Automatic Cut-Off Feature: Position the vise carriage to that point of travel where the unit is to be turned off. It must not be past the blade flange. A steel collar (109 ) and a thumb screw, located on the rear portion of the "cut-off" switch rod ( 114 ) is then slipped forward until it is in position against the rod guide ( 80 ) which is located on the vise carriage immediately below the cross feed turn handle. Tighten the thumb screw and return the carriage to a starting position for cutting.

## OPERATION

After loading the vise, adjust the cross feed ( 84 ) to align where you want to cut and move the carriage ( 76 ) so that the blade does not quite touch the rock.

Raise the idler pulley ( 50-55 ) to loosen the belt and install the belt on the combination of pulleys for the desired starting speed. Refer to the Power Feed Chart, page 5.

Move the shaft collar ( 109 ) on the switch rod ( 114 ) and lock it where it will automatically shut off the machine at the point you want.

Close the hood.

Start the motor by pulling the knob out on the switch rod. The rock will be sawed automatically. This can be viewed through the inspection window.

Stop the cut after a depth of 1/4" to 3/8" has been reached. Back the carriage away and restart the cut. This will relieve the cut of mis-alignment caused by rough exterior surface. However, this may not be necessary if the material to be cut is smooth and uniform.

## MAINTENANCE

LUBRICATION: Un-painted parts such as threaded rod, shafts and steel V guide inside the saw should be greased to prevent rust.

After every 200 hours of use, remove the power feed gear box cover ( 46 ) and check the oil level in the gear case. Using 10-30 motor oil, refill to a 3/8" level of oil and lubricate the feed worm drive shaft bearings ( 42 ).

Oil the electrical motor ( 20 ) once a year with 10-30 motor oil.

Do not oil or grease the saw arbor bearings. The bearings are sealed and greased for life.

BLADE: Sharpen the blade occasionally to prevent glazing over. This can be done by making several cuts into an old 220 grit silicon grit wheel, a silicon carbide dressing stick made for that purpose, or a soft, porous, red brick. The blade should be reversed periodically. Should your blade glaze over while cutting large difficult pieces of jade or hard jasper, it is necessary to dress the blade continuously during cutting. Stopping and starting while in the middle of a cut almost always leaves a blade mark. It should be noted that using a continuous dresser will shorten the life of the blade.

CARRIAGE SIDE CAPS (110-112 ): To adjust, loosen the bottom center nut under the crossbar and

 

SAW LEVEL: To level your saw, adjust the leveling bolt on the end of the leg next to the motor.

BLADE MOUNTING: Hold the blade flanges together face to face and make sure they are square and flat. The blade should fit the shaft snugly. Make sure there is no dirt between the flange and the blade. Secure the blade with the threaded blade flange and tighten moderately with the spanner wrench.

BLADE ALIGNMENT: Measure the distance between the leading edge of the vise and the leading edge of the blade. Mark the measured spot on the blade. Rotate the blade 180 degrees. Move the vise back and measure the leading edge with the back part (measured spot) of the blade. The distance should be the same.

KOOLERANT MIXTURE: Diamond saw blades are never run dry and always used with a Koolerant to prevent heat build-up. The Koolerant also washes out the fine rock cuttings. Water alone, or with detergent, is not a good Koolerant and water in any form eventually causes rust on steel parts. If the saw will not be used for an extended period of time, the blade should be removed and stored.

The saw is the "Immersion Type" wherein the diamond blade runs in a reservoir of cooling fluid. Allow the Koolerant mix to stand up 1/4" to 3/8" on the bottom of the blade when standing still. The shield in back of the blade prevents coolant from being thrown all over.

For sawing rocks with a hardness (MOHs Scale) of 5 or under, use Covington Koolerant # 1 ( add 9 parts water ). Mix well before pouring into the saw reservoir.

For sawing rocks with a hardness ( MOHs Scale ) of 6 or higher, use Covington Koolerant # 2 ( use 9 parts odorless kerosene, regular kerosene, or a light form of oil ). Mix well before pouring into the saw reservoir.

Also available for sawing rocks with a hardness (MOHs Scale) of 6 or higher, is Covington's Rock Hound Oil. This mineral based oil has excellent cooling properties that extend the life of the blade and saw. Rock Hound Oil is odorless and colorless.

**PREPARATION**

LOAD VISE: Move the vise carriage away from the blade and clamp rock between the vise jaws tightly. Further secure the rock with wood wedges if necessary.

# 1 Bulldog Vise: Vise is designed so that the jaws will conform to and hold the rock securely. The Quick Nuts adjust the vise immediately to any size or shape rock.

# 2 Rigid Grip Vise: The vise jaws are built for free operation- no binding in opening or closing. To operate, pull the bushing between the pliers ( 65 ) toward you, squeeze the pliers and close vise. Push the bushing between the split pliers to lock in the closed position and tighten vise by turning the handle counter-clockwise. To cut maximum size rocks, clamp the width of the rock so that it lies flat in the vise.

Cut-Off Switch: The main cut-off switch ( 31) is activated by a steel rod ( 114 ) running from a convenient pull knob on the right front of the tank to the main switch box on the rear of the tank. The rod runs parallel to the right side of the vise table. Pull the rod knob to start the saw and push it in to stop.

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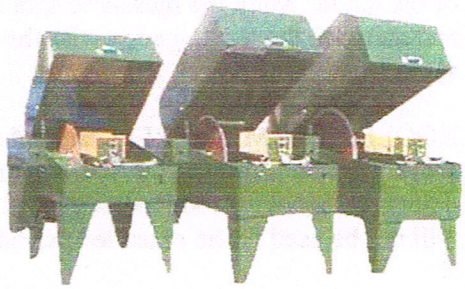
# HEAVY DUTY SLAB SAW INSTRUCTIONS FOR 18", 20", 24", 30" & 36" BLADE SIZES



## INTRODUCTION

This series of saw units are similar in design. The different size units have different dimensions and pulley sizes, but the sawing operation of each remains basically the same.

