

Winch Assist System for Herbicide Trucks

Submitted By: Mike Britton (D1/Richland Maintenance)

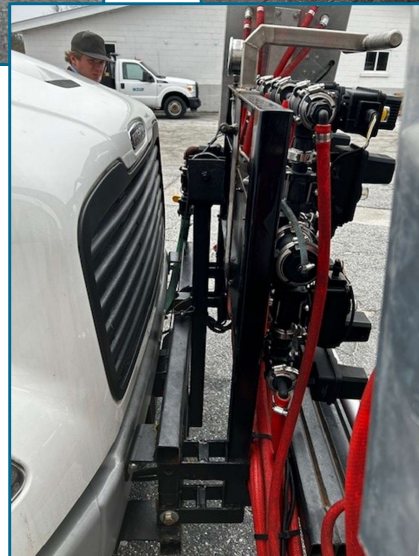
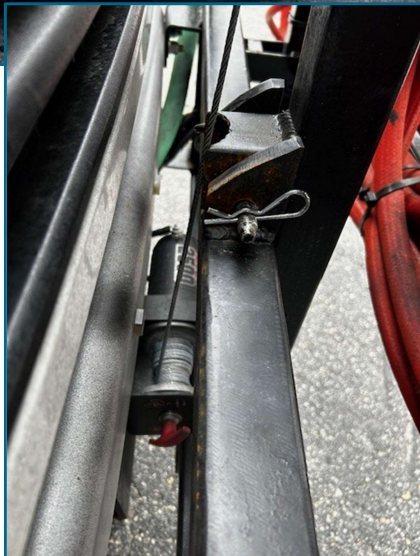
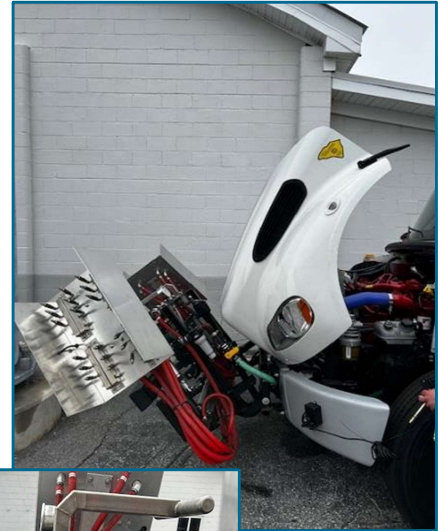
Manager: Alvin Melton

Describe your innovation:

This innovation adds a winch assist system to existing SCDOT herbicide trucks with front mount spray units. The winch is tied into the truck's 12 volt system and controlled with a hand-held remote by the operator. The winch system includes a 2500lb winch, as well as a pulley support bar with a retainer pin and connection link. Raising and lowering the spray bar assembly is now controlled by the push of a button.

Describe how your Innovation benefits the SCDOT:

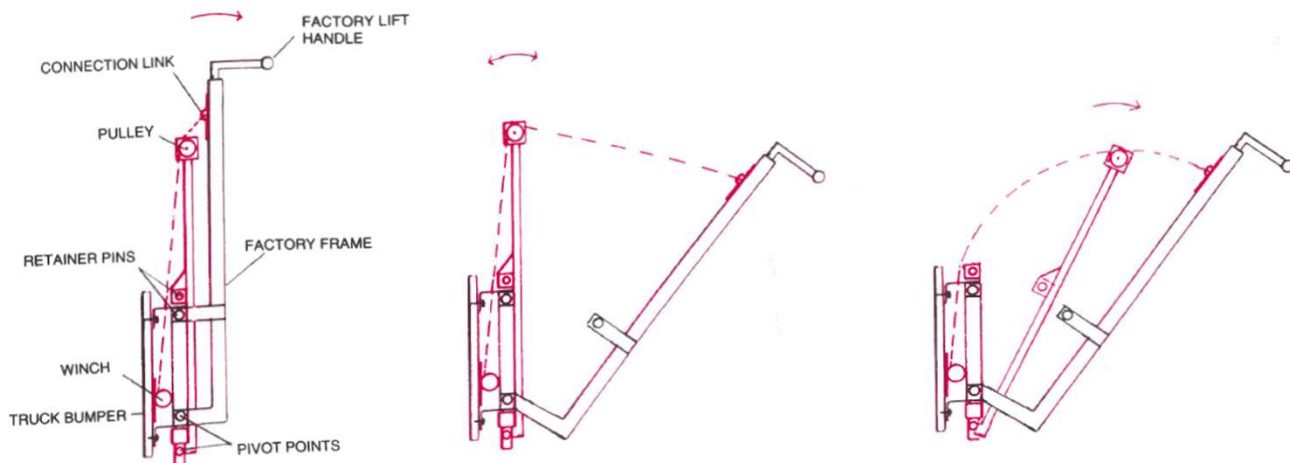
Richland Maintenance was issued a new herbicide truck and noted a problem right-away. In order to raise the hood of the truck to perform daily pre-trip inspections, the front spray bar assembly for the herbicide unit needed to be lowered. This assembly weighs in excess of 400 pounds. The factory provided a simple handlebar to accomplish lowering and raising the assembly. Richland Assistant Shop Foreman, Mike Britton designed a winch assist system to facilitate the lowering and raising of the spray bar assembly. This design eliminates the risk of employee injury due to lifting the heavy assembly. Parts costs were about \$300 and labor was performed in-house.



PARTS LIST

WINCH ASSIST SYSTEM – HERBICIDE TRUCKS

• Winch, 2500lb Harbor Freight	\$80.00
• Disconnect Switch	\$44.00
• 4" Pulley	\$20.00
• ¼" plate steel 6.5" X 20"	\$31.00
• 3/8" chain connection link	\$17.00
• 4.5" steel channel to mount pulley	\$12.00
• 2" steel square tubing	\$75.00
○ 2 each 2" X 2" X 44.5"	
○ 1 each 2" X 2" X 32.5"	
• Miscellaneous pins and bolts	<u>\$25.00</u>
	\$304.00



WINCH ASSIST SYSTEM

SCDOT RESEARCH & INNOVATION 2025
SAFETY IMPROVEMENT TO SCDOT HERBICIDE TRUCKS
SUBMITTED BY: MIKE BRITTON, ASSISTANT SHOP FOREMAN, RICHLAND MAINTENANCE

Video Links:

[Raising Sprayer](#)

[Lowering Sprayer](#)