

# **2010 YOU SHOW US CONTEST**

## **CUTTING EDGE LIFT**

COUNTY: Dunn County in North Dakota

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### **PROBLEM STATEMENT:**

The changing of cutting edges on a piece of equipment has been a hardship to employees because of their size and weight. An eight foot cutting edge can weigh up to 110 pounds. Cutting edges are normally stacked in piles and must be lifted and moved to a piece of equipment to be mounted. It requires two people and they are still prone to injury. Back and foot injuries are very common.

### **SOLUTION:**

Randy built a cutting edge lift as shown in the photo to transport a cutting edge from a stack to the piece of equipment to be mounted. This cutting edge lift is unique because it has multiple adjustments. The adjustments include being able to raise the lift arm by a means of a ratchet from ground level to a height of six feet. The cutting edge can be secured to the lift arm by two screw clamps on each end of the arm. The angle of the lift arm can be angled so a single person can remove an old cutting edge and mount a new cutting edge on a piece of equipment without getting on the ground or under the equipment.

The cutting edge lift can be used to mount cutting edges on motor graders, front end loaders, and snowplow truck wings and plows. On a motor grader the moldboard can be angled so the old cutting edge can be removed and a new one mounted from a standing position. Randy has built two lifts to date.

### **COST:**

The cost of the material to build the cutting edge lift was approximately \$200. That included the purchase of a ratchet, three caster wheels, and various sizes of steel square tubing. The cost of labor was 10 hours @ \$30 an hour for a cost of \$300. All the labor was done in the shop during slack periods of time in the winter when there was no snow removal required. Total cost of material and labor was approximately \$500.

## SAFETY:

Cutting edge removal and replacement on equipment is very labor intense and employees are prone to injury. The weight of cutting edges and positions it requires operators to place themselves into to get the job done is hazardous. Back, foot, knee and hand injuries are very common in this work activity. The design of this cutting edge lift requires minimal manual lifting. It has multiple adjustments which limit the amount of lifting and the need for an operator to get under a piece of equipment which is dangerous. Other cutting edge lifts designs are built from modified jacks having limited height capabilities and still require two operators to do the job safely. Randy's designed cutting edge lift eliminates hazards from manual lifting and getting into awkward working positions.



