

Subchapter 7. General Industry Safety Orders
Group 3. General Plant Equipment and Special Operations
Article 19. Automotive Lifts

§3541. Definitions.

- (a) Automotive Lift. A hydraulic or mechanical vehicle lifting device used to raise an entire vehicle to provide accessibility for convenient under-chassis service.
- (b) Hydraulic Lift. A full hydraulic or semi-hydraulic (hydro-pneumatic) vehicle lifting device which employs one or more plungers actuated by a liquid under pressure encased in a cylinder or cylinders; plunger or plungers equipped with suitable load carrying members; the pressure being generated by compressed air, by pump or other suitable means.
- (c) Full Hydraulic Lift. A vehicle lifting device of the plunger type which employs a liquid under pressure as the direct lifting and load sustaining agent. Such a lift is so designed and constructed that the full weight of the load and the lifting assembly rest on a continuous column of liquid which extends from the cylinder to the liquid control valve.
- (d) Mechanical Lift. A vehicle lifting device so designed that the motive power is transmitted to the lifting frame by mechanical means. It is divided into three principal classes:
- (1) cable and drum;
 - (2) rack and pinion; and
 - (3) screw.
- (e) Hydro-pneumatic Lift. A semi-hydraulic vehicle lifting device of the plunger type which employs compressed air as the primary lifting and load sustaining agent; such compressed air acts continuously against a column of liquid to provide the lifting and load sustaining effort.

§3542. General.

- (a) Automotive lifts shall be designed, constructed and installed in accordance with the provisions of ANSI B153.1-1974, or shall have been approved by the Division of Occupational Safety and Health for lifts installed prior to November 1976. In lieu of meeting the provisions of ANSI B153.1-1974, automotive lifts installed through August 17, 1994, may be designed, constructed and installed in accordance with ANSI B153.1-1981, hereby incorporated by reference.
- (b) Automotive lifts manufactured after August 17, 1994, through July 28, 2005, shall be designed, constructed and installed in accordance with the provisions of ANSI/ALI B153.1-1990, which is hereby incorporated by reference, with the exception of Sections 7.2.2 and 8.2, or shall conform to the requirements of subsection (c).
- (c) New automotive lifts manufactured after July 28, 2005, shall be installed in accordance with the manufacturer's instructions and meet the design provisions of ANSI/ALI ALCTV-1998, Section 8, "Construction" and Section 9.2 "Testing" requirements for automotive lifts, which are hereby incorporated by reference.
- (d) The operation, inspection and maintenance of automotive lifts shall be performed by a qualified person in accordance with procedures recommended by the manufacturer. Maintenance shall include that pipe lines, fittings, valves, and packing glands are kept tight.

Note: Guidelines for the operation, inspection, maintenance, installation and servicing of automotive lifts are available in ANSI/ALI ALOIM-2000, Safety Requirements for Operation, Inspection and Maintenance; and ANSI/ALI ALIS-2001, Safety Requirements for Installation and Service.

§3543. Control Mechanism for Hydraulic Lifts.

- (a) Automotive lifts manufactured on or before August 17, 1994 shall be labeled with the following information:
- (1) Name of the manufacturer.
 - (2) Either the Division approval number or statement of compliance with ANSI B153.1-1974 or ANSI B153.1-1981.
 - (3) Capacity.
 - (4) Date of installation or manufacture.

- (b) Automotive lifts manufactured after August 17, 1994, through July 28, 2005, shall be labeled with a statement of compliance indicating that the lift was manufactured to conform to the requirements of ANSI/ALI B153.1-1990, or may conform to the requirements of subsection (c).
- (c) Automotive lifts manufactured after July 28, 2005, shall be labeled with a statement of compliance indicating that the lift was manufactured to conform to the requirements of ANSI/ALI ALCTV-1998, Section 8, "Construction" and Section 9.2 "Testing".
- (d) Labels shall be legibly stamped, etched, or embossed on a durable plate, which shall be permanently attached to the lift in a location where it can be conveniently inspected. Labels shall not be obscured, obliterated or changed.

§3544. Control Mechanism for Hydraulic Lifts.

Every hydraulic automotive lift shall be equipped with a readily accessible direct control device which will automatically return to the neutral or "off" position upon release by the operator. Adapters or other alterations which will render the normal functions of the control device inoperative shall not be used.

§3545. Oil Measurement.

- (a) Every air oil tank and oil storage tank on automotive lift installations shall be provided with a graduated stick gage or other positive and adequate means by which the oil level in the reservoir, with plunger or plungers in the lowest position, can be determined.
- (b) The oil supply in every air oil tank and oil storage tank shall be maintained at or above the prescribed safe minimum operating level which shall in no case be less than three inches in depth when the plunger or plungers are in the extreme elevated position.
- (c) The oil filling hole in the top of the plunger of every hydro-pneumatic lift shall be not less than a one-inch pipe tapped hole and there shall be a graduated stick gage available to determine the oil level which shall be maintained at or above the prescribed safe minimum operating level. The gage hole shall not be obstructed in any manner which would require removal of any parts of the lift except the pipe plug to check the oil level.

§3546. Air, Oil Tank Construction and Installation.

- (a) Every oil tank used for liquid storage under pressure, not an integral part of the cylinder assembly, shall be constructed for a working pressure of not less than 200 pounds per square inch, in accordance with the provisions of the ASME Code for Pressure Vessels, as required by the Unfired Pressure Vessel Safety Orders of the Division.
- (b) Every air, oil storage or surge tank which is to be completely buried in earth or concrete shall be protected from corrosion with an effective corrosion resistant coating or equivalent method of protection.

§3547. Working Area Under Lifts.

- (a) No slots or abrupt recesses in excess of 2 1/4 inches in width (unless closable by integral hinged flat covers) or raised floor obstructions for receiving the lift frame and rails shall be permitted in the floor under the lift. NOTE: The floor may be recessed to receive the rails providing the slope into the lowest part of the recess does not exceed 1 inch in 4 inches and provided also the inclined surfaces are constructed and surfaced so as to reduce slipping hazards.
- (b) Floor surfaces under the lift shall be kept reasonably free of oil or grease to minimize the slipping hazards.

§3548. Chassis and Axle Supports.

- (a) Chassis and axle supports shall be of such design as to safely transfer the load to the automotive lift.
- (b) Devices used for chassis, frame, wheel or axle supports shall be approved.

§3549. Maintenance.

All elements of any lift which control the speed of descent shall be maintained so that the average speed will not exceed 20 feet per minute.

