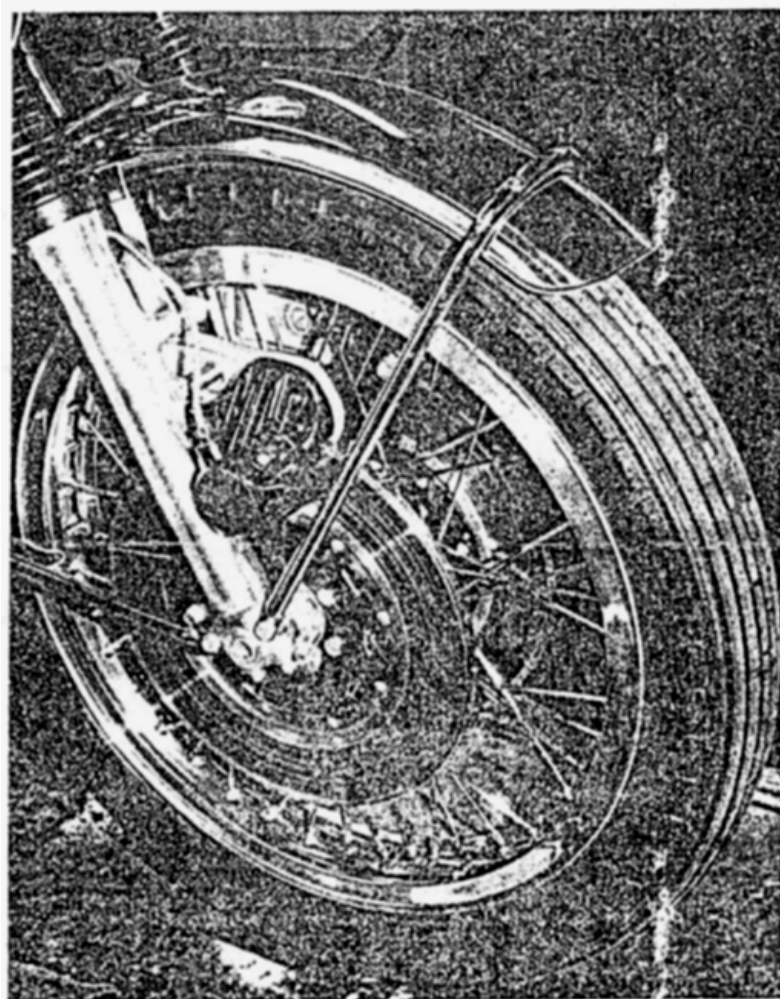


# DUAL DISC BRAKES

**Add trick looks and stopping power  
to your front end**

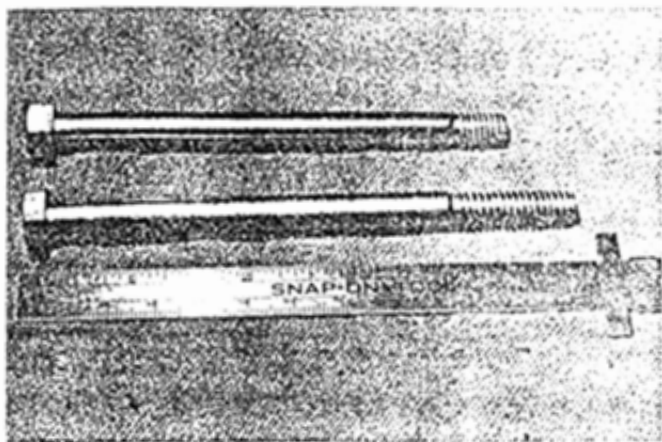


**Dual discs both look trick and add a  
world of stopping**

**W**hen Honda first brought out the 750 in 1969, its front disc brake caused a sensation. It immediately set a new standard of braking for motorcycles, and, by 1973, even as conservative a manufacturer as Harley-Davidson followed the trend, adding disc brakes to their bigger machines and finding, much to their surprise, that they would stop better too.

Now, everybody expects the type of braking ability first available in the 750. That's what happens when you set a standard. It becomes normal, exactly what standard means. Now what do you do to improve on it?

The answer to that comes when you look at any road racer. These bikes are capable of speeds well up in the 100s on the straights, yet have to be brought down



**Original disc mounting bolts are replaced with new, longer 5/16 bolts and nuts.**

from those speeds quickly and smoothly, to remain stable through low-speed turns.

Good braking ability means going that much deeper into the turns before having to shut off, and the longer speed can be kept up, the faster the overall speed and the closer the trophy.

So what do all the latest road racers have? Dual disc brakes.

