

FEATURES

OPERATOR FEATURES

- Advanced "Centerpiece" Control Board
- EMI AC Power Surge Protection and Filter Board
 - Main AC voltage input selection: 120 Vac (factory setting) or 240 Vac (field change)
- DC motor
- AC powered with integrated battery backup
- 24 Vdc accessory power
- Programmable with up to 50 remote controls, compatible with: Security MAX codes at either 310, 315, or 390 MHz
- Manual - Secure power failure selection
- SAMS compatible
- Slow-start and slow-stop gate motion
- Reset Button
- Audible Alarm
- Internal Heater option (factory installed or field installed) 120 Vac powered ONLY
- Non-Scissor Action swing arm with easy arm disconnect
- Integrated internal antenna with external antenna option

CONTROL BOARD FEATURES

- Electronic Limit adjustment and control
- Adjustable reversal force
- Adjustable Timer-to-Close (TTC)
- Maximum Run Timer
- Bipart Delay switch (dual gate applications)
- Feedback and Diagnostic LEDs
- Integrated Radio Receiver, Single Button Control (SBC) and 3-Button Station control, three radio frequencies supporting Security MAX
- COMMANDS:
 - OPEN, CLOSE, or STOP: accessory connection and on-board button
 - Single Button Close (SBC): accessory connection
 - FIRE DEPARTMENT OPEN: accessory connection
 - INTEGRATED RADIO RECEIVER:
- LOOPS:
 - EXIT, SHADOW, or INTERRUPT LOOP: plug-in loop detector (Model SPI) and accessory connection

EXPANSION BOARD FEATURES

- Plug-in Loop Detector Connectors (Model LOOPDETL Loop Detector)
 - SHADOW
 - INTERRUPT
 - EXIT, with Fail Safe/Fail Secure selection
- Quick-Close ON/OFF selection switch
- AC Fail Open/Battery selection switch
- Low Battery Open/Close selection switch
- Anti-Tail ON/OFF selection switch
- Single Button Control (SBC) accessory connection
- 3-Button station accessory connection
- AUX Relays (2) each independently selectable operation:
 - OPEN LIMIT: ON at open limit switch
 - CLOSE LIMIT: ON at close limit switch
 - GATE MOVING: ON with gate moving
 - PRE-ALERT DELAY: ON 3 seconds before gate motion
 - TAMPER: ON when gate manually pulled from close limit
 - POWER: ON with AC or Solar power available
 - CYCLE QUANTITY: LEDs blink operational cycle count

PREPARATION

SITE PREPARATION

Check the national and local building codes **BEFORE** installation.



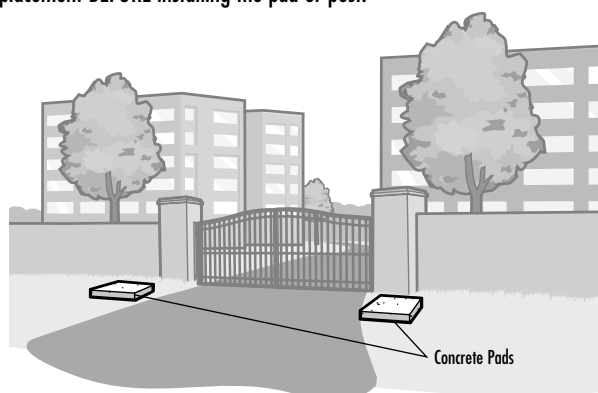
GATE

Gate must be constructed and installed according to ASTM F2200 standards (refer to page 4). Gate must fit specifications of operator (refer to specifications).



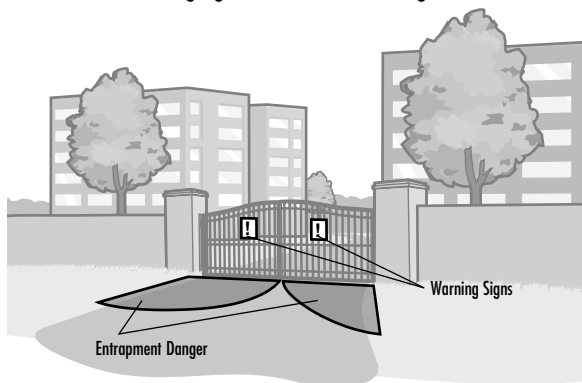
CONDUIT & CONCRETE PAD

Conduit must be UL approved for low and high voltage. Consider the operator placement **BEFORE** installing the pad or post.



