

Background

1. The existing Commercial Vehicle Dimension and Weight Regulation does not prohibit the use of lift axles, but it does not provide any weight benefit to using them (ie: same allowable weight as though the lift axle was not there).
2. An automated axle lift device may be used on trailers within Alberta. Unlike common lift axles, this device has a sensing mechanism that allows an axle to be in the lifted position only when the trailer is empty.
3. The purpose of the automated axle lift device is to enable an empty vehicle to travel with one or more axles in the up position to reduce fuel consumption and tire wear.

Policy

1. Only devices meeting the specifications may be used.
2. The automated axle lifting device may be installed and used only on trailers. It is not allowed on trucks or truck tractor units.
3. Until the Commercial Dimension and Weight regulation is amended, vehicles with the axle lift device shall be operated only under an equipment exemption permit.
4. The automated axle lifting device is part of the list of items inspected during the annual CVIP mechanical inspection of commercial vehicles. Inspection reports for vehicles equipped with devices that do not conform to the specifications, have been tampered with, or are not in proper working order will be reported for investigation and may result in a review of permit privileges.

Specifications

All automated axle lift devices shall conform to the following specifications:

1. it shall be designed such that it can lift an axle only when the vehicle is empty.
2. the device shall automatically lower any axles that are off the ground when an empty trailer is loaded. To raise an axle on an empty trailer, the device may be either manual or automated.
3. it shall be designed such that it can maintain an axle in the up position, only when the trailer is empty. A working range of up to 2,000 kg of payload weight on the axle group may be built into the system to avoid having the axle dropped due to small variations in the sensing devices.
4. it shall be designed such that when the trailer is partially or fully loaded, all of the axles in the axle group are on the ground, subject to the working range as described in section 3.
5. it must be either fully automated or have a single on/off switch to lift the axles. Variable switching mechanisms cannot be installed or used.
6. it shall be equipped with tamper proof features to prevent any adjustment, except by the manufacturer or by an authorized agent of the manufacturer.
7. a system status light shall be displayed at a location such that it is visible to the driver, to indicate when the axles are in the up position.
8. it may be installed only on legal tandem and tridem axles of a trailer.
9. it shall not be installed on a truck or truck tractor unit.
10. when installed on a trailer, the trailer must remain in compliance with the requirements of the Transport Canada Motor Vehicle Safety Act and the Alberta Traffic Safety Act.
11. a unique logo shall be installed on the side of the vehicle to identify the installation of the axle lift device on that vehicle.
12. brake disconnects are not allowed when axles are lifted

Installation

1. The axle lift device shall consist of the following components:
 - (a) Lifting mechanism
 - (b) Load sensing / control device
 - (c) System status light
2. The load sensing / controlling device shall be one of the following approved types. Requests for alternate valves are to be submitted to Alberta Transportation for review and approval.
 - (a) Yak's Empty Assist Kit (complete lift device)
 - (b) Yak's Universal (valve only)
 - Both Yak's Empty Assist Kit and Yak's Universal shall be operated and maintained according to specifications provided by Yak's North America Inc. in addition to meeting the requirements of this policy. Both systems also require driver interaction for loaded and unloaded conditions.
 - (c) General Axle Lift Device using one of the following valves in the "Control Box":
 - Haldex ILAS III valve
 - Haldex ILAS-E valve
 - Meritor Wabco KIT 400 850 820 0
 - Sealco LSAS IIA
 - Wheel Monitor Balancer B150
 - Hartfiel Automation Part Number THC50716
 - Bendix Trailer Lift Valve (TLV9000) in KIT K134534
 - Cleral Reflex Pro
3. The valve shall be installed and calibrated by the manufacture of the valve or a dealer approved by the manufacturer.
4. Following the installation and calibration of the valve, a tamper proof seal shall be placed on the valve to ensure that that the setting are not adjusted by anyone other than the manufacturer or dealer.
5. The installer shall place a unique logo on the side of the vehicle to identify the installation of the axle lift device on that vehicle.