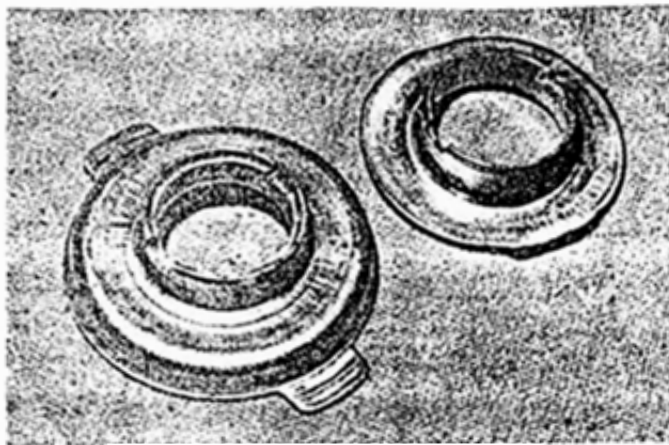
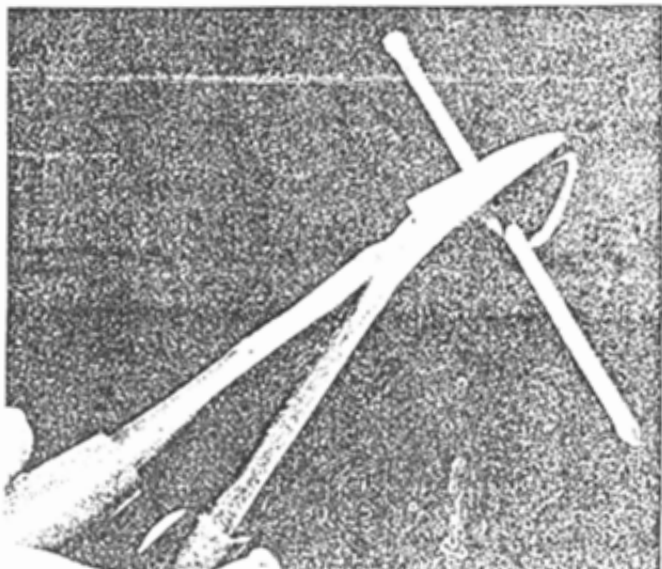
Not only does this increase their stopping power by a considerable factor, the fact that the binding force is applied to both sides of the front wheel makes controllable high-speed stopping an even surer thing.

Now this kind of braking is available for street bikes, too. One manufacturer offers it as standard equipment on his top-of-the-line model, and some after-market kits are available for other Bikes, including the CB500 Four.

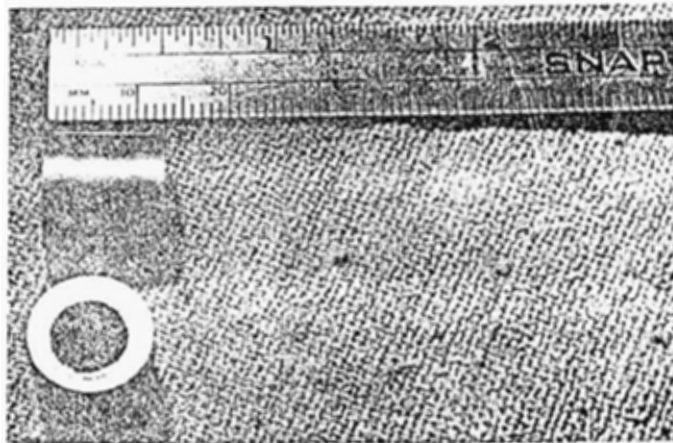
On the 750, however, most of the parts required are already in your dealer's parts bin, and the right lower leg already has the bosses cast into it to take the unit.

Bill Snider, shop foreman of Van Nuys Honda, Van Nuys, California, has a 750 that he likes to keep just that little bit trickier than stock. Not so much that it shouts out at you, but enough so that when you look

