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Read these instructions before beginning the installation to become familiar with the parts and installation sequence. Review safety precautions and operator instructions with the end user and leave installation manual with them for future reference.
Safety Instructions for the GTO/PRO 2000 and GTO/PRO 2200 Gate Operators

SAFETY IS EVERYONE'S BUSINESS

Automatic gate operators provide convenience and security to their users. However, because these machines can produce high levels of force, it is important that all gate operator system designers, installers and end users be aware of the potential hazards associated with improperly designed, installed or maintained systems. Keep in mind that the gate operator is only one component of the total gate operating system—each component must work in unison to provide the end user with convenience, security and safety.

The following information contains various safety precautions and warnings for the system designer, installer and end user. Although the warnings are not completely exhaustive in nature (due to the many and varied possible applications), they do provide an overview of the importance of safe design, installation and use. Take the time to carefully read and follow these precautions and other information provided to help assure a safe system design, installation and use.

NOTE: GTO Automatic Gate Operators are intended to be part of a total gate operating system. It is the responsibility of the purchaser, designer and installer to insure that the total system is safe for its intended use. The manufacturer is not responsible for accidents arising from unsafe installations or improper use. Safety is your responsibility!

SPECIAL NOTES FOR THE SYSTEM DESIGNER

1. Familiarize yourself with the complete safety instructions, precautions and warnings. The end user is relying on your design to provide a safe, hazard-free installation and system use.

2. When designing a system which will be entered from a highway or main thoroughfare, make sure the system is placed far enough away from the road to eliminate traffic backup. Distance from the road, size of the gate, usage levels and gate cycle/speed must be taken into consideration to eliminate potential traffic hazard.

3. This gate is not for pedestrian use. If pedestrian traffic is expected, install a walk-through gate for this purpose.
I. Before Installation

1. Check to ensure that this gate operator is proper for the type and size of gate and its frequency of use (see page 6).

2. Make sure that the gate has been properly installed and swings freely while opening and closing. Repair or service any worn or damaged gate hardware prior to installation of operator. A freely moving gate will require less force to operate and enhance the performance of the operator as well as the safety devices used with the system. **Use ball bearing hinges for all gates exceeding 250 lbs (113.4 kg).**

3. Review the operation of the system and become familiar with the manual disconnect for the operator (see Illustration ‘A’ below) and the safety features of the system.

4. Secure outdoor or easily accessed gate operator controls in order to prohibit unauthorized use of the gate.

II. During Installation

1. Be aware of all moving parts and avoid close proximity to any pinch points.

2. Place access controls (i.e. keypads, push buttons, etc.) far enough from the gate so that the user has full view of the gate but cannot touch the gate while operating the controls. The recommended minimum distance between the gate and any access control device is ten ft.

3. Install the gate operator on the inside of the property and/or fence line. **Do not** install an operator on the public side/outside of the gate.

4. Place the caution signs provided with the gate operator on each side of the gate or in high visibility areas to alert the public of automatic gate operation. It is **your responsibility** to make sure the public is not exposed to a potentially hazardous situation.

III. After Installation

1. You are responsible for explaining the basic operations and safety systems of the entire gate operator system, including operation of the manual disconnect, to the end-user.

2. **Review all the safety instructions with the end-user and leave this manual with them.**

---

**Illustration A**

**Manual Disconnect of Operator Arm**

1. Turn control box “OFF”.

2. Remove hairpin clip and clevis pin from the gate bracket and pull operator arm away from the gate.

3. The gate can now be opened manually.
Read and follow all safety precautions. **Be certain you have thoroughly reviewed these safety precautions with your installer:**

1. Distribute safety instructions to all persons authorized to use the gate operator.

2. **KEEP CLEAR OF THE GATE AND AREA OF GATE TRAVEL** at all times. This automatic gate operator is not for pedestrian use. If pedestrian traffic is expected near the gate, a walk-through gate should be installed for this purpose.

3. Do not allow children or pets near the gate.

4. Do not activate the gate operator unless you can see it and can determine its area of travel is clear of children, pets or any other obstructions.

5. If push buttons, keypads or keyswitches are installed, they should be within sight of the gate, yet located far enough from the gate (at least ten ft.) so the gate cannot be touched while in operation. Do not activate any control without watching movement of the gate.

6. Do not use the sensitivity adjustments to compensate for a poorly installed or damaged gate. The gate should always be maintained to operate manually as easily as possible; periodic gate/operator inspections and maintenance should be scheduled. (See Maintenance and Troubleshooting, pages 33 and 34)

7. Have all safety systems checked periodically. If these functions are observed to operate improperly, discontinue use and have operator serviced immediately.

8. To operate this equipment safely, **YOU must receive detailed instructions on the operation of the manual disconnect.** If you feel you haven’t received full and proper instructions, contact your installer.

9. It is your responsibility to make sure that the installer posted GTO’s caution signs on both sides of your gate. If any of these signs or caution decals become damaged, illegible or missing, replace them immediately. Contact your installer or GTO for replacement.

10. Read this manual and keep it for reference.
Caution Signs and Labels

The following caution signs and labels are included with this gate operator. If any are missing, contact GTO at 1-800-543-4283 immediately and we will send replacement signs and/or labels.

Caution signs (2) to be placed on both sides of gate to warn pedestrians.

Caution label located on front and back of GTO/PRO 2000 & GTO/PRO 2200 operator arms.
Technical Specifications
"Technical Specs" - GTO/PRO 2000 & 2200 Swing Gate Operators

DRIVE

- Low friction screw drive (linear actuator).
- Temperature rating of motor -30°F (-34°C) to +160°F (71°C).
- Powered by a 12 V/DC motor; generates 600 inch pounds torque at 12 V.
- 110 degree opening time is 20 seconds. • Up to 24" (61 cm) stroke.
- Operator length with arm fully retracted is 39" (99 cm), mounting point to mounting point.
- Limit switches are internal.

POWER

- System is powered by a 12 V DC / 7.0 amp hour, sealed, rechargeable gel cell battery.
- Battery charge maintained by 120 V AC / 60 Hertz input and 14 VAC at 40 VA. (2.9 amperes) output; transformer rectified to 14 V DC through the GTO Control Board.
  **NOTE: Transformer should not be connected directly to any battery.**
- Battery charge maintained by GTO Solar Panel Charger: float voltage 14.5 V DC output from 193/8" x 151/4" silicon alloy panels; generates minimum of 10 watts at 600 mA each. Gated diode on the control board prevents battery discharge.

