PART 12: TOOLS, MACHINERY AND EQUIPMENT

AUTOMOTIVE LIFTS AND OTHER VEHICLE SUPPORTS

Standards **12.74** (1) An automotive lift ~~or hoist~~ must meet the requirements *of ~~ANSI Standard ANSI/ALI B153.1-1990, American National Standard for Automotive Lifts – Safety Requirements for the Construction, Care, and Use~~* ***ANSI Standard ANSI/ALI ALCTV-1998, American National Standard for Automotive Lifts – Safety Requirements for Construction, Testing and Validation***.

(1.1) The operation, inspection and maintenance of an automotive lift must meet the requirements of *ANSI Standard ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts – Safety Requirements for Operation, Inspection and Maintenance*.

(2) A shop crane, jack, axle stand, ramp or other type of vehicle support must meet the requirements of the applicable section of *~~ANSI Standard ASME PALD-1993, Portable Automotive Lifting Devices~~* ***ANSI Standard ASME PALD-2003, Safety Standard for Portable Automotive Lifting Devices***.

Assembly and installation **12.75** An automotive lift, shop crane, jack or other vehicle support must be assembled and installed by qualified personnel.

Operation **12.76** Operation, inspection, repair, maintenance and modification of a vehicle support or **automotive** lift must be carried out according to the manufacturer's instructions or the written instructions of a professional engineer.

~~Inspection and maintenance records~~ **12.77** The employer must keep a ~~maintenance and inspection~~ **maintenance, inspection, modification and repair** record for each automotive lift ~~or hoist.~~

Records

Inspection and testing **12.78** An automotive lift ~~or hoist~~ must be inspected and tested monthly **in a manner acceptable to the Board**, unless the manufacturer requires more frequent inspection and testing.

Rated capacity **12.79** (1) The rated capacity must be marked on each automotive lift ~~or hoist~~, shop crane, jack, axle stand, ramp or other vehicle support and must not be exceeded.

(2) Repealed.

(3) If the rated capacity of a device listed in subsection (1) is dependent on the concurrent use of 2 or more devices, the number of devices required to achieve the rated capacity must be clearly marked on the devices.

Controls **12.80** The control for an automotive lift must require continuous pressure by the operator when raising or lowering the unit, and the control must return to the neutral position when released.

Vehicle restraint

12.80.1 Before a runway type automotive lift is used,

(a) manual wheel chocks must be used as the primary means to restrain the vehicle from movement, and

(b) automatic or fixed stops, or combination thereof, must be provided and used as a secondary means to prevent the vehicle from inadvertently rolling off either end of the runway.

Swing-arm restraint

12.80.2 (1) If an automotive lift has swing arms, a swing-arm pivot restraint system must be used.

(2) The swing-arm pivot restraint system must incorporate means to prevent unintentional removal or disengagement.

Explanatory Note

The proposed amendment to section 12.74(1) and the addition of new section 12.74(2) replace reference to the 1990 ANSI standard with updated 1998 and 2000 editions of ANSI standards that apply to automotive lifts. The 1990 standard does not reflect current worker protection measures and workplace practice changes that have occurred since that time. The 1998 and 2000 standards are companion standards and represent an update to the currently referenced 1990 standard. The 1998 standard resulted from an identified need by the Automotive Lift Institute ("ALI") to enhance the responsibilities of the lift manufacturer regarding construction, testing and validation of automotive lifts. The ALI is a trade association of US and Canadian manufacturers and certain national distributors of automotive lifts with a long history as a standards developer. The 2000 standard provides more detailed guidance to the lift owner or employer about the required qualifications, training, reporting and documentation for lift operators, inspectors and maintenance personnel.

Section 9.3 of the 1998 standard includes processes to ensure that automotive lifts will be tested and conform to testing standards referenced in the 1998 standard. Section 9.3 requires third party validation by a nationally recognized testing laboratory. This validation requirement may be onerous. Section 4.4 of the *Occupational Health and Safety Regulation* ("*Regulation*") provides that when the *Regulation* requires a person to comply with a standard of another agency, the person may, as an alternative, comply with another standard acceptable to the WCB. In order to address potential concerns about the validation requirement in the 1998 standard, it is anticipated that the WCB would accept alternatives to the third party validation outlined in section 9.3 of the 1998 standard. These alternatives would be outlined in a guideline.

The proposed amendment to existing section 12.74(2) (now renumbered to section 12.74(3)) to change the reference of the ANSI Standard ASME PALD from the 1993 edition to the 2003 edition also represents an update of the applicable standard. The 2003 edition offers increased protection to workers. The 2003 edition includes provisions for automotive ramps and forklift jacks, matters not addressed in the 1993 standard. In addition, other significant changes include:

- warning label requirements being replaced with more comprehensive safety messages;
- a new section on quality assurance that requires manufacturers to adhere to a planned, written system of policies and procedures to assure consistent and continuing conformity to the requirements of the standard;
- durability test requirements for all 18 categories of equipment covered in the standard (rather than only 4 categories of equipment in the 1993 edition); and
- five additional safety standards referenced in the 2003 standard (only one standard is listed in the 1993 edition).

