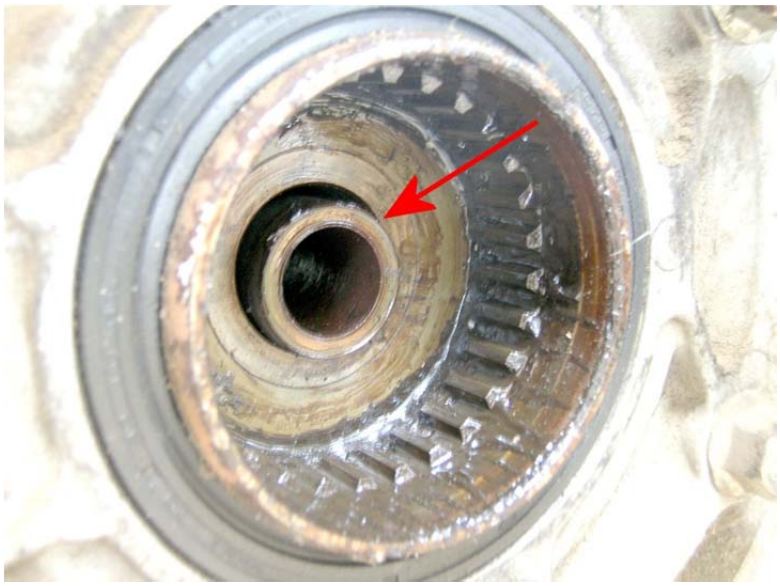
Or, if they need it, now would be a good time to replace those bearings outright. See our file on Wheel Bearing Replacement for further details.

Once you've flipped it over (and serviced the other bearing) you'll see what's known as a Clutch Hub O-ring Depending on model, there can be anywhere from one to three of the things. Inspect and replace as required. It might not be a bad idea to replace them anyway – cheap insurance.

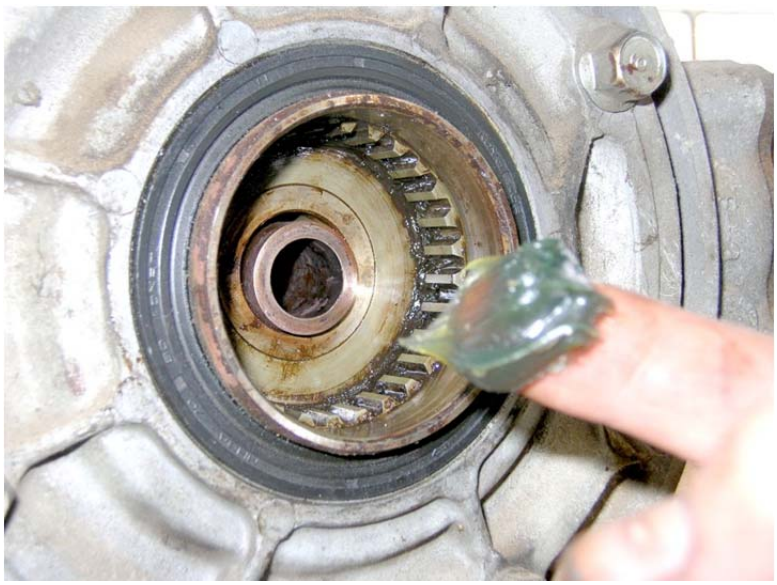
Put a light coat of grease on the hub splines and the o-ring.

Perhaps some fresh rubber might be in order as well.

