



REPAIR GUIDANCE: MOTOR/SHAFT REPLACEMENT FOR BX3000 & BX5000

Referring to the Exploded Views of the BX3000 or BX5000 (Pages 7-8) and to the photo pages that follow, use the procedure shown below. **Important: When ordering parts, specify Pump Body Length (see Bulletin 13.9 for BX5000 or Bulletin 14 for BX3000) and Pump Material of Construction. CPVC is gray in color; polypropylene is white; PVDF/Kynar is also white but weighs considerably more than polypro and will sink in water. Stainless steel is also available.** Shafts are identical for BX3000 and BX5000. Thread size is 0.375-16 (3/8 inch).

DISASSEMBLY

See Fig. 1 for Suggested Tools and Fig. 2 for Parts Identification.

1. If installed, remove Handle from Pump using socket wrench with 7/16-inch socket.
2. Loosen Lock Screw on Swiveling Impeller Housing (Fig. 3).

IF YOU HAVE A PUMP MADE OF STAINLESS STEEL, INSTEAD OF PLASTIC, SEE SPECIAL INSTRUCTIONS ON PAGE 4.

3. Use needlenose pliers to remove white Teflon Strap from Swiveling Impeller Housing (Fig. 4).
4. Twist and pull Swiveling Impeller Housing to remove from Pump Body (Fig. 5). It may be necessary to gently strike Impeller Housing with rubber mallet if solution chemistry has caused Swiveling Impeller Housing to stick to Pump Body.
5. Lay pump horizontally (sideways) on table.
6. Use Phillips-head screwdriver to remove screws holding Fan Cover to Motor (Fig. 6). Remove Fan Cover (Fig. 7).
7. Referring to Fig. 8, use flathead screwdriver to loosen screw on Fan Blade (or remove Clip on some motors). Then pry off Fan Blade with two pry bars (Figs. 9 and 10).
8. To remove Impeller, use vice grips to hold Motor Stub (Fig. 11). With other hand, turn Impeller counter-clockwise and remove (Fig. 12). Then remove Impeller Washer and Super Slinger.
9. Stand Pump upside down on table, so that Motor is supporting pump. *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. Alternatively, use a bench vice to stabilize Motor.*
10. Use Phillips-head screwdriver to remove four stainless-steel 1/4-20 Pump/Motor Base Screws (Fig. 13), then remove Pump Base/Body Assembly from Motor/Shaft Assembly (Fig. 14).

REASSEMBLY WITH NEW MOTOR/SHAFT

1. Remove Fan Cover and Fan Blade from new Motor/Shaft Assembly, just as you did during disassembly (Figs. 6-10).
2. Stand new Motor/Shaft Assembly upside down on table, so that Motor is supporting pump.
3. Use Phillips-head screwdriver to remove four stainless-steel 1/4-20 Pump/Motor Base Screws holding Spacers onto Motor (Fig. 15). Put the screws aside to reuse.
4. Place Pump Base/Body Assembly over Shaft (Fig. 16). Make sure Shaft is centered in hole (Fig. 17). Failure to center Shaft may result in serious damage as spinning Shaft and Impeller collide at high speed with other pump components.
5. Use Phillips-head screwdriver to tighten four stainless-steel 1/4-20 screws into Pump/Motor Base and through Spacers into Motor (Fig. 18).
6. Push flat end of Super Slinger onto Shaft until it touches pump body (Fig. 19). Next, push Impeller Washer onto Shaft until it touches Super Slinger (Fig. 20). Make sure Impeller Washer lays flat. Tip: It helps to turn Impeller Washer clockwise to flatten against Super Slinger.
7. To install Impeller, use vice grips to hold Motor Stub (Fig. 21). With other hand, turn Impeller clockwise and tighten until snug.
8. Install Swiveling Impeller Housing onto Pump Body (Fig. 22).
9. Push Teflon Strap into hole while turning Swiveling Impeller Housing back-and-forth (Fig. 23). Teflon Strap secures Swiveling Impeller Housing to Pump Body.
10. Rotate Swiveling Impeller Housing to desired position, then tighten Lock Screw (Fig. 24).
11. Reinstall Fan Blade (Fig. 25). Tighten screw (or fasten clip on some motors) to secure Fan Blade.
12. Reinstall Fan Cover and tighten screws to secure.

