


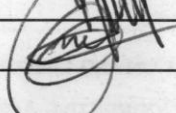
# THENJIWE SUPPLIES & REPAIRS

Reference Number	TSR/SOP/013
Implementation Date	03.12.2018
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## SAFE OPERATING PROCEDURE FOR THE USE OF PORTABLE ELECTRICAL EQUIPMENT



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### 1. PURPOSE

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To ensure a safe and correct procedure which will ensure that all persons working with high Risk Portable Electric / Pneumatic tools are trained and are aware of the Dangers involved while working with these tools.

### 2. SCOPE

This safe operating procedure is applicable to all personnel working with High Risk Tools.

### 3. RESPONSIBILITIES







#### Supervisor

All supervisors shall ensure that this procedure is implemented at all levels within the company where portable electrical equipment is in use.

#### Employees

All personnel trained to use Portable electrical equipment shall conform to this Safe Operating Procedure when making use of Portable electrical equipment.

### 4. PPE REQUIREMENTS

Gloves	
Hard hat	
Safety shoes(with boot spats where applicable)	
Safety goggles	
Dust mask (Depending on area)	
6.1 Ear Protection	

### 5. GENERAL

- a) A Dry Chemical powder Fire Extinguisher shall be readily available at all times.
- b) A Pre-use inspection list shall be completed prior to the equipment being used, and these findings shall be recorded.
- c) Ensure safe footing
- d) Relevant safety signs to be displayed before commencing with the work.

### 6. PROCEDURE

#### Special Requirements / Equipment

- a) All personnel prior to operating portable tools, shall undergo training on Safety aspects and be certified totally familiar with portable

- b) tools requirements.  
Only Personnel that are properly trained and who have been assessed as competent may conduct work with portable tools.

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- c) No assistant shall be allowed to work with Portable Tools.
- d) Only portable equipment with a "Dead Mans" switch shall be allowed – except hand held drilling machines.
- e) All Portable equipment shall be stored under safe and dry Conditions.

## 6.2 Risk Assessment

A Proper Risk Assessment must be completed prior to the use of portable equipment. The risk assessment must cover all aspects of the work to be conducted. It must not be limited only to the use of the portable equipment but shall cover the following aspects.

- Where the work is to be conducted
- Type and volume of material being cut / ground / drilled.
- Resources required to conduct the work
- Height at which the work is to be conducted.
- Work in the immediate vicinity that may effect the person or who he may effect.
- Flammable materials or gases in the vicinity
- Condition of tools
- Type of disk / drill to be used.

## 6.3 Use of Portable Electrical Tools

### 6.3.1 Large Angle Grinders (240mm)

Never use the large grinder above waste height.

Ensure that all the guards are in place.

Make sure of your footing, e.g. do not stand on Ladders when grinding

Do not grind near combustible material

The size of the Grinding disc must be compatible with the Disc Guard.

- a) The typical speed of this type of grinder is 6 500RPM, and with the diameter of the disc used, extreme care should be observed when holding the machine as extreme forces are exerted.
- b) The correct disc for grinding and cutting must be used. Never grind Copper or Aluminium with the disc and never grind using the side of a cutting disc, as this will thin out the disc and result in it shattering. It will be marked on the disc for what type of material it is to be used for. (Masonry or Steel)
- c) Before using a grinding disc or cutting disc on the grinder, check that the maximum permissible speed marked on the disc is equal to or greater than the no-load speed of the tool.
- d) Defective grinding discs or Cutting discs shall not be used on a Grinder.
- e) When using a depressed centre grinding disc, make sure that the Collars of Both Flanges show inward and when using a cutting disc that the Top Flange show outward to get a better clamp on the disc.
- f) When operating the grinder the guard supplied shall be fitted to the tool
- g) Use only the correct tools when changing the discs.
- h) When changing a disc, remove the plug from the socket outlet before changing the disc.
- i) Before using a grinder, test run it for at least 30 seconds at no load in a safe position. Stop immediately if there is considerable vibration or if other defects are detected. If this occurs, check the grinder to determine the cause.
- j) When working with depressed centre grinding disc, hold the tool at an angle of about 30° Degrees, so that the grinding disc is applied to the work at this angle and the disc will be worn from the outside.
- k) Do not use cutting discs for side grinding and do not expose them to side pressure.
- l) When working with a grinder, the auxiliary handle supplied shall always be used.
- m) Always hold the grinder with both hands when switching on the grinder and when working with it.

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- n) Ensure that sparks resulting from the use of the grinder do not hit other persons, or ignite flammable substances.
- o) Do not stand in line with the cutting line of the angle grinder. If the grinder slips, it can cause serious injury.
- p) Do not put the grinder down until the disc has come to a complete standstill.
- q) When switching the grinder off, do not push it against an object to slow the disc down.
- r) When placing a grinder down, place it on its rests with the spindle facing upward.
- s) Use Leather gloves when handling a hot work piece.
- t) Where possible, ensure area where grinding / cutting operations takes place is screened off and safe to grind / cut e.g. no oil or other materials present that may catch fire.
- u) Ensure item/s to be ground / cut are secured and positioned suitable for grinding, use a vice or clamps if possible.
- v) When starting a grinder hold grinder handle firmly, press start switch and start grinding / cutting, by applying light pressure on the disc. Do not force the grinder.
- w) On completion of grinding / cutting, switch off grinder, ensure disc stops turning before putting angle grinder down. Always leave grinder in safe position, ensuring cable or grinder does not obstruct walkways.
- x) Do not leave grinder in wet condition areas
- y) Return grinder to the store

#### 6.3.2 Small Angle Grinders (150mm)

- a) The speed of this Grinder is 12 000RPM, and the forces exerted are less than the larger grinder. However care should still be taken.
- b) The procedure for using this grinder shall be the same as in 4.1 above.
- c) Do not use this grinder for large jobs that are meant for the large grinder.