Shops usually charge less to put tires on when the wheel's off the bike, after all…

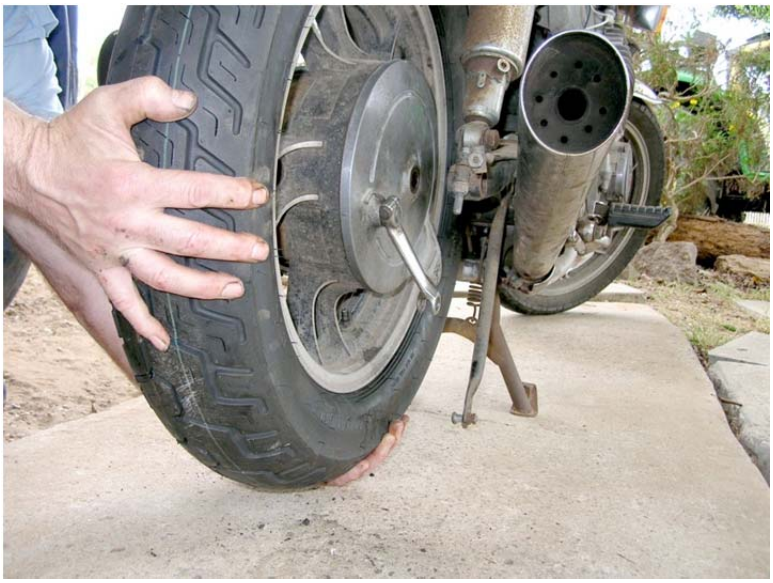


Couldn't hurt to clean the inner hub of the final drive. Oh, and that spacer tube in the middle that we're pointing out? Just go ahead and leave that handsome devil where he is. We don't want to throw off the wheel alignment and maybe have the tire rub against the driveshaft housing.



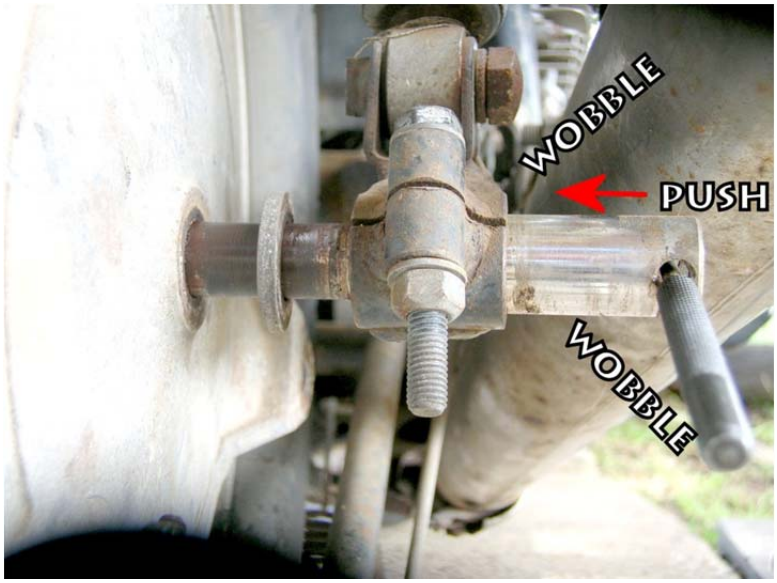
Add a coating of grease to the splines on the final drive.

Go ahead and insert the plate into the drum; maneuver the wheel back underneath the fender.



Pick up the wheel and slide it onto the final drive splines. Lots of wiggle wiggle wobble wobble will ensue before you finally succeed.

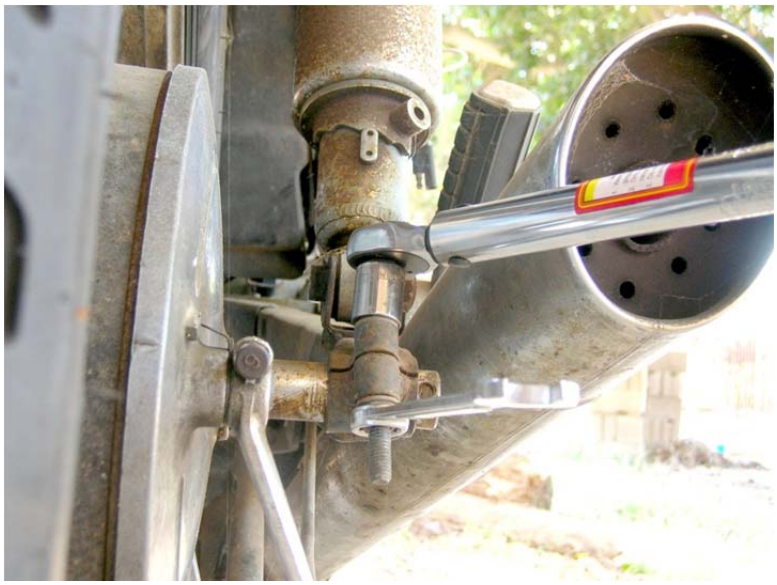
Make sure your axle is nice and clean – if there's any rust on it, sand or wire-wheel it off. Add a thin coat of grease; makes it much easier to remove the next time around.



