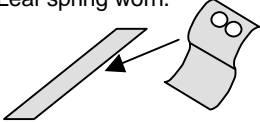
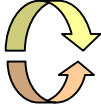
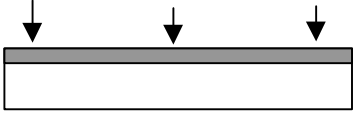


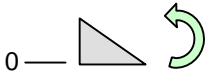
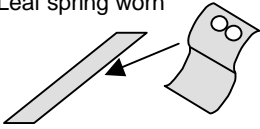


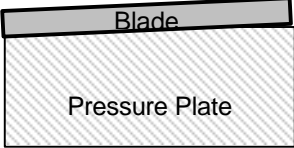
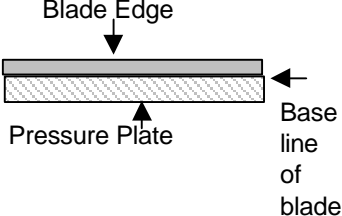
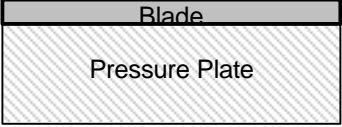
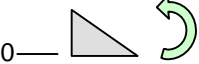
## RM 2125 Troubleshooting Guide

### *Problems, possible causes and corrective action*

<b>Problem</b>	<b>Cause</b>	<b>Corrective Action</b>
<p><b>1) Thick and Thin Sections.</b></p> <p><b>a) Partial Sections</b></p> <p><b>b) Shorter Sections in ribbon</b></p> <p><b>c) Section thickness varies from one section to another</b></p> <p><b>d) Skipping sections</b></p> <p><b>e) Varied thickness in one individual section</b></p>	<p>I) The clearance angle is too small.</p> <p>II) Insufficient clamping of specimen.  -- <b>Orientation head</b>  -- <b>Cassette clamp</b></p>	<p>a) Systematically try several clearance angle adjustments until the optimum angle is found.</p> <p>b) Check if all levers are locked and screws are tightened on the specimen. Retighten the levers and screws, if necessary.</p> <p>c) If the clamp lever can be tightened at more than a 60 degree turn, adjustment is needed.</p> <p>d) Open up a service call for the adjustment of the specimen head clamp lever.</p> <p>e) Check 4 screws that hold orientation head to the advance arm.</p> <p>f) On the cassette clamp, check the 4 screws that hold cassette clamp to the orientation head.</p>

<b>Problem</b>	<b>Cause</b>	<b>Corrective Action</b>
<p>2) <b>Compressed sections. The sections are extremely compressed, wrinkled or jammed together.</b></p> <p>a) <b>Compressed</b>  b) <b>Wrinkled</b>  c) <b>Jammed</b></p>	<p>III) Locking levers are not well lubricated or cleaned, causing them not to be completely fastened or stuck in a non-locked position.</p> <p>IV) Leaf spring worn.</p>  <p>V) Dull knife/blade.</p> <p>VI) Rotation in specimen advance system.</p>  <p>I) Dull knife/blade.</p>	<p>g) Check for movement of cassette while in holder. If movement exists, it may be caused by:  -- <b>Weak/Broken Springs</b>  -- <b>Wax buildup</b>  -- <b>Lack of grease</b>  A service call is recommended to replace springs, and properly grease. If it is wax build up, do clean with a sparing amount of Xylene or chemicals to remove paraffin.</p> <p>h) Remove all locking levers, clean off all paraffin and debris, then apply a sparing amount of the provided Leica lubricant.  <b>Lubricate only with grease recommended by the manufacturer.</b></p> <p>i) Replace leaf spring.  <b>Call your nearest Leica Microsystems dealer for order information.</b></p> <p>j) If the leaf spring does not solve the problem, then replace the locking lever. A Service call is required for this.</p> <p>k) Use a different part of the cutting edge or use a new knife/blade.</p>  <p>l) Try to rotate the object head clockwise and counter clockwise. If there is play in the system, open up a service call for the internal adjustments of the specimen advance system.</p> <p>a) Use a different part of the cutting edge or use a new knife/blade.</p>

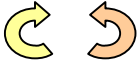
<b>Problem</b>	<b>Cause</b>	<b>Corrective Action</b>
	II) Excess of oil on blade	b) Remove oil with paper towel or Q-tip. Be aware of sharp blade edge.
	III) Blade/knife is gummed up with paraffin	c) Clean knife with a swab moistened with Xylene. Stroke the swap in an upward motion away from the blade edge, not down on the blade edge.
	IV) Specimen too warm.	d) Pre-cool the specimen on a cold plate. e) Cool the specimen in iced water or with an ice-cube. f) Use freeze spray or ice cube immediately before sectioning.
	V) Clearance angle too big. 	g) Clearance angle adjustment; systematically decrease the clearance angle until the optimum adjustment is obtained. h) Check leaf spring screw for washers and tightness.
	VI) Leaf spring worn 	i) Replace leaf spring. Call your nearest Leica Microsystems dealer for order information. j) If the new leaf spring does not solve the problem, then replace the locking lever. A Service call is required for this. k) Check angle of pressure plate facet to see if correct. Refer to User Manual.

