



**SEA**<sup>®</sup> USA  
ELECTRONIC  
OPENING  
SYSTEMS  
International registered trademark n. 2.777.971

# JOINT 24V JOINT 24V PLUS



## INSTALLATION MANUALS AND SAFETY INFORMATION

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## **TABLE OF CONTENTS**

SAFETY INSTRUCTIONS .....	3
PERIODICAL MAINTENANCE.....	5
FEATURES AND SPECIFICATIONS.....	6
SAFELY OPERATING GATE.....	7
CONFIGURATION AND SPECIFICATION.....	8
CONCRETE PAD AND GATE ATTACHMENT.....	9
STANDARD INSTALLATION.....	10
COMPACT INSTALLATION.....	11
GATE ARM INSTALLATION.....	12
GATE MOVEMENT DIRECTION.....	13
RELEASE LEVER ADJUSTMENT.....	14
EMERGENCY RELEASE.....	15
LIMIT SWITCHES.....	16
ARM.....	17
SALES CONDITIONS.....	18



## Details

### General

An appliance shall be provided with an instruction manual. The instruction manual shall give instructions for the installation, operation, and user maintenance of the appliance.

The installation instructions shall specify the need for a grounding-type receptacle for connection to the supply and shall stress the importance of proper grounding.

The installation instructions shall inform the installer that permanent wiring is to be employed as required by local codes, and instructions for conversion to permanent wiring shall be supplied.

Information shall be supplied with a gate operator for:

- a) The required installation and adjustment of all devices and systems to effect the primary and secondary protection against entrapment (where included with the operator).
- b) The intended connections for all devices and systems to effect the primary and secondary protection against entrapment. The information shall be supplied in the instruction manual, wiring diagrams, separate instructions, or the equivalent.

### Vehicular gate operators (or systems)

A vehicular gate operator shall be provided with the information in the instruction manual that defines the different vehicular gate operator Class categories and give examples of each usage. The manual shall also indicate the use for which the particular unit is intended as defined in Glossary, Section 3. The installation instructions for vehicular gate operators shall include information on the Types of gate for which the gate operator is intended.

A gate operator shall be provided with the specific instructions describing all user adjustments required for proper operation of the gate. Detailed instructions shall be provided regarding user adjustment of any clutch or pressure relief adjustments provided. The instructions shall also indicate the need for periodic checking and adjustment by a qualified technician of the control mechanism for force, speed, and sensitivity.

Instructions for the installation, adjustment, and wiring of external controls and devices serving as required protection against entrapment shall be provided with the operator when such controls are shipped with the operator.

Instructions regarding intended installation of the gate operator shall be supplied as part of the installation instructions or as a separate document. The following instructions or the equivalent shall be supplied where applicable:

- a) Install the gate operator only when:
  - 1) The operator is appropriate for the construction of the gate and the usage Class of the gate,
  - 2) All openings of a horizontal slide gate are guarded or screened from the bottom of the gate to a minimum of 4 feet (1.22 m) above the ground to prevent a 2-1/4 inch (57.2 mm) diameter sphere from passing through the openings anywhere in the gate, and in that portion of the adjacent fence that the gate covers in the open position,
  - 3) All exposed pinch points are eliminated or guarded, and
  - 4) Guarding is supplied for exposed rollers.
- b) The operator is intended for installation only on gates used for vehicles. Pedestrians must be supplied with a separate access opening. The pedestrian access opening shall be designed to promote pedestrian usage. Locate the gate such that persons will not come in contact with the vehicular gate during the entire path of travel of the vehicular gate.
- c) The gate must be installed in a location so that enough clearance is supplied between the gate and adjacent structures when opening and closing to reduce the risk of entrapment. Swinging gates shall not open into public access areas.
- d) The gate must be properly installed and work freely in both directions prior to the installation of the gate operator. Do not overtighten the operator clutch or pressure relief valve to compensate for a damaged gate.
- e) (not applicable)
- f) Controls intended for user activation must be located at least six feet (6') away from any moving part of the gate and where the user is prevented from reaching over, under, around or through the gate to operate the controls. Outdoor or easily accessible controls shall have a security feature to prevent unauthorized use.



g) The Stop and/or Reset button must be located in the line-of-sight of the gate. Activation of the reset control shall not cause the operator to start.

h) A minimum of two (2) WARNING SIGNS shall be installed, one on each side of the gate where easily visible.

i) For gate operators utilizing a non-contact sensor:

- 1) See instructions on the placement of non-contact sensors for each Type of application,
- 2) Care shall be exercised to reduce the risk of nuisance tripping, such as when a vehicle, trips the sensor while the gate is still moving, and
- 3) One or more non-contact sensors shall be located where the risk of entrapment or obstruction exists, such as the perimeter reachable by a moving gate or barrier.

j) For a gate operator utilizing a contact sensor:

- 1) One or more contact sensors shall be located where the risk of entrapment or obstruction exists, such as at the leading edge, trailing edge, and postmounted both inside and outside of a vehicular horizontal slide gate.
- 2) One or more contact sensors shall be located at the bottom edge of a vehicular vertical lift gate.
- 3) One or more contact sensors shall be located at the pinch point of a vehicular vertical pivot gate.
- 4) A hardwired contact sensor shall be located and its wiring arranged so that the communication between the sensor and the gate operator is not subjected to mechanical damage.
- 5) A wireless contact sensor such as one that transmits radio frequency (RF) signals to the gate operator for entrapment protection functions shall be located where the transmission of the signals are not obstructed or impeded by building structures, natural landscaping or similar obstruction. A wireless contact sensor shall function under the intended end-use conditions.
- 6) One or more contact sensors shall be located on the inside and outside leading edge of a swing gate. Additionally, if the bottom edge of a swing gate is greater than 6 inches (152 mm) above the ground at any point in its arc of travel, one or more contact sensors shall be located on the bottom edge.
- 7) One or more contact sensors shall be located at the bottom edge of a vertical barrier (arm).

Revised 56.8.4 effective February 21, 2008

Instruction regarding intended operation of the gate operator shall be provided as part of the user instructions or as a separate document. The following instructions or the equivalent shall be provided:

#### IMPORTANT SAFETY INSTRUCTIONS

WARNING – To reduce the risk of injury or death:

1. READ AND FOLLOW ALL INSTRUCTIONS.
2. Never let children operate or play with gate controls. Keep the remote control away from children.
3. Always keep people and objects away from the gate. **NO ONE SHOULD CROSS THE PATH OF THE MOVING GATE.**
4. Test the gate operator monthly. The gate **MUST** reverse on contact with a rigid object or stop when an object activates the non-contact sensors. After adjusting the force or the limit of travel, retest the gate operator. Failure to adjust and retest the gate operator properly can increase the risk of injury or death.
5. Use the emergency release only when the gate is not moving.
6. **KEEP GATES PROPERLY MAINTAINED.** Read the owner's manual. Have a qualified service person make repairs to gate hardware.
7. The entrance is for vehicles only. Pedestrians must use separate entrance.
8. **SAVE THESE INSTRUCTIONS.**



