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This kit contains special low temperature blended lubricants and grease for routine maintenance of all microtomes.

Microtome Lubrication Kit 5029



Introduction

The Microtome Lubrication Kit contains three special low-temperature lubricants: Oil "A," Oil "B," and Grease "G." Apply Oil "A" daily (as described below). Apply Oil "A," Oil "B," and Grease "G" whenever the Microtome is cleaned or sterilized (as described below). Proper use of these lubricants will increase sectioning accuracy and extend instrument life.

CAUTION: Use of any other lubricants may cause damage that would require factory service.

Shipping Caps

Remove and discard the shipping caps on the Oil "A" and Oil "B" bottles and replace them with the supplied dropper caps. The dropper caps have replaceable white plastic covers. Note that the tips of the dropper caps do not need to be cut or punctured — the correct size hole is already present.

Adding Xylene to Oil "A"

Note the fill line on the back of the Oil "A" bottle. Add xylene to the Oil "A" bottle until the level reaches the fill line on the bottle.

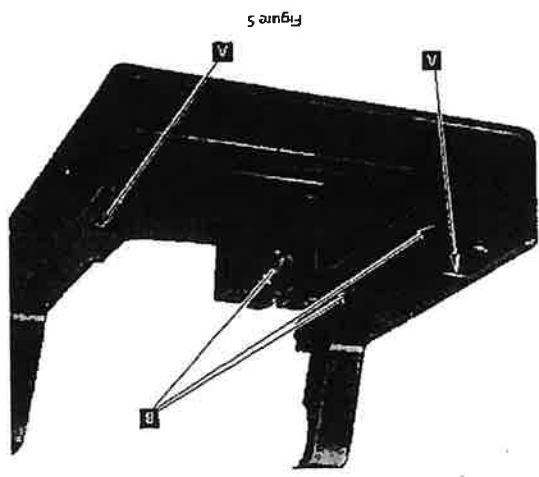
To ensure optimum microtome operation:

- Ensure that all operating personnel follow the procedures and intervals for cleaning and lubrication contained in this instructional.
- Keep the gear shield in place while the instrument is in use.
- Lubricate the Microtome after any sterilization process (as described in the section Cleaning and Lubricating the Microtome (Periodically)).

WARNING: ASSUME THAT THE MICROTOME IS CONTAMINATED WITH PATHOGENS. USE UNIVERSAL PRECAUTIONS.

Lubricating the Microtome (Daily)

In day-to-day operation of the Microtome, apply Lubricant Oil "A" daily to maintain an even cutting action. You may need to lubricate more frequently depending upon use of the Microtome. The only way to determine this need is through ease of Microtome usage.



CAUTION: Be extremely careful to prevent damage to the lead screw nut threads when reinstalling the Top Slider onto the Microtome. Failure to observe this caution will severely damage the Microtome.
 10. Reinstall the Gear Shield, Anti-Roll Brake Assembly, and Chuck Knob on the Microtome.
 11. Reinstall the Microtome into the chamber. The instrument is again ready for routine use.

WARNING: REMOVE THE DISPOSABLE BLADE FROM THE BLADE HOLDER.

1. Lower the Chuck to its lowest position exposing the vertical gibs. (It is NOT necessary to remove the top slider from the Microtome for this procedure.) The "gibs" are the two vertical walls against which the Chuck travels vertically.
2. Apply several drops of Oil "A" onto the V-edge surfaces of the Chuck gibs (Figure 1). Be sure to apply Oil "A" to both sides, left and right, front and rear.

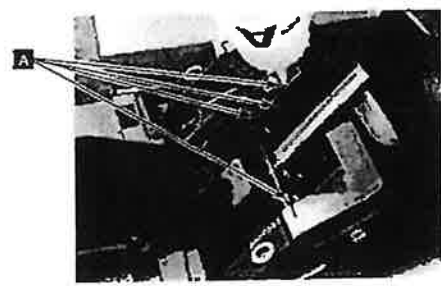


Figure 1

Cleaning and Lubricating the Microtome (Periodically)

Time intervals for cleaning and lubricating the Microtome vary with frequency of use. However, you must clean and lubricate the Microtome monthly, or more often as needed, and lubricate the Microtome after any sterilization process. To clean and lubricate the Microtome, you must totally remove it from the instrument. Regularly cleaning and lubricating the Microtome is essential for its proper operation and long life.

4. Remove the Top Slider from the Microtome as follows:
- With the front of the Microtome facing you, manually turn the black Coarse Feed Wheel clockwise. (The Top Slider will move slowly towards you.)
 - Continue to turn the Coarse Feed Wheel until the Top Slider stops moving.
 - Grasp the Top Slider and pull it towards you to remove it from the lower Microtome assembly (Figure 2).

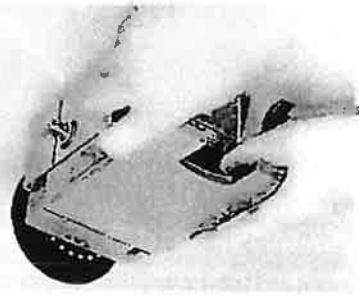


Figure 2

- Thoroughly clean the Top Slider and the lower Microtome assembly. Remove all debris from each portion of the Microtome using cotton swabs. **NOTE:** It is important to remove all O.C.T. Compound from the Microtome because it will harden and be more difficult to clean once it has been exposed to alcohol or certain other solvents.
- To ensure that all water moisture is removed, immerse the Microtome in 100% alcohol or thoroughly flush it with 100% alcohol. Allow it to drain and then wipe off any excess moisture and any debris that was exposed by the alcohol rinse.
- Thoroughly dry the Microtome.
- Lubricate the Microtome surfaces and holes as indicated in Figures 3, 4, and 5.