Slide the axle through the clamping hole in the right side of the swingarm. Make sure you put that spacer back on before the axle goes into the brake plate. Some more wiggle wiggle wobble wobble and push the axle as far as it will go.

Grease up that little pivot pin that goes through the brake plate lever and put it back in. (You won't be able to do it after the castle nut is tightened down.) Rotate the plate so that you can fit the threaded coupler rod through the pin, then the nut. We'll adjust that nut momentarily.

Reinstall the bolt through the tension bar at the bottom of the backing plate. Put the washers and nuts on finger tight.



Tighten down your axle pinch bolt, otherwise the axle will start turning when you tighten the castle nut. The book says 4.5 ft/lb, but you might need to go a wee bit more.

Put the washer and castle nut back on. Using your torque wrench of choice, snug that puppy down to 77 ft/lbs. You want the hole in the axle to line up with one of the openings in the nut.

New cotter pin. Come on, they're cheap and plentiful.

Tighten down the nut for the tension bar bolt. This one gets a new cotter pin, too.

Lastly, we adjust the brake pedal. With no load on the brake lever, the wheel should spin freely. You should hear the pads start to grab when the foot pedal is pressed down about ½", and the wheel should stop altogether when the pedal travel (indicated by the red lines) is ¾" – 1", or 20 – 30mm. Tweak the retaining nut on the threaded coupler rod to suit.

Please also bear in mind that when you first start to use your new rear brakes, you might not get quite the same stopping power that you're used to, at least not right away. Why? Well, when the lever pushes the shoes against the drum, it doesn't push the whole shoe – just the bottom. Because these shoes are new and unworn, the contact patch between the shoes and the drum will be smaller; smaller contact patch means less friction, which translates to less stopping power. This will increase over time as the shoes wear in and the size of the contact patch increases.

AVAILABLE PARTS LIST

DRUM BRAKE COVER PLATE AND HARDWARE

HCP4797 OEM rear brake shoe WEAR INDICATOR, attaches to the splined shoe actuator camshaft. Use on all XJ550 Seca models.

HCP4798 OEM rear brake shoe WEAR INDICATOR, attaches to the splined shoe actuator camshaft. Use on all XJ550 Maxim, XJ650, XJ700, and XJ750 models.

HCP1766 OEM rear brake shoe ACTUATING CAMSHAFT, attaches to the lever arm. Use on all XJ550 Seca models.

HCP1765 OEM rear brake shoe ACTUATING CAMSHAFT, attaches to the lever arm. Use on all XJ550 Maxim, XJ650, XJ700, and XJ750 models.

HCP4780 OEM rear brake shoe actuating camshaft SHIM WASHER, located inside the brake shoe backing plate. Use on all XJ550 Seca models.

HCP4779 OEM rear brake shoe actuating camshaft SHIM WASHER, located inside the brake shoe backing plate. Use on all XJ550 Maxim, XJ650, XJ700, and XJ750 models. NOTE: this is a metal washer, and was not made of a "felt" material as some service manuals reference.

HCP4194 OEM rear DRUM BRAKE SHOES, enough to do one bike. Fits all XJ550 Seca (North American) models, 1980-82 XS400 Special, 1982-83 XS400 Maxim, 1982-83 XS400 Seca, and XS400SJ Special models with rear drum brakes. Does not include the return springs which must be ordered separately.

