

T & E First-Round Winner
Innovations Challenge

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Prepared by Transportation Planning
Missouri Department of Transportation

Backhoe Post Setter



Description

An attachment is added to the boom of a backhoe to lift round pipe signs that have fallen to the ground. This allows the signpost to be reattached to the base without removing the sign. To attach the post holder, the bucket is removed from the backhoe and the post setter is attached. The attachment has a 4x4 angle iron placed around the pipe and is safely chained so the pipe is not allowed to slide. The backhoe boom raises the pipe to the base, so the pipe can be bolted to the base. Once the pipe is set, the chain is removed to detach it from the post.

Benefit

The Backhoe Post Setter improves safety by eliminating maintenance workers from placing the pipe manually. This method decreases the risk of being struck by the pipe or it falling into the highway. The work is simplified to only bolting the post to the base and spotting the backhoe operator. Since the work can be done without contacting the sign shop, time and money are saved.

Materials and Labor

All the materials that were used to make this post setter were from scrap pieces of metal at no cost. Cost of materials if purchased new is on back. It took four hours of labor to fabricate.

For More Information Contact:

Ron Snider or Caleb Gilgour at caleb.gilgour@modot.mo.gov or (816)583-4343.

Additional photos can be seen by accessing the Innovations Challenge SharePoint page at: <http://sharepoint/systemdelivery/TP/Documents/InnovationsChallenge.aspx>.

Materials	Cost New
17x24x $\frac{3}{4}$ inch Flat Metal Plate	118.81
4x4 inch Angle Iron 4 feet long	34.31
2 $\frac{1}{2}$ x2 $\frac{1}{2}$ Square 2 foot Pipe	24.44
Two 3x $\frac{3}{4}$ inch Bolt	2.00
2 feet $\frac{3}{8}$ Chain	4.50
4 feet of 1x4 inch Flat Metal	81.80
18 inches of 1 $\frac{3}{4}$ Stock Round Pipe	54.00
2 feet of 3x3 inch Square Pipe	40.62
	360.48

