

GP-A231 GP-A201 AUTOMATIC GRINDER PUMP

EN INTRODUCTION

This instruction sheet provides you with the information required to safely own and operate your Little Giant pump. Retain these instructions for future reference.

The Little Giant pump you have purchased is of the highest quality workmanship and material, and has been engineered to give you long and reliable service. Little Giant pumps are carefully tested, inspected, and packaged to ensure safe delivery and operation. Please examine your pump carefully to ensure that no damage occurred during shipment. If damage has occurred, please contact the place of purchase. They will assist you in replacement or repair, if required.

READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL, OPERATE, OR SERVICE YOUR LITTLE GIANT PUMP. KNOW THE PUMP'S APPLICATION, LIMITATIONS, AND POTENTIAL HAZARDS. PROTECT YOURSELF AND OTHERS BY OBSERVING ALL SAFETY INFORMATION. FAILURE TO COMPLY WITH THESE INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE!

DESCRIPTION

Little Giant GP-A231/GP-A201 series automatic grinder pumps are recommended for use in basins or lift stations and are suitable for pumping residential sewage, effluent, wastewater, and other non-explosive, non-corrosive liquids.

Little Giant grinder pumps use a cutting mechanism, located on the suction side of the pump, that cuts solids into a slurry. A semi-vortex, non-clog impeller then passes this slurry directly through the volute and into the discharge line.

Little Giant automatic grinder pumps are equipped with a float switch that allows the pumps to operate automatically by cycling them on and off. The float switches are attached to the pumps at a pre-determined tether length of 9". **CHECK THE TETHER LENGTH ON YOUR PUMP TO ENSURE THAT IT HAS NOT CHANGED DURING SHIPPING.** A tether length of more than 9" could damage the pump by allowing it to run dry.

SPECIFICATIONS

Discharge Size: GP-A231/GP-A201 — 1-1/4" FNPT vertical

Operating

Capabilities: 140°F (60°C)

Pump Housing: Cast iron with epoxy paint coating

Volute: Cast iron with epoxy paint coating

Impeller: Brass with pressure relief vanes

Motor: 3450 RPM with automatic high-temperature protection

Hardware: 300 series stainless steel

- Bearings:** Upper and lower ball
- Shaft Seal:** Type 21, mechanical, spring loaded, rotating carbon with Viton® bellows and stationary ceramic with Viton® O-ring
- Power Cord:** 14 AWG 3-conductor, copper, stranded
- Cooling:** The motor housing contains a dielectric oil to cool the motor and lubricate the bearings and seals. This pump is capable of operating with the motor housing partially exposed for extended periods of time, providing sufficient motor cooling and bearing lubrication. However, for the best cooling and the longest motor life, the liquid level being pumped should normally be above the top of the cast iron motor cover.
- Cutters:** 440C stainless steel, hardened to Rockwell 60C

SAFETY GUIDELINES



WARNING: RISK OF ELECTRIC SHOCK. READ INSTRUCTIONS AND SAFETY GUIDELINES THOROUGHLY. FAILURE TO FOLLOW THESE COULD RESULT IN SERIOUS INJURY OR PROPERTY DAMAGE!

WARNING: DURING NORMAL OPERATION THE SWITCH AND PUMP ARE IN CONTACT WITH WATER. EXERCISE EXTREME CAUTION WHEN WORKING NEAR THESE AREAS!

Ensure that rising water can not reach electrical connections. Refer to the National Electrical Code and local requirements. A separate branch circuit is recommended for each pump. Do not use an extension cord.

Always turn off the circuit breaker before touching, servicing, or repairing the switch or pump.

Do not stand in water while changing fuses, resetting circuit breakers, or repairing the switch.

This pump is supplied with a grounding conductor. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle or ground wire in the junction box.

When a pump is in a basin, etc., do not touch motor housing, pipes or water until unit is unplugged or shut off. If your installation has water or moisture present, do not touch wet area until all power has been turned off. If shut-off box is not accessible, call the electric company to shut off service to the house, or call a certified electrician for instructions. Failure to follow this warning can result in fatal electric shock.

In any installation where property damage and/or personal injury might result from an inoperative or leaking pump due to long term power outages, discharge line blockage or any other reason, a backup system with an alarm should be installed.

Do not use to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. Failure to follow this warning can result in personal injury and or property damage.

The pump motor is equipped with an internal thermal protector switch that opens to stop the motor when exceeding normal operating temperatures or the pump draws excessive current. This switch will reset itself and start the pump when cooled to normal temperatures.

PUMP PERFORMANCE AND SIZING

MODEL NO.	CATALOG NO.	HP	PH	VOLTS	HZ	AMPS	GPM @ HEAD							SHUT OFF	POWER CORD
							10'	20'	40'	60'	80'	100'	120'		
GP-A231	520875	2	1	230	60	13.9	33	32	31	30	25	20	10	130'	20'
GP-A201	520885			208											

During normal operation the grinder pump is immersed in water. Also, during rain storms, water may be present in the surrounding area of the pump. Use caution to prevent bodily injury when working near the pump.