#### 6.3.3 Straight Grinders (Pencil)

- a) The speed of this grinder is 20 000 – 27 000 RPM, and therefore only tips manufactured for this type of grinder shall be used.
- b) Do not use wire brushes or wheel grinders made for drilling machines in this grinder.
- c) Secure small work pieces so that there is no possibility of them slipping, while being worked on.

#### 6.3.4 Drilling Machines

- a) For safety reasons, always use the supporting handle supplied.
- b) Do not use bigger / larger drill bits into the smaller drill chuck, by grinding down the drill bit shaft for this purpose. This would put excessive torsional forces onto the machine that will reduce its life.
- c) Fit the appropriate drill bit (wood, metal) and secure firmly in the drill chuck.
- d) Do not use the hammer action on metals as it is meant for concrete only.
- e) Use the correct drill speed recommended by the manufacturer of the drill bits.
- f) Before drilling into a wall, make sure that there are no electrical cables, water pipes or any other pipe that can be damaged.
- g) Always use safety goggles when working with a drilling machine.
- h) Do not use drill bits that are blunt.
- i) Keep a firm footing when using this machine and hold the machine firmly in your hands, preferably using both hands

#### 6.3.5 Jig Saw

- a) Always use safety goggles when working with a jigsaw.
- b) Fit the appropriate cutting blades (wood / metal) and secure firmly in the jigsaw.
- c) Secure the work piece firmly when cutting to prevent injury.

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- d) Only use blades recommended by the manufacturer.
- e) Keep a firm footing when using this tool and hold machine firmly in your hand.
- f) Do not try to cut round bar etc, that the machine is not designed for. This could lead to serious injury.

### 6.3.6 Portable Routers.

- a) This type of tool is only used for the shaping of wood.
- b) The speed of a router is 22 000 RPM, and therefore only tool bits manufactured for this type of tool must be used.
- c) Check that the router bits are secured in the chuck before use.
- d) Do not use router bits of which the tips are blunt or chipped.
- e) Do not use router bits down until the router bit has come to a complete standstill.
- f) Place router on its side when not in use
- g) Secure work piece so that there is no possibility of it slipping away while it is being worked on.
- h) Keep a firm footing when using this machine and hold the machine firmly in your hand, preferably using both hands.
- i) Always wear goggles when working with portable routers.

### 6.3.7 Hand Circular Saw

- a) The speed of a circular saw is 4 000 RPM, and therefore only blades manufactured for this type of tool must be used.
- b) Before using a circular saw, check that the maximum permissible speed marks on the blade is equal or greater than the no-load speed of the tool.
- c) Check that the direction indicated on the guard covering the blade.
- d) Check that the guard covering the blade moves freely, is spring loaded and that it will close over the blade automatically when the tool is not in use.
- e) Do not use blades of which the tips are blunt or chipped.
- f) Do not put the circular saw down until the blade has come to a complete standstill.
- g) Secure the work piece so that there is no possibility of it slipping away while it is worked on. Check that there are no nails or screws imbedded in the work piece before it is worked on.
- h) Keep a firm footing when using this machine and hold the machine firmly in your hand, preferably using both hands.
- i) Always wear safety goggles and hearing protection when working with a circular saw.

### 6.3.8 Pneumatic Tools (PT)

- a) Pneumatic tools are powered by compressed air and can be highly dangerous if misused or abused. Common types of PT's are grinders, drills, Jack Hammers, Chipping Hammers and Impact wrenches.
- b) The compressed air supplied to the PT's shall be clean and dry. Dust, moisture and corrosive fumes can damage PT's. In-line regulators, filters and lubricators can increase the life of a PT.
- c) PT's shall be kept clean and lubricated, and maintained according to the manufacturers instructions.
- d) Only attachments as recommended by the manufacturer shall be used.
- e) Proper hose fittings and air hoses of the correct diameter shall always be used when coupling up a PT.
- f) Hoses specifically designed to resist abrasion, cutting, crushing and failure from continuous flexing shall always be used.
- g) Air supply hoses shall have a minimum working pressure of at least 150% of the maximum pressure produced by the supply line
- h) Air hoses shall be inspected regularly for cuts, bulges and abrasions. Replace if necessary.
- i) Air lines shall be blown out before a PT is coupled.
- j) Hose connections must fit properly and must be equipped with positive mechanical means of securing the connection e.g. chain, wire or locking device. – as a safety precaution.

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- k) Install "Quick release" type of pressure-release, rather than a disengagement type. Attach the male end of the connector to the PT, not the hose.
- l) Never operate a PT at a pressure above the manufacturer's rating.
- m) Turn off the air pressure to the hose when it is not in use or when changing power tools
- n) Never carry a PT by its hose.
- o) Avoid creating trip hazards caused by hoses laid accross walkways.
- p) Never use compressed air to blow debris away or clean dirt from clothes.
- q) Regular inspections of all PT's must be done and the results recorded. It should be noted that after time, when wear takes place, the speed of the PT increases and this can be dangerous, especially as regards grinding and cutting disks, whose design RPM is then far exceeded.
- r) Any PT whose speed has been measured and found to be excessive must be immediately removed from service.

#### 7. REFERENCE

Occupational Health & Safety Act (85 of 1993) and regulations as amended

#### 8. SUPPORTING DOCUMENTS

Portable Electrical Equipment Checklist