

Down to Details

By Chuck Steffens

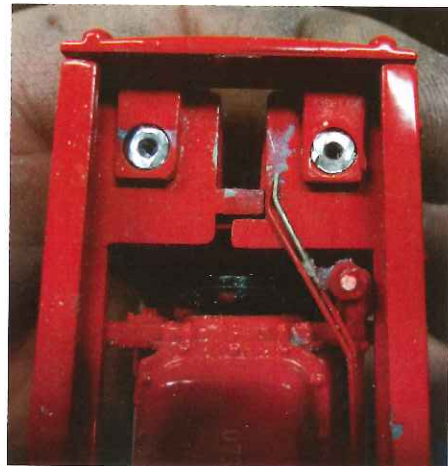
Making a Farmall 460 Into A Wide Front and Farmall 706 Into A Narrow Front: A Front End Swap – Part II

Last month in my “Down to Details” column we went through the necessary steps to tear down both the Farmall 460 and Farmall 706. This month we will finish up the project of swapping front ends.

Let’s start first with mounting the wide front under the 460. First we will need to mount the saddle mount. There are a few small modifications that will need to be done to mount, but nothing too serious.

First off, the screw holes are off by just a very small amount, but just enough that you will not be able to start both screws. How I handle this is to use a drill bit slightly larger than the size the hole is to drill the hole out. Then while the bit is in the hole, apply side pressure to widen the hole out. You will want to make small adjustments to the holes so you don’t make the holes too big that the screws pull through.

The next modification once the holes are oblong enough that the screws will line up, is the cups on the hidden side of the mounts will need to be trimmed. The best



The tabs on the 460’s frame holding the front frame section in place and the filler panel it gets screwed to is trimmed flush with the front frame section mounts.

way to do this is just remove half of each cup—the half that is towards the center of the mount. With the cups trimmed to fit a quick test fit is needed.

With the screws lining up and saddle mount fitting good, the next thing you will want to do is a little trimming on the front frame section. On the front frame section there is a tab casted into it to add support to the narrow front of the tractor. Since the narrow front is no longer on the tractor, this needs to be removed. I use side cutters to rough cut the tab out then finish with my Dremel, making the frame flush on the backside.

Once you have the front frame section trimmed flush on the backside, install it back on the tractor and here again test fit. If all looks well and fits well, there will be one last modification left in this area. The two tabs holding the front frame on the tractor and the screws for the front saddle mount are a little too tall. A person could leave them alone and without any problems, but I feel it leaves too much play to the front axle. So what I do is trim the tabs down until they are flush with the front-frame mounting brackets.

If you followed me through, you should be able to assemble the front frame and the saddle mount under the tractor.

The next step will be installing the steering shaft. For this part of the project you are going to want to keep each steering gear with the tractor it came with. Those steering gears are very similar, but



The steering shaft cut apart with the end squared along with the small brass square tubing that will be used to lengthen the shaft.

yet have just enough differences that when completed there will be steering problems. So the best thing to do is clamp a vise grip on the steering shaft from the 706 and install it to the 460 steering shaft and vice versa using a small amount of epoxy. The steering gear from the 460 will easily fit the wide front steering gear, but some modification will be needed when installing the narrow front under the 706—but that’s later.

With the 460’s steering gear on the 706’s steering shaft, you will need to do a test fit and find out that the steering shaft is too short. Well, what to do? In the past, I have cut the shaft apart and welded an extension into the middle of the shaft, but not everybody has a welder available for their convenience. So I am going to show you a neat little trick I learned that will work just as good, and takes no special tools other than your Dremel.

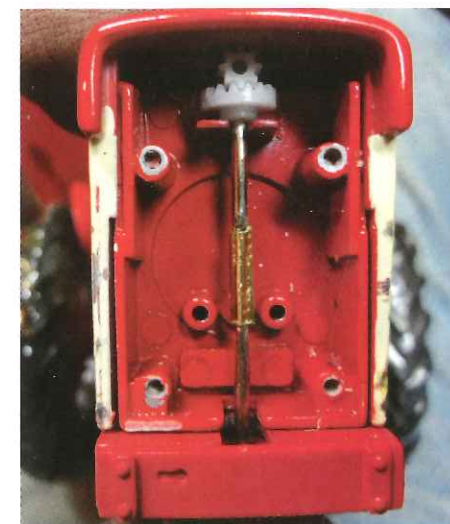
To begin, cut the steering rod about three-fourths of the way from the top. With the shaft cut apart, take your Dremel and make the round shaft square. With the shaft square, use a small piece of square tubing—about 1/2 inch long and slip both of the now squared shafts into it. You will want to test fit and make small



The lengthened steering shaft test fitted together.

adjustments until you have a perfect fit and length. Once the lengthened shaft fits properly and has the right length—2.25 (if I remember right)—apply some epoxy to the shafts and insert them into the square tubing. For a little extra reassurance, I squeezed the square tubing a little with a vise grip making sure it is a tight fit.