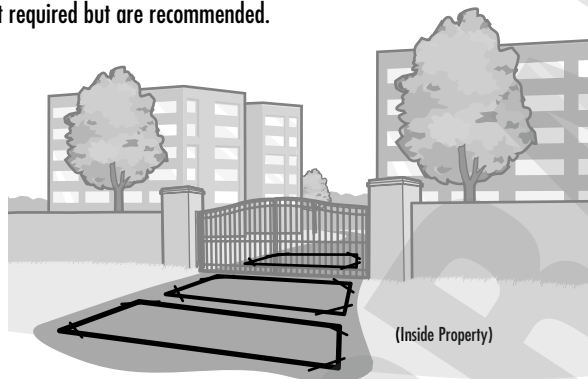
SAFETY

Entrapment protection devices are required to protect against any entrapment or safety conditions encountered in your gate application (refer to page 5 for more details). Install warning signs on both sides of the gate.



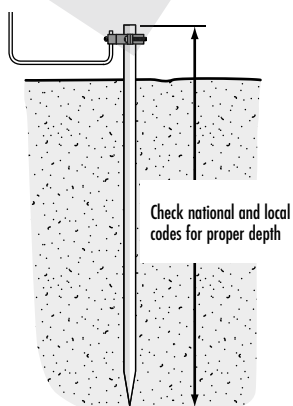
VEHICLE LOOPS

The vehicle loops allow the gate to stay open when vehicles are obstructing the gate path. Suggested for vehicles 14 feet (4.27 m) or longer. Vehicle loops are not required but are recommended.



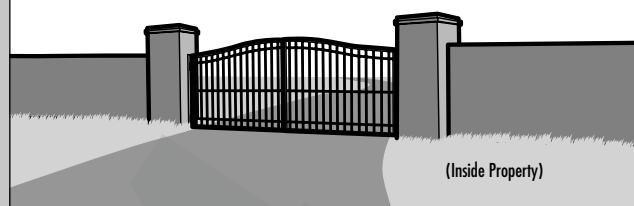
EARTH GROUND ROD

Proper grounding gives an electrical charge, such as from an electrical static discharge or a near lightning strike, a path from which to dissipate its energy safely into the earth. Without this path, the intense energy generated by lightning could be directed towards the gate operator. Although nothing can absorb the tremendous power of a direct lightning strike, proper grounding can protect the gate operator in most cases.



