



DIAMOND

PRODUCTS

OPERATOR'S MANUAL

CONCRETE SAW

MODEL

CC1800XL

February 2007

Part #1801038

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GENERAL SAFETY WARNINGS AND PRECAUTIONS

PERSONAL SAFETY

- Read and understand all operating instructions before attempting to operate the saw.
- Always wear safety approved hearing, eye, head and respiratory protection.
- Always wear sturdy boots with non-slip soles to ensure proper footing. Use of steel toed safety boots is recommended.
- Due to the nature of concrete cutting, sparks may be generated therefore never wear clothing that is made of flammable material.
- Know how to stop the saw quickly in case of emergency.
- Keep all parts of your body and clothing away from the blade and all other moving parts.
- Use caution and follow all instructions when loading and unloading the saw.

BLADE SAFETY

- Examine cutting blades before each use. Blade should have no cracks, nick, or flaws. The center hole must be undamaged. Use only blades recommended for your particular model saw.
- The saw should only be used for cutting material that is specified on each cutting blade. Read the instructions provided with each blade to determine which material the blade is designed to cut.
- Use only reinforced abrasive blades or steel centered diamond blades manufactured for use on concrete saws.
- Inspect blade flanges for damage, excessive wear and cleanliness before mounting the blade. The blade must fit snugly on the clean, undamaged blade shaft.
- Observe the specified maximum speed of the blade. Never use a blade that has a lower maximum operating speed than the blade shaft speed.
- The ignition governor is designed to limit the maximum no-load engine speed. Speeds in excess of that may cause the blade to exceed the maximum blade speed. Do not operate the unit at speeds greater than the maximum blade speed.
- Always keep guards in place and never allow the blade exposure on the guard to exceed 180 degrees. Repair or replace damaged guards immediately.
- Never expose anyone to the direct line of the blade.
- Make sure that the blade does not come in contact with the ground or any other surface when transporting the saw.

GENERAL SAW SAFETY

- The saw must never be left unattended when the engine is running.
- Keep both hands on the handles when operating the saw.
- Never operate the saw if there is a fuel leak.
- Use extreme caution and slow speed when using the self propelled drive to move the saw up or down ramps or when loading and unloading from trucks or trailers. When going down ramps, DRIVE the saw forward slowly. When going up ramps, BACK the saw in reverse slowly.

CUTTING / WORK AREA SAFETY

- Never operate the saw in any application or job in which you are not trained or supervised.
- Always ensure that the work area does not contain any buried or embedded electrical lines, gas lines or water lines. Ensure that all electricity in the ground, floor, walls or ceilings is shut off prior to cutting. Ensure that all gas and water lines that may be buried or embedded in the ground, floor, walls or ceilings are shut off prior to cutting.
- Operate the saw only in well ventilated areas. Engine exhaust contains carbon monoxide which can cause loss of consciousness and death.
- Keep bystanders and animals out of the work area.
- Observe all safety regulations for the safe handling of fuel. Store fuel in appropriate safety containers. Shut off the engine and allow it to cool prior to fueling. Wipe off any spilled fuel. Always move away from the fueling area prior to starting saw.
- Do not operate the saw in areas which contain combustible material or fumes. Sparks may occur from cutting that could cause a fire or explosion.

Concrete cutting as all construction work is inherently dangerous!

Failure to comply with the preceding warnings could result in serious bodily injury!

CONCRETE SAW OPERATING INSTRUCTIONS

ASSEMBLY

1. Set handles to desired height and securely tighten bolts. The handles are mirror image and can be reversed, depending on operators preference.
2. Be certain to check engine and transmission oil levels and service if required. Refer to engine manual for detailed information.
3. On electric saw models, the proper size power cord must be provided by the purchaser.

GENERAL INSTRUCTIONS

1. Be certain you have the correct diamond or abrasive blade. Contact your authorized servicing dealer for the correct specification. Getting the correct blade will make a tremendous difference in your blade costs and performance.
2. The blade shaft flange and arbor must be inspected for damage and cleaned before mounting the blade. If damaged, replace bad parts. Inspect blade for damage to arbor hole and flange area before attempting to mount blade.
3. Mount the blade solidly and firmly on the blade shaft arbor using the wrench provided. The lock pin(s) in the outer blade flange must go completely through the blade and into the matching hole(s) in the inside blade flange. **Tighten the blade flange bolt very securely** (Approximately 50 lb.ft.). Note that the blade shaft bolt on the right hand side has left hand threads, which tightens by turning counter clockwise. The blade shaft bolt on the left hand side has right hand threads, which tightened by turning clockwise.
4. **WARNING:** Do not operate without proper blade guard in place. Do not operate with front of blade guard raised. Blade exposure cannot exceed 180 degrees when cutting.
5. The front pointer must be checked for alignment with blade. It must be in line with a blade mounted shaft. Use a chalk line or a long straight edge to verify alignment.
6. Do not use conventional (wet) diamond blades without water! You must have from 2-1/2 to 5 gallons of water per minute flowing over the blade for proper cooling and to get maximum blade life. For wet sawing, are sure the spray holes in the blade guard tubes are open and that each side of the blade has an adequate supply of water. Test your water supply for pressure and flow before starting to saw.
7. Saw in a straight line. Mark the cutting line clearly so the saw operator can follow the line without difficulty. The saw should not be twisted from side to side trying to force the blade back on line.

