



REPLACEMENT INSTRUCTIONS

CONTROL END ASSEMBLY, CPS-4 REPLACEMENT KIT P/N 12-8061-05 & 12-8061-35

PURPOSE

The purpose of these instructions is to provide a step-by-step method for replacing the Beck Group 22 Control End assembly. The control end is located on the rear face of the drive beneath the Handswitch.

The screws and washers included in Table 1 are provided as part of the replacement kit in the event that some are lost while servicing the drive. The subassemblies listed in Table 2 are included with the control end assembly.

The replacement control end assembly has been fully calibrated at the factory. This replacement procedure will return the drive to a close approximation of its original calibration. Do not calibrate the drive until this procedure is complete, and then only if necessary. Refer to Beck Instruction Manual 80-4280-02 for calibration instructions.

REQUIRED TOOLS

- 1/2" socket
- 3/32" hex driver
- Torque wrenches appropriate for 12 lb-in (1 N•m) and 10 lb-ft (14 N•m)
- Fine point marker
- 3/16" flat-tipped screwdriver
- Grounding strap



WARNING

Electrical shock hazard—disconnect power before proceeding. Remove the drive from line voltage and shut off any external power sources feeding the auxiliary switches.

PROCEDURE

Refer to Fig. 1 for component identification.

Remove the old control end assembly:

1. Remove power from the drive.
2. Remove the control end cover, using care not to bend the control shaft or damage the position-sensing assembly inside.



CAUTION

To prevent Electro-Static Discharge damage to the electronics, wear a grounding strap during this procedure.

3. Disconnect the control end assembly electrical circuits by unplugging the three multi-pin connectors from the drive. Two connectors lead from the switch subassembly and the other connector leads from the Printed Circuit board. To disconnect the switch subassembly connectors, use a 3/16" flat-tipped screwdriver to press the release tab straight back (see Fig. 1) and pull the plug out of its socket. The connector leading from the P.C. board slides off with modest force.
4. Loosen the two outermost setscrews on the coupling. *Do not* loosen the inner setscrews.
5. Use a fine point marker to note the position of the control end relative to the drive body. Mark the drive's face immediately adjacent to the top of the notch (see Fig. 2).
6. Loosen (do not remove) the four mounting clamp button head screws (3/8" long) and slide the top clamp up over the edge of the shoulder in the body, immediately above the stator flange (see Fig. 2). Snug one of the screws to hold the clamp up while replacing the assembly. Allow the bottom clamp to hang by the screws.
7. Slide the control end assembly away from the drive body until it clears the control end shaft.

Install the new assembly:

8. Inspect the control end gasket and replace as necessary. If the gasket's condition is good, skip Steps 9–12.
9. Protect the CPS-4 with a static-free cover.
10. Clean the mating face of the drive body to remove any remaining gasket material and adhesive. Use caution not to damage or bend the control shaft. Ensure that the mating surface is free from damage (such as dents or gouges).
11. Peel the backing off the replacement gasket and carefully apply to the actuator body.
12. Remove the protective cover from the CPS-4.

13. Slide the new assembly onto the shaft, turning the coupling (if necessary) to align the assembly with the shaft. Align notch in the stator with the locating pin situated to the left of the control end shaft (see Fig. 2).
14. Loosen the clamp screw to allow the top clamp to drop into place over the upper rim of the stator. Rotate the assembly as necessary to align the top of the notch with the mark made earlier on the drive face. Snug the screws down on the plate. Raise the bottom clamp into position and snug the screws down. Check the clamps for proper shoulder clearance and tighten the screws to 12 lb-in (1 N•m) torque.
15. Plug the pin connectors into their respective sockets.
16. Tighten the outer 2 setscrews on the coupling. The screw on the flat of the shaft must be tightened first to properly align the assembly. Torque screws to 12 lb-in (1 N•m).

Test for proper operation:

17. Connect power to the drive.
18. Modulate the demand signal to run the drive through its full range of motion. Verify the correct drive response.
19. Modulate the signal to several intermediate levels and note if the drive attains the proper position.
20. If the drive responds correctly, replace the control end cover, tighten the cover bolts to 10 lb-ft (14 N•m) torque, and return the drive to service.
21. If the drive does not respond correctly, refer to the troubleshooting and calibration sections of Beck Instruction Manual 80-4280-02.

