

# LOADING AND TRANSPORTATION OF LOGS/WOOD FIBER

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Oregon Administrative Rules  
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**437-007-1000 General Requirements.**

- (1) Trucks or rail cars must not be moved unless all personnel are in the clear.
- (2) When the operator's vision is impaired, trucks or rail cars must not be moved without a signal from a spotter who has a clear view of the direction of travel.
- (3) Trucks must not approach a landing while there is danger from incoming logs, logging machines, lines, or rigging.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).

**Stats. Implemented:** ORS 654.001 through 654.295.

**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**437-007-1005 Loading.**

- (1) It is the responsibility of the employer who has control of the actual loading operation to ensure compliance with OAR 437-007-1005(2) through (18) and 437-007-1010(1) through (13) which are applicable to log loading, securing loads and to the requirement for hard hats.
- (2) The truck driver and personnel loading logs must use positive means of communication to control the movement of the truck being loaded.
- (3) Citizens' band (CB) radios may be used for communication between the loader operator and the log truck driver during the loading process.
- (4) Standing underneath a suspended trailer or its reach is prohibited.
- (5) Only the driver and driver-trainee are permitted to be in the truck cab while logs are being loaded.
- (6) Logs being moved or loaded must not pass over any personnel, occupied vehicles, machines, or truck cab.
- (7) Personnel must not enter any hazardous area near a log truck being loaded without:
  - (a) Determining that it is safe to enter the area.
  - (b) Receiving permission from the loading machine operator and truck driver.
  - (c) The centers of all logs are below the top of the stakes or secured by the log loader.

*NOTE: Hazardous areas include the areas:*

- (A) Between the deck or decks from which the logs are being removed.
- (B) Over which the logs are carried to place them on the log truck.
- (C) Along both sides of the log truck behind the cab guard.
- (D) Underneath the load.

(8) Logs must not be lowered to the bunk while bunk or block adjustments are being made.

(9) Standing between a truck cab and a log being loaded or unloaded is prohibited.

(10) Bunk and wing logs must extend at least 6 inches beyond the front and rear bunk or stake.

(11) Loads must be built up or loaded so they are stable without the use of wrappers.

*NOTE: Wrappers are considered to be a precautionary measure to ensure stability of the load during transit.*

(12) Logs must be loaded in a manner to prevent excessive strain on wrappers, binders, bunk stakes, bunk chains, or straps.

(13) When there is danger of a log slipping out of the grapples, a strap of sufficient size and length must be used to hold the log.

(14) The closing line must be securely attached to the grapple in accordance with the manufacturer's recommendations.

(15) Double-ended logs must not be loaded above the stakes on the side of the load from which the binders or wrappers are intended to be applied or released.

(16) Logs must be loaded so no more than 1/3 of the length of the logs extends beyond the:

- (a) Trailer bunks.
- (b) Ends of supporting logs.

(17) Log loads must not impair full and free movement of the truck.

(18) Loads or logs must not be moved or shifted while binders are being applied or adjusted.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).  
**Stats. Implemented:** ORS 654.001 through 654.295.  
**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

## **437-007-1010 Securing Loads for Transport.**

- (1)** Wrappers must not be thrown until personnel are in the clear.
- (2)** When logs are loaded at different locations or decks, log trucks must not be moved until the requirements for securing loads are met unless:
  - (a)** The centers of all logs are below the top of the stakes, or
  - (b)** Ground personnel and machines are not exposed to the hazard of falling logs or wood fiber.
- (3)** A fully loaded truck must not be moved more than 1 1/2 truck and trailer lengths in front of the loading area unless:
  - (a)** The centers of all logs are below the top of the stakes, or
  - (b)** The load is secured with at least two wrappers.
- (4)** All wrappers that are required to transport the load must be put on the load within sight of the loading area.
- (5)** Required wrappers and binders must be in place and hooked prior to tightening any of the binders.
- (6)** When drivers cannot safely throw wrappers over loads, alternate methods must be used, such as, pulling the wrappers over the load with the loading grapples. If the loaded truck is moved, the movement must comply with the requirements of OAR 437-007-1010(3).
- (7)** Loads must be secured as follows:
  - (a)** Any long logs (27 feet or more in length) must be secured with not less than four evenly spaced wrappers.

*EXCEPTION: Loads consisting of only four long logs or less may be secured with one wrapper at or near each bunk.*
  - (b)** All short logs (less than 27 feet in length) must be secured with at least two evenly spaced wrappers.
- (8)** Wrappers must be evenly spaced over the length of the logs.
- (9)** A wrapper must be placed near each bunk stake.
- (10)** Trucks and trailers used for off highway hauling on private haul roads where traffic controls are enforced:

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BINDERS & WRAPPERS**Oregon Administrative Rules  
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- (a) Must meet the requirements of 437-007-1010(7), or
- (b) All perimeter logs must be contained by no less than two wrappers.
- (c) Wrappers must be placed near each end of the logs.
- (d) The two binders, chains, cables, fasteners, wrappers or other wrapper attachments must each have a minimum breaking strength of 20,000 pounds.