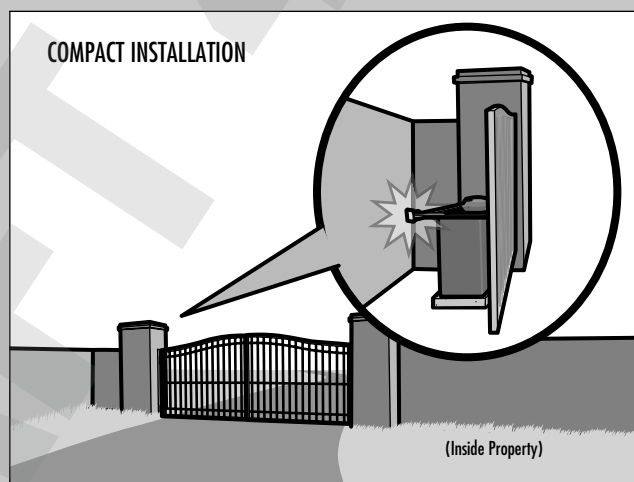
TYPES OF INSTALLATIONS

STANDARD INSTALLATION



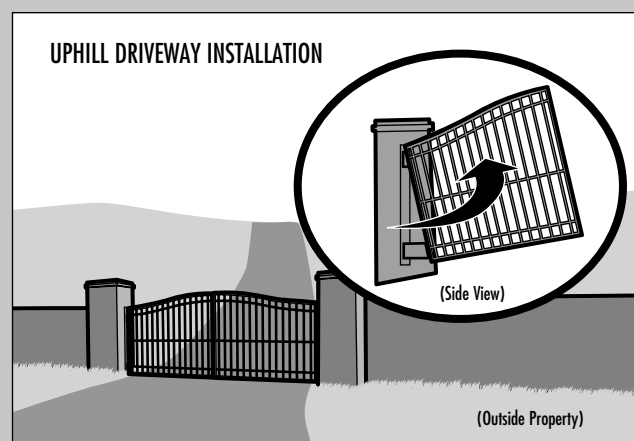
The illustration is an example of a standard installation.

COMPACT INSTALLATION



The illustration is an example of a compact installation. If the operator arm will hit an obstruction when the gate is in the open position follow the directions for Compact Installation.

UPHILL DRIVEWAY INSTALLATION



The illustration is an example of an uphill driveway installation. If installing the operator on a hill, a special swivel arm and hinges are required (not provided).

INSTALLATION

STANDARD INSTALLATION ONLY

For compact installation start on page 14.

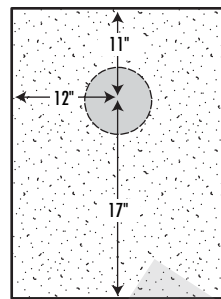
DETERMINE LOCATION FOR CONCRETE PAD AND OPERATOR

DO NOT run the operator until instructed.

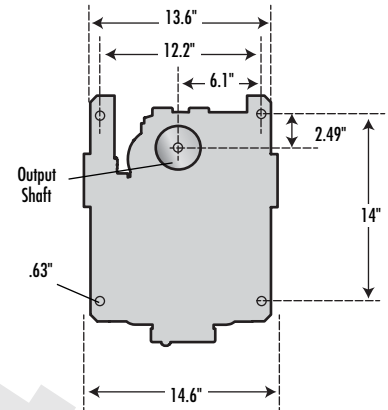
Below is a recommended guide for positioning the concrete pad:

- 1 Measure 1/4 the length of the gate from the gate hinge center. This is A.
- 2 Subtract 12-16 inches from A to get B, the distance from the center of the output shaft to the center of the gate hinge.
- 3 Open the gate 90°. The distance from the gate to the center of the output shaft must be a minimum of 9 inches.

