

2014 YOU SHOW US CONTEST

REDESIGNED SIGN TRUCK

COUNTY: Billings County in North Dakota

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PROBLEM STATEMENT:

Many items on the sign truck were poorly designed and not efficient. This included a catwalk that had to be manually swung to be extended. All the equipment was kept on the bed of the truck and had to be lifted from a high location. To replace or install a sign post or sign required two people. The ladder was mounted on the rear of the truck and had nothing to hold onto when climbing up or down. Tools were kept in a tool box but weren't organized. When working with equipment on the sign truck the chances of injury were great and it took a considerable amount of time to complete a task.

SOLUTION:

Redesign the sign truck to make it more efficient and safer for employees to work. Rebuilt the catwalk pivot hub and added a camper jack so the catwalk would swing mechanically. Added a 12-volt electrical system connected to the camper jack so the catwalk didn't need to be swung manually. Added an electrical switch on the catwalk so it could be operated top side. Added a toolbox and holders for the drive dyes on the catwalk so they would be handy and didn't have to climb off the catwalk for a sign installation.

Built holders on the side of the truck bed for the air hammer and auger so it was accessible from ground level. Moved the compressor and built a bracket to mount a reel so the air hose could be extended easily. Designed an air operated auger from an air wrench to be able to dig post holes eliminating the need for a second person to install a sign.

The ladder was moved from the rear middle area of the truck bed where it was in the way to the rear corner of the truck bed. The ladder was rebuilt to include grated steps and a hand rail was added. The storage box on the rear of the truck was extended and a vise was added and could be used for a work bench.

A bracket was added to protect the generator and air compressor from sign posts which are stored on the truck bed. Dividers were added to the tool boxes mounted on the side of the truck bed so items could be better organized.

LABOR AND MATERIALS:

The material purchased included a camper jack for \$200, a pivot hub for \$150, electric switches and boxes for \$100, iron square tubing and flat plate for \$350, and a tool box and air hose reel for \$400. This came to a total of \$1200.

The labor man hours were about 20 hours. Most on this time included down time because on adverse weather conditions.

SAVINGS AND BENEFITS:

The redesigned sign truck changes the signing operation from a two person to a one person operation. The changes to the catwalk and holders for the air hammer and auger; and redesigning the ladder reduces the exposure to injuries to employees. All the changes increase the efficiency of the signing operation and the reduction to possible bodily injury is a great benefit to employees and saves the county money in possible workers compensation costs.



Camper Jack and Pivot Hub



HOLDERS FOR AIR HAMMER AND AUGER



LADDER



Work Bench with Vise



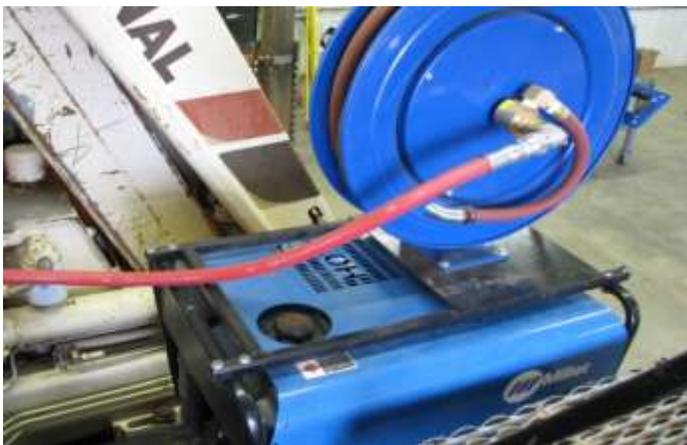
Catwalk Extended



Protective Bracket



Tool Box



Air Hose Reel

