

Customizing a Massey Ferguson 1150



A new-in-the-box SpecCast Massey Ferguson 1150.

Hello again! This month, I am excited about the project on the bench, not because of the particular brand, but because of the particular era and significance of the tractor.

The tractor is the new Massey Ferguson 1150. Now, I am never going to say this tractor was the pinnacle of farm tractors, but it was the first Ag tractor to be factory equipped with a V-8 engine. It really was a pinnacle of the "muscle tractors," so when SpecCast decided to offer this gem, I knew I was going to have one. When I was finally able to get my hands on one, I was impressed with how the tractor looked fresh out of the box. Most people would have been happy with it just the way it was. Most!

After seeing the prototypes and then finally getting my own, I did see a couple of areas that could use some help. First, the wide front was set too wide. I am not sure why it was set so wide, but I can fix that. Next, the rear wheels

are just too small. They appear to be an 18.4x34 tire at best. Most 1150s would have come with an 18.4x38 or I have seen lots with the larger 20.8x38 tires. So, I guess I will fix that, too.

First, I decided I wanted to build this tractor like one you would see at a show. Well, two years ago at the Half Century of Progress Show, a Massey Ferguson 1150 shined like no other. Then, *Heritage Iron* magazine had some photos of that same 1150. Bingo, that is the one I want to build. It had the two-post ROPS like the toy tractor and it had the 18.4x38 tires on the rear and larger tri-ribs on the front, like I wanted mine to have.

With my goal set, I now have to figure out how to build this tractor. The first obstacle is going to be building those rear rims. In past articles, I have shown you that I build my own two-piece rims with center hubs that will interchange, like on the real tractors. Well, those MF rims were just too small. At 34 inches at



Setting my punch to remove the rear wheels from the tractor.



Test fitting the MF insert into my ring.



The axle caps that became spacers.



The center cap removed from the front wheel, exposing the mushroomed stub axle.



The wheel removed from the tractor, showing the 1/8 inch stub axle.



Here is the 1/8 inch brass rod bolted to the stub axle and the aluminum shim used to hold the wheels away from the knee.

best, I was thinking they will never work because they would just be too small, but I guess I will try.

First, I removed the wheels from the tractor. Let me tell you, those were the most difficult set of wheels to remove. The axle is not very large in diameter, but it was stuck into all four wheels on the tractor. I started by just twisting and pulling, but I got nothing but sore hands.

I then tried removing the tires, then clamping the rim into my vise and twisting and pulling. Here again, nothing but sore hands. Finally, I grabbed a long punch and placed it onto the inside of the rim right next to the axle. Being careful not to destroy the three-point or drawbar, I started hitting the punch with the hammer. Slowly, the wheels started coming off. That axle had to be pressed into the rims over an inch and it fought me until the very end, but finally they were off.

With the wheels now removed from the tractor and the tires already off of the rims, I looked at the rims a little closer and thought, "What if I trim the outside diameter of the rim enough to fit into my rim/ring? Could I make it look like a step-up rim?" Well, I was off to my disc sander

to remove the casting bars on the outside of the rim that held the tire in place. After removing those bars, I test-fitted the rim into my ring and, to my amazement, it fit good. After the shock of seeing that the center hub fit, I thought, "Let's make this work."

I followed the same steps that I outlined in the article on building the IH insert—narrowing the MF rim on my bandsaw, then trimming it to fit the ring. The only thing I did differently was not removing the outside rim from the center hub. Instead, I tapered the edge of the center hub to give it that step-up look. With the insert built, it was off to molding so I can do this again or sell the parts to do-it-yourselfers.

With the rear rim design built, it was time to test fit it onto the tractor. I temporarily glued that newly built MF insert into my ring and installed one of my 18.4x38 tires. This leads us to the next problem—the lack of fender clearance! To fix this, I knew I was going to have to raise the fender and ROPS assembly. Flipping the tractor over, I saw two screws holding the assembly to the axle housing. Using my Phillips screwdriver, I removed these two screws and the fender/ROPS assembly was free. Then, by gently

pulling, the fenders came off with ease.

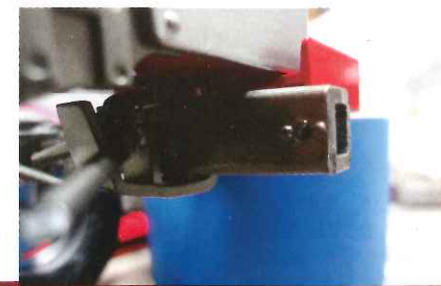
After looking at the assembly, it seemed this problem could be an easy fix. I used some 1/8 inch axle caps that the parts suppliers handle. These caps are 3/16 inch tall with an 1/8 inch drilled center. I drilled the hole the rest of the way through. With the hole drilled through, I then was able to find screws that were 3/16 inch longer. Now it was as simple as installing the caps into the mounting location of the fender/ROPS and reinstalling the new screws. With the screw installed and tightened, I test fitted the taller rear wheels and, PRESTO, it was a perfect fit.

We now have one of our obstacles cleared and it is time to move onto the next one—the front tires. Those front tires that SpecCast installed on this tractor may have been a factory option, but in my neck of the woods, the tractors would have had a larger 11.00x16 tire. After doing some head scratching and rummaging through the Chuckville Salvage, I came across a set of front wheels from an IH tractor that had the same offset and rim design as the MF tractor. So, let's see if they will fit.

First, I had to remove the original front wheels that came on the tractor.



An underside photo of the wide front axle shows the three screws that need to be removed to take the axle off and the tie rods cut in two.



This shows the center section of the wide front with the pin drilled out to make it possible to remove the knee.



