

# Service Bulletin 26



## 1. General

(a) Service Bulletin No.:	26
(b) Revision / Date	2 / 29-November-2017
(b) Title:	Lindstrand T30 titanium fuel cylinders. X-ray inspection
(c) Description:	This Service Bulletin recommends X-ray inspection of Lindstrand T30 Titanium fuel cylinders.
(d) Applicability:	Lindstrand T30 Titanium fuel cylinders.
(e) Effectivity:	All hot-air balloon types and variants where the Lindstrand T30 Titanium fuel cylinder is used (Part No CY050001)
<b>Note:</b> Applicability= All types and variants to which the change can be applied. Effectivity= Actual CN or group of CN's to which the bulletin has been/will be applied.	

## 2. Background

The T30 cylinders were introduced into service in 1995. Examination of the production records showed that a number of cylinders were released into service with unacceptable weld defects. It is possible that other cylinders with weld defects are in service (see SB25).

Cameron Balloons highly recommend that all T30 cylinders not withdrawn from service by SB25 are X-ray inspected.

## 3. Compliance (Category)

Highly Recommended within 12 calendar months after the effective date of this Service Bulletin.

## 4. Consequences of Non-Compliance (Possible)

Leak of liquid propane.

## 5. Accomplishment Instructions

**Inspection:** Accomplishment instructions detailed in CBL/TN/DCB /3043 Issue A or later. The inspection requires removal of the guards and valves from the cylinder, borescope inspection followed by X-ray of the two weld Tees and any areas of concern identified during the visual examination.

Cylinders that do not meet the required weld standards are ineligible for use with any Cameron product AND unsuitable for the safe storage liquefied gases.

## 3. Materials

Service Bulletin SB26 Accomplishment Instructions, Lindstrand T30 Cylinder, X-ray inspection procedure. CBL/TN/DCB/3043 Issue A or later.

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7. *Other Publications Affected* None

8. Mass(Weight)/Balance: None.

9. *Maintenance and Operating Instructions:* Not affected

## 10. *Additional Information*

10.1 Handling, filling and transportation: Lindstrand T30 cylinders do not comply with the requirements of ADR special provision 652.

10.2 Note: It is the owner's responsibility to render failed cylinders unserviceable in accordance with EN12816 or applicable national regulations before disposal

Compiled by:

*The Bond*



Notes:

Date: 29-November-17

Name: D Boxall

## 11. *Design Organisation Approval*

### Statement of Compliance Verification

I hereby confirm that the instructions identified in this bulletin provide for practical and well defined installation/inspection methods and when accomplished the product is in conformance with approved design data.

Signed, for and on behalf of Cameron Balloons Ltd.

*B.E. Bower*



Head of Airworthiness

Date: 29-November-17

Name: B Bower

### Approval Statement

I hereby confirm that these instructions are in compliance with all the applicable airworthiness requirements. The technical content of this document is approved under the authority of DOA nr EASA.21J.140

Signed, for and on behalf of Cameron Balloons Ltd.

*D.A. Cameron*



Head of Design

Date: 29 -November-17

Name: D Cameron

Note: If this Service Bulletin is or will become an Airworthiness Directive, a statement to that effect must be entered in Section 10 of this form.

**Service Bulletin SB26 Accomplishment Instructions  
Lindstrand T30 Cylinder,  
X-ray inspection procedure.**

**CBL/TN/DCB/3043**

**Issue: A**

**07/11/2017**

**DC Boxall**





## **1.0 Background.**

The Lindstrand T30 cylinders were introduced into service in 1995. Examination of the production records showed that a number of cylinders were released into service with unacceptable weld defects. It is possible that other cylinders with unacceptable weld defects are in service.

In SB26 Cameron Balloons highly recommends that all T30 cylinders not withdrawn from service by SB25 are visually and X-ray inspected. This document describes the inspection process.

Throughout this document maintenance manual references are to Cameron Balloons HABMM issue 10 amendment 4 or higher.

## **2.0 Inspection procedure.**

### **2.1 Qualification**

This procedure should only be conducted by a hot-air balloon maintenance organisation or repair station approved to appropriate national standards. The visual and X-ray inspection should be conducted by a facility accredited to appropriate standards and capable of carrying out and interpreting the Radiographic Inspection to the standards specified.

### **2.2 Preparation**

The fuel cylinder(s) should be emptied by transferring their contents to another cylinder. If this is not possible the contents should be disposed of by burning. Avoid venting large amounts of propane into the atmosphere. Purge any remaining vapour from the cylinder (HAB MM 4.4.8).

Remove the contents gauge, valves and the foot ring and upper cylinder guard ring. Visually inspect the inside and outside of the cylinder for damage or corrosion. Inspect the guard rings and their attachments for damage, cracking or distortion. (HABMM section 6).

Note the serial numbers on the cylinder. The original manufacturer's serial number is on the yellow label on the base and side of the cylinder and stamped into the gauge boss. These 3 serial numbers should all match; if they do not contact Cameron balloons for advice. Note also the Lindstrand serial number on the Lindstrand label (fig 1). If the cylinder does not have a Lindstrand label contact Cameron Balloons for advice.

