CSA GROUP™

CSA B149.5:20
National Standard of Canada

Installation code for propane fuel systems and containers on motor vehicles

Standards Council of Canada
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CSA B149.5:20
January 2020

Title: *Installation code for propane fuel systems and containers on motor vehicles*

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Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users to judge its suitability for their particular purpose.

National Standard of Canada

CSA B149.5:20

Installation code for propane fuel systems and containers on motor vehicles

IGAC

Interprovincial Gas Advisory Council

Approved on October 25, 2019 by IGAC
Published in January 2020 by CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

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ICS 75.160.30
ISBN 978-1-4883-2261-7

Contents

Preface

This is the sixth edition of CSA B149.5, *Installation code for propane fuel systems and containers on motor vehicles*. It supersedes the previous editions published in 2015, 2010, 2005, and 2000 by CSA Group as CAN/CSA-B149.5, and in 1995 by the Canadian Gas Association (CGA) as CAN/CGA-B149.5, under the title *Installation code for propane fuel systems and tanks on highway vehicles*.

These requirements for the installation of propane fuel systems and tanks on motor vehicles were originally published in 1982 as an amendment to CAN/CGA-B149.2-80, *Propane Installation Code*, and were subsequently incorporated as Part 15 in the editions of CAN/CGA-B149.2 published in 1986 and 1991. In 1995, the Part 15 requirements were removed from CAN/CGA-B149.2 to create CAN/CGA-B149.5 for the convenience of those individuals involved with converting propane vehicles who do not require the CSA B149.1 and B149.2 Codes.

The following are the major changes to this edition:
- change made to method of confirmation of OEM status;
- changed to metric;
- reference added to ISO 19825 and UL 1337;
- rationalization of installation and design requirements with CSA B51;
- requirement for the pressure rating of container appurtenances to match the container PRV;
- elimination of second fixed liquid level gauge at remote fill location;
- added requirements for return connections to a fuel tank
- changes to the requirements for filling of multiple tanks on a vehicle;
- updated tank mounting requirements to address bolting and dissimilar metals;
- prohibit the use of gear clamps with propane hoses;
- changes to the angle of venting for PRVs;
- changes to purging requirements and container decommissioning; and
- addition of OEM window label.

CSA Group acknowledges that the development of this Standard was made possible, in part, by the financial support of Natural Resources Canada.

This Code was prepared by the Technical Committee on Autopropane, under the jurisdiction of the Strategic Steering Committee on Fuel and Appliances, and has been formally approved by the Technical Committee. This Code has also been formally approved by the Interprovincial Gas Advisory Council.

This Code has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

Notes:

1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
3) *This Standard was developed by consensus, which is defined by* CSA Policy governing standardization — Code of good practice for standardization *as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
4) *To submit a request for interpretation of this Standard, please send the following information to* ***inquiries@csagroup.org*** *and include "Request for interpretation" in the subject line:*
   a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*

b) *provide an explanation of circumstances surrounding the actual field condition; and*
c) *where possible, phrase the request in such a way that a specific "yes" or "no" answer will address the issue.*

Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization *and are available on the* Current Standards Activities *page at* ***standardsactivities.csa.ca***.

5) *This Standard is subject to review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to* ***inquiries@csagroup.org*** *and include "Proposal for change" in the subject line:*
a) *Standard designation (number);*
b) *relevant clause, table, and/or figure number;*
c) *wording of the proposed change; and*
d) *rationale for the change.*

CSA B149.5:20
Installation code for propane fuel systems and containers on motor vehicles

1 Scope

1.1

This Code applies to

a) the installation, servicing, and repair of propane fuel system *components* and *containers* on motor vehicles for the provision of motive power; and

b) the installation of containers on motor vehicles such as *recreational vehicles*, outdoor food service units, and *wash-mobiles* when propane is to be used for fuel purposes (other than motive power).

Note: *"Motor vehicles" include cases where propane is used as an engine fuel in other than highway vehicles, such as ice resurfacing machines, lift trucks, lawnmowers, etc.*

1.2

This Code does not apply to

a) vehicles qualified under the Canada Motor Vehicle Safety Regulations;*

b) propane used on boats; and

c) the installation of appliances.

* *For confirmation of CMVSS compliance, you can contact the vehicle manufacturer.*

1.3

Where the term "propane" is used, the requirements of this Code include, and apply equally to, any material that is composed predominantly of any of the following hydrocarbons or a mixture of them: propane, propylene, butane (normal butane or isobutane), and butylenes.

1.4

This Code and any Standards referenced in it do not make or imply any assurance or guarantee with respect to the life expectancy, durability, or operating performance of equipment and materials referenced in the Code.

1.5

The values shown are in SI (metric) units. The Code contains yard/pound equivalents so the code can be used in these units also. The conversion of yard/pound to SI is in accordance with Table F.1. All pressures are gauge unless otherwise noted.

1.6

In this Code, shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the Code; "should" is used to express a recommendation or that which is advised but not required; and "may" is used to express an option or that which is permissible within the limits of the Code.

