

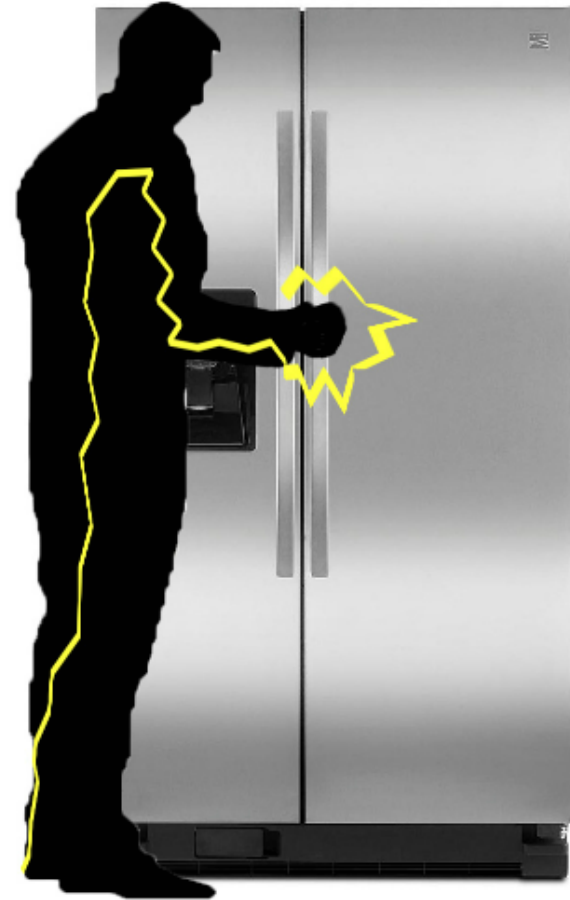
Grounding

Grounding helps prevent the most common form of electrical shock - ground faults

Ground Fault

A ground fault occurs when electricity leaks from a current carrying conductor to the enclosure of a piece of equipment

This can lead to a person becoming part of the circuit. When a ground fault occurs, electricity can travel from the enclosure, through the person, back to the source of electricity



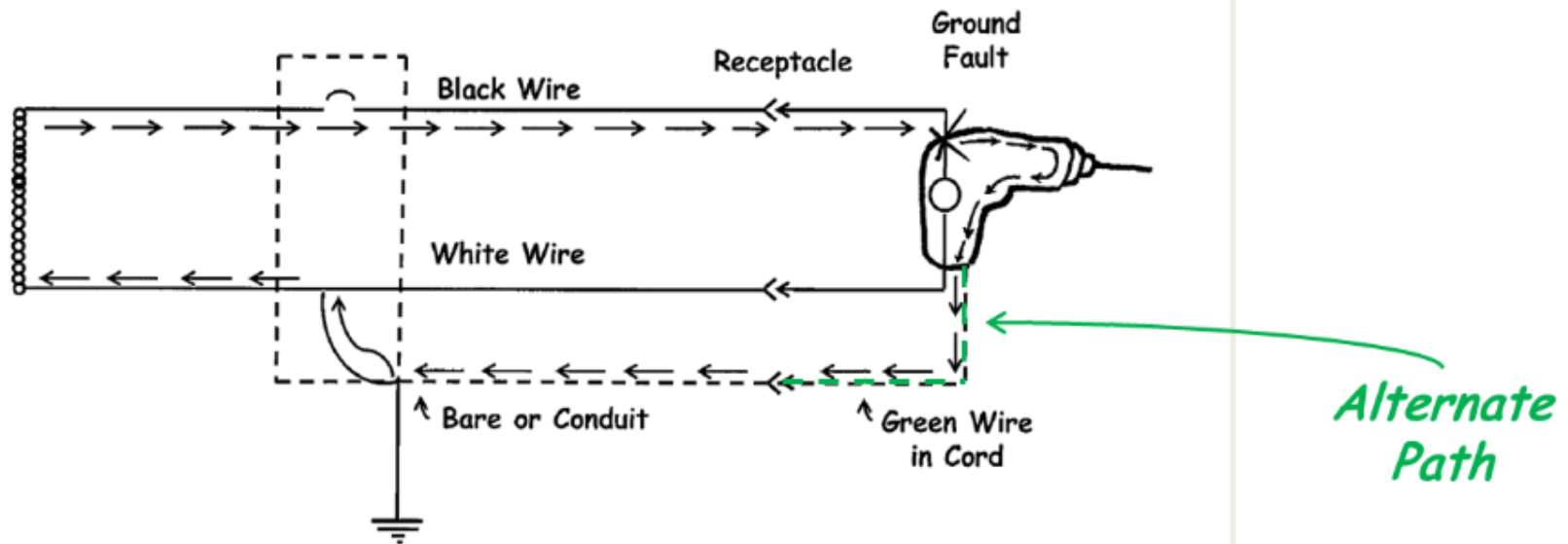
Means of Protection

There are a couple of ways manufacturers and employers protect individuals from a ground fault:

