LEITZ 1400
Sledge Microtome

Operating Manual

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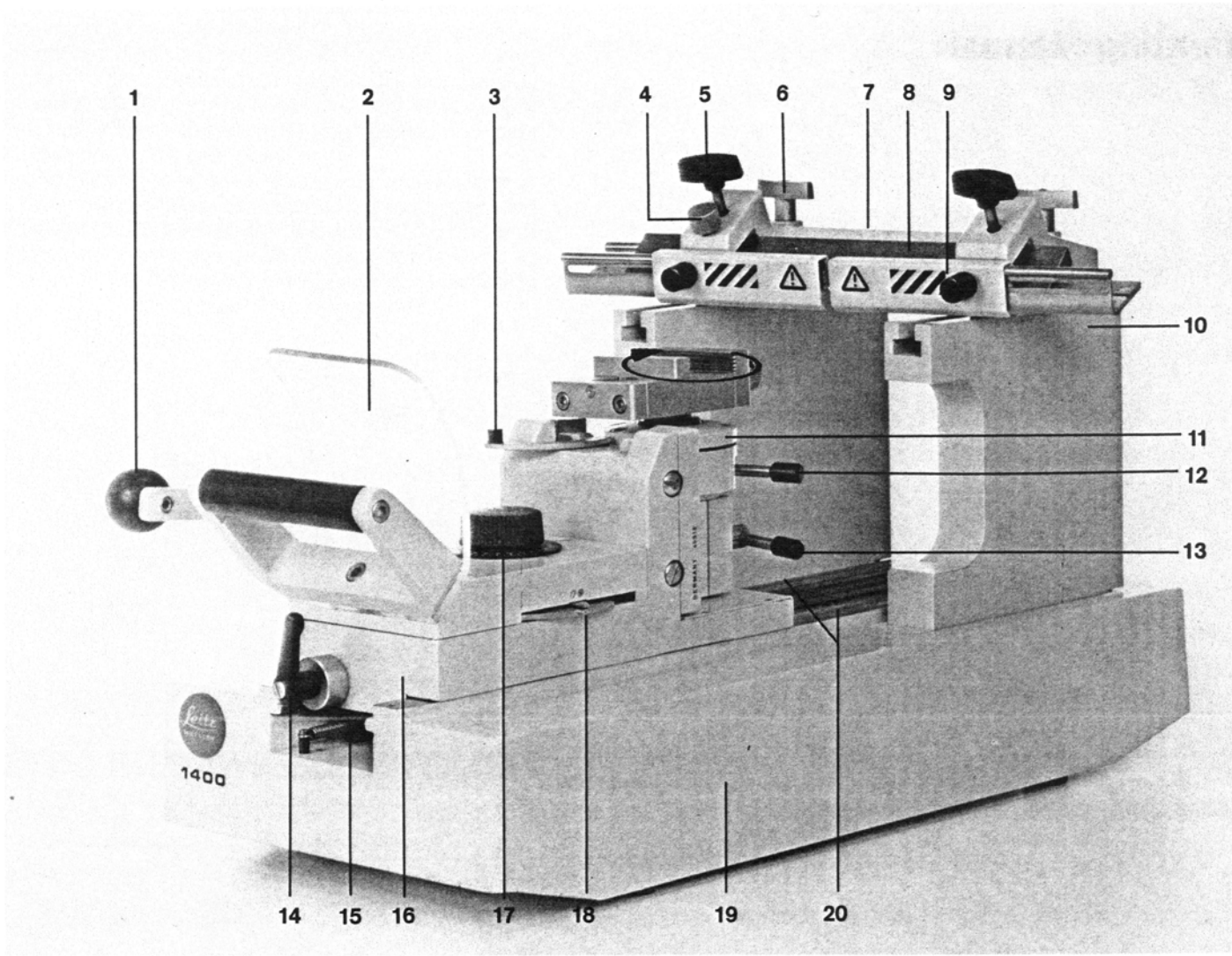


Assembly

After removing the metal bands and the carton top, use the supplied key to unscrew the four socket head screws (2.2)* from below.

