

Drop Trailer

UNION COUNTY

Contact Information:

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Problem Statement:

Union County does a significant amount of crack sealing on asphalt pavement using our own crew. Our biggest challenge was finding an easy way to move routers. For years, the routers were hauled on an old car trailer and the tugging and pushing to get them loaded and unloaded was not only back-breaking, but a safety hazard. When working in hilly areas, the routers may be loaded and unloaded as much as 10-20 times per day. Crew members would unload at the top of the hill and work downhill to offer more ease in handling the routers. They would reload and return to the top of hill and go down the other side. It was still very hard work and reduced efficiency.

Solution:

The only practical solution to the problem was a trailer that could somehow be loaded at ground level. Union County successfully built one. This trailer was the brain child of Assistant Hwy. Supt. Paul Limoge. He designed the unit and with the help of others in the shop, the unit was completed in the winter of 2008-09. The trailer provides ease of loading and unloading routers that are used on asphalt roads for routing cracks before filling with rubberized asphalt.

A brief explanation of the design will be given, but the pictures included with our entry should help explain how it was built. As the pictures show, the inner deck drops to road level which allows for the ease of loading and unloading routers. A hydraulic cylinder on each side towards the upper rear provides the power for raising and lowering the deck. Wedges are installed on the cylinders as well as one pin in the front to lock the deck in place for hauling. The battery, hydraulic unit, and loading blocks are stored in the box at the front of the trailer where the name "Pauler/Hauler" is prominently displayed. The trailer was wired for lighting and has a two-inch ball hitch with a jack stand for storing. A waterproof holder was attached to the front of the trailer to keep the proper registration papers. This makes the trailer legal for highway use.

A special framework was built on top of the inner deck for the routers to be driven on and tied/clamped down for transporting. The time element for loading and unloading routers has been cut by more than half. The trailer is a very useful tool for Union County and will be part of the equip lineup for years to come. The trailer can be used for other functions in addition to moving the pavement routers. My thanks to Assistant Hwy. Supt., Paul Limoge, and the rest of the Union County Hwy. crew that helped in the construction of the unit.

Labor, Equipment and Materials Used:

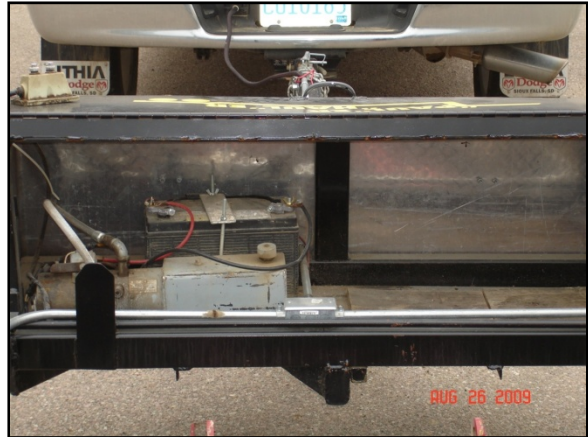
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|--------------------|-------------------|
| Material: | \$1,187.44. |
| Labor | \$2,915.03 |
| Total Cost: | \$4,102.47 |

Savings and Benefits to Agency – Monetary and Safety One back injury from loading and unloading one router could cost far more than the cost of building the trailer. Since we wanted something for long-term use, very little salvage parts were used. The only used parts are the hydraulic motor and pump which had been taken from an old snow plow lift from a truck. The rest of the materials were new.

Trailer Construction Photos



Battery and hydraulic unit



Cover for battery and hydraulic unit



Trailer with deck dropped to ground



Routers loaded on trailer



Very heavy routers to be hauled



Thanks again to Paul Limoge for directing the construction of the trailer.

Accompanying videos to demonstrate how the trailer works.