1. Use of a grounding circuit
2. Using double insulation
3. Using Ground Fault Circuit Interruptors (GFCI's)

Grounding Circuit

Should a ground fault occur, a proper grounding circuit provides a path of low resistance for current to flow from an enclosure back to its source. A grounding circuit is not normally energized

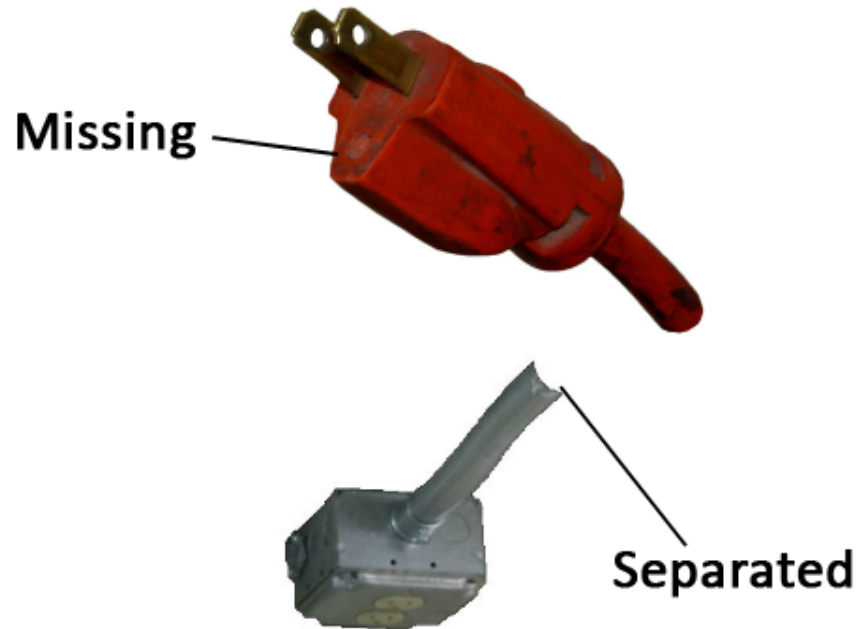


Grounding Circuits

1. Protect people by preventing them from becoming energized, offering a low resistance path for the electricity to travel
2. Protect property by providing a path for large amounts of current to flow back to its source, allowing a circuit breaker or fuse to de-energize the circuit

What To Watch For

1. Missing ground pins
2. Damaged or separated conduit. *Note: conduit is often used as part of a grounding circuit*



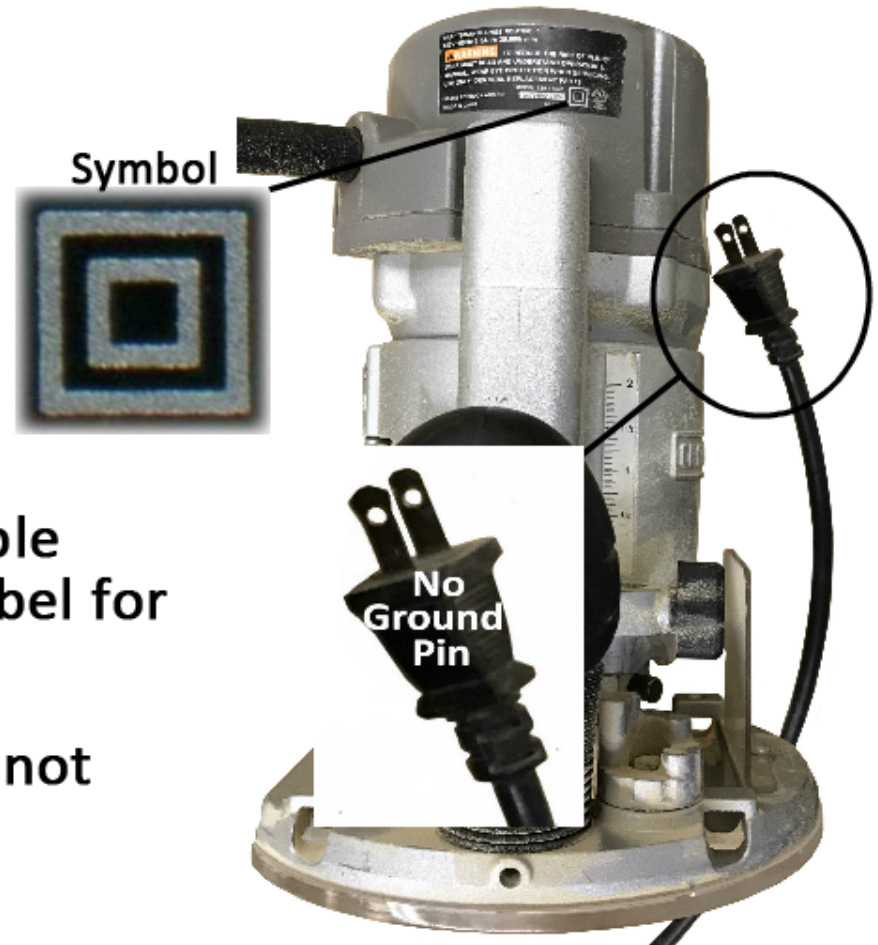
If you see such damage, have it repaired before using the circuit!

