

# Harbor Freight Tire Changer Modifications

**Where Our Ham Fisted Hero Makes a Cheap Tool Useable**

**- Or -**

**When You Have The Skills And The Need But Not The Bucks**

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## **How I 'fixed' the Harbor Freight Portable Tire Changer to work with GS spoked wheels**

Ok so I'm a cheap bastard and I didn't want to spend the multi-\$100's of bucks on a Coates tire changing machine... And for around \$110 plus shipping I could order up Harbor Freight's Central Machinery Portable Tire Changing stand (P/N 34542) and motorcycle tire changer attachment (P/N 42927). And if you're really patient you can wait for the sale and save almost half on the tire changer and adapter.

Well, the only problem is (drum roll please), the 3 little fingers that are supposed to grip the rim and hold it tight, don't. Oh, well they probably will work on lesser wheels, but our GS wheels use mondo thick material and also angle up, right at the outer edge. So I looked at it and thought well maybe I could modify the fingers and open them up enough to work on our GS wheels... Ah, er, NOT...

So I took the finger mounting blocks off and took them to my friendly neighborhood metal magician and for a measly \$35 he fabricated 3 new fingers that mount to the existing mounting blocks with bolts and VIOLA new fingers that actually DO grab our GS wheels... AND the original fingers are still in place for use on those other wheels. So I get the best of both worlds...



Here's the 'new' finger compared to the 'old' one



This is how it is assembled



Here it is in action



And from underneath.

Notice that I am using 2 different types of a rubber between the new finger and the wheel rim as a cushion. One piece is a section of garden hose that has been split length wise and the other is a piece in inner tube that has been glued to the face of the finger... The garden hose works best on the 'fixed in place' fingers and the rubber inner tube can work on the adjustable clamping finger. I might just use the garden hose in all 3 locations due to its better protection of the rim...

The next mod is a 3/4" x 3' x 4' chunk of CDX plywood bolted to the stand as a secure base. I ran carriage bolts (3/8" x 2-1/2") up through the plywood base plate and into the pre-existing holes in the 4 feet of the stand for a much more stable base of support. I used fender washers and regular sized washers and really tightened the nuts down forcing the heads of the carriage bolts to suck into the plywood. Those tiny little feet are just trouble waiting to happen as soon as any real leverage is used... Of course if you're of a mind you could bolt the stand directly to the floor of your shop, just be careful of the existing feet which don't sit exactly flush and level with a level floor. It will tend to rock back and forth or maybe front to back or even some combination of the two... That's why I like the wood base... It will act as a leveling system and take up the slack of the non level feet as it crushes into the wood after I tighten it *way* down...

I indexed the Tire Changer to the base so that it will be easy to re-align the Tire Changer and the base next time I use it. I plan on removing the Tire Changer from the base during non-use just because it will take up far less room in the shop that way...



These are the carriage bolts poking thru the plywood and being held tightly in place by fender washers, regular washers and nuts.



These are the carriage bolts that have been sucked into the plywood so that they are flush with the surface of the plywood.





This is the Tire Changer bolted down and indexed (the green paint).



Another shot, Note, the nut I used near the bead breaker is a cap nut (at arrow). I used it to keep sharp edges and corners away from the wheel or rim when using the bead breaker.

So the whole kit and caboodle costs \$110 (Tire Changer) + \$35 (finger mods) + \$26 (4'x8' cdx plywood) + \$5 bolts and nuts. For a grand total of \$176 (plus shipping and local taxes etc...)