Drawing part numbers are used in the instructions to help the reader identify the saw parts referred to. Numbers are enclosed in (Parenthesis).

## DESCRIPTION

These ruggedly built slab saws are made with enclosed heavy welded steel chassis and inspection window. Separate welded inner frame eliminates warp. One piece vise carriage, mounted on solid key stock and channel iron guide, provides the rigidity necessary for fast cuts with heavy loads.

Vise carriage moves silently on l-1/2" steel V-Way Guide. A quick return, split pliers, allows the carriage to be manually returned to any position.

Power feed has six speeds. The over-running clutch automatically adjusts to the hardness of the rock and the changing length of the cut as the blade progresses through the rock.

The cross feed will permit 8" of material to be slabbed without re-clamping. One turn of the spin knob moves the vise crosswise 1/16"; and can produce 20 to 22 uniform slabs.

The precision 1" arbor ball bearings are heavy duty, double neoprene sealed, and greased for life.

Accessories include motor mount, Covington Gold Blade, arbor nut wrench, safety hood support, slab catcher and adjustable floor leveler. It also comes with operating instructions and Guarantee.

## INSTALLATION

SAFETY: Before plugging your saw unit into your electrical supply read the Covington Safety Demands Sheet.

When you raise the saw hood, always be sure that the safety catch engages properly before releasing the weight of the hood.

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# BLADE DRESSING

## #SCB522 Silicon Carbide 220 Grit

The 220-grit block will allow for scouring of the glaze coating that forms over the diamond on a saw blade. Proper use will restore a blade to full cutting potential.

## WARNING

**Failure to follow instructions and safety information can result in personal injury.**

## BE SURE TO HAVE YOUR SAW STOPPED BEFORE CONTINUING

In order to tell if your blade needs dressing, simply drag your finger along the edge of the blade to feel if the diamonds are exposed. ***If the edge feels smooth, it is in need of dressing***, if the edge is rough however, the blade is not in need of dressing. In order to properly dress your blade, follow the three steps below.

1. **Clamp** – Clamp the blade dresser into the saw vice.
2. **Close** – If your saw is equipped with a hood, close it to ensure safety.
3. **Cut** – Cut a thin section off of the block.

**Repeat** as necessary, or until diamond can be felt on the edge once again.

Proper maintenance of your saw blade will allow for smoother cutting, and will allow for safer environment to work in.

Note: When cutting harder stones, (i.e. petrified wood, agate, jasper, and jade) make sure to dress your blade more frequently, as glaze forms more quickly.

Covington Engineering will not be held responsible for neglect to follow these instructions.

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## MECHANICAL

Diamond blades will not saw your fingers but they will friction-burn if you press against them. However, they will saw your finger nails like sawing a rock.
**DO NOT** use a diamond blade dry.
**DO NOT** use a diamond blade that is out-of-true or bent.
**DO NOT** try to straighten a bent blade.
**DO NOT** run a metal core diamond blade faster than 3800 surface feet per minute.
**DO NOT** run rubber expand type sanding drums faster than 3800 surface feet per minute and always have a perfect abrasive belt installed before starting.
Keep rags and foreign objects away from machines.
Be sure that all guards or covers are in place before running machines. The left hand thread on an arbor must be on the left of the operator and the right hand thread must be on the right. Arbor must rotate down next to the operator.

## ABRASIVE WHEELS ARE SAFE - USE BUT DO NOT ABUSE

**DO** always handle and store grinding wheels in a careful manner.
**DO** visually inspect all grinding wheels before mounting for possible damage in transit. If imperfect, do not use. If you drop a grinding wheel, do not use.
**DO** check maximum operating speed established for grinding wheel, against machine speed.
**DO** check mounting flanges for equal and correct diameter. (Should be at least 1/3 diameter of the wheel and relieved around hole.)
**DO** be sure work rest is properly adjusted. (Center of grinding wheel or above; no more than 1/8" away from grinding wheel.)
**DO** always use a guard covering at least one half of the abrading wheel.
**DO** allow newly mounted wheels to run at operating speed, with guard in place, for at least one minute before using and stand to one side of the wheel.
**DO** always wear safety glasses or some type of eye protection when using grinding wheels.
**DO** turn off coolant before stopping wheel to avoid creating an out-of-balance condition.
**DO NOT** leave sponges in contact with grinding wheels after use.
**DO NOT** force a wheel onto the machine or alter the size of the mounting hole.
**DO NOT** ever exceed maximum operating speed established for the grinding wheel. See wheel label.
**DO NOT** use mounting flanges on which the bearing surfaces are not clean and flat.
**DO NOT** tighten the mounting nut excessively.
**DO NOT** start the machine until the wheel guard is in place.
**DO NOT** jam work into the wheel.
**DO NOT** stand directly in front of abrading wheel whenever a machine is started.
**DO NOT** abrade material for which the wheel is not designed.
**DO NOT** allow a wheel to stand in water-always shut off water supply and allow wheels to run a few minutes to give them time to dry out.

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# IMPORTANT COVINGTON SAFETY DEMANDS

Covington Engineering designs machines with safety in mind. Please read our Safety Demands Sheet carefully and follow for your safety and the safety of others.

## ELECTRICAL

Have your licensed electrician electrically ground your machines and equipment (against electrical shock) by complying with federal, state, and local laws. Locate electrical and in-line switch or switches so operator can immediately shut them off in an emergency.
**DO NOT** allow more than one person to operate a machine, unless you have a switch for each person, which is wired so that any one of the switches will stop the machine in an emergency.
Keep children or visitors away from electrical devices and machinery.
**DO NOT** work on wet floors where electricity is present.
**DO NOT** plug into electricity until the motor switch is off and the proper voltage is supplied.
**DO NOT** leave motors running when not in use.
**DO NOT** wear jewelry or rings around electricity.
Locate all electrical cords away from moisture, rain, and moving parts.
Periodically check all cords for worn-frayed spots and replace or repair to code if needed.
Thermal protected motors will stop if overloaded. When they cool they will start automatically without warning. If the motor stops, shut the switch off for your protection.