## **PERIODICAL MAINTENANCE**

1) Check the oil level in the hydraulic/oil-bath operators (transparent cap placed in the Products)
2) Check the oil level on both gear motors (through transparent level caps)
3) Change the oil in case of low level
4) Check the release function
5) Check the fixing screws
6) Check the integrity of the connection cables
7) Check the function and the limit switch condition in opening and closing
8) Check the chain works perfectly and is well greased
9) Verify the battery back up systems by disconnecting the power source (110V or 220V). REMEMBER to turn on the power source after check.
10) Check for all corroded parts and replace them
11) Check the robustness and the stability of the gate; particularly the leaning and/or rotation points of the gate (hinges)
12) Check the operating of all accessories. Especially the functioning of all safety devices and reversing sensors



**All the above described operations MUST be made exclusively by an authorized installer.**

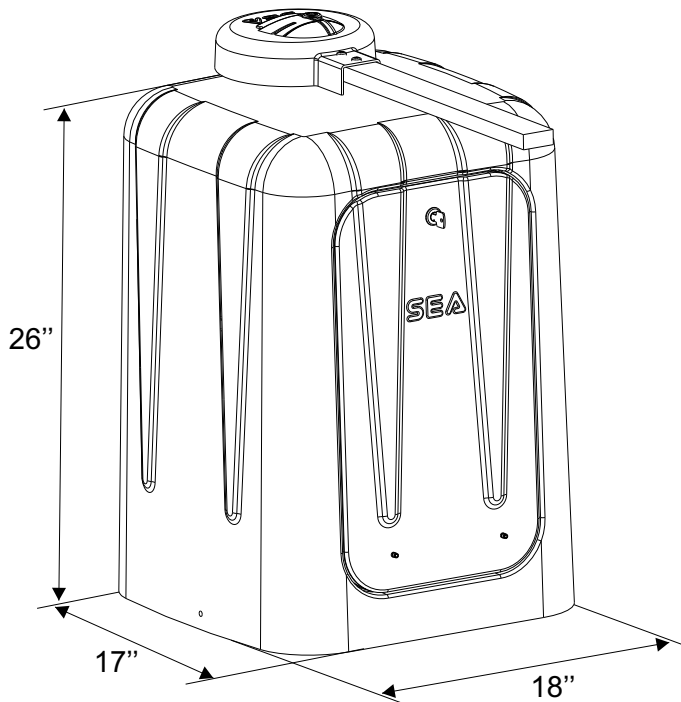
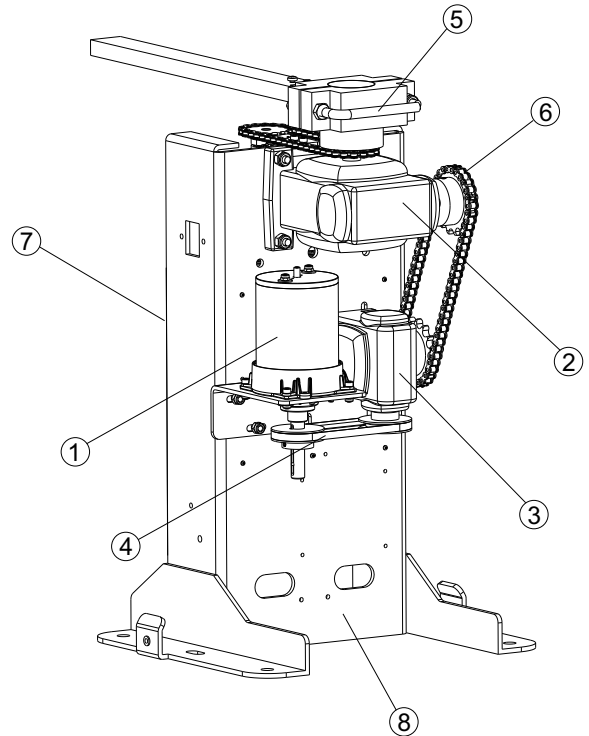


## MECHANICAL INSTALLATION

### 1. Features and specifications

Jointed swing operator pad mounted for residential/commercial use.

1. On board electronic control unit
2. Reducer 1
3. Reducer 2
4. Belt
5. Lever release
6. Chain
7. Electronic control unit
8. Foundation plate



### TECHNICAL FEATURES

**Gate Speed:** 15 - 17 seconds per 90° cycle

**Maximum Gate Length:** 16 feet  
20 feet (PLUS)

**Maximum Gate Weight:** 400 pound  
700 pounds (PLUS)

**Maximum Cycles:** 250 cycles per day with Sea's Plug-In Transformer. (Gate size 16 ft x 6 ft)  
– Solar power cycles per day varies, Contact Sea for more Information  
– Battery back-up cycles (50 cycles total)

**AC Power Supply:** 18 VAC 2.0 Amp Plug-In Transformer

**AC Power Supply Wire:** 14 gauge or greater landscape lighting cable rated for direct burial and 300 watts at maximum length of 1000 ft

