

Keep Them
in Good
Shape—It's
Important!

WHEEL MAINTENANCE

By Brad Zimmerman

One of the most important and most neglected parts of a motorcycle is the wheels. Sure, most of us shine them up occasionally, and once in a while will break down and use a truing tool to tighten up the spokes, but for the masses, wheels are often neglected.

Wheel care and maintenance should be performed every time you clean off your motorcycle, if you want them to last properly. Many riders who complain about ripping out spokes, breaking hubs, or easily bending rims, are just showing their ignorance in properly maintaining their wheels.

Every time that motorcycle is serviced, washed or whatever, the wheels should come off. Remember that most brake hubs and shoes aren't waterproof, and will easily rust if you're not always checking them.

The first step is obviously to remove the wheel. Check out the backing plate for signs of wear or cracking, especially around the outer rim area. The brake shoe springs should be checked for signs of fatigue. If your brakes are beginning to get sluggish in response, and are a little slow to release, chances are that the shoe springs are worn down and should be replaced.

Now check the thickness of the shoes themselves. Dig through your owners manual and you'll usually find the manufacturer's recommended replacement point. Measure the thickness of the shoes and compare that with what you've got now. If your stock shoes are too thin, it's time to replace them with fresh new units.

You should then grease the proper points on the brake actuating parts that rotate. This includes the small block cam that is worked by the brake arm on the other side of the plate. A small amount of wheel bearing grease applied to the cam and hole will insure a smooth movement while you're riding. The stationary pin should also receive a small amount of grease so that the shoes can easily move about.

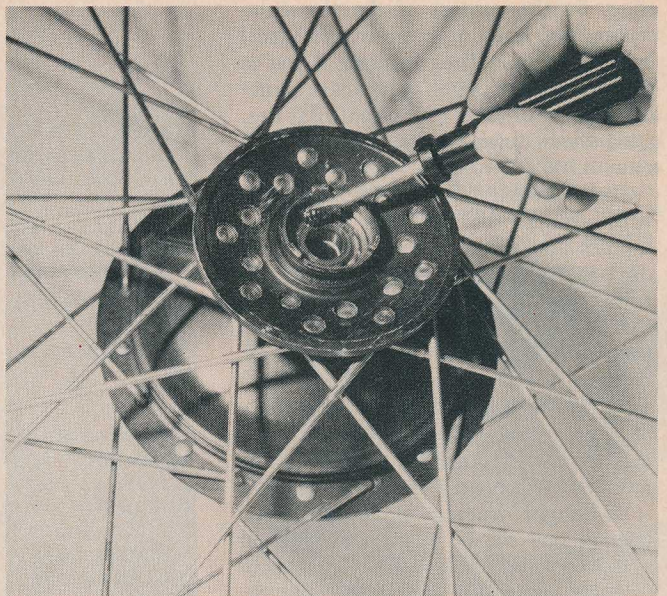
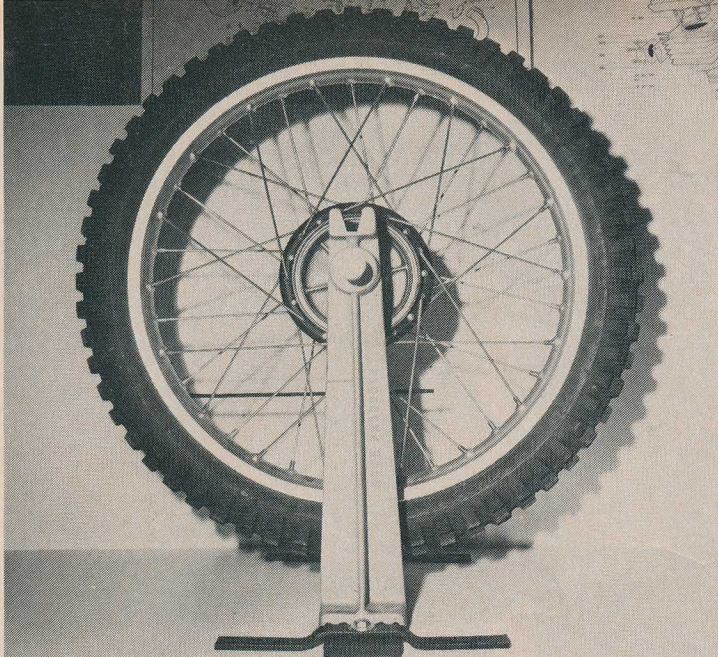
Chances are that if you've washed your bike a couple of times without taking the wheels off and checking them, you're going to find a lot of rust built up on the brake shoe surface. Take a piece of 220 or 240 grit wet-and-dry sandpaper and rough up the surface slightly to get rid of

the layer of rust. Be sure that you clean off the residue and sandpaper particles thoroughly. If it's not cleaned properly, the small pieces of grit will eventually put scratches into grooves in the brake shoes, lessening the total area of the shoe that comes in contact with the drum, resulting in a loss of braking power.

