

OWNERS MANUAL

ourparts **Blockbuster® Large Masonry Saw**



Models: **BBL547 BBL527 BBL727 BBL5247 BBL7247** BBL1347 BBL1327 BBL13247



Search Website by Part Number Discount	Search Manual Library For Parts Manual & Lookup Part Numbers – Purchase or Request Quote	Can't Find Part or Manual? Request Help by Manufacturer, Model & Description
Equipment		Parts Order Form
		1 No.Asc Taic
	Search Manuals	izante
	Histope scale performant and period speptimetic party and some manuality in scale, per parts	NOT.
	theat	Gaan
ni Zapitrami i siya Yoni na kasarata ke tarata di katalari ganity apulartari. Na sali Ina Badu mu Parla na Asaratari ke tarata da da Katani Alak Ying Katala da	SCOL Brand	
When Source Mades The DifferenceIII Sectors	* Vold	N(8-1)
Printe universe interest for any posterior in the second s		01
200 2004 tol tourideta for Tableta for	Sond	DaleTegion
a - Phallagran St Dash Dava	bil: Smilheric	ApVara con -
See Second and Areas	Pathatics. Enter Pathate(Sol Septen)	124.10
All data second participations and the second participation of the second participatio		A
Stanton in Stanton	Examples Enter Description from You Are Locking For	CdBac
		70
	Silved 1	Ermi -

Discount-Equipment.com is your online resource for quality parts & equipment.

Florida: 561-964-4949 Outside Florida TOLL FREE: 877-690-3101

Need parts?

Click on this link: http://www.discount-equipment.com/category/5443-parts/ and choose one of the options to help get the right parts and equipment you are looking for. Please have the machine model and serial number available in order to help us get you the correct parts. If you don't find the part on the website or on one of the online manuals, please fill out the request form and one of our experienced staff members will get back to you with a quote for the right part that your machine needs.

We sell worldwide for the brands: Genie, Terex, JLG, MultiQuip, Mikasa, Essick, Whiteman, Mayco, Toro Stone, Diamond Products, Generac Magnum, Airman, Haulotte, Barreto,
Power Blanket, Nifty Lift, Atlas Copco, Chicago Pneumatic, Allmand, Miller Curber, Skyjack, Lull, Skytrak, Tsurumi, Husquvarna Target, Stow, Wacker, Sakai, Mi-T-M, Sullair, Basic, Dynapac, MBW, Weber, Bartell, Bennar Newman, Haulotte, Ditch Runner, Menegotti, Morrison, Contec, Buddy, Crown, Edco, Wyco, Bomag, Laymor, EZ Trench, Bil-Jax, F.S.
Curtis, Gehl Pavers, Heli, Honda, ICS/PowerGrit, IHI, Partner, Imer, Clipper, MMD, Koshin, Rice, CH&E, General Equipment, Amida, Coleman, NAC, Gradall, Square Shooter, Kent, Stanley, Tamco, Toku, Hatz, Kohler, Robin, Wisconsin, Northrock, Oztec, Toker TK, Rol-Air, APT, Wylie, Ingersoll Rand / Doosan, Innovatech, Con X, Ammann, Mecalac, Makinex, Smith Surface Prep,Small Line, Wanco, Yanmar

WARRANTY

Saint-Gobain Abrasives, Inc. (Norton Clipper) Products warrants all products manufactured by it against defects in workmanship or materials for a period of one (1) year from the date of shipment to the customer.

The responsibility of Saint-Gobain Abrasives, Inc. under this warranty is limited to replacement or repair of defective parts at Saint-Gobain Abrasives, Inc. Stephenville, Texas factory, or at a point designated by it, of such part as shall appear to us upon inspection at such point, to have been defective in material or workmanship, with expense for transportation borne by the customer.

In no event shall Saint-Gobain Abrasives, Inc. be liable for consequential or incidental damages arising out of the failure of any product to operate properly.

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

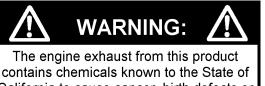
This warranty is in lieu of all other warranties, expressed or implied, and all such other warranties are hereby disclaimed.

Important: Before placing equipment in operation, record the following information.

MODEL:	SERIAL NO.:
PURCHASE FROM:	
ADDRESS:	
CITY: STA	TE: ZIP:

TELEPHONE NO.

Before using this equipment, make sure that person using it Read and understand the instructions in this owner's manual.



contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm

Table of Contents

Section	Page
I. Preparation	4-16
A. Safety Precautions	4
Dust and Silica Warning	4 29
B. Assembly	6
C. Assembly Conveyor Cart & Guide a Cut	6-7
D. BBL Series Masonry Saw Specifications	8
E. Electrical Connections	9-10
F. Wiring Diagram	10-14
BBL527, BBL547, BBL5247 5HP 230v/60/1	11
BBL527 3PHASE, BBL547 3PHASE, BBL5247 3PHASE, 5HP 230-460/60/3 W/Switch	12
BBL727 3PHASE, BBL7247 3PHASE 7.5HP 230-460/60/3 BBL727 575V 3PHASE 7.5HP 575v/60/3	13
BBL527 600v 3PHASE 5HP 600/60/3	14
G. Electric Motor Trouble Shooting	15
H. Gasoline Engine	15-16
Th. Gasoline Engine	10-10
II. Operation	17-21
A. How To Mount The Blade	17
B. "Step Cutting" With Abrasive Blades	17-18
C. "Jam Cutting" And "Step Cutting With Diamond Blades	18-19
D. Dry Cutting	19
E. Wet Cutting	19-20
III. Maintenance	20-23
A. V-Belts	20-21
B. Electric Motor	20
C. Gasoline Engine	21-22
D. Blade Shaft Bearings	23
E. Water Pump	22-23
IV. Parts List	24-35
A. Ordering Information	24
B. Electric Motor And Gasoline Engine Service Information	24
C. Frame And Water Pump All BBL Models	25-26
D. Cutting Head Gasoline Models	27-29
E. Cutting Head Electric Models	30-31
F. Electric Motor	32
G. Cutting Table All BBL Models	33
H. Guide-A-Cut Assembly All BBL Models	34
J. Tilting Miter Cut Table BBL	35



Read And Understand Owner's Manual Before Use



Safety Alert Symbol: Information Following This Symbol Is Very Important.

Use Only Genuine Norton Diamond Blades

I. PREPARATION

A. Safety Precautions

Important! The following safety precautions must always be observed.

Hazard Symbols



Fuel (gasoline) is extremely flammable and its vapors can explode if ignited. Store gasoline only in approved containers, in well-ventilated, unoccupied approved areas, and away from sparks or flames. Do not fill the fuel tank while the engine is hot or running. Do not start the engine near spilled fuel.

Never use the fuel as a cleaning agent



Engine components can get extremely hot from operation. To prevent burns, do not touch the engine or related parts while the engine is running or immediately after it is turned off. Never operate the engine with any heat shields or guards removed.



Keep all guards in place when operating any piece of equipment



Keep hands, feet, hair, and clothing away from all rotating parts



Lethal Exhaust Gas use only in well ventilated areas. Engine exhaust gases contain poisonous carbon monoxide, which is odorless, colorless, and can cause death if inhaled. Avoid inhaling exhaust fumes, and never run the engine in a closed building or confined area Never tamper with the governor components of settings to increase the maximum speed. Severe personal injury and damage to the engine or equipment can result if operated at speed above maximum. Always obey the maximum speed rating of blade.

DO NOT LIFT THE SAW BY THE HANDLE OR GUARDS!!!

Dust and Silica Warning

Grinding/cutting/drilling of masonry, concrete, metal and other materials can generate dust, mists and fumes containing chemicals known to cause serious or fatal injury or illness, such as respiratory disease, cancer, birth defects or other reproductive harm. If you are unfamiliar with the risks associated with the particular process and/or material being cut or the composition of the tool being used, review the material safety data sheet and/or consult your employer, the material manufacturer/supplier, governmental agencies such as OSHA and NIOSH and other sources on hazardous materials and make certain to comply with all product warnings and instructions for the safe and effective use of the material being cut. California and some other authorities, for instance, have published lists of substances known to cause cancer, reproductive toxicity, or other harmful effects.

Control dust, mist and fumes at the source where possible. In this regard use good work practices and follow the recommendations of the manufacturer/supplier, OSHA/NIOSH, and occupational and trade associations. Water should be used for dust suppression when wet cutting is feasible. When the hazards from inhalation of dust, mists and fumes cannot be eliminated through engineering controls such as either vacuum and/or water mist, the operator and any bystanders should always wear a respirator approved by NIOSH/MSHA for the material being cut.