**DC Power Supply:** Built-in, back-up for AC or Solar power failure only

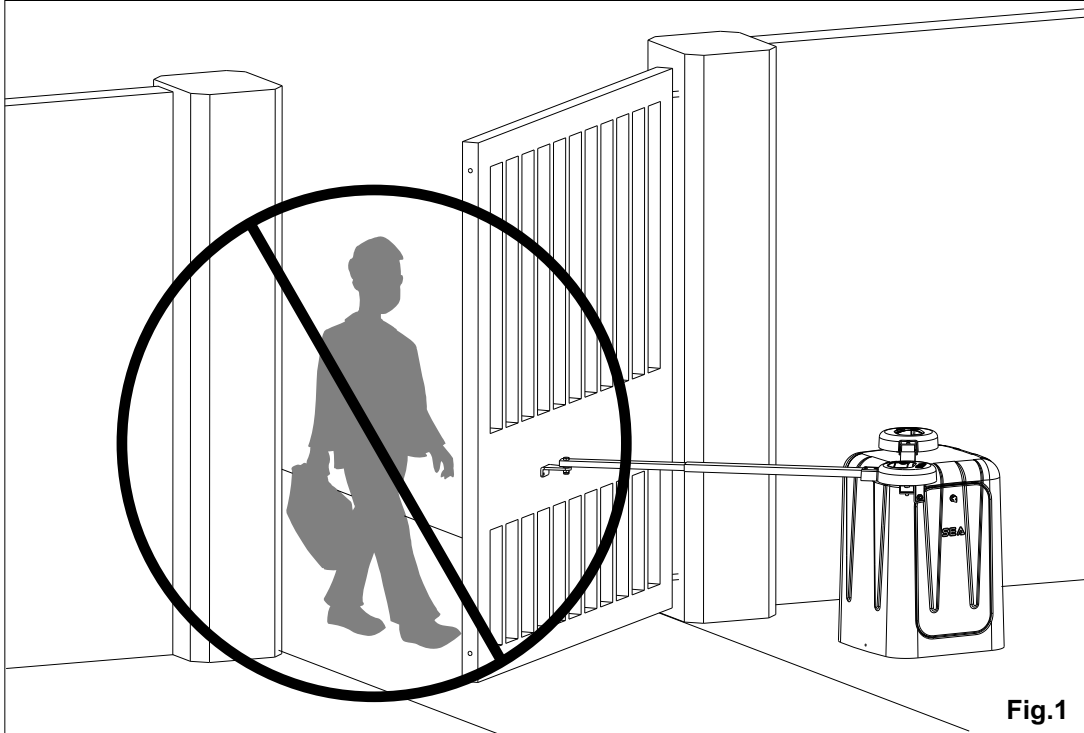
**Solar Power:** Optional



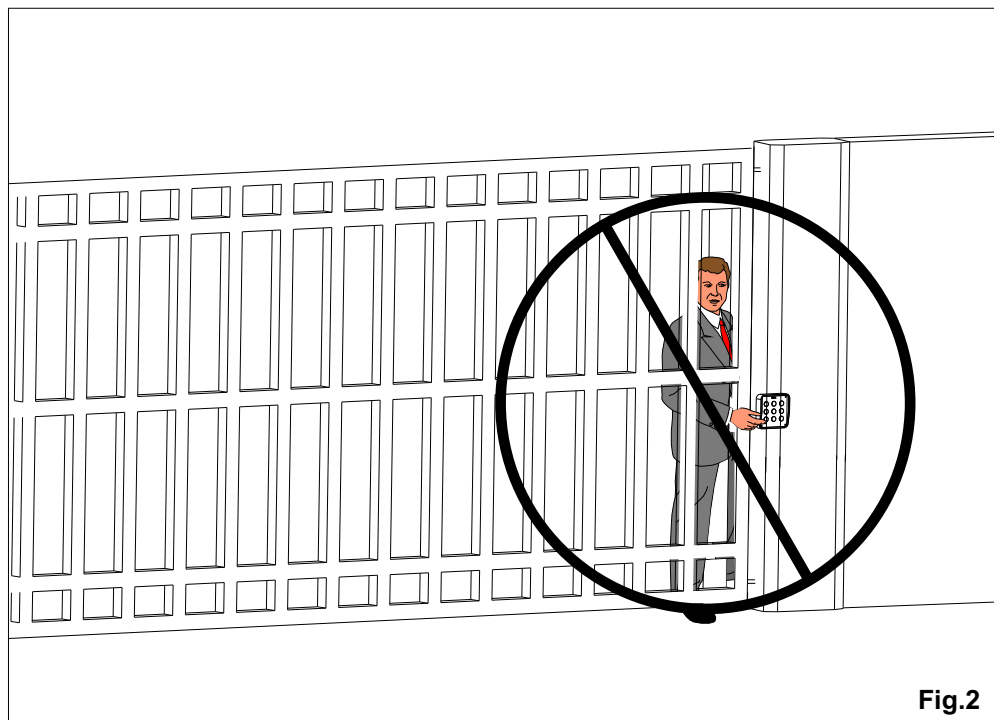
## **MECHANICAL INSTALLATION**

### **2. Safely operating gate**

The Joint 24V-24V PLUS is for Single Home Applications  
DO NOT Use for Apartment or Condominium Applications.



