Optical Scanning Module (OSM) Rails Cleaning and Lubrication Procedure for Aria Real-Time PCR Systems

Using the Agilent MSM Lubrication Kit

This procedure details the cleaning and lubrication of the optical scanning module (OSM) rails in the Agilent AriaMx and AriaDx Real-Time PCR instruments. Reference this procedure when performing routine preventative maintenance (PM) or when instructed by Agilent Technical Support to perform troubleshooting of an AriaMx or AriaDx instrument.

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About the Procedure

The OSM rails are the metal rods attached to the optical module housing carrier. The optical module housing carrier slides left and right across the OSM rails during a real-time PCR experiment. Regularly cleaning and lubricating these rails helps maintain instrument performance. Agilent recommends performing the procedure once a year or when advised by Agilent Technical Support to resolve specific instrument issues.

Materials Required

Table 1 lists the materials required for the OSM rails cleaning and lubrication procedure.

Table 1 Materials required

Material	Ordering information
MSM Lubrication Kit	Agilent p/n G8830-67000
Powder-free gloves	General laboratory supplier
Disposable laboratory wipes, lint-free (e.g., Kimwipes)	General laboratory supplier
70% isopropyl alcohol	General laboratory supplier

Safety Notes

WARNING **Make sure that the AriaMx or AriaDx instrument is powered off before performing the steps detailed in this procedure. The OSM traverses left and right and may cause injury if the instrument is powered on. Additionally, forcing movement of the OSM while the instrument is powered on may damage the instrument.**

Step 1. Clean the OSM Rails

The rails can accumulate dirt and debris over time. Cleaning the rails is necessary before applying lubricant.

1 Make sure that the AriaMx or AriaDx instrument is powered off and disconnected from the power supply.

2 Open the instrument door and slide the optical module housing carrier to the left-most position (see **Figure 1**).

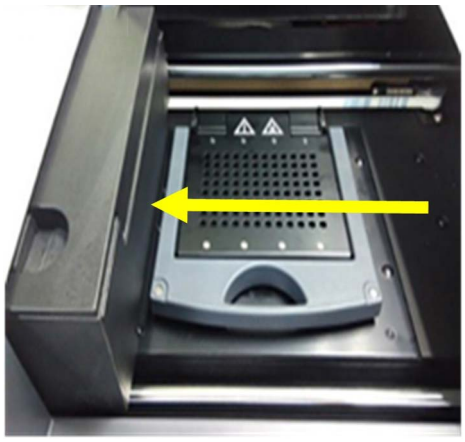

Figure 1 Optical module housing carrier pushed to the left-most position.

3 Using a disposable laboratory wipe moistened with 70% isopropyl alcohol, clean all exposed surfaces of the top and bottom rails. Make sure to clean the full length of the rails on all sides (top, bottom, front, and rear). Refer to **Figure 2** and **Figure 3**.

CAUTION The rails may be coated in a layer of previously applied lubricant. Do not allow lubricant, or a laboratory wipe contaminated with lubricant, to contact the encoder strip, the lid of the thermal block, or any other part of the instrument other than the rails. If lubricant comes into contact with an unintended part, promptly clean it with a fresh laboratory wipe. The encoder strip is a transparent strip located just below and behind the top rail. Refer to **Figure 6** on page 5.

4 Slide the optical module housing carrier to the right-most position.

5 Repeat **step 3** to clean the sections of the rails that were blocked when the module housing carrier was positioned on the left.

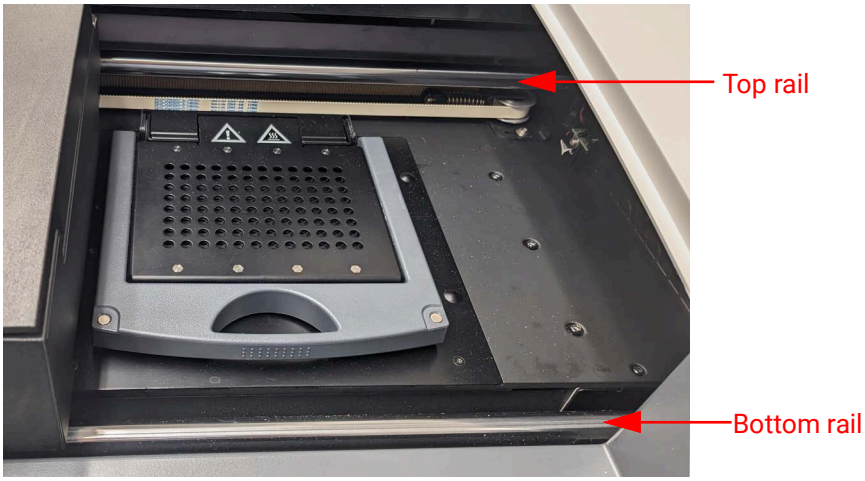

Figure 2 Locations of top and bottom OSM rails.

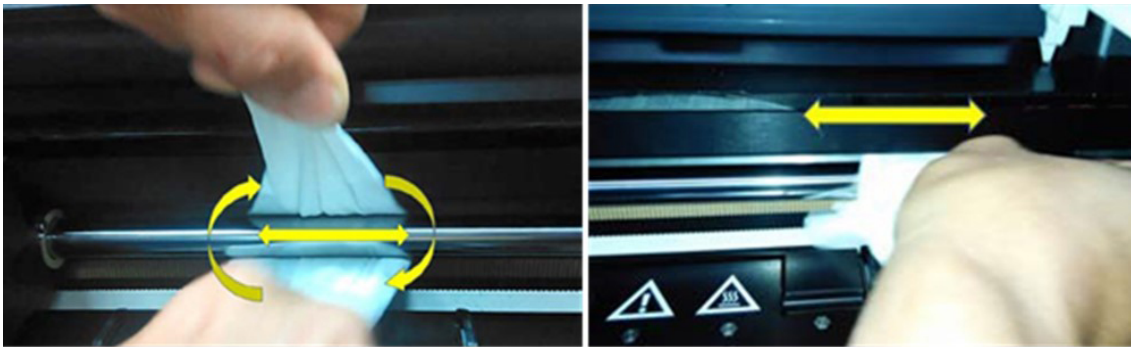

Figure 3 Clean all sides of the rail (left panel). Clean full length of the rail (right panel).