(11) Logs loaded crosswise on a truck or trailer without solid ends or stakes high enough to restrain the logs must be secured with at least two wrapper cables which are firmly attached to the ends of the truck or trailer.

(12) All wrappers, except for gut wrappers or a one-log load wrapper, must surround the entire load.

(13) Unless otherwise required, arrange binders so that they can only be released from the side of the vehicle away from the brow log or dumping side.

(14) Grab hooks must not be directly attached to the wrapper wire rope.

(15) All required wrappers must be kept tight during transit.

(16) Loose ends of wrappers must be secured to prevent the wrapper end from swinging and creating a hazard.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).

**Stats. Implemented:** ORS 654.001 through 654.295.

**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**437-007-1015 Binders and Wrappers.**

(1) Each log truck must carry at least five binders and five wrappers.

(2) Binders, chains, cables, synthetic materials, fasteners, wrappers, or other wrapper attachments must each have a minimum breaking strength of not less than 15,000 pounds. The following components meet the 15,000-pound requirement:

(a) Chain of welded link construction:

(A) 5/16-inch alloy steel chain, or

(B) 3/8-inch high-test steel chain, or

- (b)** 7/16-inch IPS wire rope of 6 x 19 or 6 x 37 construction.
- (3)** Binders must have the manufacturer's name and minimum breaking strength stamped on the binder.
- (4)** Wrappers used to secure loads must not be used for any other purpose.
- (5)** Wrappers must be removed from service when:
  - (a)** Wear has reduced the original chain link diameter by 15 percent.
  - (b)** Chain links are deformed, stretched or cracked.
  - (c)** Wire rope is frayed, stranded, knotted or otherwise defective.
  - (d)** Wire rope has 12 1/2 percent of the wires broken within the distance of one lay.
- (6)** Binders must be removed from service when:
  - (a)** Wear has reduced the original pin diameter by 15 percent.
  - (b)** The yoke is spread.
  - (c)** Handles are bent or broken.
  - (d)** Hooks are bent or broken.
  - (e)** Chain links are deformed, stretched or cracked.
  - (f)** Swivels are defective.
- (7)** Defective binders, tighteners or other securing devices on binder chain or cable must be removed from service.
- (8)** Tighteners and other means of securing or attaching binder chain or cable must be used only in the manner for which they were intended.
- (9)** Welding on binders is prohibited.
- (10)** Knots must not be tied in wrappers.
- (11)** Binders for securing wrapper chain must have hooks of the correct size and design for the chain.

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LOG TRUCK GENERAL  
REQUIREMENTS**Oregon Administrative Rules  
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**(12)** Extension handles (swedes) for tightening or securing binders must not be longer than 36 inches.

**(13)** Extension handles (swedes) used to tighten binders must be of the safety swede type.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).

**Stats. Implemented:** ORS 654.001 through 654.295.

**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**437-007-1020 Log Truck General Requirements.**

**(1)** Manufacturers' handholds and steps provided on trucks must be maintained.

**(2)** The area between the truck frame rails, from the cab rearward as far as necessary to provide a safe work area, must have a walking surface of suitable non-slip material.

**(3)** Log trucks, with loads that are scaled at ramps, must have a personnel platform that:

**(a)** Extends outward from the side of each frame rail 18 inches.

**(b)** Is 18 inches long or as near 18 inches as the design of the truck will permit.

**(c)** Is capable of safely supporting a 500-pound load.

**(d)** Have a nonslip surface.

**(4)** There must be a step or other safe access for the driver to reach the space behind the cab.

**(5)** Log trucks must have a bulkhead meeting PUC requirements located between the load and cab. This bulkhead must extend to the top of the cab.

**(6)** All riders must be in the cab and use a seat and seat belt.

**(7)** Tire chain hooks must not present a hazard to workers. The arrangement and location of the tire chain hooks may include, but are not limited to:

**(a)** Under the scaler platform with the hook tips toward the center of the truck, or

**(b)** Inside an enclosure, such as a bottomless box attached to the truck frame, or

**(c)** Shielded with guards (such as hinged metal covers).



# LOG TRUCK GENERAL REQUIREMENTS / LOG TRUCK SAFETY CHAINS OR CABLES

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**(8)** Empty spare tire racks must be removed from bulkheads when there is no tire in them unless the lower part of the rack folds back against the upper part.

