

# LINDSTRAND BALLOONS LTD

## SERVICE BULLETIN NO. 4

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<u>Title:</u>	MULTI-BURNER GIMBAL BLOCK
<u>Classification:</u>	Recommended
<u>Applicability:</u>	Jetstream Double + CLF, Jetstream Triple, Jetstream Triple + CLF, Jetstream Quad Burners.
<u>Serial Numbers Affected:</u>	019, 018, 028, 041, 070, 066, W/O 1129/1130, 165, 082, 101, 090, 074, 094, 090, 100, 135, 095, 188, 171, 190, 197, w/o 1808, 200, 249, 250, 297, 298, 307, w/o 3312, 311 312, 325, 235, 326, 334, 336, 300, 335, 345, 350, 358, w/o 3711, 377, 372, 378, 387, w/o 3724, 391, 326, 304, 409, 412, 413, w/o 14314, 421,317, 427, 431, 439, 445, 446, 447.
<u>Compliance Standard:</u>	Inspection to be achieved within the next 10 hours flying time.
<u>Background:</u>	The gimbal block shown in Fig SB4-001 and used on all the above burner types is designed to allow variable friction, independently on each gimbal axes by adjustment of four socket head cap screws on each axes. In one installation, sufficient friction could not be achieved due to the two faces of the block meeting. Subsequent adjustment of the four cap screws or weakening of the central block section has caused thread failure within the central block. This resulted in the burner being dismounted out of the block during inflation.

### Accomplishment Instructions:

#### **Inspection**

Test the amount of friction in the two axes to ensure that it is sufficiently tight. If it is loose then first check that there is a gap between the two sections of the gimbal block which are being tightened together.

## Inspection Cont....

If no gap exists between the centre section and the upper third of the gimbal block or the centre section and the lower third of the gimbal block, then a new gimbal assembly must be fitted. In this case, contact Lindstrand Balloons Ltd immediately.

Measure the following gaps using a set of feeler gauges:

- i) Both sides of the gap between the centre section and the upper third of the gimbal block.
- ii) Both sides of the gap between the centre section and the lower third of the gimbal block.

Both sides of the same gap should be equal and not less than those specified on Figure SB4-002. If the gaps are not equal, implement the procedure below.

If both sides of either gap are equal and less than those specified on Figure SB4-002, then a new gimbal assembly must be fitted. In this case, contact Lindstrand Balloons Ltd immediately.

If both sides of each gap are equal and greater than those specified on Figure SB4-002, then implement the following procedure:

1. Identify the screws securing the gimbal end cap to the centre section about the 25 mm cross tube.
2. Referring to Figure SB4-002:

Remove screw no. 1 using a 5 mm across flats Allen key (hexagon wrench), no bigger than that shown on the figure.

3. Apply Loctite 222 thread adhesive sparingly to the screw thread between 3 mm and 6 mm from the threaded end.
4. Ensure that the dome washers are assembled within the counter-bored hole of the gimbal block end cap, or over the screw, in the order shown on the figure.
5. Replace the screw in the hole and re-tighten using the allen key, until the screw is just nipped up.
6. Remove screw no. 2 using the allen key and repeat steps 3 through 5 inclusive.
7. Remove screw no. 3 using the allen key and repeat steps 3 through 5 inclusive.
8. Remove screw no. 4 using the allen key and repeat steps 3 through 5 inclusive.

**Note:** Do not remove all four screws together, as this will cause the burner to separate from the gimbal block.

### **Inspection Cont....**

9. Using the allen key, turn screw no. 1 a quarter turn. Repeat for screws no. 2, no. 3 and no. 4 in that order. Check the gimbal stiffness. Ensure that the screws are tightened in the above sequence and that both sides of the gap between the upper third of the gimbal and the gimbal centre section remain equal.

10. Repeat step 9 until the required gimbal stiffness is achieved.

11. Identify the screws securing the gimbal end cap to the centre section about the 38 mm cross tube. Repeat steps 2 through 8 inclusive.

For the Jetstream Double + CLF and Jetstream Triple burners, the gimbal block centre section is pinned to the 38 mm cross tube and thus no variation in friction is possible by adjustment of the gimbal screws. Fully tighten the screws in the order 1, 2, 3, 4 (see figure). For the Jetstream Triple + CLF and the Jetstream Quad burners, the gimbal friction is variable by adjustment of the gimbal screws. Repeat steps 9 through 10 inclusive, until the required gimbal stiffness is achieved.

