

 DALHOUSIE UNIVERSITY <i>Inspiring Minds</i> Safe Work Instructions for Electrically Powered Hack Saw (Mitercut Model 220M)	<i>Policy Sponsor</i> : Assistant Vice President Facilities Management	<i>Approval Date:</i> October 2015
	<i>Responsible Unit:</i> Trade Services	<i>Revisions:</i> January 2018

Known Hazards

- Slipping or tripping
- Loose clothing getting caught in moving parts
- Long hair or jewellery getting caught in moving parts
- Noise
- Risk of eye injury
- Falling objects
- Failure to support heavy stock
- Being cut on blade
- Saw Head
- Metal splinters, sharp edges and burrs

Job Specific Training Requirements

- Proper operation of equipment
- Standard shop safety practices

Applicable Regulations / Standards / Procedures

Personal Protective Equipment Requirements

- Safety footwear
- Safety glasses and/or face shield
- Hearing protection
- Close fitting protective clothing
- Safety / work gloves

Safe Job Procedures

Job steps are listed in the order in which they must be completed. Key activities follow each step. Key steps and the associated activities must be followed in the order presented to achieve maximum efficiency in safety, production, quality and overall loss prevention.

NOTE: This powerful metal cutting saw can be dangerous if not used properly. Ensure that you understand all of the instructions in the owner’s manual and that you have been properly trained before operating this equipment.

NOTE: These procedures consist of information from the Owner’s Manual as well as additional sources. Refer to the Owner’s Manual for additional information.

Pre-Use Procedures

- Only fully trained and qualified employees are to operate this equipment.
- Ensure there no slip or trip hazards exist in the work area.
- Check coolant tank and delivery system to ensure there will be sufficient flow of coolant.
- Ensure the cutting table is free of filings or other debris.
- Check to ensure the base is securely anchored to the floor.
- Check the blade for damage or wear to teeth.
- Ensure the blade is square to the bed and the stationary vise by using a machinist square. Realign if necessary.
- Check the power cord and three prong plug and if okay plug into a properly fused outlet.
- Check that all safety devices are in place.
- If the equipment is found to be faulty in any way it must not be used. Report equipment problems to your supervisor immediately. Tag equipment with a DO NOT USE tag until repairs have been completed.

Blade Selection, Installation and Break In

- Use premium quality saw blades to achieve the best cutting results.
- Only use the following blade size; 19 mm x 3048 mm (3/4 inch x 10 ft.(120 inches)).
- Install and tension blades by following the directions provided in the manual.
- The blade is always to be tensioned to 25,000 psi.
- Always follow proper procedure for uncoiling blades. If in doubt contact the blade supplier for instructions.
- Break in the blade by following the Blade Break In procedures found in the Owner's Manual.
- Follow the directions in the Owner's Manual to properly adjust blade speed to match the blade material type.

Operational Procedures

- Turn the FED SPEED CONTROL VALVE clock wise to the Off position.
- Lift saw head high enough to clear the material to be cut.

- Place the material on the saw.
- Ensure that the blade is tensioned correctly. (See Section 9.2 of the Owner's Manual.)
- To maximize blade life use a blade that has at least three teeth in contact with the material at all times.
- Advance the material to the desired length past the cutting blade.
- Clamp material firmly making sure that material is level and square with the machine.
- Support the material if it overhangs the cutting table by any great amount.
- Alert other employees to the potential hazard created by the overhanging end(s) of the material with a warning sign or tap.
- Ensure that no one stands in front of the saw when it is started.
- Start the saw by depressing the START button.
- Lower the saw head by slowly opening the FED SPEED CONTROL VALVE until the desired rate is achieved.
- Ensure the coolant hose is directed onto the blade before starting cut.
- Keep clear of all moving machines parts.
- When the machine has finished cutting the blade will stop and the coolant pump will turn off.
- Turn Off equipment if finished.
- Turn Off equipment if you are going to clean the cutting table.
- Repeat the above steps to cut the required number of pieces.
- Remove accumulated swarf and filings from cutting table before cutting each new piece.
- NEVER leave the saw running when it is unattended.
- Always turn the saw OFF when finished cutting.

Clamping Material In Vise

- Open vise wide enough to accommodate the material to be cut.
- Place material in vise and set at desired length.
- Adjust vise moving and engage vise push bar into vise rack.
- Turn vise tightening handle until material is firmly clamped.

Miter Cutting Procedures

- Turn OFF Feed Shut-Off Valve.
- Make sure the saw is OFF.
- Lift saw head up to clear the blade from the bed and material.
- Loosen miter lock handle to free the saw head.

- Swing the saw head to the desired angle (From 0 degrees to 45 degrees) indicated on the miter angle scale.
- Tighten miter lock handle at required angle to lock the saw head.
- Check to ensure that everything is clear of the blade.
- You can now make your cut.

Vertical Cutting Procedures

- Turn saw OFF
- Ensure that the saw is in the 0 degree miter cutting position.
- Lock the pivot tightening screw.
- Turn the feed speed control valve to zero.
- Make the saw head upper limit stop is extended.
- Lift the saw head until the saw head strikes the upper limit stop.
- Move the saw head upper limit stop by loosening the stop locking screw.
- Position yourself on the right hand side of the saw (motor end) and lift the saw slowly to the vertical position.
- CAUTION: Take extra care as the saw passes the pivot point since you will have to hold the saw back instead of lifting the saw.
- Unlock the pivot tightening screw and swing the head to the 45 degree position.
- Retighten the pivot tightening screw.
- Move the vise until closed with stationary vise, open approximately $\frac{1}{4}$ inch.
- Remove payoff / vertical table from payoff use.

- Position blade into slot and lower leg into vise until stop plate on table rests on top of the stationary vise.
- Tighten vise.
- Position coolant hose and move guide arm to required position.
- Ensure everything is tight.
- Keep hands clear of saw blade.
- Turn the saw on and do a visually check to ensure everything is okay.
- You can now start your cut.

Horizontal Cutting Procedures

- Turn OFF Saw.
- Unclamp vise, remove cutting table and re-install in the payoff position.
- Loosen pivot locking screw and reposition saw in 0 degree miter position.
- Tighten pivot locking screw.
- Open feed speed control valve.
- Push saw head over until its center of gravity passes the pivot point.
- Reposition yourself to the slide end and slowly pull down saw head until the saw head is full down.
- Reposition saw head upper limit stop so that it is extended and can be locked in position.
- You can now use the saw for doing horizontal cuts.

Additional Information

- Raising the saw to the vertical cutting position and lowering it to the horizontal cutting position must be done as described in the Mitercut Model 220m manual.
- Follow manufacturer's instructions for miter, vertical and horizontal cutting.
- Cutting speeds must be adjusted as described in Section 11 of the owner's manual.
- Ensure that you clean the saw and the work area when your work is finished.