



The drawbar is the place to hitch

One of the primary causes of rear overturns while operating a tractor is hitching a heavy load above the drawbar. These incidents are often fatal because the operator has little time to react.

Procedure:

Using a scale toy tractor with a drawbar, a large rubber band, and two flat pencil erasers as wheel chocks, the potential for rear tractor overturns will be easily demonstrated.

1. First hitch the rubber band to the tractor drawbar and apply a load. The tractor will move in the direction of the load being applied.
2. Block the wheels and again apply a comparable load (have a student hold the pencil eraser in place). Again, the tractor will attempt to move in the direction of the load, and the front axle will remain on the ground.
3. Next attach the rubber band to a point on the rear of the tractor above the level of the axle (a paper clip can be used). When the load is applied, what happens?
4. Block the wheels and again apply a comparable load to the high hitch point. What happened when the load was applied?

Materials Needed



Toy tractor with drawbar



Large rubber band



Block of wood



Duct tape

When a load is attached too high on a real tractor, the front end raises off the ground and without much effort, the tractor can be pulled over backward. On older tractors without a ROPS, this is a formula for a fatal overturn.