To minimize possible fatal electrical shock hazard, use extreme care when changing breakers. Do not stand in water while changing breakers or insert anything other than the properly rated breaker in the breaker socket.

Do not operate the pump in a dry basin. This will cause the pump to become extremely hot, causing burns if touched and/or damage to the pump.

Do not check or add oil to the motor. The pump housing is sealed. A high-grade, dielectric oil devoid of water has been put into the motor housing at the factory. Use of other oil could cause serious electric shock and/or permanent damage to the pump and void warranty.

Do not install the pump in locations classified as hazardous in accordance with the National Electric Code, ANSI/NFPA 70.

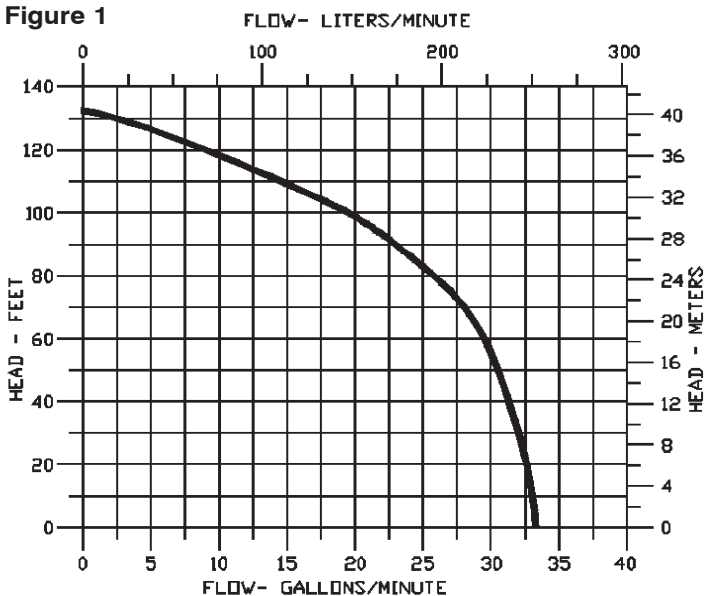
Do not place hands, feet, or clothing near the cutter mechanism when there is any possibility the pump is connected to a power source. This pump contains a cutting mechanism with very sharp edges that can cause severe bodily injury.

INSTALLATION (PUMP)



NOTE: For best results, use a complete, factory-built basin package system. This system includes optimum materials of construction for operation.

1. Install the pump in a suitable gas-tight basin that is at least 24" in diameter and 48" deep, and vented in accordance with local plumbing codes.
2. Place the pump on a hard level surface. Never place pump directly on clay, earth, or gravel surfaces. If you are unable to suspend the pump intake at least 3-1/2" from the bottom of the basin, use a leg accessory kit (available from Little Giant).
3. The pump can be installed with ABS, PVC, polyethylene, or galvanized steel pipe. If the pump is suspended by the discharge on a guide rail system, use the proper adapters to connect any non-metal pipe to the discharge.
4. Use a check valve in the discharge line to prevent back flow of liquid into the basin. The check valve should be a free-flow valve that will easily pass solids. A ball check valve is recommended.



CAUTION: For best performance when handling solids, install the check valve horizontally. If installed vertically solids may settle in the valve and prevent it from opening at start-up.

5. To allow for cleaning of the check valve or removal of the pump, install a gate valve following the check valve.

WIRING



WARNING: Check local electrical and building codes before installation. The installation must be in accordance with their regulations as well as the most recent edition of the National Electric Code (NEC).

1. Connect or wire the pump to a dedicated circuit with no other outlets or equipment in the circuit line.
2. Ensure that the circuit breaker is of ample capacity in the electrical circuit (Table 1).

H.P.	VOLTAGE	CIRCUIT BREAKER AMPS
2	230	20
2	208	20

Table 1

LIQUID LEVEL CONTROL (FLOAT SWITCH)

The Little Giant RFSN-20 liquid level control is designed to be used with the GP-A231 and GP-A201 automatic grinder pumps. It uses a switch sealed in a plastic float cylinder. When the fluid level in the basin causes the cylinder to float to an approximate angle of 45°, the switch activates and starts the pump.

ELECTRICAL SPECIFICATIONS

230 VAC, 60Hz, Single Phase

Maximum pump running current 20 amps

Maximum pump starting current 120 amps

Recommended for use on pumps of 3 HP or less provided pump draw does not exceed 20 running amps or 120 starting amps.

INSTALLATION

The automatic grinder pump is shipped with the float switch installed at the factory. The float switch is attached to the pump at a pre-determined tether length of 9". **CHECK THE TETHER LENGTH ON YOUR PUMP TO ENSURE THAT IT HAS NOT CHANGED DURING SHIPPING.** A tether length of more than 9" could damage the pump by allowing it to run dry. Once the pump is installed, adjust the switch if necessary. (See TESTING section.)

WIRING

The automatic grinder pump requires use of a junction box for wiring the float switch to the pump power cord. Wiring the junction box could result in possible injury due to electric shock if not performed by a certified electrician. Little Giant assumes no responsibility for improper wiring of the pump/float switch in the junction box (Figure 2).

