



AHWG TSB#2–Drive Mechanism Motor Error Replacement

Product: DRV80 Gen. 1

Technical Assessment Reference: AHWG TA#2-Drive Mechanism Motor Error

Topic/Problem Replacement & Resolution: Defective Drive Mechanism and/or Stepper Motors

The following will explain the necessary parts and procedure to fully diagnose which part(s) may need replaced (i.e. Drive Mechanism and/or Stepper Motor) and also how to replace.

Below is a list of parts that are included in the replacement kits:

Drive Mechanism Kit p/n D8404		Stepper Motor Kit p/n D8410	
A	2 Guide Rings	F	3 Thermister Seals
B	1 Seperator Seal	G	1 Drive Mech Seal
C	2 O-Rings	H	1 Drive Mech
D	1 Stepper Motor Seal	I	1 Lock Nut
E	Grease	J	Various Screws



Figure 1: Drive Mechanism Kit

Tools Required:

- Phillips Head Screw Driver & Socket 5/16”

Replacement Process/Steps:

1. Power down the DRV80 Gen. 1 by pulling the power cord from the outlet it is connected to
2. Isolate all water supply feeding the valve (hot, cold, mixed, & recirculation)
3. Remove the 8 screws holding the front cover on (hold cover in place as it is heavy) *(see Figure 3)*
4. Slowly rotate cover away and disconnect LCD display *(see Figure 4)*



Figure 3: Front Cover Access



Figure 4: Disconnect LCD Display

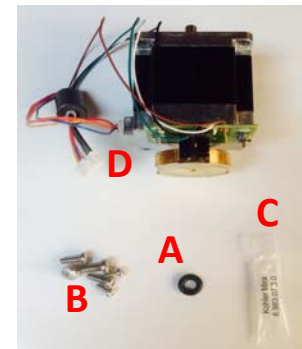


Figure 2: Stepper Motor Kit

5. Remove 4 screws holding bottom cover on & back screw holding PSU to bottom cover, disconnect battery plug from PCBA, and slide bottom cover down *(see Figure 5 & 6)*

6. Disconnect stepper motor electrical connector from PCBA & by hand attempt to turn brass disk at bottom of motor *(see Figure 7)*
 - a. If turns → Stepper Motor is ok, only replace/inspect Drive Mechanism
 - b. If does not turn → Replace/inspect both Drive Mechanism & Stepper Motor



Figure 5: Bottom Cover Access



Figure 6: Battery Disconnect

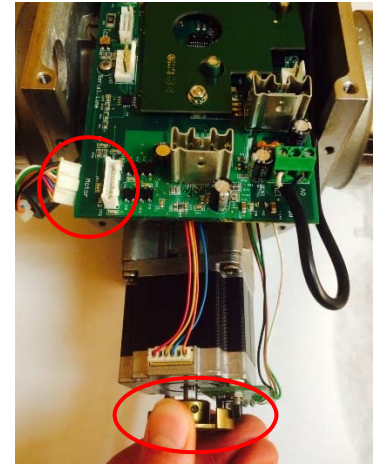


Figure 7: Stepper Motor Evaluation

7. Remove Drive Mechanism from valve body by unscrewing 6 screws holding in to valve body *(see Figure 8)*
 - a. Place plastic bag around Stepper Motor and remove by turning slowly and pulling down slowly
 - b. Water will drain out if not already drained from system
8. If on step 6; Stepper Motor is ok, remove the Drive Mechanism by unscrewing the 5/16" lock nut holding the Spool Piece on and throw lock nut away; remove Spool Piece and reuse *(see Figure 9)*
 - a. The Spool Piece is not a wear item and can be reused *(see AHWG TA#3)*
9. Remove the Stepper Motor from the Drive Mechanism by unscrewing 4 screws holding it *(see Figure 10)*

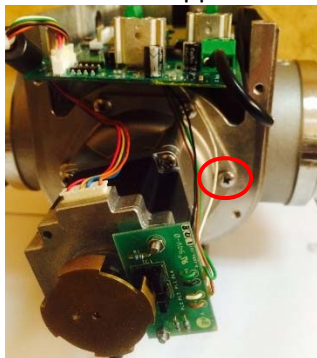


Figure 8: Drive Mech Removal



Figure 9: Drive Mech Lock Nut



Figure 10: Stepper Motor Removal

10. Place either reused Stepper Motor (from step 6 determination) or new Stepper Motor on New Drive Mechanism reversing step 9
11. Place reused Spool Piece (from step 7) on and fasten with NEW lock nut to 80-90 in-lb to prevent spinning
12. Replace O-Rings as needed (recommended to replace once a year if valve is in hard water)
13. Grease Spool Piece & reassemble into valve reversing above steps 1-7

Quick Links: [video link](#)