BX3000 & BX5000 Motor/Shaft Replacement (continued)

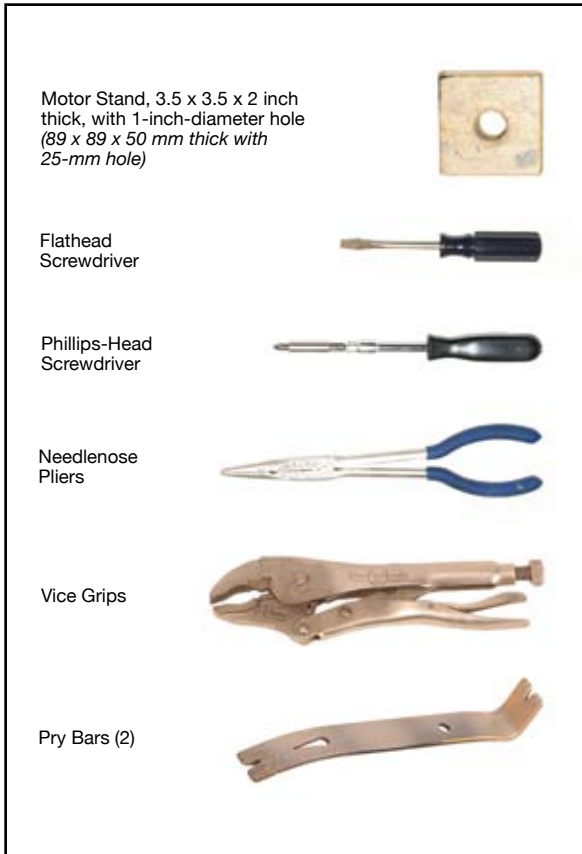


Fig. 1. Some suggested tools.

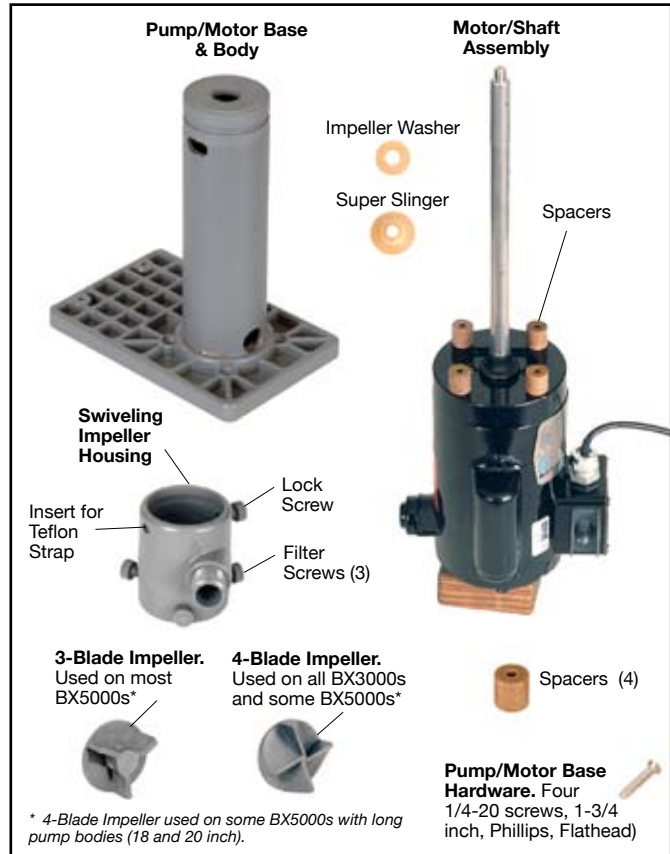


Fig. 2. Parts identification.



Fig. 3. Loosen Lock Screw on Swiveling Impeller Housing.



Fig. 4. Use needle-nose pliers to remove Teflon Strap from Swiveling Impeller Housing.



