



MPMS Service Note 1014-602

Slide Seal Assembly Rebuild

Introduction

WARNING!

These instructions are only provided as a service to customers who wish to perform this rebuild. The manufacturer's warranty will not cover failure due to incorrect completion of this procedure. User's are advised that rebuilt slide seal assemblies may be purchased from the manufacturer. Contact your Quantum Design service representative for pricing information for the slide seal assembly.

The following procedure describes how to rebuild the slide seal assembly in the MPMS. This procedure may improve the performance of the slide seal assembly; however, users are advised that factory rebuilt slide seals are also available.

Before You Begin

- You will need a set of replacement lip seals to rebuild the slide seal assembly. These may be purchased from your Quantum Design service representative.
- Snap-ring or retaining ring pliers are needed to remove the outer snap-ring from the assembly.
- When assembling the slide seal assembly, the lip seals should only be lubricated with Apiezon "M" grease. Specifically, do not use silicon grease.

- When handling and installing lip seals, use care to avoid damaging their sharp edges. The vacuum seal is formed at the edge of these seals and if this edge becomes nicked or torn, the seal will not function properly.

Rebuilding the Slide Seal

Verify that you have all of the items listed under “Before You Begin” to perform this operation. Refer to Figure 1 and follow the instructions below.

1. Using the snap-ring pliers, remove the snap ring.
2. Remove the washer, outer spacer, and outer lip seal.
3. As you remove the gas diverter, be sure to note the orientation of the gas diverter with respect to the gas diverter dot on the housing.
4. Remove the inner lip seal. It is not necessary to remove the inner spacer.
5. Lightly lubricate the new lip seal with Apiezon “M” grease.
6. Align the lip seal to the proper orientation and gently push it into the top of the slide seal housing, being careful to avoid damaging the edges of the seal.

Note: The orientation of the gas diverter is important to proper gas flow. Be sure to insert it with the correct alignment (see next step).

7. Apply a thin coating of “M” grease to the gas diverter, then align it according to the drawing and insert it into the slide seal housing. Press it in until it seats against the lip seal.
8. Lubricate the outer lip seal with the “M” grease.
9. Align the outer lip seal and insert it into the slide seal housing until it seats against the gas diverter.
10. Install the outer spacer so that it is seated against the lip seal.
11. Install the washer.

Note: There is a small groove inside the slide seal housing. If this groove is not visible, the components you have already installed are not properly seated. Re-install these components if necessary.

12. With the snap ring groove visible, install the snap ring, being sure that it is fully seated in the groove.

The slide seal assembly is now ready for use.

Figure 1

