



Don't be Shocked by Damaged Power Cords

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Power cords on electrical appliances that are moved frequently receive a lot of abuse. These include vacuum cleaners, floor polishers, power tools and other portable appliances. Often, damage occurs to the ground prong on a three pronged grounded plug (Fig. 1). Missing ground prongs on power cord plugs usually result from users pulling on the cord to remove the plug from the outlet instead of handling the plug directly. Damaged and ungrounded power covers pose serious hazards to users of the appliance including electrical shock and risk of fire. In some cases, the plug may be pulled from the wire covering, exposing the inner wires to damage, as shown in Figures 2 and 3. Power cords can become frayed or damaged from heavy use, age, or excessive current flow through the wiring.

Figure 4 shows a power cord to a shop appliance that was found on a recent inspection. The power cord had been sliced open exposing the inner energized wires. The appliance was still plugged in, ready for use. When a power cord is damaged, the appliance should be removed from service and the cord replaced as soon as possible to reduce the risk of electrical shock, electrocution or fire.

Cord damage can also result when the cord is pinched, caught between or punctured by heavy objects such as legs on a desk. This damage could lead to a short circuit and result in a fire. Also, cords placed under stress such as when a heavy appliance is hung by its cord, could eventually cause damage to the cord or plug.



Fig. 1 Ground prong broken off



Fig. 2 Wire cover pulled from plug



Fig. 3 Plug pulled from casing and insulation



Fig. 4 Frayed cord exposing wires