



SHOP-BUILT TRUCK-MOUNTED ICE SCARIFIER

Roads: safety

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INTRODUCTION: Woods roads in the North surfaced with packed snow and ice through the winter season pose a safety and productivity challenge for loggers and truckers. In addition to using salt-sand and tire chains where needed, scarifying the ice surface is a common way to increase surface traction and minimize the use of sand, particularly in very cold conditions when salt-sand will not adhere to the ice. Typically, ice-scarifying blades are attached to road graders assigned to winter maintenance duties. Michel Landry, a mechanic at Comstock Woodlands Maine operation, built a truck-mounted scarifier, allowing Comstock to combine plowing, scarifying, and sanding in one operation.



Fig. 1: Scarifier under construction.

OPERATION: The plow truck operator controls the height and down-pressure of the scarifier with air controls in the cab. The use of an air bag suspension on the scarifier blade gives the unit more flexibility when travelling over rough surfaces. When the sand is applied behind the scarifier, the sand sticks in the grooves in the ice, and less sand is needed because a larger majority stays in the actual travelling portion of the road. This process also digs up sand that was applied previously but was embedded in the ice. This procedure minimizes the use of sand and allows for the re-use of sand already on the road—in many cases, only scarification is needed to provide a safe running surface. The truck-mounted unit eliminates the need for a road grader on main haul roads.



Fig. 2 Completed scarifier mounted on plow truck.

The truck-mounted scarifier can operate safely at speeds up to 20 mph, versus 5 mph for a grader. There is also a benefit of adding

additional weight to the plow truck, improving traction.

SPECIFICATIONS AND COST: A scrapped Hendrickson air suspension that was removed from a log trailer was reconfigured and mounted on the back of the plow truck along with a steel framework, scarifier blade, and controls. The sander delivery conveyor had to be extended to allow the sand to be dropped behind the scarifier. Estimated costs for material and labor for the project was about \$7,000.

CONCLUSION: This shop-built unit is an effective way to make a winter road more productive by allowing trucks to travel safer and faster, and it enables drivers to spend less time installing and removing tire chains.

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