Now with the steering shaft built, install it into the tractor and mount the steering arm of the wide front over it and start reassembling the wide front under the 460 in the opposite manner it came off the 706. Install the saddle using a small amount of epoxy and a screw, then install the axle tube back into the saddle



The lengthened steering shaft epoxied together and installed.



The wide front wishbone support showing the pins that will need to be removed.

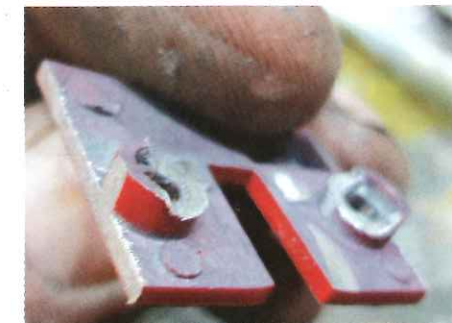
and reinstall the pin. With this out of the way it will be time to install the wishbone assembly. This can get a little tricky because the 460 frame is slightly wider than the 706 frame and makes bolting the rear wishbone mount tricky.

The way I mount the wishbone assembly is by first test fitting everything. Then I pay close attention to centering the wishbone mounting bracket over the frame of the 460. I used a .052 drill bit and drilled through the mount and frame rail. Once the hole has been drilled, tap the frame rail with a .080 tap and then drill the mount out to .060. Now reinstall the mount to the tractor and center everything back up again, making sure the wishbone is lined up with the axle tube. Drill the other three corners of the mount and proceed to tap those. Once all four holes have been drilled and tapped, bolt the mount to the tractor and epoxy the wishbone back on to the axle tube.

We are getting close on the 460. The next thing to do is touch up any of the white



Pins removed from the wishbone support.

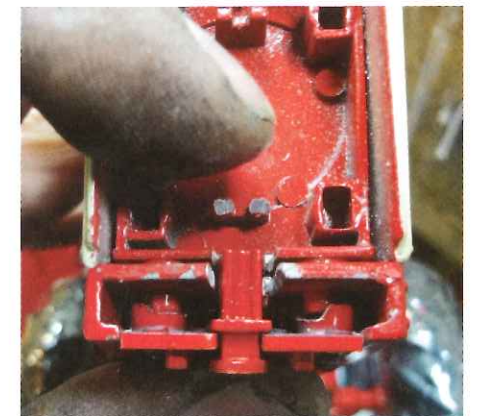


Filler panel off of the 460 trimmed to fit the 706 chassis.

paint that got chipped when removing the grille. With the paint touched up, apply some epoxy to the tab on the backside of the grille and reinstall. Touch up the .080 bolts with some red paint and the 460 is complete!

Hopefully you are still following me and are ready to tackle the narrow front 706. I know I am.

The filler piece that was used on the 460 will need to be modified to fit the 706. Like I stated earlier, the 706 frame is narrower than the 460’s frame, so the filler panel will have to be narrowed. What I did was use my 2-inch grinder to trim both sides down equally until the panel fit perfectly and was equally centered with the screw holes. Once this is done, the screw holes will need to be adjusted just like with the 460. Here I used the same method of using a slightly larger drill bit



Plastic steering shaft support fitted into the 706 chassis.



Steering shaft support epoxied in place.

Down to Details Continued

and oblonging the holes until the screws line up.

Once you got the filler panel fitting right and screws going in good you will need to get that plastic support that was in the 460 when we tore it down. The 706's chassis will need to be modified to accept this support. I used my Dremel with a cut-off wheel to cut a slot for the support to fit into.

Once this slot has been cut, test fit everything including mounting the narrow front under the tractor and making sure the steering rod lines up with the steering gear. Once satisfied with the fit, epoxy the front frame section, the filler panel and the support into the chassis of the 706 making sure to keep the support low enough to give the narrow front the proper clearance under the tractor. The support should be flush with the inside of the chassis and slightly extend past the tabs on the filler plate. I also installed the

steering shaft to make sure the alignment stays correct.

We are getting close!

After the epoxy has set, the next task will be to install the narrow front permanently. As I mentioned earlier, the shaft is not going to fit into the steering gear, but that's fine because the steering shaft on the narrow front is too long anyway and will need to be shortened. I simply used my Dremel and cut the shaft to length, then ground it flat on the side of shaft for the steering gear to fit over.

Once everything has been test fitted and fits correctly, use a small amount of epoxy on the steering shaft and glue it to the steering gear.

One last thing—mount the grille. Here again, I just used some epoxy to glue it back in place and ta-da! You now have a 706 narrow front to accompany your 460 wide front. The total investment on parts was \$5 for epoxy and \$2 for the square tubing. Can't beat that.

Until next time,
Chucky.

TF



The narrow front installed in the 706 just needing the grille.



The finished tractors.