**Owners Must Never Let Pedestrians Cross the Path, Step or Hang on a Moving Gate!**

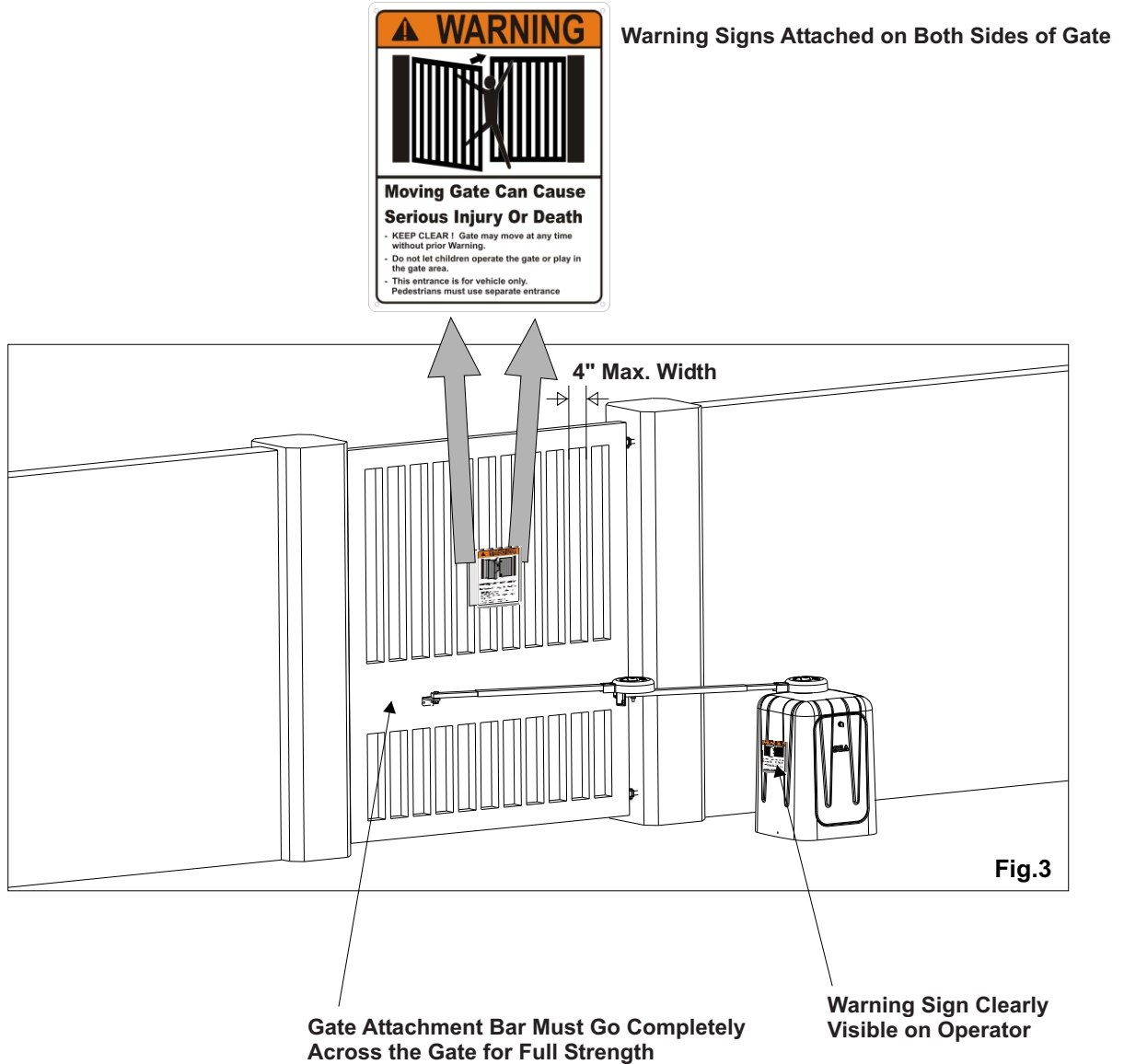


**Owners Must Never Mount Any Gate Operating Device Accessible Through the Gate!**



## MECHANICAL INSTALLATION

### 3. Configuration and specification







# MECHANICAL INSTALLATION

## 4. Concrete pad and gate attachment

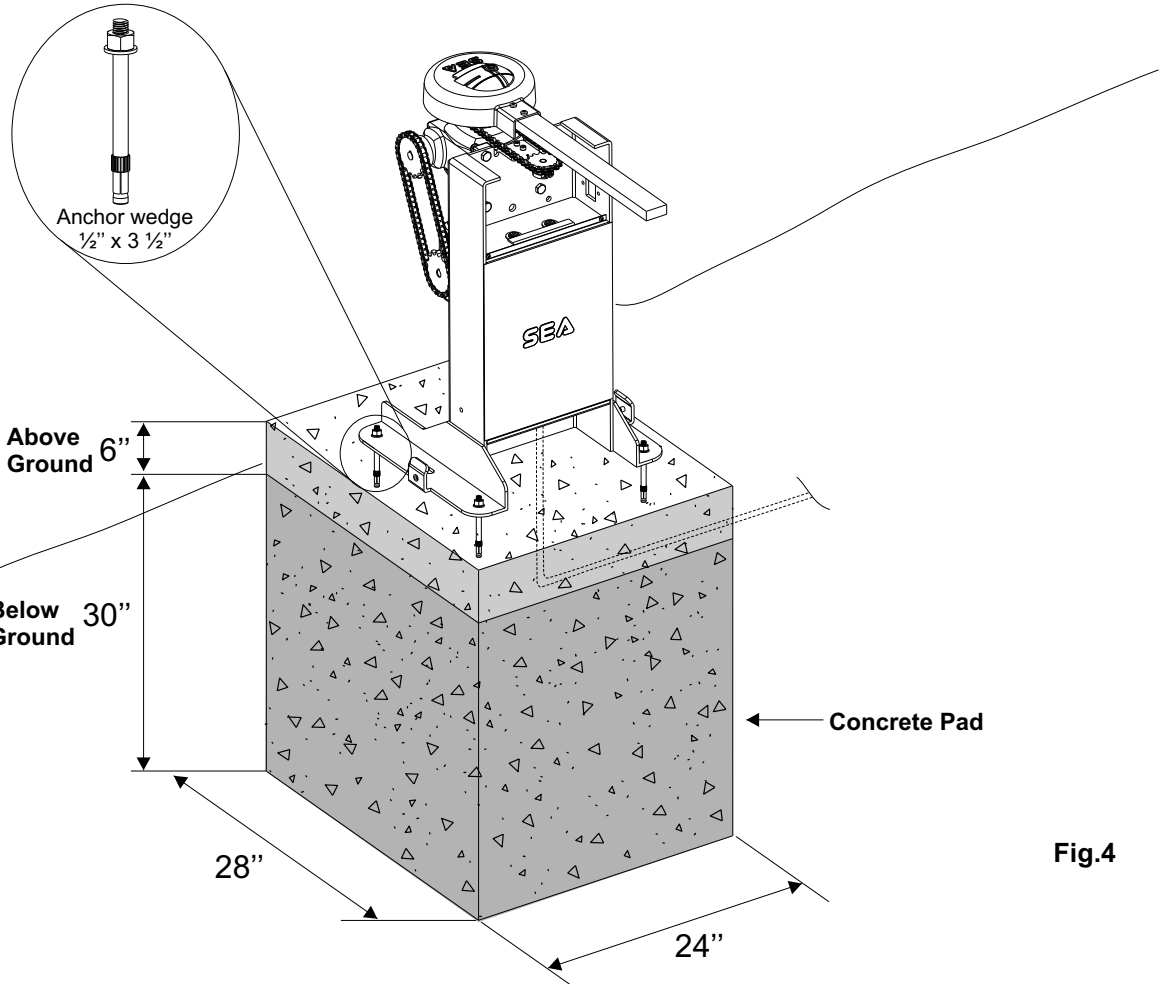
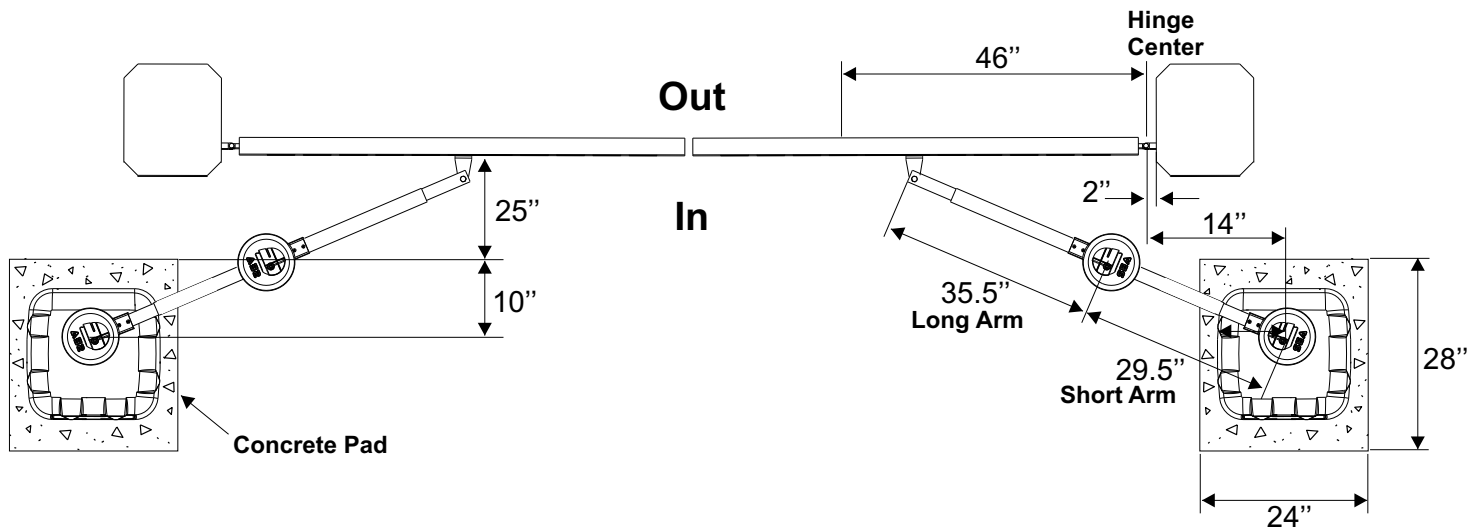


