

CAMERON BALLOONS LTD (THUNDER & COLT)

SERVICE BULLETIN: SB4

Subject: **Propane Cylinder Pressure Relief Valves.**

Title: **Periodic Replacement of Pressure Relief Valves**

Parts affected: **All Fuel Cylinders Supplied For Flight by Cameron Balloons Ltd. / Thunder & Colt and Thunder & Colt Ltd.**

Reason for Modification: **Degradation of Pressure Relief Valve Performance with Age.**

Modification:
Classification: **Mandatory**

Compliance: **Inspection in accordance with CBL/TN/FJD/1288 to be performed prior to the next annual inspection. The inspection may be performed by the Pilot. Remedial action must be taken before the next annual inspection.**

Accomplishment
Instructions. **CBL/TN/FJD/1288 Issue F.**

If in doubt please contact the factory.

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Inspection / Renewal of Fuel Cylinder Pressure Relief Valves.

1. Applicability

All fuel cylinders supplied for flight by Cameron Balloons Ltd., Thunder & Colt and Thunder & Colt Ltd. **All** pressure relief valves.

2. Inspection.

Pressure relief valves should be regularly inspected for contamination and corrosion. The valves should be inspected with the pipe away (if fitted) and dust cover removed.

Note: The pipeaway can be removed using a 7/8 inch AF (22mm AF) open-ended spanner .

If any debris in the valve cannot be totally removed or there is evidence of contamination, the valve must be replaced.

If corrosion is present, the valve should be replaced.

If the valve leaks or is found to be defective it must be replaced.

The valve must be replaced as part of the 10 year (periodic) inspection.

If the valve is date stamped 10 years before the inspection date, the valve must be replaced (the date appears on the upper face of the pressure relief valve and appears as month / year).

Note.

Always wear eye protection when examining relief valves under pressure.

Never look directly into a relief valve under pressure.

3. Renewal

Important

With used cylinders there is a great danger that residual propane mixed with air will cause a fire or explosion hazard. The cylinder must be properly purged with nitrogen (N₂) prior to any inspection / maintenance.

3.1 Preparation.

Ensure the cylinder is empty (this can be checked by opening the bleed valve).
Remove the contents gauge. Purge the cylinder with nitrogen to remove all traces of propane.

3.2 Removal.

Using a 1 1/16 inch (27 mm) socket, unscrew the pressure relief valve. Clean the thread in the cylinder boss to remove residues of p.t.f.e. tape / locking compound.

3. Renewal (cont'd.)

3.3 Internal Inspection.

Inspect the inside of the cylinder with the aid of a remote light source. Check for signs of corrosion and excessive deposition. The cylinder may be cleaned by adding a small quantity of kerosene and swilling it around the cylinder. Repeat the process as necessary. Finally clean the cylinder with alcohol to remove any water.

3.4 Replacement.

Wrap the new pressure relief valve with three layers of p.t.f.e. tape (The tape should be wrapped in direction of the thread).

Coat the threads in the cylinder boss with a suitable sealing compound (i.e. Finlon m - p.t.f.e. paste).

Insert the valve in the boss and tighten to a **maximum** of 100 Lb ft (136Nm) using a 1 1/16 inch (27 mm) socket.

Note: In many cases, if both mating threads are perfect, a leak tight joint can be made with torques under 100 ft lbs.

Check the operation of the contents gauge and, using a new rubber gasket, refit.

Refit the pipeaway using a 7/8 inch (22 mm AF) open-ended spanner.

Refit the dust cover.

3.5 Testing.

Subject the cylinder to an air test to check the integrity and sealing of the valves and fittings..

This is done as follows:-

- 1) Close all valves.
- 2) Connect a compressed air supply to the liquid connector on the cylinder.
- 3) Open the liquid valve.
- 4) Open the air supply to give 100psi (minimum) in the cylinder.
- 5) Close the liquid valve and the air supply valve.
- 6) Disconnect the air supply and open the liquid valve.
- 7) Check the following areas with a proprietary bubble type liquid leak detector:-
 - a) All threads into the cylinder.
 - b) All threads between valves/regulators/line connectors.
 - c) Self sealing devices on line connectors.
 - d) Valve stems - open and close valve during this test.
 - e) Seal around gauge.

No leaks are permitted. If a leak is detected correct the fault and repeat the test. Always vent the cylinder after test.

Note

If the pressure relief valve does not form a gas tight seal, the torque may be increased to 150 Lbs Ft (205 Nm) max.(Not applicable to aluminium cylinders). Leak Testing must then be repeated.

4. Certificate of Airworthiness (C of A).

In the U.K., to maintain C of A validity, the inspection must be referenced on the IR4 Form by a BBAC inspector.