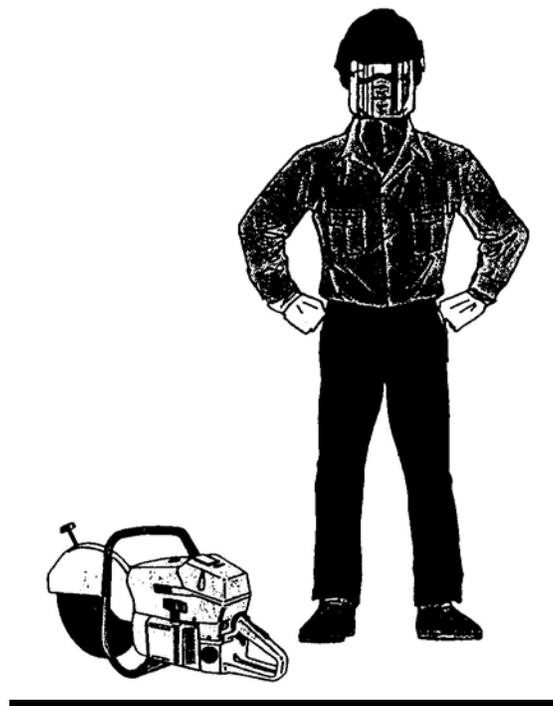




**CONSTRUCTION SAFETY
EDUCATION PROGRAM
#14**

WORKING SAFELY WITH QUICK-CUT SAWS



This education program provides a guideline for proper use of Quick-Cut Saws. It is intended to give contractors and workers practical information relating to the safe use of Quick-Cut Saws and personal protective equipment.

This education program contains general information. For specific regulatory requirements, please consult the appropriate regulation(s) concerning safe use of quick-cut saws or the Workplace Safety and Health Act and the Canadian Safety Association Standards (CSA).



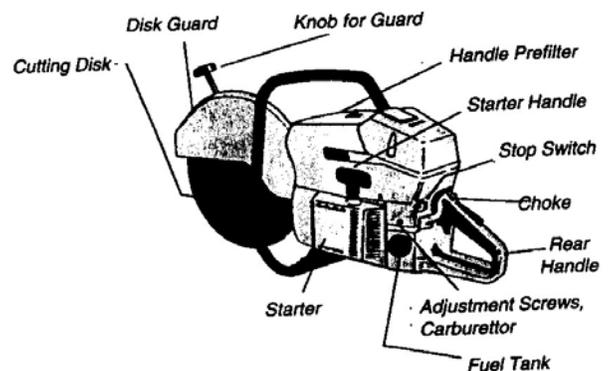
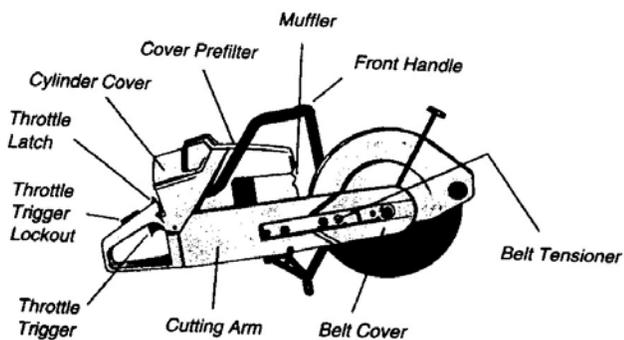
QUICK-CUT SAWS

Also known as hand held portable circular cut off saws, are widely used for cutting concrete, masonry products, sheet metal products (both steel and aluminum) and light steel sections such as angles and channels.

REGULATIONS:

Quick-cut saws are tools. The (equipment) section of the **Regulations for Construction Projects** under the **Occupational Health and Safety act** states that:

- * all tools shall be maintained in a condition that does not endanger a worker.
- * tools shall not be used while they are defective or hazardous.
- * a copy of the tool manufacturer's operating manual shall be kept readily available at the project
- * tools shall be inspected by a competent worker before being used on a project.