Fig.4



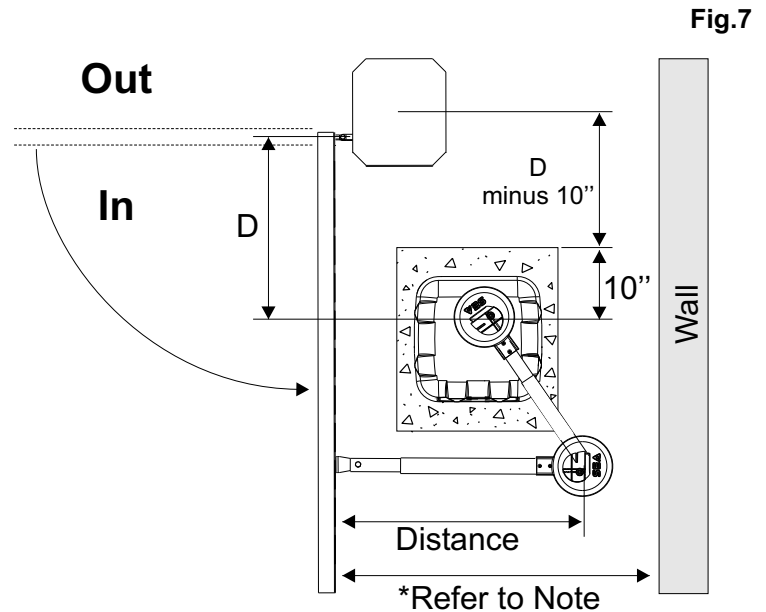
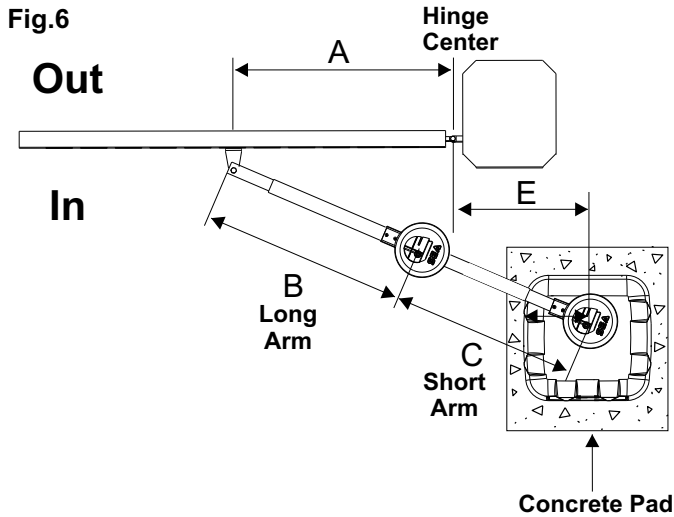
Sample standard installation  
Fig.5



# MECHANICAL INSTALLATION

## 5. Standard installation

Sample Standard Installation is Shown on Previous Page.



Dimension (A) thru (E) are from the center of one pivot point to the center of another pivot point.

**Caution:** If the gate is longer than 18 feet, follow **Chart A : A-2**.

Suggestion: The dimension between the gate and the concrete pad is always 10 inches less than the dimension D. Example: D = 42", if the dimension between the gate and the concrete pad is 32".

Chart A

	A	B	C	D	E	Distance
1	46"	35.5"	29.5"	35"	11"	45"
2	46.75"	35.5"	33.5"	42"	11"	37"
3	46.75"	37"	31.5"	40"	11"	41"
4	47.25"	37.25"	30"	37"	11"	45"
5	47"	35"	29.5"	32"	11"	45"
6	42.5"	33"	26.5"	28.5"	11"	41"

Chart B

	A	B	C	D	E	Distance
1	34.5"	34.75"	29.5"	35"	14"	43"
2	44"	36.5"	32.5"	42"	14"	32"
3	44"	37"	30.5"	40"	14"	40"
4	45"	37"	30.5"	37"	14"	43"
5	44.75"	35.75"	29.5"	32"	14"	44"
6	41"	39"	27.5"	28.5"	14"	41"

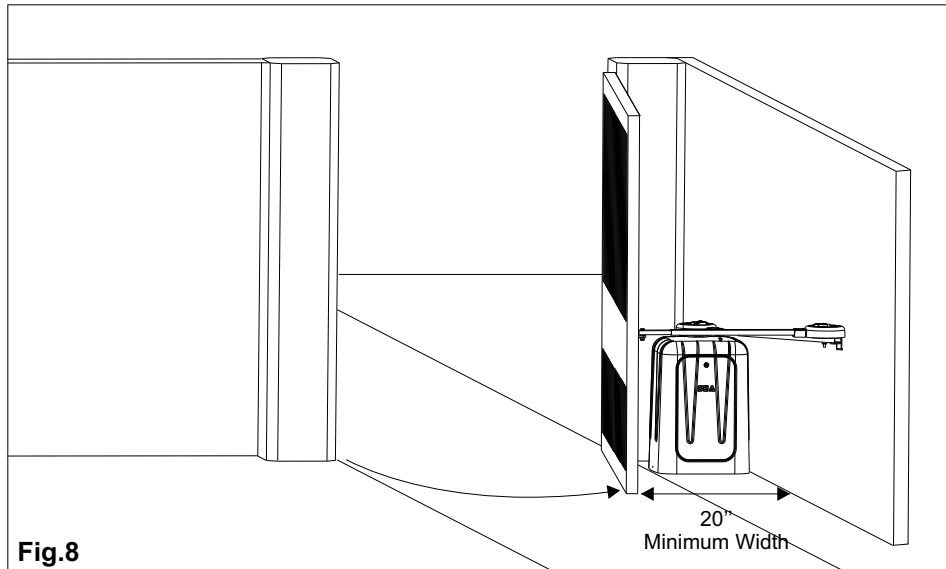
\*Note - If this dimension is between 20 and 32 inches, compact installation is necessary. (Refer to Page 16).



# MECHANICAL INSTALLATION

## 6. Compact installation

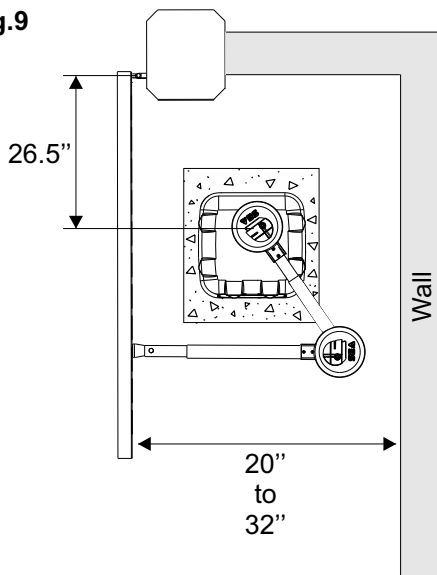
**Compact Installation Only!**  
**DO NOT Use These Measurements for a Standard Installation.**