HCP20763 Aftermarket Kevlar high performance rear DRUM BRAKE SHOES, enough to do one bike. Fits all XJ550 Seca (North American) models, 1980-82 XS400 Special, 1982-83 XS400 Maxim, 1982-83 XS400 Seca, and XS400SJ Special models with rear drum brakes. Does not include the return springs.

HCP1711 Aftermarket organic rear DRUM BRAKE SHOES, enough to do one bike. Fits all XJ550 Seca (North American) models, 1980-82 XS400 Special, 1982-83 XS400 Maxim, 1982-83 XS400 Seca, and XS400SJ Special models with rear drum brakes. Comes complete with a new pair of new return springs.

HCP4771 OEM rear drum brake shoes RETURN SPRING, use 2 per bike. A great idea to replace these every time you do a rear brake shoe replacement. NOTE: these springs are already included in all of the aftermarket brake shoe kits listed above. Fits all XJ550, XJ650, XJ700, and XJ750 models.

HCP4193 OEM rear DRUM BRAKE SHOES, enough to do one bike. Fits all XJ550 Maxim, XJ550 Euro, and XJ650 Maxim and 650 Midnight Maxim models with rear drum brakes. Does not include the return springs which must be ordered separately.

HCP1710 Aftermarket organic rear DRUM BRAKE SHOES, enough to do one bike. Fits all XJ550 Maxim, XJ550 Euro, and XJ650 Maxim and 650 Midnight Maxim models with rear drum brakes. Comes complete with a new pair of new return springs.

HCP4771 OEM rear drum brake shoes RETURN SPRING, use 2 per bike. A great idea to replace these every time you do a rear brake shoe replacement. NOTE: these springs are already included in all of the aftermarket brake shoe kits listed above. Fits all XJ550, XJ650, XJ700, and XJ750 models.

HCP4195 OEM rear DRUM BRAKE SHOES, enough to do one bike. Fits all XJ650 Seca, XJ650 Turbo, and XJ650 Police models, all XJ700 models, and all XJ750 models with rear drum brakes. Does not include the return springs which must be ordered separately.

HCP1712 Aftermarket organic rear DRUM BRAKE SHOES, enough to do one bike. Fits all XJ650 Seca, XJ650 Turbo, and XJ650 Police models, all XJ700 models, and all XJ750 models with rear drum brakes. Comes complete with a new pair of new return springs.

HCP4771 OEM rear drum brake shoes RETURN SPRING, use 2 per bike. A great idea to replace these every time you do a rear brake shoe replacement. NOTE: these springs are already included in all of the aftermarket brake shoe kits listed above. Fits all XJ550, XJ650, XJ700, and XJ750 models.

REAR DRUM BRAKE SYSTEM HARDWARE

HCP4812 OEM rear drum brake backing plate TENSION BAR. This is the large tubular rod that runs from the bottom of the brake backing plate forward along the swingarm and holds the brake backing plate in rotational position. Fits all XJ550 models.

HCP4811 OEM rear drum brake backing plate TENSION BAR. This is the large tubular rod that runs from the bottom of the brake backing plate forward along the swingarm and holds the brake backing plate in rotational position. Fits all XJ650, XJ700, and XJ750 models.

HCP4819 OEM rear drum brake backing plate tension bar RETAINING BOLT, tension bar to the backing plate. Fits all XJ550, XJ650, XJ700, and XJ750 models. Use 1 per bike.

HCP4814 OEM rear drum brake backing plate tension bar RETAINING BOLT, tension bar to the swingarm. Fits all XJ550, XJ650, XJ700, and XJ750 models. Use 1 per bike.

HCP2537 OEM rear drum brake backing plate tension bar retaining bolt FLAT WASHER, tension bar to the backing plate or to the swingarm. Fits all XJ550, XJ650, XJ700, and XJ750 models. Use one on each end, total 2 per bike.

HCP2185 OEM rear drum brake backing plate tension bar retaining bolt LOCK WASHER, tension bar to the backing plate or to the swingarm. Fits all XJ550, XJ650, XJ700, and XJ750 models. Use one on each end, total 2 per bike.

