

2018 You Show Us Contest

SLAB SAW CRADLE



Arapahoe County Road and Bridge

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Problem Statement

With budgets struggles and delayed maintenance over decades, pavement patching needs have steadily increased. Crews have been spread thin to keep up with the patching needs and it has become increasingly difficult having enough people and trucks to get all of the equipment to the job site. The traditional operating practice with the patching crew was to take a pickup and trailer to transport the slab saw to the job site every day. The trailer was needed because the saw utilized a ramp for loading and unloading purposes. It became apparent that we would be more efficient if we could transport the slab saw in the bed of a truck that was already hauling the rest of the equipment. The challenge was getting the saw into the truck bed as the ramps were too steep. Being able to haul everything on one truck had great potential to save money by reducing the cost of a truck pulling a trailer for each location.

Discussion of Solution

Road and Bridge staff came up with a very innovative and creative solution to safely lift and store the slab saw in the truck bed. The idea was to construct a metal cradle where the slab saw could be driven onto it and quickly secured with two large wing nuts. The cradle was also designed with a skid steer quick attachment plate allowing a skid steer operator to quickly attach to the cradle and safely lift it. In addition, the cradle was designed with a single lift point on top to allow any piece of equipment to pick it up. The truck that pulls the skid steer and asphalt roller to the job site already had enough room to hold the slab saw, so constructing a cradle sounded like a perfect solution.

Labor, Equipment, and Materials Used

The Arapahoe County Road and Bridge patching crew partnered with our Fleet department to weld together the cradle. The crew had a rough pencil sketch and knew they wanted a skid steer quick attachment plate to go along with a lifting ring. Our fleet department did the rest of the designing and would have used recycled steel if there would have been some available at the time.

Total Cost

The total cost of the cradle was right at \$1,000 because of the need to purchase a skid steer quick attachment plate, some new steel, and the labor to build it.

Savings and Benefits to Agency

This Slab Saw Cradle has eliminated the need to drive a pickup and trailer to each patching location. With the large size of Arapahoe County, we were using the pickup and trailer an average of 7 hours per week just to deliver the saw and we patch asphalt an average of 38 weeks per year. The pickup and trailer have an hourly cost that is applied towards the patching work orders using the purchase price, fuel, and maintenance costs. For the first year we have experienced a cost savings just under \$5,000 but we have noticed that we use the saw more frequently for unplanned work.