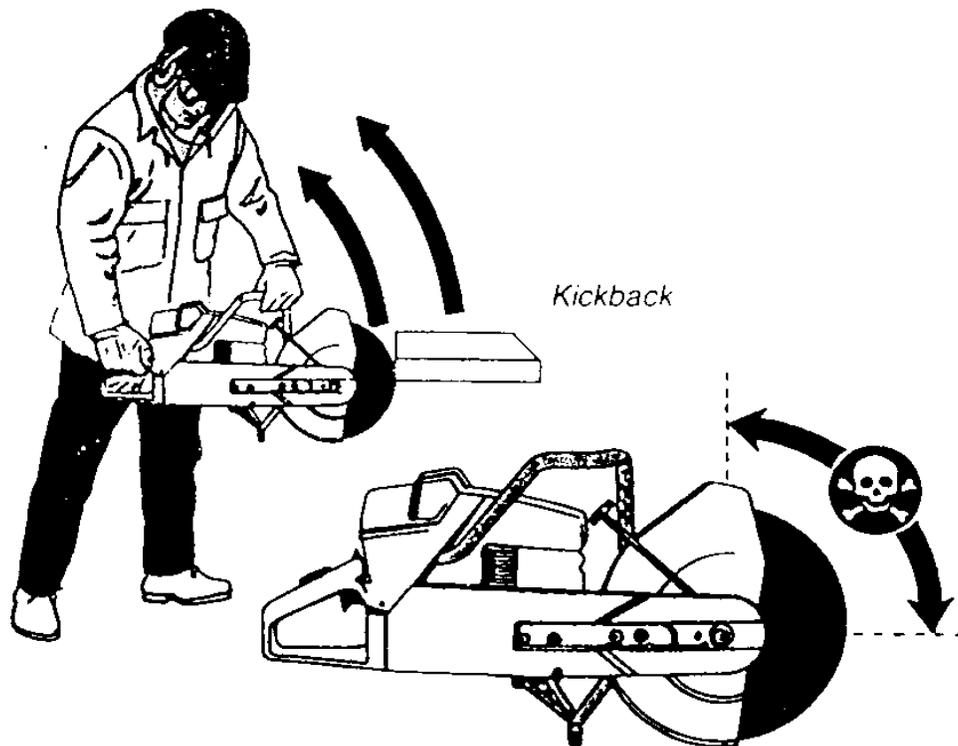
HAZARDS

The use of quick-cut saws may involve both safety and health hazards.

Safety hazards are caused by the high-speed rotation and exposure of the blade during operation. The major causes are:

- * use of inappropriate disks and blades for the operation
- * improper starting of saw
- * kickback and pull-in
- * improper supporting and securing of the work to be cut
- * improper cutting stance and grip

