
Chapter 296-829 WAC
Helicopters Used as Lifting Machines
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This book contains rules for Safety Standards for helicopters used as lifting machines, as adopted under the Washington Industrial Safety and Health Act of 1973 (Chapter 49.17 RCW).

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Chapter 296-829 WAC SAFETY STANDARDS FOR HELICOPTERS USED AS LIFTING MACHINES

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WAC 296-829-099 Definitions.

Aviation gasoline. Gasoline fuel for reciprocating piston engine helicopters, also known as avgas.

Cargo hook. A device attached to a helicopter that is used to hold suspended loads.

Competent person. One who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Deadman controls. A control, switch or device that will automatically shut off whenever the operator releases it.

Deposit area. An area that is designated for dropping off and picking up suspended loads.

Downwash. The wind created by the rotating blades of a helicopter.

Ground device. A device used to dissipate the static electricity charge that has built up on a suspended load.

Helicopter crane. A helicopter that carries cargo or equipment suspended underneath it.

Jet B type fuel. A blend of gasoline and kerosene fuel.

Powered hoist. A powered device designed to lift and lower equipment and cargo.

Tag line. A line or rope used to control suspended loads that can swing freely.

WAC 296-829-100 Scope.

Chapter 296-829 WAC applies to helicopters when used to carry loads, suspended with a cargo sling, powered hoist, or other attaching methods.

EXEMPTION:

This chapter does **not** apply to the use of helicopters:

1. In the logging industry.
2. For rescue operations when a winch or hoist is used.

WAC 296-829-200 Design and installation requirements for helicopters.

Your responsibility: To make sure your helicopters meet design specifications and are equipped properly.

<i>You must meet the requirements...</i>	<i>in this section</i>
Follow Federal Aviation Administration (FAA) requirements	WAC 296-829-20005
Install and test hooks on helicopters correctly	WAC 296-829-20010

WAC 296-829-20005 Follow Federal Aviation Administration (FAA) requirements.

You must make sure helicopter cranes and their use meet the applicable requirements of the Federal Aviation Administration (FAA).

WAC 296-829-20010 Install and test hooks on helicopters correctly.

- (1) You must make sure electrically operated cargo hooks are:
 - (a) Designed and installed to prevent accidental operation.
 - (b) Equipped with an emergency mechanical control to release the load.
- (2) You must make sure a competent person tests all hooks before each day's operation to make sure both the electrical and mechanical releases work properly.

WAC 296-829-300 Maintenance.

Your responsibility: To keep helicopters in safe operating condition.

<i>You must meet the requirements...</i>	<i>in this section</i>
Keep landing and deposit areas safe	WAC 296-829-30005
Follow safe refueling procedures	WAC 296-829-30010

WAC 296-829-30005 Keep landing and deposit areas safe.

- (1) You must make sure precautions are taken to prevent loose objects from being caught in the downwash and flying around. Secure or remove all loose gear:
 - (a) Within 100 feet of lift and deposit areas.
 - (b) In all other areas affected by rotor downwash.
- (2) You must make sure employees do not work under hovering craft, except where necessary to hook or unhook loads.
- (3) You must make sure safe access and exit, including an emergency escape route, is provided for employees who hook or unhook loads.
- (4) You must prohibit open fires in any area that could be affected by the rotor downwash.
- (5) You must make sure unauthorized people do not go within 50 feet of the helicopter when the rotor blades are turning.
- (6) You must make sure all employees:
 - (a) Stay in full view of the pilot, in a crouched position, when approaching or leaving a helicopter with rotating blades.
 - (b) Stay away from the area behind the cockpit or cabin unless the operator authorizes them to work there.
- (7) You must take precautions to eliminate reduced visibility.
- (8) You must make sure ground personnel take special care to stay clear of rotors when visibility is reduced by dust or other conditions.

WAC 296-829-30010 Follow safe refueling procedures.

- (1) You must make sure refueling areas are safe.
 - (a) Post “NO SMOKING” signs at all entrances to the refueling area.
 - (b) Provide at least one 30-pound fire extinguisher, or a combination totaling 30 pounds, good for class A, B, and C fires, within 100 feet on the upwind side of the refueling operation.

Reference: For additional requirements relating to portable fire extinguishers, see WAC [296-800-300](#) in the Safety and Health Core Rules.