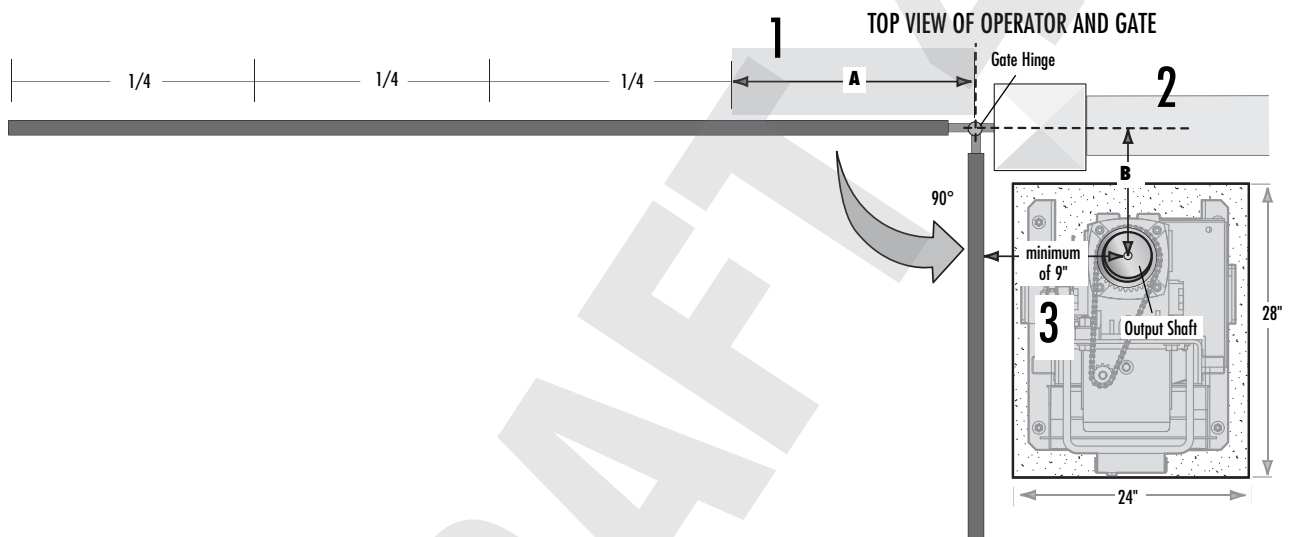
CONDUIT LOCATION



MOUNTING FOOTPRINT



TOP VIEW OF OPERATOR AND GATE

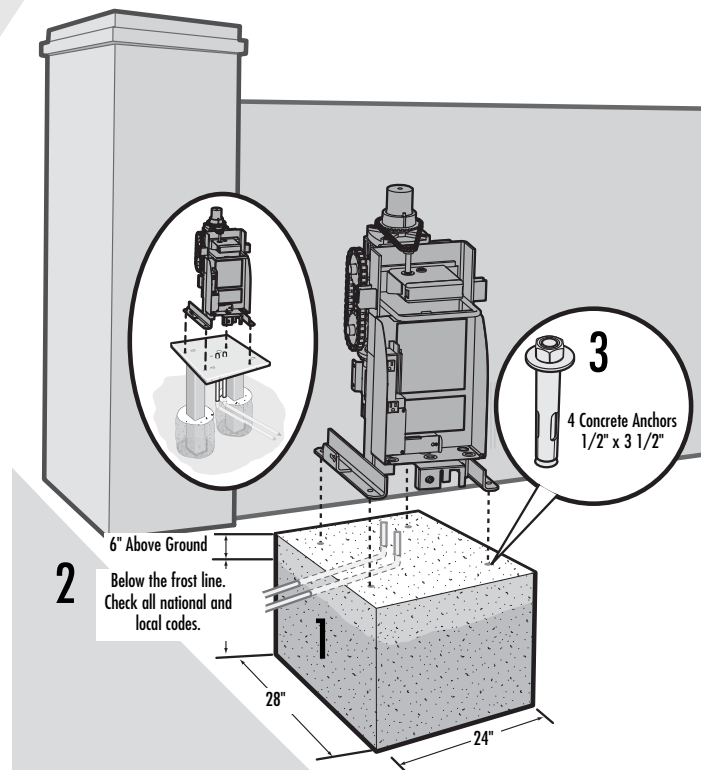


CONCRETE PAD AND OPERATOR ATTACHMENT

Check the national and local building codes before installation. **NOTE:** When lifting the operator use the handle to avoid damaging the operator.

- 1 Install the electrical conduit.
- 2 Pour a concrete pad (reinforced concrete is recommended). The concrete pad should be 6 inches above the ground and deeper than the frost line. Ensure the pad is tall enough to avoid possible flooding.
- 3 Secure the operator to the concrete pad with appropriate fasteners.

NOTE: An alternative to a concrete pad is to post mount the operator (refer to accessories).