CONTROL

- GTO microprocessor-based SMART control board can be programmed for pull-to-open or push-to-open, single gate or dual gate installations, adjustable auto close, obstruction sensitivity and dual gate sequencing. Auto-memorization of digital transmitter code. Charging regulated circuit on control board. “Sleep draw” is 10 mA; “active draw” is 2 to 5 amps.
- GTO remote-mounted RF receiver is tuned at 318 MHz. It has temperature compensated circuits and a constant draw of 15 mA.

OPERATIONAL CAPACITY

- The GTO/PRO 2000 and GTO/PRO 2200 will handle gates weighing up to 1000 lbs. (453 kg) and up to 20 ft. (6.1 m) in length if all proper installation procedures have been followed. Note that ball bearing hinges should be used on all gates weighing over 250 lbs. (113.4 kg)

- The GTO/PRO 2000 series operators are capable of continuous duty cycling; however, the total cycles per day will depend on the motor current and efficiency of the gate installation (see chart on page 17). For questions relating to specific applications and for information regarding cycling duty when charged by solar panels, call the GTO service department at 1-800-543-GATE (4283).

These Specifications are subject to change without notice.
Single Gate Operator Parts List

**Parts**

- Gate Operator with 6 ft. Power Cable
- Gate Bracket
- Post Pivot Brackets (2)
- Post Bracket
- Rear Mount
- Closed Position Stop

**Hardware (not to scale)**

- 1/2" x 10" Carriage Bolt (2)
- 1/2" x 3 3/4" Bolt (2)
- 1/2" x 2 3/4" Bolt (3)
- 3/8" x 1 1/2" Bolt (1)
- 1/2" x 1 1/4" Clevis Pin (1)
- Hairpin Clip (1)
- 1/2" Washer (12)
- 1/2" Lock Nut (7)
- 3/8" Lock Nut (1)
- 1/2" x 1 7/16" Spacer (1)

Tywrap (14)
Control Box and Electrical

**OTHER MATERIALS YOU MAY NEED BEFORE YOU START THE INSTALLATION:**

Depending on the type of gate and fence post, you may need some additional materials/hardware. Some of these items can be found in the GTO/PRO Accessory Catalog on page 37.

- **All** gates will need a stop post in the open position. This post is not provided. See page 14, “Installation of Open and Closed Position Stops” for more information.

- Low voltage wire may be needed. Length depends upon the distance between the transformer power supply and the control box. See page 17, “Powering the System” and the Accessory Catalog, page 37, for wire and solar charging panels.

- If the gate is more than 1000' away from an A.C. Power Source you will need to use one or more GTO Solar Panels to provide the trickle charge to the battery. See the Accessory Catalog, page 37.

- The diameter of the fence post should be at least 8” (round) or 6” (square) in order to mount the post bracket (see page 10). An optional 4” bracket can be used with 4” post, and mounting bracket adapters must be used with 4” and 6” round posts. (See Accessory Catalog, page 37).

- Depending upon the diameter of the fence post, you may need longer carriage bolts than those provided. Bolts should be at least 1” greater than the diameter of the fence post (see page 10).

- If using thin wall tube or panel gates, see page 12 for recommended reinforcement materials.

- A horizontal or vertical cross member or mounting plate may be needed to mount the operator to the gate. See page 9.
Installation of First (single) Gate Operator

Single Gate /Pull-to-Open (Open-In)

The diagram below is an example of a single leaf, pull-to-open (open-in) installation on an ornamental iron gate. "Pull-to-Open" is a gate which opens into the property. If you are installing a "Push-to-Open" (open-out) system (see page 31), or if you are mounting the operator on a masonry column, please refer to page 36 before proceeding.

Preparing the Gate

Step 1:
The gate must be in proper working order, plumb, level and swinging freely on its hinges. Do not use wheels on gate. The gate must move smoothly and evenly throughout its swing, without binding or dragging on the ground. Gates over 250 lbs. must have ball bearing hinges with grease fittings.

Step 2:
The fence post must be strongly secured in the ground with concrete so it will not twist or flex when the operator is powered. It is important to position the operator near the midline of the gate to keep the gate from twisting and flexing. The addition of a horizontal or vertical cross member may be necessary (if one is not already in place) to provide a stable area to which the gate bracket can be secured.

For the operator to perform properly, Steps 1 & 2 must be complete before you go any further with the installation.
Installing The Post Bracket Assembly

The post bracket position determines the leverage of the operator and the clearance between the operator and the gate.

The post bracket is designed to work on a flat fence post. Fence posts must be at least 6” square in order to mount the post bracket.

NOTE: The best method of attaching the post bracket to metal post is welding. Round wood posts (no smaller than 8” diameter) may be notched to create a flat surface for attaching the post bracket.

If bolts are used to mount the post bracket, the bolts must completely penetrate the fence post. If your fence post is greater than 8”, it will be necessary to use carriage bolts longer than those supplied. On wood posts use a metal plate (not provided) between the nuts and post to prevent the operator from pulling the bolts and washers through the wood.

NOTE: If you have round metal gate posts that are 4” or 6” in diameter, optional mounting bracket adapters are available, see Accessory Catalog on page 37.

The use of optional mounting brackets adapters may require you to drill a few additional holes in the standard post bracket depending on your application.

Step 3:
Close the gate and place your level against the horizontal cross member. The top of the level should be in the center of the cross member and should overlap the fence post. Scribe a line across the cross member and fence post. You will use this line to help determine position of gate and post brackets.
**Step 4:**
Position the post bracket on the fence post with the mounting holes centered over the scribe line. The post bracket should be flush with the edge of the fence post closest to the gate (see illustration). Mark the position of post bracket holes on the fence post.

**Step 5:**
Drill holes in fence post as marked using a 1/2" drill bit. Install the post bracket using the 1/2" x 10" carriage bolts, 1/2" washers, and lock nuts (provided).

**Step 6:**
Place the rounded ends of post pivot brackets inside the post bracket. Align the holes in the post pivot brackets with holes in the post bracket (see illustration). Insert 1/2” x 3 3/4” hex head bolt through post pivot brackets and post bracket; tighten the nut.
Connecting Operator to Post Bracket Assembly

**Step 7:**
Tap the rear mount onto the back of the operator. Align the 3/8” hole in the rear mount with 3/8” hole in the back of the operator and insert the 3/8” bolt through the holes and secure it with the lock nut.