- (2) You must make sure workers involved in refueling are trained in both:
 - (a) The refueling operation; and
 - (b) The use of fire extinguishing equipment they may need.
- (3) You must make sure the following precautions are taken before and during refueling:
 - (a) Keep unauthorized people at least 50 feet away from the refueling operation or equipment.
 - (b) Prohibit smoking and open flames within 50 feet of the refueling area or fueling equipment.
 - (c) Make sure helicopter engines are shut down before refueling, if using aviation gasoline or jet B type fuel.
 - (d) Pump fuel, either by hand or power.
 - (e) Use self-closing nozzles or deadman controls.
 - (i) Do not allow these to be blocked open.
 - (ii) Make sure nozzles are not dragged along the ground.
 - (iii) Make sure the helicopter and the fueling equipment are grounded.
 - (iv) Electrically bond the fueling nozzle to the helicopter.
 - (v) Do not use conductive hose for this bonding.
 - (f) Make sure all grounding and bonding connections are:
 - (i) Electrically and mechanically firm.
 - (ii) On clean unpainted metal parts.
- (4) You must stop fueling **immediately** if there is a spill. Do not continue operation until the person in charge has determined it is safe.

WAC 296-829-400 Operating the helicopter.

Your responsibility: To make sure helicopters are operated safely.

<i>You must meet the requirements...</i>	<i>in this section:</i>
Hold daily briefings	WAC 296-829-40005
Make sure employees are dressed correctly	WAC 296-829-40010
Make sure loads are attached correctly	WAC 296-829-40015
Make sure the load is handled correctly	WAC 296-829-40020

WAC 296-829-40005 Hold daily briefings.

You must make sure the helicopter pilot and ground personnel hold a briefing before each day's operation to discuss cargo-handling plans.

WAC 296-829-40010 Make sure employees are dressed correctly.

You must make sure employees receiving the load:

- (1) Do **not** wear loose-fitting clothes that could snag on the hoist line.
- (2) Wear personal protective equipment (PPE), including complete eye protection and hard hats that are secured by chin straps.

Reference: For other requirements relating to PPE, see WAC [296-800-160](#) in the Safety and Health Core Rules.

WAC 296-829-40015 Make sure loads are attached correctly.

- (1) You must make sure loads are properly slung so tag lines cannot be drawn up into rotors.
- (2) You must make sure precautions are taken on all freely suspended loads to keep hand splices from spinning open or cable clamps from loosening, such as using pressed sleeves or swedged eyes.
- (3) You must make sure the weight of the load does not exceed the manufacturer's load ratings.
- (4) You must make sure hoist wires and other gear are **not** attached to or allowed to catch on any fixed structure.

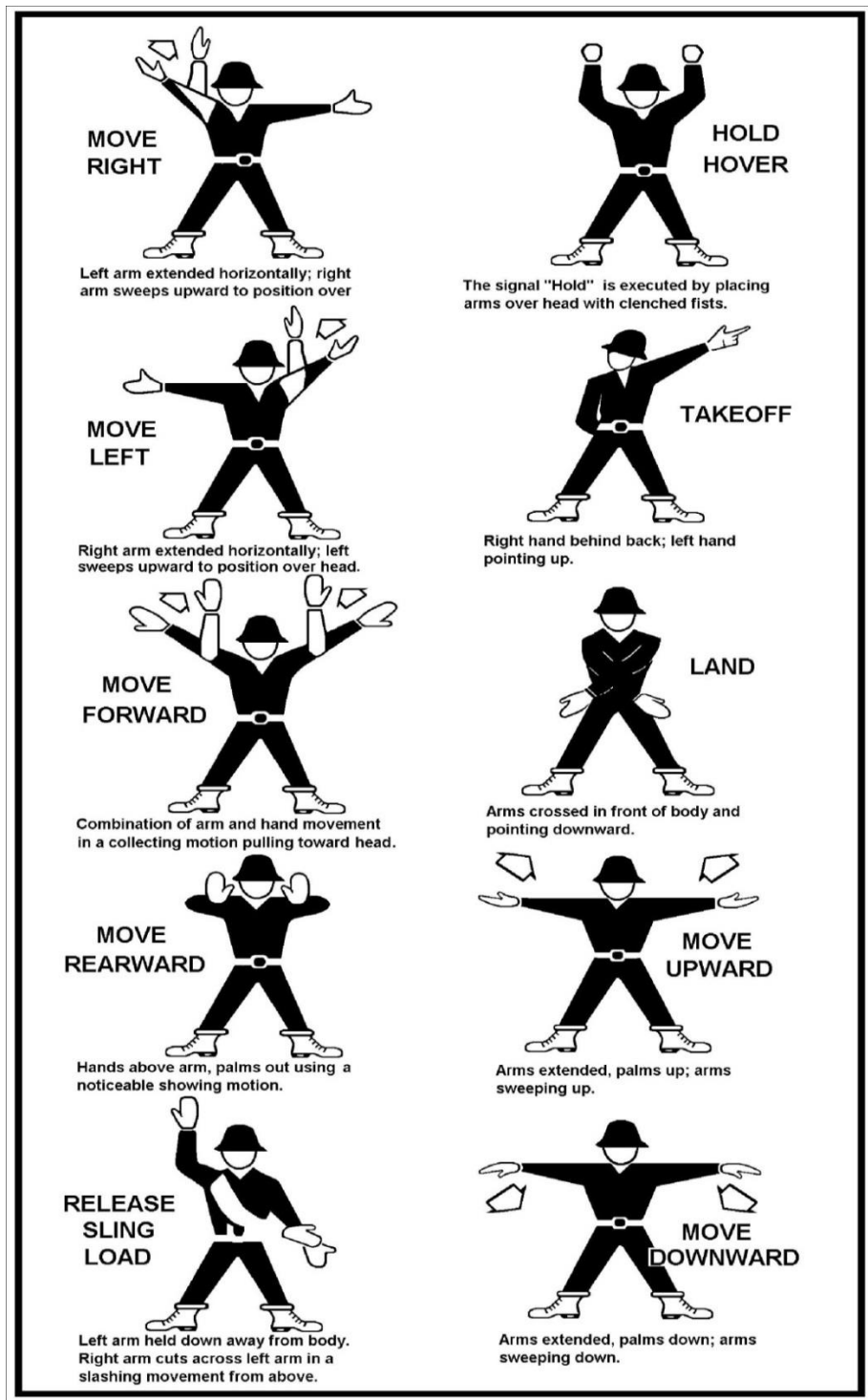
EXEMPTION:

