

Fuel Safety Bulletin

1999-02

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Subject: Off road vehicle (Fork lift-trucks, ice maintenance machines, powered man lifts, zoom booms, floor burnishers, generators, etc.) propane/natural gas engine fuel system issues.

In the past few months, we have had a number of incidents involving propane/natural gas fuelled fork-lift trucks. During the investigation of these incidents, a number of serious issues have been brought to light.. We feel that these issues must be brought to the attention of industry in an effort to prevent further injuries or damage. These items are as follows;

- 1. Uncertified technicians** - In the province of Nova Scotia, a technician who installs or services/maintains a propane/natural gas fuel system must be certified by this office. A person doing this work without the proper certification is liable to a fine as set out in the Summary Offence Ticket Regulations . The certification examination may be written by a mechanic with proof of propane/natural gas system training and, if certified, the technician must carry a valid certification card with him when doing this work. This certification is renewable yearly .
- 2. Unlicensed companies** - Any company engaged in the installation, servicing or maintenance of propane/natural gas fuel systems must be licensed under Section 39 of the Fuel Safety Regulations.
- 3. Improper fuel hoses** - Clause 5.7.3.1 of the *CSA B149.5-10 - Installation Code for Propane Fuel Systems*, clearly states that fuel hoses “*shall comply with Standard CAN/CGA-8.1, Elastomeric Composite Hose and Hose Couplings for Conducting Propane, Type III or equivalent, and shall be of the stainless steel reinforced type*”. This standard also states that the hose must be a certified assembly and be labelled as such. The applicable natural gas code makes a similar statement
We are continuing to find mostly type I hoses (permeable hoses versus the Type III hose’s impermeability), or hydraulic hoses, with no certification labels on the hoses. This seems to be the case on new units also. Please note that it makes no difference what type of hoses a new unit is delivered with, or what is on a unit being serviced, the proper hoses must be installed. The delivery dealer for a new unit or the technician servicing a unit in the field or shop is responsible to ensure properly certified Type III hoses are on the propane fuel system.
- 4. Propane cylinder locating pins** - The cylinder bracket has a pin which fits into a corresponding hole in the collar of the cylinder. The purpose of this pin is to locate the cylinder so that the relief valve is not in contact with the liquid space of the cylinder. This is critical as a release of liquid propane is 270 times greater than a release of vapour.
Many brackets that we have seen have had this pin broken off. Please ensure that any unit serviced has this pin replaced, if it is missing.

Should there be any questions regarding these issues, please contact me at our Halifax office. Our phone number here is 424-5721 or 1-800-559-3473. Our Fax number is 902-424-3239.

Sincerely

Dale C. Stewart
Chief Inspector - Fuel Safety