Table 1: Control End Replacement Kit

Description	Part Number
Control End Assembly	23-2500-01 or 23-2500-51
Screw, 8-32 x 1/2" (4)	30-0329-35
Washer, Flat #8 (4)	30-0313-31
Washer, Lock #8 (4)	30-0327-20
Gasket, Control End	10-8080-02

Table 2: Subassembly Kits

Description	Part Number
Switch Assembly	12-8061-06 or 12-8061-36
CPS-4 P.C. Board	12-8065-07
CPS-4 Coupling	12-8061-08

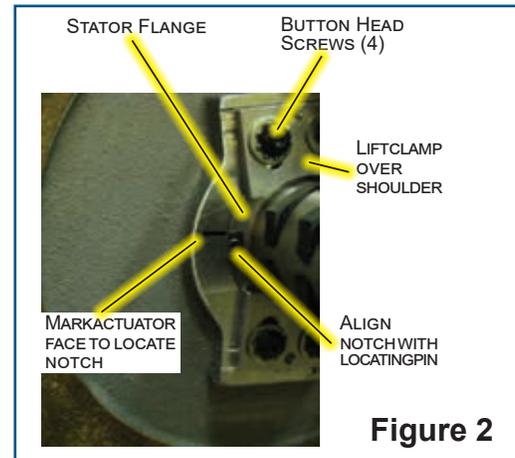


Figure 2

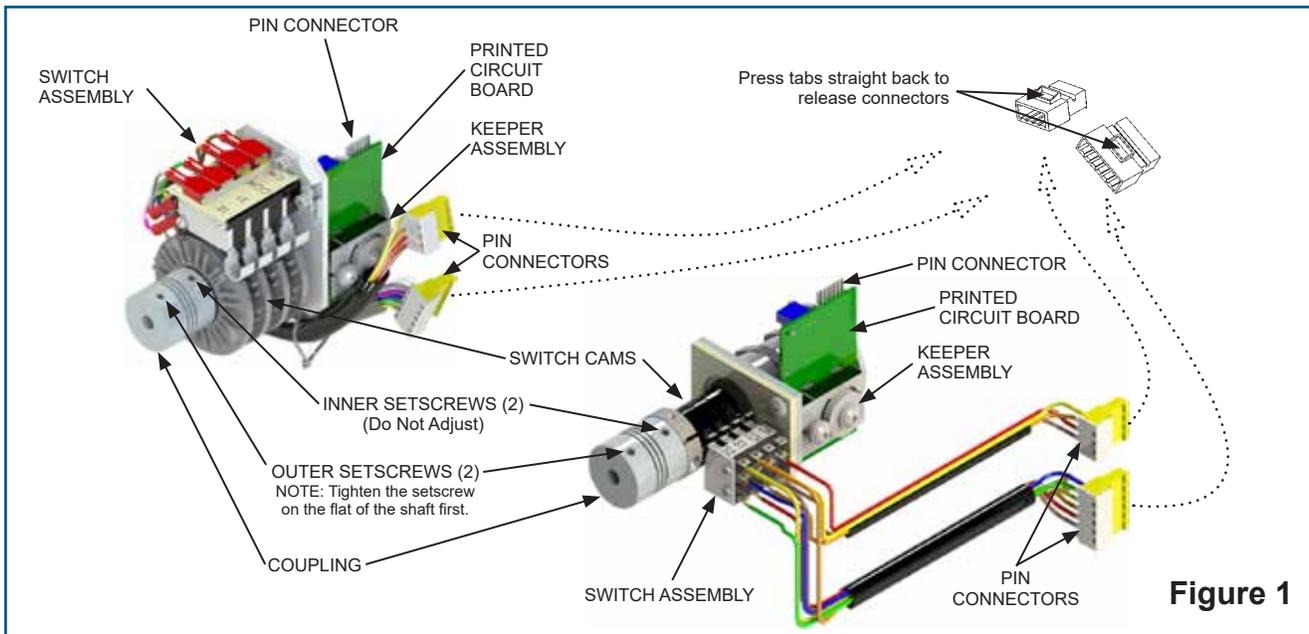


Figure 1



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