California Proposition 65 Message

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contain chemicals known (to the State of California) to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- · Lead, from lead-based paints
- Crystalline silica, from bricks and cement and other masonry products
- · Arsenic and chromium, from chemically treated lumber

For Addition Information Consult The Following Sources:

http://www.osha.gov/dsg/topics/silicacrystalline/index.html http://www.cdc.gov/niosh/consilic.html http://oehha.ca.gov/prop65/law/P65law72003.html http://www.dir.ca.gov/Title8/sub4.html

Use Approved:



Eye Protection



Hearing Protection



Respiratory Protection



Head Protection

I. PREPARATION B. Assembly

- 1. Remove machine from skid.
- 2. Remove the conveyor cart and guide-a-cut from the carton and place on the pan.
- 3. Remove the drain plug from carton and place in drain opening in bottom of pan.
- 4. Check the owner's manual for wiring connection and proper electrical connections before starting saw.

C. Assembly Conveyor Cart & Guide-a-Cut

The Blockbuster® Masonry saws are shipped completely assembled and ready for use except for diamond blade, gasoline, and oil. Inspect the saw for shipping damage. If any damage is found, contact the shipper immediately and file a freight claim. Norton Construction Products is not responsible for any freight-related damages. Remove the saw from the pallet.

UPC	Part No	Item	QTY	Notes
00310007390	83777	Conveyor Cart Assembly	1	
00310007501	83892 💊 🗸	Guide-A-Cut Assembly	1	
00310004632	75128	Splash Guard Assembly	1	
00310004053	70807	Wrench 19 mm	1	
00310004199	72143	Wrench 22mm	1	
00310004436	73279	Water Pump Assembly	1	Gasoline Powered Machines Only
70184668392	214169	Pump Water Electric	1	Electric Powered Machines Only
70184650470	9602010	Fit Barb Hose 1/4FPTX1/2	1	Electric Powered Machines Only
-NA	Form BBL527-1327 Manual Rev 7-2015	Owner's Manual	1	Form BBL527-1327 Manual Rev 7-2015
-NA-	See Customer Service	Diamond Bade	1	General Propose Same Diameter as Blade Size

Items Included with the saw:



Do not install the blade until it is time to use the saw!



ANSI regulations prohibit the transportation of any concrete saw with the blade installed!

Conveyor Cart Assembly:

Remove the Conveyor Cart and Back Stop from the Saws Water Pan, and the Wing Nuts, Carriage Bolts, Washers, and Cart Stop from the plastic bag. Slide one (1) Carriage Bolt thru each of the three (3) Square Holes located on the front of the Conveyor Cart. Slide the Back Stop Over each of the Carriage Bolts. Slide the Stop Assembly over the Carriage Bolt Located on the Left front of the Conveyor Cart NOTE: The Rubber Stop will faces away from the Conveyor Cart. Attach one (1) Washer and one (1) Wing Nut to each Carriage Bolt and Tighten. **See Figure 1: Back Stop Assembly**. Place the Conveyor Cart on the Machine.

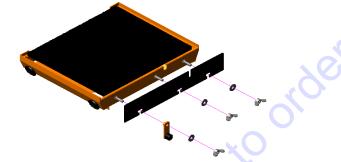


Figure 1: Back Stop Assembly

Guide-A-Cut Assembly:

Attach the Guide-A-Cut to the Conveyor Cart by adjusting the Wing Bolt until the Guide-A-Cut can slide over the Black Stop. The Guide-A-Cut will work as a Rip Guide that is adjustable for 90° and 45° cuts. See *Figure 2: Guide-A-Cut Assembly*.



Figure 2: Guide-A-Cut Assembly

Splash Assembly:

Remove the Splash Guard from the Saw Water Pan. Attach the Splash Guard Spring Clips to the Pivoting Bar Located Under the Cutting Head. Note that the rough side of the Splash Guard should face towards the front of the saw. The Splash Guard material is made is designed for easy to cleaning. To clean, simply rinse the Splash Guard with water until clean. The Splash Guard should be used when wet cutting to reduce the amount of debris thrown from the blade and cutting surface. When dry cutting the Splash Guard can be removed to allow the dust particles to drift away from the Saw Operator.

I. PREPARATION

D. BBL Series Masonry Saw Specifications

D. BBL Series Masonry S Dimensions/Weight				
	44" (4044 mm)			
Length	41" (1041mm)			
Width	26" (660mm)			
Height (Electric)	54" (1372mm)			
Height (Gas)	57" (1448mm)			
Weight (Electric) Uncrated	440lbs (970kg)			
Weight (Gas) Uncrated	460lbs (1014kg)			
Electric Motor				
Motor Mfg.	Baldor			
Motor Type	TEFC, Thermal Protection			
Motor RPM	3,450 RPM			
Single Phase:	5 HP - 230v 60 Hz single Phase (Standard)			
BBL527	Run Amperage: 20.6 Amp @ 230v			
BBL547				
BBL5247				
Three Phase 5 Horse Power	5 HP - 230-460v 60Hz three Phase (Optional)			
BBL527 3PHASE				
BBL547 3PHASE				
BBL5247 3PHASE	XU			
Three Phase 7-1/2 Horse Power	7-1/2 HP 230-460v 60Hz three Phase			
BBL727 3PHASE	Run Amperage: 8.4 Amp @ 230v/4.2 Amp @ 480v			
BBL7247 3PHASE	Nun Amperage. 0.4 Amp @ 2500/4.2 Amp @ 4000			
Three Phase 7-1/2 Horse Power 575v	7-1/2 HP 575v 60Hz three Phase (Optional)			
BBL727 575v 3PHASE	7-1/2 HP 575V 60Hz three Phase (Optional)			
Thee Phase 5 Horse Power 600v	5 HP - 600v 60 Hz single Phase (Optional)			
BBL527 600v 3PHASE				
Engine (Gasoline Models Only)				
Engine (Guessine models emg)	Honda			
Spec No.	GX390K1QXC9			
Model	GX390			
Engine Type	Single Cylinder 4 Cycle			
Horse Power	13 hp (9.5kW) @ 3,600 rpm			
Max Torque	19.5 ft-lbs (26.5 Nm, 2.7 kg-m) @ 2,500 rpm			
Cooling System	Air			
Oil Capacity	1.1 liter (1.16 US qt)			
Fuel Capacity	6.5 liter (1.79 US gal)			
Fuel Type	Unleaded Gasoline (86 pump octane)			
Low Oil Sensor	Yes			
Air Filtration	Four Stage Cyclone			
Characteristics				
Max Blade	Ø20" (508 mm) or Ø14" (356 mm)			
Depth of Cut 24" (610 mm)	10" (254 mm)			
20" (508 mm)	8" (203 mm)			
14" (356 mm)	5" (127 mm)			
Arbor Bore	1" (25.4 mm)			
Blade Shaft Locking Device	Machined Into Flats Of Tight Collar			
Blade Shaft Speed 24"	1,460 rpm			
20"	2,400 rpm			
14"	2,400 rpm			
Depth Control	Hand Feed With Return Spring			
Depth Lock	Standard			
	2			
Number Of V-Belts	_			
Plada Cuard Turna	All Steal Construction			
Blade Guard Type Stay Level Blade Guard	All Steel Construction Yes			



Water Pump (Gasoline Models)	Mechanically Belt Driven
Water Pump (Electric Models)	Electrical 115v/60Hz

I. PREPARATION E. Electrical Connections

Important Before connecting the motor leads to the power supply, be sure that the voltage, cycles and phase shown on the nameplate of the motor correspond to the available power supply. Both the 5 HP and 7-1/2 HP. motors have overload protectors and are equipped with a reset button on the motor housing. If, after proper electrical connections are made, the motor will not run, press the reset button to the overload protector switch. The optional 575v and 600v Three (3) Phase motors do not have a thermal over load protector.



Failure to run the motor on the proper voltage will damage the motor and is not covered under warranty. Improperly wired motors are not covered under warranty.

Voltage Selection for Three (3) Phase Motors 5 and 7-1/2 HP 230-480v: Wherever possible, use 480v power supply for best operation. To change voltage, disconnect the power form the machine, remove the terminal box cover from the top of the motor, and change the connections as shown in the wiring diagrams on page 12 or the chart below.

