



## IS YOUR TRACTOR SAFE?

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Farm tractors continue to evolve as our growing population demands higher farm productivity. With this evolution has come a priority on worker protection and personal safety. In the past, tractor-related injuries and fatalities were considered a tragic, yet acceptable risk of the farming occupation. This philosophy was common among most industries. Mining and construction industries, for example, actually defined acceptable fatality levels. Today, even one workplace or occupational fatality is closely investigated to determine the cause and circumstances surrounding the incident. National and state standards are written to protect practically all industry workers. Considerable fines and criminal prosecutions accompany the most serious offenses of worker protection laws. However, most farming operations are exempt from reporting and/or adhering to many of the worker protection rules.

The farming occupation is inherently dangerous. Frequent contact with tractors, machinery, tools, animals, and extreme working conditions place farmers under substantial risk of injury. According to the Bureau of Labor Statistics, more than 750 farm workers are accidentally killed each year. More than half of these fatalities are tractor related. Tractor rollovers account for more than 50 percent of tractor-related deaths. Other tractor-related accidents occur when the operator or bystanders are run-over by a tractor, become entangled in the power take-off (PTO), fall from tractors, and are involved in highway accidents.

Many tractor-related injuries can be attributed to unsafe tractors: those tractors that are old and poorly maintained, lack safety guards and devices, and steer, brake, and drive in an unpredictable, dangerous manner. When unsafe tractors are driven by inexperienced operators in poor weather conditions or on highways, risk of accidental injury increases dramatically. Farm tractor drivers should avoid this unnecessary hazard by inspecting their tractors regularly for potential dangers. The following checklist will assist operators in performing a tractor safety assessment.

### TRACTOR SAFETY CHECKLIST

- | <input checked="" type="checkbox"/> | Yes                      | No                       |   |
|-------------------------------------|--------------------------|--------------------------|---|
| 1.                                  | <input type="checkbox"/> | <input type="checkbox"/> | <i>Roll-over Protection Structure (ROPS).</i> Is the tractor equipped with a ROPS in good condition?<br><br>ROPS come in either a two- or four-post structure attached to the tractor frame or as part of a cab enclosure. A ROPS should be replaced if the tractor has rolled over or if the ROPS has more than minor damage.<br><br>The Occupational Safety and Health Act (OSHA) requires that all tractors over 20 horsepower that were manufactured after October 26, 1976 must have ROPS. |
| 2.                                  | <input type="checkbox"/> | <input type="checkbox"/> | <i>Guards/shields.</i> Are guards and shields including the master Power Take-Off (PTO) shield in place and securely fastened? Repair or replace loose, broken, or missing shields before operating the tractor. If missing guards or shields expose an operating PTO, operators are at risk for entanglement around the spinning shaft.  |

**Yes**    **No**

3.   *Seat safety switch.* Is the seat safety switch connected and functional to prevent the tractor from being “jumped started” from the ground? These safety devices require the tractor operator to be sitting in the seat before the tractor will start, thus preventing tractor run-over accidents. Tractor run-overs are the second most frequent cause of tractor-related deaths on farms.

Bypass starter covers are also available to keep operators from jump starting a farm tractor.

4.   *Brake system.* Are the brakes properly adjusted and the fluid level correct? Poorly maintained and maladjusted brakes prohibit safe driving up and down hills, on curved paths, and on public roadways. Make sure left and right brakes can be locked together during high-speed highway travel.

5.   *Tire pressure.* Is the air pressure in each tire appropriate according to the tire manufacturer’s recommendations? Inflation requirements may be located on the outside of the tire around the rim and in the tractor’s operator manual. Also, check the tires for major cuts and cracks.

6.   *Lights/signals.* Are all headlights, flashers, and brake lights working correctly, clean, and visible to other drivers?

Farm tractors are required to have two forward facing headlights and a red taillight that burns continuously. This taillight must be visible from 500 feet under normal conditions and mounted on the far left side of the tractor.

Farm tractors and equipment require hazard-warning lights (flashers) when operating on public roads. White or amber flashers are mounted on the front, and red or amber on the rear. These lights must be activated when the vehicle is in operation.

7.   *Hydraulic system.* Are all hydraulic hoses and connections free from leaks and hydraulic levels correct? Caution: Use a piece of cardboard or wood to check for leaks. Hydraulic fluid under high pressure can penetrate human skin.

Be sure to check front-end loader and three-point hitch hydraulic systems under load situations. Failure to detect hydraulic leaks can result in serious injuries to operators and bystanders when front-end loaders and implements lose energy and fall.

8.   *Steering system.* Does the tractor steer and react properly when negotiating turns and traveling at highway speeds? Is the steering fluid level correct? Make sure there isn’t too much “play” or unprompted movement in one direction or the other.

Tractors that have a tendency to pull to the left or right are more susceptible to accidents while traveling at highway speeds. Poor steering may also signal uneven tire pressure, tire damage, and/or problems with the brake system.

**Yes** **No**  
9.

*Slow Moving Vehicle (SMV) emblem.* Does the tractor have a clean SMV emblem located at the rear of the tractor visible by other drivers? All farm tractors and equipment that travel at or below 25 miles per hour must display a SMV emblem at the rear of the tractor or equipment.

Standards for the SMV emblem are set by the American Society of Agricultural Engineers, the American National Standard Institute, and the Society of Automotive Engineers. The standard SMV emblem is an equilateral triangle at least 13.8 inches high (plus or minus 0.3 inches). It is a fluorescent, red-orange material with a border of a red retro-reflective material. The fluorescent material is visible in daylight, and the reflective border shines when illuminated by headlights of an approaching vehicle.

The emblem is required to be displayed at the rear and as close to the center of the vehicle or equipment as possible. It must be mounted with the point up and at a right angle or perpendicular to the direction of travel so that it can be seen from the rear. The lower edge of the emblem must be at least 2 feet and not more than 10 feet above the ground.

Maintain SVM emblems. Exposure to sunlight causes the reflective material to fade, reducing its effectiveness.

10.

*Cleanliness.* Are the steps and cab area free from mud, dirt, ice, oil, or any other combustible object or fluid? Excessive mud, dirt, and ice will reduce traction on mounting steps, potentially causing the operator to fall from the tractor. Spilled fuel, oil, and grease can cause poor traction in the operator's station and pose a substantial fire hazard.

11.

*Fire extinguisher.* Is the tractor equipped with at least a 10-pound fire extinguisher securely fastened inside the cab or operator's station? The extinguisher should be an Underwriter's Laboratory approved ABC dry chemical rated fire extinguisher for fires involving wood, cloth, paper, flammable liquids, gasoline, grease, and electrical equipment.

Optimally, two fire extinguishers should be mounted: one fastened inside the cab or operator's station, and one mounted so that it may be accessed from the ground. Invert the extinguishers once or twice a season, and shake them to ensure that powder inside the extinguisher hasn't compacted by tractor vibration.

12.

*First aid kit.* Is the tractor equipped with a first aid kit securely fastened inside the cab or operator's station? First aid kits should be equipped for both minor and major injuries. At a minimum, kits should include an assortment of bandages, gauze, antiseptics, disposable rubber gloves (various sizes), and empty plastic bags of various sizes.

Every tractor operator is responsible for ensuring that the tractor does not present an unnecessary hazard to him/her, other farm workers, or innocent bystanders. Don't wait until it's too late before you take tractor safety seriously.

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