

# LINDSTRAND HOT AIR BALLOONS LTD

## SERVICE BULLETIN No 9

### ISSUE 1 – DATED 24.03.05

Title: Oversize Hole Drilling for Pressure Gauge Mounting in the Burner Block.

Classification: This service bulletin has been classified as recommended by Lindstrand Hot Air Balloons Ltd.

Applicability: All Jetstream Series 2 Double, Triple and Quad Burners delivered after 20/02/04

Cloudhopper Series 2 Burners delivered after 17/12/02

Serial Numbers Affected: See attached serial number list.

Compliance Standard: Affected burners to have circumferential pressure gauge seal replaced within next 5 hours flight time or 1 month, whichever is sooner.

Background: There has been one reported incident of a liquid propane leak coming from out of the pressure gauge in a Jetstream Series 2 quad burner. Investigation of the leak has revealed that of the two seals fitted to the rear side of the pressure gauge, the circumferential O-ring is not sealing. This lack of sealing has been caused by the drilling in the burner block being oversized by varying amounts. Note that a leak will only occur if the second O-ring is defective.

#### Accomplishment Instructions:

See also the instructions contained in the current Maintenance Manual, section 5,4,6. Firstly, ensure that the burner is listed in the attached serial number list. The burner serial numbers are located as follows:-

**Doubles, Triples & Quad Burners** - the serial number is engraved upon the side of the gimbal block.

**Cloudhoppers** - the serial number is engraved on the middle portion of one of the coil support strips

### 1. Pre-flight action

Perform a normal pre-flight burner test but carefully check for leakage around the pressure gauge face and bezel ring. This test is simply achieved by using a solution of washing-liquid and water. The leak is more likely to appear when the main burner is operating. If a leak is detected then do not fly and report to the factory.

### 2. Fitment of New O-ring seal

Here follows a description of how to remove the pressure gauge from the burner to allow removal and replacement of the O-ring seal.

#### Checklist

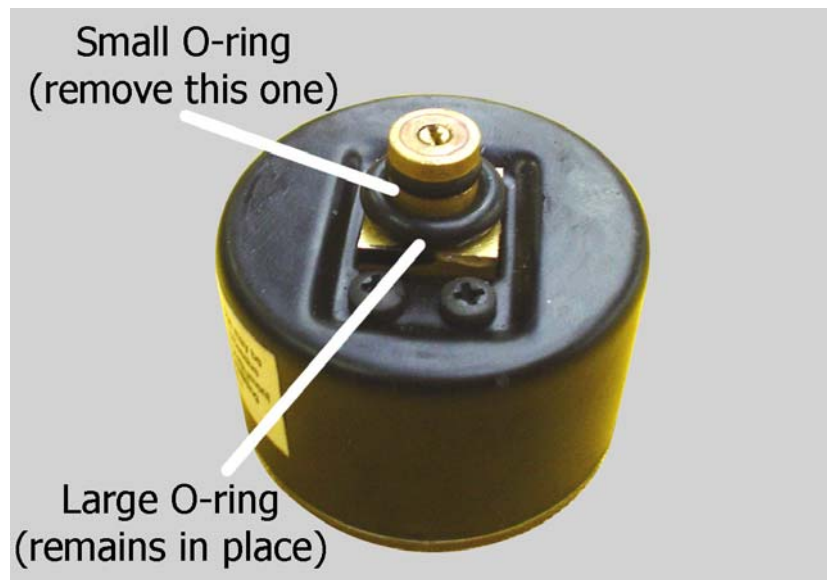
- Ensure you have enough replacement O-rings (Part No. BU0802) for your burner (1 per pressure gauge, i.e. 2 needed for a double burner, 3 for a triple etc. Note: an additional extra O-ring will be provided as an extra precaution) Note that the new and original O-ring appear very similar so be careful not to confuse during the following procedures.
  - A bezel ring removal tool (LL0998). If the tool is not available, any suitable piece of material that engages in the 2 slots in the bezel ring should suffice (See picture below).
  - Pressure gauge removal tools (LL099).
  - Silicon grease, specification M490 or similar.
  - Sharp Stanley knife / craft knife / scalpel.
1. Disconnect the fuel hoses and ensure the burner is bled free of all propane by operating the blast valves.
  2. Remove the gauge bezel ring. Use the tool as shown in the picture below. The ring will undo in the anti-clockwise direction in the same manner as an ordinary screw thread.



