

## The Danger of Bypass-Starting Tractors or Powered Equipment

Bypass-starting, also known as jump-starting or "starting from the ground," is bypassing an equipment's normal starting system by other means.

Farm tractor operators suffer serious injuries and death every year because they're run over by a tractor they tried to start from the ground. This can happen to anyone, regardless of his or her level of experience.

Each bypass-start is like a game of "Russian Roulette." There is a chance the tractor could be in gear and run over you.

### TRUE STORY

A farmer with over 20 years' experience attempted to jump-start his tractor by using jumper cables connected directly to the starter versus the battery. The tractor started and was in gear. He was standing directly in front of the rear wheel of the driverless tractor, and was seriously injured.

### What could have prevented this accident?

Follow these six steps to start a tractor:

- Walk around the equipment to ensure no one is nearby.
- Climb into the operator's position, sit down, and fasten the seatbelt (if so equipped).
- Neutralize the hydraulic controls.
- Disengage the power take-off (PTO).
- Push in the fuel shut-off.
- Place the transmission in neutral or park, and depress the clutch and brake.

### How Does It Happen?

In the early morning, it may be too cold to get the engine to turn over without a battery boost. Or it may seem easier to use a screwdriver to arc across the starter terminals, to start the engine for warm-up, rather than climb into the operator's position.

If the tractor is left in gear, and the operator is standing between the front and rear wheels, the tractor may lurch forward and run over the operator as the engine starts. On tractors with a "hydraulic clutch," the clutch is not engaged until the engine starts and hydraulic pressure builds up. If the tractor is left in gear, it will jump forward as the pressure

builds, and may run over someone on the ground. This occurs so suddenly that most people cannot react fast enough to escape.

It only takes a few extra seconds to start equipment the safe way: from the operator's position, following the correct starting procedures. Don't become a statistic of bypass-starting.

## **EMPLOYER/EMPLOYEE RESPONSIBILITIES**

### **Employer:**

- Educate equipment operators of the dangers of bypass-starting, and train employees on prevention.
- Enforce a "No Bypass-Starting" rule at all times.
- Use warning decals available from tractor dealers. Some offer special kits that cover the solenoid/starter motor, to prevent arcing across the terminals to remotely start the engine.
- Contact your local office of TheZenith, and ask for one of our Safety and Health Ag Specialists, if you have questions.

### **Employee:**

- Only start and operate equipment on which you have been trained.
- Always start equipment when seated in the operator's position, even if it takes an extra few seconds. Roll-over protective structures (ROPS) are only effective if you wear a seatbelt and stay within the framework of the structure.
- Never bypass-start equipment from the ground.
- Always start equipment with the parking brake on, and transmission in park or neutral.
- Look around before starting, to make sure no one is near the equipment.

Sources:

Information Bulletin - John Deere

Agricultural Safety Institute, California Polytechnic University, San Luis Obispo, CA.

Zenith provides workplace safety resources at: **TheZenith.com**<sup>®</sup>

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