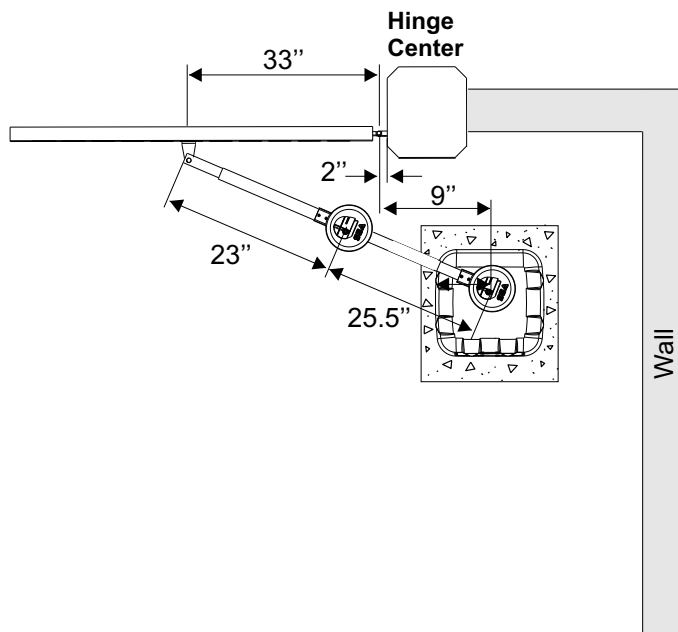
**Gate Open**

**Gate Closed**

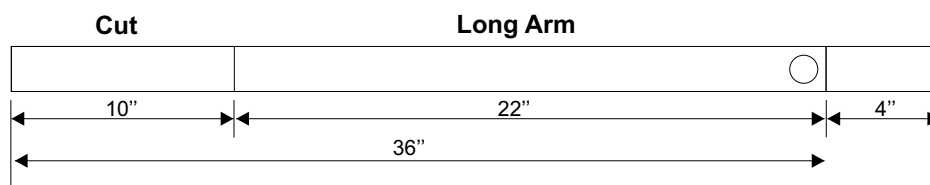
**Fig.9**



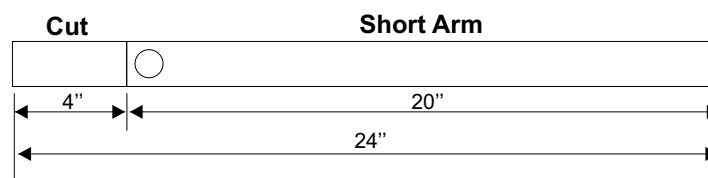
**Fig.10**



**Fig.11**



**Fig.12**



Follow the exact measurements, then cut the standard arm to meet the shorter measurements.



**MECHANICAL INSTALLATION**

**7. Gate arm installation**

Fig.13

**Incorrect  
Installation**

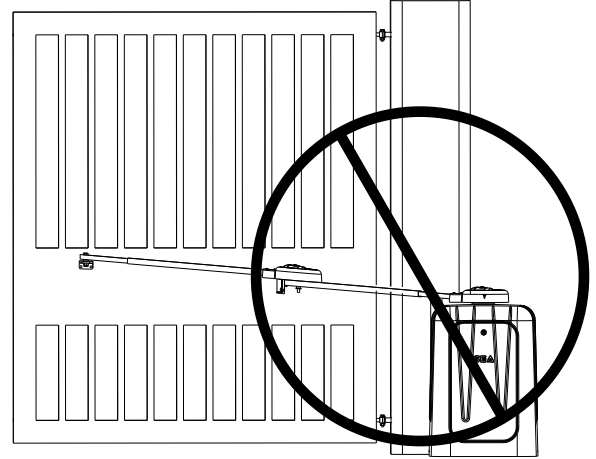
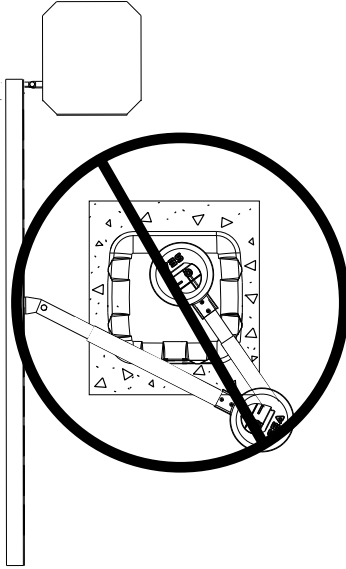
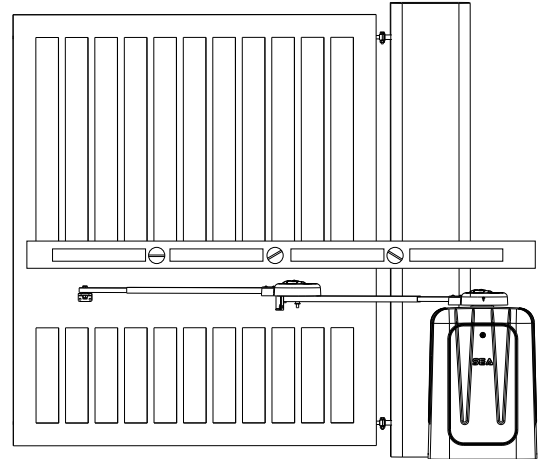
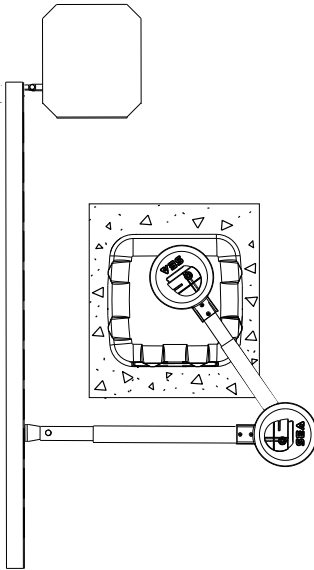


Fig.14

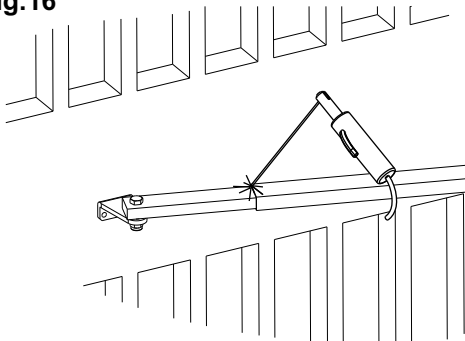
**Correct  
Installation**



Once the gate arm measurements are calculated:

weld the bracket on the gate.

Fig.16



Weld the longer arm.....