INSTALLATION (CAPACITOR/RELAY KIT)



WARNING: When working on pump or switch, always disconnect pump power cord in addition to shutting off circuit breaker or removing the fuse.

WARNING: Remove **ONLY** the four 3/16" hex head capacitor/relay cover screws. Removing other screws can result in the loss of cooling fluid and possible permanent damage to the pump.

The GPA-CK capacitor/relay kit contains:

- 270-324 MFD, 250V, start capacitor (pre-assembled)
- 35 MFD, 440V, run capacitor (pre-assembled)
- Motor start relay (pre-assembled)
- Capacitor bracket (pre-assembled)
- Pre-wired white, black, green, and red interconnect lead wires
- Capacitor/relay cover seal
- Installation hardware

Refer to Figure 3, Figure 7, and the following instructions to install the capacitor/relay kit:

1. Remove the pump from power.
2. Thoroughly clean the pump.
3. Remove **ONLY** the four 3/16" hex head capacitor/relay cover screws. Use one screw to temporarily mount the cover upside down on the motor housing.
4. Carefully remove the white (T4), red (T5), and black (T1) wires from the white, red, and black terminals on the motor housing. Using an ohmmeter, verify that the motor coil resistance values are within the specifications shown in Figure 7. If the resistance values are too low or high (open circuit), the pump must be replaced.
5. Remove the old capacitor assembly from the motor housing by removing the screw holding the relay to the capacitor bracket, and then removing the two screws holding the capacitor bracket to the housing.
6. Remove the green, black, and white wires from the power cord terminal in the cover.
7. Remove the ground wire from the motor housing.
8. Remove the old seal ring from the cover and thoroughly clean the surfaces on the cover and the gland in the motor housing where the seal ring will seat. If any foreign material is left on the seal contact surface the seal will not function properly and the pump will fail. Lightly lubricate the new seal ring with petroleum jelly and, being careful not to twist it, install the ring onto the cover. Confirm that the seal ring is not twisted after it is installed.

9. Install the 12" green ground wire from the kit. Be certain that a #8 lock washer is on the #8 x 1/4 inch screw, then screw it securely into the motor housing. For easier installation, place the screw and lock washer inside the ground lug while installing. Attach the other end of the ground wire (female) to the ground pin on the power cord terminal using needle nose pliers, being careful to push it straight onto the male terminal. Gently pull on the wire to confirm that it is securely attached. See the "POWER CORD ASSEMBLY LOOKING INTO PIN SIDE" section of Figure 7 to confirm that the wire is attached properly. Check the connection by using an ohmmeter to confirm continuity from the green wire of the power cord to an un-painted part of the motor housing. The reading should be within a few tenths of ohms of zero for the length of the power cord.

10. Install the new capacitor assembly using the two #8 x 1/4 inch screws and lock washers through the two capacitor bracket screw holes. Temporarily remove the relay to install one of the screws holding the capacitor bracket to the motor housing.
11. Tighten both capacitor bracket screws and re-install the relay.
12. Connect the 12" black and 12" white wires to the remaining pins on the power cord terminal using needle nose pliers. Gently pull on each wire to confirm that it is securely attached. Connect the shorter black, white, and red wires by pushing them straight on to the black, white, and red terminals, respectively, in the motor housing. Gently pull on each wire to confirm that it is securely attached.
13. Confirm that there is no foreign material on the seal ring or in the motor housing gland for the seal ring. Re-install the cover by gently rotating it onto the motor housing. This will allow the wires to fall inside the housing without binding between the capacitors and the cover. Ensure that the float switch is properly located (Figure 6), then install the four 3/16" capacitor housing cover screws.
14. Refer to the MAINTENANCE AND SERVICING section and confirm that the volute is not clogged or cutters damaged. Verify once more that the ground is properly attached by checking resistance from the green ground wire of the power cord to one of the cover screws. Resistance should be very low if properly grounded. If not, go back to step 9. Check the resistance between the black and white leads and verify that it is between 1 and 2 ohms.
15. Test the pump as described in the TESTING section.