Lift the microtome off the wooden block (2.1) and place it on a stable workbench.

After unscrewing the socket head screw (2.3), remove the sledge clamping block (2.4).

Clean the guide rails (1.20) with petroleum spirit and apply the supplied oil to be found in the accessories box (see p. 7, Cleaning and Maintenance).

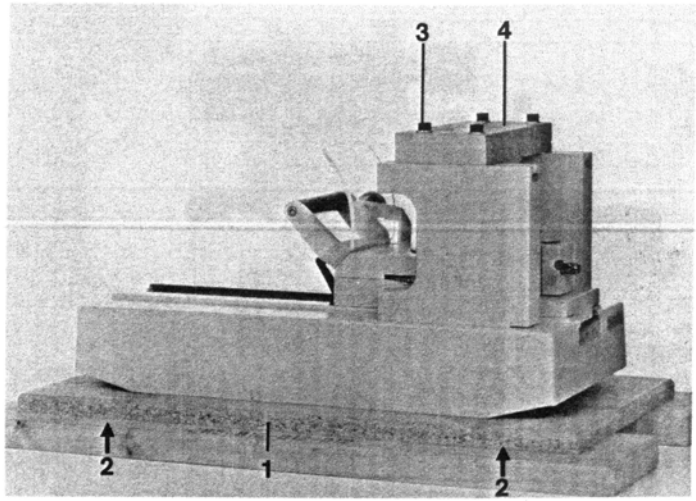
Slide the knife holder (1.7) into the knife block (1.10) and clamp with the wing nut (1.6).

After loosening the clamp lever (1.12), rotate the specimen clamp (3.4) until the clamp screw (3.1 or 5.1) faces the operator.

* (2.2), e.g., means figure 2, component 2

Fig.1 LEITZ 1400 sledge microtome
1 Coarse height adjustment lever
2 Hand guard
3 Coarse height adjustment clamp lever
4 Tilt angle adjustment screw
5 Knife clamp screw
6 Knife holder clamp screw
7 Knife holder with knife guard
8 Knife
9 Knife guard (closed)
10 Knife block
11 Ball joint
12 Ball joint clamp
13 Specimen holder clamp lever
14 Sledge clamp
15 Stop for automatic specimen feed
16 Sledge
17 Specimen holder manual height adjustment
18 Section thickness adjustment
19 Base
20 Guide rails

Fig.2
1 Wooden block (for transit)
2 Microtome-block screws
3 Socket head screws
4 Sledge clamping block



Operation

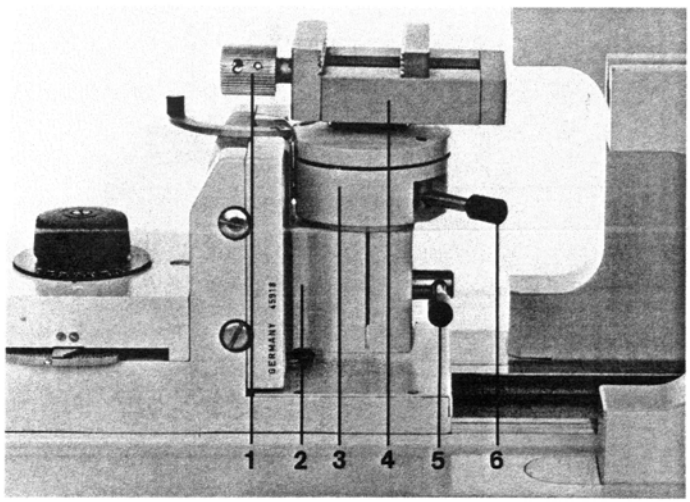
Move the sledge to the front stop and clamp with the lever (1.14).

