 Power Take-Off (PTO) Safety

A Power Take-Off shaft, or commonly abbreviated “PTO”, is used to transfer power from a tractor to an implement. PTO shields should never be removed from the tractor or implement, except for maintenance work, and should be replaced immediately when the work is complete. When shields are removed, it leaves the shaft exposed and puts the operator at risk of entanglement. Entanglements happen when someone is working near an engaged PTO and a piece of clothing or an object being held gets pulled into the PTO. The high velocity of a turning PTO catches and wraps limbs and ultimately the body around the shaft, most times resulting in serious injury or death. It’s important to stay alert and keep a safe distance from the PTO while it is engaged. Two common speeds of PTO shafts are 540 and 1,000 revolutions per minute. At these speeds, a person can be injured in less than one second, literally causing serious injury or death in the blink of an eye. Below are a few critical considerations when operating a tractor and PTO:

* First and foremost, ensure the shaft is shielded. This includes the master shield which covers the universal joint and PTO stub shaft on the tractor and the driveline shield that covers the implement driveline.
* Properly maintain all shields on PTO shafts and drivelines, especially those with bearings and multiple articulations.
* Immediately replace any damaged shields, as a damaged shield that is rough or ragged can be as dangerous as a bare shaft or driveline.
* When maintenance is performed always follow Lockout/Tagout procedures to ensure the tractor’s energy sources including the PTO are released and isolated before any work occurs.
* Avoid working behind a running tractor or in close proximity to an engaged PTO shaft. Never work or perform maintenance between a running tractor and implement such as a brush mower, hay baler, etc. as mechanical or operator error can suddenly entrap an individual between equipment.
* If you must work on the ground near a PTO powered piece of equipment such as an auger, remember to keep ample distance from the PTO shaft, driveline and point of operation. Twice your height is a common rule for safe distance.
* When working with multiple employees, ensure good communication exists between the tractor operator and employees on the ground before engaging the PTO or moving the tractor.
* When stopping work for any reason (end of work day, lunch break or communication) disengage the PTO, stop engine and set the brakes on the tractor.
* If an incident occurs, or more commonly something has bound or damaged the PTO while operating, disengage the PTO, stop engine and set the brakes on the tractor before exiting the tractor.

There is no need to fear a Power Take-Off. However, a person must respect a PTO as the powerful tool that it is. Failure to do so usually results in a serious injury or death.