**Step 8:**
Position rear mount between post pivot brackets. Place 1/2” washers between rear mount and post pivot brackets. Align 1/2” hole in rear mount and washers with holes in post pivot brackets. Attach the rear mount to post pivot brackets using 1/2” x 2 3/4” bolt and 1/2” nut. **Note: when tightening the rear mount bolt, leave it loose enough for the operator to pivot freely.**

**Step 9:**
Attach the gate bracket to operator arm using the clevis pin and hairpin clip.

**IMPORTANT:** Thin walled tube and panel gates MUST be reinforced as shown to prevent damage to gate and/or operator.
Step 10:
Open the gate to the desired position (at least 10° and no greater than 110°). Position the operator arm so that the gate bracket just rests against the gate. Check the clearance between the operator and the gate. The operator should only make contact with the gate at the gate bracket. However, there should not be too much clearance between the operator and the gate, or the operator will fully extend before it reaches the closed position. See illustration at right for examples of clearance.

Step 11:
Now align spacer and post pivot brackets hole with the post bracket hole that provides the best clearance. Insert the 1/2" x 3 3/4" bolt through holes in post bracket, post pivot brackets and spacer. When tightening the 1/2" nut, leave it loose enough so that you can make adjustments later.

Installing the Gate Bracket

NOTE: Rotating the front mount at the end of the push-pull tube will change its length so that the mount and gate bracket can be properly aligned with each other on the gate at the best location (i.e. between or on pickets, on braces, mounting plate, etc.).

Step 12:
With the gate bracket clamped in the open position (no more than 110° from the closed position). Detach the operator arm from the gate bracket. The mounting holes should be centered over the scribe line. Drill the 3/8" holes in the gate cross member and attach the gate bracket using the 3/8" bolts, washers and nuts. Reattach the operator arm to the gate bracket. You have now established the OPEN POSITION of the gate.
Installing the Open and Closed Position Stops

Open and closed position stops MUST be used; they are boundaries against which the operator firmly holds the gate in both the open and closed positions. Stability in both the open and closed positions contributes to the long life of the operator and to the durability of the installation. For additional stability and security, install the GTO Automatic Gate Lock (see Accessory Catalog on page 37).

**Step 13:**
With the gate still in the open position, measure approximately 3/4 of the distance to the end of the gate from the hinges and place a mark on the ground directly under the gate (refer to the overview illustration below for positioning). You will install an **open-position stop post** at this point. The open position stop post can be made of wood, metal, or concrete.

![Diagram of gate with open and closed position stops](image)

**Step 14:**
Remove the hairpin clip and clevis pin from the gate bracket and move the gate so that you can install the open position stop post. Secure stop post firmly in the ground (and seat in concrete).
Step 15:
Close the gate. Position the closed position stop plate on the end of the gate frame at mid-height. Extend the stop plate to make contact with the fence post at that position.

Install the closed position stop plate using appropriate hardware for the type of gate (u-bolts for tube or chain link gate, wood or lag screws for wood gates, etc.). This hardware is not provided.

Reattach the arm to the gate bracket.

Installing the Control Box

Step 16:
Mount the control box using either the tywraps provided, or other secure mounting system. The control box should be mounted at least 3 feet from any source of AC power to avoid unwanted electrical interference and at least 2-3 feet above the ground to protect from rain splash, snow, etc.
Step 17:
Turn the control box **OFF**. Remove the front cover of the control box. Slide the battery into position with the terminals to the **left**. NEVER insert battery with the terminals to the right. Be sure the battery fits snugly in the control box. Connect the battery lead wires to the battery, **red wire to (+) terminal, black wire to (-) terminal**. Pay careful attention to the color of the wire (not the connectors). If the wires are connected incorrectly, it will damage the control board.

**HINT:** a dab of household petroleum jelly on each terminal will help prevent corrosion.

Step 18:
Feed the free end of the 6’ power cable upward through the power cable strain relief (attached to the power cable for shipping) on the bottom of the control box. Pull 6”-8” of wire into the control box and tighten the strain relief to secure power cable. The free end of the power cable can be cut to length, if necessary.

Step 19:
Carefully strip off the outer shield of the power cable and then strip 1/4” off the ends of each individual wire and twist tightly. Attach these ends to the control board at the terminal strip marked “FIRST OPERATOR”.

Insert the RED wire into the terminal marked RED, BLACK wire to BLK and so on.

Tighten set screws against exposed end of wires. A dab of household petroleum jelly on each terminal will help prevent corrosion.

Step 20:
**Be sure the power switch is OFF before continuing.**
Powering the System

- The GTO transformer is intended for indoor use. If the transformer can only be plugged into an outside electrical outlet, a weatherproof housing or cover (available at electrical supply stores) must be used.
- Solar power options are available; see Solar Chart on next page.
- All low voltage wire used for powering the GTO/PRO gate operators MUST be dual conductor, multi-stranded, direct burial wire.

Step 21:
Choose the electrical outlet into which the transformer will be plugged. Measure the distance from the electrical outlet to the control box, following the path where the low voltage wire will run (to prevent over powering the charging circuit it is important to use at least 10 ft. of wire; the maximum distance can be no more than 1000 ft.).

Predicting the exact maximum number of operational cycles at peak load is more of an art form than an exact science. The above chart illustrates the average maximum number of cycles possible (the “MNC”) in a 24 hour period with a single gate that weighs 1000 lbs. and is installed such that the motor draws 5 amps to move the gate (typical installation on ball bearing hinges). Please keep the following variables in mind:

1) If the gate is binding, dragging, in high winds, or if ball bearing hinges are not used, it will require more than 5 amps to move it; this will reduce the MNC. Gates weighing less than 1000 lbs. may have a higher MNC.

2) The above illustration is based on the transformer being plugged into an outlet that provides a line voltage of 120 volts; if the outlet provides less than 120 volts (for example, some rural areas may only provide 108 volts), it can significantly reduce the MNC (as much as 50%).

3) A fully charged battery has an inherent reserve of 50-100 cycles without requiring a charge. This allows peak loads at several points during the day, depending upon how much time the transformer has to provide a charge to the battery between cycles. The transformer is capable of fully recharging the battery in as little as five minutes at optimum conditions.

4) The above chart is based upon an ambient temperature of 40º F. Battery performance and speed at which it will recharge will fluctuate based upon temperature.

5) The MNC for the GTO/PRO 2000 is roughly comparable to most AC powered operators, and the transformer provided with this operator should handle most high traffic situations. If the battery does not seem to be able to provide the constant charge required for your application, the addition of a deep cycle marine battery should provide ample power to handle any situation. For more information, call GTO’s service department.

6) The MNC with dual gate applications will be about half of those with a single gate.
Step 22:
Install at least 10 ft. of low voltage wire (see Accessory Catalog, page 37) to connect the control box to the transformer. This wire should be buried in a trench. Wires coming from the ground to the control box should be run through PVC conduit to protect them from lawn mowers, weed eaters and grazing animals. Do not use telephone wire or any solid core wire. Never splice wires together!

