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Certificate of Registration

This is to certify that: Comdyne I, Incorporated, 6800 Country Road 189, West Liberty, Ohio 43357 pursuant to its application on file with Transport Canada, has been granted the registration No. M99 in accordance with the provisions of Special Permit No. 3263 and section 25 of CAN/CSA B339-88 for the purpose of manufacturing compressed gas cylinders under the following limitations:

Provided:

- 1) The cylinders shall be manufactured and maintained in complete accordance with the requirements set out in Appendix A to this Certificate and the applicable sections of the "Regulations for the Transportation of Dangerous Commodities by Rail". All cylinders must also conform with the additional information provided with the application on file with this Directorate.
- 2) The manufacturing must be supervised by a duly authorized Independent Inspection Agency under an inspection procedure conforming to the requirements set out in Appendix A to this Certificate and filed with this Directorate.
- 3) Within two years after the Registration date of this Certificate, a quality assurance manual shall be submitted to the Director. The manual shall indicate that the operations in the plant are in accordance with CAN3-Z299.3-85 standard or equivalent.

Not later than 20 days after any changes occur in the information submitted in support of the application, the holder shall advise this Directorate of any such changes.

Failure to comply with the above mentioned requirements or any applicable regulations may result in the suspension or revocation of this Certificate of Registration.

This Certificate of Registration shall expire on: July 15, 1996 or on such previous date as this Directorate may decide.

Registration Date: July 24/91 signed: Jean Bourdard
Director, Regulatory Requirements
Transport Dangerous Goods Directorate



Canada

APPENDIX A TO CERTIFICATE OF REGISTRATION M99

The following requirements apply to cylinders made in accordance with Comdyne I, Inc. applications and drawings 285-10000, 285-10010, 285-10000AFB, 285-10010LEB, 550-10000AFA, 550-10010LFA and additional design and performance data on file with this Directorate.

The cylinders shall be of fibre reinforced plastic (FRP) full composite type manufactured in full compliance with DOT FRP-1 Standard Revision 1 dated March 15, 1982 (178.AA) except as specifically modified hereunder:

i) 178-AA-3 Inspection by whom and where

Inspections and verifications shall be performed by an Independent Inspection Agency authorized in writing for such purposes by this Directorate or by a valid order issued by the Canadian Transport Commission.

ii) 178.AA-4 Duties of Inspector

(g) Furnish complete inspector's report (178-AA.16) to the maker of the cylinder, to Transport Canada and upon request, to the purchaser.

iii) 178.AA-5 Material

(a) Aluminum liner must be 6351 or 6061 alloy and T6 temper

iv) 178.AA-6 Manufacture

(a) Liner (Add to end of paragraph). Each cylinder liner must be of seamless construction with integrally formed heads and bottoms. Manufacture is by backward extruded shell with treaded end formed by spinning.

v) 178.AA-15 Marking

(b) Required markings are as follows:

(1) "TC SP3263-M99A-YYYY"
(Where Y = service pressure in PSIG)

(2) A serial number and an identifying symbol (letter and numbers); location of number to be just below or immediately following the TC mark; location of symbol to be just below or immediately following the number. The symbol and numbers must be those of the maker and must be registered with the Director, Regulatory Requirements.

vi) 178.AA-18 Design qualification tests

- (a) General - except as authorized in 178.AA-10(a), qualification tests as prescribed in this paragraph shall have been performed on representative cylinders of each specific design prior to the initial shipment. All cylinders used for design qualification tests must be fabricated on the same equipment and subjected to the same processes as is used to produce cylinders intended for charging and shipment. All tests must be witnessed by an independent inspector. Test reports must be kept on file by the cylinder maker and made available to the independent inspector and Transport Canada upon request.
- (h) Qualification test results - A report of all test for each design describing test setup, procedure and results must be submitted to Transport Canada. This report must include at least the following basic information on each cylinder tested: ***

SPECIAL REQUIREMENTS

- a) The cylinders shall be maintained and used in accordance with applicable sections of the "Regulations for the Transportation of Dangerous Commodities by Rail" and filled only with the following gases:

<u>Commodity</u>	<u>Identification Number</u>
Air, compressed	1002
Oxygen, compressed	1072
Compressed gas, n.o.s (air compressed enriched with up to 39% by volume oxygen content)	1956

- b) Cylinder service life must not exceed 15 years;
- c) Use of these cylinders for underwater breathing is not authorized;
- d) Cylinders used in oxygen service must be in compliance with section 73.302 (a)(5)(i) through (a)(5)(iv);
- e) Cylinder must be packaged in accordance with 73.301 (k);
- f) Each cylinder must be reinspected and hydrostatically retested every three years in accordance with section 73.34(a) as prescribed for CTC 3HT cylinders, except that the rejection elastic expansion criteria does not apply, permanent volumetric expansion must not exceed 5 percent of total volumetric expansion at test pressure and retest dates must be stamped on the outer exposed metallic surface of the cylinder

neck or marked on a label securely affixed to the cylinder and overcoated with epoxy. Reheat treatment or repair of rejected cylinders not authorized;

- g) A cylinder which has been subjected to the action of fire must not be returned to service;
- h) The Director, Regulatory Requirements shall be advised of any change in design of the cylinder;
- i) The Director, Regulatory Requirements shall be advised of any incident involving loss of contents and shall be provided with a summary of experience on a yearly basis.