Converting a 5488 to Two-Wheel-Drive

A new-in-box 5488.


The 1468 with the headlight assembly and weight bracket removed.


The underside of the 5488 with the mechanical-front-wheel-drive removed.


The 1468 front axle trimmed on the front for a better fit.

The tractor I picked this month has been around for awhile and was a nice addition to any collector's shelf in its original condition. But, like always, I can find ways to change things. So, for the "Down to Details" project this month, we will be converting a Precision Series International 5488 mechanical-front-wheel-drive tractor (MFWD) into a two-wheel-drive model.

This is a fairly easy project, with only a few minor modifications needed. To start, we need a 5488—I picked up a few extras when they were selling for under $100. Next, we need the two-wheel-drive front axle. For this project, I am going to use the front axle off a Precision International 1468 that fell to an untimely death of a parts tractor!

First, remove the front axle from the 1468. To do this, the upper grille/headlight assembly will have to come out. With some patience and a fine-tipped flat screwdriver, gently pry this assembly from the hood/grille assembly. Once the headlight assembly has been removed, the now-exposed screw will need to come out.

Next, the front weight bracket will have to come off the 1468. The best way to remove the bracket is to warm the area in and around the weight bracket with your heat gun. After the weight bracket has been warmed, you will want to get between the back side of the weight bracket and the chassis of the tractor with that fine-tipped screwdriver and gently pry the bracket forward. Ertl used two mounting pins on the weight bracket, with epoxy holding it to the tractor. If all goes well, the bracket will slide straight forward and come off after the area has been warmed. With the weight bracket removed, two more exposed screws will need to be removed.

OK, you may find this hard to believe, but the hardest part of this project should be completed. With the screws removed, the 1468 cast nose piece should come free from the hood and chassis. In most cases, the wide front of the tractor will fall free from the tractor. If it doesn't fall free from the tractor, just slide the front axle mounting bracket forward off the tractor and the axle will be free. With the 1468 front axle off the tractor, the rest can be set aside to become parts for a later project and we can move onto the 5488.

For the 5488 to become a two-wheel-drive model, the MFWD axle must first be removed. Of all the custom work I have ever completed, this axle is the easiest axle to remove. Simply flip the tractor over and remove the four screws that hold the front axle mounts in place and the front axle will fall free from the tractor. If the MFWD driveshaft does not fall free when you remove the axle, pull it from the chassis and we are under way.

First, pull the axle mounts free from the MFWD axle of the 5488. Ertl used a long pressed-in pin that goes through the front mount and clear through the MFWD axle into the rear mounting bracket. This pin will work great on the two-wheel-drive conversion, but will need to be shortened, since it will only need to hold the front of the two-wheel-drive axle in place. Using my Dremel, I shorten the pin so it is a little longer than 1/8 of an inch. If you leave it too long, it will interfere with the steering of the front axle. If you cut it too short, well, I am sure you know that answer.

With the pin shortened, I reinstall the front mounting bracket back onto the tractor and give the two-wheel-drive axle a test fit, only to find that the pin is just slightly larger than the hole on the two-wheel-drive axle. Simple fix—the pin measured just over 1/8 inch, so I use a 0.135 drill bit to open the hole and test fit again! With the two-wheel-drive axle mounted on the front pivot pin, it is time to check the rear mounting bracket. Sure enough, the rear bracket needs to be drilled out to 0.135, just like the front.

With the rear bracket drilled to fit the rear pivot pin on the two-wheel-drive axle, I test fit and find that the rear bracket is close—very close—to fitting into its original location. But this isn't horseshoes or hand grenades! To solve our next problem, I notice if I trim back the front pivot location on the axle, I can gain 0.050-0.100 of an inch. Next, I notice the rear pivot of the axle has a rough casting mark. If I smooth that out, I should be real close! I trim these two areas with my angle die grinder and go back for a test fit. It fits!

Now that the front axle fits, I check to see if the axle will steer. This axle steers fine, but if I want the steering wheel to rotate with the movement of the front axle, I need to extend the steering shaft on the 5488 to reach the tie rods of the new front axle. In the past, I have welded a short extension to the steering rod. For this project, I am going to show you an alternative for those who do not have a welder.

Bossen Implement decals trimmed to fit the Precision tractor.


A set of 3688, 5088 and 5288 two-wheel-drives made from the 5488 MFWD.

I used a short piece of brass tubing that fits over the original 5488 steering shaft and a short piece of brass rod the same diameter as the steering rod and epoxied the extension together, only after everything fit properly and the steering worked correctly.

Now that the axle fits correctly and the steering works right, it is time to paint. First, the front wheels have to come off. Based on past experience, I look on the back. Sure enough, I see pins holding the center cap to the wheel. With my spring-loaded center punch, I pop the center cap free from the rim and expose the screw that holds the rim to the axle. With the screw removed, the rim comes free, leaving us with removing the tire from the rim. Here again, my heat gun warms things up and the tire comes free from the rim. I now blast all of the parts in my bead blaster and it's off to paint and final assembly.

Now if you wanted a two-wheel-drive 5488, you could be done, but I wanted a 3688. So I called Bossen Implement and ordered a set of 3688, 5088 and 5288 decals. I had no plans to use the entire decals and try to get them to match the originals. Instead, I cut the decal apart, using the black strip and then carefully laid this section of the decal over the original strip on the front half of the hood. To help line up the decal correctly, I use a very small amount of soapy water on the back of the decal, which allows the decal to slide around on the tractor until it is positioned exactly where I wanted it. Once the decal is positioned, I use a paper towel to dry the excess water from the side of the hood. Within 10-15 minutes, the decals should be set.

Other details that would add to the authenticity of the tractor include adding duals or the smaller six-hole IH rims off the 6588 2+2 or even larger front tires to personalize the tractor to your liking.

Tool talk

I have been talking to some potential builders who have been responding that they do not have the fancy tools I have to build the toys I build. Well, by no means do I have fancy tools. No doubt, I have acquired a few tools over the years that have made my life a little easier in the building process. In general, the basic tools I use every day are just simple inexpensive hand tools that I am sure a lot of you already have.

So I plan to add a segment each month focusing on a tool. This month, I am going to write about my heat gun. I have said it more than once that your heat gun will warm the area to help release the epoxies that are used to assemble the tractors. But it also does more than that. Metal expands and contracts with the use of heat, and sometimes just using that to your advantage can help you through some of your projects.

The heat gun I use is a common heat gun sold for paint removal. It has a high and low setting and will reach temps of 750-1,000 degrees. It can provide a quick amount of heat in a very focused area with a lot better control than an open flame that will burn paint with physical contact.

I use a Wagner model that can be bought on eBay for $19.99—a real bargain if you plan on working with the current toys that are being produced. I even use it to warm tires when I want to remove or install them on OEM rims. A lot of people use hot water, but that takes time and leaves a mess, whereas the heat gun is quick and clean. *TF*

Living just northwest of Dyersville, Iowa, in the heart of farm country and farm toy replica country, Chuck Steffens has found a niche in the toy world, building high-detailed replicas in his spare time. He shares his experiences with Toy Farmer readers, hoping to lead other collectors to personalize one of their own tractors. Comments or suggestions can be directed to csteffens@wildblue.net.