Electrical checks for PICs

The following is a set of notes to help when assessing if the electrical equipment setup for a Saw event is as safe as possible.

This list id not exhaustive and provides general information the most important thing is common sense**. if it doesn't look right then it probably isn't.**

1. Valid pat test label

It is club policy to have valid electrical test labels on all equipment. I place labels on the plug top and on the equipment housing, so it should be easy to check for a label.

On occasions this may have been missed if the equipment must be used then as a minimum a visual inspection as detailed in appendix A should be performed the lack of an electrical test label should also be brought to my attention.

2. Pre-event inspection

Ideally the person bringing the electrical items to the event will have carried out a visual inspection to ensure that the electrical items are not showing signs of damage. see appendix A

3. Extension leads.

When setting up an event a lot of extension leads will be used and it is important not to over load extension leads. The following should be checked.

a. Check lead power rating

current	Power	Suggested
5A	1150W	One small lathe + small light or 1 tea urn
10A	2300W	Two small lathes + lights
13A	2990W	3 lathes + small lights

Over loading leads will cause them to get hot potentially causing a fire. It can also reduce the voltage causing problems with electronic equipment.

b. Ensure extension leads are fully unwound.

This is important as extension leads that are left on the reels can get very hot and the cable will melt together and could cause a fire.

Note: *Take care with JOJO cassette style leads as the cable needs to be re wound back in the same direction to prevent damage to the cable.*

c. Try not to daisy chain extension leads.

Ideally each extension lead needs to be taken back to a separate mains socket. Some times this is not possible and leads will need to be linked together when doing this remember that the first lead is taking all of the power in the other leads as well so the total number of lathes should be limited to the maximum that the first lead is rated for.

4. Damp environments

For outside events if the ground is damp or it is forecasted for rain then try to run the power wiring above ground ie run the cables across the pols in the top of the tents. Also it is wise to tie up extension blocks in plastic bags if near the ground. Always assess the weather conditions and if necessary disconnect the power and stop turning if conditions become too wet.

5. Trip hazards

Electrical cables are prime trip hazards when routing the cables try to lay them close to walls or under tables where people cannot walk over them. if you must run them across the floor or across a door way then they should be protected with cable protectors and taped down with yell and black hazard tape.

Appendix A

Pat Testing User Visual inspection procedure.

Introduction

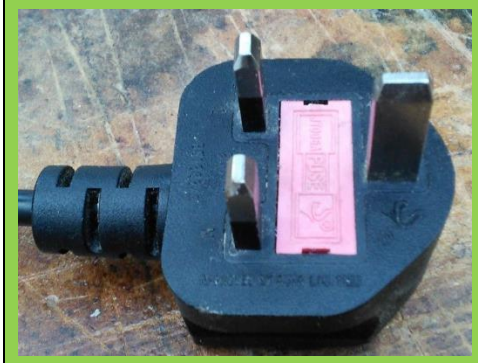
The following is a guide to performing a visual inspection on a piece of electrical equipment this has been prepared members of SAW that are planning to bring items of electrical equipment to a Club event and ideally should be performed when preparing the equipment for the SAW event. This inspection dose not require the dismantling of any equipment and require the use of specialised equipment and is a sub set of a full test that should be performed by a competent person at regular intervals.

This document helps in identifying potential issues with electrical equipment that represent safety hazard to people using the equipment.

It is not a training document for PTA testers

It does not describe how to repair any faulty electrical equipment (this should be carried out by a qualified electrician)

It does not replace the requirements for any piece of electrical equipment that is to be brought to a SAW event form having a Full Pat.

	### Plug in Good condition PASS Starting with the Plug This should be checked that it is not damaged cracked or missing any fixing screws. The cable grip should be checked that is securely clamping on to the outer cable insulation. For moulded plugs the cord grip should be checked for any signs of ware The Live and neutral pins should have insulation up the first part of the pins.
	### Cable free from damage PASS The mains cable should be checked for signs of the insulation being damaged things to look for include

Insulation Damage FAIL

Cable should be replaced.
Do not try to repair using insulation tape.

Excessive Bending FAIL

The cable should not be subjected to excessive bending as this puts too much of a strain on the cable and can over stretch the insulation reducing its effectiveness
The cable should be replaced and the cause of the excessive bending identified and prevented form re occurring.

Cable crushed FAIL

Something heavy has crushed the cable this has weakened the insulation and may have damaged the inner wires
Cable should be replaced, and the cause of the crush investigated

Cable Secured at equipment PASS

Cable entry to equipment this should be secure with proper clamping onto the outer insulation

Cable not secured FAIL

This is an example of a failed cable entry the Outer insulation is not clamped correctly and exposed wires are visible

This should be repaired as there is no protection on the internal wiring against tugs on the cable.

Valid Test Label PASS

Finally, there should be a Valid Pat test label fitted on the equipment

I normally fit 2 labels one on the plug top and a second on the equipment either close to the mains input or near to the main power switch.

Not an electrical safety issue but you should ensure that all guards are correctly secured in place