



Mines Safety Bulletin No. 115

Subject: 220 volt outlets in light vehicles

Date: 19 November 2014

Background

Some light vehicles used on mining operations have a 220 volt three-pin socket outlet installed in the rear luggage compartment. Electricity to the outlet is supplied from an inverter, which is connected to the vehicle battery. This allows the plug-in connection of electrical equipment that is mains voltage powered at up to 100 watts.



Example of 220 volt three-pin electrical socket in light vehicle

Summary of hazard

- Some outlets are not provided with residual current device (RCD) protection, which is required by regulation 5.24(1)(b) of the Mines Safety and Inspection Regulations 1995.
- The outlet is designed to deliver mains-equivalent voltage at limited wattage capacity. Use of faulty electrical equipment without the protection of an installed RCD may result in electric shock to the equipment operator or bystanders.

Contributory factors

When faulty electrical equipment is used from an RCD protected circuit, the value of the earth fault current is limited to below 30 mA for a very short period, which significantly reduces shock hazards. No such protection is provided for the 220 volt outlets on some vehicles.

Actions required

Where 220 volt three-pin socket outlets are not protected with an RCD, they must not be used for the connection of portable, mobile or moveable electrical equipment while on a mining operation. To prevent their use, arrange for such outlets to be disabled or removed by a competent person.

Note: This instruction applies to the 220 volt outlet only. Use of the vehicle for all other purposes remains unaffected.

Further information

Visit www.dmp.wa.gov.au/16315.aspx for information on electrical safety in the resources sector.

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