INSTALLATION

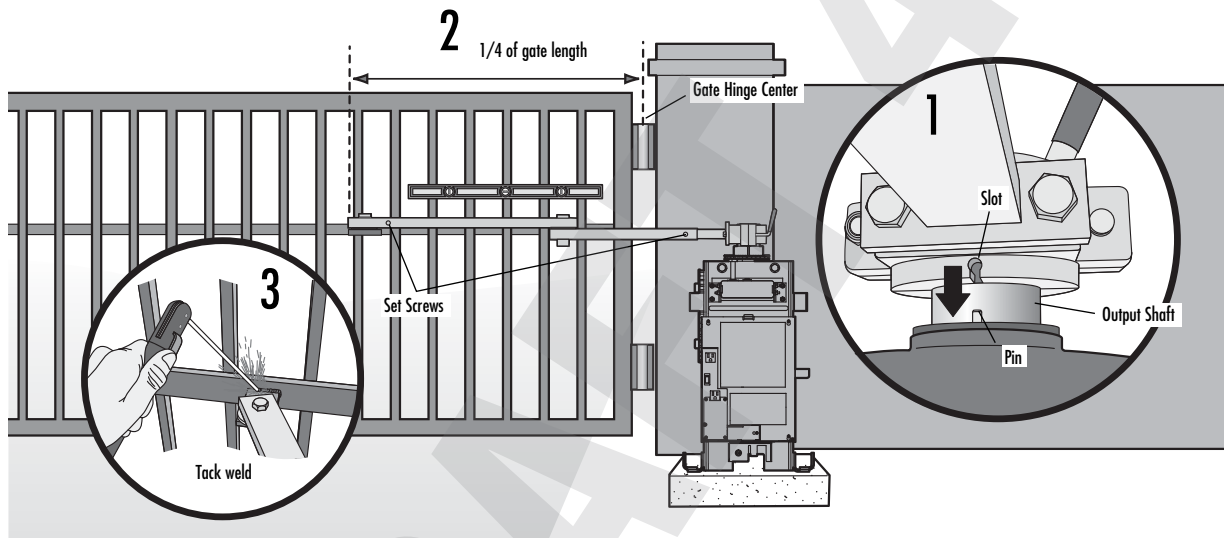
STANDARD INSTALLATION ONLY

STANDARD INSTALLATION ONLY

POSITION THE GATE BRACKET

NOTE: It may be necessary to attach horizontal reinforcement to the gate before attaching the gate bracket.

- 1 Position the operator arm onto the output shaft so that the pin slides into the slot.
- 2 Measure $1/4$ the length of the gate from the hinge center.
- 3 Make sure the operator arm is level and tack weld the gate bracket in this position. Use the set screws on the arm to temporarily hold the arm in place while determining the correct measurements.

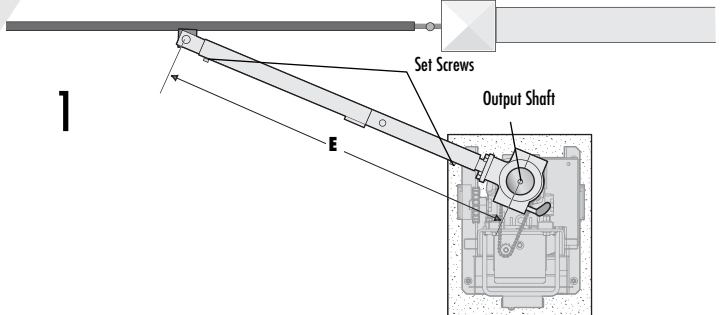


ADJUST THE OPERATOR ARM LENGTH

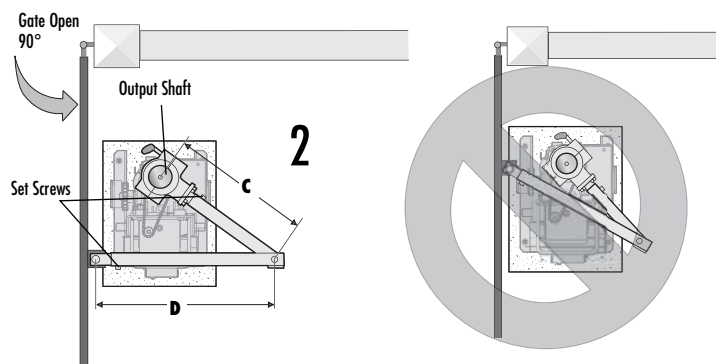
NOTE: The length of the arm can be adjusted if necessary. If adjusting the length, ensure that both sections of the arm are adjusted proportionally. Use the set screws on the arm to temporarily hold the arm in place while determining the correct measurements.

- 1 Close the gate and measure the distance of the operator arm from the gate bracket to the output shaft center. This distance is E.
- 2 Open the gate 90° (do not allow arms to scissor when open). Measure both sections of the arm (D and C). The arm lengths are correct as long as $C+D=E$ (arm should be perpendicular to the gate in the open position as shown).

TOP VIEW - CLOSED GATE



TOP VIEW - OPEN GATE



Proceed to PAGE 16.

