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Beaumont Laboratory
Anatomic Pathology-Royal Oak

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Related Documents:

MAR-MED BAND BONE SAW MAINTENANCE and OPERATION

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Purpose

The purpose of this procedure is to provide a document that demonstrates the operation and maintenance of the Mar-Med Band Saw.

Principle

The Mar-Med Band Saw is an easy way of cutting bone in the laboratory. The saw has a water cooled-blade that eliminates bone dust. Pieces of bone, up to Three inches thick and of any length, can be cut quickly.

Equipment

- Saw Blade with Super Fine Teeth - #85
- Screen for Catching Bone Pieces - #20
- Upper Blade Guide Holder - #80-30
- Latex Band Lower Pulley Wheel - #80-10
- Latex Band Upper Pulley Wheel - #80-15
- Lower Pulley Wheel - #80-110
- Upper Pulley Wheel - #80-115

Forms

Safety

- **Wear PPE, Eye protection, fluid resistant gown, gloves**
- **Do not run blade dry, always put adequate water in the chassis**
- **Keep fingers clear of moving parts**
- **Lift off motor when cleaning**
- **Keep water level near the top of the sponge in the water tray (sponge is for use of diamond blade only)**

Procedure

MAR-MED BAND BONE SAW MAINTENANCE and OPERATION

Step	Action	Note
	SAFETY CHECKLIST BEFORE OPERATION & OPERATION	
1	Examine both upper and lower pulley wheels for signs of wear	**Make sure that the back rims are not loose and that there are no chips in the back rims of either wheel.**
2	Check the Latex bands on the upper and lower pulley wheels	**If brittle, replace. See replacement instructions below.**
3	Verify tension on the blade is strong enough so that the blade will not slip from the pulley wheels.	**Adjust the tension screw 1/32" at a time if needed (see instructions below). Proper blade tension will increase cutting performance and reduce blade wear extending the life of your blades and your guides.**
4	Check the white blade inserts (upper and lower) for wear. Make sure the blade is riding cradled in the groove of the insert. Groove should not be too wide or too deep. A deep groove will cause premature wear on other parts.	**If using a Diamond blade, you must use wet sponges in ridges, both upper and lower, found in the inside of the guard and under the lower pulley wheel. DO NOT USE SPONGES IF USING A SERRATED BLADE (with teeth)**
5	Add water to the chassis	**No higher than the bottom sponge or above lower pulley wheel if using blade with teeth. As the sponge wears the amount of cooling water delivered to your bone is reduced. If bone appears dry, change the sponge. Sponge should be ½" thick.**
6	**WARNING**	**Be certain that there is no soft tissue on the bone to be cut. Soft tissue will snag on both the diamond blades as well as the blades with teeth. This may cause the user to lose control of the bone.**
7	Inspect power cord for damage	**Be certain is away from cutting blade before turning on machine**
8	Plug in electrical cord	
9	Power on saw	
	BLADE INSTALLATION	
1	Uncoil the blade (gently).	**Do not bend or kink the blade**
2	Place blade under lower wheel with diamond side towards the front of the saw.	

MAR-MED BAND BONE SAW MAINTENANCE and OPERATION

Step	Action	Note
3	Place blade at 9 O'clock position on upper wheel and rotate upper wheel by hand clockwise to wrap the blade over the upper wheel.	**Blade should pass through slot in guide.**
4	Turn upper wheel by hand until the blade walks to the back of the upper wheel.	**Blade should rest adjacent to ridge of Upper Pulley Wheel**
	LOWER GUIDE INSTALLATION	
1	Reinsert the guide holder into slot on inside wall of chassis. Push firmly into place so that top of guide holder is flush with tip of chassis.	**Saw is shipped with the guide holder in place.**
2	Slide one guide into slot on guide holder	**Slot on guide must face out. Blade fits in slot of guide**
	UPPER GUIDE INSTALLATION	
1	Install a guide into the upper blade guide holder in the same way as you installed the guide into the lower guide holder	
2	Install the upper blade guide holder onto your band saw by inserting it over the rear right-hand corner of the motor cradle and secure with screw and wing nut	**The upper blade guide holder may be removed or reinstalled at any time.**
	PLATFORM & COVER INSTALLATION	
1	Install platform with the texture side up	**When installed, the platform surface will be flush with the top of the chassis**
2	Install the platform by sliding it into place	**Be very careful not to nick or bend the blade while installing the platform.**
3	Reinstall the cover by sliding it down the front of the top assembly until it sits flush.	
	REPLACING LOWER PULLEY WHEEL	
1	Remove steel locking collar using Allen Wrench to loosen set screw	**If collar is stuck on shaft, use pliers to grab collar and break it free**
2	Pull the lower wheel and all the washers and O-rings off of the shaft	**When removing wheel from shaft be careful to apply equal pressure to both sides of the wheel.**
3	Slide off back pulley wheel from motor shaft and remove completely	**If pulley is difficult to slide off, try placing a screw driver or ruler between back of wheel and gray housing and gently pry upwards. If this does not work, remove upper motor assembly of saw. Place motor assembly over a counter so that pulley wheel is parallel to counter.**