**(9)** Additional vehicle requirements that apply to log trucks are contained in Subdivision F, Roads and Vehicles, OAR 437-007-0520 through 437-007-0570.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).

**Stats. Implemented:** ORS 654.001 through 654.295.

**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

## **437-007-1025 Log Truck Safety Chains or Cables.**

**(1)** Each log truck and trailer combination, and each independent trailer (mule train) hooked to a log truck and trailer combination must have one or more safety chains or cables with a rated breaking strength of not less than the gross weight of the towed trailer(s).

**(2)** The means of attachment for safety chains or cables must:

**(a)** Be securely attached to the truck frame or to the truck frame extension.

**(b)** Form a separate continuous connection between the truck frame or truck frame extension and the reach.

**(c)** Be attached within 12 inches of the reach eye.

**(d)** Provide strength equivalent to the chain or cable.

**(3)** Safety chains or cables must:

**(a)** Prevent the trailer reach from contacting the ground in the event of disengagement from the truck.

**(b)** Provide a positive connection that cannot become inoperative by any condition of use or exposure.

**(4)** Safety chains must be replaced when they have cuts, cracks or wear has reduced the chain diameter by 15 percent.

**(5)** Safety cables must be replaced when the wire rope is frayed, stranded, 12 1/2 percent of the wires are broken within the distance of one lay or is otherwise defective.

**(6)** Safety chain links must not be welded except to close cold-shut links.

<b>K</b>	<b>LOG TRUCK SAFETY CHAINS OR CABLES / LOG TRUCK &amp; TRAILER HITCHES (COUPLINGS) / LOG TRUCK &amp; TRAILER BRAKES</b>	Oregon Administrative Rules Oregon Occupational Safety and Health Division
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(7) Use cold-shut links only if they are:

- (a) Welded.
- (b) One size larger than the chain being used.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).  
**Stats. Implemented:** ORS 654.001 through 654.295.  
**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

### **437-007-1030 Log Truck and Trailer Hitches (Couplings).**

(1) All log truck and trailer combinations must be equipped with couplings (hitches) that:

- (a) Will withstand, in any direction, the potential stresses imposed.
- (b) Have two independent locking devices that will continue working despite dirt and debris.
- (c) Remain securely locked.
- (d) Are attached to the truck frame or extension with at least four machine bolts (120,000 PSI or stronger), 3/4-inch or larger in diameter and secured with lock nuts.

(2) Hitches (couplings) having parts that are broken, cracked, worn, deformed more than 1/4-inch or are otherwise defective must be removed from service until repaired to comply with the manufacturer's specifications.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).  
**Stats. Implemented:** ORS 654.001 through 654.295.  
**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

### **437-007-1035 Log Truck and Trailer Brakes.**

- (1) Truck and trailer brakes must be tested before moving any load.
- (2) Brake slack adjusters must be adjusted to meet DOT specifications.
- (3) Vehicles with defective brakes must not be operated.
- (4) Brake drums must not be welded.
- (5) Engine-type brakes must be considered auxiliary controls, not a substitute for the primary braking systems.
- (6) Air or vacuum brake lines and fittings must be approved for brake line systems and not be interchangeable with water or other lines.

**LOG TRUCK & TRAILER BRAKES /  
LOG TRUCK TRAILER  
REACHES & DRAWBARS /  
LOG TRUCK TRAILERS**

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(7) Splices in air brake lines must:

- (a) Be made with fittings approved for air brake line service.
- (b) Not restrict air flow below the minimum required for the line size.

(8) If disconnected trailers are not equipped with effective brakes, wheels must be chocked, blocked or the trailer must be otherwise secured.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).  
**Stats. Implemented:** ORS 654.001 through 654.295.  
**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**437-007-1040 Log Truck Trailer Reaches and Drawbars.**

(1) The reaches of unloaded trailers being towed must have and use a 1-inch pin near the end or an equally effective means to prevent pulling or stripping through the tunnel.

(2) Reach locks or tighteners must be the type that securely locks the reach in the tunnel.

(3) A reach smaller than the largest size usable in the tunnel must not be used.

(4) Trailer reach tunnels must not be altered to accommodate a smaller reach.

(5) A grab iron or an adequate handhold must be on both sides near the coupling end of trailer reaches and be in good repair.

(6) Inspect the entire length of extendable reaches monthly, including the portion that is normally in the tunnel.

(7) Bent, defective, cracked or excessively worn reaches must be removed from service.

(8) Reaches must not be welded without approval from the manufacturer.

(9) Pup trailer drawbar eyes must not be build up or rings inserted.

