

- When starting/operating the saw, use all precautions to not be in-line with the saw blade while it is rotating.
- Know how to stop saw quickly in case of emergency.

SAW OPERATION

- If wet-cutting, make sure you have an adequate supply of water to the blade.
- If saw is equipped with a self-propelling drive, make sure forward/reverse speed control is in neutral before engaging drive.
- When maneuvering saw make sure the blade is raised high enough so it does not strike the ground. Blade damage may occur if blade strikes the ground while maneuvering.
- Do not maneuver machine on inclined surfaces with self-propelling drive disengaged, or by lifting drive wheels from ground. Loss of braking control provided by the drive will permit the machine to freewheel down incline.
- Lower the blade slowly into the material being cut. Do not allow the blade to drop onto the pavement surface, blade damage will result.
- Use the depth-stop provided on saw. Do not allow flanges or belts to rub on or contact the material surface.
- Whether saw is self-propelled or a push model, do not force blade while cutting. Use proper forward speed and allow the blade to cut and not climb out of the cut or stall in the cut.
- Always cut in a straight line. Do not force saw off straight line as blade warpage or breakage may result.



If blade stalls in the cut and stops power source (engine/motor):

- Raise blade completely out of the cut.
- Check blade flanges and nut/bolt, to be sure they are tight.
- Remove/open guard and inspect blade for damage. If damaged, remove the blade.
- Replace/close guard and secure.
- Follow starting procedure listed.

STOPPING THE SAW

- Stop forward machine travel.
- Raise blade clear of cut.
- Turn off water.
- Return power source (engine/motor) to low idle and allow to cool.
- Shut off power source (engine/motor).
- Do not leave the machine until blade has completely stopped.
- Make sure you chock wheels to prevent machine from rolling.

MAINTENANCE

The machine owner/operator is encouraged to establish a routine preventative maintenance program based on the saw manufacturers recommendation. Failures resulting from inadequate maintenance schedules or procedures can result in machine failure and/or an unsafe piece of machinery.



Maintenance must be done by a qualified mechanic or electrician. Never alter a saw or engine/motor without first referring to the owners manual or contacting the manufacturer.



Never work under the saw without first placing chocks on the wheels and support device under the saw to prevent it from moving or falling. Always work on flat and level surface.



Always disconnect machine from power source, remove spark-plug wires or disconnect battery before performing any work on machine, engine or motor. If checking of adjustments require that the machine be running, always stop machine before making any of these adjustments.



On gasoline or diesel-powered saws do not start or run the engine with the governor linkage disconnected. Dangerous engine overspeed will occur.



On self-propelled saws, breakage of drive components (chains, gears, keys, etc.) will result in loss of braking ability. Replace broken or damaged components immediately.



Do not attempt to repair or replace worn or broken components with parts not approved of by the manufacturer. Use of non-approved components can cause premature equipment failure.

FREQUENT MAINTENANCE CHECKS

Check oil levels, wiring, hoses (air or hydraulic) and lubricate machine daily.

Repair or replace all worn or damaged components immediately. Check drive belt tension, do not over-tension. Make sure machine has full set of matched belts.

Check bladeshaft, make sure arbor and threads are not worn, damaged, or bent.

Bladeshaft bearings should be tight, no free play side-to-side or up and down.

Blade flanges should be clean, free of nicks and burrs. No diameter wear and not out-of-round.

Drive pin not excessively worn or bent and free of gouges.

All guards in place and secure.

All fasteners tight and secure.

Air filter/oil filter (hydraulic or engine) clean.



On electric start gasoline or diesel models, when jump starting the engine:

- Observe the polarity (most saws are negative ground).
- Install negative jumper cable last.
- Do not attach negative cable to battery, use machine frame for negative ground.
- Remove negative jumper cable first.



When transporting concrete saws:

- Remove saw blade to prevent damage.
- Do not tow the saw with another vehicle as this will damage drive components, wheels, bearings and axles.
- Make sure fuel cap is secure to prevent spillage.
- Make sure trailer, trailer ramps, lift gate or other transport vehicles are of sufficient load carrying capacity.
- When going up ramps, back the saw in reverse slowly.
- When going down ramps, drive the saw forward slowly.
- Block and chain saw to transport vehicle. Disengage drive mechanism if so equipped. Do not over-tighten chains or tie-down straps, excessive tension may bend or warp frame and axles.

SYNOPSIS

WHAT IS SMI?

The Masonry and Concrete Saw Manufacturers Institute was founded in 1970. Its members are manufacturers of masonry saws, concrete saws, hand-held, gasoline powered cut-off saws, and expendable diamond and/or abrasive wheels utilized on those saws. The Institute is very active in safety work, and has produced this and a multiplicity of other safety publications.