		Place fingers behind wheel and gently tap on motor shaft to loosen pulley from shaft.
4	Push new O-rings into the recesses in each bushing of lower pulley wheel.	
5	• Grease the shaft • Slide on lower wheel (making sure that the front O-ring stays in the brushing recess) • Replace Collar	
6	Push the above group of parts tightly against the lower shaft assemble. Tighten the collar	
	REPLACING UPPER PULLEY WHEEL	
1	Remove steel locking collar using Allen Wrench to loosen set screw	**If collar is stuck on shaft, use pliers to grab collar and break free**
2	Slide off black pulley wheel from motor shaft	**If pulley is difficult to slide off, try placing a screw driver or ruler between back of wheel and gray housing and gently pry upwards. If this does not work, remove upper motor assembly of saw. Place motor assembly over a counter so that pulley wheel is parallel to counter. Place fingers behind wheel and gently tap on motor shaft to loosen pulley from shaft.**
3	Grease motor shaft, then slide on wheel, and replace. Tighten collar with Allen Wrench	
	BAND REPLACEMENT INSTRUCTIONS	
1	Loosen the set screw located in the collar in front of each wheel using a 1/8" Allen Wrench	
2	Remove collar	**May need to grab the lower collar with a pair of channel locks and rotate the collar in the same direction as the wheel turns. When removing the wheels from the shafts be careful to apply equal pressure to both slides of the wheel**
3	Remove band if necessary by cutting it then discard. • Smaller band fits the upper wheel (5 ½" flat folded in half) • Larger band (7") fits the lower wheel. • Hold the band in place smooth side up, at a 12 O'clock position with your left thumb.	**Pre-stretch bands by hand before placing them on wheels. Soaking in hot water first is helpful.**

MAR-MED BAND BONE SAW MAINTENANCE and OPERATION

	• Slide a thin screw driver between the band and the wheel itself. • Rotate the screw driver in a clockwise fashion all the way around (2 times) placing the band evenly against the back rim of the wheel. There should not be spaces between the band and the rear rim.	
4	Reverse the above procedure and place the wheels on the shafts. • Check the lower axle for corrosion. Clean the axle with a fine steel wool if necessary. The axle should be fairly smooth. If the corrosion is severe your axle should be replaced • Grease the lower shaft with light grease before placing the wheel on the shaft*	*** Periodically greasing the lower shaft is good maintenance, as it will help keep water from corroding the lower shaft.** **THE UPPER SHAFT DOES NOT NEED GREASE**
5	Snug the collar against the wheel and tighten the set screw in the collar	
	CLEANING CHECKLIST – after each use	
1	Unplug Band Saw	
2	Slide up and off top pulley cover	
3	Remove cutting Platform	
4	Push down on back pulley housing	
5	Remove saw blade	
6	Lift out motor assembly from chassis	
7	Empty water from chassis	
8	Wash with warm soapy water and rinse parts	
9	Reassemble all parts	
	ROUTINE MAINTENANCE – to be done quarterly	
1	Disassemble entire unit • Slide up and off top pulley cover • Remove cutting platform • Push down on back pulley housing • Remove saw blade • Lift motor assembly from chassis • Remove upper and lower collars from pulley wheels with Allen Wrench	
2	Clean all plastic parts with warm soapy water and dry completely	
3	Replace any worn or broken parts	
4	Examine both upper and lower pulley wheels for signs of wear • Make sure back rims are not loose and there are no chips in the back rims of either wheel (replace if needed) • Check the latex bands on both upper and lower pulley wheels (if brittle replace) • Check white upper and lower blade inserts for wear (replace if needed)	

	• Check upper and lower guide holders for wear (replace if needed) • Check lower axle for corrosion. Clean with fine steel wool if necessary. Axle should be smooth. • Lubricate upper and lower shafts, slides on motor assembly	

Results

Safe functioning Band Saw

Authorized Reviewers

Director, Anatomic Pathology
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MAINTENANCE
TISSUE-TEK EMBEDDING CENTER

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