



BU-3163

**MAINTENANCE INSTRUCTIONS FOR DBB106 DOUBLE
BLOCK AND BLEED VALVE ASSEMBLY**

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1.0 Reference

- 1.1 Butech Assembly Drawing C-2334, Latest Revision.

2.0 Disassembly

- 2.1 Remove valve assembly from system.

IMPORTANT NOTE: Vent all pressure before removing valve from system.

- 2.2 Place valve assembly in vise equipped with "soft jaws" and tighten vise.

- 2.3 Unseat the bleed valve. Loosen the hex socket set screw (item 23) and pull handle (item 22) from the bleed valve stem (item 17). Loosen and remove the locking device (items 24 and 25). Loosen and remove the packing gland (item 18) and pull the stem from the body.

- 2.4 Using a packing puller, carefully pull the top washer (item 19), packing (item 20) and bottom washer (item 21) from the packing bore.

Caution: Do not scratch the walls of the stuffing box.

- 2.5 Turn the block valve handles to the off position. Loosen the hex jam nuts (items 16) on the block valves. Lift and remove the handles (items 8 and 9) and bearing washer (item 11).

- 2.6 Loosen and remove the side adapters (items 2) and o-rings (items 15) from the valve body (item 1). Remove valve from vise.

- 2.7 Use a packing puller to pierce and remove the outboard o-rings (items 14) from the backs of the seat retainers (items 6). Use a wooden dowel to engage and remove the seat retainers. The balls (items 3) should freely roll out the ends of the body.

- 2.8 Gently push the block valve stems (items 4) through the stem bore and into the body cavity. The stems should slide freely out of the body ends.

- 2.9 Use a wooden dowel to engage and remove the inboard seat retainers and o-rings.

- 2.10 Inspect the valve body and components for unusual wear or damage.

3.0 Reassembly

- 3.1 Examine the repair kit components for damage and cleanliness.
- 3.2 Apply an approved lubricant (anti-galling) to the bleed valve stem and packing components as follows.
 - 3.2.1 The outside edge of the bottom washer (item 21).
 - 3.2.2 The external threads of the stem (item 17).
 - 3.2.3 The first three external threads of the packing gland (item 18).
- 3.3 Lightly lubricate the stem in the area it contacts the packing with "Christo-Lube" or equivalent lubricant.
- 3.4 Insert the stem into the packing gland. Rotate the stem until it bottoms out completely in the packing gland.
- 3.5 Install the packing components onto the stem in the order shown on the reference drawing. Insert the stem and packing sub-assembly into the body. Place valve in vise and tighten packing gland to 40-45 lb-ft.
- 3.6 Re-install the handle (item 22) and secure with hex socket set screw (item 23). Check operation by lightly seating then un-seating the stem.
- 3.7 Re-install the locking device (items 24 and 25). Remove the valve from vise.
- 3.8 Install the seal components onto the block valve stems (items 4) in the order shown on the reference drawing.
- 3.9 Apply an approved lubricant (anti-galling) to the block valve stem components, seals and side adapters as follows.
 - 3.9.1 The stem bearing (item 10), the o-rings (items 13) and back-ups (items 12).
 - 3.9.2 The inboard and outboard o-rings (items 14) and the back of the seat retainers (items 6) where they contact the o-rings.
 - 3.9.3 The side adapter threads (items 2). Slide the replacement o-rings (items 15) over the adapter threads. Apply the lubricant to the seated o-rings.
- 3.10 Liberally lubricate the angled PEEK seals (item 5) fitted into the seat retainer (items 6)

with "Christo-Lube" or equivalent lubricant.



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- 3.11 Working with one side of the valve at a time, slip the o-ring (item 14) over the neck of the seat retainer (item 6). Use a wooden dowel to push the seal assembly into the inboard side of the valve body till it seats in the machined cavity.
 - 3.12 Insert the stem sub-assembly next with the stem threads toward the inboard side of the valve body. Maneuver the stem so it begins to drop into the machined stem bore. Use the wooden dowel or your finger to push the stem sub-assembly through the stem bore. The handle jam nut (item 16) can be used to help pull the stem through from the top of the body.
 - 3.13 Slip the bearing washer (item 11) over the stem. Secure the handle (item 8) with the jam nut (item 16). Check for smooth operation. Move the handle to the closed position.
 - 3.14 Insert and position the ball (item 3) so the female slot engages the male stem. Move the handle to the open position to lock the ball in place.
 - 3.15 Insert the outboard seat retainer and seal (item 6) and installed o-ring. Secure with the side adapter. Place valve back into vise and tighten the side adapters to approximately 100-110 lb-ft.
 - 3.16 Repeat the procedure for the other block valve.
- 4.0 Pressure Test (Recommended to break in the seals)
- 4.1 With the block valve handle in the closed position, connect pressure source to the side adapter and pressurize to 15,000 PSI. Hold for ten seconds. A slight pressure drop may occur as the replacement seals form to the ball.
 - 4.2 Depressurize. Open and close the valve several times to assure free and smooth movement of the ball.
 - 4.3 Repeat for other side.
 - 4.4 The refurbished valve is now ready to be returned to service.



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RECORD OF REVISIONS

REV NO	DESCRIPTION OF CHANGES	DATE	BY	APPR
0	Original document	01-Apr-03	DTG	DTG