BALANCING SHAFT ON BX1200 AND BX650

SAFETY WARNING

If badly out of balance, Shaft may swing wildly! Make sure operator keeps a safe distance from Shaft,especially during "Evaluation and Rough Balancing Procedure." Always secure Motor so assembly does not move before turning Motor on. Also be sure technician does not have long hair, loose clothing, jewelry or other items that could cause injury as Motor is turned on and Shaft turns!

Why Is Shaft Out of Balance? This most often occurs when the pump is dropped on a hard surface, causing vibration as the Shaft wobbles. In severe cases, the Shaft may even strike internal pump parts, resulting in a loud knocking sound and serious damage.

OBJECTIVE OF PROCEDURE

Note: Referring to the photos on Page 2, the object of this procedure is to get a continuous (unbroken) pen mark all the way around the Shaft. A continuous pen mark (complete circle) shows that the Shaft is correctly balanced. A partial pen mark (broken) shows a "high" spot, indicating the Shaft is out of balance in the direction of the pen mark. The Shaft must be pushed at the "high" spot.

EVALUATION AND ROUGH-BALANCING PROCEDURE

1. Disassemble pump as described on separate instructions entitled "BX1200 & BX650 Motor/Shaft Replacement." See www.floking.com and click "Repair Parts & Service" to find this document.

2. Turn pump upside down on table so that Motor is supporting pump (Fig. 1). Secure Motor so that assembly does not move. *Suggestion: To make a Motor Stand to support the pump, drill a 1-inch-diameter (25-mm-diameter) hole in a piece of wood 3-1/2 x 3-1/2 x 2 inches thick (89 mm x 89 mm x 50 mm thick), as shown in Fig. 1.*

3. Hold Motor firmly with one hand and keep a safe distance from Shaft, then turn Motor on briefly to observe Shaft. If Shaft swings wildly or wobbles excessively, go to next step. (If Shaft is just slightly out of balance, with minor vibration, go to "Final Balancing Procedure" below.)

4. Turn Motor off. Slowly turn Shaft with hand until "high" spot is facing you. The "high" spot is the location where the Shaft is out of balance and should be noticeable.

5. As shown in Fig. 2, put one hand firmly on Motor to stabilize assembly. Use other hand and thumb to push "high" spot on Shaft.

6. Remove hand from Shaft.

7. Hold Motor firmly with one hand and keep safe distance from Shaft, then turn Motor on briefly. Observe Shaft. If Shaft continues to swing wildly and/or vibrate excessively, repeat above steps until Shaft is better balanced.

FINAL BALANCING PROCEDURE

1. Turn pump upside down on table so that Motor is supporting pump (Fig. 1).

2. Hold Motor firmly with one hand and keep a safe distance from Shaft, then turn Motor on.

3. As shown in Fig. 3, lightly hold a felt-tip pen to the Shaft about 1 inch (25 mm) from the threaded end.

4. Turn off Motor.

5. Inspect mark made by felt-tip pen. If Shaft is out of balance, pen mark will be broken (not a complete circle), as shown in Fig. 4. This mark indicates a "high" spot on Shaft (out of balance).

6. Slowly turn Shaft with hand until mark indicating "high" spot is facing you.

7. With one hand firmly on Motor to stabilize assembly, use other hand and thumb to push "high" spot on Shaft, as shown in Fig. 5.

8. Remove hand from Shaft.

9. Hold Motor firmly with one hand and keep a safe distance from Shaft, then turn Motor on briefly. Observe Shaft. If balanced, it should not wobble or vibrate.

10. Erase pen mark from Shaft using cloth.

11. It will probably be necessary to repeat the above balancing procedure a few times. Continue procedure until pen mark is a complete circle around Shaft, with no broken line. (Note: In some cases, installing impeller on Shaft may make balancing easier.)

12. When Shaft is properly balanced, reassemble pump as described in separate instructions entitled "BX1200 & BX650 Motor/Shaft Replacement." See www.floking.com and click "Repair Parts & Service" to find this document.

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Fig. 1. Position pump on Motor Stand. Then hold Motor firmly with one hand and keep safe distance from Shaft. Turn Motor on briefly to observe Shaft. Caution: Shaft may swing wildly if badly out of balance!

Fig. 2. For rough balancing procedure, put one hand firmly on Motor to stabilize assembly. With other hand, use hand and thumb to push "high" spot on Shaft.

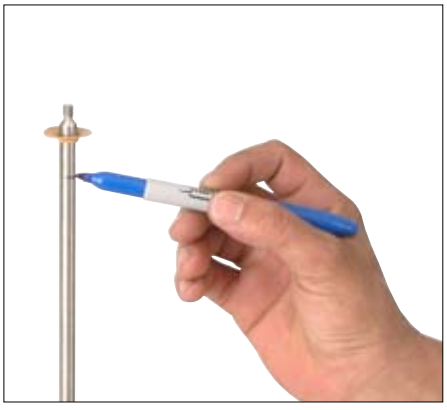

Fig. 3. For final balancing procedure, turn on Motor and lightly hold felt-tip pen about 1 inch (25 mm) from threaded end of Shaft.

Fig. 4. Partial mark indicates "high" spot. Shaft is still unbalanced.

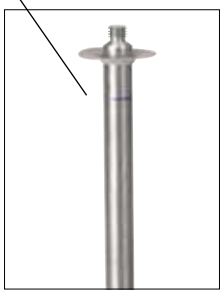

Fig. 5. With mark facing you, again place hand firmly on Motor and use other hand and thumb to push "high" spot on Shaft.