The purposes of the organization are to advance the interests of the SMI:

- By gathering and disseminating information regarding mutual safety problems, standards and safety codes.
- By preparing technical information concerning the most desirable and efficient methods of sawing and abrading materials.
- By educating the public concerning the use and care of products of the Industry.
- By doing all things necessary to carry out the foregoing purposes in a lawful manner.

SMI NOW OPERATES UNDER THE AUSPICES OF AEM

WHAT IS AEM?

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**BE SAFE!
PLEASE READ!**

FOR:

**CONCRETE
SAWS**

Safety Instructions for:

**GENERAL OPERATION
MACHINE OPERATION
BLADE OPERATION
APPLICATIONS
MAINTENANCE**

Please read instruction, operation, and maintenance manual for your concrete saw before saw operations begin.

Comply with
ANSI B7.1 and OSHA regulations

Produced by:

MASONRY AND CONCRETE SAW

S.M.I.[®]

MANUFACTURERS INSTITUTE



ASSOCIATION OF
EQUIPMENT MANUFACTURERS

GENERAL INFORMATION

SCOPE OF BROCHURE:


This brochure is intended to be used by owners and operators of concrete saws to help familiarize themselves with the various areas of concrete saw safety and operation.


Concrete saws, as relates to this brochure, are defined as machines that are used to cut/saw flat, horizontal concrete or asphalt slabs using diamond or abrasive saw blades. These machines have built-in wheels that roll along the surface of the material being cut.


The machines may be powered by gasoline, diesel, air, electric or hydraulic motors and may be self-propelled or non-self-propelled. The machine is controlled by the operator from a position at the rear of the saw while walking.

NOTE: This brochure does not provide guidance for the use and care of high-speed hand-held saws whether cart mounted or held by the operator.


DEFINITIONS

 This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

 **DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

 **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

 **CAUTION** used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

SAFETY INFORMATION

Responsibilities of owner/operator.

It is the responsibility:

- Of the operator to be familiar with all aspects of the machine's operation.
- Of the owner to provide an instruction manual and for both to fully read and understand the concrete saw instruction manual.

- Of the machine owner to provide proper training and instruction to the operator.
- Of the machine owner to provide the operator a concrete saw that is in safe operating condition: all guards in place and secure, all fasteners tight, all controls in proper working order and that the concrete saw is in the proper configuration for the application.
- Of the operator to not operate a concrete saw that is felt to be unsafe.
- Of the operator to be trained on all machine controls and their function.
- Of the operator to never leave a machine running unattended.
- Of the machine owner to provide the operator with a proper device to measure bladeshaft RPM (tachometer) and the machine components and assistance to achieve the proper bladeshaft RPM.
- Of the machine operator to make sure the bladeshaft RPM is proper for the size of blade being used.
- Of the machine owner to keep/provide a copy of the concrete saw manual and maintenance records with the machine at all times.



When operating a concrete saw, wear safety glasses, safety boots, work gloves, dust mask (when dry sawing), hearing protection and head protection. Avoid skin contact with concrete/asphalt slurry, which can cause serious skin irritation.

Never allow anyone to operate a concrete saw while under the influence of drugs, alcohol, while taking medications that impair the senses or reactions, or when excessively tired or under stress.

Always operate the machine with someone in the area in case of an accident or injury.

Follow all local, state and federal safety instructions or codes for operation of machinery. Follow ANSI B7.1 and OSHA regulations.



Do not wear loose fitting clothing. Keep hands and clothing away from all moving parts at all times as they may become entangled in them.



Do not operate gasoline or diesel-powered machines inside of a building or other enclosed

area that is not fully vented to outside air. Exhaust contains carbon monoxide, an invisible gas which, if breathed, causes serious personal injury and possible death.



Do not operate saw in an area where there is combustible material or fumes. Sparks may be caused while sawing and may cause an explosion or fire.



When cutting slabs above grade, (i.e. building floors, bridge decks, etc.), the work piece must be supported so as not to fall when cut free. The support must be sufficient to prevent the slab from shifting so as not to pinch the saw blade. When removing the work piece, proper and safe rigging techniques and hardware must be used.



When hoisting a concrete saw equipped with a lifting frame, always inspect frame and attaching hardware for damage before lifting. Use proper and safe hoisting techniques and hardware.

A WORD ABOUT BLADES

Diamond or abrasive saw blades may be used on these machines. Make sure the blade is of proper specification and size for the application. Diamond and abrasive blades may in some cases be used with or without water. **“Wet-Cutting”** diamond blades **MUST** be used with water. **“Dry-Cutting”** diamond blades are generally used on low horsepower saws. Check with manufacturer as to the application/specification of the product.



Always check the bladeshaft RPM of the machine before mounting blades. Make sure the bladeshaft RPM does not exceed the maximum allowable RPM's for the blade you are using. Failure to follow this guideline may lead to serious injury or death.



Never use a damaged blade, (i.e. excessively worn core, cracked core, segments missing, chunks out of blade, blade arbor hole worn or abrasive blades without blotter). Handle all blades with care.