	Line A	Line B	Line C	Join	Join	Join	Join	Join	Join
High (480v)	1	2	3	4,7	5,8	6,9	10	11	12
Low (230v)	1,7	2,8	3,9	10,4	11,5	12,6	_	-	-

Power Connections

Connect the power supply to the pigtail leads of the switch. Direct wiring connection is preferred, but an extension cord with an electrical plug with 30 amp minimum capacity may be used. Connecting wires should be as short as possible and in one piece. In no case should the connecting wires be longer than shown in the following table:

Model	HP	Volts	Phase	50' (15m)	100' (30.4m)	150' (45.7m)
BBL527	5 HP	230v	1	12 AWG	12 AWG	10 AWG
BBL547						
BBL5247						
BBL527 3PHASE	5 HP	230-480v	3	12 AWG	12 AWG	10 AWG
BBL547 3PHASE						
BBL5247 3PHASE						
BBL727 3PHASE	7.5 HP	230-480v	3	12 AWG	12 AWG	10 AWG
BBL7247 3PHASE						
BBL727 575v 3PHASE	7.5 HP	575v	3	12 AWG	12 AWG	10 AWG
BBL527 600v 3PHASE	5 HP	600v	3	12 AWG	12 AWG	10 AWG

Caution-When wires that are too small gauge or too long are used, loss of power, over heating, or possible damage to the motor will result.



Always use the proper wiring connectors that are UL/CSA approved to attach the motor to the electrical supply. Any wiring hook ups should be made by qualified personnel and made to National Electrical Code and to any Local Codes.

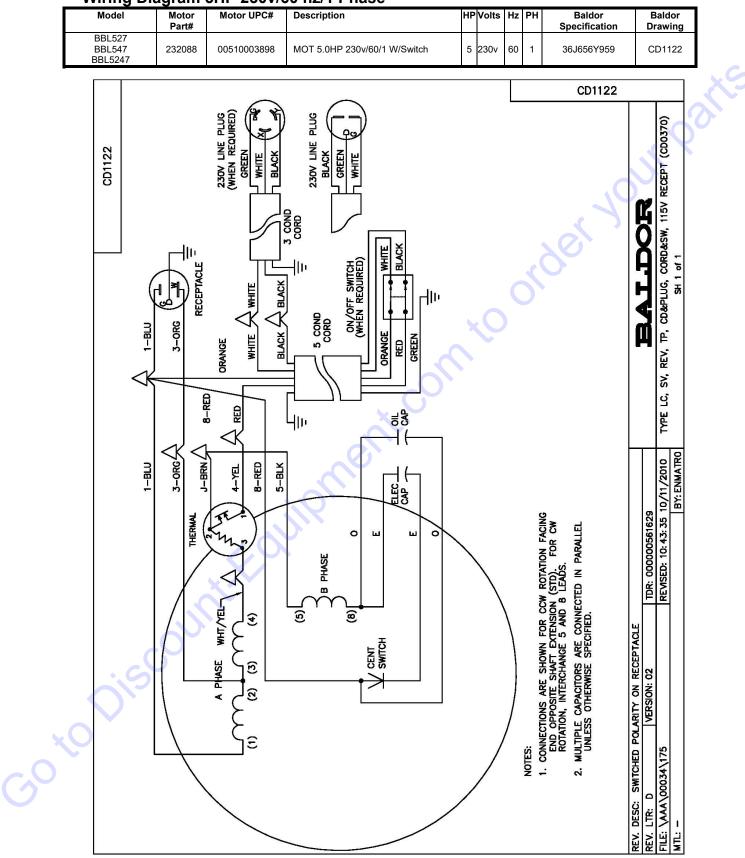
Generators:

If a generator must be used, it must be the minimum size listed below or greater. The generator must have a 30A circuit and capable of providing a minimum of wattage at the required voltage. Under size generators will cause motor damage and is not covered under warranty.

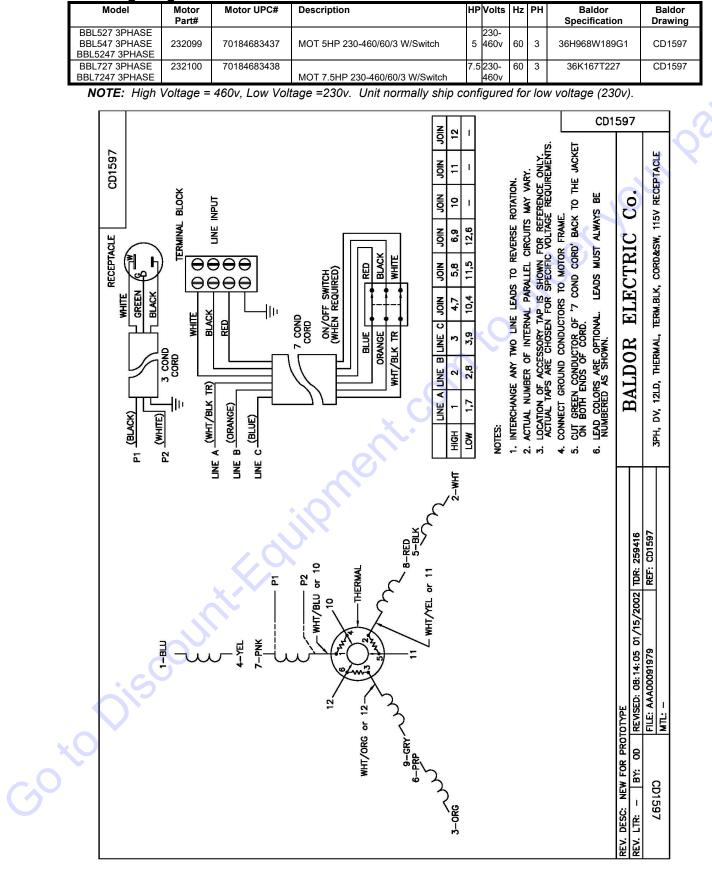
Motor HP	Minimum Generator Size
5 HP 230v	17.6 Kw
5 HP 230-460v 3 Phase	15.2 Kw
7-1/2 HP 230-460v 3 Phase	22.6 Kw
5 HP 600v 3 Phase	15.2 Kw
7-1/2 HP 575v 3 Phase	22.6 Kw
PARATION	×0

I. PREPARATION F. Wiring Diagram

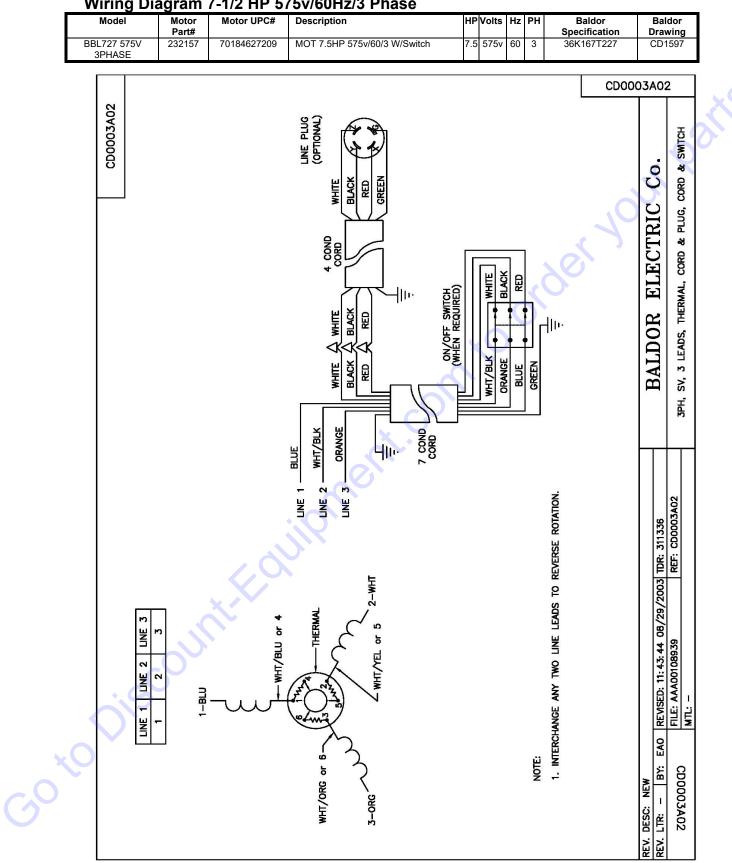
	Model	Part#	UPC#	Description	HP	Volts	Hz	PH	Baldor Specification	Baldor Drawing
	BBL527 BBL547 BBL5247	232088	00510003898	MOT 5.0HP 230v/60/1 W/Switch	5	230v	60	1	36J656Y959	CD1122
	BBL527 3PHASE BBL547 3PHASE BBL5247 3PHASE	232099	70184683437	MOT 5HP 230-460/60/3 W/Switch	5		60		36H968W189G1	CD1597
	BBL727 3PHASE BBL7247 3PHASE	232100	70184683438	MOT 7.5HP 230-460/60/3 W/Switch	7.5	230- 460v	60	3	36K167T227	CD1597
	BBL727 575v 3PHASE	232157	70184627209	MOT 7.5HP 575/60/3 W/Switch		575v	60	3	36N332S715	CD0003A02
	BBL527 600v 3PHASE	232154	70184626967	MOT 5HP 600/60/3 W/Switch No Thermal Overload Protector	5	600v	60	3	36H968T894	CD0383A02
Got	Disc									



