



PST SCUBA

PST Technical bulletin D100

Procedures for Hydrostatic Retesting of Hot Dip Galvanized Scuba Cylinders
Revised 3/20/2000

Steel SCUBA cylinders manufactured by PST must be reinspected and retested at least every five years in accordance with the Code of federal Regulations Title 49 CFR 173.34 (US) or CSA B339 (Canada).

This bulletin describes procedures that must be performed prior to retesting each cylinder. The cylinder must be prepared and test system checked in order to obtain accurate results in the hydrostatic expansion retest of galvanized steel cylinders. All PST AquaAire SCUBA cylinders and older PST SCUBA cylinders made starting in 1952 are protected from corrosion by a hot dip galvanized coating. This hot dip galvanized coating may affect the readings from the hydrostatic test, therefore failure to prepare the cylinder and perform the test system check in accordance with this procedure may result in rejection of perfectly acceptable cylinders.

Cylinder Preparation Procedure:

1. Remove the plastic boot.
2. Remove any crusty white corrosion deposits. Crusty deposits are most likely to form inside the removable plastic boot if the owner has not routinely rinsed saltwater residue from this area.
3. Do not use aggressive acidic or caustic metal cleaners on the galvanized surface. The mottled gray-white appearance of used galvanized cylinders is normal.

Test System Check Procedure:

1. Visually inspect the cylinder, fill it with water and place it in the water jacket, as is your normal practice for any cylinder.
2. Zero the burette or expansion measuring system and pressurize the cylinder to between 85% and 90% of the prescribed test pressure. **Warning: Do not exceed 90%** [49CFR 173.34(e)(4)(v)] of test pressure.
3. Hold the pressure and determine that the system is free of leaks.
4. Release the pressure to zero.
5. Zero the burette again if necessary.
6. Proceed to retest the cylinder at the required test pressure.
7. Repeat this procedure with each hot dip galvanized cylinder to be retested.

This test system check procedure is specifically authorized under the provisions of 49CFR 173.34(e)(4)(v) and CGA C-1, Methods for Hydrostatic Retesting, 1.4. This procedure is necessary to obtain accurate test results. The provisions of the PST Warranty therefore require that the cylinders are prepared for test and the system check is performed in accordance with these procedures. If these procedures are not

followed in retesting hot dip galvanized cylinders, the owner should be given prior notice by the retester that the warranty may be invalidated by the retest.

Related test bulletin: **PST Bulletin D101, Retesting DOT-E9791 or TC-SU4349-241 Advanced Technology Cylinders.** PST high-pressure (3,500 psi.) cylinders have special test requirements based on their design and the DOT/TC requirements. This bulletin provides the necessary information.

Following this procedure will assure an accurate retest for PST SCUBA cylinders. If you experience any difficulty in obtaining acceptable readings, please contact PST SCUBA customer service.

These bulletins are provided free to all retesters approved by the US DOT or Transport Canada.



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PST Technical bulletin D101

Retesting DOT-E9791 or TC-SU4349-241 Advanced Technology Cylinders
Revised 3/20/2000

High pressure steel SCUBA cylinders manufactured by PST must be reinspected and retested at least every five years in accordance with the Code of federal Regulations Title 49 CFR 173.34 (US) or CSA B339 (Canada).

PST high pressure (3,500 psi.) cylinders must be retested in accordance with DOT-E9791 or TC-SU4349 and have special test requirements based on their design and the DOT/TC requirements. This bulletin provides the necessary information.

1. The retester must have a current copy either DOT-E9791 or TC-SU4349.
2. Use a test adapter that matches the MS 16142(SH) port in the cylinder. Hydrotest Products Part No. 100-58 with o-ring is a suitable adapter.
Adapters designed for 4,500 psi. Fireman's cylinders may not seal properly and should not be used.
3. **The test pressure is 5,250 psi.** DOT requires a test pressure of 3/2 times service pressure for all newer designs.
4. The wall calculations of CGA-C6 are not applicable to these high-strength steel cylinders. For the purposes of inspection criteria, the minimum wall for a new cylinder is 0.179 inch, the estimated actual wall at time of manufacture is 0.195 inch and the minimum wall in service is 0.172 inch.
5. Almost all PST high pressure SCUBA cylinders are hot-dip galvanized for protection from corrosion. Specific procedures must be followed for cylinder preparation and retest checks to obtain accurate results in retesting hot-dip galvanized cylinders. These are described in **PST Bulletin D100. Procedures for Hydrostatic Retesting for Hot Dip Galvanized Scuba Cylinders.**

Following these procedures will assure an accurate retest for PST SCUBA cylinders. If you experience any difficulty in obtaining acceptable readings, please contact PST SCUBA customer service.

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PST SCUBA

PST LP Cylinders

Cylinder specification DOT/TC 3AA.

Service Pressure 2400 PSI (+), 3/4-14 neck thread

<u>MODEL</u>	<u>CAPACITY</u>	<u>O.D.</u>	<u>LENGTH</u>	<u>WEIGHT</u>	<u>BOUYANCY</u>
LP-80	80 CU.FT.	7.25	24.00	32 LBS	-2.0 LBS
LP-95	95 CU.FT.	8.00	24.75	42 LBS	-1.0 LBS
LP-104	104 CU.FT.	8.00	26.19	45 LBS	-0.7 LBS
LP-120	120 CU.FT.	8.00	29.37	50 LBS	-0.4 LBS

PST HP Cylinders

Specification DOT E-9791 & TC SU 4339.

Service pressure 3500 psi, 7/8-16 neck threads

<u>MODEL</u>	<u>CAPACITY</u>	<u>O.D.</u>	<u>LENGTH</u>	<u>WEIGHT</u>	<u>BOUYANCY</u>
HP-65	65 CU.FT.	7.25	16.75	24 LBS	-1.5 LBS
HP-80	80 CU.FT.	7.25	19.75	26 LBS	-2.5 LBS
HP-100	100 CU.FT.	7.25	23.94	31 LBS	-1.4 LBS
HP-120	120 CU.FT.	7.25	27.87	36 LBS	-0.4 LBS