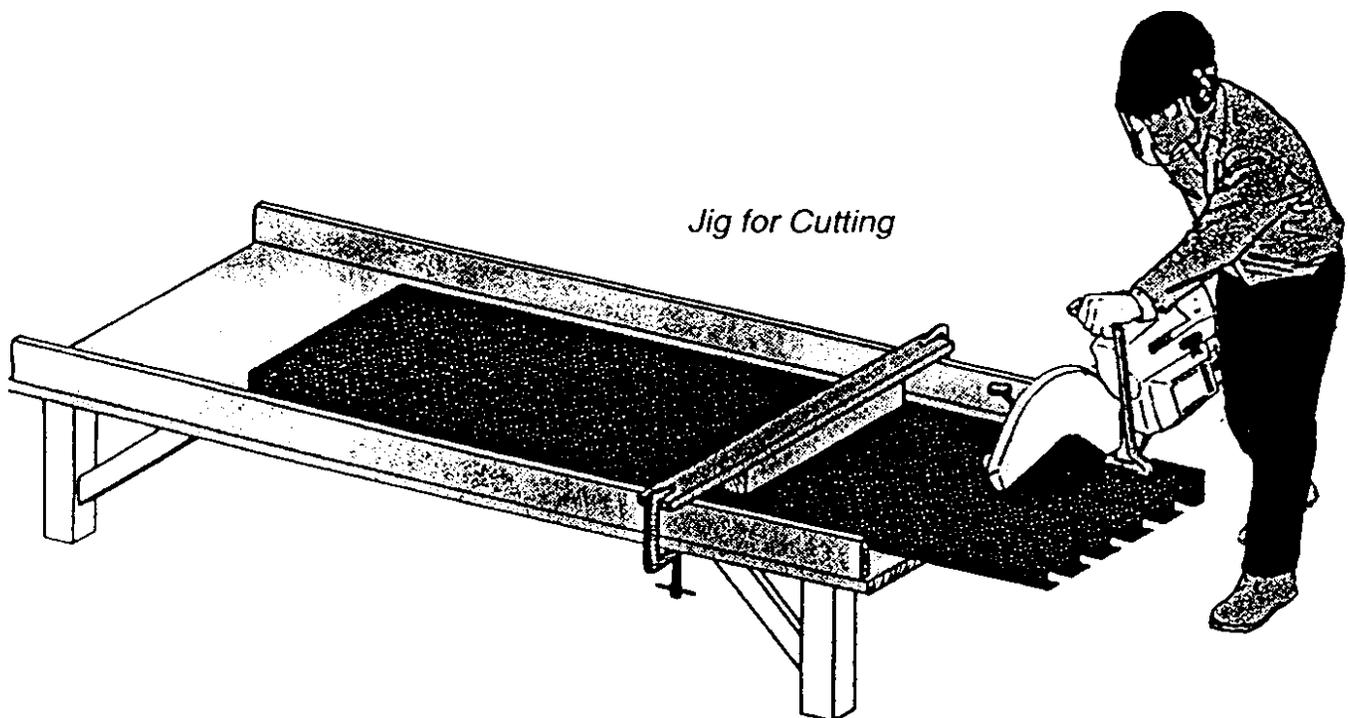
Health hazards are caused by noise exposure and exhaust from the internal combustion engine- the common power source. The saws also create clouds of dust when dry cutting masonry and showers of hot sparks when cutting metal.



CONTROLLING HAZARDS

Major safety hazards can be controlled by:

- * Training operators to use quick-cut saws properly and to wear the right protective equipment.
- * Keeping saws in good working condition, equipped with the proper blades or abrasive disks.
- * Using the saw with all guards in place.
- * Keeping work secured to prevent it from shifting during cutting.



HEALTH CONCERNS:

Warning!

Your Quick-cut saw produces poisonous exhaust fumes as soon as the combustible engine is running. These gases (e.g. carbon monoxide) may be colourless and odourless. To reduce the risk of serious or fatal injury from breathing toxic fumes, never run the saw indoors or in poorly ventilated areas.

Warning!

Prolonged use of cut-off saws exposing the operator to vibrations may produce whitefinger disease (carpal tunnel syndrome.) These conditions reduce the hand's ability to feel and regulate temperature, produces numbness and burning sensations and cause nerve and circulation damage and tissue necrosis. If any of the above conditions appear, seek medical advice immediately.

Warning!

Asbestos dust can cause serious or fatal injury. Do not cut asbestos without proper breathing protection specifically approved for asbestos dust. Other persons should not be allowed in the area during such operations.

SAW MAINTENANCE AND OPERATION

Quick-cut saws must be serviced and maintained in accordance with the manufacturer's instructions. Guards and air-intakes should be cleaned regularly and often. Excessive blade vibration should be corrected before trying to make a cut.

STARTING PROCEDURES

Start saw only on a hard smooth surface.

SUPPORT

For repeated cuts of masonry or metal pieces, a jig designed and built to hold material in place without manual contact improves efficiency and safety.

STANCE AND GRIP

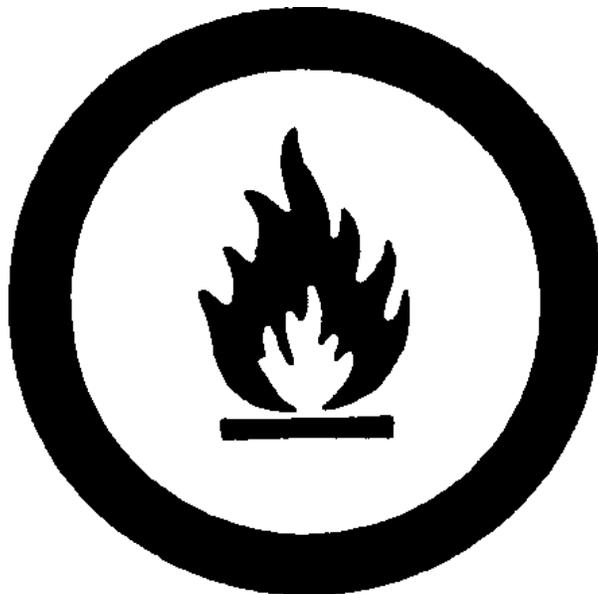
Grip the saw firmly with one hand on each handle. Hold forward arm straight to keep the saw from kicking back or climbing out of cut.