Double Insulation

Manufacturers can also protect people by double insulating their product. This protects individuals by preventing the outer enclosure from becoming energized

You can determine if it is double insulated by looking at the label for wording &/or the symbol

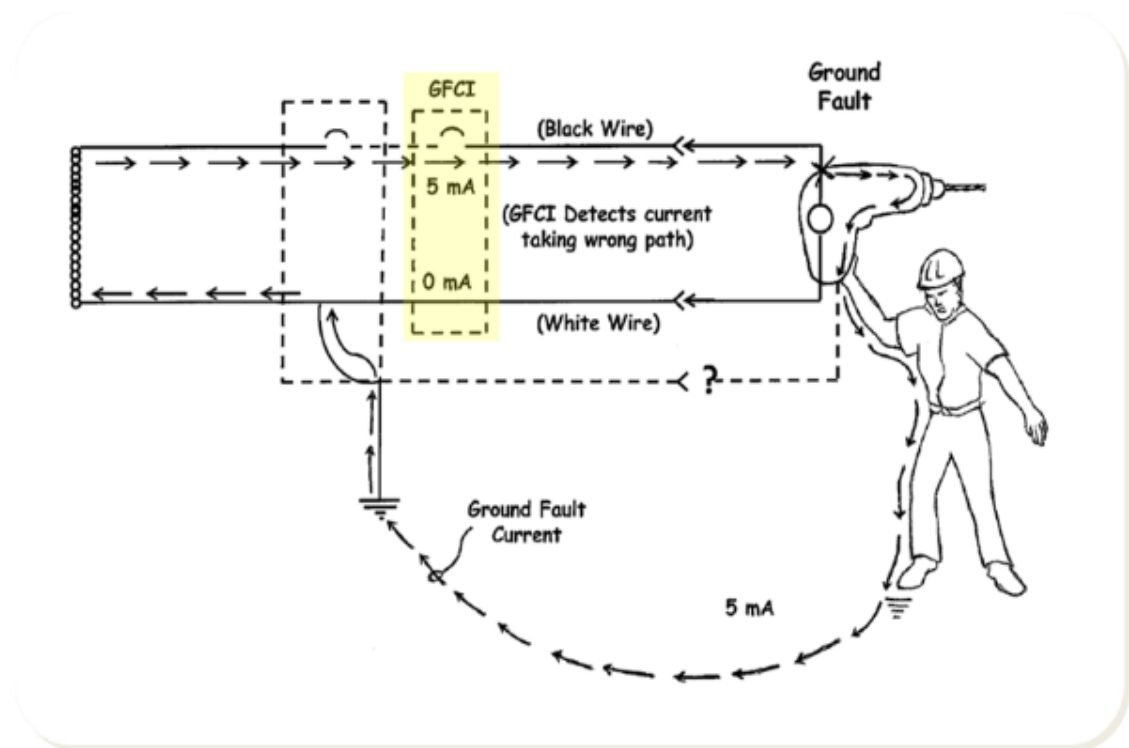
Double insulated products do not have a grounding circuit



GFCI's

A ground fault circuit interrupter (GFCI) can also offer protection from ground fault by monitoring current in the circuit

If the current leaving varies from that returning more than a set amount (e.g. 5 mA) then the GFCI opens the circuit and stops the flow of current



GFCI's & Wet Locations

GFCI's are to always be used when working in a wet or damp location or outdoors



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