HCP2109 OEM rear drum brake backing plate tension bar retaining bolt NUT, tension bar to the backing plate or to the swingarm. Fits all XJ550, XJ650, XJ700, and XJ750 models. Use one on each end, total 2 per bike:

HCP4112 OEM rear drum brake backing plate tension bar retaining bolt COTTER PIN, tension bar to the backing plate or to the swingarm. Fits all XJ550, XJ650, XJ700, XJ750, and XJ900 models. Use one on each end, total 2 per bike.

HCP16065 Aftermarket rear drum brake backing plate tension bar retaining bolt COTTER PIN, zinc-plated steel, for all XJ550, XJ650, XJ700, XJ750, and XJ900 models. Use one on each end, total 2 per bike.

HCP16066 Aftermarket rear drum brake backing plate tension bar retaining bolt COTTER PIN, stainless steel, for all XJ550, XJ650, XJ700, XJ750, and XJ900 models. Use one on each end, total 2 per bike.

REAR BRAKE SYSTEM ROD AND HARDWARE

The rear brake COUPLER ROD transmits the pedal motion from the pivot shaft to the rear brake LEVER ARM (on drum brake systems), which turns actuates the brake shoes via a SHOE CAMSHAFT. A variety of special fasteners and hardware pieces are used in this system to insure its proper performance.

HCP3879 OEM rear brake COUPLER ROD, for all XJ550 Seca models.

HCP9134 OEM rear brake coupler rod CLEVIS PIN, connects the forward end of the rod to the pivot shaft arm. Fits all XJ550 models, XJ650 Maxim, XJ700 models, and XJ750-X models.

HCP11358 OEM rear brake coupler rod CLEVIS PIN, connects the forward end of the rod to the pivot shaft arm. Fits all XJ650 Midnight Maxim models.

HCP10571 OEM rear brake coupler rod CLEVIS PIN, connects the forward end of the rod to the pivot shaft arm. Fits all XJ650RJ Seca, XJ650 Turbo, and all 1981-83 XJ750 models.

HCP11364 OEM rear brake coupler rod CLEVIS PIN, connects the forward joint rod to the rear coupler rod. Fits all XJ700 and XJ750-X models.

HCP8387 OEM rear brake coupler rod CLEVIS PIN, connects the forward end of the rod to the pivot shaft arm. Fits all 1984-85 FJ600 and all XJ900RK, RL, N/FN, and F models.

HCP3575 OEM rear brake coupler rod clevis pin FLAT WASHER, used with the clevis pin at the forward end of the coupler rod to the pivot shaft arm connection. Use 1 on all XJ550 models and XJ650 Maxim, and 2 on all XJ700 models and XJ750-X models.

HCP11362 OEM rear brake coupler rod clevis pin FLAT WASHER, used with the clevis pin at the forward end of the coupler rod to the pivot shaft arm connection. Use 1 on all XJ650 Midnight Maxim models.

HCP3559 OEM rear brake coupler rod clevis pin FLAT WASHER, used with the clevis pin at the forward end of the coupler rod to the pivot shaft arm connection. Use 1 on all XJ650RJ Seca, XJ650 Turbo, 1981-83 all XJ750 (except Midnight Maxim) models, all XJ900RK, RL, N/FN, and F models, and XJ1100 models.

HCP4112 OEM rear brake coupler rod clevis pin COTTER PIN, used with the clevis pin at the forward end of the coupler rod to the pivot shaft arm connection. Use 1 on all XJ500, XJ650, and 1981 -84 XJ750 models, and use 2 on all XJ700 and XJ750-X models.

HCP16065 Aftermarket rear brake coupler rod clevis pin COTTER PIN, zinc-plated steel, for all XJ500, XJ650, and 1981 -84 XJ750 models, and use 2 on all XJ700 and XJ750-X models.

HCP16066 Aftermarket rear brake coupler rod clevis pin COTTER PIN, stainless steel, for all XJ500, XJ650, and 1981 -84 XJ750 models, and use 2 on all XJ700 and XJ750-X models:

HCP4046 OEM rear brake coupler rod clevis pin COTTER PIN, used with the clevis pin at the pivot shaft arm connection. Use 1 on all XJ1100 models.

