

# CRL2 Drill Motor Replacement

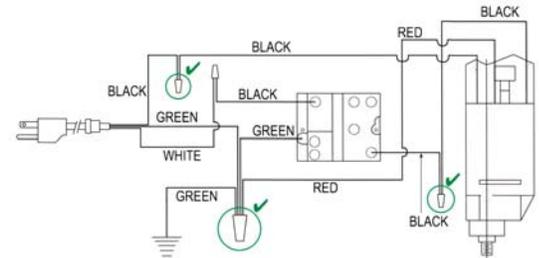
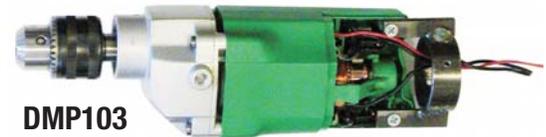
Replacing the drill motor (DMP103) in the The CRL2 Glass Drill is fairly simple and can be done with a few hand tools.

**Tools Needed:** #2 phillips screwdriver, .005" feeler guage, 3/32" allen/hex key wrench, small flat screwdriver for "E" clip on handle.



1. **Avoid possible electrical hazards. Be sure that the drill is UNPLUGGED before starting any work.**

- The new motor comes complete with a new chuck so it is not necessary to remove the chuck from the old motor. Be sure the new chuck is tightly screwed onto the new motor.
- Remove the 3 screws from the housing around the speed control cover on the drill. (Fig. B) Lift the speed control cover off of the drill. Save all hardware as it will be needed to reassemble the drill.
- Locate the small set screw (Fig. A) at the bottom of the drill housing. It can be accessed from the side of the drill housing using the 3/32" allen wrench.
- Loosen the set screw one or two turns but no more than that. Note that the set screw is not tightly installed.
- Remove the 4 phillips screws on the sides of the drill housing near the top. These 4 screws hold the drill in position and are used to align the drill motor after installation. Note that there are 2 long screws (Fig. C) on the side of the housing with the power cord attachment and there are 2 shorter screws (Fig. D) on the housing side with the handle. Keep track of these as they will be needed for the new motor.
- Trace the Black wire from the power cord to the old motor and mark it with tape. Identify the same black wire on the new motor and mark it also. Follow the wiring diagram on this page. The 3 connections circled in GREEN are the ones that need to be disconnected.
- The drill motor can now be removed. Pull it straight up, out of the housing.
- Install the new motor and reconnect the wires. Connect the two "marked" black wires, then the other 2 (see wiring diagram).
- Insert the 4 screws that hold the top of the motor. Have them snug but not tight.
- Tighten the small setscrew at the bottom of the housing temporarily. Just enough to contact the drill motor.
- You can now start squaring the drill for consistant, straight operation.
- Place your largest hole cutting bit into the drill and tighten the chuck. A 2" to 4" diameter diamond or tube drill bit should be about right. *Note: EDD series and AG series plated bits are not recommended for this "gapping" process due to their course diamonds.*
- Place the drill on a large scrap piece of heavy 1/2" glass and lower the bit onto the glass.
- Using a .005 feeler guage, check for gaps between the bit and glass.
- If no gap is present, tighten the 4 upper motor screws evenly and recheck for any gap. If no gap is present, place the speed control on top of the drill and secure it with the 3 screws. The drill is ready to use. If a gap does exist follow the steps below.
- Break the set screw at the bottom of the drill housing loose.
- Rotate the drill bit one full turn and confirm that the gap is in the same spot.
- Use the 4 screws at the top of the housing to adjust the drill motor. Generally, you tighten the screw closest to the gap and/or loosen the screw opposite the gap to get the motor square.
- Turn the drill bit one half turn (180°) and recheck for gaps. Adjust as needed.
- Tighten the set screw until it is snug against the drill motor. **DO NOT OVERTIGHTEN.**
- Turning the drill bit on the glass one half turn should produce a fine, complete circle scratched in the glass.



**CRL2 Wiring Diagram**

**Fig. A** Set Screw



**Fig. B** (one of three screws)



**Fig. C**  
(one of two long screws)

**Fig. D**  
(one of two short screws - remove the handle to access this screw)

If you have problems or questions during the process above, call CRL Glass Machinery at (866) 583-1377. Our technicians will be glad to help you with anything involved in repairing your CRL2 Drill.

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