THE SHED
KU-RING-GAI COMMUNITY WORKSHOP

Member Accreditation

Electrical Checking	G2

Electrical safety is the responsibility of every member. Awareness of the risks and care for electrical services is required of every member.

Of course, changes or repairs must always be undertaken by a licensed electrician.

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KU-RING-GAI COMMUNITY WORKSHOP

The Shed provides items such as welding masks and gloves.

Members are required to provide their own footwear, eyewear, hearing protection and masks.

Safety

This is a very high priority for our Shed members. There are some aspects that are mandatory under our insurance policies and some which the The Shed requires members to adhere to for everyone's benefit.

The Shed Safety Induction

It is a requirement of attendance at The Shed that members have reviewed the Safety Induction Presentation

Personal Protective Equipment

This is required in various forms depending upon the equipment being used or the activity being undertaken.

Protective eyewear is always mandatory when using machinery.

The Shed schedules a Coordinator and a First Aid Safety Officer for each day of attendance and their safety directions are final and must be adhered to.

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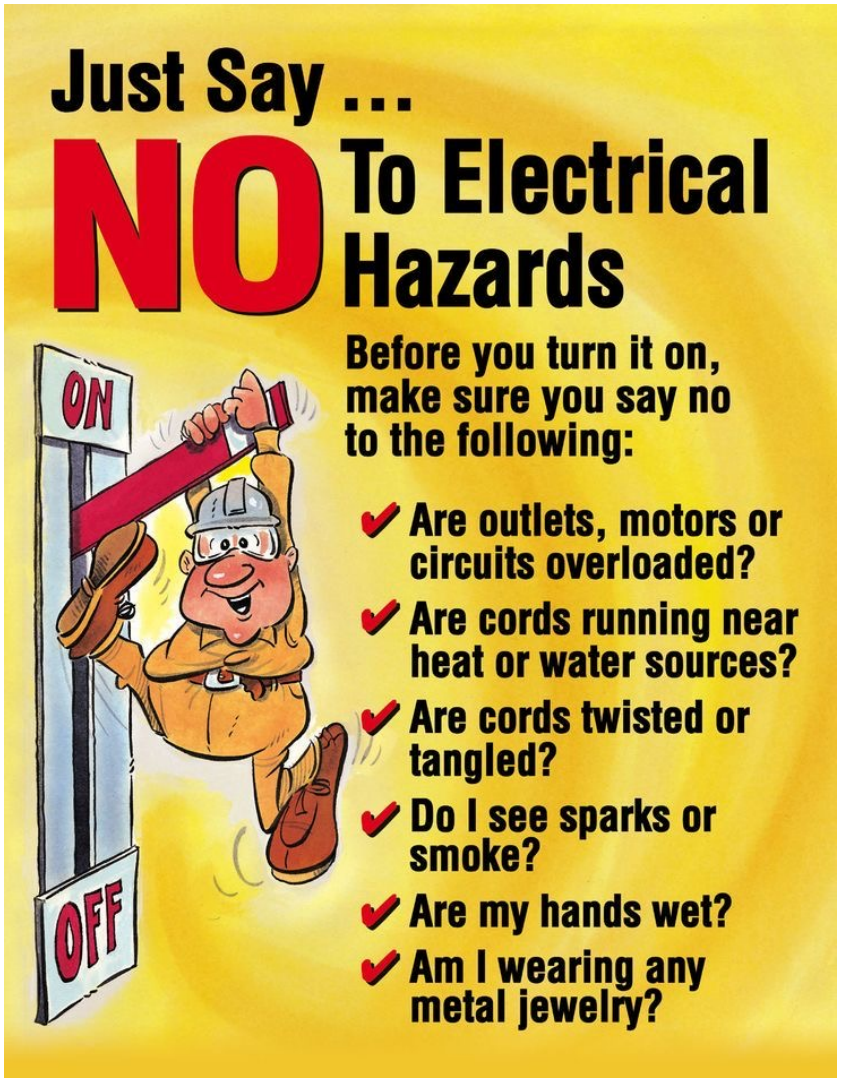

Key Features of the Shed Electrical installation.

About 20 people per year are killed in NSW by electrocution and generally about half of those are killed with a cord connected device. Thus it is essential to be extremely careful using mains powered devices.

With its concrete floors and metal walls, the Shed can readily provide an earth path if someone contacts a live part.