## OPERATOR AND PERSONS

Protect your person when operating machinery so you will not be injured.

1. Wear tight clothing. Loose clothes can be drawn into machinery.
2. Wear safety goggles to protect your eyes from flying particles.
3. Use a net or cap that will hold your hair inside so it cannot be exposed. Hair is very dangerous as it can easily fly into machinery from airflow if loose and not covered.
4. Keep your hands and fingers away from "danger spots" or "pinch points" where they might be injured.
5. Keep children and visitors away from machinery.
6. Use a respirator to protect you from dust.
7. Take off loose jewelry before using machines.
8. Be sure that all moving parts are shielded and all guards are in place before operating any equipment.

## CHEMICAL

Very few people are allergic to lapidary chemicals such as polishes, grits, abrasives, sawing solutions, etc. If you show signs of rash or allergies of any kind when using any of the products, determine what one it is and stop using it. Check with your doctor.
Keep all chemicals away from children and never eat or drink these chemicals.
Keep all lapidary chemicals and grits out of your sewer drains or they may clog.
**DO NOT** allow coolants to get on floors. You could slip and fall.
Sawing solutions such as kerosene are inflammable. Do not smoke or have flame of any kind, such as a water heater in the area. Our #1 Covington Blade Koolerant is not flammable.

# BRIEF HISTORY OF COVINGTONS
## By Vaden Covington

The name Covington originates from "Kolbin" which is Norse. Turgesin invaded Northern Ireland in 831 A. D. It was translated by the Irish as "Covan." In the migration to Scotland the name became "Cova." In the further migration to England the name became "Cov." The name "Ing" meant people and "Ton" meant town; thus town of Cov's people or Covington.

The town of Covington is located 65 miles north of London, England. The Covington Church was built there in 1171 A.D. and is still used and in good repair. My wife and I were there in 1971 to help celebrate the 800th year since the church was dedicated.

NEHEMIAH COVINGTON: Left Covington, England and arrived in Northampton, Virginia, in 1646. He was a gristmill stonecutter, blacksmith and tobacco planter. He registered our Owl's Head Trade Mark, in 1663. His son Thomas registered the "Quarter Circle above the "C" brand shown on some of our supplies even today.

Many Covingtons were prominent in United States History; here are a few.

BENJAMIN COVINGTON: General under General George Washington in the Continental Army. Elected to Continental Convention in 1788.

WILLIAM COVINGTON: Served as a Captain in the Virginia Colonial Army under General George Washington. He served as Adjutant General to George Washington in the Continental Army and wrote the terms of surrender at Yorktown. Congress granted him 2500 acres of land for his outstanding service.

MATTHEW POYTHRESS COVINGTON: Was the Colonial Surveyor for King George III. He joined the Continental Army and was captured by the British. He made his escape and was later appointed to set up the North Carolina Military Academy.

CAPTAIN HENRY COVINGTON: Married Winifred Stone, whose father was a signer of the Declaration of Independence. He was District Judge for many years and had a farm on the side.

GENERAL LEONARD COVINGTON: With 600 soldiers took West Florida, Georgia, Alabama and part of Mississippi for the United States from the French and English. Most of the places named Covington in the United States were named in his honor. His mansion "Propinquity" still stands 6 miles from Natchez, Mississippi.

JAMES WALL COVINGTON: My grandfather, moved from North Carolina in 1840 to Mississippi, where he started our present business of making grinding equipment. He made hand and foot grinders for grinding farm tools, gem coral and seashells. In 1848, he registered the Covington Trade Mark. During the Civil War he made grinders and pushcarts for the Army

Even though he was "Well off" before the war, at the end he was broke because the Confederate money was worthless. Things were so bad in the south that he decided to move to California by ox teams. He decided to take the Mormon Trail by way of Salt Lake City.

He loaded the bottom of the wagons with Covington Grinders for trading stock and started out on this two-year journey (which can be made in 2 hours by air now). My father was one year old when they left and three years old when they arrived where Redlands is now.

Part of each day was used to herd the oxen for feed and hunting for food, so travel was very slow. My grandfather had a brother in Salt Lake City. He helped to make trades of Covington Grinders for supplies and get a guide to take them through the desert to Redlands. Feed for the oxen would be poor and very little hunting. Mormon guides always insisted on feeding the Native Americans along the way to keep on good terms with them, so they took extra food. My Folks arrived where Redlands is now in 1868.