Figure 2 JUNCTION BOX WIRING SCHEMATIC

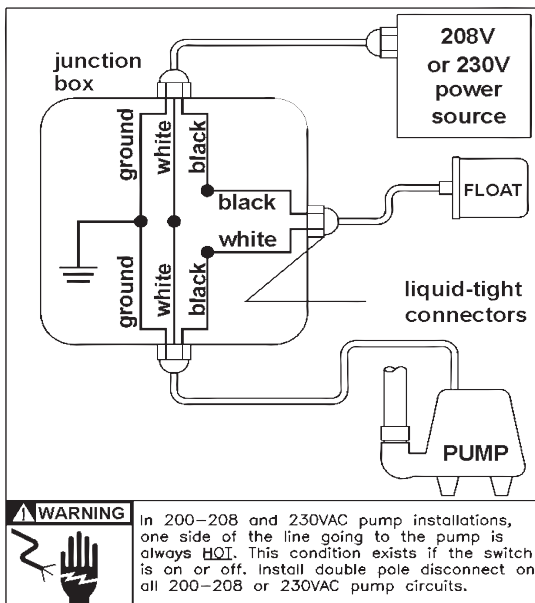
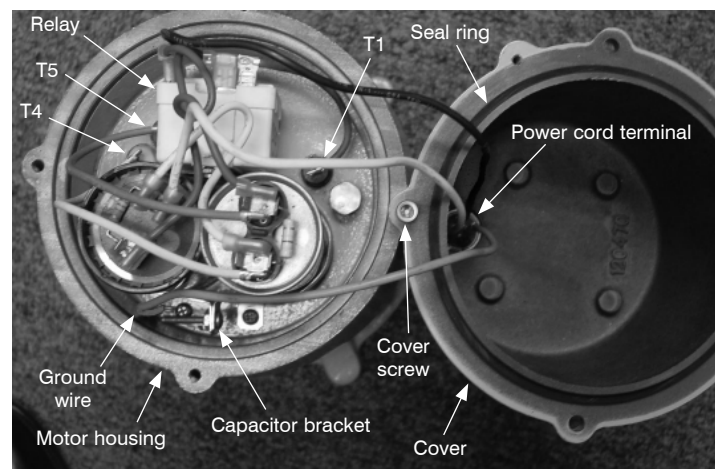


Figure 3



TESTING



WARNING: The cutters inside this pump are dangerous. Do not allow anything to enter the pump during testing.

1. Secure the pump so that the starting torque of the motor does not cause it to make contact with anyone or anything when it starts. Ensure that nothing will enter the intake.
2. Wire the pump according to the Liquid Level Control section and Junction Box Wiring Schematic (Figure 2), ensuring that the voltage matches that listed on the pump nameplate.
3. Apply power.
4. With the float switch hanging freely, verify that the motor remains off. Lift the float switch to approximately 45° and verify that the motor engages and turns freely. Allow the float switch to hang freely and verify that motor disengages.
5. Once the pump is securely installed, fill the basin with water and observe the operation of the float.

WARNING: Never make float switch adjustments with the power on. Always be certain that power is off before making adjustments.

6. Adjust the tether length to between 6" and 9" (Figure 6). If necessary, adjust the direction or angle that the power cord exits the pump.

CAUTION: The float or ball portion of the switch must not touch the pump, the walls of the basin, the plumbing, or any wiring in the basin as it floats up or down. Contact with obstacles may cause the pump to continue running without water, or to stop running when water is present, damaging the pump or other property.

7. Go back to Capacitor/Relay Installation step 1 if test is not successful, or see the Troubleshooting section.

MAINTENANCE AND SERVICING



WARNING: Before working on pump or switch, always disconnect pump power cord in addition to shutting off circuit breaker or removing the fuse. Always wear eye protection.

WARNING: This pump is equipped with a cutting mechanism that has very sharp edges. Use caution when working on or near these parts.

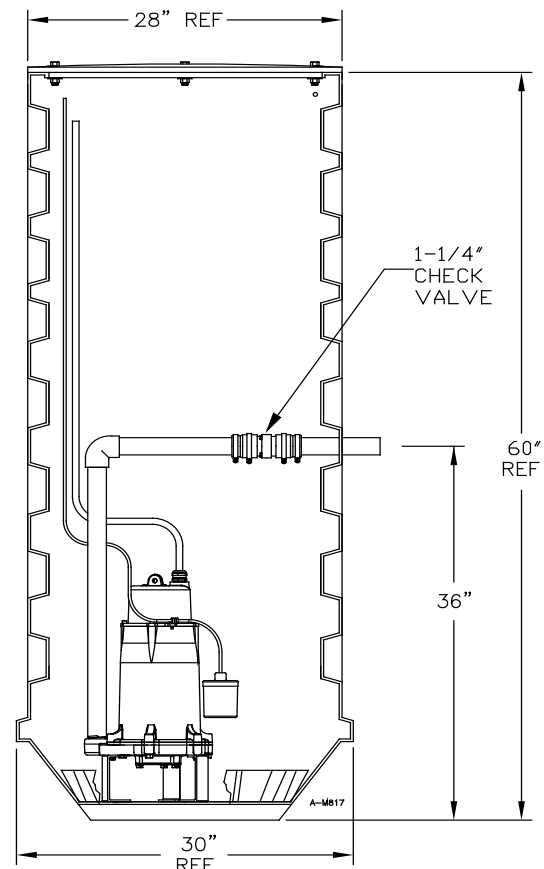
CAUTION: Do not remove motor housing seal plate screws. The motor section of the pump is permanently lubricated with dielectric oil and sealed at the factory. Removal of these screws by anyone other than an authorized service center will break the seal and void the warranty.

CAUTION: Clean the pump of all debris and deposits before disassembling.

1. Lay the pump on its side on a smooth, hard surface.
2. Scribe a mark between the seal plate and volute, then remove the three 1-1/2" hex head screws (Figure 5, item 5).
3. To gain access to the rotating cutter, remove the volute by carefully tapping and prying it off the seal plate, taking care not to damage the seal plate or volute mounting surfaces.
4. To gain access to the stationary cutter, remove the retaining plate by removing the three 1/2" hex head screws (Figure 5, item 6). **NOTE:** The stationary cutter can be removed from the volute without having to remove the volute.
5. Remove the stationary cutter from the volute. If the stationary cutter is worn, it can be turned over once to use the other cutter edge. If the stationary cutter is damaged, it must be replaced.
6. Under good light, inspect the two edges of the rotating cutter. If the rotating cutter edges appear dull, pitted, or otherwise damaged, the cutter should be replaced.