CUTTING

Work should be supported so that the blade will not bind in the cut. Cut should be as close as possible to the supporting surface.

STORAGE AND USE OF QUICK-CUT SAW FUELS

- * Store flammable materials well away from work site
- * Fuel your quick-cut saw in a well-ventilated area, outdoors only
- * Always shut off the engine and allow it to cool before refuelling
- * Never smoke while refuelling
- * Never refuel close to an open flame
- * Relieve fuel tank pressure by loosening fuel cap slowly
- * Select bare ground for refuelling and move at least 10 feet from fuelling spot before starting the engine
- * Wipe off any spilled fuel before starting your saw and check for leakage

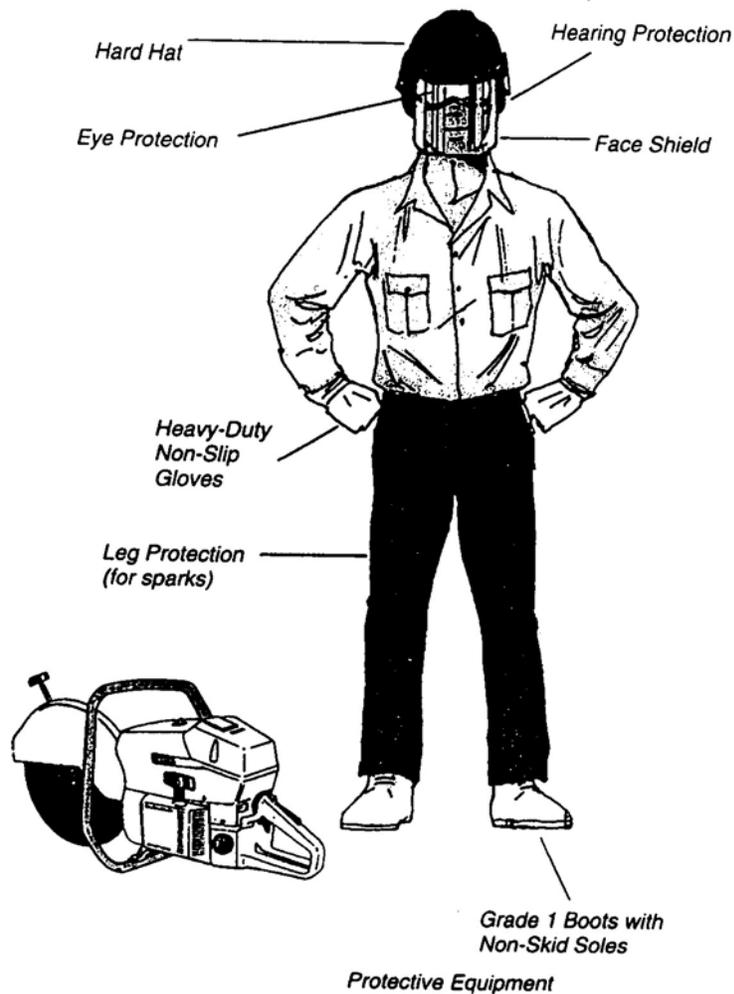


WARNING! Gasoline is an extremely flammable fuel. Use extreme caution when handling gasoline or fuel mix.

PROTECTIVE EQUIPMENT

In addition to the standard equipment mandatory on construction sites, operators of quick-cut saws should wear snug-fitting clothing, hearing protection, eye and face protection, and heavy-duty leather gloves.