# Covington Engineering Corporation

## WARRANTY AND MONEY BACK GUARANTEE

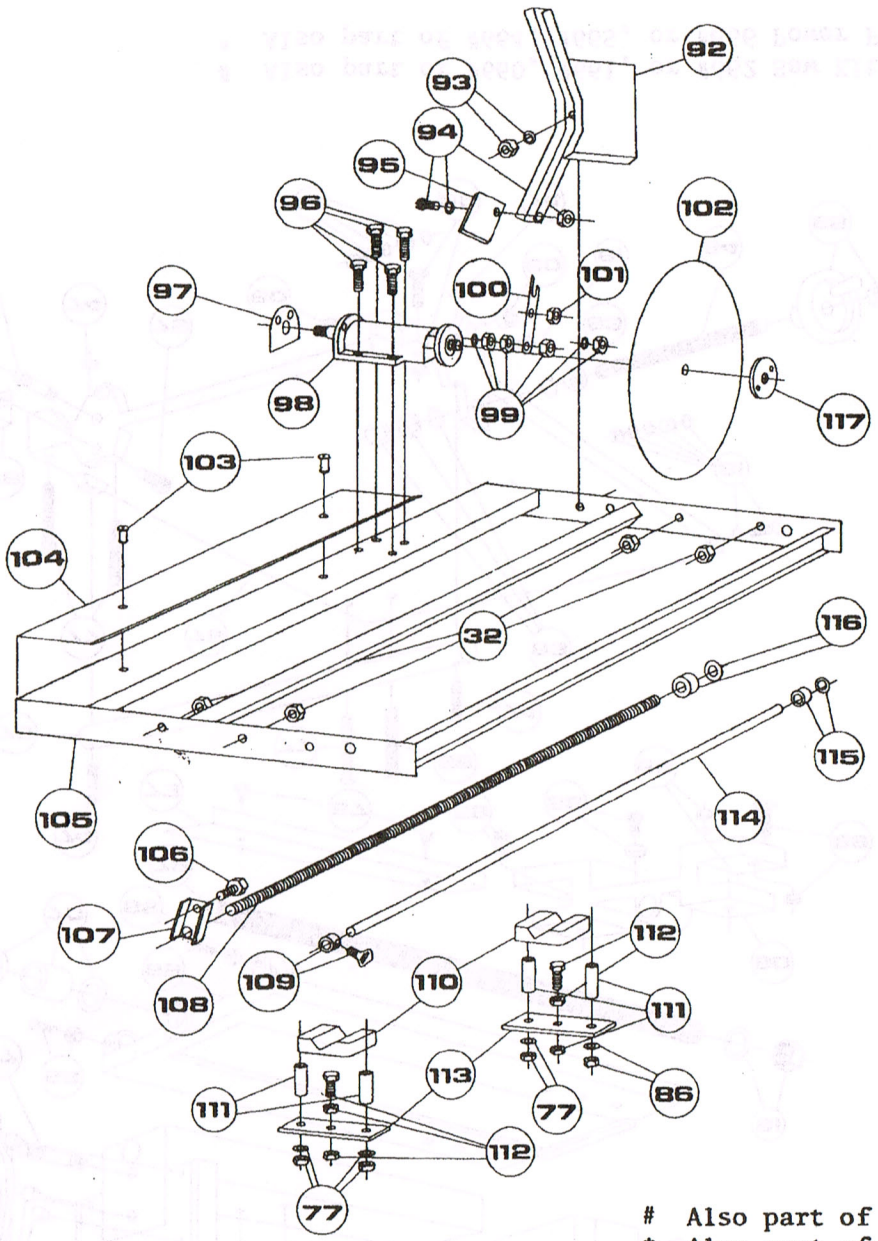
If you are not completely satisfied after inspecting your purchase, return it unused within 10 days of receiving it and your purchase price will be promptly refunded. For your protection, repack it well. Address it to Covington Engineering Corp. 715 W. Colton Avenue, Redlands, CA, 92374. Prepay and insure your shipment and send it back to us. We *will not* charge you the regular 15% inspection, repacking, and restocking charge. Covington Engineering is fully guaranteed by us against defective material and workmanship. If your purchase is defective in any way, we will repair or replace the defective part for one year from the purchase date. The customer is responsible for any transportation, packing, or insurance fees involved. Covington is not responsible for customers not being able to use equipment while parts are being repaired or replaced. ***This guarantee does not cover normal wear and tear, electrical burnouts, damage, alterations, neglect, and other manufacturer's products used or installed on our machines beyond their published guarantee.*** This guarantee applies to all Covington built machines. You can buy Covington equipment with confidence.

Dan Drouault
President

Covington's SINCE 1948 SEAL OFFICIAL SEAL and BRAND

model 700 series

slab saw




| QTY | P/N | |
|---|---|---|
| 1 | 92 | blade guard |
| 5 | 93 | ¼"-20 X 3/4 RHMS, fiber washer & nut |
| 1 | 94 | #8-32 X ½ RHMS, fender washer & nut |
| 1 | 95 | splash pad (3" X 6" carpet) |
| # 4 | 96 | 5/16"-24 X 1 HHMS - high grade |
| # 2 | 97 | arbor gasket, cork |
| # 1 | 98 | #15 arbor assy |
| 3 | 99 | 5/16"-18 std nut; 1 ea jam & locknut |
| 1 | 100 | lower prop arm |
| 1 | 101 | ¼"-20 X ½ RHMS & locknut |
| 1 | 102 | blade |
| # 1 | 103 | ¼"-20 X ½ THMS, fiber washer |
| # 1 | 104 | catch pan (18 ga, 8" X 21") |
| # 1 | 105 | frame |
| * 1 | 106 | lead scr guide (¼"-20 X 3/4 HHMS) |
| * 1 | 107 | lead scr guide bracket "U" channel (½" X 2") w/½" I.D. bronze bushing |
| * 1 | 108 | lead screw (½"-13 X 36½"L) |
| * 1 | 109 | sw on/off collar (¼"steel) and thumb screw (#10-32 X ½) |
| # 1 | 110 | carriage "V" block, 1"X 2"X 2" milled (#163 casting) |
| # 4 | 111 | carriage blk spacer (galv pipe, 1/8"X 5/8") |
| # 2 | 112 | cap adj bolt (¼"-20 X 1¼ & Sq Hd Nut |
| # 2 | 113 | "V" block strap (1"X 3¼"X 3/16"thk) |
| * 1 | 114 | switch rod (¼" dia X 35½"L) |
| * 2 | 115 | ¼" seal bushing (SB-437-4) & ¼" fiber washer |
| * 1 | 116 | ½" steel collar & fiber washer |
| # 1 | 117 | arbor flange, 1"-14 R.H. thr |

