



REPLACEMENT INSTRUCTIONS

**MOTOR KIT PART NO. 12-8061-01
(FOR MOTOR PART NO. 20-2205-12)**

PURPOSE

NOTE: Motor part no. 20-2205-12 supersedes motor part no. 20-2205-10.

The purpose of these instructions is to provide a step-by-step method for replacing the Beck 22-309/-409 motor utilizing replacement kit no. 12-8061-01. The 22-309/-409 motor is a unitized assembly that includes the Self-Locking Mechanism (SLM).

NOTE: Do not disassemble the motor beyond the SLM, as there are no other user serviceable parts. Further disassembly will result in demagnetization of the motor and loss of the required torque.

REQUIRED TOOLS

The following tools are needed to install replacement kit no. 12-8061-01:

- Hoist to lift 108 lbs. (49 kgs.) motor
- 1/2" socket
- 15/16" wrench or socket
- Scotch™ 847 gasket adhesive or equivalent
- Torque wrenches appropriate for 25 and 37 lb-ft (39 and 50 N•m)



WARNING

**ELECTRICAL SHOCK HAZARD!
Disconnect power before proceeding.**

PROCEDURE

Remove the old motor:



WARNING

Secure the load on the actuator output shaft prior to removing the control motor. The actuator WILL NOT support the load once the control motor is removed.

1. Remove power from the actuator.
2. Remove the cap plugs from the holes (3) located in the top of the motor. Install the eyebolts (provided) in the holes (see Figure 1).
3. Support the motor's weight by suspending it from a suitable hoist using all (3) eyebolts. **Motor weight: 108 lbs. (49 kgs.).**



CAUTION

To prevent damage to the rotor shaft, use the eyebolts supplied in the kit to support the weight of the motor while pulling it away from the actuator. Use the eyebolts to lift the motor only—do not lift the entire actuator with the eyebolts.

4. Remove the 1/2-13 hex nuts from the mounting studs (see Figure 1) and pull the motor straight out from the actuator body.
5. Completely loosen the 5/16-18 captive hex screw in the center of the Handwheel assembly. Remove the Handwheel assembly from the old motor and install it on the new motor. Tighten the screw to 25 lb-ft (39 N•m) torque.

Install the new motor:

6. Inspect the motor compartment gasket and replace if necessary. If the gasket is in good condition, skip steps 7–9.
7. Clean the mating face of the actuator body to remove any remaining gasket material and adhesive. Ensure that the mating surface is free of defects such as dents or gouges.
8. Apply a thin film of gasket adhesive to the body's mating face.
9. Firmly press the gasket into place and allow time for the adhesive to set before continuing.
10. Remove and retain the cap plugs from the holes (3) located in the top of the new motor and install the eyebolts used for removing the old motor (see step 2).

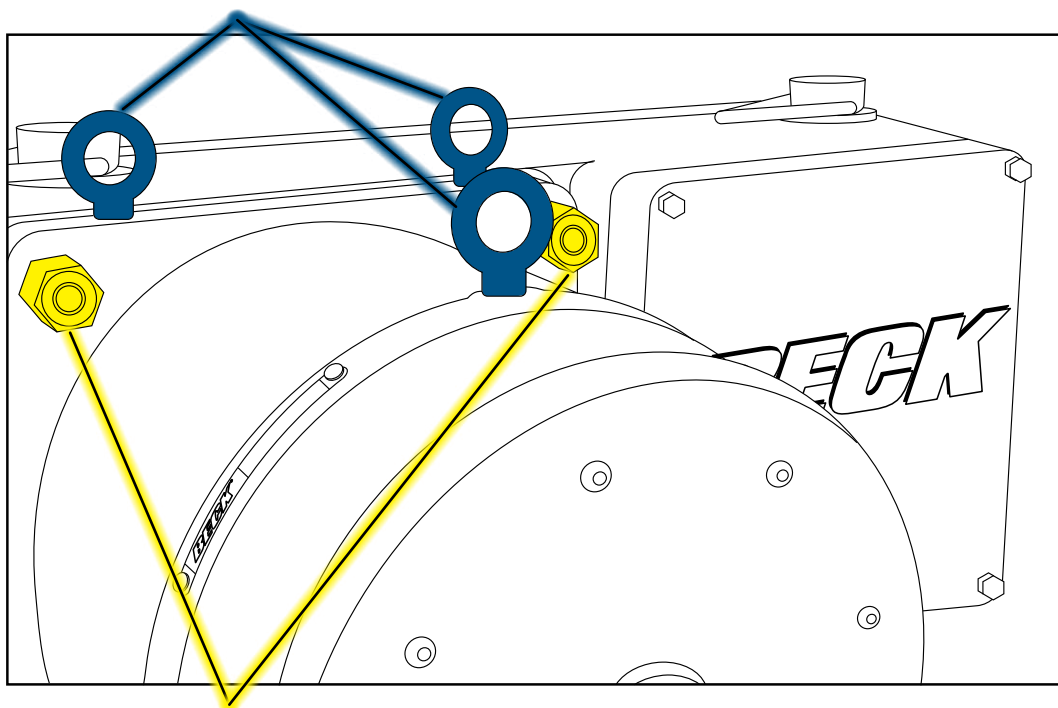
11. Using all (3) eyebolts, lift the motor into position and gently slide it onto the mounting studs. It may be necessary to turn the Handwheel slightly while seating the motor to allow the pinion to properly slide into and mesh with the gears.
12. Thread the nuts onto the mounting studs, counterbore towards the actuator. Tighten the nuts to 37 lb-ft (50 N•m) torque in a crosswise pattern.
13. Release the hoist.
14. Remove and store the eyebolts for future use.
15. Reinsert the cap plugs removed in Step 10.
16. Apply power and operate the Handswitch to observe the motor and actuator for proper operation.

Table 1: Motor Replacement Kit

Description	Part Number
Eyebolt 5/16-18 x 1" (3)	30-0306-05
Push-in Plug (3)	70-0318-05
Motor Assembly	20-2205-12
Motor Gasket	20-0660-90

Use the (3) eyebolts to lift the motor only. Remove eyebolts when not servicing the actuator. Do not attempt to lift the entire actuator with the motor mounting eyebolts.

EYEBOLT LOCATIONS



MOTOR MOUNTING STUDS (4) (2 SHOWN)

Figure 1

BECK[®] **HAROLD BECK & SONS, INC.**

11 TERRY DRIVE • NEWTOWN, PENNSYLVANIA 18940 • USA
 PHONE: 215-968-4600 • FAX: 215-860-6383 • E-MAIL: sales@haroldbeck.com
 www.haroldbeck.com

Made in USA 