



Repurposing truck tires as wing plow cutting edges

In 2006, the Ottawa County Road Commission began using 7-foot wing plows on their single axle plow trucks. The wings proved to be beneficial for more efficient plowing, but Ottawa CRC operators found that the steel cutting edges would catch on manhole covers and other roadway features in urban areas. The cutting edges also wore out quickly and were expensive to replace.

After trying various manufacturer recommendations, road commission employees from the North Holland garage devised a solution that used strips of recycled truck tires as cutting edges.

This document provides a summary of the procedure they use to process the tires into a cutting edge, and attach the cutting edge to the wing.



Center for

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Safety First!

To complete the procedure below you will have to work with power tools in a shop environment. Before you begin, make sure you're wearing appropriate personal protective equipment including safety glasses, hearing protection, heavy duty work gloves, and steel-toe boots.

What You'll Need

- Two used truck tires
- Worn steel wing plow cutting edge
- Several 5/8 x 6 inch grade 8 steel bolts and nuts
- Reciprocating saw with several bi-metal coarse blades (expect to use one blade per tire)
- Metal cutting band saw
- Heavy duty drill with 1/2 inch and 5/8 inch high speed steel drill bits
- 2 large C-clamps
- Large, flat work area with a sacrificial wood work surface (3/4 inch plywood on sawhorses works well)



Step 1: Remove Tire Side Walls

- a. Using a reciprocating saw, puncture the sidewall and then cut up the sidewall to a point about 1.5 inch from the tread. **Don't attempt to cut through the bead.**
- b. Holding the saw blade at a 45 degree angle toward the inside of the tread, cut along the tread to remove the side wall.
- c. Repeat the procedure to remove the other side wall.
- d. Repeat steps a – c to remove the side walls on the second tire.



Step 2: Cut to Length

- a. Using a metal-cutting band saw, cut through each tread so they lie flat.
- b. Measure the wing plow and then cut both treads to one inch longer.



Step 3: Determine Locations for Mounting Holes

- a. Lay one tread on a piece of sacrificial wood with the tread side down.
- b. Place the worn out cutting edge on top of the tread so the holes are in the center, which will leave about 3.5 inches of exposed rubber. Clamp the cutting edge and tread tightly in place.



Step 4: Drill Mounting Holes

- a. With a 1/2 inch drill bit, drill through the tread using the holes on the worn out cutting edge as a template.
- b. Enlarge each hole using the 5/8 inch drill bit.
- c. Repeat Steps 3 and 4 to drill holes in the second tire tread.



Step 5: Mount on Plow

- a. Insert a 5/8 x 6 inch grade 8 steel bolt into the mounting holes on each end of the old cutting edge, and then insert one in the middle.
- b. Lay the old cutting edge on your workbench with the bolts sticking up, and then work the drilled tire treads onto the bolts. Place the first one with the tire tread facing down, and the other with the tread facing up.
- c. Attach the cutting edge assembly to the plow, and then thread nuts onto the bolts. Use an impact wrench to tighten the nuts.
- d. Insert bolts into the remaining holes, thread a nut onto each, and then tighten all the nuts with an impact wrench.