Move the coarse height adjustment clamp lever (1.3) to the right and lower the specimen holder (3.4) as far as possible (lever 1.1).

Clamp the specimen in the holder (screw 3.1 or 3.5).

Set the knife tilt angle (scale on left of knife holder) using screw (1.4) before inserting the knife and clamping with the two wing nuts (1.5).

Fig.3
1 Specimen clamp screw
2 Specimen sledge
3 Ball joint
4 Specimen clamp
5 Specimen holder clamp lever
6 Ball joint clamp lever



Loosen the sledge clamp (1.14).

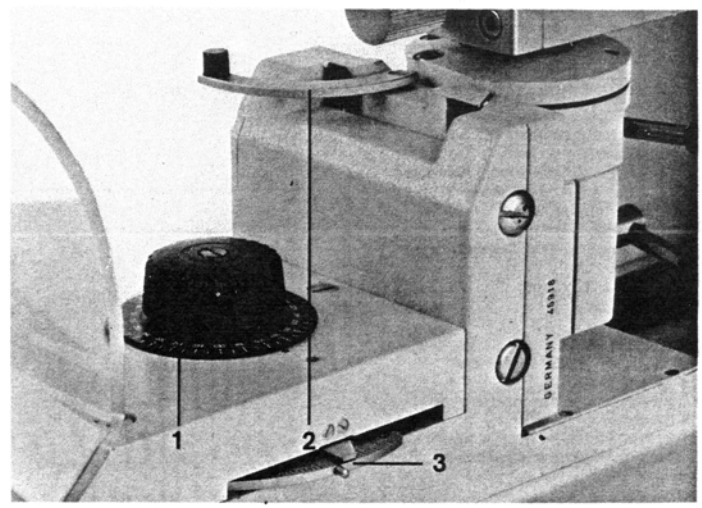
Slide the specimen under the knife. Loosen the ball joint clamp (3.6) and align the specimen with the knife. Retighten the clamp.

Move the specimen using lever (1.1) until it is a few millimeters from the knife (not touching). Clamp the specimen holder in this position by turning the lever (4.2) to the left.

Using the manual height adjustment control (4.1), and with to and fro movements of the sledge, trim the specimen until the surface is flat.

Set the section thickness (4.3). Move the sledge back to the rear stop, and then forwards under the knife to make the actual sections.

Fig.4
1 Manual specimen holder height adjustment (coarse)
2 Coarse height adjustment clamp lever
3 Section thickness control



Accessories

The ball and universal joints and the large specimen stage can be easily interchanged after pressing the clamp lever (3.5 or 5.6) down and removing the specimen holder.

The knife holder with integrated guard can be replaced with the acute angle version (Fig.7).
Note: The safety caps must be placed over the knife ends immediately it is inserted in the holder.

If thick specimens are to be sectioned, the knife holder can be raised by means of spacers (Fig.8). These are fixed to the knife blocks (1.10) using socket head screws.

Fig.5 Universal joint clamp
1 Specimen clamp screw
2 Specimen sledge
3 Specimen holder
4 Specimen x/y alignment screws
5 Universal joint
6 Specimen holder clamp
7 Universal joint clamp