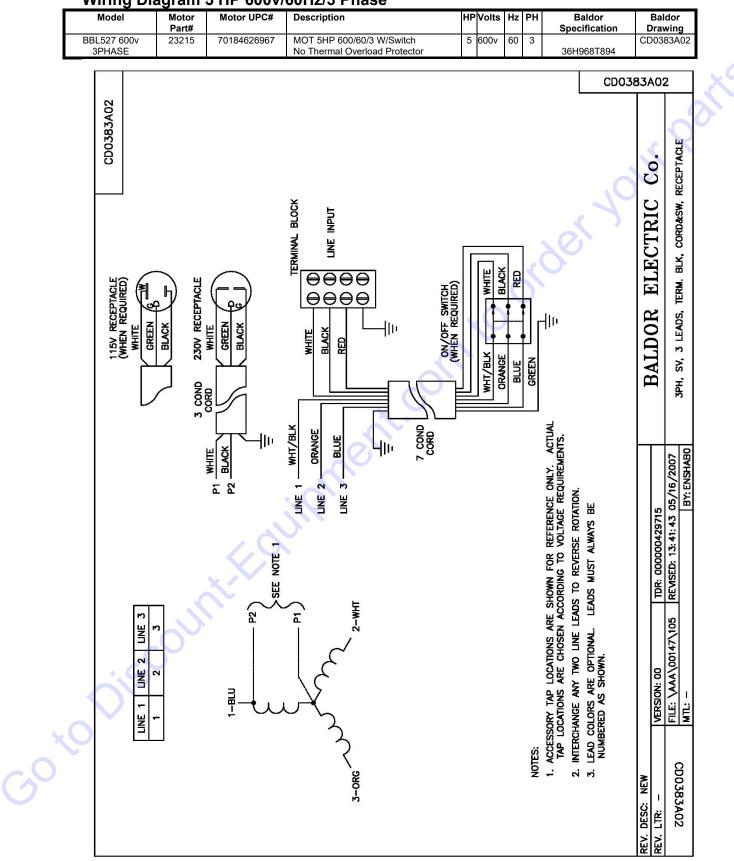
Wiring Diagram 5HP 230v/60 hz/1 Phase



Wiring Diagram 5HP & 7-1/2 HP 230-460v/60Hz/3 Phase



Wiring Diagram 7-1/2 HP 575v/60Hz/3 Phase



Wiring Diagram 5 HP 600v/60Hz/3 Phase

G. Electrical Motor Trouble Shooting:

Circuit Breaker During Start Up or Not Cutting:

Verify that the power supply voltage matches the motor name plate voltage



Failure to run the motor on the proper voltage will damage the motor and is not covered under warranty. Improperly wired motors are not covered under warranty. are

- Verify that the circuit breaker is at least 30 amps
- Verify that the Extension Cord meets the requirements on See: Power Connections page 9
- Have a qualified Electrician verify that the Electrical Connections are correctly made.
- If using a generator verify that it meets the minimum requirements **See:** *Generators* on page 9

Circuit Breaker Trips while cutting: - This is an issue with the Blade or Cutting Method being used.

- Verify that the Blade Being used is correct for the material being cut
- Verify that the Blade is properly exposed
- Verify that the Blade is installed properly
- Verify the cutting method. Forcing the Blade into the material is a sign that either the Blade is **NOT** correct for the material being cut or an inexperienced operator. Let the Blade and Machine work for you do not work for the Blade and Machine.

Overload Protector (Thermal) Trips – This is a sign of Low Voltage, Incorrect Blade for Material being cut, or forcing the Blade through the material.

- Verify Voltage at the machine!
- Verify that the Extension Cord meets the requirements on **See**: *Power Connections* page 9
- Verify the cutting method. Forcing the Blade into the material is a sign that either the Blade is **NOT** correct for the material being cut or an inexperienced operator. Let the Blade and Machine work for you do not work for the Blade and Machine.
- Clean Motor by blowing out the fan cover with compressed air
- Check the Motor for a damaged fan

G. Gasoline Engine

Prior to attempting to operate the engine, read the information contained in the engine owner's manual. An engine owner's manual is supplied with every gasoline powered concrete saw. 1. **Check Oil:** Add oil if low. Refer to the engine owner's manual for the recommended SAE viscosity grades. Capacity of oil is 1.1 liters (1.16 US qt)

2. **Check Fuel:** Fill if low. Use only unleaded gasoline with a pump sticker octane rating of 86 or higher is recommended. **Never use an oil and gasoline mixture!**

3. **Air Cleaner:** Never run the engine without the air cleaner! Rapid engine wear will result from contaminants being drawn through the carburetor and into the engine.

4. **Engine Starting:** Refer to the engine owner's manual for proper engine starting procedure.

io to Discount-Foundation



The head on the Gasoline Powered Saw should only rise to a maximum of nine (9) inches above the surface of the Cutting Table

II. OPERATION

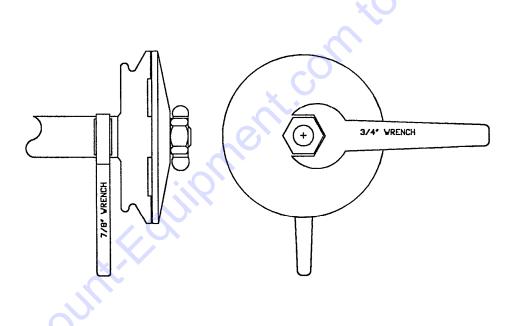
A. How to Mount Blade

Be sure blade shaft collars and arbor are free of dirt and all foreign material before mounting blade on the arbor shaft. Tightening blade against an uneven surface can cause fracture of an abrasive blade or cause to run-out of alignment, causing excessive blade wear.

When tightening bolt against outside blade shaft collar, be sure to tighten enough to hold the blade firmly without slipping but do not over tighten excessive tightening can cause fracture of abrasive blades.

Using blade shaft wrench (in bracket) remove the blade shaft bolt and loosen collar.

Place the blade on the arbor, and attach the loose collar and tighten the blade shaft bolt securely.



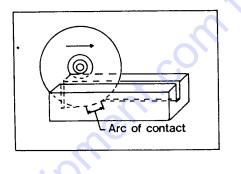
B. "Step Cutting " With Abrasive Blades

Use "step cutting" without exception when cutting wet or dry with abrasive blades. "Jam cutting", which is discussed and illustrated in the section following, is to be used only with wet and dry cutting diamond blades.

1. Clamp and hold material firmly against the backstop on conveyor cart. Be certain the material does not slip or rock during cutting operation, as this can bind blade, causing excessive wear and fracture.

2. Move the conveyor cart near the blade, and pull down on the head until the blade is lowered to a point where it will lightly contact the top of the material. Then start "step cutting" - which means passing the material beneath the blade with rapid , (50 to 60 strokes per minute) full length strokes, taking a shallow cut (approximately 1/8" deep) on the forward, and also on the backward stroke. Complete each rapid stroke backward and forward, by passing the material beyond the center of the blade before starting the reverse movement of the cart. The harder the material, the more rapid the forward and backward strokes.

3. "Step cutting as can be seen in the sketch below, lessens the area of the blade circumference in contact with the material, keeping the blade cool, running free, and cutting at peak efficiency. Don't get the impression "step" cutting means slow cutting - actually it is 6 times faster than trying to "force" the cut by strong-arming the material through the blade. Forcing the blade through with a deep cut causes a longer area of the blade circumference to be in contact with the material, causing excessive friction heat to be generated, which then causes the blade to "smear" or "load" with fused material particles and lose its sharp cutting surface. (*Note: If improper operation should cause an abrasive blade to "smear", make several cuts through a soft brick to "dress" the blade back to good cutting performance.*)



C. "Jam Cutting" and "Step Cutting" With Diamond Blades

In "Jam" cutting the head is locked in a fixed position and the material is pushed into it as shown in the sketch at the bottom. "Jam" cutting with the head locked in a fixed position usually provides greater efficiency.