7. Remove the rotating cutter by first securing the impeller from rotating using a large, straight screwdriver inserted in the end of the motor shaft. Using a rubber mallet, tap the rotating cutter to unscrew it in a counterclockwise direction. Localized heating may help loosen the cutter.
8. Thoroughly inspect the motor shaft and rotating cutter threads, and remove any residue or debris. Chase the shaft with a 1-12 UNF die if necessary.
9. Before installing the new rotating cutter, secure the impeller from rotating using a large, straight screwdriver inserted in the end of the motor shaft. Gently tap on the impeller vane using a rubber mallet (clockwise). Apply a drop of Loctite 242 to the new rotating cutter threads and install the cutter onto the motor shaft. Secure the shaft with the screwdriver and tap the rotating cutter tight onto the impeller pilot and flush with the mating surfaces.
10. Install the stationary cutter into the volute. Reassemble the cutter retaining ring with the three flange hex head cap screws, and torque them to 100 in-lbs (11 N-m).
11. Thoroughly clean the volute and seal plate mounting surfaces. Any debris on the mounting surfaces can cause misalignment.
12. Reassemble the volute to its original orientation by realigning the scribe marks. Because of the tight pilot fit, use a rubber mallet to mate the volute to the seal plate, then install the 3 flange hex head cap screws. Torque the screws to 100 in-lbs (11 N-m) with a drop of Loctite 242.
13. Be sure the rotating cutter and impeller turn freely.

TYPICAL AUTOMATIC GRINDER PUMP WITH BASIN ASSEMBLY



LEG KIT (599078) MUST BE USED WITH HARD-PIPED BASINS

Figure 4

REPLACEMENT PARTS			
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	120435	Volute	1
2	928048	Square nitrile seal ring (7.356 ID)	1
3	14940131	Kit, cutters, rotating/stationary	1
4	120476	Retaining plate, cutter	1
5	14940256	Screw, washer, hex head, 3/8-16 x 1-1/2", stainless	3
6	903740	Screw, washer, hex head, 5/16-18 x 1/2", stainless	3
7	599318	Float switch, 20'	1
8	927026	Loop clamp	1
9	909022	Screw, 10-24 x 5/8", stainless	1
10	921023	#10 internal lockwasher, stainless	1
11	520858	Kit, Run/Start capacitor/relay w/hardware	1

Table 2
PUMPS #520875 AND #520885

REPLACEMENT PARTS			
ITEM NO.	PART NO.	DESCRIPTION	QTY.
6	903740	Screw, washer, hex head, 5/16-18 x 1/2", stainless	3
12	120903	Leg, accessory	3
13	921105	Washer, lock, 5/16", stainless	3

