

SAWING –FLOOR SAWS JOB PROCEDURES

Installation

- Be sure to select the floor saw that will cut the appropriate material to the depth required. If necessary, check with the manufacturers. Also avoid sawing any deeper than the required specification and job conditions. This reduces blade wear and sawing costs.

Ensure that you have the correct diamond or abrasive reinforced blade to match the nature of the material that you will be cutting and to suit the required depth of cut. Use of the wrong blade can be dangerous. Further information on blades is contained in section 6.

It is essential that the proper pulley sizes are fitted to match the diameter of blade being used, as it can be dangerous to operate the machine at incorrect engine and shaft speeds. This is particularly important where the size of blade is being changed. The fitting of a larger or smaller blade will alter the peripheral speed, unless the correct fittings are used. Excessive blade speed could result in breakage and serious injury. A table of recommended blade speeds is shown in Appendix 8.7.

Incorrect shaft speed can also cause inefficient cutting. The blade guard should also be changed to suit the size of blade. Check with the operating instructions that you have the correct size of guard and pulley. Guards must be kept in place at all times.

It is essential that the speed marked on the blade is greater than the shaft speed of the machine.

A standard diamond blade is used for most conventional cutting, and is operated WET. An inadequate water supply can result in destruction of the blade with a consequential risk to anybody nearby. A constant supply of water of between 10-25 litres per minute must therefore flow over the blade during sawing. Where a water cutout switch is fitted, this must always be in a operational condition when using wet cut blades. Dry cutting diamond blades are also available, but they should only be used for applications designated by the manufacturers.

Reinforced abrasive blades are primarily designed for dry cutting although they may be capable of wet cutting. Abrasive blades are only to be used on materials specified by the manufacturers.

When fitting or replacing a blade, the engine must be stopped. Ensure that the blade is located on to the flange plate pin and that the blade is secured tightly. The machine must not be operated where a flange plate pin has been sheared off or removed. Other wise there is a risk of considerable premature blade wear involving risk of the operator and others. Where there is provision for fitting a blade on either side of the machine, the shaft on the unused side must have a cover.

Floor saws are generally diesel or gas engine driven. Therefore, care must be taken to ensure that exhaust fumes do not constitute a hazard. To overcome this problem electrically driven saws are available operated from either a 220 Volt or 440 supply, depending on the size. On the 220-volt models it may be necessary to use a transformer.

A floor saw must not be used in an area where there is combustible material because of the risk of sparks causing a fire or explosion.

The area around the wall saw must be closed off to prevent approaching bystanders. The area behind the wall must be checked to ensure that there is sufficient clearance area for the saw blade and that it will not interfere with any installations.

Water is used for cooling. Never run the unit without connecting an adequate water supply.

The manufacturer's instructions must be followed regarding the connection of hydraulic hoses between the drive unit and the saw head. Hoses should never be dragged over floors with sharp edges because of the risk of damage to the hose or coupling. Dirt should be removed from couplings prior to connection, as not to contaminate the oil. Hose connections should be checked to make sure that they are correct.

Prior to sawing, also check that the following are tightly fastened:

- (a) The screws securing the track frames.
- (b) The nut securing the blade.
- (c) The nuts holding the brackets to the wall of the floor.

And ensure that the blade guard is fitted. A machine should never be operated without guards, and the correct size of guard must be fitted to match the blade size. The special flush cutting guard should only be used for this particular application.

Operating Procedures

The first saw cut should be made to a cutting depth of ("5-8 cm") so that the blade has a guide and saws in a straight line. The second cut can then be to a greater depth depending on the quality of the concrete and the degree of reinforcement. When longitudinal reinforcement is encountered it should, as far as possible, be cut through in one movement. Start with the smallest size of blade and stop up the blade size gradually by regular increments, as suggested by the manufacturer.

As an opening is being cut, thin wedges must be used to restrain the slab. Alternatively the slab must be tied in to the surrounding wall. Great care should be used when removing the wedges or tilting a slab out of the opening. A ("15cm") thick slab will tilt out without touching the surrounding wall. Proper safe rigging and handling techniques must be used when removing slabs.

If a blade jams the manufacturer's instructions should be carefully followed to avoid damage to the hydraulic motor. Before removing a blade guard, ensure that the blade has stopped rotating. In particular avoid:

- (a) Jamming the blade when running at high speed.
- (b) Traversing the saw rapidly with the blade in the cut and jamming it at either end.
- (c) Cranking the blade in or out of the cut too fast.

Should a blade become wedged in the cut, do not attempt to unjam it using Manual travel or Depth-Of-Cut controls. Remove the blade from the saw and use other means.

Where an air motor powers the saw, remember that the motor is ungoverned and can over speed under no-load conditions. This can result in blade damage and injury.

It is essential that a track mounted saw is maintained properly. For example there has been an extremely serious accident following the jamming of a gearbox.

After use, all hoses should be disconnected carefully, avoiding dropping couplings.