**Tool is made by cutting a 16d nail.**



**Speedometer drive cover must be ground down to fit through the new disc. Cover must be replaced with early type.**

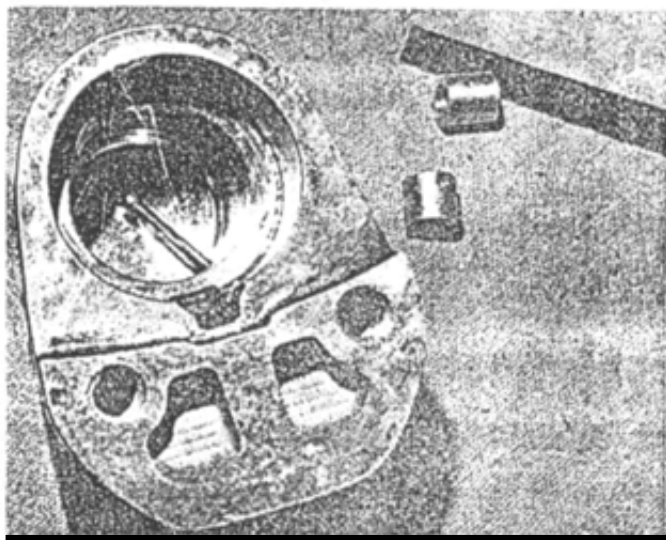


**Caliper mounting spacers must be made from aluminum tubing.**

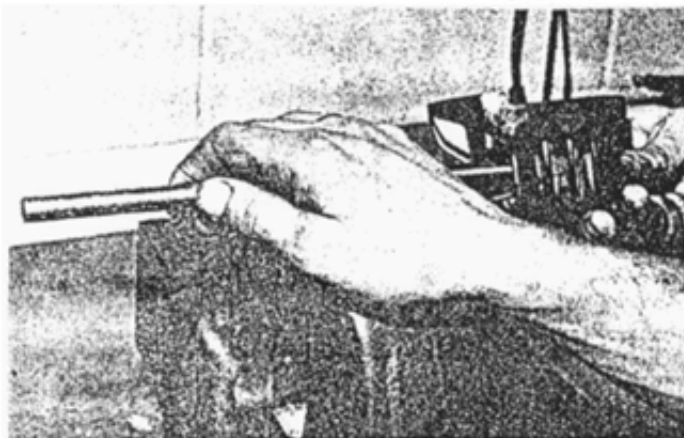


**Caliper must be modified to reverse positions of bleeder fitting and fluid line fitting.**

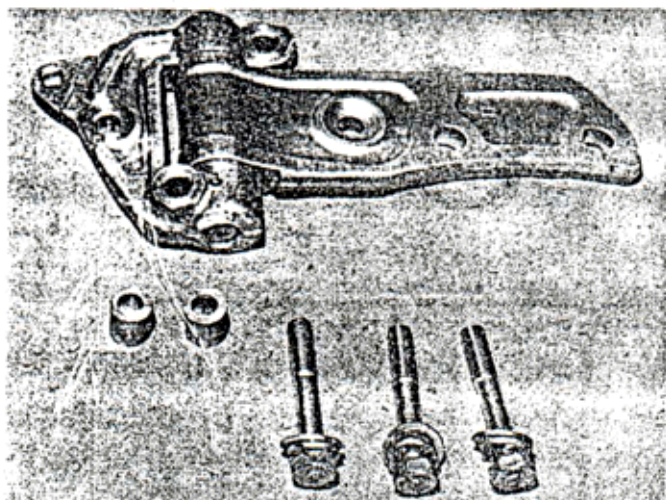




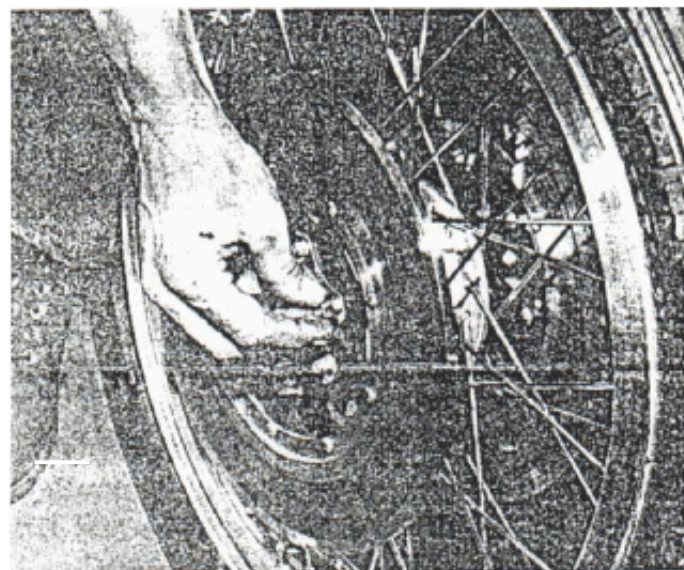
**Nail is run through fitting, with head inside caliper.**



**Free end of nail is clamped into vise  
Beating on the dowel with a hammer  
drives out the restriction.**



**The hardware needed to mount the  
new caliper**



**When mounting the new disc on the  
wheel, be sure to lock the nuts with the  
ears of the double washers.**

at the bike, you know it's different, but aren't immediately sure why.

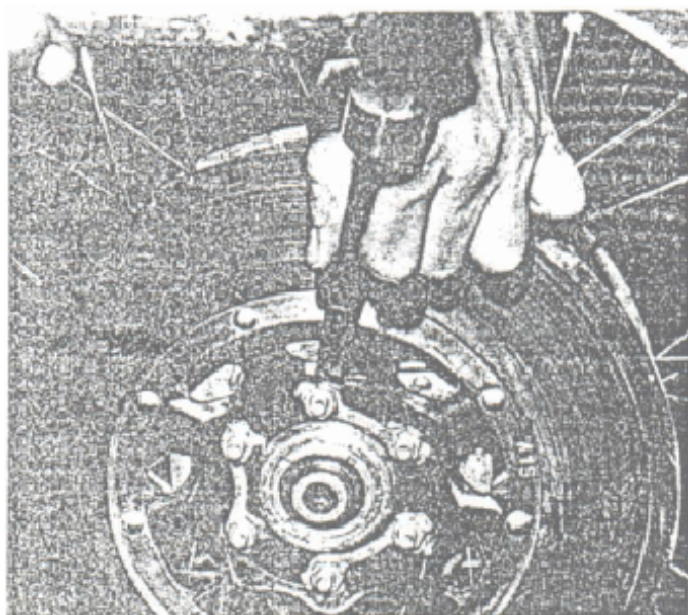
Snider decided that the next trick for him was to make use of those bosses on the right fork leg and add the second disc and caliper.

New parts include a new disc, caliper mounting bracket, hose and some miscellaneous hardware. The installation can be classed as a semi-bolt-on since the parts do bolt into place, but only after some modification to them before installation.

First, the caliper has to be converted from a left hand unit to a right-hand one. This means reversing the positions of the brake fluid line and the bleeder valve, so that the line will come from the rear of the caliper.