Step 23:
Feed the low voltage wires upward through the strain relief on the control box. Pull 6” to 8” of wire into the control box and tighten the screw on the side of the strain relief to secure wires.
Step 24:
Strip 1/4" off the ends of the low voltage wire and twist each wire end tightly. Attach these ends to the control board at the terminal strip marked "TRANSFORMER". **Do not let the wire ends touch each other!**

Insert the RED wire into the RED TRANSFORMER terminal block and the BLACK wire to the BLACK TRANSFORMER terminal block.

Tighten set screws against exposed end of wires. A dab of household petroleum jelly on each terminal will help prevent corrosion.

Step 25:
Strip 1/2" off the ends of the low voltage wire and attach ends to the transformer terminals; **red lead to (RED), black lead to (BLK).**

A dab of household petroleum jelly on each terminal will help prevent corrosion.

We suggest terminating wire ends by installing crimp-on connectors (not provided) before attaching to proper terminals.

**Be certain wire ends do not touch each other!**

Step 26:
Plug in the transformer.
**We strongly recommend using a surge protector.**

**HINT:** keeping a few mothballs in the control box will prevent insects from entering the control box and damaging the PC board.
Programming the System

Step 27:
Please read these instructions completely before attempting to program the gate operator.
All GTO/PRO operators are pre-programmed with the same factory settings for the following features:

- **Type Of Installation**: Single gate, pull-to-open;
- **Obstruction Sensitivity**: Most sensitive;
- **Auto Close**: Closes automatically 60 seconds after opening;
- **Gate Sequence**: Single gate opens by itself;

If these settings are correct for your installation, **you do not need to do any programming**. It will only be necessary to program those particular features you want to change from the factory settings. If no programming will be done, proceed to page 23, Step 28.

Programming Buttons
There are 5 programming buttons on the control board, labeled S1-S5. These programming buttons serve a dual purpose:

1. to select one of the 5 features
2. to select different settings for each of these 5 features

Features and Settings
Before you begin programming, learn about the five features and each of their settings.

**Feature S1 - Type of Installation**
The factory setting is for a single operator, pull-to-open (open-in), installation on a single gate.
If you are installing a dual operator, pull-to-open system, you MUST select the Dual Gate Pull-to-Open setting (S3). See additional instructions on Dual Gate Programming on page 30.
For push-to-open (open-out) installations you MUST select either Single Gate Push-to-Open setting (S2) or Dual Gate Push-to-Open setting (S4). See additional instructions on Push-to-Open on page 31.

**Feature S2 - Obstruction Sensitivity**
This feature determines the amount of force exerted by the operator (and gate) on an obstruction before the operator stops or reverses. The less sensitive the setting (S1 and S2), the more force the gate will exert on the obstruction before the operator stops and reverses. The more sensitive the setting (S4 and S5), the less force the operator will exert against the obstruction before stopping and reversing.

**NOTE**: The factory setting is set for the most sensitive (S5) setting, because this is the safest setting. However, the less sensitive settings (S1 and S2) may be necessary for heavy gates and gates with significant wind resistance. Determine what force it takes to stop the gate at each of the five settings, then decide which of the settings works best for your installation.

Remember it's always safest to use the MOST sensitive setting possible.
Do not use obstruction sensitivity to compensate for an improperly installed gate!
Feature S3 - Auto Close

The Auto-Close feature determines whether or not the gate will close automatically after it is opened, and if so, how long it will remain open before it begins to close. The factory setting (S5) automatically closes the gate 60 seconds after opening. Setting S2, S3, and S4 determine other lengths of time the gate will remain open before automatically closing.

Setting S1-Off disables the automatic closing feature and causes the gate to remain open until the transmitter button (or other entry control device) is pressed, which then closes the gate.

Feature S4 - Gate Sequence

Do not use this setting unless you are installing dual gate operators, see page 27.

This feature enables you to select the sequence of the opening and closing gates in a dual gate installation; the factory setting (S1) is for both gates to open and close simultaneously.

Feature S5 - Programming Activation

This feature is only used to activate the programming mode.

Programming Steps

1: Place the board in the Programming Mode, as follows;
   A. Turn the control box OFF
   B. While holding down the S5 button, turn the control box ON,
   C. Immediately release the S5 button

2: Choose the first feature you wish to program (S1 to S4), and push that button and release. Wait for the RED LED light to stop flashing.

3: Within 4 seconds after the RED LED light stops flashing, push the appropriate button (S1 to S5) for the desired setting. The number of blinks of the RED LED light corresponds to the setting number of that feature. (S1 blinks once, S2 blinks twice, etc.)

4: To program another feature, wait at least 10 seconds then repeat steps 2 & 3 above.

5: Store the programmed settings in control board memory by pressing the button on the transmitter until the RED LED light on the control board flashes bright and then returns to dim. The settings are now stored in control board memory.
PROGRAMMING THE GTO/PRO 2000 & 2200 AUTOMATIC GATE OPERATOR

The first button pushed determines the feature. When the LED light stops flashing, you have four seconds to press the second button. The second button pushed determines the setting.

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<td></td>
<td>Dual Gate Pull-To-Open Press S-1 Then S-3</td>
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<tr>
<td>Obstruction Sensitivity</td>
<td>Least Sensitive Press S-2 Then S-1</td>
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<tr>
<td></td>
<td>Medium Press S-2 Then S-3</td>
</tr>
<tr>
<td></td>
<td>Most Sensitive Press S-2 Then S-5</td>
</tr>
<tr>
<td>Automatic Close</td>
<td>OFF Press S-3 Then S-1</td>
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<tr>
<td></td>
<td>20 Seconds Press S-3 Then S-3</td>
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<tr>
<td></td>
<td>60 Seconds Press S-3 Then S-5</td>
</tr>
<tr>
<td>Gate Sequence</td>
<td>Both Gates Open &amp; Close Together Press S-4 Then S-1</td>
</tr>
<tr>
<td></td>
<td>Both Gates Open Together and #1 Closes First Press S-4 Then S-3</td>
</tr>
<tr>
<td></td>
<td>#1 Opens First #1 Closes First Press S-4 Then S-5</td>
</tr>
<tr>
<td>Program Activation</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Always wait for the LED light to stop flashing after the first (Feature) button is pushed ... THEN press the second (Setting) button.

Highlighted areas denote factory settings. However, if the control board is rebooted, the Obstruction Sensitivity Setting will default to "Least Sensitive."