Fig. 5. Twist and pull Swiveling Impeller Housing to remove from pump body.



BX3000 & BX5000 Motor/Shaft Replacement (continued)

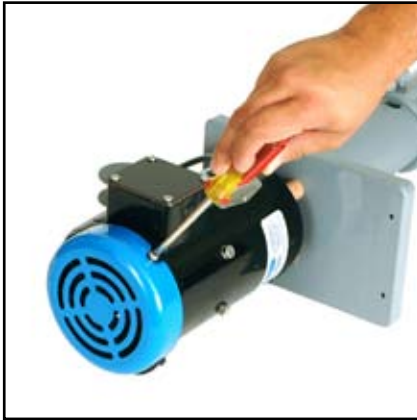


Fig. 6. Use Phillips-head screwdriver to remove screws holding Fan Cover to Motor.



Fig. 7. Remove Fan Cover from Motor.

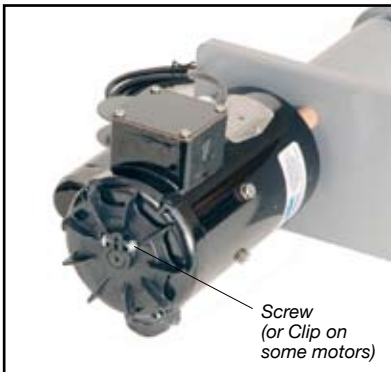


Fig. 8. Loosen screw on Fan Blade (or release clip on some motors).



Fig. 9. Use two bars to pry fan blade.



Fig. 10. Remove Fan Blade.



Fig. 11. While firmly holding Motor Stub with vice grips, turn Impeller counterclockwise with hand.



Fig. 12. Remove Impeller, Super Slinger, and Impeller Washer.



BX3000 & BX5000 Motor/Shaft Replacement (continued)



Fig. 13. Use Phillips-head screwdriver to remove four Pump/Motor Base Screws.



Fig. 14. Lift Pump Body/Base to separate from Motor/Shaft Assembly.

STAINLESS STEEL BX3000 & BX5000: SPECIAL INSTRUCTIONS

The stainless steel units differ a little from those made of plastic, so some slightly different instructions apply.

After removing the Fan Cover and Fan Blade, stand pump upside down on table.

Use a 3/16-inch Allen wrench to loosen the three 5/16-18 set screws on the Swiveling Impeller Housing.

Then twist and turn the Swiveling Impeller Housing to remove it. It may be necessary to tap the Housing with a rubber mallet.

Now go back to Page 1 and proceed with Disassembly Step 5.





BX3000 & BX5000 Motor/Shaft Replacement REASSEMBLY



Fig. 15. After removing Fan Cover and Fan Blade from new Motor (same procedure as shown on Page 2), use Phillips-head screwdriver to remove screws from Spacers.



Fig. 16. Place Base/Body Assembly over Shaft.



Fig. 17. Make sure Shaft is centered in hole, as shown above. Failure to center Shaft will result in serious damage to pump.



Fig. 18. Use Phillips-head screwdriver to tighten screws on Pump/Motor Base.



Fig. 19. Push Super Slinger over threaded end of Shaft. Note that flat side of Super Slinger must be against pump body.

Fig. 20. Push Impeller Washer over threaded Shaft until flush against Super Slinger. Make sure Impeller Washer lays flat.



BX3000 & BX5000 Motor/Shaft Replacement REASSEMBLY (continued)



Fig. 21. Install Impeller. While firmly holding Motor Stub with vice grips, turn Impeller clockwise with hand. Impeller should spin freely and not touch pump body.



Fig. 22. Install Swiveling Impeller Housing onto Pump Body.



Fig. 23. Push Teflon Strap into hole while turning Swiveling Impeller Housing back-and-forth. Teflon Strap secures Swiveling Impeller Housing to Body.



Fig. 24. Rotate Swiveling Impeller Housing to desired position for installation in tank, then tighten Lock Screw.