Moving onto the hub, perform the

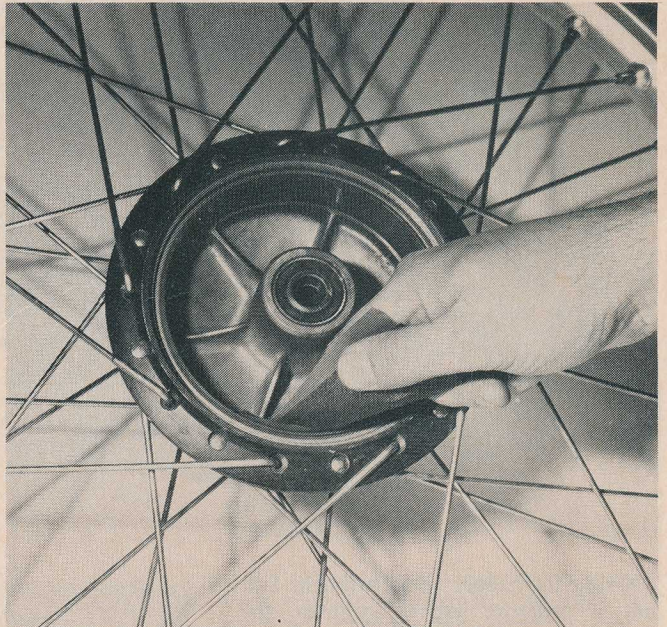
same function with the sandpaper to the brake drum, making sure that all visible rust is removed and wiped out completely. Check the bearings for signs of wear by inserting your finger inside the outer race section and spinning the bearing. If it's restrictive in its revolution you could need new bearings. If it's dry, a little wheel bearing grease in the





A little additional grease applied to the inside of bearings helps keep the lubrication up, and elongates the bearing's life.

(Above Left) A truing stand is nice to have for keeping the wheels round and straight.



Using a 220 or 240 wet/dry sandpaper on the inside of the brake shoes will remove the small layer of rust and grime.

Your bike's wheels go through a lot of torture. Water and wheelies are their biggest punishment.

right spot will lengthen the life of the small bearings. Also check all the seals around the bearings to make sure that they're not worn down.

If you don't want to pay the sometime-higher price of a new replacement seal or bearings, you can go to a bearing or seal supply house with your stock piece and get a replacement that is usually better and cheaper. There are small numbers stamped in both the bearing and seal that are universal. Giving the counter partsman the appropriate numbers and code letters will reward you with a new seal or bearing that is American made, usually of higher quality than stock. And it's cheaper too.