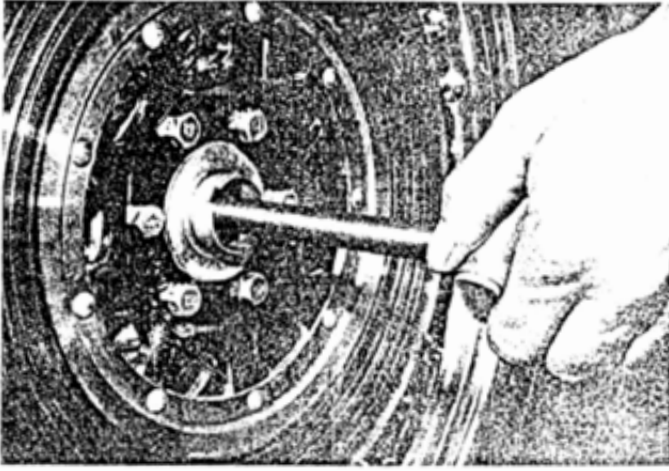
It isn't just a matter of unscrewing the two fittings and swapping them because there is a restrictor in the inlet line that must be removed. To do this the caliper must be disassembled completely.

This means removing the piston and the O-ring seal. The best way to get the piston out is to pump some compressed air in behind it through the inlet line, to pop it out.



**Bend the ears over with a hammer and chisel.**





**Install the axle through the wheel**

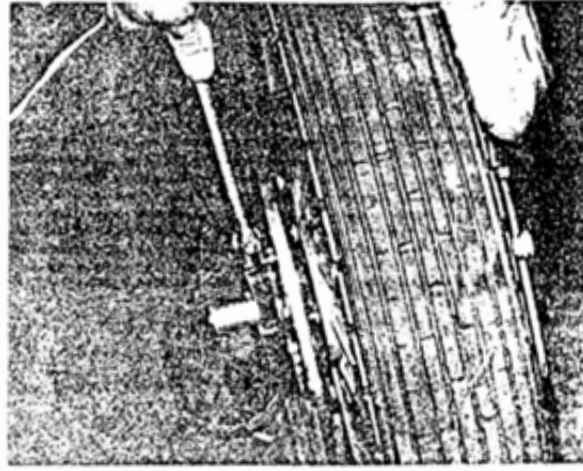
A tool to remove the restrictor in the line is made by cutting off a 16d nail to the proper length. Any nail won't do, it has to be a cup head finishing nail.

The nail is run through the fitting with the head on the inside of the unit. The outer end is clamped into a big vise, and a mallet and stick are used to persuade the restrictor to leave its home.

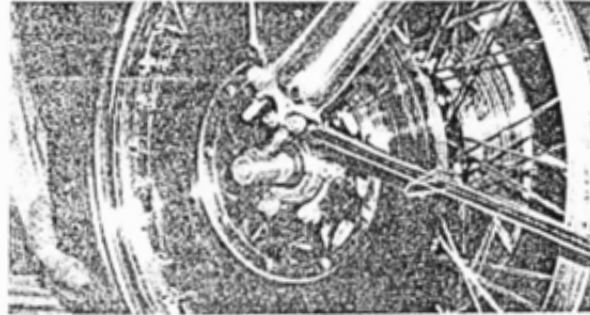
The restrictor is not required when the fitting is remounted. Before unscrewing the fittings, it's necessary to heat the caliper unit slightly. A quick flick of a torch, or a few minutes in the oven, are all that is required. Too much heat, and you're out 17 bucks for another caliper.

The fittings are unscrewed, swapped, and you're ready for the next step. Reassemble the caliper, including the O-ring and the piston.

Now you're going to have to take the front wheel off the bike. Prop the bike up high enough so that you can work comfortably, and rigidly enough so that you can't push it over easily. Remember the front wheel has to be far enough off the ground so that it can be