Any problems with electrical equipment (tingles, sparks, smoke, intermittent operation) should immediately be brought to the attention of a coordinator so any such problem can be resolved. The tool should not be used further until checked.

The Shed is supplied with three phase mains power. The electrical installations in the Shed are equipped with equipment complying with the current SAA Wiring Rules (AS/NZS 3000), which incorporates many safety provisions However, electricity is still dangerous and the installation should not be interfered with.

A large number of power outlets are installed in the Shed so that, in most cases, an extension cord is not needed. Try to avoid using an extension cord by checking that there isn't a better operating position with a nearby power outlet.

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KU-RING-GAI COMMUNITY WORKSHOP

What is an RCD?

An RCD, or residual current device, is a life-saving device which is designed to prevent you from getting a fatal electric shock if you touch something live, such as a bare wire. It can also provide some protection against electrical fires. RCDs offer a level of personal protection that ordinary fuses and circuit-breakers cannot provide.

The Shed's drills are mostly battery operated and so represent a reduced electrical danger but they can still cause significant mechanical damage. Care is needed when inserting and removing batteries from mains powered chargers.

Other portable power tools present a highly dangerous risk to power cords as they often have quick cutting actions.

Power points are protected by an RCD (Residual Current Device) . An RCD has two functions, to disconnect power in the event of a short circuit or an overload and to disconnect power if the current going into the tool is greater than that coming out. This discrepancy could be caused by current passing through faulty insulation or **THE USER** (ie you are part of the electric circuit)

The residual current detection is very sensitive (detecting a difference of 30/1000ths of an amp) and tripping in about 1/3 second! You could still get a shock which could cause you to react physically and hurt yourself (fall off a ladder or hit your head)

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This is the responsibility of every member.

Don’t take chances

Should an RCD be caused to trip, you are to note the CB number and seek the assistance of a coordinator. You are not to attempt to reset an RCD yourself.

Cord connected appliances are generally quite powerful and may be in use a significant distance from a power outlet. Hence their own and any extension cords need to carefully laid out so that they are not likely to cause a trip hazard or be damaged by others working in the vicinity.

Power cords should be “heavy” enough to carry an electrical current without appreciable power loss. The longer the cord, the heavier gauge of wires required.

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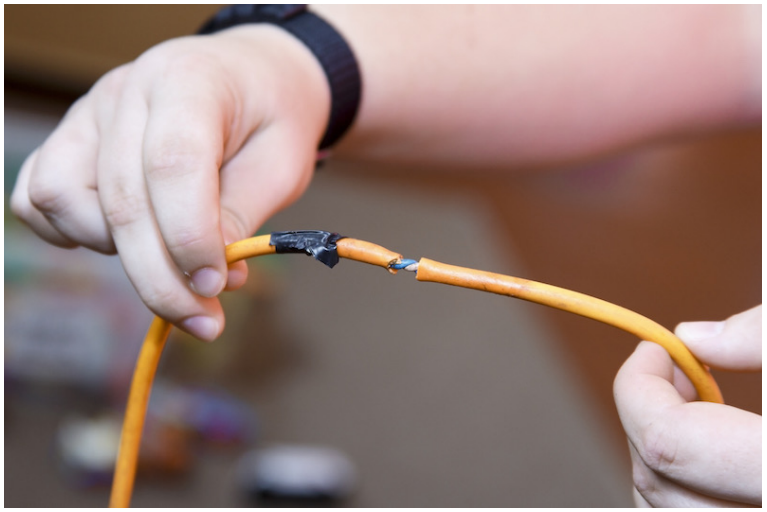

Do Not Use

Safety & Procedural Issues

Before the use of cord supplied equipment or a power cord

If in doubt about the operation or the equipment you are about to use, seek a Coordinator's assistance.

Assess possible working locations for proximity to outlets and to allow cords to be routed safely. Try to use power cords and cord connected devices in close proximity to the fixed power outlet.

Examine cords or equipment and ensure it is not showing any signs of mechanical damage. Ensure there are no bare wires along the cord or where the cord enters the plug, appliance or socket

Use appliances only in dry areas unless they are specifically designed for use in wet areas.

Keep all cords clear of hot surfaces or heat sources.

Power leads must be kept clear of tools being used and it may be advisable to support the cord over the shoulder or safely away from any risk zone.