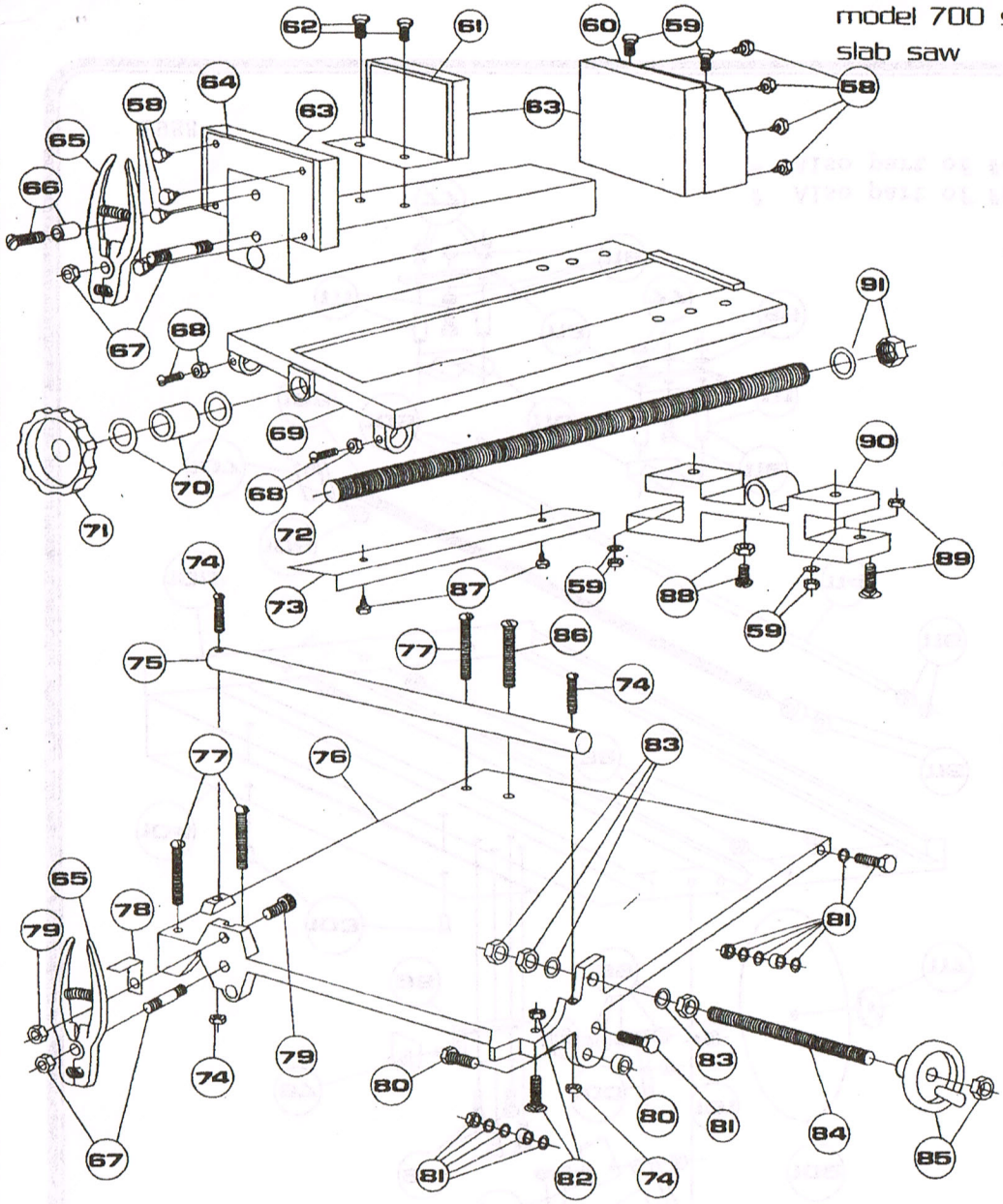
\# Also part of #660, #661, or #662 Saw Kits

* Also part of #664, #665, or #666 Power Feed Kits

Covington SINCE 1946 ENGINEERING CORPORATION REDLANDS, CALIF.