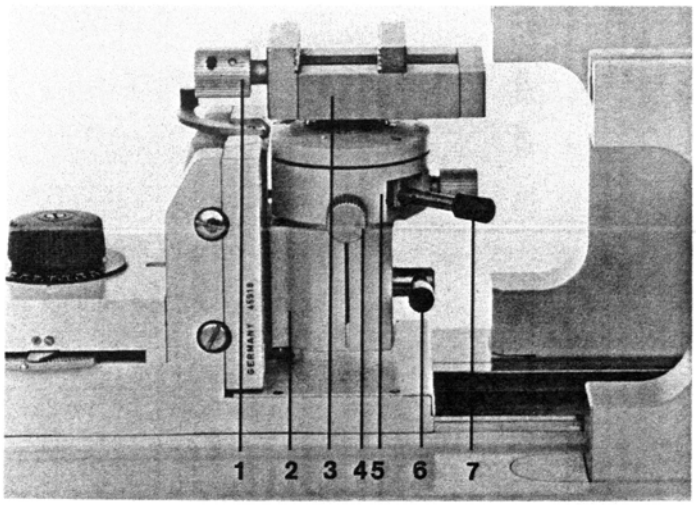


Fig.6 Large (90 x 130mm) specimen stage

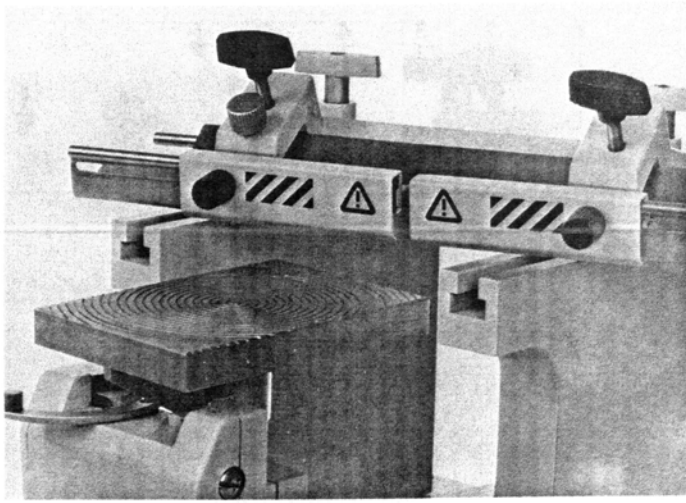


Fig.7 Acute angle knife holder
Note: The knife ends must be covered by the supplied caps.

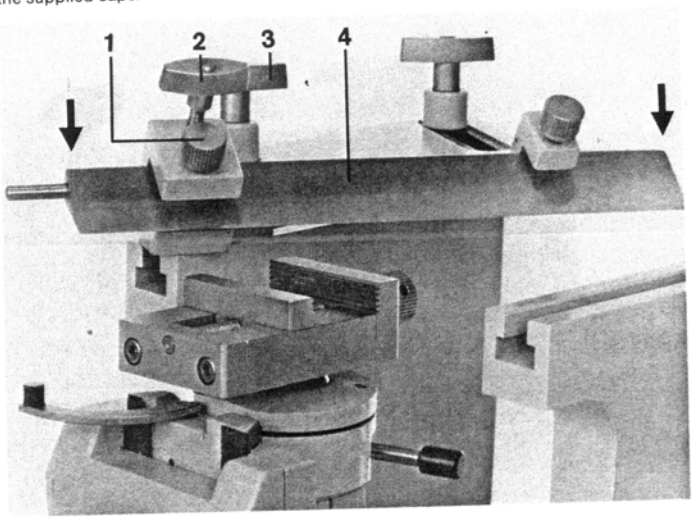
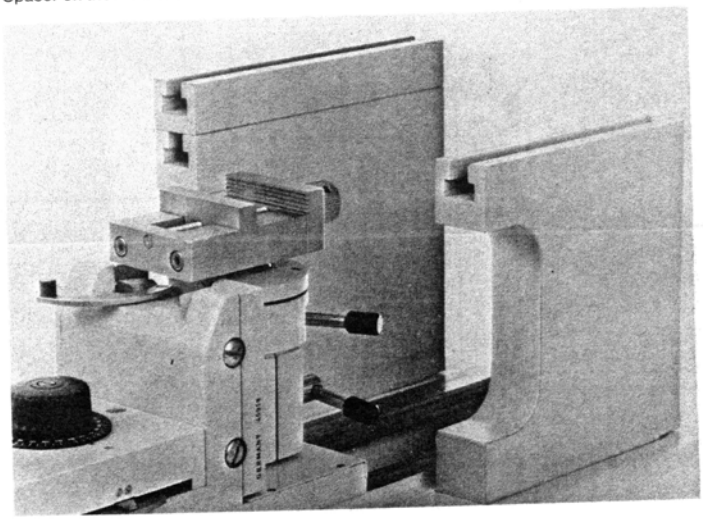


