



SPECIAL PERMIT 2041 REVISION NO. 1

This Special Permit is issued pursuant to the terms of Section 71.6(a) of the Canadian Transport Commission's "Regulations for the Transportation of Dangerous Commodities by Rail" to authorize the shipment of non-CTC Specification 3AA cylinders by rail in Canada, under conditions prescribed herein, and does not relieve any shipper or carrier from compliance with any requirement of the Commission's Regulations, except as specifically stated.

1. BASIS

Telex dated November 18, 1985 from Mogas Fuel Systems Inc., Vancouver, B.C.

2. COMMODITY CLASSIFICATION

Flammable gas 2.1.

3. COMMODITY NAME

Methane or natural gases.

4. IDENTIFICATION NUMBER

1971.

5. REGULATION AFFECTED

73.302.

6. AUTHORIZED SHIPPER

Dalmine, S.P.A., its agents and customers.

7. PACKAGING DESCRIPTION

a) High pressure steel cylinder made of definitely prescribed material,

(1) Design and construction must be in compliance with Dalmine application and drawing CT2:7476 dated July 12, 1983 and additional design and performance data on file with the Director of Operation.

b) In addition, the cylinders shall be in full compliance with CTC Specification 3AA except that:

(1) The wall stress shall not exceed 75 percent of the minimum tensile strength at test pressure.

- (2) The wall stress shall be a maximum of 90,500 psi.
- (3) The tensile strength to be in the range of 116,000 to 135,000 psi.
- (4) Usage of carbon boron steel as prescribed in section 178.37-5 (a) and (b) of the code of Federal Regulations Title 49 is authorized.
- (5) Each cylinder shall be plainly marked "CTC SP 2041" followed by the service pressure instead of "CTC 3AA".

8. SPECIAL REQUIREMENTS

- a) Each cylinder shall be plainly marked "CNG ONLY" in addition to all other markings as prescribed by CTC Specification 3AA and section 7 of this Special Permit.
- b) Gas quality: methane or natural gases shall not contain more than:
 - (1) 0.5 lbs. of water per million cubic feet at standard temperature and pressure (STP) (60°F., 30 inches H_g).
 - (2) 0.1 grain of hydrogen sulfide per 100 cubic feet at STP as determined by ASTM D 2385-76 test for hydrogen sulfide and mercaptain sulfur in natural gas (cadmium sulfate iodometric titration method).
 - (3) Total soluble sulfides other than H₂S must be less than .1 grain per 100 cubic feet at STP.
 - (4) One percent by volume of oxygen.
 - (5) Three percent by volume of carbon dioxide.
 - (6) Four percent total (including but not limited to items (4) and (5) of this paragraph) by volume of all non-hydrocarbon gases (excluding nitrogen).

9. ADDITIONAL TESTING

One out of each group of 1,000 cylinders shall be subjected to a cycling test at test pressure and pulse frequency shall be approximately five cycles per minute.

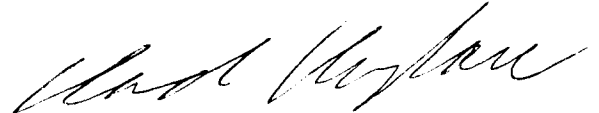
The results of the cycling test shall be reported to this office.

10. EXPIRY DATE

The Director of Operation shall be advised of any incident involving loss of contents and shall be provided with a summary of experience before the expiration date of the Special Permit.

11. EXPIRY DATE

December 9, 1986.



Director of Operation
Railway Transport Committee

Issued at Hull, Quebec
this 9th day of December, 1985

Address all inquiries to:

Director of Operation, RTC
Canadian Transport Commission
25 Eddy Street, 14th Floor
Hull, Quebec
K1A 0N9

This Special Permit shall come into force February 12, 1986