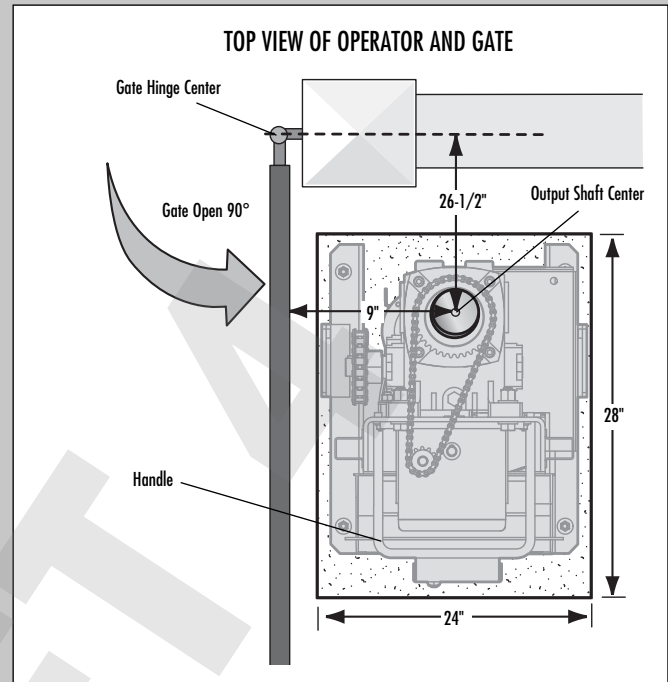
COMPACT INSTALLATION ONLY

DETERMINE LOCATION FOR CONCRETE PAD AND OPERATOR

DO NOT run the operator until instructed.

Refer to the illustration to determine the measurements and location of the concrete pad.

NOTE: When lifting the operator use the handle to avoid damaging the operator.

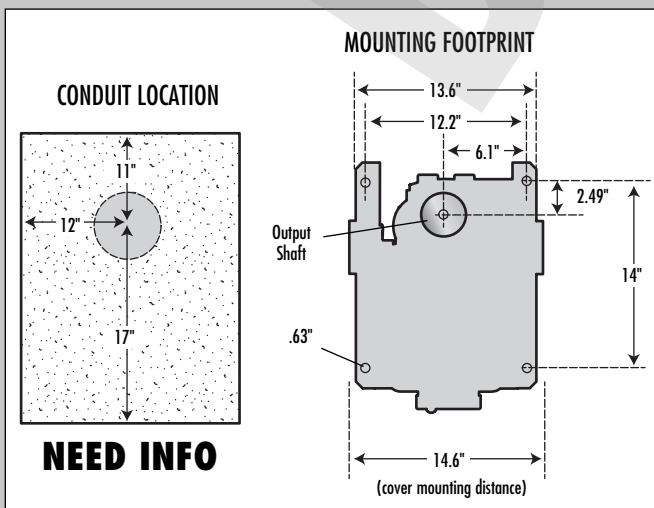
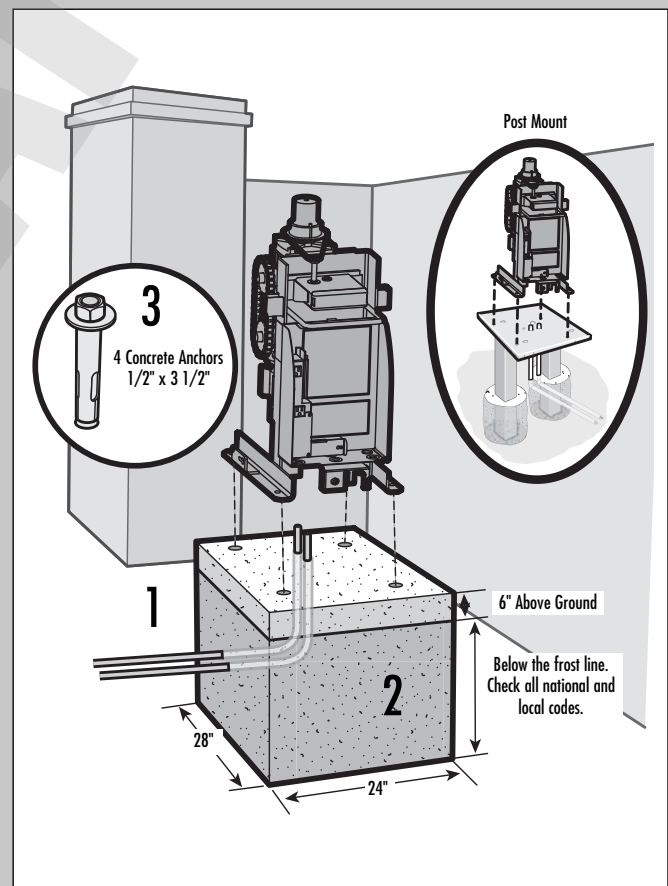