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Extension Cords

After use

- Remove power cords from power outlets by gripping the plug not the cord. Do not pull on the cord.
- Clean dust or mud off cords.
- Manually and visually check the cord for damage.
- Coil the cord in a coil about 350 - 400mm diameter and without kinks.
- Hang the cord on an appropriate hanger or store flat

- Where an extension cord must be used, it should be run clear of any wet areas and either overhead, above head height or protected so it does not become a trip hazard or able to be trodden on by you or others.
- Do not use power cords in a tightly coiled or bent configuration as this can cause the cord to heat up excessively.
- Do not connect multiple power cords in line to power one device as each cord is designed to carry a load suited to just the length of that cord.
- Extension cords, when not in service, should be coiled without kinks and hung on appropriate hangers in the store.
- Adapters which provide multiple outlets should be avoided if possible and where they are in use, only one appliance should be used at any one time to avoid overloading the adapter.
- Under no circumstances is acceptable to “piggy back” power adapters

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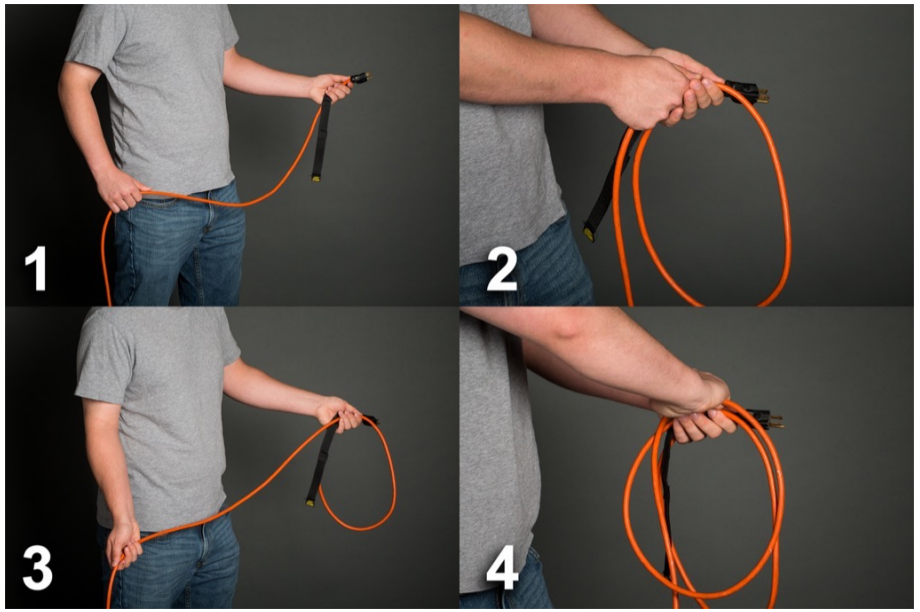

The cord should continue to lay up in flat loops without kinking until it forms a flat coil.

If the cord is extremely long (> 20 m) it is recommended that the loops contain about 2m of cord

Flat coiling of electrical cords (and hoses)

1. Grip the cord near one end in one hand. With your other hand, grab the cord about one metre away and draw a loop towards your first hand.
2. Pass this loop to your first hand so it is holding the end and first loop.
3. Reach out with your second hand and gather a second loop.
4. Rotate your first hand so the loop is offered to the outside of your first hand, at the same time applying a twist with the fingers of your second hand so that the cord loop lies flat against the first.

If there is resistance to lying flat, use the fingers of your second hand to take out the twist.

If the cord already has a preferred twist, it may be necessary to lay up several loops, all in the same direction, without executing the reverse twist as in point 4.If the cord has been badly twisted, there may be need to make several attempts to remove the twists.

Repeat steps 1 and 2 for a third loop.

Repeat steps 3 and 4 for a fourth loop

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The Shed has a
Nesco Electromate tester

Equipment Testing

Any equipment donated to the Shed must be immediately submitted for Electrical safety testing and tagging. Regulations require that a competent person be employed to perform the required tests.

A person competent to undertake Inspection and Testing of electrical equipment must therefore have:

- Knowledge and practical experience of electricity and its hazards.
- A clear understanding of precautions to avoid danger.
- The ability to recognise, at all times, whether it is safe for work to continue or not.
- The ability to carry out visual examinations of electrical equipment.
- The ability to distinguish between electrical equipment that is double insulated and equipment that is earthed as well as being able to identify the appropriate test for each type.
- The competency to carry out the Earthing Continuity, Insulation Resistance or Leakage Test and RCD tests on electrical equipment safely.
- The knowledge of how to use the relevant testing instruments, interpret and record the results for compliance with the Standard/Workplace requirements.