When using wet-cutting diamond blades it is necessary to cool with water continuously to avoid heat buildup which will cause segment loss, blade warpage and possible core failure.



Saw blades should be checked/inspected at least twice daily for excessive core wear, core cracks and/or arbor damage. Blades which exhibit any of this damage must be removed. Contact blade manufacturer if these conditions continue to exist.



When blade diameter is changed, blade guard, bladeshaft drive and/or engine/motor RPM **MUST** also be changed to maintain proper blade speed. When changing blade diameter contact manufacturer, or refer to the owners manual for correct procedures.



Always allow newly mounted abrasive blades to run at operating speed with guard in place for at least 30 seconds before cutting. Do not stand in line with the blade.



Never twist or turn a blade in the cut as this can cause blade breakage. Use care when lowering blade into existing cut, make sure the blade is aligned with the cut. Never cut or grind with the side of the blade.

BLADE MOUNTING

To prevent the saw from starting when mounting a blade:

- Make sure the ignition switch is in the off position for electric start saws.
- Disconnect the power supply from air, hydraulic or electric saws.
- Disconnect the spark plug wires on 1 and 2-cylinder gasoline-powered saws.
- Always use a bladeshaft locking-pin or a back-up wrench.

Inspect Blade Guard:

- Make sure the water tubes are clear if wet-cutting. Make sure the blade does not rub coolant tubes or guard when mounted. Always use proper size blade guard with a splash flap.

Blade Selection:

- Make sure you are using the proper blade specification and size for the application. If in doubt, contact the blade manufacturer.



When mounting the saw blade:

- Remove nut/bolt and outer flange.
- Inspect flanges and bladeshaft for damage.

- Flanges should be clean and free of nicks and burrs. Inner flange should be tight on shaft.
 - Shaft should be free of gouges and nicks.
 - Slide blade onto shaft, do not force blade on shaft or alter the arbor hole.
 - Flanges must be of same diameter, do not use flanges of two different diameters.
 - Make sure drive pin (if provided) is properly inserted through the blade and into the opposite flange.
 - The drive pin is not to be used to drive the abrasive or diamond blade. The nut/bolt must be tightened sufficiently so that the driving force is through the flanges.
 - All abrasive blades must use flanges that are at least 1/4 the diameter of the blade.
 - All steel-centered diamond blades that are less than 20" in diameter must use flanges that are at least 1/4 the diameter of the blade.
 - All steel centered diamond blades that are 20" in diameter and larger must use flanges that are at least 1/6 of the blade diameter.
 - Remove bladeshaft locking-pin (if so equipped).
- NEVER** attempt to operate saw without a blade guard in place. After mounting the saw blade, install the blade guard and check to see that it is securely mounted.



For further information on the operation, use, and care of diamond blades request the "Rx for Diamond Blades" and ANSI B7.1 from your manufacturer or a copy may be obtained from the Masonry and Concrete Saw Manufacturers Institute (see back for address). For further information on the use, care and operation of abrasive blades request the safety booklet entitled "Cutting-Off Wheels" from your manufacturer or contact the Grinding Wheel Institute at 30200 Detroit Road, Cleveland, OH 44145.

MACHINE OPERATION

Prestart Checks:



- Perform all daily maintenance and fuel saw.
- No smoking or open flames when fueling. Stop the engine and always allow it to cool before fueling. Remove gas cap slowly as fuel may be under

pressure. Fuel spray/vapor is extremely flammable. Never overfill, always leave room for fuel expansion. Clean up any spilled fuel before starting and move fuel can/supply away from machinery before starting. Maintain an approved fire extinguisher. Make sure you replace fuel cap.



On air-powered saws always use a safety pin or wire on all hose connections. Do not turn on air supply with hoses disconnected. Always turn off air supply before disconnecting hoses.



On electric-powered saws, when making any new connections, make sure motor rotation is correct in respect to the bladeshaft nut threads. Refer to owners manual. Follow all applicable local, state and federal electrical codes when making connections.



On hydraulic-powered saws make sure hose connections are tight before starting power source and make sure hoses are of sufficient strength to handle pressures in the lines.

Make sure saw is on firm, level ground and work area is free of debris that may interfere with saw operations.

Make sure all personnel are clear of work area and out of line of saw blade.



Always be alert to the fact that there is a rotating blade on the machine. Keep hands and feet clear of blade. This is extremely important on rope/recoil start saws.



Never start the saw with the blade in the cut, as the blade will turn as soon as machine is started or turned on. This can cause blade damage and cause the saw to kick back.

STARTING THE SAW

- Make sure handles or handle bars are extended and locked securely into operating position.
- Make sure all controls work smoothly and correctly.
- Make sure blade is raised high enough to clear the ground before starting.
- Make sure the saw is held firmly and you have good footing and balance when pull-starting saws.
- Make sure self-propelling drive is disengaged or in neutral before starting saw.