(10) Eyes in compensating reaches must have insert rings secured to the eyes by welding.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).  
**Stats. Implemented:** ORS 654.001 through 654.295.  
**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**437-007-1045 Log Truck Trailers.**

(1) Trailer hoisting straps must:

- (a) Be fastened securely to the trailer frame.

- (b) Be used when hoisting the trailer.
  - (c) Be maintained in good condition.
  - (d) Enable the unloading machine to engage the strap without placing personnel in danger.
  - (e) Comply with the out-of-service requirements for wire rope in OAR 437-007-0605(5).
- (2) At least one binder or an equivalent method must be used to secure a trailer loaded on a truck for transport.
- (3) When unloading a trailer from a truck:
- (a) Hoist it clear.
  - (b) Drive the truck forward until clear.
  - (c) Lower the trailer to within 1-foot of the ground before approaching it.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).  
**Stats. Implemented:** ORS 654.001 through 654.295.  
**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

#### **437-007-1050 Log Truck and Trailer Bunks and Stakes.**

- (1) Every truck or trailer transporting logs loaded lengthwise must have bunks and bunk blocks, or stakes.
- (2) All stakes, stake extensions and bunks and their securing hardware must be designed and constructed to withstand their anticipated loads.
- (3) Defective stakes, stake extensions, bunks or means provided for securing or locking the stakes in hauling position must be removed from service.
- (4) Stakes or blocks that release must have the releasing mechanism at the opposite side of the bunk.
- (5) All swivel-type bunks must have locks or another method for keeping bunks perpendicular to the reach until the first full bunk tier of logs is loaded.
- (6) Bunk locks must be disengaged before starting to haul the load.
- (7) Bunk blocks must extend at least 8 inches above the top edge of the bunk.

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- (8) Bunk blocks and stakes must not extend beyond the end of the bunk.
- (9) Stake extensions must be secured to the stake.
- (10) Bunks or bolsters must be either straight or curve upward. Bunks with ends lower than their center must not be used.
- (11) Log bunks on trucks and trailers must keep the logs from slipping endways.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).  
**Stats. Implemented:** ORS 654.001 through 654.295.  
**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

## 437-007-1055 Log Truck and Trailer Bunk Chains and Cables.

(1) Chains or cables used to secure bunk blocks or stakes must have a manufacturer's rating for a safe working load of not less than 6,600 pounds. The following chain and wire rope meet the 6,600 pound requirement:

(a) Chain of welded link construction:

(A) 3/8-inch alloy steel chain, or

(B) 7/16-inch high-test steel chain, and

(b) 5/8-inch IPS wire rope in 6 x 19 or 6 x 37 construction.

(2) Bunk chains must be immediately removed from service when they contain cuts, cracks, other defects or when wear has reduced the original chain diameter by 15 percent.

(3) Wire rope used for stake straps must meet the requirements of OAR 437-007-0605(1).

(4) Only repair links with strength equivalent to the chain are permissible for repairs or attachments for chains.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).  
**Stats. Implemented:** ORS 654.001 through 654.295.  
**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**K****ADDITIONAL REQUIREMENTS FOR  
LOG TRUCKS EQUIPPED WITH  
SELF-LOADERS**Oregon Administrative Rules  
Oregon Occupational Safety  
and Health Division**437-007-1060 Additional Requirements for Log Trucks Equipped With Self-Loaders.**

- (1) Self-loaders built for log trucks after July 1, 1980, must have a:
- (a) Load check valve (velocity fuse) or similar device on the jib boom.
  - (b) Seat offset from the point of attachment of the boom.
  - (c) Seat and boom structure that rotate concurrently.
- (2) The operators of self-loading log trucks must:
- (a) Not heel logs over their heads.
  - (b) Avoid heeling logs on the operator side of the boom.
- (3) There must be a safe and adequate means of access to and exit from the loading work station on self-loading log trucks.
- (4) A self-loading log truck must not load itself or another truck when the loading process is:
- Under or within an active spar guyline circle or similar overhead hazard.
  - Out of a deck when yarding or skidding pose a hazard to the loader operator.
- (5) When loading around powerlines the requirements of OAR 437-007-0230 must be complied with.
- (6) Self-loading log truck operators must not unload their own load unless they use a positive means of securing the logs when wrappers and binders are removed.
- NOTE: The loading boom, when placed alongside the load, may serve this purpose when no other means are available.*
- (7) Self-loading log truck operators must not operate chain saws or yard logs when working alone.
- (8) Self-loading log truck operators must comply with OAR 437-007-0210, Checking System, and 437-007-0215, Working Alone requirements.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).

**Stats. Implemented:** ORS 654.001 through 654.295.

**Hist:** OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.