The information contained in this SOP is general in nature. Refer to the relevant manufacturer’s manual for specific operating information. The YouTube videos are included as a compliment to the information presented.

**Introduction**

In the workplace you must realise that we are all responsible for the welfare, health and safety of others and of course our own safety.

This means that you need to avoid situations, and avoid creating situations which place yourself and others in danger or at risk of physical injury.

In practical workshops you can expect to be in
situations where danger exists or there is a possibility of persons getting injured. To achieve PERSONAL SAFETY while in a practical workshop, your full awareness of the safety requirements is required.

**Identified Risks and Hazards**

General hazards that may arise when working in workshops include:

- **moving and rotating parts** (blades and bits, tool disintegration)
- **movement of the workpiece**
- **inhalation** of fumes and dust particles
- **electrocution** from power faults, faulty equipment or incorrect use.
- **ejection of waste** materials from cutting bits
- **burns** from hot material or friction
- **hand and finger injuries** from rotating blades, spindles or pulleys
- **squat, pinch and crush injuries**
- **swarf being ejected** from machines
- **noise** from high speed cutters

**Safety Awareness**

Areas requiring your personal safety awareness include:
The wearing of suitable clothing and attire.
  eg proper footwear
• The necessity for suitable and safe behaviour.
• An organised and tidy work area.
• Protection from machine parts and hot objects. eg machine guarding
• Appropriate first aid supplies are available.
• Fire protection equipment is present.
• Adequate ventilation and lighting in the work area.
• Safe storage of equipment, tools and materials.

---

**Hazard Control**

All workplace hazards can be controlled to a certain degree using a variety of methods. The goal of controlling hazards is to prevent workers from being exposed to occupational hazards. Some methods of hazard control are more efficient than others, but a combination of methods usually provides a safer workplace than relying on only one method.

There are five general categories of control measures:

- **elimination** (removal or exclusion)
- **substitution** (replacement or
exchange)
- **engineering** controls (isolation or enclosure)
- **administrative** controls (organisation or management)
- **personal protective equipment** (least effective)

The following control measures should included as part of the Safe Operating Procedures at your workplace.

### Recommended Hazard Control Measures

<table>
<thead>
<tr>
<th>Instruction &amp; Training</th>
<th>Knowledge Testing</th>
<th>Supervisor Permission</th>
<th>Supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TRAINING IN PROGRESS</strong></td>
<td><strong>NOTICE</strong> ALL OPERATORS TO COMPLETE KNOWLEDGE TEST</td>
<td><strong>RESTRICTED AREA</strong> NO USE WITHOUT PERMISSION FROM SUPERVISOR</td>
<td><strong>MACHINE AREA</strong> DO NOT USE WITHOUT SUPERVISOR PRESENT</td>
</tr>
<tr>
<td>Safety Zones</td>
<td>Equipment Inspections</td>
<td>Electrical Testing &amp; Tagging</td>
<td>Periodic Maintenance</td>
</tr>
<tr>
<td><strong>WARNING</strong> OPERATOR ONLY INSIDE SAFETY ZONE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Personal Protective Equipment

#### Personal Protective Equipment Requirements

<table>
<thead>
<tr>
<th>Eye Protection</th>
<th>Breathing Protection</th>
<th>Hair Protection</th>
<th>Hearing Protection</th>
<th>Hand Protection</th>
<th>Foot Protection</th>
<th>Protective Clothing</th>
<th>Face Protection</th>
</tr>
</thead>
</table>

### Clothing Safety

Have a look at this - Hierarchy of controls...

Have a look at this - Personal Protective Equipment...

Have a look at this - Safe Operating Procedures...
Shoes with firm, solid uppers (thick leather or imitation leather or webbing) must be worn. Shoes made partly or wholly of thin material, sandals or thongs are not permitted.

Loose fitting pieces of apparel, long sleeves, ties and bangles etc. may get caught in a machine and hence, must be restrained or removed. The wearing of an apron, which when tied at the back will reduce this problem.

When operating a machine, PPE such as safety spectacles must be worn and long hair must be restrained if it is too long and assessed as creating a risk to the wearer.

When casting, forging or welding, leather gloves, spats and apron must be worn.

Metal watches and rings should be removed before using an Electric Arc Welder to avoid severe burns, and never keep flammable items near the welding work area.

Wear an appropriate respirator or dust mask and eye protection when spraying painting or machine sanding.
Safe Work Habits

Avoid boisterous behaviour; **never run**, always walk at a suitable pace.

Watch where you are going – avoid bumping into others.

Do not carry sharp tools or objects in your pockets.

Return equipment to its **proper storage** place as soon as convenient.

**Wash your hands** at the end of the lesson and after handling acids, plastic solutions and other dangerous liquids.

**Do not rub your eyes** with your hands. Some solutions, e.g. plastic catalysts can cause permanent eye damage on contact.

Know where rags or cotton waste are stored, so that you can wipe up any spillage of liquids as soon as possible.

When large items have to be moved i.e. timber or metal sheets, make sure that the way is clear, and use leather gloves if necessary.
Storage of jobs and material must be such that they are easily accessible and will not fall.

Vices, tools and jobs must not protrude further than necessary from the bench or machine.

Learn the positions and **types of fire extinguishes** in the room.

Inform the supervisor if you have an accident, feel ill, or suffer from any giddiness, poor eyesight or poor hearing.

Know where the **First Aid Station** is positioned in the workshop.

**Report any tool or machine fault**, which could cause an accident.

Do not leave hot objects in areas where they do not belong; i.e. on workbenches.

**Wear Personal Protective Equipment (PPE)** to protect your eyes such as safety spectacles, a cap to restrain long hair and dust masks to protect you from air borne contaminants and fumes.
Isolating and Lockout Switches

Electrically operated machines should be fitted with a flush green on or start switch and a red stop switch that has a raised mushroom shaped head for fast emergency contact.

As well as start and stop switches, all machines must have an isolating switch, which enables the main power supply to be switched off when the machine is being set up, adjusted or when maintenance is being carried out.

Safe Work Zones

The following Safe Work Zones for this machine are derived from a state government education authority guide.
Operating Procedures

Before using a machine **make sure you have had instruction and training** in the use of the machine.

Seek and **gain supervisor approval prior to using any machine** in the workshop.

Ensure **all other persons keep outside the machine safety zones** at all times.

Check the following clothing for safety hazards and take appropriate action:

- **Fasten any loose clothing** and tie apron cords or straps at the back
- **Remove any jacket or coat** and any school uniform tie
- **Roll up shirt sleeves** above the elbows or fasten them
securely at the wrists

- **Do not wear finger rings**, watches, bracelets or necklaces
- **Wear solid firm shoes** which provide adequate protection for the feet

The questions in the SOP knowledge test are general in nature. The manufacturer’s manual is to be used to develop specific questions relevant to this tool or machine.