Programmable Check

If you need to check the program settings:

Put the control board in programming mode (see step 1 in Programming Steps). Press the button representing the feature you want to check. Count the blinks of the red light. The number of blinks represents the setting of the feature.

CAUTION: If you are checking more than one feature, be sure to wait at least 10 seconds between single presses to ensure you don't alter the setting of a particular feature.
Setting the Personal Transmitter Code

Step 28:
All GTO transmitters are set to the same code at the factory, and are ready to activate the GTO/PRO operator. For safety and security, however, we strongly recommend that you change the factory setting to the end user’s own personal code, according to the following directions:

1. Remove the Transmitter Cover
Slide the access cover away from the top of the transmitter. This will expose the battery and the dip switches. The code can now be changed using a small screwdriver.

2. Set the Coding Switches
There are nine (9) dip switches, each of which can be placed in three different positions (+,0,−). DO NOT set all switches in the same position, such as all +, all −, or all zeros.

WARNING: No other adjustments should be made inside the transmitter!

Once you have set the dip switches to the end user’s personal code, replace access cover.

3. Store the Code in Control Board Memory

A. Turn the control box OFF.

B. Remove control box lid.

C. While holding down Programming Button S5 on the control board, turn the control box ON and then immediately release the Programming Button S5.

D. Store the transmitter code in control board memory by pressing the transmitter button until the Red LED light on the control board flashes bright and then returns to dim. Then release the transmitter button. The transmitter code is stored in control board memory and the control board is now in normal operational mode.
Setting the Closed Position Limit Switch

Step 29:
Remove the rear cover of the operator to gain access to the limit switches and the limit switch cams.

IMPORTANT: The inner switch cam assembly is factory set. Do not attempt to adjust the inner switch cam. This switch cam is not adjustable; attempting to move it will cause damage to the operator.

Step 30:
For Pull-to-Open Installations:
The open position of the gate was determined when you installed the GTO/PRO 2000 on the open gate (page 13, Step 12). The outer switch cam is used to adjust the closed position of the gate. The ideal closed position is when the closed position stop plate makes contact with the fence post just as the operator motor shuts down. Turn the cam until the desired setting is accomplished. Test adjustments by using transmitter.

For Push-to-Open Installations:
The closed position of the gate was determined when you installed the GTO/PRO 2000 on the closed gate (page 31). The outer switch cam is used to adjust the open position of the gate. The ideal open position is when the gate makes contact with the open position stop post just as the operator motor shuts down. Turn the cam until the desired setting is accomplished. Test adjustments by using transmitter.

NOTE: Some adjustment to the closed position can be made by disconnecting the operator from the gate bracket and rotating the push/pull tube to extend or shorten the operator length.

CAUTION: Because this operator is a powerful device, it is extremely important to properly set the limit switch. Keep the transmitter at hand during this operation in case you need to start or stop the operator to prevent harm to people or your gate.
**Step 31:**
Secure all bolts, nuts, and washers on the post bracket and gate bracket assemblies. Cut off the ends of the bolts extending beyond the tightened nuts.

**Step 32:**
Install Caution Signs on both sides of the gate using tywraps (provided) or screws.

## Mounting the Receiver

**Step 33:**
Consider the following points when deciding where to place the receiver:

1) the standard cable length of the receiver is 10’ (longer receiver cables are available through your dealer as a special order item).

2) run the receiver cable through PVC conduit to prevent mowers, weed eaters or animals from damaging cables. **DO NOT run cable through metal conduit, because it will decrease the range of the signal.**

3) **DO NOT mount the receiver on metal post or fence,** because it will decrease the range of the signal.

4) **DO NOT overtighten the screws,** as this may warp the receiver housing and damage the weather seal.

5) the range of this device can vary from 50 to 100 feet, depending upon weather, topography and outside interference.

---

**F.C.C. Regulation**

“This device complies with F.C.C. rules Part 15.
Operation is subject to the following two conditions:
1 - This device may not cause harmful interference.
2 - This device must accept an interference that may cause undesired operation.”

Transmitter distance may vary due to circumstances beyond our control.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user’s authority to operate the equipment.
Accessory Hookups

The terminal marked GREEN is the common ground for all accessories. It is used in conjunction with the following terminals for the use of accessories.

**IMPORTANT:** Be sure wires are twisted and inserted into terminal connections with no loose strands touching other wires or terminal connections. Tighten set screws against exposed end of wires. A dab of household petroleum jelly on each terminal will help prevent corrosion.

### WHITE used with GREEN:

This is the most commonly used combination for a doorbell button. This is a normally open contact.

- First contact will start the gate.
- Second contact will stop the gate.
- Third contact will reverse the gate.

**NOTE:** When using a doorbell button, make certain the button does not have a light, as it will drain the battery and cause it to fail.

### BLUE used with GREEN:

This combination is commonly used for an exit or entry device.

- First contact will open the gate.

**NOTE:** If the gate is in the open position and it starts to close, the contact of this accessory will reopen the gate. In some communities the use of an emergency entry device is mandatory; this accessory should be connected here.

### ORANGE used with GREEN:

This combination is used for safety loops.

This contact will not open the gate; it works only while the gate is in use. When this connection is made, the gate will remain open or reopen if closing.
Installation of Second (Dual) Gate Operator

Second Operator Parts List

**Parts**

- Gate Operator with 50’ Power Cable
- Gate Bracket
- Post Pivot Brackets (2)
- Post Bracket
- Rear Mount
- Closed Position Stop Plate

**Hardware (not to scale)**

- ½" x 10" Carriage Bolt (2)
- ½" x 3 3/4" Bolt (2)
- ½" x 2 3/4" Bolt (3)
- 3/8" x 1 1/2" Bolt (1)
- ½" x 1 1/4" Clevis Pin (1)
- Hairpin Clip (1)
- Tywrap (14)
- ½" x 1 7/16" Spacer (1)
- ½" Washer (12)
- ½" Lock Nut (7)
- 3/8" Lock Nut (1)

**Receiver Mounting Screw (4)**
Installing The Second (Dual) Gate Operator

The diagram below is of a dual gate, pull-to-open (open-in) installation on iron gates. "Pull-to-Open" dual gates open into the driveway. If you are installing a "Push-to-Open" (open out) gate system see "Push-to-Open Installation" starting on page 31.

**Step D1:**
Attach the closed position stop plate vertically to the inside bottom of the gate that will receive the second operator (for push-to-open, install plate on outside of gate). In this illustration this is the gate that will close first.