The reference to "automotive lift or hoist" in sections 12.74 to 12.80 has been shortened to "automotive lift" to maintain consistency with current terminology.

The operation, inspection and maintenance requirements in section 12.76 are in addition to those

provided in section 12.74. Section 12.76 would typically address situations where manufacturers' instructions or the written instructions of a professional engineer are needed because of circumstances relating to the standard(s) referenced in section 12.74 or the particular automotive lift. These situations include the following:

- the referenced standard in section 12.74 is not applicable to the equipment because of the equipment's year of manufacture (e.g., pre-1998);
- an earlier edition of the standard that may be applicable does not address repair or modification of the equipment;
- the automotive lift apparatus is not a type covered in the referenced standard (e.g., vehicle display or storage lifts and some portable lifting devices);
- the manufacturer is no longer in business (and therefore a professional engineer could provide instructions in these situations); and
- repair or modification to structural components of the automotive lift has not been designed or inspected by the manufacturer (and therefore a professional engineer could provide the design, necessary instructions and final inspection of the equipment).

A practice guideline would provide further information about operation, inspection, repair and modification of an automotive lift.

The proposed revision to section 12.77 would add requirements by the employer to keep records of repairs and modifications to the automotive lift. The intent is to clarify that "maintenance" generally refers to preventative maintenance measures (e.g., checking the oil) of the lift, while "repair" refers to work done to fix a problem with the lift. In addition, it is important to owners and operators to know if the automotive lift has been modified, particularly if the unit is later sold to another owner. A practice guideline would provide information about maintenance and repair records.

The proposed revision to section 12.78 is intended to clarify that daily inspections are routine, cursory inspections of the automotive lift. Monthly inspections are envisioned as a more intensive inspection of the equipment which should include inspection and test points that are typical in the industry for that type of equipment. Monthly inspections are in addition to daily inspections. A practice guideline would provide further information about the components of a monthly inspection.

The proposed new requirement for automatic or fixed stops in new section 12.80.1 flows from recommendations by the WCB's Lessons to be Learned Committee ("Committee") which reviewed the circumstances surrounding the death of a high school student in 2002 caused by a vehicle rolling off a runway style automotive lift. The Committee determined that these automotive lifts should have runway stops to ensure vehicles cannot roll off a lift and harm a worker. Proposed new section 12.80.1 is intended to highlight the importance of having both manual wheel chocks and automatic or fixed stops (also known as runway stops) on runway type (i.e., drive-on style) automotive lifts to restrict movement of a vehicle placed on the lift. Manual wheel chocks are standard requirements on all runway type automotive lifts. Runway stops act as a secondary means to restrain the vehicle from inadvertently rolling off either end of the runways when raised.

Since 1974, ANSI standards have either specifically or implicitly required automatic or fixed stops (also known as "runway chocks"). The 1974 edition references runway chocks by stating that "Wheel chocks shall be permanently affixed to the runway ends … Chocks may be either fixed or automatic." The 1981 and 1990 editions reference "runway chocks" but do not specifically identify them as being automatic or fixed. The 1990 edition, which is the current required standard for automotive lifts, references "chocks" and an assumption is made that they are intended to mean automatic or fixed stops. The wording changes in the 1998 edition differentiate and clarify between "manual chocks" and "automatic or fixed stops".

All runway lifts manufactured after 1974 in accordance with the applicable ANSI standard are equipped with accidental roll-off protection, in the form of automatic chocks or fixed stops, provided by the lift manufacturer. However, not all automotive lifts in use in BC, particularly lifts manufactured prior to 1974 may have complied with the 1990 ANSI standard with respect to runway stops.

Proposed new section 12.80.2 is intended to address equipment manufactured prior to the 1990 ANSI standard. A swing-arm pivot restraint system refers to devices that prevent the lift pads that support the vehicle from slipping off, which would cause the vehicle to collapse from the lift. The requirement exists in the 1990 and 1998 editions of the ANSI standard. There have been many incidents in BC of vehicles falling off automotive lifts due to the swing-arms slipping away. These incidents have resulted in "near miss" accidents or injuries to workers.

A large number of lifts currently in use in BC were built prior to 1990 and may not have swing-arm restraint devices. In addition, there may be lifts built since 1990 that do not adhere to ANSI standards regarding swing-arm restraints. Proposed section 12.80.2 is intended to prevent injuries and potential fatalities that may occur because of the absence of swing-arm restraint devices.

It is anticipated that the new requirements relating to automatic or fixed stops and swing-arm restraints would apply to automotive lifts in use in BC, regardless of date of manufacture. Retrofitting costs for older equipment to comply with proposed sections 12.80.1 and 12.80.2 are estimated to be $1000 to $1700. Retrofit kits are available for $700 to $1400.

It is anticipated that if the above amendments are approved, the effective date of these amendments would be at least 6 months after the date of approval to allow education and awareness of affected parties, and time for any necessary equipment retrofitting. It is anticipated that most automotive lifts currently in use would be in compliance with the proposed changes if they were built since the 1974 ANSI standard. Note that all editions of the ANSI standard, since 1974, have required that all automotive lifts be retrofitted to meet the standard within 6 months of the date of issue.