CONCRETE PAD AND OPERATOR ATTACHMENT

Check the national and local building codes before installation.

- 1 Install the electrical conduit.
- 2 Pour a concrete pad (reinforced concrete is recommended). The concrete pad should be 6 inches above the ground and deeper than the frost line. Ensure the pad is tall enough to avoid possible flooding.
- 3 Secure the operator to the concrete pad with appropriate fasteners.

NOTE: An alternative to a concrete pad is to post mount the operator (refer to accessories).



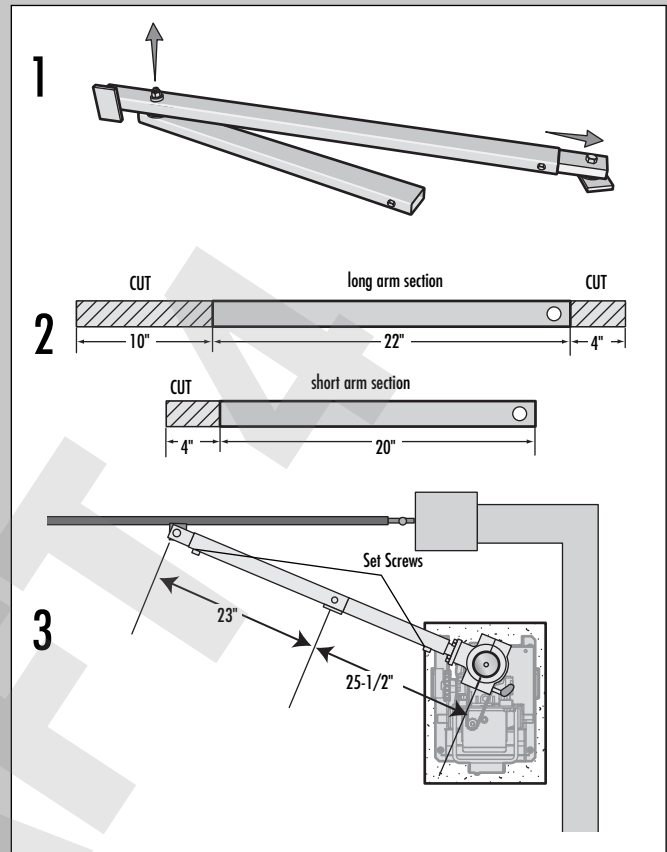
NEED INFO

COMPACT INSTALLATION ONLY

SHORTEN THE OPERATOR ARM

For a compact installation the operator arm will have to be shortened.

- 1 Take the operator arm apart and remove the inner sleeves from the outer tubing.
- 2 Cut the outer tubing of the operator arm sections to the lengths shown.
- 3 Put the arm back together and adjust the arm to the measurements as shown. Use the set screws on the arm to temporarily hold the arm in place while determining the correct measurements.



POSITION THE GATE BRACKET

NOTE: It may be necessary to attach horizontal reinforcement to the gate before attaching the gate bracket. Use the set screws on the arm to temporarily hold the arm in place while determining the correct measurements.

- 1 Position the operator arm onto the output shaft so that the pin slides into the slot.
- 2 Measure 33 inches from the gate hinge center.
- 3 Make sure the operator arm is level and tack weld the gate bracket in this position.