Fig.8
Spacer on the left knife block



The 90 x 130mm KRYOMAT® freezing stage and a flow-cooling knife (type C or D) are necessary for use of the LEITZ KRYOMAT automatic cryostat.

The freezing stage replaces the specimen holder on the ball joint. The flow-cooling knives (9.4) are connected to the KRYOMAT via the tubing (9.2), which is securely fastened with knurled nuts (9.3).

Cleaning and Maintenance

The sledge guide rails (1.20) must always be kept clean. We recommend xylene or petroleum spirit. Cleaning is accomplished most easily by moving the sledge to and fro several times whilst cleaning both sides of the rails. This ensures that dirt and tissue particles which have collected under the sledge are removed.

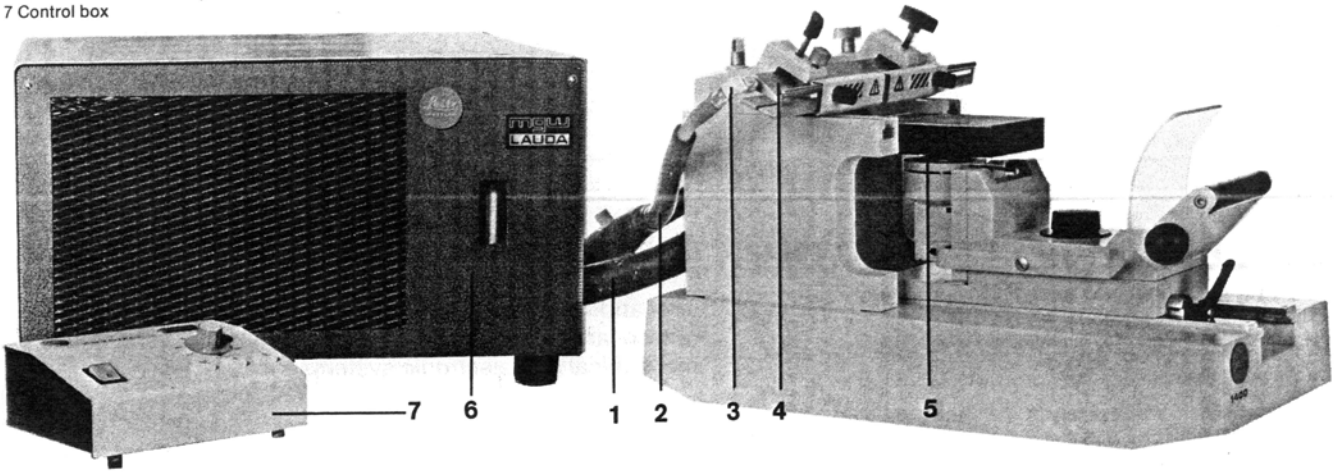
After cleaning, the guide rails must be well oiled using the special oil No. 601 available from us:

50 ml	Order No. 530 200
500 ml	Order No. 530 498

The specimen holder guide rails (3.2 or 5.2) should be cleaned as follows:
Move the specimen holder to its uppermost position using lever (1.1), then clean the rails with xylene or petroleum spirit. No. 41 grease should then be applied.

When not in use, the microtome should be protected from dust etc. by means of the cover.

Fig.9 LEITZ 1400 with KRYOMAT
1 Freezing stage connecting tube
2 Knife connecting tube
3 Nozzle
4 Flow-cooling knife
5 90 x 130 mm freezing stage
6 KRYOMAT automatic cryostat
7 Control box



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