HCP16061 Aftermarket rear brake coupler rod clevis pin COTTER PIN, zinc-plated steel, for all XJ1100 models. Use 1 per bike.

HCP16062 Aftermarket rear brake coupler rod clevis pin COTTER PIN, stainless steel, for all XJ1100 models. Use 1 per bike.

HCP3874 OEM rear brake coupler rod COMPRESSION SPRING, used at the rear of the coupler rod where the brake actuating lever arm attaches. Use on all XJ550, XJ650 (except Midnight Maxim), XJ700, and XJ750 (except Midnight Maxim) models.

HCP11494 Aftermarket rear brake coupler rod COMPRESSION SPRING, used at the rear of the coupler rod where the brake actuating lever arm attaches. Use on all XJ550, XJ650 (except Midnight Maxim), XJ700, and XJ750 (except Midnight Maxim) models.

HCP11344 OEM rear brake coupler rod COMPRESSION SPRING, used at the rear of the coupler rod where the brake actuating lever arm attaches. Use on all XJ650 Midnight Maxim and XJ750 Midnight Maxim models.

HCP9135 OEM rear brake coupler rod PIVOT PIN, used at the rear of the coupler rod where the brake actuating lever arm attaches. Use on all XJ550, XJ650 (except Midnight Maxim), XJ700, and XJ750 (except Midnight Maxim) models. NOTE: Midnight Maxim models used this same pin, but it was plated black.

HCP11495 Aftermarket rear brake coupler rod PIVOT PIN, used at the rear of the coupler rod where the brake actuating lever arm attaches. Use on all XJ550, XJ650 (except Midnight Maxim), XJ700, and XJ750 (except Midnight Maxim) models. NOTE: Midnight Maxim models used this same pin, but it was plated black.

HCP9136 OEM rear brake coupler rod pivot pin RETAINING NUT, used at the rear of the coupler rod where the brake actuating lever arm attaches. Use on all XJ550, XJ650 (except Midnight Maxim), XJ700, and XJ750 (except Midnight Maxim) models.

HCP11496 Aftermarket rear brake coupler rod pivot pin RETAINING NUT, used at the rear of the coupler rod where the brake actuating lever arm attaches. Use on all XJ550, XJ650 (except Midnight Maxim), XJ700, and XJ750 (except Midnight Maxim) models.

HCP11345 OEM rear brake coupler rod pivot pin RETAINING NUT, used at the rear of the rod where the lever arm attaches. Use on all XJ650 Midnight Maxim and XJ750 Midnight Maxim models.

HCP9118 OEM rear brake actuating LEVER ARM, attaches to the rear of the coupler rod via the spring-loaded pin, and then to the splined shoe actuator camshaft. Use on all XJ550 models and XJ650 Maxim models. Bright polished finish.

HCP1768 OEM rear brake actuating LEVER ARM, attaches to the rear of the coupler rod via the spring-loaded pin, and then to the splined shoe actuator camshaft. Use on all XJ650 Midnight Maxim and XJ750 Midnight Maxim models. Black plated finish.

HCP16420 Aftermarket rear brake actuating LEVER ARM, attaches to the rear of the coupler rod via the spring-loaded pin, and then to the splined shoe actuator camshaft. Use on all XJ650 Turbo models. Chrome plated finish. Cincho bolt is included.

HCP1769 OEM rear brake actuating LEVER ARM, attaches to the rear of the coupler rod via the spring-loaded pin, and then to the splined shoe actuator camshaft. Use on all XJ650RJ Seca and XJ750 Seca models. Bright polished finish.

HCP1772 OEM rear brake actuating LEVER ARM, attaches to the rear of the coupler rod via the spring-loaded pin, and then to the splined shoe actuator camshaft. Use on all XJ700 models and XJ750 (except Midnight Maxim) models. Bright polished finish.

HCP4781 OEM rear brake actuating lever arm CINCH BOLT, attaches to the lever arm to the actuating camshaft. Use on all XJ550, XJ650, XJ700, and XJ750 models.