8. Saw only as deep as the specifications and job conditions require. This will save blade life and reduce sawing costs. Sawing excessively deep is wasteful and should be avoided. Step cut in increments of 2 inches for best results.

TO START SAW

1. Fill the fuel tank and check the engine oil level. Refer to the engine manual for details.

WARNING: On self-propelled models, always disengage the transmission drive system before starting the engine.

2. Start engine. Follow procedure in engine manual.
3. Let engine warm up at half throttle.
4. All sawing is done at full throttle. Governor is factory set for correct engine speed.

TO STOP SAW

GAS SAWS: Push and hold down the stop button at the right, center of the control panel until the engine completely stops. If unit is key start, turn key to OFF.

ELECTRIC SAWS: Press stop button at top of starter box.

HYDRAULIC SAWS: Turn ball valve to off position.

TO MANEUVER SAW

1. Raise blade as high as possible so blade will not strike pavement when maneuvering. Pull index plunger and turn handwheel counter clockwise.
2. To turn, lift rear wheels just above pavement and maneuver saw as desired.
3. On Self-propelled units, engage the transmission by pushing the lever at the rear of the control panel down. Pull lever up to disengage. **WARNING:** Be certain the speed control lever is at neutral before engaging to avoid sudden movement. Move the speed control lever from the neutral position. This lever permits infinitely variable ground speed (up to 70 feet per minute) in both forward and reverse. When maneuvering with power, the engine should be running at half throttle or more so the hydrostatic transmission can operate efficiently. For maximum speed forward or reverse, the engine must be running at full throttle.
4. To push manually, the transmission must be disengaged.

TO START SAWING

1. Align blade with cut.
2. For wet sawing open water valve **Full** open. Confirm flow and adjust before lowering into cut. If water supply is interrupted, stop cutting immediately.
3. Lower blade into cut (never deeper than required) by slowly turning hand wheel

CONCRETE SAW OPERATING INSTRUCTIONS

clockwise. When the blade reaches desired depth, release index plunger.

4. During cutting do not exert excessive side pressure on handles to steer. Use only enough pressure to follow previously marked line.
5. Move the speed control handle forward until desired speed is obtained allowing the blade to cut and not climb out of cut or stall.
6. If the saw should stall for any reason raise the blade completely and disengage transmission before starting engine again.
7. When lowering the blade into a partially-made cut, use extreme care to be certain the blade is perfectly aligned within the cut before starting to cut again. Do not force blade into material by lowering blade too fast or by propelling too fast while sawing.

AT FINISH OF CUT

1. On self-propelled models, move speed control lever to neutral position.
2. Bring the blade out of the cut by pulling the index plunger and turning handwheel counter-clockwise. Raise blade high enough to clear the pavement when maneuvering the saw.
3. Turn off water valve. If saw is equipped with the optional electric water pump, make sure it is turned off.
4. Close engine throttle to idle position. Let engine cool down before stopping.
5. Do not leave the saw until the blade and saw have completely stopped.

MAINTENANCE INSTRUCTIONS

1. **Lubricate the blade shaft bearings daily!** If cutting dry, lubricate blade shaft bearing two or three times daily. All other fittings (wheels, bearings, depth control shaft, etc.) should be greased every 40 hours of operation. Use only premium lithium-based grease conforming to NLGI No. 2 consistency.
2. **Check the engine oil daily.** Keep oil clean and at proper level. Since the engine often operates at an angle, check the engine oil level (with the engine horizontal) frequently to ensure that the oil level never falls below the minimum mark on the dip stick. Follow the engine manufacturer's recommendations for changing oil.
3. **Air filter.** When cutting dry, clean two or three times per day. See engine manual for additional information.
4. **Blade shaft V-belts tension:** This model concrete saw is equipped with 3VX premium V-belts. These belts are properly tensioned at the factory. Severe damage or even breakage of the crankshaft might occur if the belts are tensioned too tight. Check belt tension as set on the new saw and never set belts beyond original factory tension. Not enough tension will result in poor saw performance and short belt life. Belts

should never be allowed to slip. After four hours of use, re-tension belts to make up for initial stretch. To re-tension the belts, turn the engine off. Loosen the four bolts on the sides of the engine base. Turn the vertical tensioning bolt on the front of the engine base clockwise until the belts are tight. Re-tighten the four bolts on the engine base. Continue to check the belt tension on a daily basis, and re-tension as necessary. To obtain accurate V-belt setting, a V-belt tension tester should be used. Check the setting on a single belt of a matched set of V-belts. Apply load on the center of the span. Deflection should be 3/16" with a 5 to 6 lb. load.

