

# 8N Hat Rim Repair

By Steve Acker 10-4-11

I recently bought new tires for one of my two 8Ns. Tire replacement was definitely needed. When I got the tires off I saw that the wheel was rusted out almost all the way around. I decided to try to fix it by welding in patches since I did not have a replacement wheel and did not want to have to buy another one.

I started by wire brushing the wheel to remove most of the rust. I then hammered in all the rusted spots to find any remaining weak areas. There were plenty. More than half the rim was rusted through. While this may not affect the strength very much it is required to support the inner tube. I decided to photograph this after I started, so the full extent of the rust damage is not visible.

I looked for some suitable metal and found a lawn edging strip from Home Depot. I cut a strip the right width but it would not fit around the rim the way I wanted to position it. It dawned on me that the repair segments would have to be curved to wrap around the wheel as I visualized the repair. Once I realized this I then took a piece of cardboard and started cutting out a curved section that would line up properly with the wheel when it was in place. I used trial and error to find a curvature that worked.

This piece of cardboard was traced onto the lawn edging. The segment was cut out on a vertical band saw. I bent the pieces in a bench vise to match the curvature of the wheel. The areas of the wheel that would be welded were cleaned up to bare metal with a small hand held grinder. The paint at the edges of the lawn edging strip was ground off.

Welding was done with 3/32nds inch 6011 at 40 amps AC. Once the first piece was in place the end of each subsequent piece was ground down so that they would butt up properly to the preceding piece. After the last piece was installed the ends of the run were hammered down to meet the wheel and welded. Welds and splatter were then cleaned up with the grinder.

After this was done body putty was used to smooth out the edges of the work. This was then sanded down. The inside of the wheel was painted with primer. The wheel was then put back in service.

This is part of the rust damage to the wheel:



The curved segment and the lawn edging used to make the repair pieces:



Clamping the segments in place for welding:



Joining the segments end to end:



Multiple patch segments in place:



Almost done installing the segments:



After body putty, ready for final sanding and painting:



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