1. To lock the head into position, tighten the lever nut at the back of the saw.

2. "Step" cutting with diamond blades is done by applying more pressure to the blade. Unlike "step" cutting with abrasive blades, "step" cutting with diamond blades requires only a few passes through the material.

3. In cutting, clamp the material securely and hold it firmly against the conveyor cart backstop. If the material is allowed to slip, resulting seizure of the blade may bend the diamond blade steel center or cause a ring section to be twisted off.

4. Do not force the material or bump into the blade. When nearing completion of the cut, retard and slightly hold back the conveyor cart. If this is not done, the

material may be pulled into the blade so fast that excessive pressure on the rim may cause warping or twisting of the rim section.

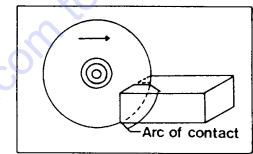
5. When a new diamond blade is broken in, make the first few cuts slowly until the blade cuts freely and easily.

6. When the blade is cutting freely and easily. Use it! As long as it cuts satisfactorily do not dress the diamond blade or remove it from the blade shaft.

7. After continuous cutting of extremely hard and dense materials, the blade may slow down and it may be necessary to "dress" the cutting edge. To do this:

- a. Use a rapid "step" cutting method for a few cuts push the material back and forth under the blade while it is cutting down. If this is not sufficient:
- b. Make one or two cuts in a soft brick or light weight block.

However, "dressing" should be done as seldom as possible - because too much "dressing" reduces blade life.



D. Dry Cutting

- 1. Use a proper blade, which is marked for dry cutting.
- 2. Remove the water curtain.
- 3. Disconnect the water pump.
- 4. Use "step" cutting as explained previously when using abrasive blades.
- 5. Use "jam" or "step" cutting when using dry cutting diamond blades.

E. Wet Cutting

Water may be supplied either by filling the water pan to within a half-inch of the top (for continuous use of the same water) or by placing a barrel of water next to the saw (for continuous flow of clean water). When using water from a barrel, remove water from pan and submerge it in water barrel. Remove the drain plug so the used water and sludge will drain from pan.

- 1. Prepare water supply.
- 2. Install water curtain on cutting head pivot bar.
- 3. The saw uses a belt driven mechanical pump which only operates when the engine/motor is running.
- 4. Handle on petcock should be turned in line with the water flow. Start motor and be certain that both sides of the blade are getting water.
- 5. Be sure that the water covers the bottom of the pump at all times. Do not let sludge and dirt get deep enough in the pan to block the pump inlet.
- 6. Use "step" cutting with abrasive blades as previously directed.
- 7. Use "jam" cutting or "step" cutting with diamond blades as previously described.

III. MAINTENANCE

The saw requires very little maintenance for long satisfactory operation. However, the following points must be watched:

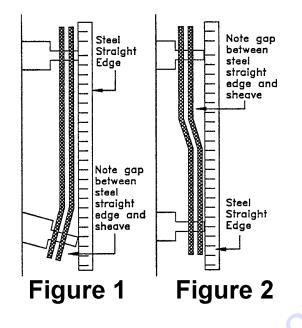
A. V-Belts

The drive belts are made of premium oil and heat resistant materials. They require very little adjustment, but should be tightened after the first few days of running.

Adjustment and Alignment

Warning: Never make adjustments to v-belts and pulleys while engine is running.

- 1. The best tension for a v-belt drive is the lowest tension at which the belts will not slip under full load.
- 2. Simply take up the drive until the belts are snug in the grooves. Run the drive for about 15 minutes to "seat" the belts. Then impose the peak load. If the belts slip, tighten them until they no longer slip at peak load.
- 3. Remember, too much tension shortens belt and bearing life.
- 4. Check belt tension frequently during the first day of operation. Check belt tension periodically thereafter and make any necessary adjustments.
- 5. The two most common causes of misalignment are shown in the drawing.
 - a). The engine drive shaft pulley and the blade shaft are not parallel. See figure I
 - b). The pulleys are not located properly on the shafts. (See figure 2)
- 6). To check alignment, all you need is a steel straight edge.
- 7). Line up the straight edge along the outside faces of both pulleys as shown in the drawing.
- 8). Misalignment will show up as a gap between the pulley face and the straight edge.
- 9). Make sure that the width of the outside land is equal on both pulleys.



ler your parts

B. Electric Motor

GotoDiscol

The motors are specially designed for masonry sawing. It is totally enclosed and the sealed bearings require no lubrication. The motor is equipped with thermal overload protection.

- 1. Periodically clean the dirt and sludge build-up from the motor fan housing and cooling fins.
- 2. If the motor becomes overheated, the protector shuts the motor off. Turn the motor switch to the "OFF" and identify the cause of overheating.
 - a. Pre-cleaner: every 25 operating hours, more often in dusty or dirty conditions, wash and oil the pre-cleaner.
 - b. Paper Element: Every 100 operating hours, more often under dusty or dirty conditions, clean the paper element.

c. Engine Oil: After the first month or 20 operating hours, change the oil, then every 6 months or 100 operating hours.

D. Blade Shaft Bearings

Ibri. The blade shaft bearings are lubricated and should not require daily lubrication under normal conditions. However, to assure long life the bearings do need to be lubricated periodically. The time interval between greasing is dependent on the running speed and operating conditions. The following chart covers most situations and can be used as a guide.

Temperature	Cleanliness	Greasing Interval
*UP TO 150°F	Dirty	6 to 12 months
Over 150°F	Dirty	Daily to 2 Weeks
Any Temp	Very Dirty	Daily to 2 Weeks
Any Temp	Extreme Conditions	Daily to 2 Weeks

NOTE: Never operate saw without bearing cover in place.

For normal conditions the grease should conform to the NLGI grade two consistency and be free of any chemical impurities such as free acid or free alkali, dust, rust, metal particles or abrasives.

For best results, the bearings should be lubricated while in operation.

NOTE: Due caution for personal safety must be observed when servicing rotating equipment.

If necessary to lubricate while the bearing is idle, refer to lubrication table for the maximum grease capacity for the bearings.

E. Water Pump

The submersible water pumps for all BBL Electrical and Gasoline powered machine's do not require any lubrication.

The electrical water pumps for all BBL Electric powered masonry saws are 115v. The motors have an autotransformer to provide the required 115v with out any changes to the electrical motor. The electrical powered water pumps must be submerged in water when connected to an electrical supply to reduce over heating of the pump. When cutting dry disconnect the electrical water pump from the power source.

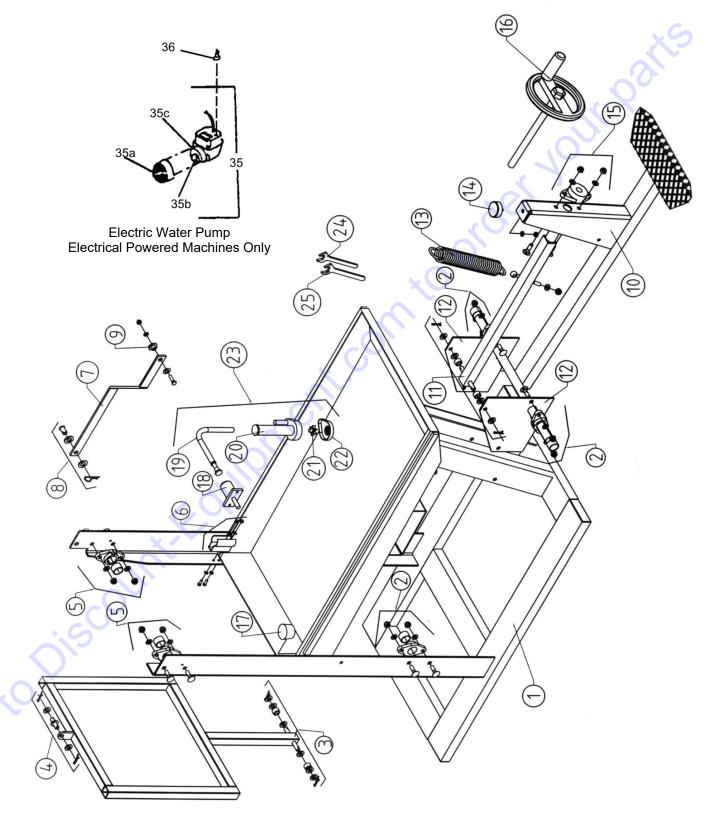
The mechanical driven pump of the gasoline powered masonry saw is designed to run wet or dry, but for continued dry cutting, disconnect the pump.

