



Tool and Equipment

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Swing Broom [Video 1](#) & [Video 2](#)



Description

The Swing Broom innovation was designed to sweep pavement up to 14 feet wide. The broom is connected to the axle via tie rod to keep it in the correct pitch for sweeping debris off the road regardless of how far the driver chooses to offset the tow broom. The broom only requires three hydraulic functions to work properly. Two variable flow functions that control the lift of the broom core and the pitch of the axle, and one high flow function to run the broom motor. Designed with a focus on safety combined with efficiency, the pitch of the broom is automatically adjusted based on how far the driver decides to offset the broom. This allows the driver to stay focused on the road without worrying about minor adjustments to the brooms pitch.

Benefit

By allowing one truck to sweep the same surface area of two sweeper trucks in a single pass, one vehicle can be eliminated from the work zone. This not only tidies up the work space making it a safer place to work but also frees up an employee's time and allows for half the fuel to sweep an entire lane of travel. In addition, simply by being trailer mounted, the dust kicked up by the rear broom is far enough behind the truck to prevent further congesting of the radiator. Using the Swing Broom also saves time at the end of the day since only one radiator needs cleaning.

The Swing Broom also puts significantly less down pressure on the broom, nearly doubling the life of the broom core. Between fuel usage and the operators' hourly wage, the Swing Broom can save an average of \$200 per day. Long term, these savings add up by reducing usage and required maintenance of vehicles potentially used for sweeping.

Materials and Labor

The costs of materials were approximately \$300 for hydraulic hose and fittings, hydraulic cylinder, steel, and paint. The reoccurring cost would be broom cores replacements. From planning, plumbing, to testing before implementation, this innovation took a total of 50 labor hours.

For More Information Contact

Central District

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Additional information, photos or videos can be seen by accessing Innovations Challenge SharePoint page at: <http://sp/sites/tp/planpol/SitePages/InnovationHome.aspx>

