

Automotive service and repair industry

Electrical safety

Why do I need to be worried about electrical safety?

Electricity can kill if you give it the chance. Even non-fatal shocks can lead to severe and permanent injuries, which may include burns, eye damage, partial loss of limb function, neurological problems, such as memory loss and confusion, and injuries caused after the shock (e.g. falling from a ladder or contacting moving machinery).

Direct contact with electricity is not the only issue to be aware of. Electrical equipment can also cause fires or even explosions than can kill or injure people and can also destroy equipment and buildings.

What should I do to stop this happening?

There are a number of things that can be done to limit the risk of injury or property damage from electricity in the automotive service and repair industry. Installing a safety switch is one of the best ways to guard against an electrical tragedy. Additionally, **always** make sure that:

- You never attempt to do your own electrical work – it's dangerous, illegal and can be fatal. Illegal electrical work may also result in an insurer refusing to accept a claim. Always get a licensed electrician to do any electrical work.
- All areas have enough power points to avoid the use of double adaptors and extension leads
Note: the use of power boards is preferred to double adaptors.
- You know what equipment is covered by any safety switch.
- You turn off power to electrical equipment that is not designed for the environment if the area around the equipment becomes wet.
- Electrical equipment is regularly inspected to make sure it has not been damaged (this may also improve productivity by reducing the downtime of equipment).
- Electrical equipment (e.g. electric hand tools, extension leads, etc.) and electrical installations (e.g. switchboards, safety switches, wiring, etc.) are regularly serviced and maintained.
- People report faulty electrical equipment (e.g. when cords are frayed or bare wires are exposed, smoke is coming out of the equipment or the equipment cuts out for no obvious reason).
- You remove faulty electrical equipment immediately from service and attach a warning label to it. You should make sure that the equipment cannot be used again until it has been inspected or repaired by a licensed electrician.
- Extension cords and electrical leads are located where they won't suffer physical damage (e.g. keep them away from water, chemicals, hot surfaces, walkways or any other place where they can be easily damaged). If leads need to be in areas where they might suffer damage, make sure they are protected from physical damage.
- Only suitably designed explosion protected electrical equipment is used in areas where a flammable atmosphere might exist (e.g. chemical storage areas).
- Workers wear appropriate footwear.
- Workers are trained about working with electricity. The training should cover topics such as:
 - correct ways to use electrical equipment
 - function of controls and guards
 - procedures to isolate electrical equipment before cleaning



- cleaning near power outlets and electrical equipment (e.g. fluids should not be allowed to enter the power outlets or electrical equipment)
- first aid for electrical burns.

There are also legal requirements about when you need to have a safety switch and when you need to have it and any specified electrical equipment inspected and tested.

These requirements vary depending on the type of work being performed in different areas of the workplace. The types of work done in the automotive service and repair industry are likely to be manufacturing work, service work and office work.

Manufacturing work means the work of assembly, disassembly, fabrication, installation, maintenance, manufacturing, refurbishment or repair, but does not include amusement work, construction work or rural industry work.

In the automotive service and repair industry, manufacturing work would most likely be the maintenance work carried out in the mechanical workshop. Safety switch protection must be installed by 1 March 2008 for power points that supply *specified electrical equipment* in workplaces where manufacturing work is primarily performed. Other types of work associated with the automotive service and repair industry include service work (e.g. diagnostic work, service station attendant work etc) and office work (e.g. the work performed in the office by management, administration or reception staff, etc.).

Some examples of *specified electrical equipment* requiring inspection, testing and tagging, which may be used in the automotive service and repair industry include welders, electric hand held tools, air compressors, battery chargers, extension leads, etc.

The attached table provides guidance on safety switch and inspection and test requirements to help you meet your electrical safety obligations.

For further information on electrical safety matters, call 1300 650 662 or visit www.deir.qld.gov.au, or 1300 369 915 for workplace health and safety matters.

Disclaimer: Any advice given to you as an obligation holder by Workplace Health and Safety Queensland Small Business Advisors or the Electrical Safety Office is given only to assist you to discharge your obligations under the *Workplace Health and Safety Act 1995* and the *Electrical Safety Act 2002*. Compliance with this advice does not relieve you of your obligations under either Act. Any advice is given on the basis that you will make your own independent assessment of what action is necessary to ensure your compliance with both Acts.