**Step D2:**
Install a closed position ground stop in driveway securely into ground directly below the gate. The positive stop plate installed in Step D1 should rest against the ground stop in the closed position. For added security, install a GTO Gate Lock (see Accessory Catalog on page 37).
Step D3:
Turn back to page 9 on Installing the First (Single) Gate Operator and repeat Step 1 through 15 to install the second operator. This time in Step 15, however, the closed position stop plate on the first gate will contact the leading edge of the second gate.

After the Second Operator is Installed on the Gate ...

Step D4:
Turn power switch OFF and remove the control box cover. Using a screwdriver or knife blade, remove the thin plastic knockout in the second operator connector hole at the bottom of the control box. Work from the inside out to prevent any possible damage to the control board.

Step D5:
Cut slot into driveway and run the power cable from the second operator to the control box by placing the power cable in the PVC conduit. Seal the driveway with proper patch.

Step D6:
Attach the strain relief for the second operator power cable to the control box. Then run the second operator power cable into the control box through the strain relief.

NEVER splice wires together!

Step D7:
Attach the wires to the second operator terminal block on the control board as shown in the illustration. (See Step 19, on page 16.)
### Step D10:
Refer to the programming chart below. Note that since this is a dual operator installation, you MUST reprogram Feature S1 (Type of Installation) and Feature S4 (Gate Sequence):

1. To reprogram Feature S1 (Type of Installation) select either setting S3, Dual Gate, Pull-to-Open (open in) or setting S4, Dual Gate, Push-to-Open (open out).

2. Reprogram Feature S4 (Gate Sequence). If left on the factory setting, the two gates will open and close simultaneously; otherwise, select one of the four remaining settings (S2 - S5).

3. Complete the programming steps as instructed on pages 20 and 21.

### Step D11:
After completing these dual operator programming steps, return the control board to the Operating Mode as in Step 5 on page 21.

### Programming the GTO/PRO 2000 & 2200 Automatic Gate Operator

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>SETTINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Installation</strong></td>
<td>S1</td>
</tr>
<tr>
<td></td>
<td>Single Gate Pull-To-Open Press S-1 Then S-1</td>
</tr>
<tr>
<td></td>
<td>Single Gate Push-To-Open Press S-1 Then S-2</td>
</tr>
<tr>
<td><strong>Obstruction Sensitivity</strong></td>
<td>S2</td>
</tr>
<tr>
<td></td>
<td>Least Sensitive Press S-2 Then S-1</td>
</tr>
<tr>
<td></td>
<td>Somewhat Sensitive Press S-2 Then S-2</td>
</tr>
<tr>
<td></td>
<td>Medium Press S-2 Then S-3</td>
</tr>
<tr>
<td></td>
<td>More Sensitive Press S-2 Then S-4</td>
</tr>
<tr>
<td></td>
<td>Most Sensitive Press S-2 Then S-5</td>
</tr>
<tr>
<td><strong>Automatic Close</strong></td>
<td>S3</td>
</tr>
<tr>
<td></td>
<td>OFF Press S-3 Then S-1</td>
</tr>
<tr>
<td></td>
<td>10 Seconds Press S-3 Then S-2</td>
</tr>
<tr>
<td></td>
<td>20 Seconds Press S-3 Then S-3</td>
</tr>
<tr>
<td></td>
<td>40 Seconds Press S-3 Then S-4</td>
</tr>
<tr>
<td></td>
<td>60 Seconds Press S-3 Then S-5</td>
</tr>
<tr>
<td><strong>Gate Sequence</strong></td>
<td>S4</td>
</tr>
<tr>
<td></td>
<td>Both Gates Open &amp; Close Together Press S-4 Then S-1</td>
</tr>
<tr>
<td></td>
<td>Both Gates Open Together and #2 Closes First Press S-4 Then S-2</td>
</tr>
<tr>
<td></td>
<td>Both Gates Open Together and #1 Closes First Press S-4 Then S-3</td>
</tr>
<tr>
<td></td>
<td>#1 Opens First #2 Closes First Press S-4 Then S-4</td>
</tr>
<tr>
<td></td>
<td>#1 Opens First #1 Closes First Press S-4 Then S-5</td>
</tr>
<tr>
<td><strong>Program Activation</strong></td>
<td>S5</td>
</tr>
</tbody>
</table>

NOTE: Always wait for the LED light to stop flashing after the first (Feature) button is pushed ... THEN press the second (Setting) button.

Highlighted areas denote factory settings. However, if the control board is rebooted, the Obstruction Sensitivity Setting will default to “Least Sensitive.”
**Push-to-Open Instructions**

**Determining The Mounting Position of The Post Bracket Assembly**

A "Push-to-Open" gate opens out toward the street (away from the property). The operator is installed on this type of gate while in the **closed** (not open) position. Because every gate installation varies, the push-to-open installation of the GTO/PRO 2000 and GTO/PRO 2200 will need to be customized. In most cases this only requires drilling two new holes in the post bracket.

**Step P1:**

The operator and brackets are installed on the gate post in the same way as pull-to-open installations. The post bracket is mounted at the inside edge of the post. The post pivot brackets are attached with one bolt at the pivot point and the operator(s) is attached at the rear mount. See pages 10-12, Step 1-9 for details.

**Step P2:**

Find a position for the post pivot brackets where the operator has clearance in **both** the open and closed positions and clamp operator into position (see examples of clearance on page 13). Mark the point on the post pivot bracket where the \( \frac{1}{2}'' \) holes will need to be drilled. Drill the holes then secure the post pivot bracket using the \( \frac{1}{2}'' \) bolt, spacer, washer and lock nut.
**Step P3:**
With the gate in the closed position, connect operator to gate bracket assembly as in Step 12 on page 13 and clamp into position. Mark the point where the gate bracket will be attached to the gate. Drill the holes and mount the gate bracket. Reattach gate bracket to arm with clevis pin and hair pin clip.

![Diagram](image)

**Step P4:**
Now go back and follow the instructions for the rest of the installation from page 14 “Installing the Open and Closed Position Stops”.

**NOTE:** When programming the gate operator (pages 20-22) be sure to program it for PUSH-TO-OPEN under Type of Installation.
Maintenance & Troubleshooting Guide

Maintenance:

- On all gates weighing 250 lbs. or more, routinely grease the ball bearing hinges at least 4 times a year; more frequently if the gates are near a coastal area.

- A few mothballs in the control box helps to keep out insects which can damage circuits.

- Spray the push-pull tube with silicone spray about 4 to 12 times a year.

- Test all the safety accessories once per month! If they are not working, contact the installer or GTO Inc.