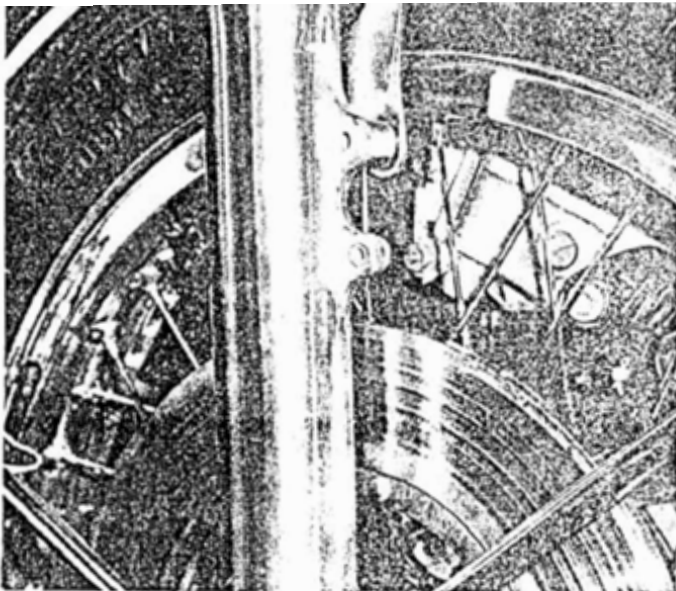
**Be sure the axle is in TIGHT.**



**Reinstall wheel, discs and axle into the lower fork legs.**



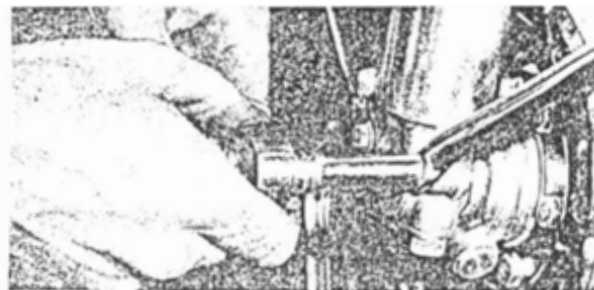
**Axle caps must slant to the rear.**



**Now those bosses on the right fork leg are going to have something to do.**

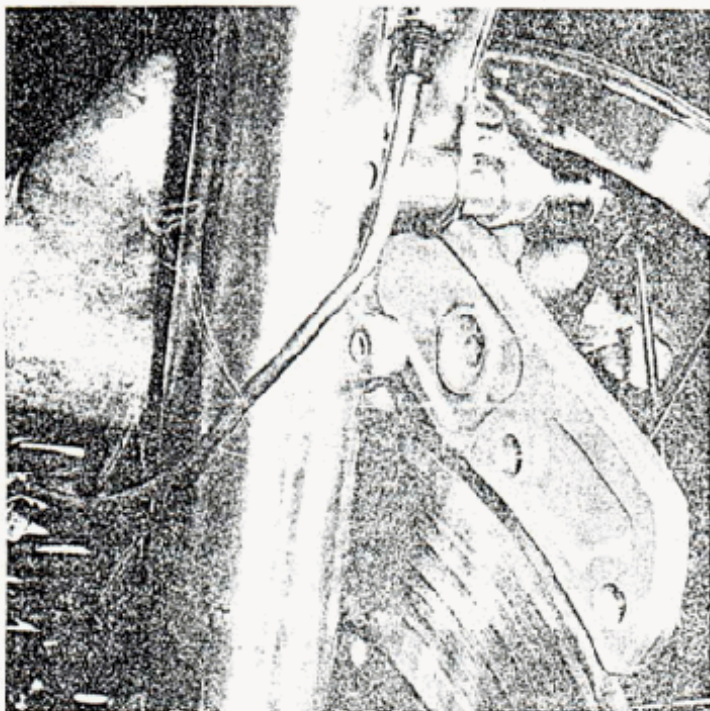


**Install the speedometer cable and lock it into place.**



**Tighten the fender braces**



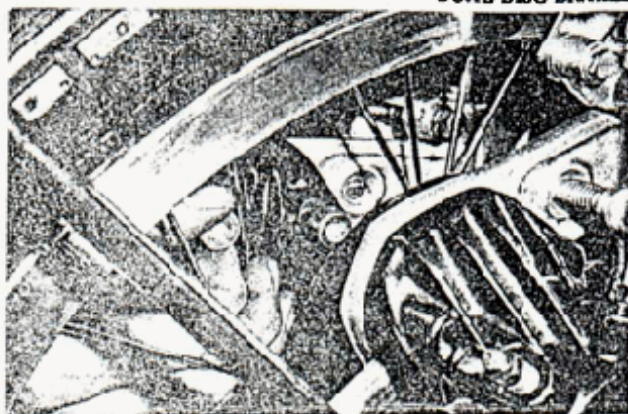


**Install the caliper bracket. Keep adjusting the spacers until it is exactly parallel to the disc.**

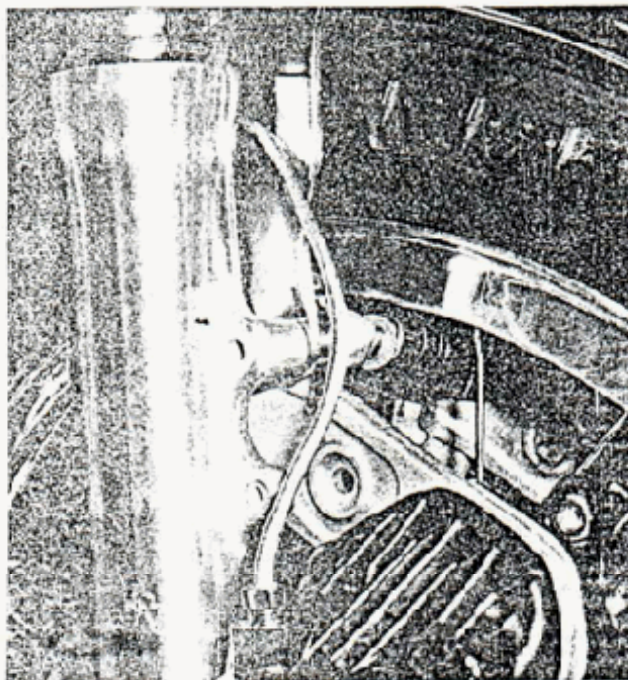
removed easily. Snider uses the centerstand and a bike jack under the front of the frame.

Disconnect the speedometer drive, unscrew the nuts holding the axle holder into place, and the front wheel will drop off.