For all water pumps:

- 1. Be sure to keep the pump clean do not allow sediment to cake in the pump and clog it.
- 2. Keep all lines clean and running free.
- 3. At the end of each work day it is recommended that the water pump be cleaned by placing the pump in clear, clean water and running the pump for 2 to 5 minutes to remove any sediment from the pump and water hoses.
- 4. Do not allow the water pump to sit in any slurry or sediment as when the slurry or sediment dries out it can damage the water pump impeller.
- 5. Do not allow the Flex-cable for the Mechanically Driven water pumps to be pinched by the blade guard or anything else. Damage to the Flex cable by pinching is not covered under any warranty. Do not pinch or cut the power supply cable for the electrical water pumps as this can cause a dangerous electrical short. Damage to the power supply cable is not covered under any warranty.

IV. PARTS LIST SECTION

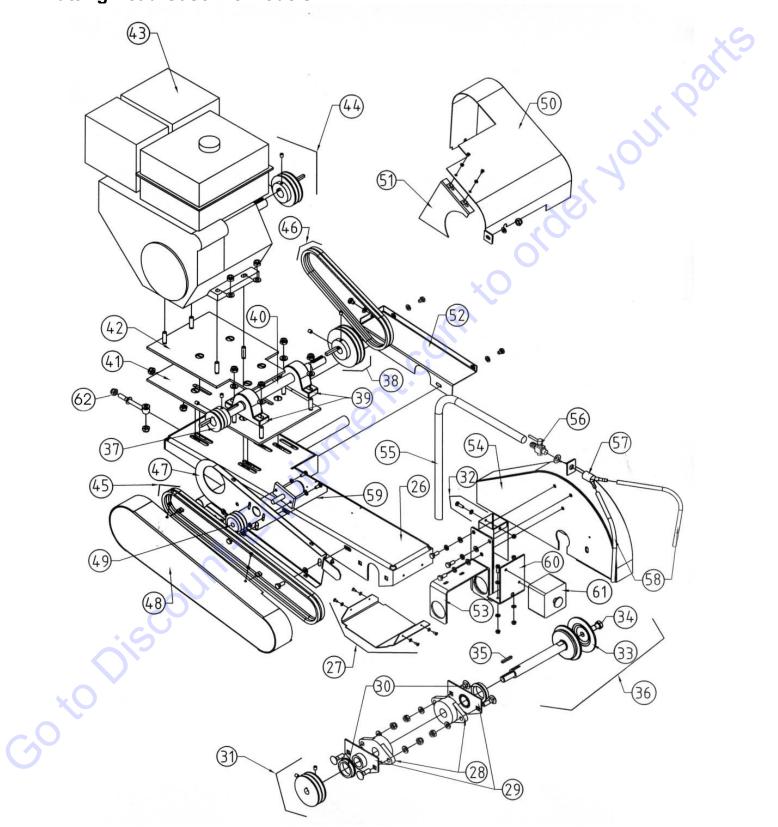
C. Frame and Water Pump All Models



C. Frame and Water Pump All BBL Models

Item	UPC	Part No	Description	QTY	Туре	NOTES
1	00310004804		Frame BBL	1	S	Frame Only
2	00310004433		Bearing With Bushing (1)	1	W	Sold as each
3	00310007441		Connecting Bar	1	S	No Hardware
4	00310004879		Pin Kit Connecting Bar	1	S	
5	00310007349		Split Bearing (1) W/Hardware	1	W	Sold Each W/Hardware
6	00310004778		Clamp Water Pump W/Hardware	1	S	
7	00310004430		Stay Level Arm	1	S	
8	00310004754		Pin Stay Level Arm Kit	1	S	
9	00310004902		Cam Stay Level Kit	1	S	
10	00310004877		Foot Pedal 14" & 20" Models Only (400mm High)	1	S	14" & 20" Models Only
	70184646671	1	Foot Pedal 24" Models Only (362mm High)	1	S	24" Models Only
11	00310004880	1	Adjustment Bar Kit	1 🗸	S	
12	00310007471		Pivot Plates (2)	1	W	Set Of Two (2)
13	00310004289		Spring Foot Pedal BBL	1	W	
14	00310004257		Stop Rubber	D 1	W	
15	00310002086		Bearing Foot Pedal Lever (1)	1	W	Sold as Each
16	00310007442	83831	Hand Wheel BBLxx7	1	S	
17	00310004776	76095	Drain Plug	1	W	
18	00310004236	72297	Drive End Complete	1	W	
19	00310004232	72285	Shaft Flex 39" Long	1	W	L= 39" (990.6mm) Includes Flexible Shaft
20	00310004231	72284	Body For Mechanical Water Pump	1	W	
21	00310004349	72862	Propeller Water Pump Mechanical Pump	1	W	
22	00310004207	72186	Screen Inlet Plastic For Mechanical Water Pump	1	W	
23	00310004436	72379	Pump Water Complete Mechanic Type For BBL	1	W	
24	00310004053	70807	Wrench Open End 19mm	1	W	
25	00310004199	72143	Wrench Open End 22mm	1	W	
35	70184668392	214169	Pump Water PE-1	1	W	Electric Models Only Includes Items: 36a. 35b, and 35c
35a	70184680196	155775	Screen Water Pump PE-1	1	W	
35b	70184680194	155774	Impeller Water Pump PE-1	1	W	
35c	70184680195	101375	Volute Water Pump PE-1	1	W	
36	70184650470	9602010	Fitting Barb Hose ¼" FPT X ½ Male Barb	1	W	
	00310004632	75128	Water Curtain BBL Series	1	W	

D. Cutting Head Gasoline Models



D. Cutting Head Gasoline Models

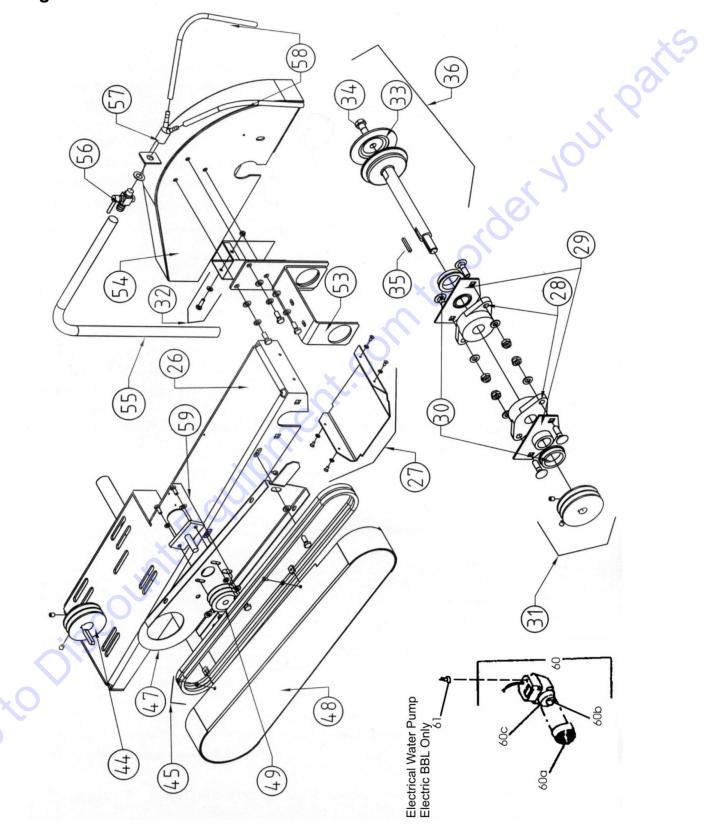
ltem	UPC	Part No	Description	QTY	Туре	NOTES
26	00310004796	76124	Cutting head BBL 20" Models Only	1	S	20" ALL Models
	70184641206	232182	Cutting Head BBL 24" ELECTRIC Models Only	1	S	BBL 24" Electric Only
	70184631957	7018463 1957	Cutting Head BBL 24" GAS Models Only	1	S	BBL 24" GAS Only
27	00310004792	76111	Bearing Protection Plate	1	S	
28	70184655657	73418	Bearing Blade Shaft Kit W/Hardware (2)	1	W	Set of Two (2) Includes Mounting Hardware
29	00310004767	76060	Support Blade Shaft (2)	1	S	Set of Two (2)
30	00310004412	73220	Bush Kit Nylon (2)	1	W	Set of Two (2)
31	00310004888	76557	Pulley Ø89mm X 17mm Bore 2 Groove Blade Shaft Pulley – Key Not Included	1	S	Pulley and Set Screws Key Not Included
32	00310004413	73221	Splash Guard Kit	1	W	Splash Guard Kit
33	00310004438	73281	Loose Collar	1	W	
34	70184649944	8042096	Screw ½"-20 X 1-1/2" Hex Head Cap	1	W	Blade Shaft Bolt
35	70184649698	9201081	KEY 3/16x1 3/8 Key for Blade Shaft Pulley	1	W	
36	00310004887	76556	Blade Shaft Assembly 20"	1	W	Includes: Blade Shaft, Blade Collars, and Blade Shaft Bolt. Bearings Not Included
37	70184602515	076564	Pulley Ø81mm x 24mm Bore 2 Groove Jackshaft pulley Output 14" Blade Guard –Key Not Included	1	W	14" Gas Models Only
	00310004898	76570	Pulley Ø58mm x 24mm Bore 2 G XPZ Belt Jackshaft pulley Output 20" Blade Guard –Key Not Included	1	W	20" and 24" Gas Models Only
-NA-	70184624934	76833A	KEY 8X7X40mm DIN6885 ROUND ENDS	1	W	
38	00310004964	76833	Ø112mm (4.409") x 22mm (0.866") Bore 2 Groove Jackshaft pulley Input	1	W	All BBL Gas Models
39	00310004011	70599	Bearing PB JS (1)	2	W	Sold As Each Includes Mounting Hardware
40	00310007443	83832	Jackshaft BBL	1	S	
41	00310007444	83833	Jackshaft Fixation Plate	1	S	
42	00310007445	83834	Motor Fixation Plate	1	S	
43	70184671620	123327	Engine 13HP Honda Manual GX390UT2	1	S	Engine Only
44	00310007446	83836	Motor pulley Ø90mm (3.54") x 1" Bore	1	W	
45	70184683500	83837	Belts XPZ 1250 LW (2) 14" Blade Guard Gas Only	1	W	Set of Two (2) 14" Gas Models Only
	70184683499	83472	Belts XPZ 1212 LW (2) 20" And 24" Blade Guard Gas Only	1	W	Set of Two (2) 20" and 24" Gas Models Only
46	00310007448	83838	Belts XPZ 780 LW (2) Jackshaft Belts All Gas Models	1	W	Set of Two (2) Jackshaft Belts
47	00310007449	83839	Belt Guard Bracket BBL 14" and 20" Gas Only	1	S	Schonan Dono
-+1	70184646032		Belt Guard Bracket BBL 24" BBL Gas Only	1	S	
48	00310007450	83840	Belt Guard BBL 14", 20", and 24" Gas Only	1	S	All Gas Models
49	00310004883	76552	Water Pump Pulley	1	S	
50	00310007451	83841	Guard Jackshaft All BBL Gas	1	S	
51	00310007452	83842	Jackshaft Protection Plate	1	S	
52	00310007453	83843	Guard Support Plate	1	S	
53	00310004794	76113	Leveling Support	1	S	
54	00310004753		Blade Guard 14"	1	S	
	00310004797		Blade Guard 20"	1	S	
	70184641211		Blade Guard 24"	1	S	