Table 3
LEG KIT (GLK) #599078

Figure 6

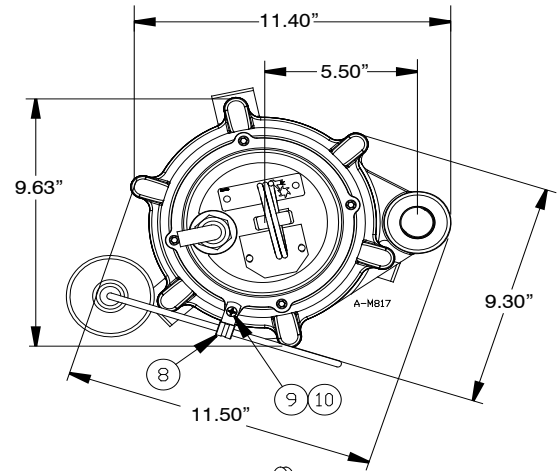
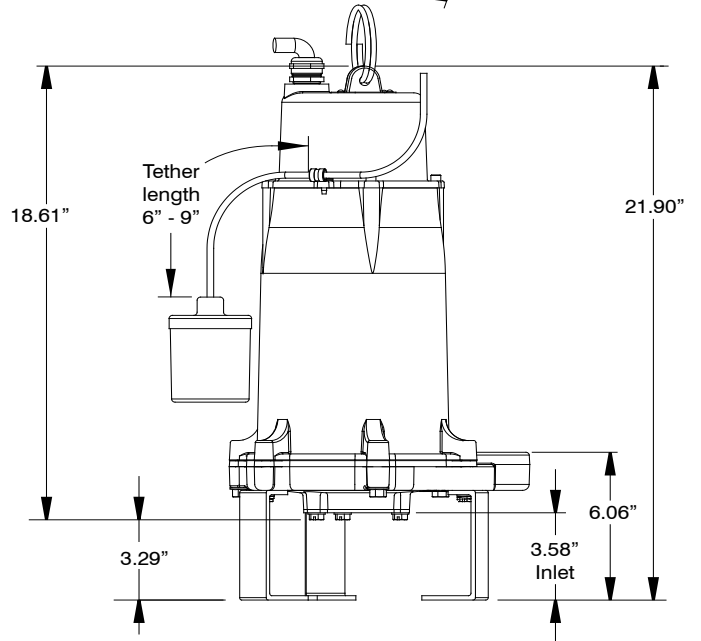
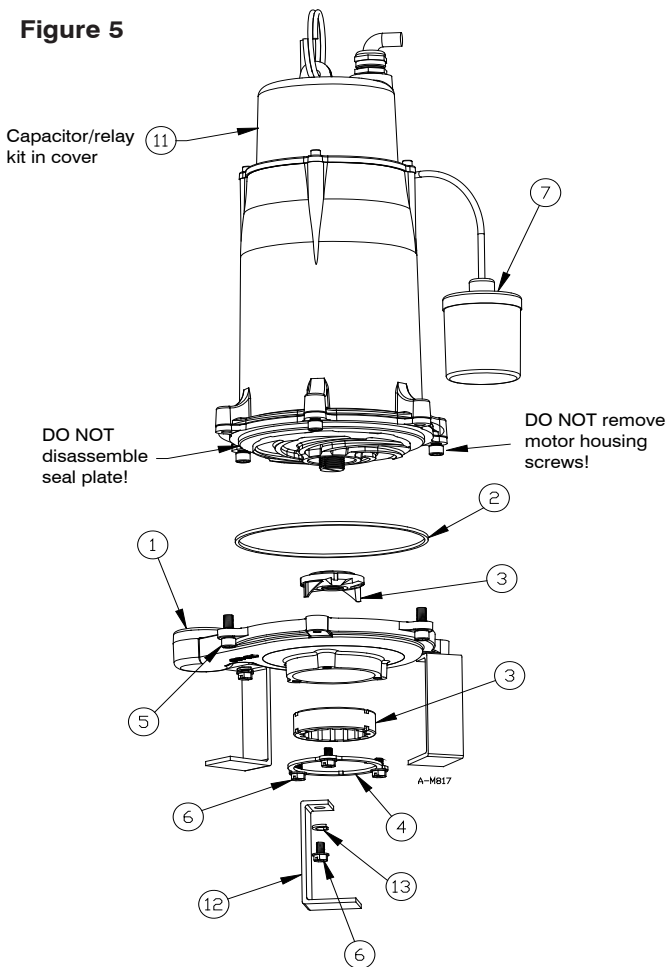