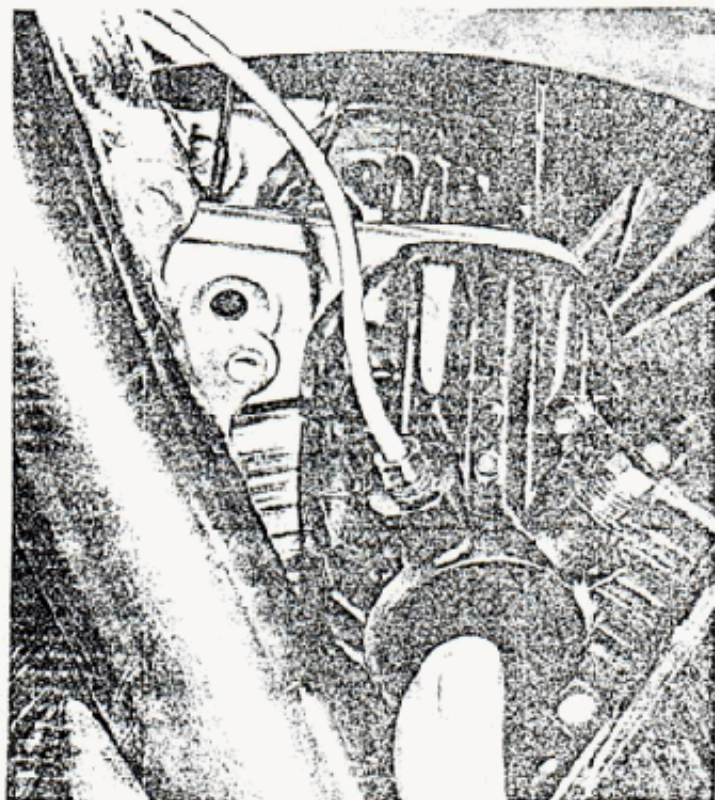
**Important: DO NOT SQUEEZE THE BRAKE**



**Attach the caliper to the bracket.**



**There's not much room to swing a wrench inside the wheel.**

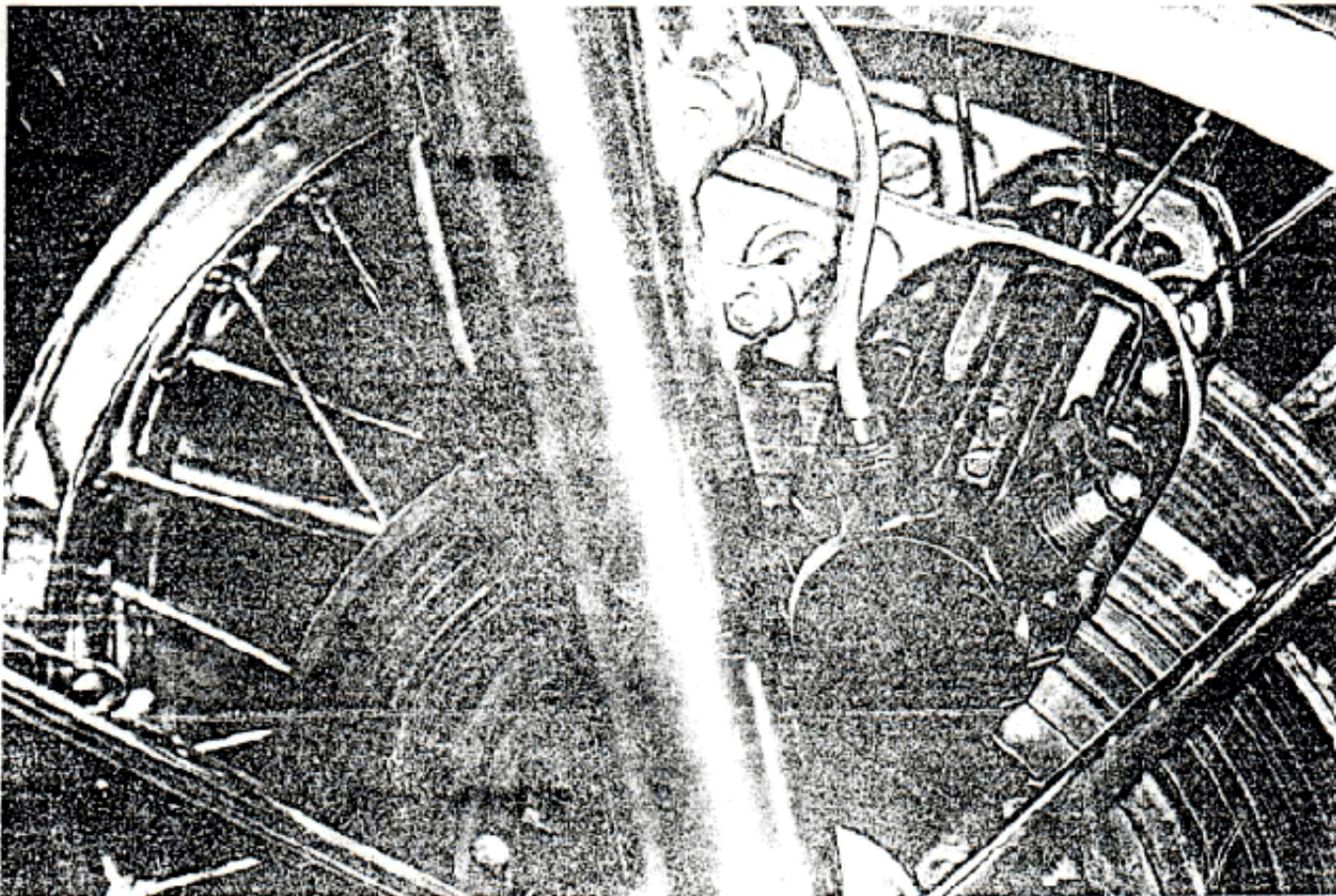


**The new caliper should ride slightly low in front.**



**Adjusting screw and spring must be installed.**





**The completed wheel installation looks like this. All that remains is to get brake fluid to the unit.**

LEVER FROM THIS TIME UNTIL THE WHEEL IS BACK IN PLACE. You'll pop out the piston from the stock caliper, and have brake fluid all over the place, even more than you will have from the installation job.