<b>Problem</b>	<b>Cause</b>	<b>Corrective Action</b>
<p>3) Chatter</p> <p>a) Venetian Blind effect</p> <p>b) Washboard</p> <p>c) Undulations</p>	<p>VI) Paraffin buildup on the back of the pressure plate.</p>	<p>k) Clean knife with a swab moistened with Xylene. Stroke the swab in an upward motion away from the blade edge, not down on the blade edge.</p>
	<p>VII) Knife blade not parallel with pressure plate.</p>  	<p>l) Adjust Pressure Plate with set screws at bottom of knife holder (turn counter clockwise or clockwise) until blade is parallel with the top of the pressure plate.</p>  <p>m) When the blade is parallel with the pressure plate, the base line of the blade should line up with the top of the pressure plate after being clamped.</p>
	<p>VIII) Sectioning speed too high.</p> <p>I) Sectioning speed too high.</p> <p>II) Clearance angle too big.</p> 	<p>n) Rotate the hand wheel at a slower speed.</p> <p><b>*NOTE)</b> If hand wheel is too loose and slowing sectioning speed is not possible, open service call for replacement of tensioning washers and make proper adjustments to hand wheel torques.</p> <p>a) Rotate the hand wheel at a slower speed.</p> <p>b) Clearance angle adjustment; systematically decrease the clearance angle until the optimum adjustment is obtained.</p>

<b>Problem</b>	<b>Possible Cause</b>	<b>Corrective Action</b>
<b>4) Scratches or splits in sections</b>	III) Damage to pressure plate exists: -- <b>Bent</b> -- <b>Nicked</b>	c) Replace pressure plate. Call your nearest Leica Microsystems dealer for order information.
	IV) Insufficient clamping of specimen and/or knife.	d) Check if all levers are locked and screws are tightened on the specimen knife holder systems. Retighten the levers and screws if necessary.
	V) Incompatible blades. Blade is possibly too thin causing flex if the specimen is too hard.	e) Try using different brand and grade blades.
	VI) High-profile knife may be too thick.	f) Try using a different brand of blades.
	VII) Wax build-up on the back of the front pressure plate.	g) Clean back of pressure plate.
	VIII) Application	h) -- <b>Infiltration</b> -- <b>Dehydration</b> -- <b>Decalcification</b> -- <b>Paraffin is too old</b> -- <b>Paraffin Impurities</b>
	IX) Tabletop stability.	i) Move the microtome or table to a more stable location, or replace table if table is flimsy
	X) Vibration in specimen advance system.	j) Check if orientation has been changed or disassembled incorrectly. Re-install all parts if necessary.
	I) Knife: -- <b>Defect in knife edge</b> -- <b>Hard specimen in block</b> -- <b>Paraffin on front or back of knife edge</b>	a) Move to a new area of the knife and observe if scratches move with it. If so, replace knife or have knife sharpened.  b) Notify supervisor about hard specimen in block and how to proceed from there.

<b>Problem</b>	<b>Possible Cause</b>	<b>Corrective Action</b>
	<p>II) Blades:</p> <ul style="list-style-type: none"> <li>-- Defect in knife edge</li> <li>-- Hard specimen in block</li> <li>-- Paraffin on front or back of knife edge</li> <li>-- Coating deterioration on blade edge</li> </ul>	<p>c) Clean knife with a swab moistened with Xylene. Stroke the swab in an upward motion away from the blade edge, not down on the blade edge.</p> <p>d) Try to move blade or replace.</p> <p><b>TIP) Use a wooden stick and run it across the blade once and check again.</b></p> <p>e) Clean pressure plate with a swab moistened in Xylene.</p> <p>a) Move to a new area of the knife and observe if scratches move with it. If so, replace knife or have knife sharpened.</p> <p>b) Notify supervisor about hard specimen in block and how to proceed from there.</p> <p>c) Clean knife with a swab moistened with Xylene. Stroke the swab in an upward motion away from the blade edge, not down on the blade edge.</p> <p>d) Try to move blade or replace.</p> <p>e) Remove paraffin from front or back of the pressure plate.</p> <p>f) Clean pressure plate with a swab moistened in Xylene.</p>

**Instrument errors, possible causes and corrective action**

<b>Problem</b>	<b>Possible Cause</b>	<b>Corrective Action</b>
<b>4) No specimen advance and consequently no section produced.</b>	I) Specimen reached the front feed limit.	a) Turn the coarse feed wheel in the appropriate direction to move the specimen towards the rear limit.  
	II) User may accidentally be holding coarse feed wheel while sectioning.	
	III) The coarse feed wheel cannot rotate freely.	b) Remove any obstruction.
	IV) Internal mechanism (gear) may be defective.	c) Open service call for replacement of course advance mechanism.
<b>5) Drifting of hand wheel.</b>	I) Hand wheel is not balanced properly. Handwheel should remain at 12 o'clock when positioned at that location. No drifting should occur.	a) Adjustment of hand wheel position and/or collar sleeve position. Service call is needed.
<b>6) Specimen is picked up in the return stroke of the specimen arm.</b>	I) Static electricity charge may be built up on the knife holder or specimen head.	a) Adjust temperature or humidity level in the room.
		b) Use an ionizer to neutralize the static charge.
		c) Clean components of the microtome with alcohol.
<b>7) Sections sticking to pressure plate.</b>	I) Too much paraffin.	a) Clean knife with a swab moistened with Xylene. Stroke the swap in an upward motion away from the blade edge, not down on the blade edge.
	II) Dirty pressure plate.	b) Clean plate with a swab moistened with Xylene.

<b>Problem</b>	<b>Possible Cause</b>	<b>Corrective Action</b>
<b>8) Unable to retract specimen</b> <b>NOTE) This is only on the RM 2125 RT model.</b>	III) Static	c) <b>Spray static solution</b> <b>Increase humidity</b> <b>Ground the instrument</b>
	IV) Too much Xylene on pressure plate. I) Retraction mechanism on specimen advance system is defective.	d) Remove Xylene with alcohol. a) Open a service call.
<b>9) Microtome makes "clunking noise" when sectioning.</b>	I) Linear bearings in cage are at their lower limits.	a) Linear bearings need to be cleaned and possibly re-greased.
	II) Alignment of cage is incorrect.	b) Open a service call.