Bendix:

Joseph Macnamara
Bendix Commercial Vehicle Systems LLC
901 Cleveland Street Elyria, OH 44035
Phone: (440) 329-9568
Fax: (440) 329-9780
E-mail: joseph.macnamara@bendix.com

Haldex Valve:

All ILAS applications must follow Haldex and Government Specifications.

Haldex Limited
500 Pinebush Road, Unit #1
Cambridge, Ontario, Canada N1T 0A5
Mark Weber
Senior Technical Services Representative
Phone # 1-800-267-9247
E-mail: mark.weber@haldex.com

Hartfiel Automation:

Brian Preusser
Hartfiel Automation
6533 Flying Cloud Drive, Suite 100
Eden Prairie, MN 55344
Phone # 612-638-8870
E-mail: Brian.preusser@hartfiel.com

Meritor WABCO:

Frank Fazzalari
Meritor WABCO
Vehicle Control Systems
2135 West Maple RD.
Troy, MI 48084
Phone: 248-435-9924

Sealco Commercial Vehicle Products:

Kevin Roberts, phone: 602-315-7281
Corporate Office:
Sealco Commercial Vehicle Products.
215 East Watkins
Phoenix Az 85004.
Phone: 602-253-1007, Fax: 1-800-222-2334

Wheel Monitor's Electronic Axle Lift Control:

Wheel Monitor Inc. 360 York Rd. Unit C4 N-O-T-L, Ontario, L0S 1J0	Office: 1-905-641-0024 Fax: 1-905-641-0038 E-mail: slawson@wheelmonitor.com
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Yak's Empty Assist Kit:

For automated axle lift devices using the Yak's Empty Assist Kit or Yak's Universal, it shall be operated and maintained according to specifications provided by Yak's North America Inc. in addition to meeting the requirements of this policy. Both systems also require driver interaction for loaded and unloaded conditions.

Yak's North America Inc.
12203 – 67 Street
Edmonton, AB T5B 1M8

Office: 1-780-669-9610
Fax: 1-780-628-2689
e-mail: kellyy@yaksnorthamerica.com

Cleral:

Stephan Bergeron
Cleral Inc.
90 des Distributeurs
Val d'Or, Québec
Phone: 1-855-824-1151
E-mail: nama@cleral.com

General Axle Lift Device

For the general axle lift devices, the air lines shall comply with the following schematic:

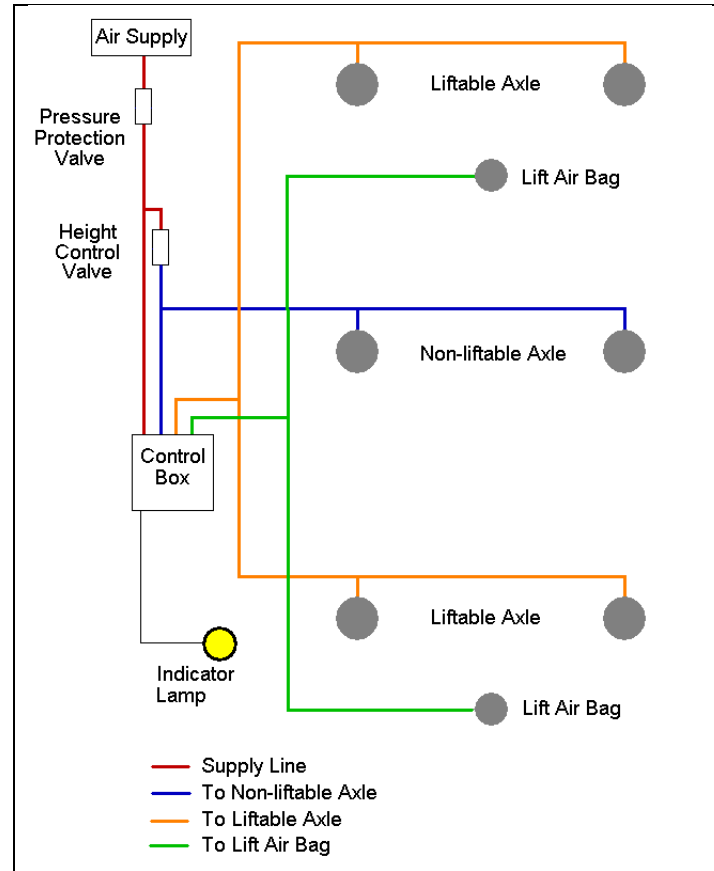


Figure 1: Manual Lift, Auto Drop
(Not to Scale)