Figure 5



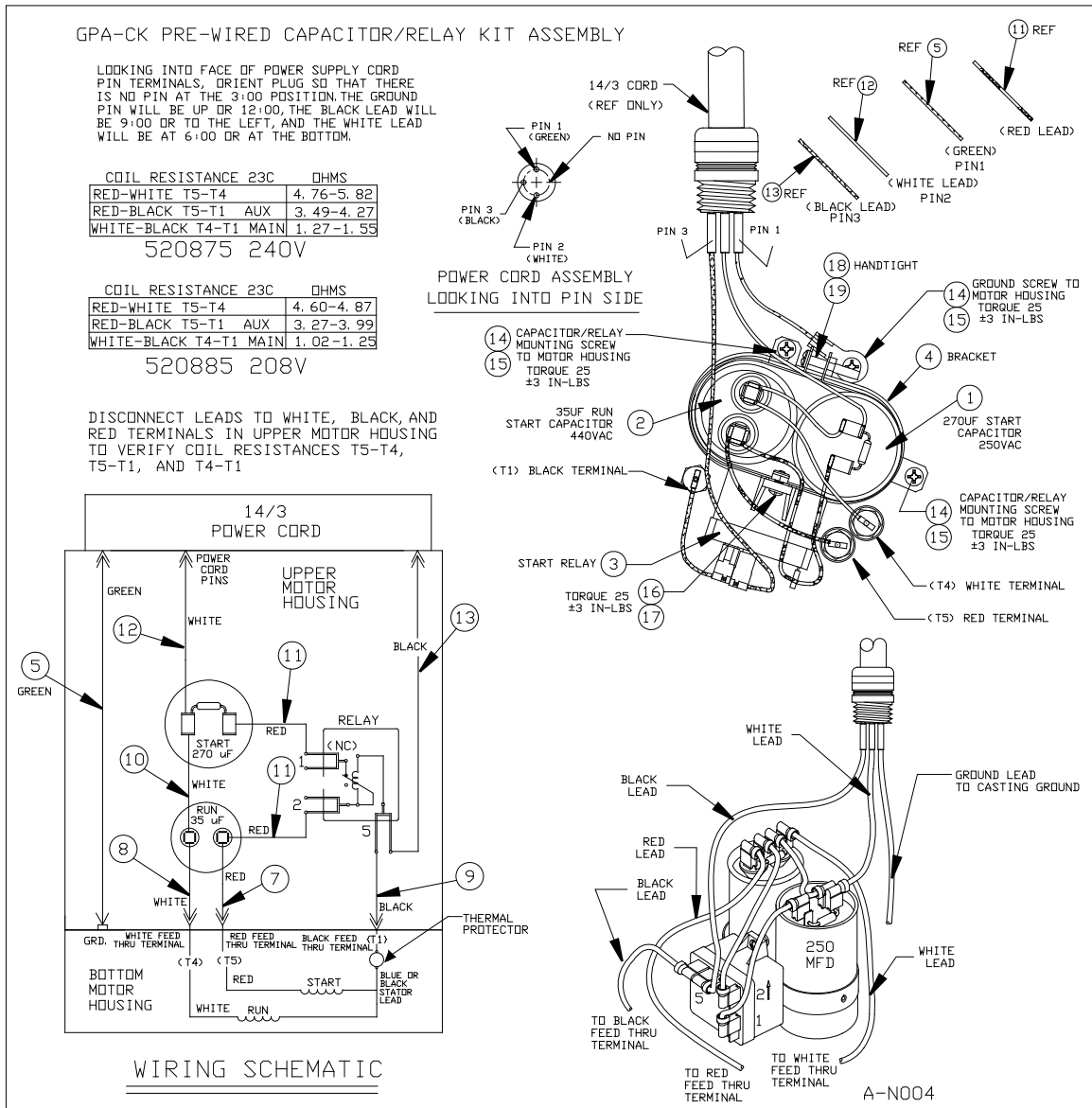


Figure 7

REPLACEMENT PARTS			
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	950532	Capacitor, 270mfd, 250v, 2.00" Dia	1
2	950533	Capacitor, 35mfd, 440v, 1.75" Dia	1
3	950537	Relay, potential, start, 400v, 50 amp	1
4	950536	Bracket, capacitor, dual, relay, zinc plated, cold roll	1
5	*	Wire lead assy., 12", green, w/terminals, from power cord	1
6	*	Seal ring, nitrile, 5.359" I.D. x .134" wall, cover seal (not shown)	1
7	*	Wire lead assy., 7.00", red, w/flag terminal and pin terminal	1
8	*	Wire lead assy., 7.00", white, w/flag terminal and pin terminal	1
9	*	Wire lead assy., 3.75", black, w/flag terminal and pin terminal	1
10	*	Wire lead assy., 5.50", white, w/flag terminals	1

REPLACEMENT PARTS			
ITEM NO.	PART NO.	DESCRIPTION	QTY.
11	*	Wire lead assy., 5.50", red, w/flag terminals	2
12	*	Wire lead assy., 12", white, w/flag terminal and pin terminal	1
13	*	Wire lead assy., 12", black, w/flag terminal and pin terminal	1
14	*	Screw, machine, 8-32 x 1/4, Phillips, ground and capacitor bracket	3
15	*	Washer, lock, #8 (1 for ground and 2 for switch bracket mounting)	3
16	*	Screw, machine, 6 x 3/8, pan head, stainless, relay	1
17	*	Nut, hex, nylon, 6-32, locknut, relay	1
18	*	Screw, machine, 8-32 x 1, Phillips, panhead, capacitor bracket	1
19	*	Nut, hex, 8-32, locking, serrated (for capacitor bracket)	1

*Item not for sale. Shown for reference only.

**Table 4
Capacitor/Relay Kit with Hardware (GPA-CK) #520858**

TROUBLESHOOTING



If pump does not operate properly, consult the Troubleshooting table. If trouble cannot be located with the steps shown, consult your pump dealer or take pump to a Little Giant authorized service center.

WARNING: Before working on pump or switch, always disconnect pump power cord in addition to shutting off circuit breaker or removing the fuse.

NOTE: Grinder pumps must be cleaned and sanitized before returning them to Little Giant.

TROUBLESHOOTING		
PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTIONS
Pump does not turn on.	Circuit breaker shutoff or fuse removed.	Turn on circuit breaker or replace fuse.
	Accumulation of trash on or around float.	Clean float and area around float.
	Pump not wired correctly.	Check wiring diagram and connections.
	Float obstruction.	Check float path and provide clearance.
	Defective motor.	Have pump serviced by authorized service center.
	Defective float.	Disconnect switch (float), check with Ohmmeter, Open-infinite resistance, closed zero.
Pump will not shut off.	Float obstruction.	Check float path and provide clearance.
	Pump is air locked.	Shut power off for approximately 1 minute, then restart. Repeat several times to clear air from pump. A 3/16" hole should be drilled in discharge pipe approximately 2" above discharge connection. If there is already a hole drilled, check for stuck debris.
	Defective switch.	Disconnect switch (float), check with Ohmmeter, Open-infinite resistance, closed zero.
	Loose connection in level control wiring.	Check control wiring for loose or improper connection.
Pump runs but does not discharge liquid.	Check valve installed backwards.	Check flow indicating arrow on check valve body to ensure it is installed properly.
	Check valve stuck or plugged.	Remove check valve and inspect for proper operation.
	Inlet to impeller clogged.	Remove pump from system and clean as described in Maintenance section of manual.
	Pump is air locked.	Shut power off for approximately 1 minute, then restart. Repeat several times to clear air from pump. A 3/16" hole should be drilled in discharge pipe approximately 2" above discharge connection. If there is already a hole drilled, check for stuck debris.
Pump does not deliver rated capacity.	Lift too high for pump.	Check rated pump performance.
	Low voltage, speed too slow.	Check for proper supply voltage to make certain it corresponds to name-plate voltage.
	Impeller or discharge pipe is clogged.	Pull pump and clean. Check pipe for scale or corrosion.
	Impeller wear due to abrasives.	Replace worn impeller.
Pump cycles continually.	No check valve in long discharge pipe allowing liquid to drain back into basin.	Install check valve in discharge line.
	Check valve leaking.	Inspect check valve for obstruction or defect. Clean or replace.
	Basin too small for inflow.	Install larger basin (24" min. diameter).
Pump is noisy.	Inlet may be clogged and overloading the motor.	Remove pump from system and clean as described in Maintenance section of manual.
	Grinder element may be rubbing on each other due to bent shaft or misalignment.	Have pump serviced by authorized service center.
	Defective motor bearings.	Have pump serviced by authorized service center.
Circuit breaker trips.	Improper wiring in junction box.	Check wiring in junction box (see wiring diagram). If circuit breaker continues to trip, remove pump and take it to an authorized service center.
	Obstruction inside volute causing impeller to be locked.	Refer to Maintenance section of instruction sheet and remove volute to check impeller. If circuit breaker continues to trip, remove pump and take it to an authorized service center.