Here is the knee trimmed back by one set of holes, narrowing the stance of the tractor.



The knees are installed into the center section and the tie rods are shortened with the brass pipe installed.



A side-by-side comparison of the new-in-box 1150 and the newly improved 1150.

From past experience, I started by looking on the back side of the rim for any clues, but found none. Next was to see if the center cap would come off. With my flat-tipped screwdriver, I gently pried at the center cap and it popped off rather easy. Once the center cap was removed, I could see how the wheel is held onto the tractor. What they did was mushroom over the axle.

To remove the wheel, I grabbed my drill and a drill bit slightly smaller than the diameter of the hole in which the center cap was installed. Doing this increased my odds of keeping the drill bit centered and drilling the mushroomed head off without any extra damage. Once I drilled some of the head off, I started giving the wheels test pulls to see if they would come free. After my second or third attempt, the wheels came free from the axle without creating any extra damage.

With the front wheels removed, I now needed to figure out how to mount those IH wheels on the tractor. First, I noticed that the axle diameter of the MF front end was 1/8 inch and so was the center hole of the IH rim. Looking good. The problem is that the axle stub is too short and the back offset of the rim is too shallow, making the wheels sit too close to the knee, causing the tire to rub. My solution is to extend the axle and shim the wheel away from the knee.

I drilled a 0.060 hole down through the center of a piece of 1/8-inch brass rod. I then drilled a 0.052 hole into the center of the axle stub on the wide front to match the hole I just drilled into the brass rod. When this was done, I tapped the axle stub with a 0.080 tap and bolted the brass rod to it,

extending the axle length.

After this was completed, I used aluminum tubing to build a shim and hold the wheel away from the tractor, giving the tire clearance. Once the aluminum shim was installed over the axle, I started test fitting until I had the shim cut to the proper thickness so the tire had some safe clearance.

Next, I focused on trimming the brass axle extension down until it was the correct length—short enough to hold the wheel on tight, but long enough to add a washer to the 0.080 bolt while leaving room for the wheel center cap to fit.

With all of the parts fitting correctly, I then waited to assemble the parts until the rim was painted so I could add a small amount of epoxy to the bolt and axle extension, making everything permanent.

Next task! That wide front is just too wide. While changing the front tires on the tractor, I noticed that the front axle looked like it was built in pieces, just like the real tractor. The center section is one piece, then both knees are separate.

First, I try to pry the knee out of the center section, but I had no luck—some further research is needed. After further research, I saw what appeared to be a pin installed in the center section into both knees. Could they have used pins to hold the axle together? Well, I am going to find out! Using a small drill bit, I start to drill the pin out, but it just seemed too risky while holding the tractor. I need to take that wide front off the tractor and limit the amount of damage I could do.

Looking at the bottom of the tractor, I see there is one screw under

the weight bracket and two next to the axle, one on each side of center. Using my Phillips screwdriver again, I removed these screws and the front axle came clear from the tractor.

Now I feel a little safer! OK, back to drilling out those pins. With the pins drilled, I then used my side cutter to grab the knee and pry it free. With some strong wiggling, the knee did come free. With the knee free, I used my 2-inch die grinder and file to trim the knee up to the next set of holes.

While I was doing this, the tie rod was starting to make me nervous. Doing some quick thinking, I knew I was going to have to shorten it as well. So I used my side cutter and cut it in the middle. With the tie rod free, I gave the knee a test fit. After some more "tweaking," the knee was fitting great! On to the second side. With the second side modified just like the first side, I installed it into the center section. Time to reinstall the front end—maybe—no time to tear it apart some more.

Wanting to copy that 1150 from the magazine, I needed to remove the muffler and install a chrome pipe. With the wide front end removed, I thought I would give the hood a test wiggle to see if it was just held on by the screws used to hold the front axle, like the SpecCast Oliver 1950. After the test wiggle, I realized there was more holding the hood than those three screws up front. With some more research, I found two screws, one on each side of the hood, toward the rear right in front of the platform. Carefully using my screwdriver, I removed those two screws and gave the hood another wiggle test. I slowly lifted the hood. There will be some spots that may

grab, but be careful and it will come off.

With the hood now off, I removed the screw that held the muffler to the hood of the tractor and then proceeded to drill the hood out to 5/16 inch to represent a 5-inch chrome pipe. The real tractor most likely only had a 4-inch chrome pipe, but the 5/16 looked way better than the 1/4 inch pipe.

Time to reinstall the hood! Following the reverse steps used to remove the hood, I reinstalled it onto the tractor. I then reinstalled the wide front center section and those three screws. I then installed both shortened knees so I could get an overall look at how the tractor was coming together. I have to say I think this tractor is going to be a home run!

The tractor has a nice stance. This means I can mount the knees permanently. To do this, I use my five-minute epoxy on the mating surfaces of the knee and the center section, making sure everything stays level and even.

Final task before painting: repairing the tie rods. To do this, I cut the tie rods down to 1/4 inch from where the clamps would have been. Then I carefully removed the paint on that

1/4 inch of the tie rod. I then used a small piece of brass pipe that fit tightly over the original tie rod. With the pipe fitting the tie rods correctly and the wheels straight, I had patience and used many test fits to make sure the wheels are straight and the pipes fit tightly. Once this is done, I applied some epoxy into the pipe and

assemble.

Off to paint! Then it's final assembly.

Now this is how that 1150 should have looked! I think that tractor was nice new out of the box, but it's better like this! It's a classic example of a "muscle tractor!"

TF



The finished tractor.

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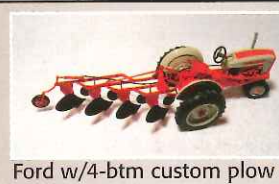
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