D. Cutting Head Gasoline Models

ltem	UPC	1 art No	Description	QTY	Туре	NOTES
55	00310004270		Water Hose (1/2" x 3/4" x 48")	1	W	
56	70184681061	72357	Valve Petcock 1/4MPT X1/2	1	W	
57	00310004233	72286	Hose "Y"	1	W	~0
58	00310002235	80568	Nozzle Water Kit (2)	1	W	Set of Two (2)
59	00310004671	75280	Screws Water Pump	1	S	
60	00310007362	83746	Switch Support	1	S	
61	00310007361	83745	Emergency Stop Switch	1	S	
62	00310004750		Eyebolt Motor Adjustment Assembly (1) ice Part, W = Wear Part, All Parts Are Sold As Individual (2	S	Sold As Each (1) Eyebolt M10 x 130mm with Washers
			con	×0		
			ice Part, W = Wear Part, All Parts Are Sold As Individual (

Ĵ,

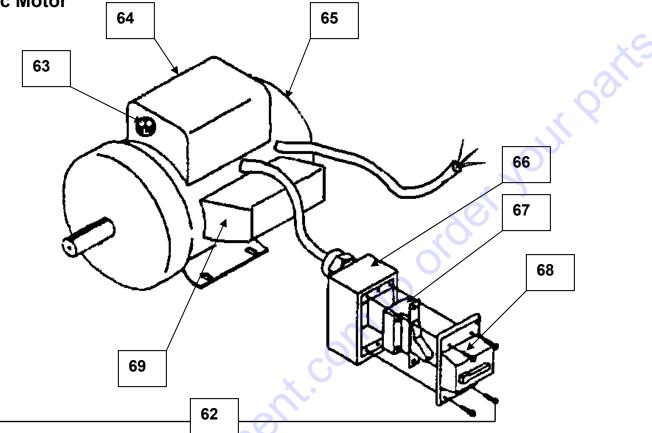
E. Cutting Head Electric Models



E. Cutting Head Electric Models

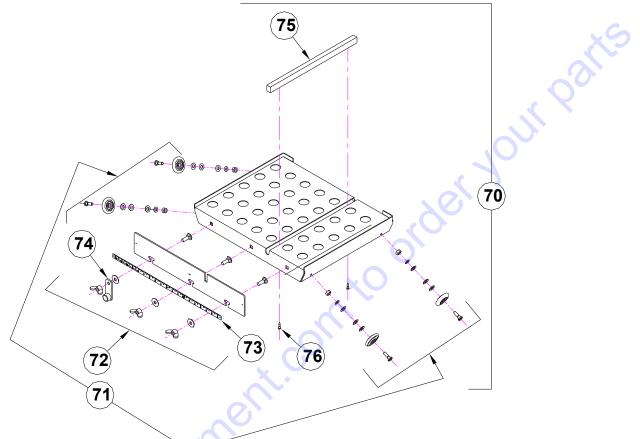
ltem	UPC	Part No	Description	QTY	Туре	NOTES 😈
26	00310004796	76124	Cutting head BBL 20" Models Only	1		20" ALL Models
	70184641206		Cutting Head BBL 24" ELECTRIC Models Only	1	S	BBL 24" Electric Only
	70184631957	7018463 1957	Cutting Head BBL 24" GAS Models Only	1	S	BBL 24" GAS Only
27	00310004792		Bearing Protection Plate	1	S	
28	70184655657	73418	Bearing Blade Shaft Kit W/Hardware (2)	1	W	Set of Two (2)
29	00310004767	76060	Support Blade Shift (2)	1	S	Set of Two (2)
30	00310004412	73220	Bush Kit Nylon (2)	1	W	Set of Two (2)
31	00310004888	76557	Pulley Ø89mm X 17mm Bore 2 Groove	1	S	Pulley and Set Screws Key Not Included
32	00310004413	73221	Splash Guard Kit	1	W	Splash Guard Kit
33	00310004438	73281	Loose Collar	1 🗸	W	
34	00310004411	73217	Screw ½"-20 X 1-1/2" Hex Head Cap	1	W	Blade Shaft Bolt
35	70184649698	9201081	KEY 3/16x1 3/8	1	W	Key for Blade Shaft Pulley
36	00310004887	76556	Blade Shaft Assembly	1		Includes: Blade Shaft, Blade Collars, and Blade Shaft Bolt. Bearings Not Included
44	00310007470		Pulley Ø62mm (2.44") x 7/8" Bore 2G XPZ Key Not Included	1		BBL 14" and 20" Electric Only
	70184641210	222126	Pulley Ø50mm (1.96") x 7/8" Bore 2G XPZ Key Not Included	1	W	BBL 24" Electric Only
-NA-	70184649699	9201082	KEY 3/16x1 1/2	1	W	
45	00310004360	72926	Belt XPZ 1500 LW (1)	2	W	Sold as Each (1) BBL 14" Electric Only Two (2) Required
	00310004439	73282	Belt XPZ1480LW (2)	1	W	Set of Two (2) BBL 20" Electric Only
	70184641209	232179	Belt XPZ1850 LW (2)	1	W	Set of Two (2) BBL 24" Electric Only
47	00310004447	73298	Belt Guard Bracket BBL 14" and 20" Electric	1	s	
	70184641208	232180	Belt Guard Bracket BBL 24" Electric	1	S	
48	00310004798	76129	Belt Guard BBL 14" and 20" Electric Only	1	S	
	70184641207	232181	Belt Guard BBL 24" Electric Only	1	S	
49	00310004883	76552	Water Pump Pulley	1	S	
53	00310004794	76113	Leveling Support (Blade Guard Support)	1	S	
54	00310004753	76037	Blade Guard 14"	1	S	
	00310004797	76126	Blade Guard 20"	1	S	
	70184641211	232178	Blade Guard 24"	1	S	
55	00310004270	72411	Water Hose (1/2" x 3/4" x 48")	1	W	
56	70184681061	72357	Valve Petcock 1/4MPT X1/2	1	W	
57	00310004233	72286	Hose "Y"	1	W	
58	00310002235	80568	Nozzle Water Kit (2)	1	W	Set of Two (2)
59	00310004671	75280	Screws Water Pump	1	S	Mechanical Pump Only
60	70184668392	214169	Water Pump PE-1	1	W	BBL Electric Only
60a	70184680196	155775	Screen Water Pump PE-1	1	W	BBL Electric Only
60b	70184680194	155774	Impeller Water Pump PE-1	1	W	BBL Electric Only
60c	70184680195	101375	Volute Water Pump PE-1	1	W	BBL Electric Only
61	70184650470	9602010	Fitting Barb Hose ¼" FPT X ½ Male Barb	1	S	