12. At the end of the process, measure the following gaps using a set of feeler gauges:

- i) Both sides of the gap between the centre section and the upper third of the gimbal block.
- ii) Both sides of the gap between the centre section and the lower third of the gimbal block.

Each side of the gap between the upper third of the gimbal block and the gimbal centre section should be equal and greater than the dimension specified on Figure SB4-002. Similarly, each side of the gap between the lower third of the gimbal block and the gimbal centre section should be equal and greater than the dimension specified on Figure SB4-002.

If after measurement, either of the gaps are less than those specified on Figure SB4-002, then a new gimbal assembly must be fitted. In this case, contact Lindstrand Balloons Ltd immediately.

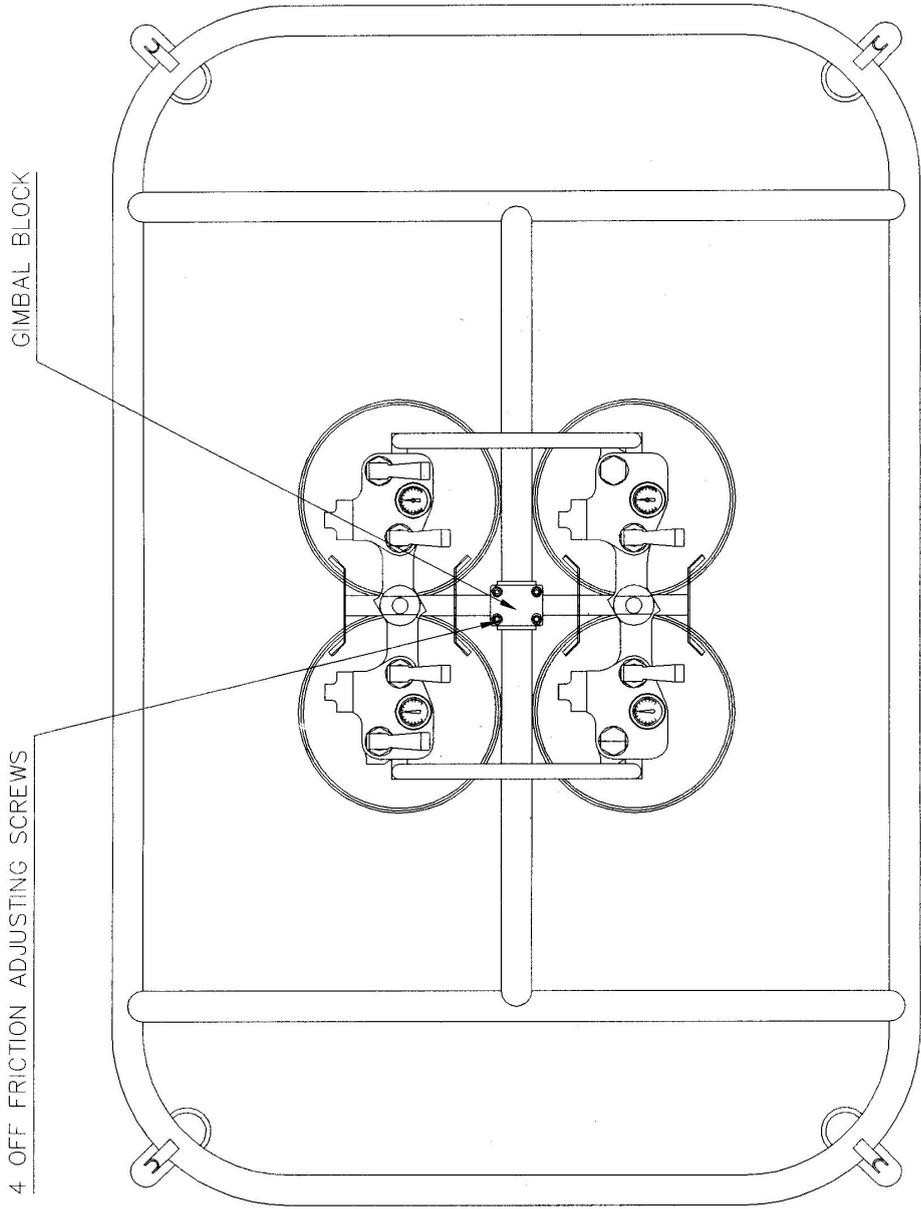


FIG SB4--001 JETSTREAM QUAD BURNER SHOWING THE LOCATION OF THE GIMBAL BLOCK

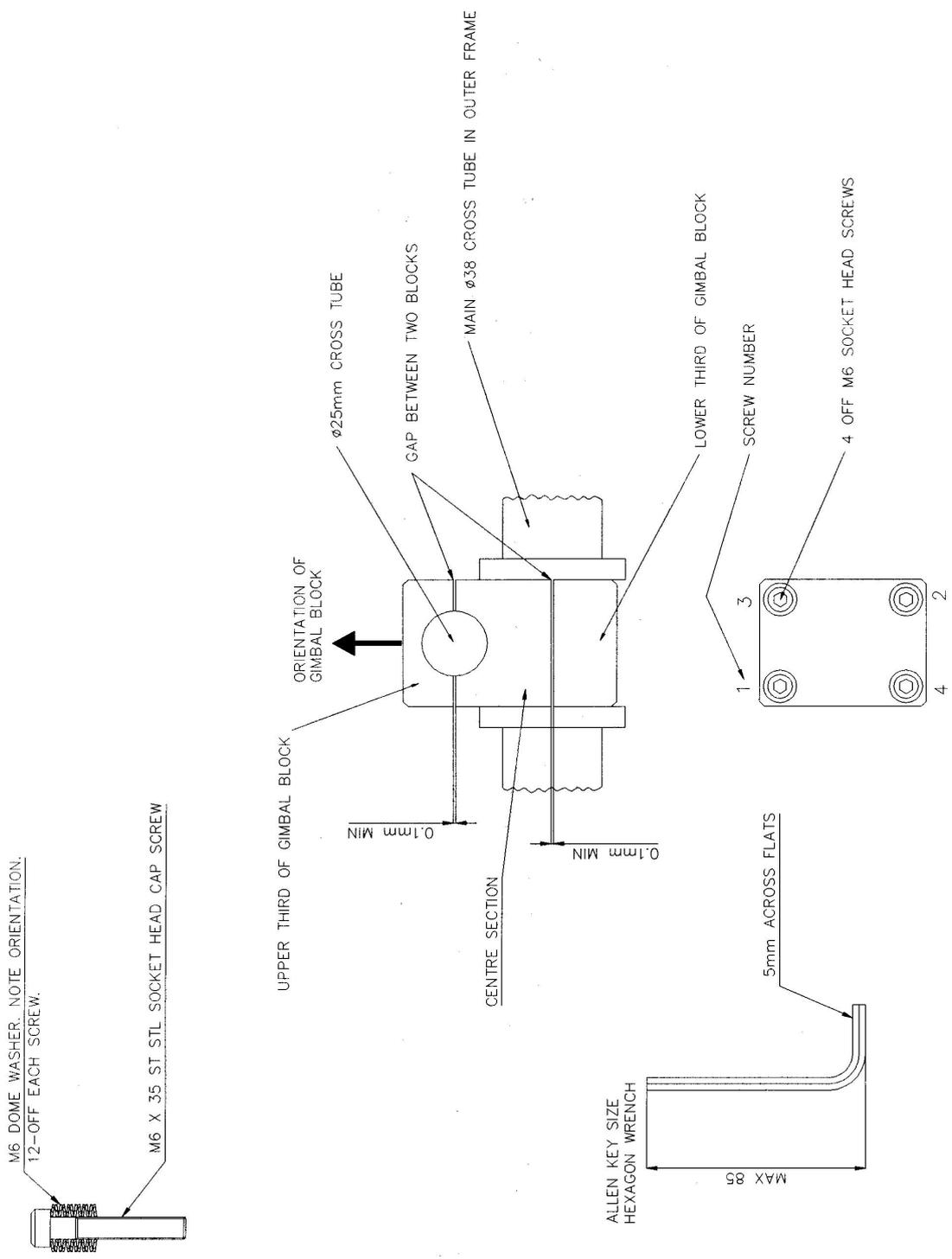


FIG SB4-002. ORIENTATION OF GIMBAL BLOCK

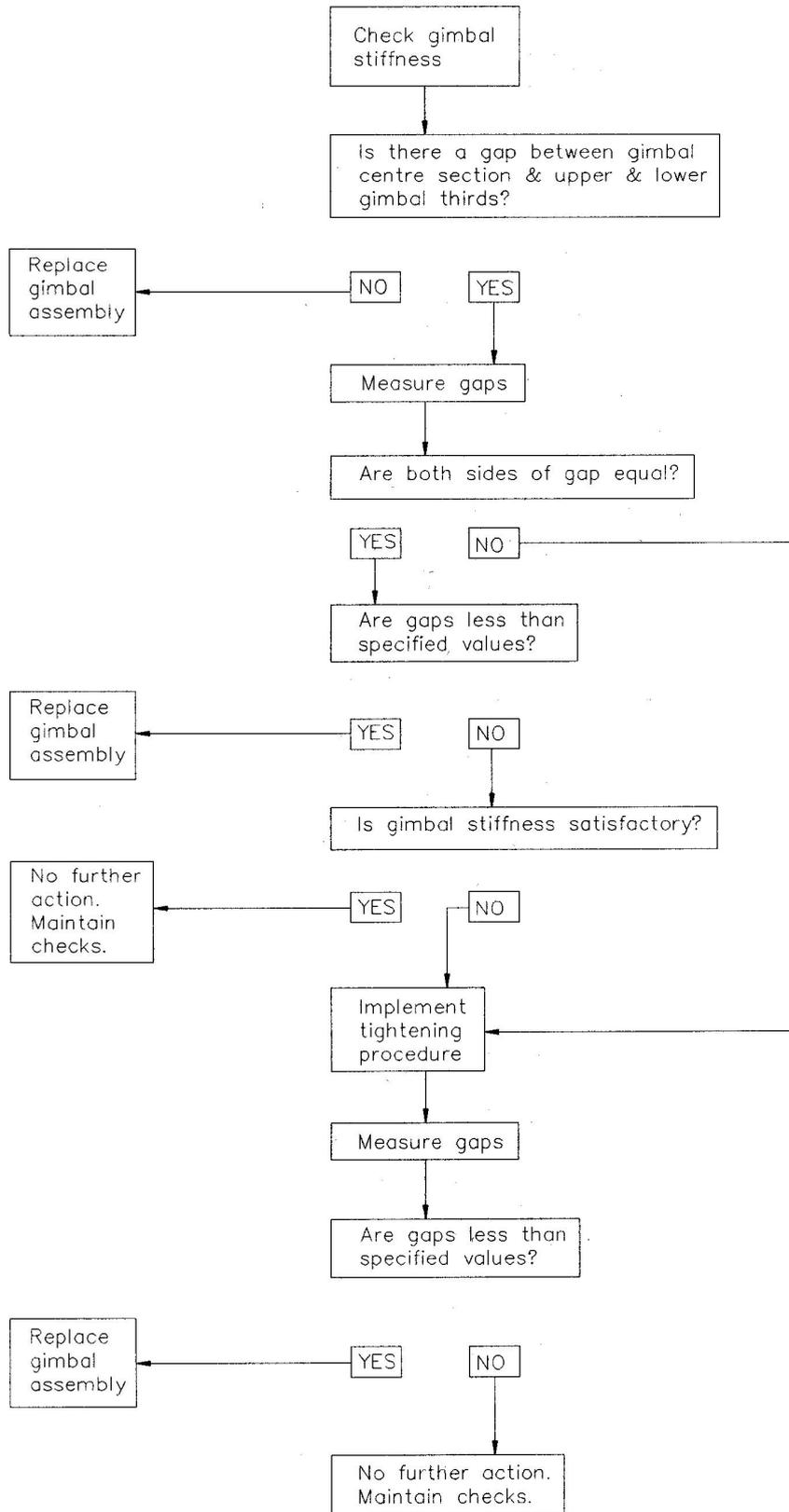


FIG SB4-003 GIMBAL ADJUSTMENT DECISION TREE.