1988

model 700 series
slab saw



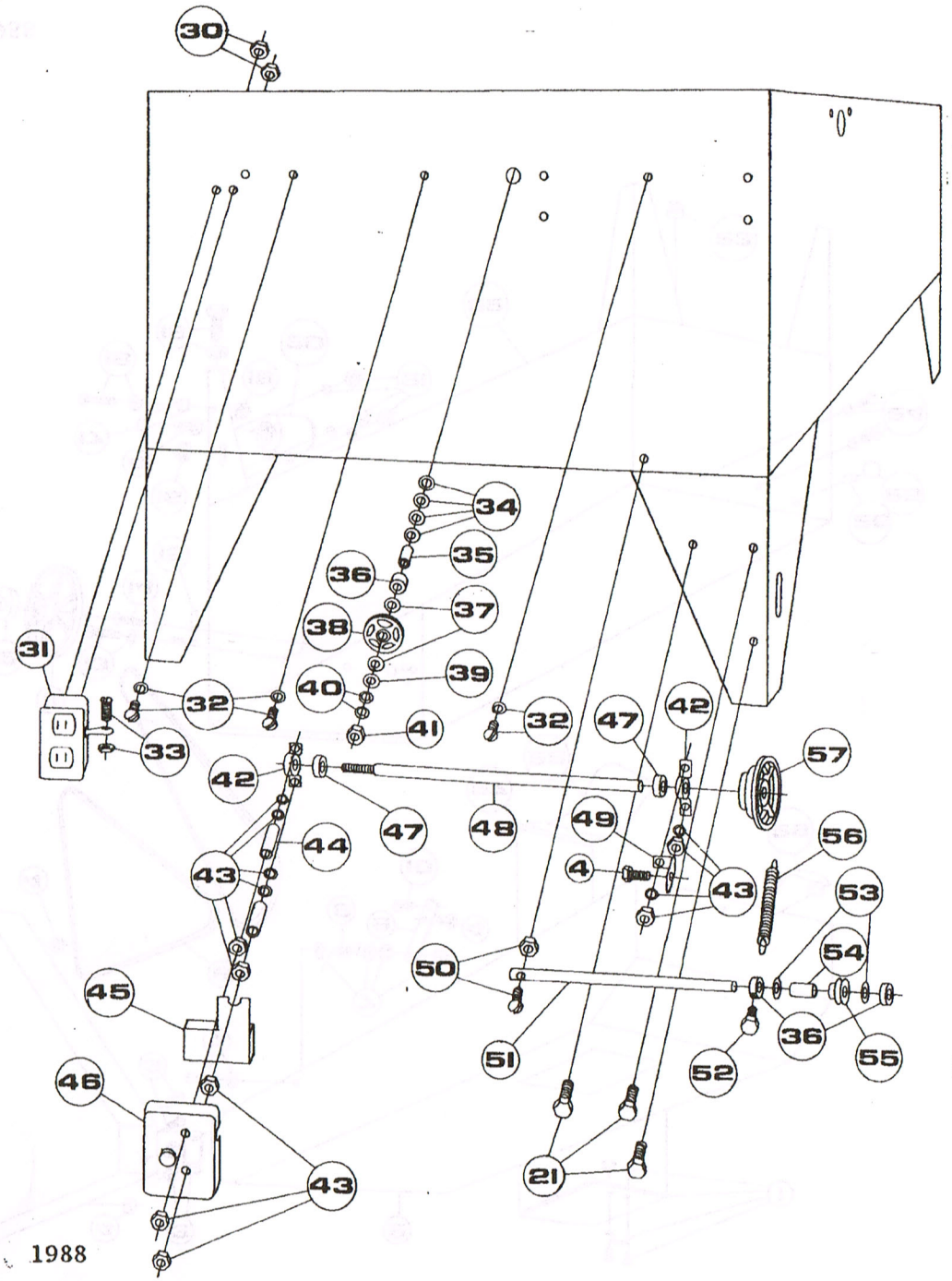

| QTY | P/N | |
|---|---|---|
| # 8 | 58 | #6 X 5/8 sheet metal screws |
| # 2 | 59 | 5/16"-18 X 2 HHMS, lock washer & nut |
| # 1 | 60 | rear block (#87A casting) |
| # 1 | 61 | middle block, 5 X 5 X 5/16 steel "L" |
| # 2 | 62 | 3/8"-16 X 3/4 HHMS |
| # 2 | 63 | wooden block, 8 X 5 X 3/4 |
| # 1 | 64 | vise channel assy |
| # 1 | 65 | pliers w/spring; #67 3/8"-16 stud & lock nut |
| * 1 | 65 | (same as above) |
| # 1 | 66 | plier lock (wing nut slieve & ¼"-20 X 2-1/8 RHMS |
| # 2 | 68 | Adj bolt (¼"-20 X 3/4 RHMS) & nut |
| # 1 | 69 | Vise frame (#86 casting, 18" Vise - #89 |
| # 1 | 70 | ½" sae washer, d.c. collar & nut |
| # 1 | 71 | knob, 2½ X ½ (NG 12) |
| # 1 | 72 | vise screw rod (½"-13 thr) |
| # 1 | 73 | vise shim |
| # 2 | 74 | Vise cross shaft bolt (¼"-20 X 2¼ RHMS) & nut |
| # 1 | 75 | Vise cross shaft, ½"dia X 15¼ |
| # 1 | 76 | carriage (#85 casting) |
| # 3 | 77 | ¼"-20 X 4 RHMS & nut |
| * 1 | 78 | plier bracket |
| * 1 | 79 | plier bracket bolt (#10-24 X 3/4 RHMS & nut |
| # 1 | 80 | sw guide bolt (¼"-28 X 3/4 & ¼ X 3/4 X ¼ thk washer) |
| # 1 | 81 | Carriage ball bearing assy (1602-2RS, ¼"-20 X 3/4 HHMS, 2-AN washer & lock nut |
| # 1 | 82 | hold down bolt (elevator ¼"-20 X 1½) & nut |
| # 2 | 83 | vise cross feed nuts (3/8"-16) & 1 - fibre washer |
| # 1 | 84 | vise cross feed rod (3/8"-16 thr) |
| # 1 | 85 | hand wheel (3"dia X 3/8 (19325) & nut |
| # 1 | 86 | ¼"-20 X 4 FHMS & nut |
| # 2 | 87 | #6-3/8 sheet metal screws |
| # 1 | 88 | 5/16"-18 X 2½ THMS & jam nut |
| # 1 | 89 | hold down bolt (elevator (¼"-20 X 1) & nut |
| # 1 | 90 | vise bridge (#87B casting) |
| # 1 | 91 | sae washer & ½"-13 nut (welded) |

\# Also part of #660, #661, or #662 Saw Kits
* Also part of #664, #665, or #666 Power Feed Kits

