

DOSH DIRECTIVE

Department of Labor and Industries
Division of Occupational Safety and Health
Keeping Washington safe and working

33.20 Rollover Protective Structures (ROPS) and Low Profile Tractors

Updated: December 19, 2023

I. Purpose

This directive outlines inspection procedures, and enforcement policies related to Rollover Protective Structures (ROPS).

For the purpose of this directive, “CSHO” refers to DOSH Inspectors and Consultants.

II. Scope and Application

This directive applies to all DOSH operations statewide. **This is an update to the April 30, 2018 directive**, and replaces all previous instructions on this issue, whether formal or informal.

III. References

- Chapter 296-307 WAC, Safety Standards for Agriculture
- WAC 296-307-080, Rollover Protective Structures (ROPS) for Tractors
- OSHA CFR 1928.51, Rollover Protective Structures (ROPS) for Tractors Used in Agricultural Operations.

IV. Definitions

A. Roll-Over Protective Structures (ROPS) means a structure on a tractor that, in conjunction with a seatbelt, provides a zone of protection for the operator in case of a tractor rollover. The ROPS could be a two-post frame, a four-post frame, or an enclosed ROPS cab. The ROPS could be rigid, foldable or telescopic. For the ROPS to be effective, it must be in the up position with the seatbelt fastened. ROPS for wheel-type tractors must meet the requirements of CFR 1928.51, and for track-type tractors must meet the requirements of SAE J334a (July 1970) and portions of SAE J167 (1971) Standards.

B. Low Profile Tractor is a wheel- or track-equipped vehicle where the front wheel spacing is equal to the rear wheel spacing, as measured between the centerlines of the wheels. The clearance from the bottom of the tractor chassis to the ground is 18 inches or less. The highest point of the hood is 60 inches or less, and the tractor is designed so that the operator straddles the transmission when seated.

C. Non Low Profile Tractor means a tractor that does not meet the qualifications of a Low Profile Tractor, and is required to have ROPS up at all times.

D. Designed means that according to the manufacturer, the tractor’s structure (frame and axle housing) must be engineered with sufficient strength to withstand a rollover with

ROPS installed.

E. Substantial interference means structures, property, crops and/or other products that could be damaged when the ROPS are in the up position and the tractor is in motion.

F. ROPS not required means that ROPS are allowed in the down position only when the tractor is a low profile tractor **AND** when there is substantial interference with the ROPS being up **OR** an attached device would interfere with ROPS. If the tractor is not a low profile tractor, ROPS must be in the up position and the seatbelt worn.

G. ROPS required means that the tractor must be operated with the ROPS up, and the seatbelt worn.

V. Background

Chapter 296-307 WAC, Part F, contains specific requirements related to rollover protective structures (ROPS) used in the agricultural industry. WAC 296-307-08015 (1) does not require ROPS on low profile tractors "while they are used in orchards, vineyards or hop yards where the vertical clearance requirements would substantially interfere with normal operations..." and for work related to these uses. WAC 296-307-08015 (2) includes a similar statement for use inside farm buildings or greenhouses but does not include the wording for related uses. The "related uses" phrase contained in the requirement has created confusion in the agriculture industry regarding the requirements for ROPS on low profile tractors.

VI. Enforcement Policy

- A. In the application of WAC 296-307-080, ROPS on low profile tractors would not be required where limbs or branches, trellises, overhead watering systems, or anchor wires at the end of a hop/orchard row create clearance problems that would substantially interfere with the normal operations.
- B. When an employee using a low profile tractor in a location with substantial interference travels through a location without such interference, the employee may keep the ROPS down/disengaged/uninstalled only if the time of travel between locations is less than the time it takes to install/engage the ROPS in the up position.
- C. CSHOs must consider it a *de minimis* violation and not issue a citation if an employee is performing related-use work while a low profile tractor is being used in a farm building or greenhouse where vertical clearance would substantially interfere with normal operations.
- D. If a low profile tractor has a one or two-inch difference between the front and rear wheel spacing, CSHOs must consider it a *de minimis* violation and not issue a citation.
- E. ROPS are not required on low profile tractors when used with mounted equipment that is incompatible with ROPS (for example, corn pickers, vegetable pickers, and fruit harvesters). Tractors attached to hop towers or other implements can roll over on a steep hill or ditch at the end of the rows. If the hop tower or any other implement interferes with the ROPS, they are not required.

- F. For all tractors manufactured before October 25, 1976, if the tractor was designed to accommodate the addition of ROPS, then ROPS must be installed on the tractor, **unless** the manufacturer of the tractor provides the employer or the CSHO with proof that the tractor was not designed to be fitted with ROPS.
- G. Homemade ROPS may be strong enough to withstand a roll-over, but they must not be used because the tractor may not be designed to take the ROPS option and the ROPS or tractor may fail in some way and not provide protection to the operator. Only approved OSHA 1928.51 CFR or similar National Consensus Standards ROPS must be fitted to agricultural tractors.
- H. Non low profile tractors, or tractors that do not meet all the qualifications of a low profile tractor must have ROPS up/installed/engaged regardless of location and/or use.
- I. If ROPS can be used, they must be used.

VII. Who to Contact

CSHOs should contact the Agriculture Specialist in DOSH Technical Services, if they have questions regarding a specific situation or application of the standard.

VIII. Review and Cancellation

DOSH will review this Directive for applicability on an “as needed” basis, and it will remain effective until superseded or canceled.

Approved:



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Division of Occupational Safety and Health