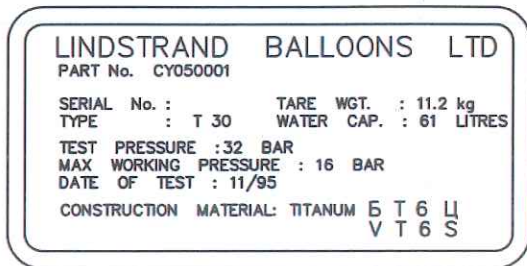


Fig 1. Lindstrand Label

### 2.3 Visual and X-ray and reporting

#### Procedure:

**Assessment:** The weld quality should be assessed against BS EN ISO 5817: 2014 level C. The material thickness is 1.9mm.

**Visual inspection:** All the welds of the cylinder body should be visually inspected externally and internally (boroscope examination) in accordance with BS EN ISO 17637:2011.

**Radiography:** Radiography (X-ray) of welds shall be in accordance with BS EN ISO 17636-1:2013 or EN ISO 17636-2:2013. A minimum of two X-rays should be taken to cover the two T-joints between the vertical and circumferential welds of the cylinder body. The minimum extent of radiography is shown in fig 2. Additional X-rays should be taken of any areas of concern identified during the visual examination. Shadowing on the circumferential welds created by the presence of the vertical dip tube is acceptable.

**Reporting:** The visual and radiography reports must include the cylinder serial numbers (Lindstrand and original manufacturer's serial number).

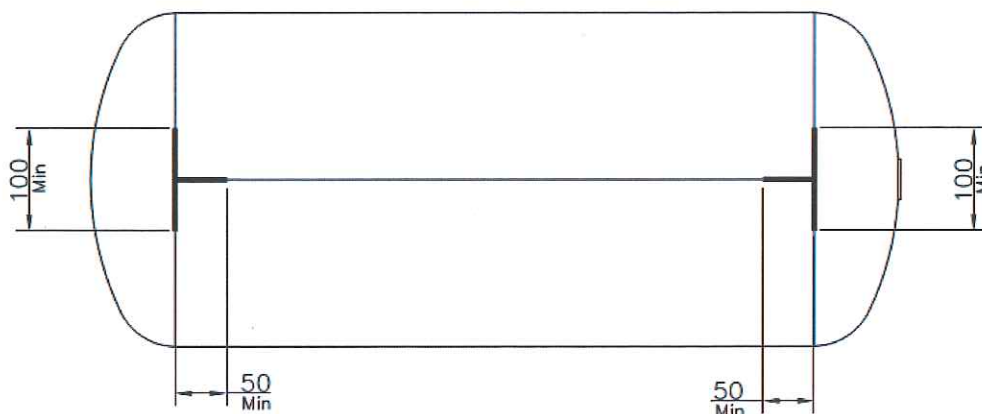


Fig 2. Minimum extent of radiography.

## **2.5 Reassembly and leak test.**

### **2.5.1 Valving**

Re-fit the foot ring and upper guard ring to the cylinder. Re-install the valves (see CBL HABMM 7.52.5) and re-install the contents gauge using a new gasket.

### **2.5.2 Pneumatic leak test**

Perform a pneumatic leak test as described in HABMM 7.52.6

## **3.0 Failed cylinders.**

Note: If a cylinder has been deemed unsuitable for further service, it is ineligible for use with any Cameron product AND unsuitable for the safe storage liquefied gases.

The rejected cylinder must be rendered unserviceable in accordance with EN 12816 or applicable national regulations.

The serial number of a failed cylinder should be entered in the aircraft logbook and a confirmation slip sent to Cameron Balloons Ltd.

## **4.0 Documentation and marking.**

**Log book:** Make an entry stating that the cylinders (identified by serial number) have been X-ray inspected in accordance with the requirements of Cameron Balloons Service Bulletin 26.

**Confirmation slip:** Fill in the conformation slip (section 6.0 of this document) and attach the X-ray reports for all cylinders inspected.

**Cylinder Marking:** On receipt of the conformation slip Cameron Balloons will supply an identification label. Attach this label to the cylinder body adjacent to the Lindstrand Label.

## 5.0 Approval

Compiled by:



D Boxall



Approved by:



## SB26 X-ray inspection Confirmation Slip

The flowing cylinders have been x-ray inspected as required by Cameron Balloons Service Bulletin SB26.

Cylinder Serial Number		Result Pass / Fail	Radiograph report Number (attached)
Original SN	Lindstrand SN		

Please send copies of all radiography reports to this confirmation slip.

Balloon Registration.....

Balloon Serial Number.....

Owner/Operator.....

Contact address /  
email.....

Signed..... Date .....

Please return this slip by post to:

Cameron Balloons, St Johns Street, Bedminster, Bristol, BS3 4NH, England

Or scan and email to: [technical@cameronballoons.co.uk](mailto:technical@cameronballoons.co.uk)