1988

# model 700 series

## slab saw



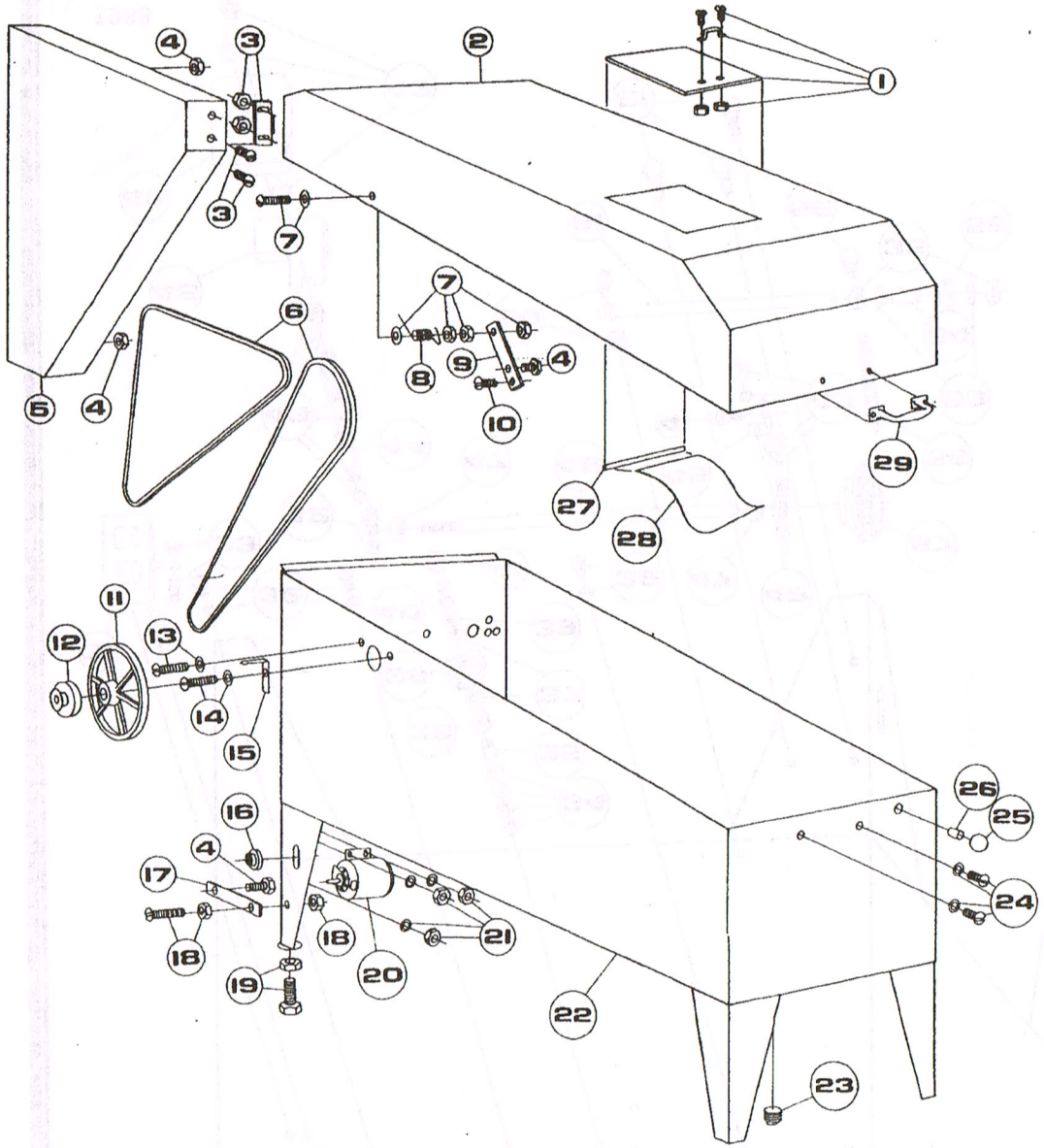

| QTY | P/N | |
|---|---|---|
| * 2 | 30 | ¼"-20 nuts + ¼"-20 X ½ truss hd MS |
| * 1 | 31 | 1 hp toggle sw, 8' cord sw w/30" wire, elec. bx & cover |
| * 5 | 32 | ¼"-20 X 1 THMS & fiber washer |
| * 1 | 33 | #4-40 X 3/4 RHMS & plastic lock nut |
| * 3 | 34 | ½" fiber spacer washer |
| * 1 | 35 | ½ X 3/8 X 1¼ L bronze bushing (#1353) |
| * 1 | 36 | ½" steel collar |
| * 2 | 37 | 3/8 X 1 fiber washer |
| * 1 | 38 | 4 X 3/8 bronze gear (G-187 Boston) |
| * 1 | 39 | 3/8" std steel washer |
| * 2 | 40 | 3/8" lock washer |
| * 1 | 41 | 3/8"24 std & jam nuts |
| * 2 | 42 | 5/8" pillow block (2X529) |
| * 7 | 43 | ¼"-20 nut & washer |
| * 4 | 44 | 3/8 X ¼ X 1¾ L spacers (tubing) |
| * 1 | 45 | oil pan (#125 casting) |
| * 1 | 46 | gear cover (#143 casting) |
| * 2 | 47 | 5/8 collar steel |
| * 1 | 48 | 5/8 X 15-3/4 worm shaft |
| 1 | 49 | belt guard bracket |
| * 1 | 50 | #10-24 X 1¼ RHMS & nut |
| * 1 | 51 | ½ dia X 11½ L idler shaft |
| * 1 | 52 | ¼"-28 X 3/4 HHMS |
| * 2 | 53 | ½" fiber washer |
| * 1 | 54 | 5/8 X ½ X 1-1/8 L bronze bushing (1X868) |
| * 1 | 55 | 2A X 5/8 pulley |
| * 1 | 56 | idler spring (#82 Lane) |
| * 1 | 57 | SCZ-6 X 5/8 pulley |

\# Also part of #660, #661, or #662 Saw Kits

* Also part of #664, #665, or #666 Power Feed Kits

Covington
SINCE 1939
ENGINEERING CORPORATION
REDLANDS, CALIF.

1988



model 712/717

slab saw

| QTY | P/N | |
|---|---|---|
| 1 | 1 | plexiglass window & handle (479) w/2 - #8-32 X 5/8 FHMS, washer & nut |
| 1 | 2 | hood |
| 1 | 3 | cabinet magnet assy (SP 46) |
| 1 | 4 | ¼"-20 X ½ HHMS |
| 1 | 5 | belt guard |
| * 2 | 6 | V-belts (4L530 & 4L560) |
| 1 | 7 | 5/16-18 X 1-3/4 RHMS, 2-fender washer, 4-std & 1-lock nut |
| 1 | 8 | hood prop spring (C & M spr) |
| 1 | 9 | prop arm (Hutchison Mfg) |
| 1 | 10 | ¼"-20 X ½ THMS & locknut |
| * 1 | 11 | 8A X 1 pulley |
| * 1 | 12 | SCZ4 X 5/8 (2-3 X 5/8 step) pulley |
| # 1 | 13 | 5/16"-18 X 1 THMS, lock washer & nut |
| # 1 | 14 | 5/16"-18 X 1-3/4 THMS, lock washer, 2-std nuts, fiber washer & locknut |
| 1 | 15 | blade guard bracket |
| 1 | 16 | 2½A X 5/8 motor pulley |
| 1 | 17 | lower belt guard bracket |
| 1 | 18 | #10-24 X 1 RHMS & 2-nuts |
| 1 | 19 | ½"-13 X 1-3/4 HHMS leveling scr & nut |
| 1 | 20 | motor (5K453, 5K459, or 6K321) |
| 3 | 21 | 5/16-18 X HHMS, washers & nuts |
| 1 | 22 | body (tank) |
| 1 | 23 | 1½" drain plug (pipe) |
| # 1 | 24 | ½"-20 X 1 THMS & fiber washer |
| * 1 | 25 | switch rod knob (Daves #30) |
| * 1 | 26 | switch bushing (Lamcor SB-437-4) |
| 1 | 27 | curtain clip (aluminum) |
| 1 | 28 | splash curtain (polyethylene) |
| 1 | 29 | hood handle (#3, SP 482) |