Step 2. Lubricate the OSM Rails

Use the Agilent MSM Lubrication Kit (p/n G8830-67000) for this step. Before you begin, refer to the package label on the kit to make sure that the product is not expired.

1. Make sure that the AriaMx or AriaDx instrument is powered off and disconnected from the power supply.
2. Open the instrument door and slide the optical module housing carrier to the left-most position (see **Figure 1** on page 3).
3. Squeeze a small bead of lubricant onto the tip of your gloved finger (see **Figure 4**). The bead needs to be approximately 10 mm in diameter.

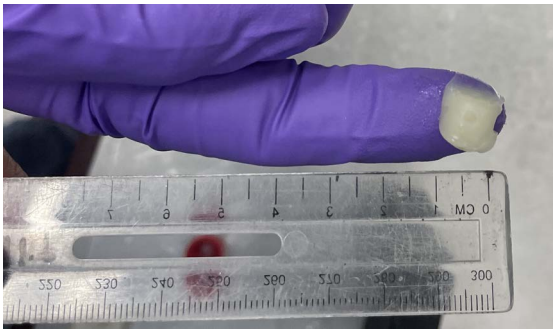

Figure 4 Squeeze lubricant onto fingertip.

4 Use your finger to rub a thin layer of lubricant (as shown in **Figure 5**) onto all exposed surfaces of both the top and bottom rails. Make sure to coat the full length of the rails on all sides (top, bottom, front, and rear).

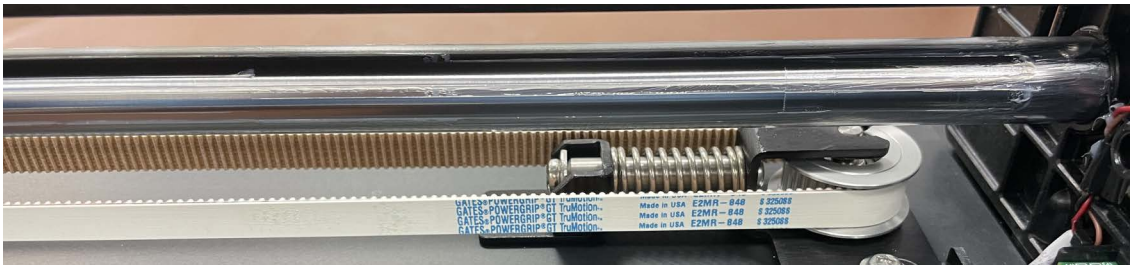

Figure 5 Top rail with thin layer of lubricant applied

CAUTION

Do not apply more lubricant than is necessary to coat the surfaces of the rails. Excess lubricant can attract dust and debris. Additionally, during an experiment, the movement of the optical module housing carrier across the rails can cause excess lubricant to drip onto unintended parts of the instrument.

Apply lubricant only to the rails. Do not allow lubricant to contact the encoder strip, the lid of the thermal block, or any other part of the instrument other than the rails. If lubricant comes into contact with an unintended part, promptly clean it with a laboratory wipe. The encoder strip is a transparent strip located just below and behind the top rail. Refer to **Figure 6**.

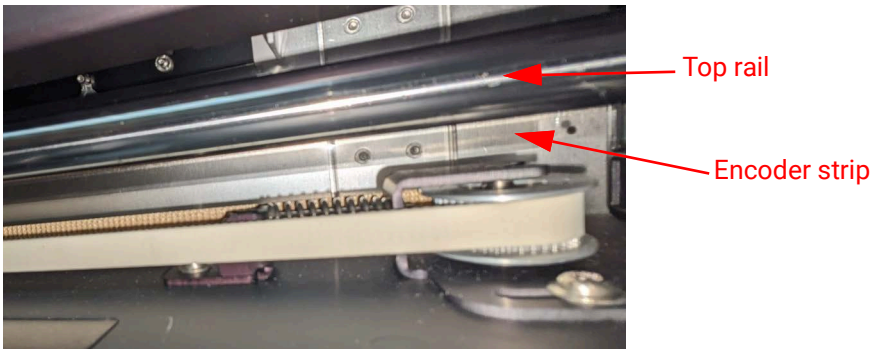

Figure 6 Location of encoder strip relative to top rail.

5 Slide the optical module housing carrier to the right-most position. Do not allow lubricant to contact the carrier or other parts of the instrument during this process.

6 Repeat **step 3** through **step 4** to lubricate the sections of the rails that were blocked when the module housing carrier was positioned on the left.

7 Close the instrument door and reconnect the power supply.

Step 3. Perform instrument checks

Before running an experiment on the instrument, perform the following steps.

1 Perform a motor calibration (Settings > System Settings > Motor Calibration).

If the instrument is running a version of the Aria firmware prior to v2.1, you must use the Aria Support Tool application to verify that the motor calibration values are within Agilent specifications. Visit **https://explore.agilent.com/aria-software-support-tools** to obtain the application.

If running Aria firmware version 2.1 or later, the Aria Support Tool is not required.

2 Run a diagnostic check (Settings > Instrument Diagnostic > Run Diagnostics).

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Original Instructions - EN

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