**Purpose**

To establish an operation procedure for the Exakt 312 band saw including diagrams, risk assessments, usage, maintenance, cleaning, and other fundamental knowledge for safe and reliable use for cutting bone specimens.

**Special Safety Precautions**

1. Always wear proper PPE including nitrile gloves, face shield or safety glasses, and gown.
2. Wear tight fitting clothing and protect long hair to reduce the risk of entanglement in rotating band.
3. Cuts may be caused on contact with the moving cutting band. Make sure you are standing firmly and the working area is clear.
4. Keep the floor around the saw dry and clear of debris. Wear non-slip shoes to reduce the risk of slipping.
5. The doors covering the band have very powerful magnets. Do not grasp the edge of the door as this may cause crushing injuries. Individuals with pacemakers must keep away from the magnetic fields. Keep all data carriers or other electronic equipment away from the magnets as this may cause damage.
6. The usage of accessories and spare parts that not been recommended by Exakt can impair the safety and function of the saw. Any warranty and/liability on the part of Exakt for damage caused by accessories and or spare parts that have not been recommended is excluded. Use only accessories or genuine parts from Exakt.
7. Reduce the risk of shock: never place the saw in operation if the mains cable is damaged, protect the mains cable from heat, caustic materials and sharp edges, keep mains away from water, use a splash proof mains socket. Always have the mains cable replaced by a service engineer
8. The emergency stop push button is located at the top, above the blade speed knob and is used to stop the cutting band motor within approximately 4 seconds in case of danger. To start the saw after the emergency stop button has been depressed, rectify malfunction, pull out emergency stop button, press acknowledge button and start button. (see photo below)



**Procedure**

**\*Use proper PPE including safety glasses, gloves, gown and mask (if necessary) before using saw. Make sure no loose clothing or long hair is exposed as this will decrease the risk of entanglement. See special safety precautions before use.**

1. Turn on main power supply switch by rotating clockwise until clicks (circular switch on back left of unit).
2. Press motor acknowledge button (blue button directly above main power supply). You will hear a click noise once the motor is engaged.
3. Turn on main water supply (right green lever on wall to left of band saw) by rotating counterclockwise from vertical to horizontal.
4. Turn on upper water supply/cooling water control (top red lever on front lower left of saw) to cool and lubricate saw blade. There should be just enough water flowing down the blade to create a stream.
5. Turn on the lower water supply/flush water control (bottom red lever on front lower left of saw) to wash any debris off blade before next revolution.

Note: It is recommended to fully open the flush water control and to adjust the flow rate at the water supply valve. This method will prevent excess water pressure in the system. Then control as necessary at the flush water control.

1. Adjust the clamping bolt knob for the top cutting band guide until the specimen just fits under blade bracket.
2. Adjust rip fence to desired cut (if desired use).
3. Turn on green start button located on top right of unit.
4. Adjust cutting band speed to desired RPM’s (located directly above start button).
5. Clean blade by making 1-2 cuts into the whetstone (located on band saw cart)
6. If necessary, turn on laser guide to help cut straight lines.
7. Push specimen at the slowest speed possible to ensure a clean and accurate cut. Let the blade do the work for you.
8. Once cutting is complete, push red stop button to disengage motor.
9. Turn off main power supply switch by rotating counter clockwise until clicks (circular switch on back left of unit).
10. Clean all contaminated surfaces with alcohol based cleaning agents and/or instrument disinfecting agents (if cutting fresh tissue) and rinse all fluid and debris with hand hose. See Maintenance section below. NOTE: Do not use chlorine or acetone based solutions to clean saw.
11. Turn off main water supply (right green lever on wall to left of band saw) by rotating clockwise from horizontal to vertical.
12. Turn off both upper and lower water supplies.

**Note:** The operating manual and SOP are located in binder on cart near the band saw. The SOP can also be found in the grossing manual.

**Cleaning**

1. Make sure the main power to the saw is in the off position before cleaning.
2. General cleaning/rinsing is to be performed after every use to prevent carry over and contamination. Clean all soiled surfaces using alcohol based cleaning agents and instrument disinfecting agents after cutting fresh tissue. **Do not use chlorine or acetone based cleaners** as this will ruin the metal surfaces.
3. Thorough cleaning is to be done on a monthly basis along with general maintenance (see below). Clean all soiled surfaces using alcohol based cleaning agents, and instrument disinfecting agents. Open both top and bottom doors, and remove the white work tray. Clean, disinfect and rinse all debris away down the drain. Shut both doors and replace work tray.

**Maintenance and QC**

**\*The QC log is located in binder on cart near the band saw and must be filled out after every use.**

1. **After each use:** rinse, wipe down, and clean the saw (including the work plate and work table tray).
2. **Monthly Maintenance:** Clean entire saw (including work plate and work table tray, cutting band, pulley top/bottom, housing, and cutting band guide). Check cooling water system and flush water system.Inspect blade, belts, pulleys and mains cable plug.
3. **Six month maintenance:** Inspect and replace cooling water hose (located behind top door) if needed. Check that saw is level and inspect mains cable plug.
4. **Annual maintenance:** Change blade if necessary. Replace yellow belts (top and bottom). Biomed/clinical engineering should check electrical system and safety circuit.

**Flowcharts**

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**References**

* Exakt Operating Instructions, Diamond Pathology Saw, Exakt 312, Edition 10\_2010-38891EN-900-AB.
* Exakt Operation Instructions, Diamond Pathology Saw, Exakt 312, Edition 01\_2019-38891EN-900-AH.

##### Attachments

##### QC Maintenance Form RA.SP.FR.03r00

**Authorized Reviewers**

Director, Anatomic Pathology

Chief, Surgical Pathology

##### Document Control

##### Location of Master: Master electronic file stored on the Beaumont Laboratory server under

* S:\ClinPathChem\Anatomic Pathology\Royal Oak\Surgical Pathology\Document Control\Master Documents\Forms
* S:\AP\_Grossing\_Manual

##### Master printed document stored in the section Supervisor’s office.

**Number of Controlled Copies posted for educational purposes: 0**

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##### Document History

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| --- | --- | --- | --- | --- |
| Signature | Date | **Revision #** |  | **Related Documents****Reviewed/****Updated** |
| Prepared by: *Jennifer Davis, PA (ASCP)CM* | 1/22/2020 | **r00** |  |  |
| Approved by: *Mitual B. Amin, MD.* | 1/22/2020 | **r00** |  |  |
|  |  |  |  |  |
| **Reviewed by: (Signature)** | **Date** | **Revision #** | **Modification** | **Related Documents****Reviewed/****Updated** |
| *Kurt Bernacki, MD.* | 1/22/2020 | **r00** |  |  |
| Revised by: *Heather Genson, HTL(ASCP)CMPACM* | 10/13/2022 | **r01** | Updated the maintenance and QC |  |
| Approved by: *Kurt Bernacki, MD.* | 10/17/2022 | **r01** |  |  |
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