Lubricate the Top Slider by placing Oil "A" on the buffer pins and springs and Oil "B" on the bronze horizontal gibs/sliding surface and on the threads of the cylinder nut as indicated in Figure 5. Be sure to apply Oil "B" to both the left-side sliding surface and the right-side sliding surface of the Top Slider.

9. Install the Top Slider back onto the lower Microtome assembly by reversing the action shown in Figure 2. Gently push back on the Top Slider until it stops against the lead screw. Do not allow the Top Slider to ram against the lead screw. Turn the Coarse Feed Wheel counterclockwise to engage the Top Slider to the lead screw.

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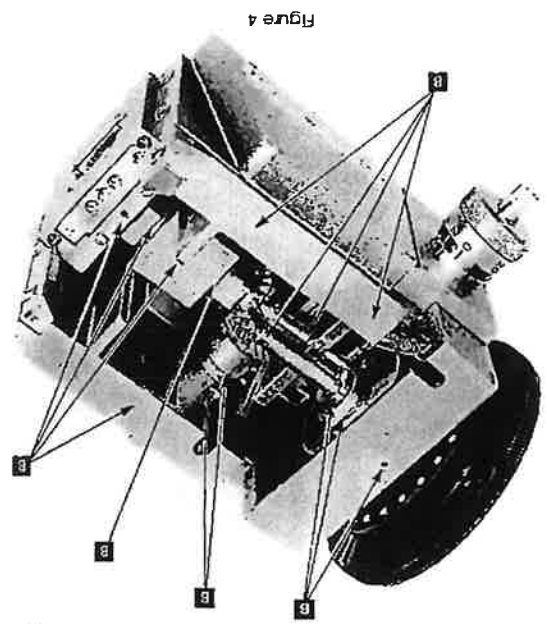


Figure 4

- Materials Needed:
- Microtome Lubrication Kit
 - Xylene (to dilute Oil "A")
 - Cotton Swabs
 - 100% Alcohol
 - Protective Clothing
- NOTE: Proper use of the lubricants in the Microtome Lubrication Kit will increase sectioning accuracy and extend instrument life. Use of any other lubricants may cause damage to the microtome that would require factory service.
- WARNINGS:
- REMOVE THE DISPOSABLE BLADE FROM THE BLADE HOLDER
 - THE MICROTOME IS HEAVY; LIFT IT WITH CARE AND PLACE IT ON A FLAT WORK SURFACE
 - IF THE MICROTOME IS COLD, WEAR MULTIPLE PAIRS OF DISPOSABLE GLOVES FOR PROTECTION AGAINST COLD METAL
 - WHEN CLEANING AND LUBRICATING, WEAR DISPOSABLE GLOVES FOR PROTECTION FROM INFECTIOUS MATERIALS.

- Remove the Microtome assembly from the chamber as follows:
 - Loosen the thumbscrew on the flex coupler and slide the coupler to the right (see Cryo 2000 Operating Manual, Page 4-4, Figure 4-4).
 - Full the Microtome back towards you to unlock its feet and then lift it out of the chamber (see Cryo 2000 Operating Manual, Page 4-4, Figure 4-5).
- CAUTION: The Microtome is heavy. Lift it with care, and place it on a flat work surface. If the Microtome is still cold, use appropriate gloves.

- Lower the Chuck to its lowest position. Remove the Chuck knob and Anti-Roll Rack Assembly.
- NOTE: If the Chuck does not move down easily by pushing on it, manually turn the Microtome shaft to get it started.
- Remove the gear shield by pulling it forward (see Cryo 2000 Operating Manual, Page 4-5, Figure 4-6).

Figure 3 (Oil "A" and Grease "C") — Place 3 drops of Oil "A" in the two holes adjacent to the vertical gibs. Also place oil on the front and rear V-surfaces of the vertical gibs. Smear a small amount of Grease "C" on the two gears. Raise the Chuck and grease the left and right sides of the roller inside the rear of the Chuck. Then move the Chuck up and down several times to spread the grease.

Figure 4 (Oil "B") — Smear 3 drops of Oil "B" on the surfaces marked B; and place Oil "B" into each of the 4 holes marked B.

CAUTION: Make sure that Oil "B" enters the 4 lubricating holes. Insert the oil applicator into the holes and then squeeze the bottle, otherwise air bubbles may prevent Oil "B" from reaching the bearings.

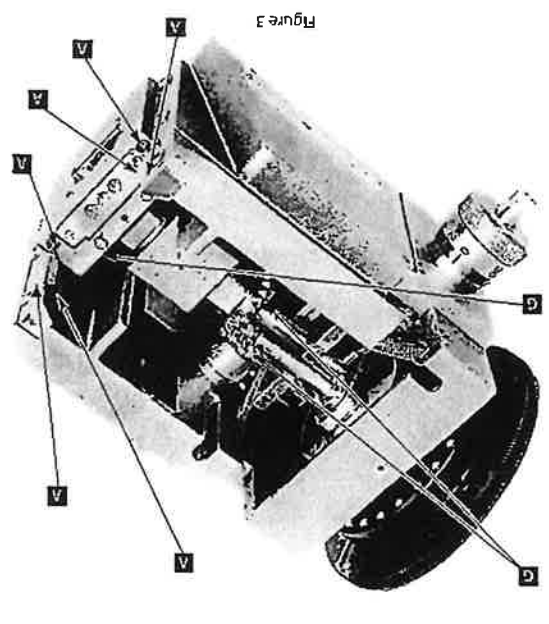


Figure 3