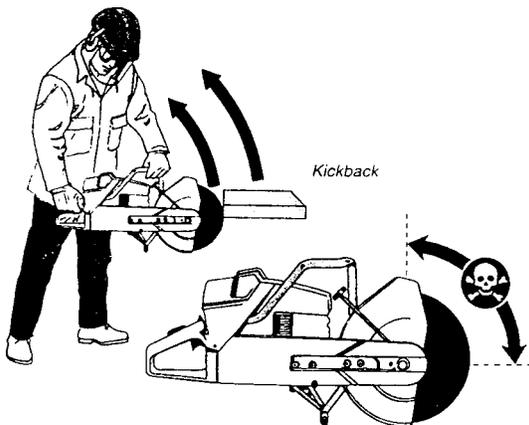
The dry cutting of masonry or concrete products calls for respiratory protection as well.



Protective equipment

In addition to the standard equipment mandatory on construction sites, operators of quick-cut saws should wear snug-fitting clothing, hearing protection, eye and face protection, and heavy-duty leather gloves (Figure 7).

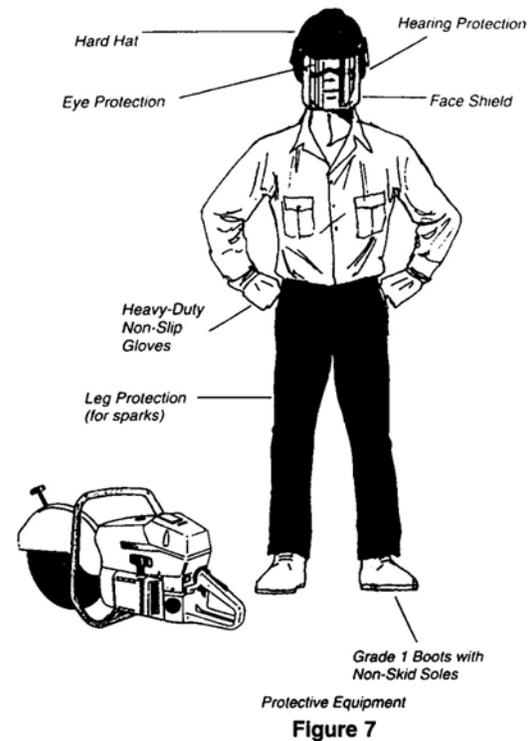
The dry cutting of masonry or concrete products calls for respiratory protection as well. For general dust hazards, a half-mask cartridge respirator with NIOSH approval for dust, mist, and fumes (TC21 C) should provide adequate protection when properly fitted and worn by a clean-shaven person.



Disks and Blades

Abrasive disks, diamond-tipped blades, and carbide-tipped blades are the three basic types available.

A carbide-tipped blade used with a quick-cut saw must be designed for that purpose. It must also be used only to cut the materials specified by the manufacturer. See the tables below.



Abrasive Disks - Types and Uses

Type	Abrasive Disks	Materials
Concrete	All-around use, most economical for cutting concrete and masonry. Water-cooling is recommended to increase disk life and reduce dust.	Concrete, stone, masonry, products, cast iron, aluminum, copper, brass, cables, hard rubber, plastic
Metal	Primarily for steel, not suited for masonry products, Water-cooling is not recommended with metal disks.	Steel, steel alloys, other hard metals such as monel and iron
Type	Diamond Disks and Blades	Materials
Diamond Abrasive Disk	Faster cuts than other abrasive disks and creates less dust. Water-cooling is absolutely necessary to prevent heat build-up.	Stone, all masonry and concrete products. Not recommended for metals.
Dry-Cut Diamond Blade	Fast cuts, lots of dust, very expensive . Let blade cool for 10-15 seconds every 40-60 seconds. Continuous cutting will damage blade	Stone, all masonry and concrete products. Not recommended for metals

**QUICK-CUT SAW SAFETY
REVIEW QUESTIONS**

NAME: _____

DATE: _____

ANSWER TRUE OR FALSE TO EACH OF THE FOLLOWING.

T / F 1) Quick-Cut Saws also known as hand held portable circular cutoff saws can cut a variety of materials including wood.

T / F 2) Quick-Cut saws require both hands to be firmly placed on each handle to operate safely.

T / F 3) Keep work secured to prevent material from shifting during cutting.

T / F 4) Eye and Face protection should only be worn when cutting masonry.

T / F 5) Always shut engine off and allow to cool before refuelling.