This requirement does not apply to pulling lines or conductors that “pay out” from a container or reel.

WAC 296-829-40020 Make sure the load is handled correctly.

- (1) You must make sure signal systems, whether radio or hand signals, are checked before hoisting the load. When using hand signals, use those shown in Illustration 1
- (2) You must make sure workers on the ground do **either** of the following before touching the suspended load:
 - (a) Use a ground device to safely discharge any static charge; or
 - (b) Put on and wear rubber gloves.
- (3) You must make sure there are enough employees for safe loading and unloading operations.
- (4) You must make sure constant communications are maintained between the pilot and signal person.
- (5) You must make sure the signal person is distinctly recognizable from other ground personnel.

Figure 1: HELICOPTER HAND SIGNALS



WAC 296-829-099 Definitions.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 16-23-141 (Order 16-26), § 296-829-099, filed 11/22/16, effective 12/23/16. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-099, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § WAC 296-829-500, filed 4/20/04, effective 9/1/04.]

WAC 296-829-100 Scope.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-100, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-100, filed 4/20/04, effective 9/1/04.]

WAC 296-829-200 Design and installation requirements for helicopters.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-200, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-200, filed 4/20/04, effective 9/1/04.]

WAC 296-829-20005 Follow Federal Aviation Administration (FAA) requirements.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-20005, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-20005, filed 4/20/04, effective 9/1/04.]

WAC 296-829-20010 Install and test hooks on helicopters correctly.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-20010, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-20010, filed 4/20/04, effective 9/1/04.]

WAC 296-829-300 Maintenance.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-300, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-300, filed 4/20/04, effective 9/1/04.]

WAC 296-829-30005 Keep landing and deposit areas safe.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-30005, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-30005, filed 4/20/04, effective 9/1/04.]

WAC 296-829-30010 Follow safe refueling procedures.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-30010, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-30010, filed 4/20/04, effective 9/1/04.]

WAC 296-829-400 Operating the helicopter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-400, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-400, filed 4/20/04, effective 9/1/04.]

WAC 296-829-40005 Hold daily briefings.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-400, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-400, filed 4/20/04, effective 9/1/04.]

WAC 296-829-40010 Make sure employees are dressed correctly.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 16-23-141 (Order 16-26), § 296-829-40020, filed 11/22/16, effective 12/23/16. Statutory Authority: § 296-829-099, Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-40020, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-099 (Order 03-28), § 296-829-40020, filed 04/20/04, effective 09/01/04 [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-40010, filed 04/22/14, effective 07/01/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-40010, filed 4/20/04, effective 9/1/04.]

WAC 296-829-40015 Make sure loads are attached correctly.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-40015, filed 04/22/14, effective 07/01/14. Statutory Authority: Statutory Authority: RCW [49.17.010](#), [49.17.040](#), [49.17.050](#), and [49.17.060](#). 04-09-099, § 296-829-40015, filed 4/20/04, effective 9/1/04.]

WAC 296-829-40020 Make sure the load is handled correctly.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 14-09-095 (Order 13-10), § 296-829-40020, filed 04/22/14, effective 07/01/14. Statutory Authority: Statutory Authority: RCW [49.17.010](#), [49.17.040](#), [49.17.050](#), and [49.17.060](#). 04-09-099, § 296-829-40015, filed 4/20/04, effective 9/1/04.]