_gate sensitivity adjustments_ regulate the amount of force the operator needs to move the gate. If the hinges are in good working condition, try using the S2 ("Somewhat sensitive") setting. In an area with high winds, it may need to be set to a less sensitive.

The operator has a 12 volt D.C. motor with mechanical limit switches.

To test the motor, put a volt meter on D.C. and place the meter leads on the wire connections inside the plastic cover above the switches. The reading should be at least 11.5 volts when the system is active. If it is not, see the following section “The control board”.

To test the switches, put the meter on “ohms”. Place the leads on each of the wires on the switch. You should have an open circuit. Click the switch and you should have .2 ohm’s. Do this for both switches.

To test the cable, put the meter on ohms. At one end of the cable place the lead on the green wire, and on the other end of the cable place the lead on the green wire and the other wires. This should show a maximum of 1.0 ohms on the green wire and nothing on the other wires. Test each wire as you have above. If all have the proper readings, then this is not the problem.

**Note:** Inspect the cable for any signs of any punctures. Wires inside the PVC jacket can be shorted and the cable will still show proper ohms.

The control board: This is a micro processor board. The power that runs the gate comes from the battery which is recharged through the board, by a 14 volt 40 va. (2.9 amp.) transformer.

There are 2 lights on the control board. These are for a quick reference only. All readings must be measured by a volt meter!

The red light serves two purposes. The first is to aid in the programming (see page 20 “Programming the System”). The second is to show the condition of the battery. If it is flashing, see the following section on “Testing the battery”. The normal state of this light is on but dim.

If the red light is flashing it means that the system has reached _low voltage lockout_, which means that the unit does not have enough voltage to operate the system. One of the following problems may exist:

- Incorrect wire or trying to run the wrong gauge wire too far for the number of cycles that you need. See chart on page 17

- Wires from the transformer or solar panel to the control board are broken or spliced.

- A transformer or solar panel that has no output voltage.

- Incorrect number of solar panels, or solar panels hooked up improperly.

The green light serves as a quick visual indication that the control board is receiving power from the transformer.
Rebooting the system: This function is done if all voltage and ohms test good but the operator will not respond to anything. Reboot the system by holding down buttons labeled S3, S4 and S5 at the same time, while turning the operator off then back on, and then releasing the three buttons. The unit has then returned to all factory settings. Then the unit must be reprogrammed to the functions desired.

The transformer: Two things can cause failure. The first is shorting the leads during the installation, or letting the strands touch at the terminal on the control board. The second is a static charge (generally associated with a lightning storm or power outage); use of a surge protector will help.

Testing the battery: This is a 12 volt 7 amp hour battery. The proper way to test this is to perform a load test. Place the volt meter on D.C.; put the red probe on the (+) positive terminal and place the black probe on (–) negative terminal. Then activate the unit and watch the volt meter. The drop should not be more than 1 volt.

Note: A loose battery terminal will cause the same symptoms that a bad battery will cause. Terminals should be secure and corrosion free.

Remote control range: This will vary at each installation. (see F.C.C. disclaimer on page 25), the range of this device can vary from 50 to 100 feet, depending upon weather, topography and outside interference.

Make sure that the receiver is located above metal fences.
Moving the receiver even a few inches can change the range of operation.
Move the receiver as far from the motor as possible to avoid the chance of electrical interference.
Check or change the battery in the transmitter.

The GTO, Inc. Customer Service Department is open
Monday - Thursday 7:30 a.m. - 5:30 p.m.
and Friday 7:30 a.m. - 12:00 p.m. (Eastern Standard Time)
(850)575-0176 • Fax (850)575-8912
www.gtoinc.com
Warranty and Repair Service

If the GTO gate operator system is not operating properly, please follow the steps below:

1. Check the Trouble Shooting Guide first.
2. Call your distributor, dealer or installer.
3. If you still cannot solve the problem, call our Service Department at (850) 575-0176 to discuss the problem with our service technicians.
4. If repair or replacement under warranty is necessary, you will be assigned a **Return Goods Authorization Number (RGA)**.
5. Carefully pack the component(s) authorized for return and ship freight prepaid to GTO, Inc., 3121 Hartsfield Road, Tallahassee, FL 32303. A copy of the sales receipt or other proof of purchase and warranty period must be included.

**NOTE:** GTO products returned without a Return Goods Authorization Number (RGA) on the outside of package in BIG BOLD PRINT or returned freight collect will **not** be accepted at the factory.

6. If the repair service or replacement is covered by warranty, GTO, Inc. will pay shipping cost for return to customer.

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**Limited Two Year Warranty**

GTO/PRO gate operators are warranted by the manufacturer against defects in materials and manufacturer workmanship for a period of two (2) years from date of purchase, provided recommended installation procedures have been followed.

In the case of product failure due to defective material or manufacturer workmanship within the two (2) year warranty period, the operator will be repaired or replaced (at the manufacturer’s option) at no charge to the customer, if returned freight prepaid to GTO, Inc., 3121 Hartsfield Road, Tallahassee, Florida 32303. **IMPORTANT:** Call (850) 575-0176 or fax (850) 575-8912 for a Return Goods Authorization (RGA) number before returning to factory. Products received at the factory without an RGA number will not be accepted. Replacement or repaired parts are covered by this warranty for the remainder of the two (2) year warranty period. GTO will pay the shipping charges for return to the owner of items repaired under warranty.

The manufacturer will not be responsible for any charges or damages incurred in the removal of the defective parts for repair, or for the reinstallation of those parts after repair. This warranty shall be considered void if damage to the product(s) was due to improper installation or use, tampering, connection to an improper power source, or if damage was caused by lightning, wind, fire, flood, insects or other natural agent. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state. This warranty is in lieu of all other warranties, expressed or implied. **NOTE: Verification of the warranty period requires copies of receipts or other proof of purchase. Please retain these records.**

After the two (2) years warranty period, GTO or one of its authorized service centers will make any necessary repairs for a nominal fee. Call GTO at (850) 575-0176 for more information.
The GTO/PRO 2000 and GTO/PRO 2200 can be mounted on any size column, but the gate hinge cannot be more than 12" from the mounting surface of the gate bracket. The edge of the gate bracket must be aligned with the edge of the column face where the hinges are mounted. If these conditions cannot be met, and you do not want to pocket the column, call GTO’s Service Department for alternative solutions.

In column applications, the rear mount of the operator will be attached directly to the gate bracket without the use of the post pivot brackets. Use ten 1/2" washers (provided) as spacers between the rear mount and the gate bracket, 5 on top and 5 on bottom (see illustration below). Align washers, rear mount holes and gate bracket holes, then secure with 1/2" x 3 3/4" bolt and lock nut. **When tightening the 1/2" nut, leave it just loose enough for the arm to swing freely.**
Accessories and Other Products from GTO, Inc.

