

BAILOUT INSPECTION

Introduction

DOT cylinders (tanks or bottles) are designed, fabricated and tested in accordance with specific DOT requirements. All Cal Dive International approved steel and aluminum bailout cylinders must meet one of the following DOT specifications; DOT 3AA, DOT 3AL, DOT SP6498 or DOT E6498. In accordance with Cal Dive's Diving Safety Manual *Section 20.3 Bailout Bottles*, an internal and external visual inspection for damage or corrosion is required every year. Hydrostatic testing at an authorized DOT facility to 5/3 working pressure is required every 5 years. The maximum permanent allowable volumetric expansion ratio is 10%. A DOT test report from the testing activity must be presented to the company as proof of hydrostatic testing compliance.

Marking for Identification

The first row of the cylinder will contain the following information:

- Government Approval - Department of Transportation (DOT)
- Metal Type – 3AA is the designation for chrome-molybdenum and 3AL for aluminum
- Working pressure – A cylinder shouldn't be filled beyond this point. The single exception occurs with steel cylinders that bear a plus (+) sign after the date of the last hydrostatic test. These may be filled to 10% above the listed pressure. This notation commonly appears on newly manufactured cylinders but seldom is given on subsequent hydrostatic tests.

All cylinders contain a second row, and sometimes even a third and fourth row of information. The sequence in which information may appear in these rows varies. Among that information, however, will be:

- Serial Number – Most cylinders carry a unique serial number that may also identify information such as its size and lot number. This is usually the first information that appears on the second row.
- Manufacturer Identification – This usually appears following the serial number. PST (Pressed Steel Company) is among the most common manufacturer notations. The newest cylinders will have no names at all, but a manufacture identification number instead.
- Hydrostatic Test Date – A cylinder's initial hydrostatic test date will usually appear as the last or only item in the last row of information originally stamped on the cylinder. Subsequent hydrostatic test dates may appear anywhere on the cylinder's neck. The hydrostatic test date consists of numbers representing the month and year in which the cylinder was tested. These numbers will be separated by either the hydrostatic tester's initials or by a special symbol that the tester has registered with the Department of Transportation.

EXAMPLE:

Steel DOT cylinder marked in accordance with Compressed Gas Association pamphlet C-1: (see Figure 1)

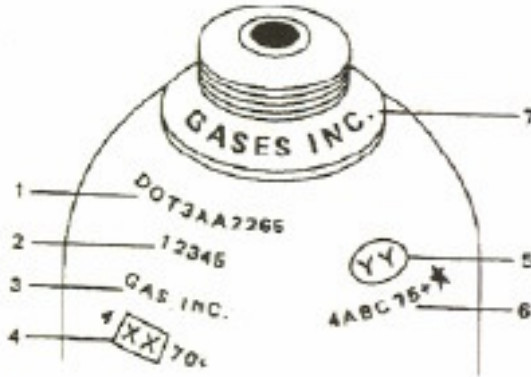


Figure 1

1. Cylinder
 - Specification consisting of three sections:
 - (a) DOT – Department of Transportation, regulatory body which governs use of cylinders.
 - (b) 3AA – Specification of material of cylinder construction.
 - (c) 2265 – Service working pressure in pounds per square inch.
2. 12345 – Cylinder serial number (see note A)
3. Gas INC. – Identifying symbol (see note A)
4. Manufacturing Data:
 - (a) 4-70 – Date of manufacture and original test date
 - (b) XX – Inspector's official mark
 - (c) + - Cylinder qualifies for 110% filling
5. YY – Manufacturer's identifying symbol
6. Retest Markings:
 - (a) 4-75 – Date of first 5 year hydrostatic retest
 - (b) ABC – Retester identifying symbol
 - (c) + - Cylinder qualifies for 110% filling
 - (d) * - Cylinder qualifies for 10 year retest interval
7. Neck ring owner's identification

Notes:

- a. Serial number and identifying symbol may be that of purchaser, user or Manufacturer.

- b. "Spun" or "Plug" must be stamped near DOT mark when an end closure in the finished cylinder has been welded by the spinning process, or effected by plugging.
- c. Markings "5" and "6" are usually shown diametrically opposite other markings on the cylinder neck.
- d. Aluminum cylinders may bear the designations SP6498, E6498 OR 3AL. The first two designations identify the special permit numbers under which aluminum cylinders were originally manufactured. 3AL is the permanent designation for the DOT-approved alloy used in aluminum cylinder manufacture. All cylinders manufactured or hydro-tested in the United States after July 1, 1982 bear this designation.

SOURCE: Cal Dive International, Inc.

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