The next step is to inspect the bike's rim. Make sure that there are no rough

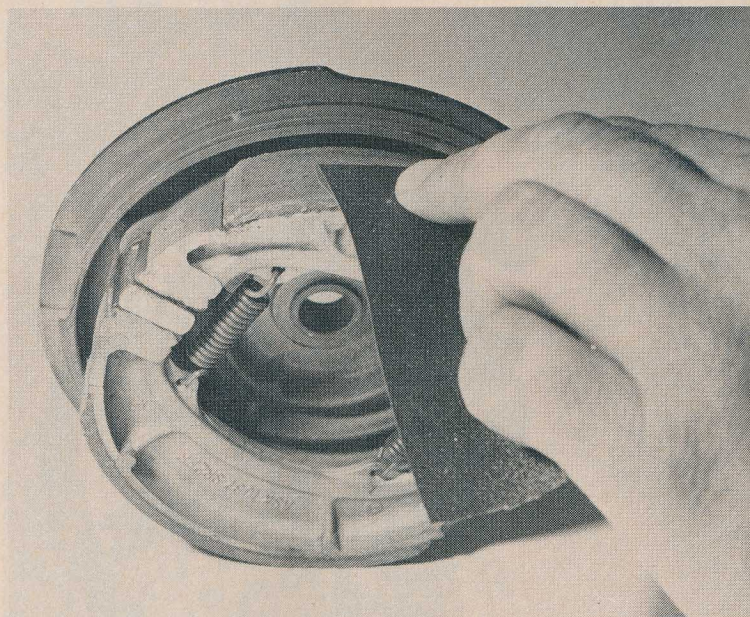
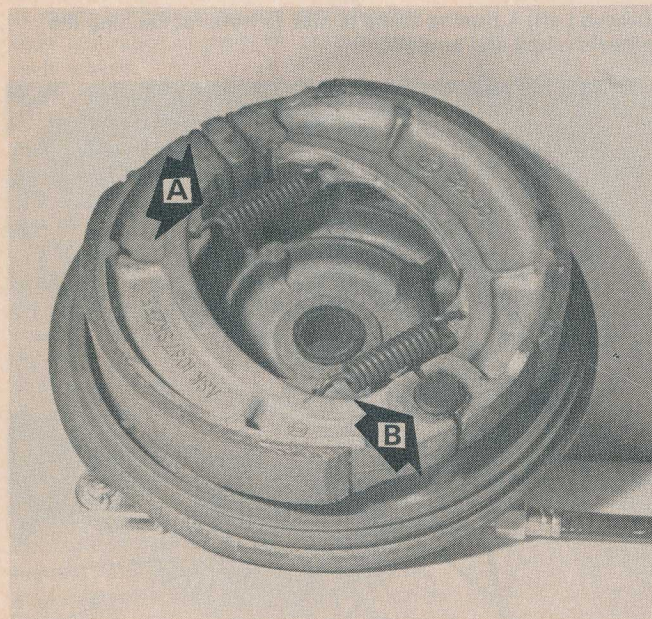
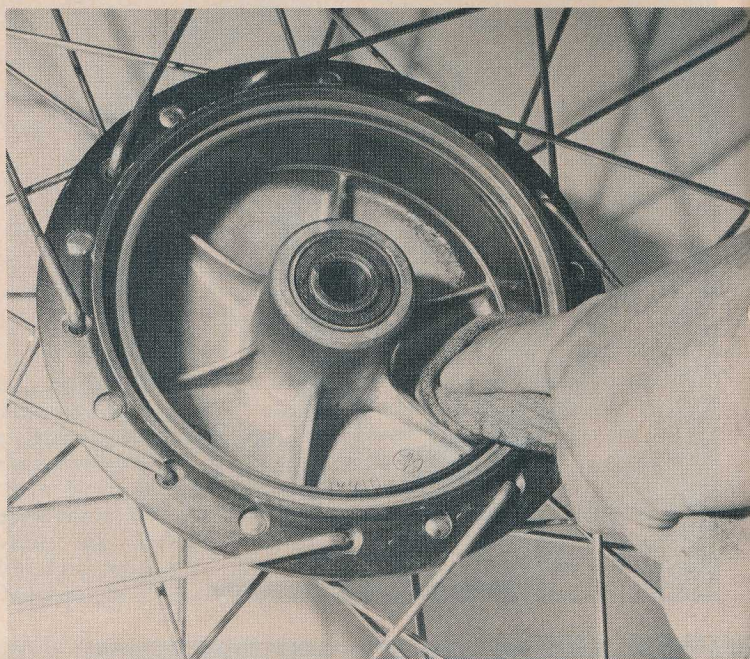
edges on the corners of the rim from scabby tire irons or screwdrivers (gad!) used in changing tires or tubes. If you've got any sharp edges, they can puncture the tire or tube, giving you a flat tire. Sand them down with sandpaper until smooth.

Now take the large rubber band that runs around the rim over the spoke nipples and throw it away. Take some duct tape, cut it to the width of the rubber band, and make about two or three revolutions around the rim. Duct tape works better than the rubber band, because it adheres to the rim due to its glue, lessening the chances of slipping a tube and ripping a valve stem.

Get a truing stand, or make one, and mount the wheel up. If you can't afford a store-bought truing stand, you can fashion one out of two-by-four lumber and a coat hanger. See the diagram for instructions. With the wheel on the truing stand, spin it and check for egg shaping or side-to-side wobbles.

After sanding, thoroughly wipe out the inside of the drum with a clean rag. Make sure it's spotless before re-assembly.

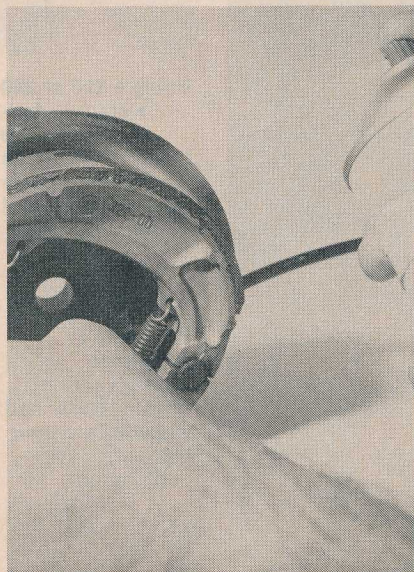
Inspection of the brake unit should include the springs (A) and the grease on the actuating cams (B). Both should be in top shape for good braking performance.