Take the cover off the speedometer drive box. If you have the K-0 model, or an early K-1, you can grind down the edge of the cover to fit through the hole in the new disc.

If you have an Intc K-1 or a K-2 you'll have to get an early model to replace yours.

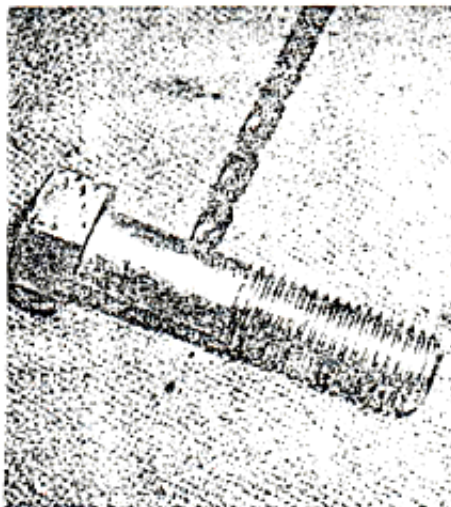
Next, pry down the ears of the double washers, unscrew the nuts, and take the stock disc off the wheel. This might be a good time to have a look at the front wheel bearing, and lubricate if required, or even replace.

The nuts and bolts you took off will not be used again. Instead, go to your local hardware dealer and pick up a set of 5/16 X 4 1/2-inch bolts, with nuts to fit.

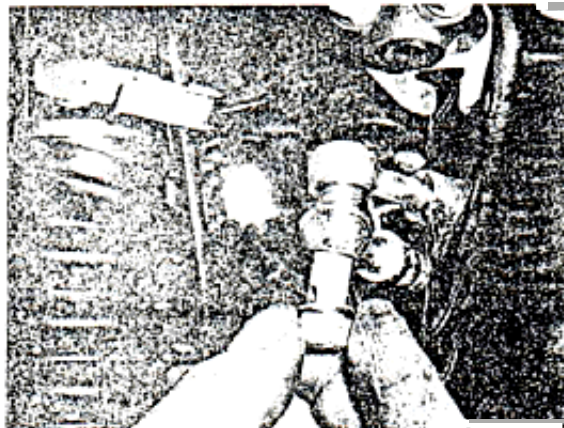
Now bolt the new disc to the right side of the wheel using the new bolts. Put the washers under the nuts and bend up the ears to lock them into place after the