5. **Tighten fasteners regularly:** Nuts and bolts may become loose particularly after the first few hours of operation. Most fasteners on this unit are metric. Please use the correct tool
6. **Engine care:** See engine manual. Clean dust and dirt from cooling fans, as required, to provide adequate cooling.

MAINTENANCE OF TRANSMISSION DRIVE

1. **Check hydrostatic transmission oil daily.** Check level in transparent oil reservoir. Transmissions are factory filled with an oil having a viscosity equivalent to SAE 20W20. Do not use multiple viscosity oils. If erratic operation occurs during hot weather, drain oil and refill with an oil having a viscosity equivalent to SAE 30 or SAE 40 with API classification SE, CC, CD or better.
2. **Loose chain drive:** The chain drive will stretch during normal operation. It can be tightened by loosening the four transmission attaching bolts and moving the transmission up in the slots of the transmission platform. Do not over tighten chain, but allow a slight amount of slack. Lubricate chain with oil to reduce chain wear.
3. **Hydrostatic transmission cooling fins:** Do not allow the fan or cooling fins of the transmission to become covered, or clog with dust or dirt. This will not allow proper cooling of the transmission oil.
4. **Drive wheels:** If the drive wheels do not engage the rear wheels with sufficient pressure, slippage may occur. To correct this, lengthen the engagement linkage by loosening the two adjustment bolts, lengthen the linkage assembly, and re-tighten the bolts.

GOVERNOR SPEEDS

It is critical that the governor and throttle on all internal combustion engines are adjusted properly. Engine speed is preset at the factory for proper sawing speed. It is not normally necessary to change this setting. It should be periodically verified after the saw is placed in service. To change governor setting, refer to the engine manual.

CONCRETE SAW OPERATING INSTRUCTIONS

WARNING: Over speeding the engine and blade shaft can cause serious damage to the blade and could result in injury to the operator and bystanders. Do not exceed the following speeds: No load blade shaft – 2800 RPM, no load engine – 3900 RPM.

ASSEMBLY OPTIONS, OPERATOR'S PREFERENCE

1. The handles are mirror image and can be reversed.
2. The water valve can be mounted on the left or right side on units without the gas tank assembly.
3. On hydraulic motor models, the hydraulic hoses and tube assembly can be mounted on the left or right side. If moved to the right side, the water valve must be moved to the left side.

OPTIONAL ITEMS

HYDROSTATIC TRANSMISSION KIT

A kit is available to make the saw a self-propelled unit with a forward and reverse ground speed of up to 70 feet per minute. The saw can still be a push unit simply by disengaging the transmission.

ELECTRIC WATER PUMP

A kit is available for use with electric start engine models only. The pump is powered directly from the battery and must be switched off when not in use or it will run until the battery is dead.

WEIGHT KIT

Two weights are included which bolt to the front of the saw frame. Total weight is ~26 lbs. This is standard on all 20" models and all models over 15HP.

WATER TANK KIT

A five gallon (19Liter) tank is available for all models and mounts to the lift bar. This option is intended for dust suppression during dry cutting and is not sufficient for blade cooling.

TACHOMETER / HOUR METER

A digital display meter is available for all gas models and is standard on all 20 HP units. It is installed by simply mounting it to the control panel and wrapping the pickup wire around the engine spark plug wire 4 to 5 times.

BLADE SIZE	MAXIMUM DEPTH
10"	2-5/8"
12"	3-5/8"
14"	4-5/8"
16"	5-5/8"
18"	6-5/8"
20"	7-5/8"

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EQUIPMENT AND PARTS WARRANTY

Diamond Products warrants all equipment manufactured by it against defects in workmanship or materials for a period of one (1) year from the date of shipment to Customer.

The responsibility of Diamond Products under this Warranty is limited to replacement or repair of defective parts at Diamond Products' Elyria, Ohio factory, or at a point designated by it, of such parts as shall appear to us upon inspection at such parts, to have been defective in material or workmanship, with expense for transportation and labor borne by Customer.

In no event shall Diamond Products be liable for consequential or incidental damages arising out of the failure of any Product to operate properly.

Integral units such as engines, electric motors, batteries, transmissions, Etc., are excluded from this Warranty and are subject to the prime manufacturer's warranty.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND ALL SUCH OTHER WARRANTIES ARE HEREBY DISCLAIMED.



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