3. Use the Pressure gauge removal tool by pushing the small hooks down opposite sides of the gauge, then turn through 90° under the gauge bottom and pull the gauge out of the block. See picture below, if the burner is the opposite way up the gauge may fall out without the tools being necessary.



4. When the gauge is removed you should see two different O-rings on the underside as shown below;



The smaller O-ring that sits in the groove needs to be removed and replaced. This can be achieved by careful use of a sharp blade, or by using a sharp point. *It is important that the brass groove is not damaged during this process, as gouges and scratches will prevent a good sea from being achieved.*

5. With the gauge removed, take the new replacement O-ring and give it a very light coating of silicone grease. Carefully roll the new O-ring onto the pressure gauge so that it sits into the groove. Avoid splitting or damaging the O-ring.
6. With the new O-ring in the groove and the larger O-ring in position, the gauge assembly can now be re-assembled back into the burner. Before doing so, this would be a good time to clear any residue / deposits from the propane that might have built up around the gauge back and inside the mating face of the burner block. When inserting the gauge, note the hole drilled into the back of the gauge which must align with the roll pin sticking up out of the bottom of the gauge well.
7. Screw the bezel ring back in to the block. It should not be over-tightened, it just needs nipping up. There is not a specific torque setting, but as a rule of thumb do the bezel ring up until it sits flush with the gauge glass (ensure the gauge is pressed in fully to the block first) and then tighten the ring a further quarter to half a turn.
8. Carefully check for leakage around the pressure gauge face and bezel ring. This test is simply achieved by using a solution of washing-liquid and water. The leak is more likely to appear when the main burner is being operated.
9. Make a record of this maintenance within the aircraft log book and obtain an inspection in accordance with your country's normal procedures.
10. Complete the acknowledgement slip attached to this Service Bulletin and return to Lindstrand Hot Air Balloon Ltd.
11. Please note that for any future maintenance on the Pressure gauges the new O-ring must be ordered, Part No. BU0802.

<b>WO/SN</b>	<b>Burner Serial No.</b>	<b>Burner Type</b>	<b>Registration</b>	<b>Balloon Name</b>
WO2057	BU907	Double,Squeeze,Rego	Not Known	Not Known
WO2075	BU913	Double,Squeeze,Rego	Not Known	Not Known
WO2091	BU916	Double,Toggle,Rego	Not Known	Not Known
WO2136	BU924	Double,Toggle,Rego	Not Known	Not Known
WO2104	BU925 & BU926	Double,Toggle,Rego	Not Known	Not Known
WO2171	BU834	Double,Toggle,Rego	Not Known	Not Known
WO2141	BU939 & BU943	Double,Toggle,Rego	Not Known	Not Known
WO2325	BU961	Triple,Toggle,Rego	Not Known	Not Known
SN952	BU897	Double,Squeeze,Rego	G-ZETA	Italy Demo
SN958	BU902	Double,Squeeze,Rego	D-OAAE	Via Appia
SN963	BU901	Triple,Squeeze,Rego	PH-ESG	B&P
SN970	BU910	Double,Toggle,Rego	D-OSMO	Demo 2004
SN979	BU918	Double,Squeeze,Rego	JA-A1185	MY-2
SN974	BU917	Double,Squeeze,Rego	PH-CWT	CWT
SN953	BU914	Double,Squeeze,Rego	G-CCVF	Strawberry Delight
SN976	BU923	Double,Squeeze,Rego	D-OATE	Natenco
SN990	BU891	Double,Toggle,Rego	D-OPCI	PCI
SN967	BU848	Double,Squeeze,Rego	G-FWAY	Fairway Furniture
SN156	BU843	Cloudhopper	G-CBYS	Piggy
SN899	BU853	Cloudhopper	HB-QIV	Swiss Demo Hopper
WO1853	BU865	Cloudhopper	Not Known	Not Known
SN954	BU898	Cloudhopper	G-RIME	Poppies
SN972	BU908	Cloudhopper	G-HOPA	Burden
SN1003	BU936	Cloudhopper	G-CDAD	Jeff Lawton Hopper

Lindstrand Hot Air Balloons Ltd.  
Service Bulletin No 9 Confirmation Slip

I confirm that I have installed the new O-rings, BU0802 into

Burner Serial Number.....

on.....(date)

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

Please return this slip to:

Lindstrand Hot Air Balloons Ltd, Maesbury Road, Oswestry, Shropshire, SY10 8ZZ

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Fax: +44 (0)1691 671 122

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