See your dealer for complete catalog of GTO operators and accessories.

Opening Accessories

GTO Entry Transmitter (RB741)
The GTO Entry Transmitter, with adjustable code settings is standard equipment with all GTO gate operator systems. Battery included.

GTO Dual Transmitter (RB742)
GTO Triple Transmitter (RB743)
The two and three button transmitters are used for the remote control of two or three gate operators and/or garage door openers (See Garage Door Receiver). Battery included.

Garage Door Receiver (RB709)
Allows the use of the same GTO remote transmitter (see Dual and Triple Transmitters) to control the gate operator and garage door opener. Compatible with most garage door openers.

GTO Key Chain Mini Transmitter (RB744)
The Key Chain Mini Transmitter is a miniature version of the GTO entry transmitter and has the same adjustable code settings. Battery included.

GTO Digital Keypad (F300)
The specially designed weatherproof digital keypad can be easily installed as a wireless or wired keypad for swing and slide gate operators, or as a wired keypad for the Bulldog Pedestrian Gate Lock. It can be programmed to use up to fifteen different personal identification number (PIN) codes. Each code is face programmable with additional security features built in. Requires 3 AA batteries (not included). Can also accommodate most garage doors and other gate openers. If used as a wired keypad, GTO low voltage, 16 gauge, dual conductor, multi-stranded, direct burial wire will be required.

Push Button (doorbell) Control (RB101)
Unlit doorbell button for remote entry or exit control. Wires directly to the control board using 16 gauge, stranded, direct burial, low voltage wire (not included).
Mounting Accessories

4" (O.D.) Post Bracket (RB464)
Recommended for mounting GTO/PRO 2000 to a 4" gate post.

4" (O.D.) Round Post Bracket Adapters (RB469)
These adapters are necessary when mounting the 4" post bracket to a 4" (O.D.) gate post. **Two required for each gate.** Use with 4" Post Bracket (RB464).

6½/8" (O.D.) Round Post Bracket Adapters (RB467)
Similar to RB466, used with 6½/8" (O.D.) gate post. **Two required for each gate.**

Locking Accessories

GTO Automatic Gate Lock (FM144) for closed position pull-to-open applications
A MUST for added security. Driven by a 4 amp solenoid, the plated steel bolt lock has a zinc plated steel housing. The horizontal electronic lock is used with all GTO swing gate operator systems for additional security and stability. Comes with a keyed manual release.

GTO Automatic Gate Lock (FM142) for open position or push-to-open applications
Similar to FM144 but used to secure gates in the open position, or for push-to-open gate applications (not shown).

Column Mount Lock Receiver (433IH)
For mounting the Automatic Gate Lock or Bulldog Pedestrian Lock on areas with limited space between the gate and post, such as brick columns, walls, etc.

Master® Pin Lock (RB975)
The pin lock substitutes for the clevis pin at either or both mounting points of the GTO/PRO 1000 series operator arm. Helps prevent theft of the operator arm while allowing quick release of the operator.

The pin lock can be inserted in the chain brackets of the GTO/PRO SL-1000 to prevent unauthorized removal of the quick release pins.
Powering Accessories

**Heavy Duty Replacement Transformer**
**RB419** – Heavy Duty 14 volt AC continuous cycle duty transformer (see wire chart in installation manual) for maintaining the battery included with the **GTO/PRO 2000** and **GTO/PRO SL-1000**.

This is the only transformers approved for use with the **GTO/PRO** gate operators. For other model operators, call for assistance.

**GTO Low Voltage Wire (RB509)**
The 16 gauge, dual conductor, multi-stranded, direct burial, low voltage wire is required to connect the control board to either the solar panel or the AC transformer. This wire is also required for installation of some accessories such as keypads, locks, or push buttons.

**Standard Replacement Power Cables for Gate Operators**
The **PRO 6C (AW209)**: 6 ft. power cable included with **GTO/PRO 2000** single gate operators.

The **PRO 50C (AW210)**: 50 ft. power cable included with **GTO/PRO 2200** dual (second) gate operator.

**Replacement Receivers**
The **AQ201**: Receiver with a 10 ft. cable (included).
The **AWQ325**: Receiver with a 25 ft. cable.
The **AWQ350**: Receiver with a 50 ft. cable.
The **AWQ400**: Receiver with a 100 ft. cable.

**Replacement Battery (RB500)**
The standard 12 volt, 7.0 amp-hour, maintenance-free battery for all **GTO/PRO** gate operators. This battery is the only battery approved for use with **GTO** Operators. Life expectancy is 3-5 years.

**Operator Solar Panel (FM123)** - Improved, Amorphous Silicon (*Two Year Warranty*)
This 10 watt solar panel is a solar powered battery charger for use with **GTO/PRO Automatic Gate Operator** systems. Particularly suited for remote installations, the solar panel comes with tubular steel support, mounting clips, wire connectors, and 8 ft. of low voltage wire. (See Low Voltage Wire for additional wire.) Installation in some regions of the world will require multiple panels for adequate charging power. Recommended for **GTO/PRO 2000/2200**, **GTO/PRO SL-1000/SL-1200** and **GTO/PRO 1800**.

Dual gate installations require minimum of two (2) FM123 solar panels for adequate charging power.
Installation Check-Off List

(Installer should verify that each item has been completed)

___ Safety instructions have been explained and given to the end user.

___ All power cables, receiver cables and the transformer plugs are secure to assure contact is made for proper performance. (petroleum jelly applied to ends)

___ Customer/end user has been instructed on proper use of transmitter.

___ Customer/end user has been instructed on program features of control board and how to either open or close gate in the event of low-voltage lock-out.

___ Customer/end user has been instructed on how to remove operator arm in the event of an emergency, via manual disconnect.

___ Customer/end user has been instructed to use silicon spray on the push/pull tube and front and rear mounts for operator maintenance and service prevention.

___ Trouble shooting guide has been reviewed and Installation Manual has been left with customer/end user.

___ All caution signs and labels have been placed or hung in a highly visible area.

___ A photo has been taken of completed installation from both front and back of the gate, and dated.

___ Review the Accessory Catalog with the customer/end user.

___ Ask customer/end user to fill out customer support card and mail it to GTO.

___ Ask customer/end user to keep all receipts, installation manuals etc. for future reference.
Caution!

Stand clear when the operator is activated. This gate operator is a powerful device. Use caution when operating. Read the installation and safety instructions completely before attempting installation and use.