LIMITED WARRANTY

Little Giant GP-A231 and GP-A201 Series Submersible Automatic Grinder Pumps are recommended for use in sumps, basins or lift stations and suitable for pumping sewage and other non-explosive, non-corrosive, non-abrasive liquids not above 140°F.

Each of the above noted Little Giant products is guaranteed to be in perfect condition when it leaves our factory. During the time periods and subject to the conditions hereinafter set forth, Little Giant will repair or replace to the original user or consumer any portion of your new Little Giant product which proves defective due to materials or workmanship of Little Giant. Contact your nearest authorized Little Giant dealer for warranty services.

At all times Little Giant shall have and possess the sole right and option to determine whether to repair or replace defective equipment, parts, or components. Damage due to lightning or conditions beyond the control of Little Giant is NOT COVERED BY THIS WARRANTY.

WARRANTY PERIOD: 12 months from date of installation or 18 months from date of manufacture, whichever occurs first.

LABOR, ETC. COSTS: Little Giant shall IN NO EVENT be responsible or liable for the cost of field labor or other charges incurred by any customer in removing and/or affixing any Little Giant product, part or component thereof.

THIS WARRANTY WILL NOT APPLY:

1. to defects or malfunctions resulting from failure to properly install, operate, or maintain the unit in accordance with printed instructions provided.
2. to failures resulting from abuse, accident or negligence.
3. to normal maintenance services and the parts used in connection with such service.
4. to units which are not installed in accordance with applicable local codes, ordinances and good trade practices.
5. to Little Giant GP-M231/GP-M201 if they are not operated with either a Little Giant specified control panel or capacitor kit.
6. if unit is used for purposes other than for what it was designed and manufactured.
7. if pump exposed to but not limited to the following: sand, gravel, cement, grease, plaster, mud, tar, hydrocarbons, or hydrocarbon derivatives (oil, gasoline, solvents, etc.) or other abrasive or corrosive substances.
8. if pump has been used for continuous pumping of suitable liquids above 140°F.

9. if power cord has been cut, or shortened to a length less than 3 feet.

10. if pump has been dismantled by customer other than cleaning cutter. (Dealer only can dismantle pump for field service.)

RETURNED OR REPLACED COMPONENTS: Any item to be replaced under the warranty must be returned to Little Giant at Oklahoma City, OK or such other place as Little Giant may designate, freight prepaid.

PRODUCT IMPROVEMENTS: Little Giant reserves the right to change or improve its products or any portions thereof without being obligated to provide such a change or improvements for units sold and/or shipped to such change or improvement.

DISCLAIMER: Any oral statements about the product made by the seller, the manufacturer, the representatives or any other parties, do not constitute warranties, shall not be relied upon by the user, and are not part of the contract for sale. Seller's and manufacturer's only obligation, and buyer's only remedy, shall be the replacement and/or repair by the manufacturer of the product as described above. Neither seller nor the manufacturer shall be liable for any injury, loss or damage, direct, incidental or consequential (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss), arising out of the use or the inability to use the product, and the user agrees that no other remedy shall be available to it. Before using, the user shall determine the suitability of the product for his intended use, and user assumes all risk of liability whatsoever in connection therewith. The warranty and remedy described in this limited warranty is an EXCLUSIVE warranty and remedy and is IN LIEU OF any other warranty or remedy, expressed or implied, which other warranties and remedies are hereby expressly EXCLUDED, including but not limited to any implied warranty of MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow the exclusive or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

In the absence of other suitable proof of the installation date, the effective date of this warranty will be based upon the date of manufacture plus one year. Direct all notices, etc., to: Service Department, Little Giant, 3810 N. Tulsa Street, Oklahoma City, OK 73112-2935.

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