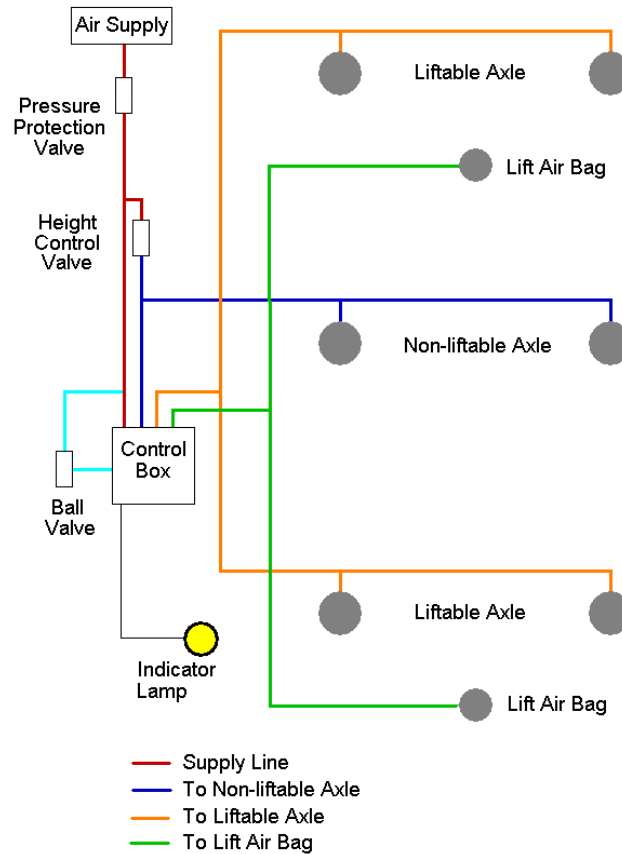


Figure 2: Auto Lift, Auto Drop
(Not to Scale)

Note: The ball valve is optional and is used to manually drop the axles when the trailer is unloaded. The Ball Valve is to be used only with an Auto Lift, Auto Drop Valve.

Conditions

1. All vehicles equipped with an automated axle lift device shall operate under an equipment exemption permit with the following conditions:
 - (a) the axle lift device may have an axle lifted only when the trailer is empty.
 - (b) when the trailer is partly or fully loaded, the axle lift device shall automatically have all axles on the ground.
 - (c) when the axles are in contact with the ground, the axle group shall conform to either a tandem or tridem axle, in accordance to the Commercial Vehicle Dimension and Weight regulation.
 - (d) when the axle(s) are in the up position, the trailer wheelbase must conform to legal dimensions.
 - (e) the owner or operator of the vehicle shall not modify the device.
 - (f) all other requirements of the regulations under the Traffic Safety Act shall apply.
 - (g) the axle lift device must be inspected during the annual CVIP inspection. Inspection reports for vehicles equipped with devices that do not conform to the specifications, have been tampered with, or are not in proper working order will be reported for investigation and may result in a review of permit privileges
 - (h) axles may not be lifted using unapproved mechanisms, including chains, pins or other means, unless the lifted axle is unsafe to operate due to damage. Damaged axles may be lifted only for direct transport of the trailer to a repair facility.
 - (i) The device used shall conform to the following approved products:
 - Yak's Empty Assist Kit (complete lift device)
 - Yak's Universal (valve only)
 - General axle lift device
 - (j) Valves used in the general axle lift device shall be one of:
 - Haldex ILAS III valve
 - Haldex ILAS-E valve
 - Meritor Wabco KIT 400 850 820 0
 - Sealco LSAS IIA
 - Wheel Monitor Balancer B150
 - Hartfiel Automation Part Number THC50716
 - Bendix Trailer Lift Valve (TLV9000) in KIT K134534
 - Cleral Reflex Pro