Whilst all care will be taken in providing advice to you, the Queensland Department of Employment and Industrial Relations and its inspectors or advisors will not be liable for any errors or omissions or for any loss or damage suffered by you or any person which arises (directly or indirectly) from your reliance on this advice or for any breach by you of your obligations under the *Workplace Health and Safety Act 1995* or the *Electrical Safety Act 2002*.

Guide to inspection and test requirements - Automotive service and repair industry

	Specified electrical equipment must be inspected, tested and tagged:	A fixed safety switch must be tested in accordance with <i>AS/NZS 3760</i> :	A portable safety switch must be tested in accordance with <i>AS/NZS 3760</i> :
When used for Manufacturing Work ²	<ul style="list-style-type: none"> for double insulated equipment – at least once every 12 months by a licensed electrician or a <i>competent person</i>; or for protectively earthed equipment – at least once every six months by a licensed electrician or a <i>competent person</i>; AND connected to a safety switch.³ 	<ul style="list-style-type: none"> immediately after it is connected by a licensed electrician or a <i>competent person</i>; AND at least once every six months by the user (push-button test only); AND at least once every 12 months by a licensed electrician or a <i>competent person</i>. 	<ul style="list-style-type: none"> immediately after it is connected by the user (push-button test only); AND daily or before each use, whichever is longer, by the user (push-button test only); AND at least once every 12 months by a licensed electrician or a <i>competent person</i>.
When used for Service Work	<ul style="list-style-type: none"> at least once every 12 months by a <i>competent person</i>; OR connected to a safety switch. 	<ul style="list-style-type: none"> tested immediately after it is connected by a licensed electrician or a <i>competent person</i>; AND at least once every six months by the user (push-button test only); AND at least once every 12 months¹ by a licensed electrician or a <i>competent person</i>. 	<ul style="list-style-type: none"> tested immediately after it is connected by the user (push-button test only); AND at least once every three months by the user (push-button test only); AND at least once every 12 months¹ by a licensed electrician or a <i>competent person</i>.
When used for Office Work	<ul style="list-style-type: none"> at least once every five years by a <i>competent person</i>; OR connected to a safety switch. 	<ul style="list-style-type: none"> tested immediately after it is connected by a licensed electrician or a <i>competent person</i>; AND at least once every six months by the user (push-button test only); AND at least once every 12 months¹ by a licensed electrician or a <i>competent person</i>. 	<ul style="list-style-type: none"> tested immediately after it is connected by the user (push-button test only); AND at least once every three months by the user (push-button test only); AND at least once every 12 months¹ by a licensed electrician or a <i>competent person</i>.

Notes:

- If the safety switch protects electrical equipment that is NOT in an environment where the supply cord is subject to flexing during normal use, and is NOT open to abuse, and is NOT in a hostile environment, then **the test interval is at least once every two years**, instead of 12 months.
- The use of piggyback plugs and double adaptors is NOT permitted in manufacturing work.
- From 1 March 2008 fixed safety switch protection is required for power points that supply the *specified electrical equipment*.
 - Records of all tests performed on safety switches and electrical equipment should be made and kept.
 - Consider testing safety switches outside normal trading hours, because when a safety switch is tested, the power to all equipment connected through it will be turned off.
 - If a safety switch does not trip immediately when the test button is pushed, it may be faulty. You should immediately turn the suspected faulty safety switch off, attach a warning tag and make sure the safety switch is NOT used until it has been inspected by a licensed electrician (this includes fixed safety switches).
 - Competent person** means a person who has acquired, through training, qualifications, experience or a combination of these, the knowledge and skill enabling the person to inspect and test electrical equipment.
 - Specified electrical equipment** includes extension leads, portable outlet devices (e.g. power boards) and plug-in electrical equipment (other than a portable safety switch). Note for the performance of **service work** or **office work**, plug-in electrical equipment is only considered to be *specified electrical equipment* if it is **moved** during its normal use for the purpose of its use (e.g. a portable vacuum cleaner).