F. Electric Motor



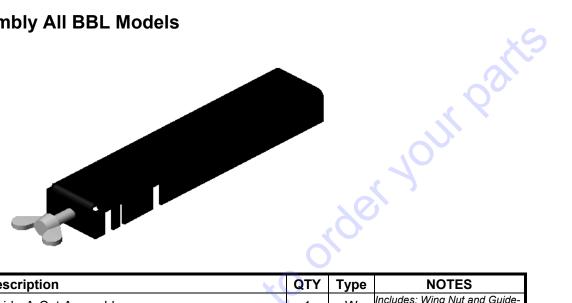
Item	UPC	Part No	Description	QTY	Туре	NOTES
62	00510003898	232088	Motor Assy w/Switch 5HP 230v/60/1 PH	1	S	Includes Motor and Switch
	70184683437	232099	Motor Assy w/Switch 5HP 230-460v/60/3 PH	1	S	Includes Motor and Switch
	70184683438	232100	Motor Assy w/Switch 7-1/2HP 230-460v/60/3 PH	1	S	Includes Motor and Switch
	70184627209	232157	Motor Assy w/Switch 7-1/2HP 575v/60/3 PH	1	S	Includes Motor and Switch
63	70184603008	232092	Receptacle 115v WD1400A77	1	S	For ALL Electric Motors
64	70184600812	232090	Terminal Box Large	1	S	
-NA-	70184600811		Capacitor Start EC1145C06 NOTE: Located Inside Of Large Terminal Box On Top Of Motor	1	W	5HP 230v/60/1 232088 only. Call for Other Motors
-NA-	70184600686	232095	Thermal Protector (Reset) 5HP 230/60/1 TPBRJ35DB NOTE: Located On The Back of The Large Terminal Box	1	W	5HP 230-460v/60/1 232088 only. Call for Other Motors
-NA-	70184600720	232094	Fan NOTE: Located Inside Of Fan Cover	1	W	
65	70184600719	232093	Fan Cover	1	S	
66	70184600687	231037	Switch Box Rear	1	S	
67	70184600685	232096	Switch On/Off	1	S	Single Phase
	70184600888	232099A	Switch On/Off 3 Phase Only	1	S	3 Phase Motor Only
68	70184678141	231089	Switch Box Cover	1	S	
69	70184603276	232097	Capacitor Box Small	1	S	
-NA-	70184628947	232098	Capacitor Run OC3030F11	1	W	5HP 230v/60/1 232088 only. Call for Other Motors

G. Cutting Table All BBL Models



Item	UPC	Part No	Description	QTY	Туре	NOTES
70	00310007390	83777	Conveyor Cart Complete	1	S	Includes: Wheels, Hardware, and Backstop
71	00310004676	75333	Wheel Kit Conveyor Cart (4)	1	W	Set of Four (4) Includes: Wheels, and Hardware
72	00310007504	83895	Backstop	1	S	Includes: Carriage Bolt (3), Washers M10 (3), Backstop, and Wing Nut M10 (3)
	70184683490	27282	Carriage Bolt M10 x 30 DIN 603	3	S	Sold As Each (1)
	70184683491	27508	Washer 10.5 DIN 9021 (sold each, 3 required)	3	S	
	70184683489	27040	Wing Nut M10 DIN 315 (sold each, 3 required)	3	S	
73	00310002142	76147	Scale Kit	1	W	
74	00310006613	82856	Stop Assembly for Conveyor Cart (Complete)	1	W	Includes: Rubber Stop (1), Nut M6 (1), and Washer M6 (1)
	-NA-	-NA-	Rubber Stop Part of 82856	1	W	
	70184600584	27003	Nut M6 DIN 439	1	S	
	70184600585	27539	Washer M6 DIN 125	1	S	
75	70184644462	232379	Wood Strip BBLxxx7	1	W	Hardware Not Included
76	70184600556	30373	Screw No. 8 X 1/2 Flat Head Phillips	2	S	Sold As Each (1)

H. Guide-A-Cut Assembly All BBL Models



-NA- 00310007501 83892 Guide-A-Cut Assembly Type: S = Service Part, W = Wear Part, All Parts Are S	d As Individual (each) Unless N	W oted Othe	Includes: Wing Nut and Guide- A-Cut Body erwise
Type: S = Service Part, W = Wear Part, All Parts Are S	d As Individual (each) Unless N	oted Othe	erwise

I. Optional Tilting Cutting Table



00310004556 TILTING TABLE BBL Allows miter cutting up to 45°.

Item	UPC	Part No	Description	QTY	Туре	NOTES
-NA-	00310004556	-NA-	TILTING TABLE BBL (30x30)	1	W	Includes: Rubberized Top, cutting Guide, Cart Wheels, and Tilting Frame with Angle Gauge
-NA-	00310004676	75333	Wheel Kit Conveyor Cart (4)	1	W	Set of Four (4)

Search Website by Part Number Discount	Search Manual Library For Parts Manual & Lookup Part Numbers – Purchase or Request Quote	Can't Find Part or Manual? Request Help by Manufacturer, Model & Description
Equipment		Parts Order Form
		1 No.Asc Taic
	Search Manuals	aramates Cranton
	History was participant as a subject of the participant and a source manual to backly an parts	NUC
	1 Incl	Gran
(a) E.D., 2019 (F.D.), 2019	SCOL Bland	
Where Somice Makes The DifferenceIII States of	* Bodd	Nuber 2
матель, рако мональрартия куля селест Соснаст.		ch
Marchanic Rest 2012 2012	Sold bit: SoldSorie	DateTorpton
na zvaljejner pr		3042131 (203 ·
Care Seconds and Process	Park Bankes. Enter Park Hender (Not respired)	526.00
An addressed Series 2011	Dianska	4 au *
	Enter Describer Run You Are Locking For	C479.82
		De la
	School Sc	Eral -
		Factoria

Discount-Equipment.com is your online resource for quality parts & equipment.

Florida: 561-964-4949 Outside Florida TOLL FREE: 877-690-3101

Need parts?

Click on this link: http://www.discount-equipment.com/category/5443-parts/ and choose one of the options to help get the right parts and equipment you are looking for. Please have the machine model and serial number available in order to help us get you the correct parts. If you don't find the part on the website or on one of the online manuals, please fill out the request form and one of our experienced staff members will get back to you with a quote for the right part that your machine needs.

We sell worldwide for the brands: Genie, Terex, JLG, MultiQuip, Mikasa, Essick, Whiteman, Mayco, Toro Stone, Diamond Products, Generac Magnum, Airman, Haulotte, Barreto,
Power Blanket, Nifty Lift, Atlas Copco, Chicago Pneumatic, Allmand, Miller Curber, Skyjack, Lull, Skytrak, Tsurumi, Husquvarna Target, Stow, Wacker, Sakai, Mi-T-M, Sullair, Basic, Dynapac, MBW, Weber, Bartell, Bennar Newman, Haulotte, Ditch Runner, Menegotti, Morrison, Contec, Buddy, Crown, Edco, Wyco, Bomag, Laymor, EZ Trench, Bil-Jax, F.S.
Curtis, Gehl Pavers, Heli, Honda, ICS/PowerGrit, IHI, Partner, Imer, Clipper, MMD, Koshin, Rice, CH&E, General Equipment, Amida, Coleman, NAC, Gradall, Square Shooter, Kent, Stanley, Tamco, Toku, Hatz, Kohler, Robin, Wisconsin, Northrock, Oztec, Toker TK, Rol-Air, APT, Wylie, Ingersoll Rand / Doosan, Innovatech, Con X, Ammann, Mecalac, Makinex, Smith Surface Prep,Small Line, Wanco, Yanmar