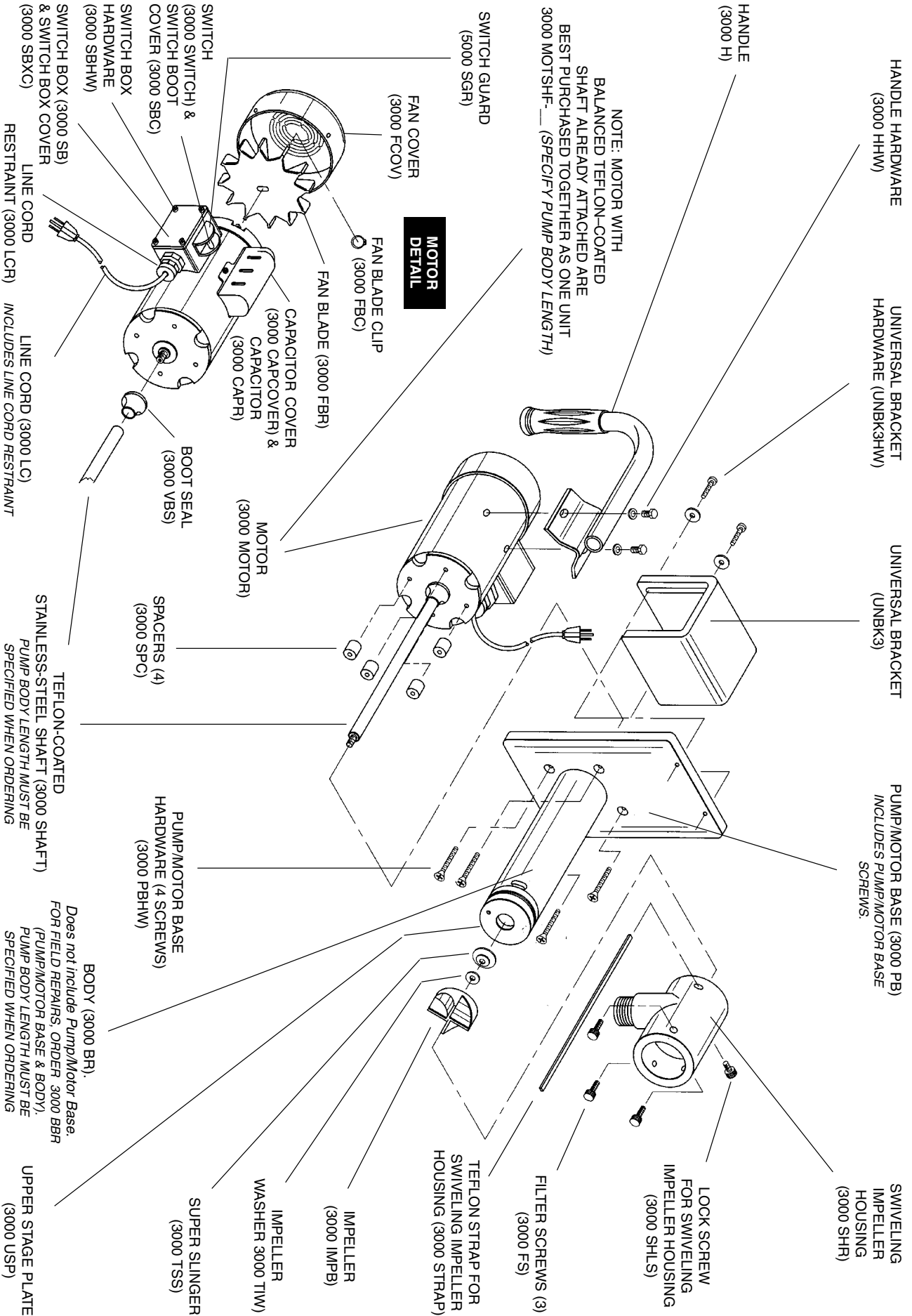


Fig. 25. Install Fan Blade and tighten screw (or clip on some motors).



Fig. 26. Install Fan Cover and screws.

FLO KING BX3000 EXPLODED VIEW



FLO KING BX5000 EXPLODED VIEW