Using the proper spoke wrench, and not a crescent wrench, tighten the appropriate spokes. Remember that overtightening two or three spokes to pull in a convex lump in the trim will only cause a similar problem in the area 180 degrees from where you're working. You should always tighten five or six spokes in the area that you want to pull in.

Keep spinning the rim until you get it close to round. For motocross, enduro, or desert riding, you don't need round rims. Since you're not going to be riding at over 100 mph on pavement, you don't have to be quite as precise as road racers using spoked wheels.

If upon inspection, the wheel appears to be round enough and doesn't require any major straightening, check all the spokes for tightness. A good rule of thumb for tightening is to never turn a spoke nipple more than half its possible



The same sanding technique should be used on the shoes as was done on the drums. Also check the thickness of the shoes with Vernier calipers, and determine, after consulting your owner's manual, if they are too thin and need to be replaced.

After sanding, spray on an evaporative type of cleaner. Most ignition sprays work well in washing away grime and sanding residue.

revolution when tightening.

Go around the complete wheel checking spokes, and tighten them only half a turn. Now make another revolution and check again for loose spokes. You should also remember that overtightening spokes is dangerous to your body and your bike.

As a wheel hits a rut, a certain amount

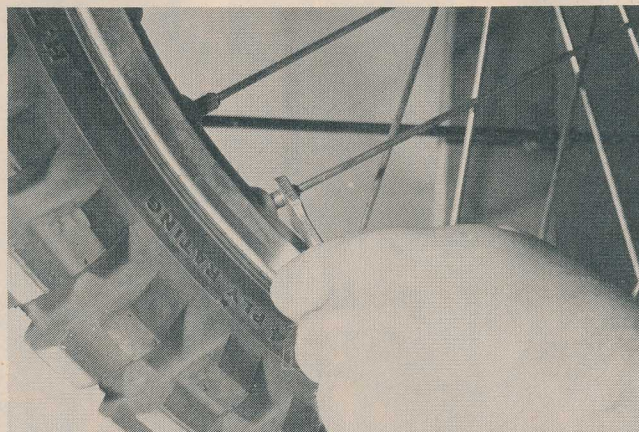
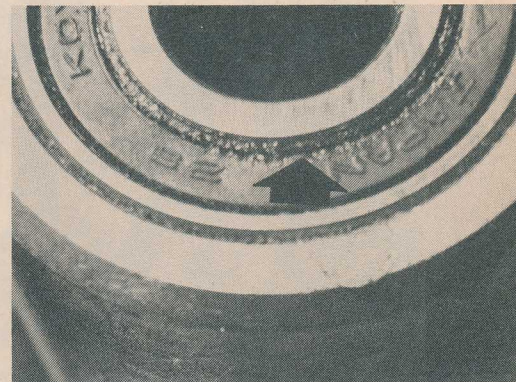


Once again, the shoes should be cleaned with a rag. Also check for dirt between the shoes, and behind the unit, near the backing plate.

(Above Center) Any big marks in the rims could cause tube or tire puncture. Sand the obtrusions smooth before the tire goes flat while you're riding.



A close-up of this seal shows that it's wearing out, allowing dirt into the bearing which will eventually fall apart. Check the seals every time you pop off the wheels.



When tightening up the spokes remember to always tighten at least four or five in the general vicinity, and always use the proper spoke wrench.

of the jolt and shock waves are absorbed by the spokes. When something sharp is hit, the spokes will bend slightly, bowing out in a crescent shape. With spokes that are overtightened, the spokes can't bow out, thus they transmit all of that shock to the hub. The result is a broken hub. We've seen lots of riders bring broken hubs into a shop, wondering how it could have broken. After all, they had the spokes nice and tight, didn't they?

There are various theories why spokes get loose in the first place. One of them is that because of their flexing properties when you hit an obstacle, they tend to elongate or stretch out slightly, thus they get loose. Another theory is that the nipples in the rim get loose over a period of time, allowing the spokes to get loose.

With loose spokes, you're running the chance of bending a rim beyond repair, or having a wheel completely collapse on you. As an added precaution, you might want to put spoke ties at the junction where the spokes cross over each other. In the event that you do break a spoke, it will stay in place, and not flail around, hitting other spokes and loosening them.

Using these methods you should have wheels that are relatively straight, solid, and free of problems. Your bike will love you for it.