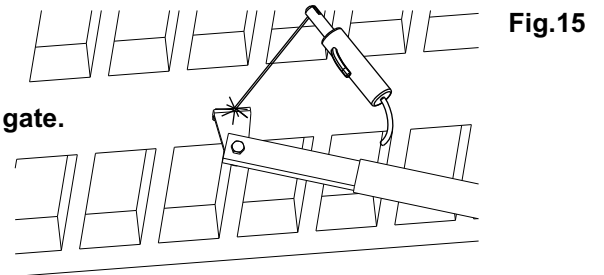


Fig.15

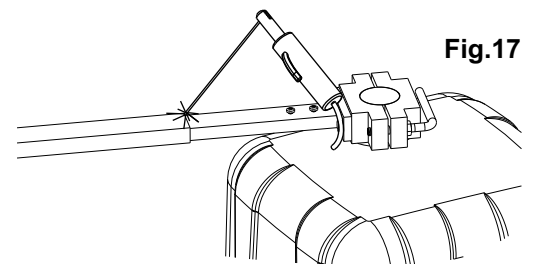


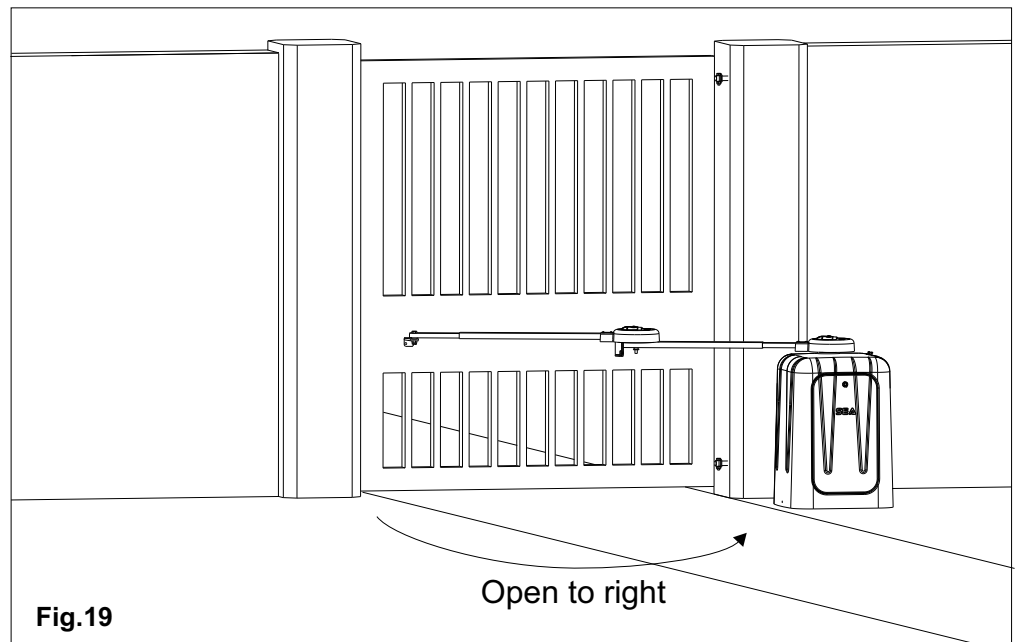
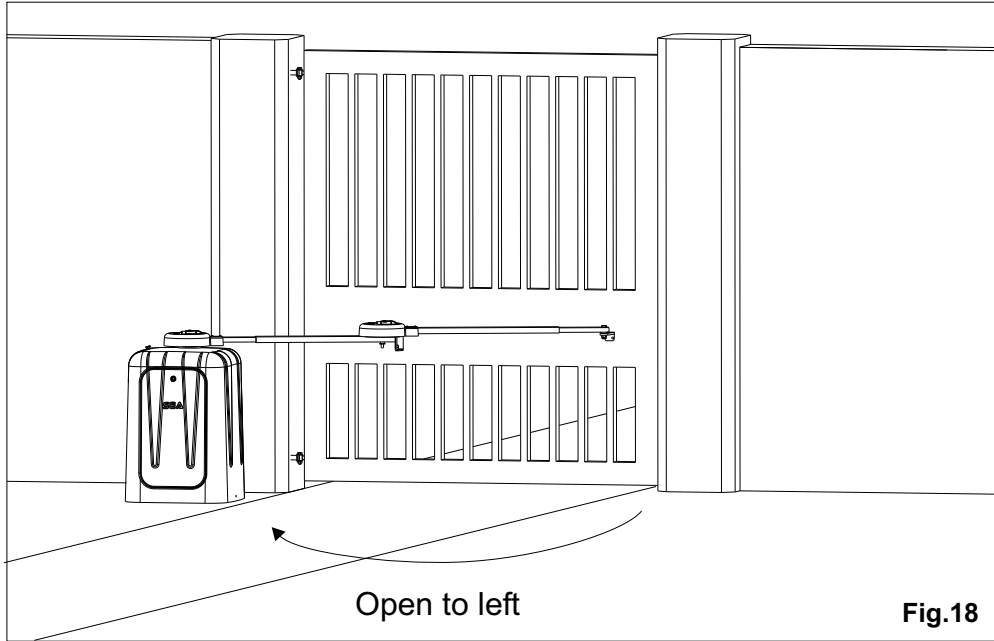
Fig.17

.....then weld the shorter arm.



## MECHANICAL INSTALLATION

### 8. Gate movement direction





## MECHANICAL INSTALLATION

### 9. Release lever adjustment

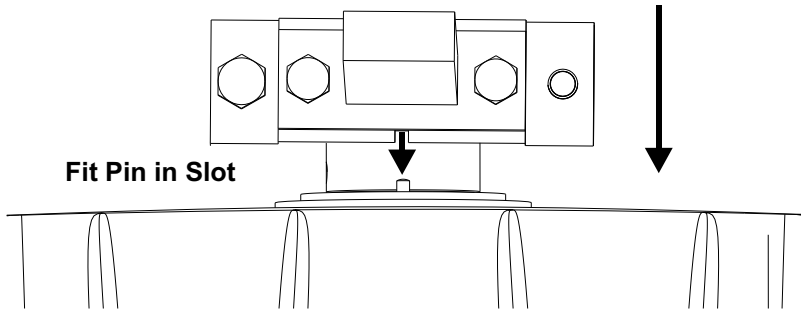


Fig.20

Tighten the Nut  
90°  
Handle must be in this position

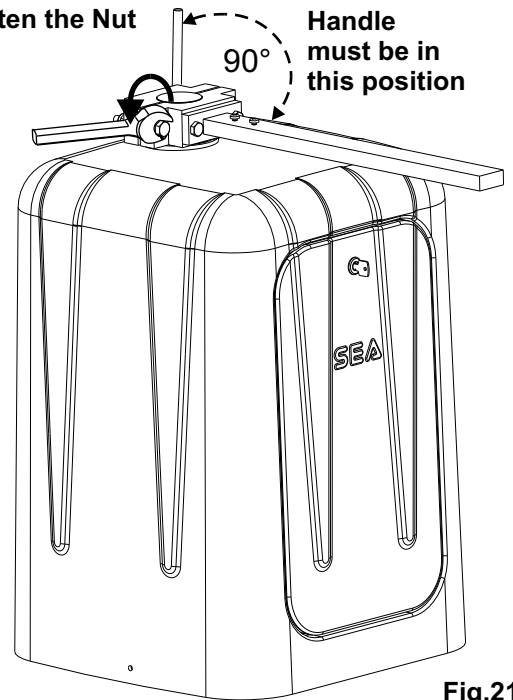


Fig.21

Tighten Handle

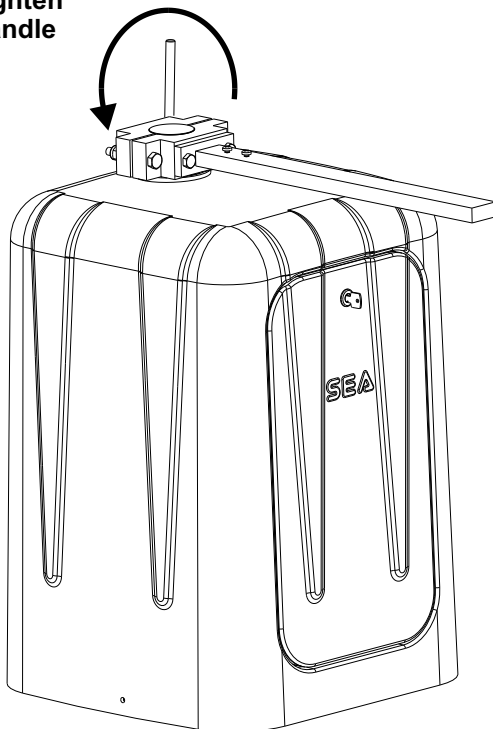


Fig.22

Pull the short arm away from the gate.  
NO slippage should occur.  
If it does, go back and tighten the nut more.

