

SAFETY ALERT

Safety Switches and the Safe Use of Extension Cords

Purpose

This safety alert informs motor sport stakeholders including, officials, competitors and pit/service crews of the importance safety switches and the safe use of extension cords.

Background

Most households, workplaces and workshops have safety switches built into their fuse box. Safety switches will reduce the likelihood of an electric shock by providing earth leakage protection. Safety switches are referred to as RCD (Residuals Current Devices) ELCB's (Earth Leakage Circuit Breakers) CBR (Core Balance Relay). Which ever safety device you have installed - they are designed to protect people from electric shocks and electrocution.

A 'household' safety switch looks like a circuit breaker, but has a push button on the front of the device for testing purposes-see Figure 1. Powerpoint safety switches are also available. The safety switch is built into the powerpoint. These powerpoints have a test and reset button, visible on the front or top of the powerpoint -see Figure 2.

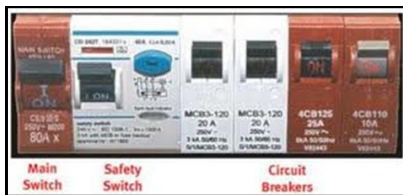


Figure 1



Figure 2

With nearly all events requiring appliances (laptops, fax machines, air conditioners, timing screens) equipment (welders, grinders, drills) and portable buildings (temporary marquees) the use safety switches for power should be used.

Some of the above appliances, equipment and infrastructure will plug directly into a permanent installed socket outlet, (fig 3) where others will require (due to limited availability) power source from an external power-box, via an extension lead.

If 'powering' from an external power-box with an extension lead/power board ([Safe Use of Power Board - Safety Alert No:4](#)) the use of a portable safety switch is a must. If you accidentally sever a power lead or the 'power -box' is faulty, you could receive an electric shock or worse, be electrocuted. By using a portable ELCB (see Figure 3 & Figure 4) which are built into the unit/ cord the likelihood of injury is dramatically reduced. All portable ELCB have a test button. Use this to test the ELCB each time before use.



Figure 3



Figure 4

Modified extension cords are a serious contributing factor to many electrical faults. As with an appliance, the earth pin and earth socket in an extension cord — varies in size, for very important reasons. Different size pins are created as a means of preventing extension cords being used to connect appliances of an incompatible power source.

Disclaimer

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Recommendations:

- Avoid poor contacts when using plugs, adaptors or extension leads and, if appliances operate abnormally or there are signs of overheating, stop using —switch off power and arrange for an inspection—any repairs should only be carried out by a qualified person.
- When using any hand held electrical appliance, whether directly plugging in or through a flexible extension cord, the supply of electricity to the appliance or structure must incorporate a portable ELCB/RCD.
- Event organizers should be aware of safety provisions and must be satisfied that electrical equipment is safe for all to use.
- Electric shocks should be reported immediately to event organizers, senior official or team managers.
- Wear appropriate footwear—shoes and socks when handling electrical equipment and appliances particular if the ground is wet.
- Regularly examine for signs of wear and tear and if required by legislation they are, tested and tagged by qualified persons.
- All leads are secure and are kept well above ground, connections are secure, power-board use is kept to a minimum and the power source is not overloaded.
- Any leads that need to be on the ground should be protected and covered against slips, trips and falls where appropriate.
- Install permanent power points where possible — extension leads and power boards are only temporary, and
- Extension cord sets should not be used while coiled or reeled.

Further Information

It is worthwhile mentioning that in consideration of the environment that the equipment or a lead is being used it is very important from the point of view of 'testing and tagging' as per OH&S Regulations.

If equipment or leads are operating in a "hostile environment" i.e. conditions that are likely to result in damage to the item of equipment or lead, testing and tagging should be a priority, though if the equipment or lead does not fit into the "hostile environment" category i.e. the fax machine in the Secretary's office, then it simply might be a risk assessment carried for that particular piece of equipment and controls put in place for that piece of equipment.

Controls might include:

- routine visual checks by equipment user;
- formal visual inspections;
- maintenance schedule;
- repair, and
- replacement

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