\# Also part of #660, #661, or #662 Saw Kits

* Also part of #664, #665, or #666 Power Feed Kits

## PULLEY COMBINATIONS

| FOR 18" & 20" Saws | | |
|---|---|---|
| POWER FEED SPEED | BLADE PULLEY | POWER FEED DRIVE SHAFT PULLEY |
| 1st SLOW | 2" | 5" |
| 2nd | 2" | 4" |
| 3rd | 3" | 5" |
| 4th | 2" | 3" |
| 5th | 3" | 4" |
| 6th FAST | 3" | 3" |
| FOR 24", 30" & 36" Saws | | |
| POWER FEED SPEED | BLADE PULLEY | POWER FEED DRIVE SHAFT PULLEY |
| 1st SLOW | 2" | 6" |
| 2nd | 2" | 5" |
| 3rd | 3" | 6" |
| 4th | 2" | 4" |
| 5th | 3" | 5" |
| 6th FAST | 3" | 4" |
| ESTIMATED POWER FEED SPEED PER HOUR | | |
| 18" | 8" | 24" |
| 20" | 8" | 24" |
| 24" | 6" | 15" |
| 30" | 5" | 12" |
| 36" | 4" | 9" |

| BLADE R. P.M. WITH 1725 R. P.M. MOTOR | | | | |
|---|---|---|---|---|
| BLADE SIZE | MOTOR PULLEY | BLADE PULLEY | BLADE R.P.M. | BLADE S.F.P.M. |
| 18" | 2-1/2" | 6" | 675 | 3180 |
| 20" | 2-1/2" | 6" | 675 | 3843 |
| 24" | 2-1/2" | 8" | 505 | 3171 |
| 30" | 2-1/2" | 10" | 400 | 3140 |
| 36" | 2-1/2" | 10" | 400 | 3108 |

## POWER FEED

The saw is equipped with a variable speed power feed capable of delivering the proper feed speed for the rock hardness encountered. The feed is also equipped with an over-running clutch ( 34-40 ) designed to stop the carriage travel any time the rock is being fed to the blade at a rate too fast for efficient cutting action.

Slower feed speeds are recommended for cutting hard rock. Also a slower speed is recommended when cutting a much thicker stone of the same material. It is wise to keep a record of power feed speeds used to cut materials of different hardness.

Changes in the feed speeds are accomplished by changing pulley size combinations between the 2" - 3" step pulley ( 12 ) on the blade shaft and the 4" - 5" - 6" ( or 3"- 4" -5" ) step pulley ( 57 ) on the power feed drive shaft ( 48 ). The idler assembly ( 50-55 ) permits a fast belt change and helps retain the belt in place on the pulleys.

adjust the top center nut to take up the looseness. Next, tighten the bottom center nut to lock the bolt. If the carriage does not slide properly by hand, you may have to re-adjust. Adjust the other cap in the same manner.

CARRIAGE ( 82 ) & VISE (89 ) HOLD-DOWN BOLTS: To adjust, loosen lock nut and turn hold-down bolt so it has a 1/32" clearance; then lock nut.

CROSS-SLIDE OF VISE: To adjust, loosen lock nuts ( 68 ) and screw bolts in to take up slack. Adjust bolts so they do not bind; then tighten the lock nuts.

MOTOR STALL-OUT: If the motor stalls out while cutting hard gemstone material, first reduce power feed speed to match blade cutting ability (by changing pulley size combinations). If the problem persists, re-adjust the power feed clutch.

POWER FEED OVERRUNNING CLUTCH: ( 34-40 ): Refer to power feed-left side view. First remove the outer adjusting (jam ) nut ( 41 ). Next, loosen the inner adjusting nut and re-tighten enough to prevent open space between the washers installed between the nut and the bronze gear. Back inner nut off one-half to three quarter turn. Secure nut in place ( lock ) with outer jam nut.

Test with motor off: The outer nut and threaded shaft should turn together when moved by a wrench.

## HELPFUL HINTS & HARMFUL ERRORS

One of the most common mistakes is to force the blade into the material to be cut faster than the diamond rim erodes ( eats ) its path through the material. The general rule is "The harder the material ( or the thicker the same material ), the slower the power feed." The results of this mistake can be seen when the blade does not cut straight or becomes dished and bent.

Preventative measures can be taken, but there is no substitute for judgment. Check the blade for alignment and the arbor for loose bearings. Ascertain the Koolerant solution permits the blade to "flush" itself. Dress the blade when it appears that it has glazed over. Run your finger tips around the rim of the blade when it is not running. You should be able to feel the exposed diamond. No amount of skill can make a blade with too little diamond cut properly.

## TANK COOLANT LEVEL

The saw is the "Immersion Type" wherein the diamond blade runs in a reservoir of cooling fluid. The Koolerant mix should stand up 1/4" to 3/8" on the bottom of the blade.

The formula for determining the amount of fluid needed is stated as follows in inches, Length X Width X Depth divided by 231 ( cubic inches per gallon ).

Approximate amount of fluid needed to fill a tank to the proper level:

18" Saw, 8-1/2 gal.
20" Saw, 11 gal.
24" Saw, 12-1/2 gal.
36" Saw, 34 gal.