

## AGRICULTURAL SAFETY TOPICS

### POWER TAKE OFF (PTO)

#### Objective:

To become aware of the dangers of the PTO system, and to learn to use the system safely.

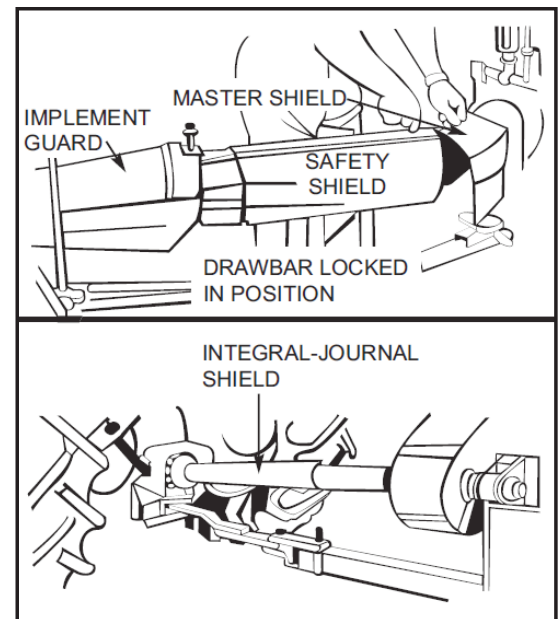
#### Background:

Keep **safety shields** securely fastened on equipment. Safe operation of the PTO is not possible without these shields in place. A sudden slip or fall could throw a worker directly onto the unshielded rotation shaft. Also those who are unfamiliar with the equipment may not recognize the danger of the power shaft.

Most power shafts can be extended. These shafts are usually constructed with a square shaft inserted into a housing or casing. It is important that at least 5 1/2 inches (14 cm) of the sliding shaft remain in the housing when the power shaft is connected to the tractor. This reduces the possibility of the shafts separating while the tractor is in motion. If the shaft splits, the portion of the shaft connected to the tractor is free to whirl at high speeds, endangering the worker and tractor. If the shaft does separate, disengage the PTO immediately and stop the tractor. Use extreme caution when operating equipment with a separable PTO shaft. Never hook 540 rpm equipment to a 1000 rpm PTO or vice-versa.

Use caution when working with PTO Equipment

- Disengaging the PTO before getting off a tractor reduces the chance of slipping or falling onto a rotating shaft or getting caught in a moving part.
- Integral shields should move freely. When the power is off, the shield should easily rotate by hand.



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- Repair damaged shields or bearings immediately.
- Keep the tractor PTO master shield in place.
- The equipment operator should wear snug-fitting clothes and slip-resistant footwear. Loose clothing can catch in or be wrapped around the power shaft.
- Long hair can also become entangled in a PTO shaft. Hair should be pulled back.
- Never step across a rotating power shaft. Forage blowers, grinders, and mixers must run at full speed while the operator is working in their vicinity, so it is crucial to always walk around the revolving shaft.
- Never allow children around the equipment or work area.

### Review the Following Points:

- Keep all PTO guards and shields in place, even when the PTO is not operating.
- Always disconnect the PTO when not in use.
- Never engage the PTO while the machine engine is shut off.
- Keep hands, feet, and clothing away from PTO. Keep hair away from the PTO.
- Never operate PTO shafts at extreme angles.
- Be sure that the PTO spinner /integral shields rotate freely at all times.
- Always disengage all power and shut off tractor before servicing. Replace all shields immediately after servicing a PTO shaft.

Based upon: Ohio State University Extension. *Power Take Off*. Retrieved from website <http://ohioline.osu.edu/atts/modules.html>

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