

Truing Wire Wheels

by Rod Schweiger

<http://www.team.net/sol/tech/truwire.html>

Let me begin this piece by saying that this is the way I true my wire wheels not necessarily THE way to true wire wheels. It works for me, therefore, it should work for you. You can true wheels that are 13, 14, 15, 16, or 19 inches and it doesn't matter if they have 48, 60 or 72 spokes. Truing wire wheels is logical, it doesn't require tremendous skill, and only requires a few tools. It does, however, require an understanding of what you are doing.

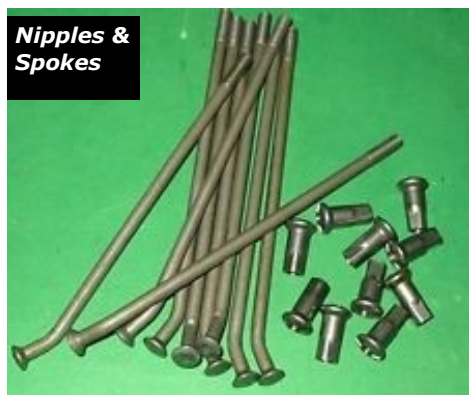
The tools that you will need to true wire wheels are: a spoke wrench. Moss Motors sells a good one, part # 385-800 at \$11.95. I found that the one I got needed the opening made



bigger with a small file and this only took a minute or so. A fixture to hold the wheel while spinning to check for true is a great help. I make my own from an old MGB hub, brake rotor and a piece of pipe. You can also jack up the front of your MG and use the front hub for this task. You should also have a supply of spare nipples and spare Spokes, long and short appropriate to the size wheel you are working on. While it is easier to work on the wheel with the tire removed, you can replace spokes and nipples and true wheels with the tires mounted on the wheels. You will

need to break the bead on the front edge of the rim (let all the air out first) by jumping on the tire to break the bead. You can then hold the tire down to expose the nipples with some small blocks of wood.

There are two types of wire wheels that you may encounter, chrome plated and painted. While chrome plated wires are the most expensive and are the most glitzy, they have a problem that the painted don't. The



problem is rust. Sure, painted wires rust just as chrome wires do. But with painted wires we can use heat to free the spokes that have rusted to their respective nipple. With chrome wires the enthusiast will have to use patients and liberal amounts of penetrating oil, and still the rusted spoke may eventually need to be cut out of the wheel, thus destroying that spoke and nipple.

To free a rusted spoke on a painted wheel, heat the nipple to cherry red

hot and then immediately quench with a rag soaked in cold water. When quenching, you will hear a noticeable pop that will tell you that the spoke has freed itself from the nipple. The heat process will discolour the spoke and the nipple. If the wheel is to be painted, so what? If the wheel was a chromy, the heat discoloration will have spoiled the spoke and the nipple.

If you have an unserviceable wheel of the painted variety, with some good spokes and nipples, you can use the heat method to lay in a supply of spare spokes and nipples. This is a good rainy day project.

There are probably only two reasons that you will ever have to fuss with your wire wheels. Reason one: you have broken spokes in the wheel and want to replace them. Reason two: the wheels are badly out of true and even a good balance job at the tire shop won't make them run straight. Let's begin with problem one. If you have a wire wheel handy, take a look at it while you read this, if you don't, look at fig 1

All wire wheels have two length spokes. Long spokes radiate out from the hub at the point nearest where the knock-off attaches, and short ones that radiate out from the wide part of the hub nearest the brake drum. The two different length spokes each serve a different function. The short spokes control the roundness of the wheel, while the long spokes control the lateral run-out of the wheel. Another way of describing what the long spokes do is to say that the long spokes can

cause the wheel to wobble if they are not set right.

When spokes break it is usually the long ones, and they always break up near the hub. These spokes are not hard to replace except that to install the new spoke and thread it into the appropriate nipple will always require that you remove, one, two or sometimes three short spokes to install one new long spoke into its nipple. On painted wheels, if the spokes won't break loose use the heat method. If working with plated wheels, use penetrating oil and patience and if that won't work, cut the spoke out and replace it with a new one (you knew that those chrome wire wheels were going to be expensive when you bought them). Coat the new spokes threads with Permatex Anti-Seize lubricant (part no. 133K) so that the next time you do that spoke it won't fight you. Of coarse you may be fussing with that spoke again. Remember, it's part of the hobby.

Once you have all the broken spokes replaced it is time to snug them up. Try to tighten up the spoke and nip-



Fig 1

ple until it is the same tension as the spokes around it (ones you didn't change.) You can tell the tension of the spoke by tapping the spoke with the spoke wrench and listening to the sound. It should ring. If the sound is dull, the spoke is too loose. Try to make it sound like the adjacent spokes.

When the spokes are snugged up, it's time to test the wheel for true. Our goal it to try to get the wheel to within 1/16" to an 1/8" of true. Don't go and frustrate yourself by using a dial indicator. This job doesn't require that type of hair splitting accuracy. Set the wheel to be trued on your truing fixture or your front hub. You will need a piece of stiff wire as a pointer. Important, set the pointer to point to the inside of the rim on the folded edge where the tire seats.

Don't try to set the pointer to the outside edge (where the balance weights go). If there is any damage to that part of the wheel and there often is, using it as the reference point will only further frustrate you.

Now spin the wheel and watch the pointer. If the wheel wobbles on a lateral plane, the outside spokes

need work. If the wheel isn't round, then the short spokes need work. Start with the roundness problem. If the wheel is within a 1/16" or so, okay. If it is an 1/8" or more out it will be necessary to tighten some of the short spokes to get it round. Important, before you tighten any spokes you will need to loosen the spoke(s), that are in this case, at 90 degrees or at right angles to the spokes to be tightened. If you don't loosen before you tighten, then something is going to break. If it does don't despair, replace the broken spoke(s) (you are already good at that) and remember it's part of the hobby.

Once the wheel is round you can start working on the long spokes to make the wheel stop wobbling. Use the same technique. Loosen the spoke(s) which in this case are 180 degrees across the wheel then tighten the necessary ones to bring the wheel into true. Keep spinning the wheel and watching the pointer to see how the work is progressing. When the wheel is reasonably true, go around and tap the spokes with

A couple of ideas for a wire wheel truing jig



the spoke wrench and test the spokes for tightness. They should all have approximately the same sound. If necessary snug them up. Check again for true by spinning the wheel and checking the pointer.

When the wheel is true and the spokes are snug, look at the nipples on the inside of the wheel (the part normally covered by the tube) and make sure that your new spokes don't protrude through the nipples. They could pop your tube. If they protrude through the nipple, grind them down flush. Now you can prep the wheel for priming and painting. After painting, put a double wrap of duct tape over the nipples on the inside of the wheel to protect your tube. Finally use a thin smear of silicone seal on the inside of the hub on the ends of the spokes to keep the grease on the hub splines from running down your freshly painted wheels.

Finally, a few words on wheel balancing. It has been my experience that wire wheels are much more sensitive to wheel balance than a disk wheel. It is normal for a balance job on front wheels to last only three or four

thousand miles. At that point the steering wheel may shimmy (usually at some particular speed) indicating a balance job is needed. I always had good luck with a dynamic (spin) balance. Any good tire shop can do it.

I hope this article helps you with your wire wheels. Special thanks to Bill Traill for sharing with me his insights into this subject.