**The bolt must be drilled out lengthwise**

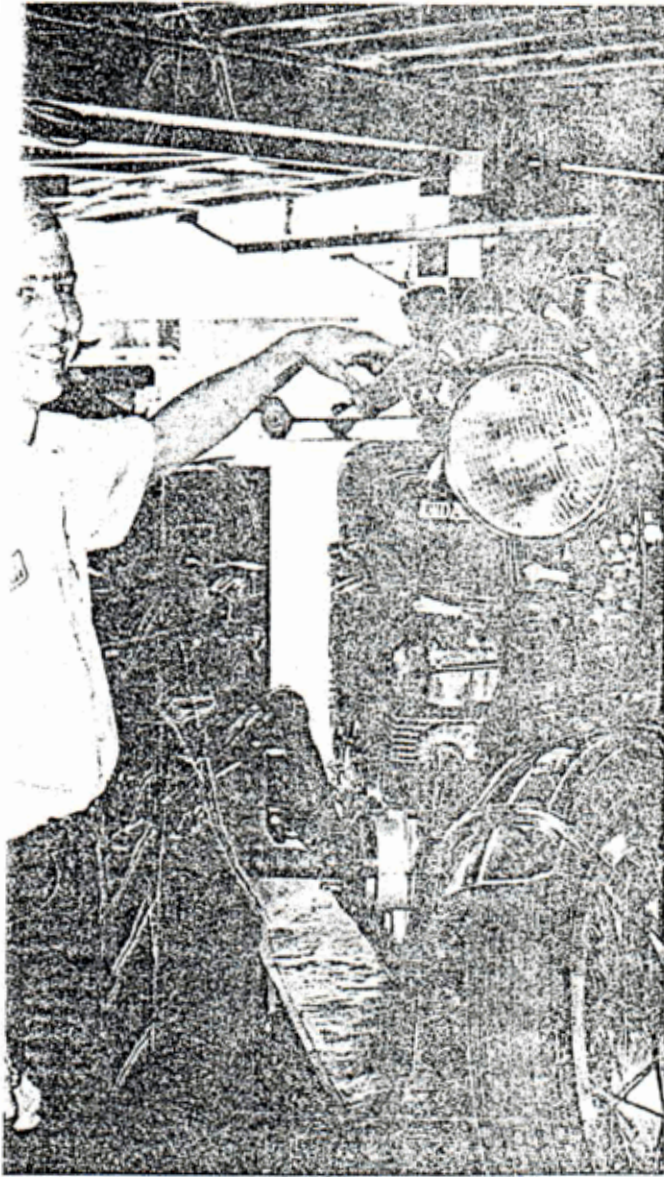


**... and crossways**

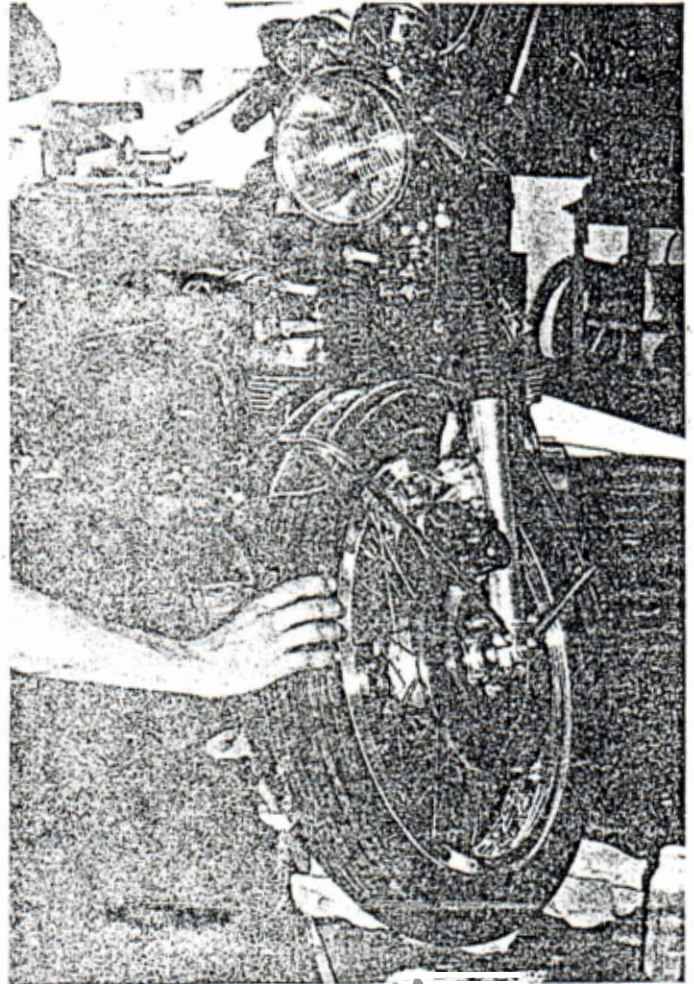


**The bolt is run through the two banjo fittings, holding the new hose into place supplying it with fluid. New crush washers must be used with installation.**





**Snider bleeds the brakes to get the air out of the lines.**



**Calipers are adjusted so that the wheel just rotates freely.**



**This new hose is aduplicate of the one on the left side.**

nuts are tightened down. For the best, longest lasting results use new washers.

You'll need three 10mm x 40mm bolts to mount the new caliper. In addition, you'll have to make some spacers out of tubing large enough to fit over the bolts. Start by making the spacers 15mm long. They'll have to be filed to the exact length when you install them. That's why it's a good idea to make the spacers out of aluminum tubing: The filing goes faster. The reason for the critical length of the spacers is that the caliper has to be exactly parallel to the disc for the braking action to work.

OK, now remount the wheel. The wheel retainer

caps go on with the slope to the rear. With the wheel in place, mount the new caliper bracket to the right-hand leg.

Yes, we know it's difficult to get to the bolts through the wheel. Use a wrench with a universal joint. The lip of the bracket should exactly parallel the curve of the disc, slightly low in front to allow for torque reaction when the brakes are applied. Keep filing down the spacers until the mounting is right, then tighten everything down. Mount the caliper to the bracket.

The caliper mounting bolts, which are Allen type, have got to be TIGHT. Bear down on them much as you can with a short handled socket wrench. Install





**Snider tries out the one-finger braking possible with his dual disc front end.**

the adjusting screw, and you're finished at the lower end.

Where the flex hose comes out of the fitting on the lower triple tree, you're going to have to remove the bolt from the joint. The extra thickness of the second hose requires a new bolt, which has to be made up.

It's a metric bolt, about 15mm longer than the stock one. Clamp it into a drill press, and bore a 1/8-inch hole lengthwise from the tip almost to the head. Then drill two holes across it, at the point where the two banjo fittings will be. This will allow the brake fluid to get from the master cylinder to the two calipers.

When you install the bolt and the hoses, use new washers. These are crush washers, and the grooves cut into them when they are used act as seals. There is a lot of pressure in a hydraulic brake system, and little leaks can turn into big ones faster than you can say "Ohmigawd-there's brake fluid all over the front wheel!"

Bend the copper line from the caliper to a position where it clears all the works and also looks reasonably good, and attach the other end of the hose to it. Then tighten all the bolts down through the system, and bleed the brakes.

Bleeding can be done by opening the bleeder valves and squeezing the brake lever a few times until no more bubbles come out, or by just letting the system sit with the reservoir open for about 15 minutes, letting the bubbles find their own way out.

When the brake lever feels right, button it all up, and enjoy. That's one finger for normal stops, two fingers for panic.