



## Getting Started on the Right Foot: Dangers of Bypass Starting<sup>1</sup>

Carol J. Lehtola and Charles M. Brown<sup>2</sup>

Agriculture requires a lot of work, and shortcuts may be tempting, but they are often dangerous. Bypass starting is one of the more hazardous shortcuts.

In bypass starting, you touch a wrench or a screwdriver to the terminals of the starter motor, to the solenoid of a tractor, or to other equipment. This bypasses all tractor-neutral starting switches. Sparks fly and electricity snaps as the circuit is completed, the starter engages and the engine starts.

The term “bypass starting” points to its danger. It bypasses all the safety-start and neutral-start switches in the tractor's electrical and hydraulic systems. The problem comes when a person tries to bypass-start a tractor or other piece of equipment **that is in gear**. The person can then get pulled down by the drive wheel, be crushed, or be injured or killed. The runaway tractor can also injure or kill others in the area.

Often operators or mechanics bypass-start an engine because of a maintenance problem with the tractor's neutral-start switch. It's a good idea to immediately repair mechanical problems that might make bypass starting tempting. The total number of

injuries and deaths involving bypass-starting is small, but every one that does occur could have been avoided.



### For More Information

For more information about tractor safety, visit the Florida AgSafe Network Web site:

<http://www.flagsafe.ufl.edu>

The following publications are available at your county Extension office and at the EDIS Web site, <<http://edis.ifas.ufl.edu>>. (IFAS Publication Numbers are in parentheses after the titles. The second set of parentheses contains the Web address at which the publication can be viewed.)

1. This document is AE299, one of a series of the Agricultural and Biological Engineering Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Supported in part by the NIOSH Deep-South Center for Occupational Health and Safety, University of South Florida, Tampa, Florida. First published September 2001. Please visit the EDIS Web site at <http://edis.ifas.ufl.edu>.
2. Carol J. Lehtola, assistant professor, Department of Agricultural and Biological Engineering, and Extension Agricultural Safety Specialist, and Charles M. Brown, Assistant Coordinator for Agricultural Safety and Health, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611.

The Institute of Food and Agricultural Sciences is an equal opportunity/affirmative action employer authorized to provide research, educational information and other services only to individuals and institutions that function without regard to race, color, sex, age, handicap, or national origin. For information on obtaining other extension publications, contact your county Cooperative Extension Service office. Florida Cooperative Extension Service/Institute of Food and Agricultural Sciences/University of Florida/Christine Taylor Waddill, Dean.

- Getting Started on the Right Foot: Dangers of Bypass Starting (AE299) (View this publication at: <http://edis.ifas.ufl.edu/AE173>.)
- Filling Gas Cans Safely (AE301) (View this publication at: <http://edis.ifas.ufl.edu/AE174>.)
- Lighting and Marking Farm Equipment for Road Travel -- Summary of ASAE Standard S279.10 (AE302) (View this publication at: <http://edis.ifas.ufl.edu/AE175>.)
- Road Safety for Tractors (AE303) (View this publication at: <http://edis.ifas.ufl.edu/AE176>.)
- Frequently Asked Questions (FAQs) about Rollover Protective Structures (ROPS) (AE304) (View this publication at: <http://edis.ifas.ufl.edu/AE177>.)
- Avoid the Invisible Hazard: Know About Soil Shear Lines (AE305) (View this publication at: <http://edis.ifas.ufl.edu/AE178>.)
- Shortcuts Are Shortsighted! or Invest Seconds, Save Lives (AE306) (View this publication at: <http://edis.ifas.ufl.edu/AE179>.)
- Ready or Not? Get Ready with a Tractor Operator Checklist (AE307) (View this publication at: <http://edis.ifas.ufl.edu/AE180>.)
- Yee-Haa! Formula for a Successful Tractor Rodeo (AE308) (View this publication at: <http://edis.ifas.ufl.edu/AE181>.)
- Hand-me-down Hazards: Dangers of Used Equipment (AE309) (View this publication at: <http://edis.ifas.ufl.edu/AE182>.)
- Safety Tips for Tractor Loading and Towing (AE310) (View this publication at: <http://edis.ifas.ufl.edu/AE183>.)
- Safer Tractor Operations for Agricultural Employers (Circular 1249) (View this publication at: <http://edis.ifas.ufl.edu/AE195>.)
- Safer Tractor Operations for Privately Owned and Operated Farms and Ranches (Circular 1250) (View this publication at: <http://edis.ifas.ufl.edu/AE196>.)
- Safer Tractor Operations for Acreages and Homeowners (Circular 1251) (View this publication at: <http://edis.ifas.ufl.edu/AE197>.)
- Safer Tractor Operations for Landscape Maintenance and Horticultural Industries (Circular 1252) (View this publication at: <http://edis.ifas.ufl.edu/AE198>.)
- Safer Tractor Operations for Emergency and Rescue Personnel (Circular 1253) (View this publication at: <http://edis.ifas.ufl.edu/AE199>.)
- Safer Tractor Operations for Farm Workers and Employees (Circular 1254) (View this publication at: <http://edis.ifas.ufl.edu/AE200>.)