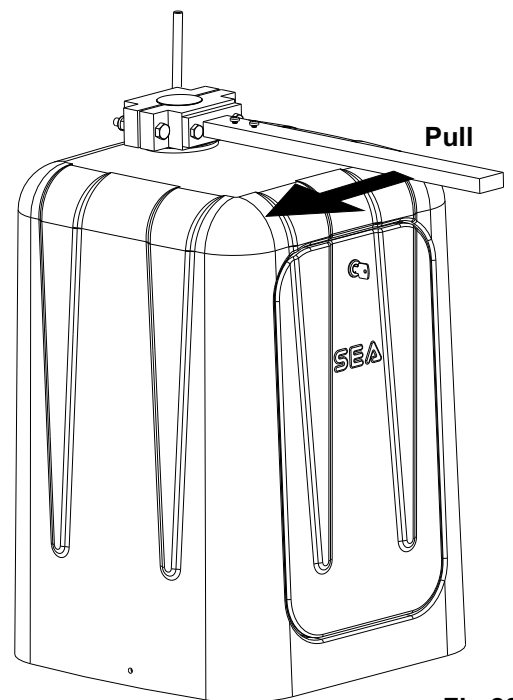


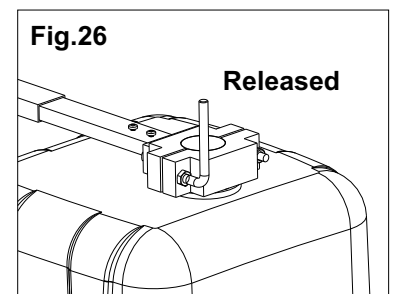
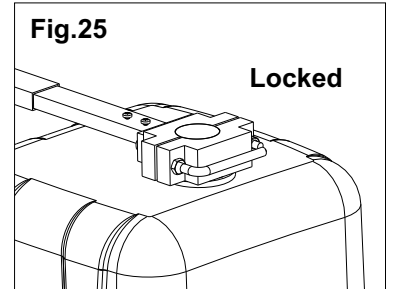
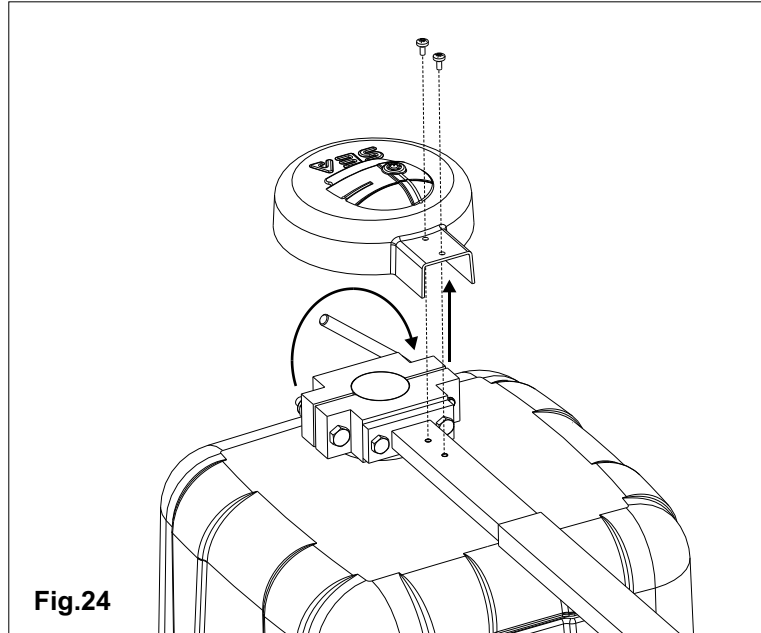
Fig.23



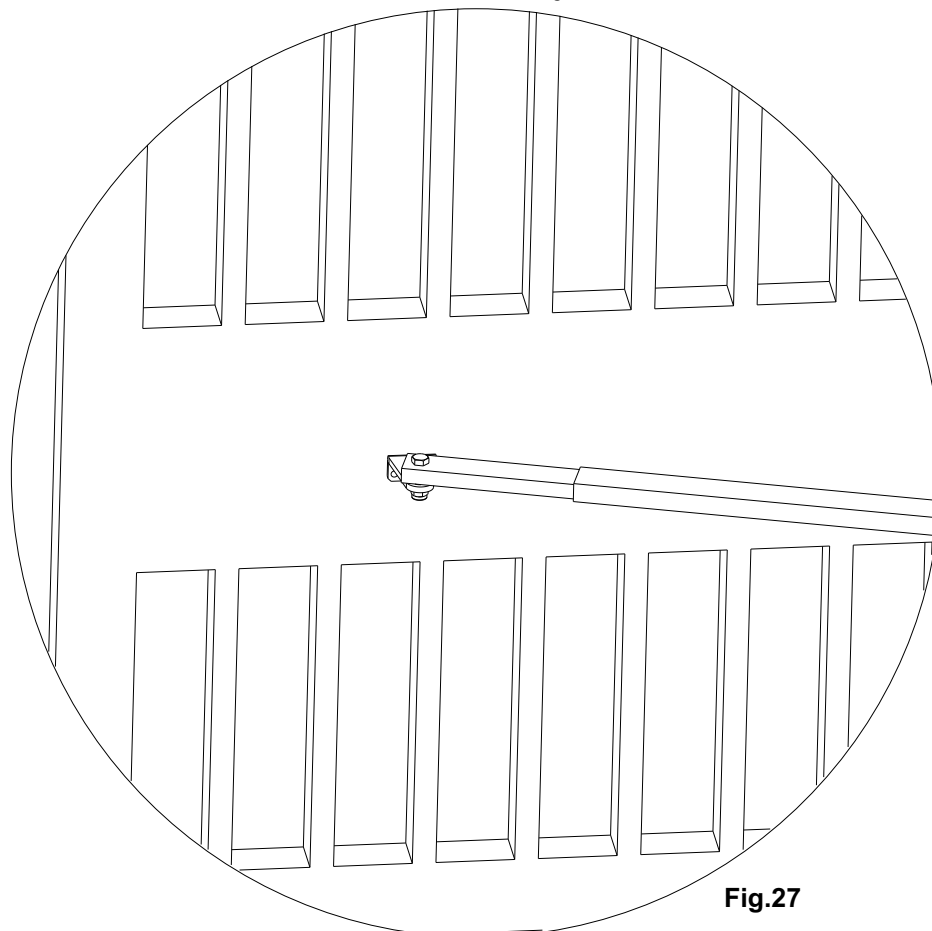
## MECHANICAL INSTALLATION

### 10. Emergency release

- 1) **Unscrew Bolts**  
Special tool required for the "optional" security bolts.
- 2) **Lift Off Cover**
- 3) **Loosen Handle**  
Gate can now be manually moved.



**Grab the Gate to Make Adjustments**



**Fig.27**

**Tighten the Handle, Replace the Cover and Bolt when Finished**  
When the power is turned on again, the gate will readjust itself automatically.



## MECHANICAL INSTALLATION

### 11. Limit switches

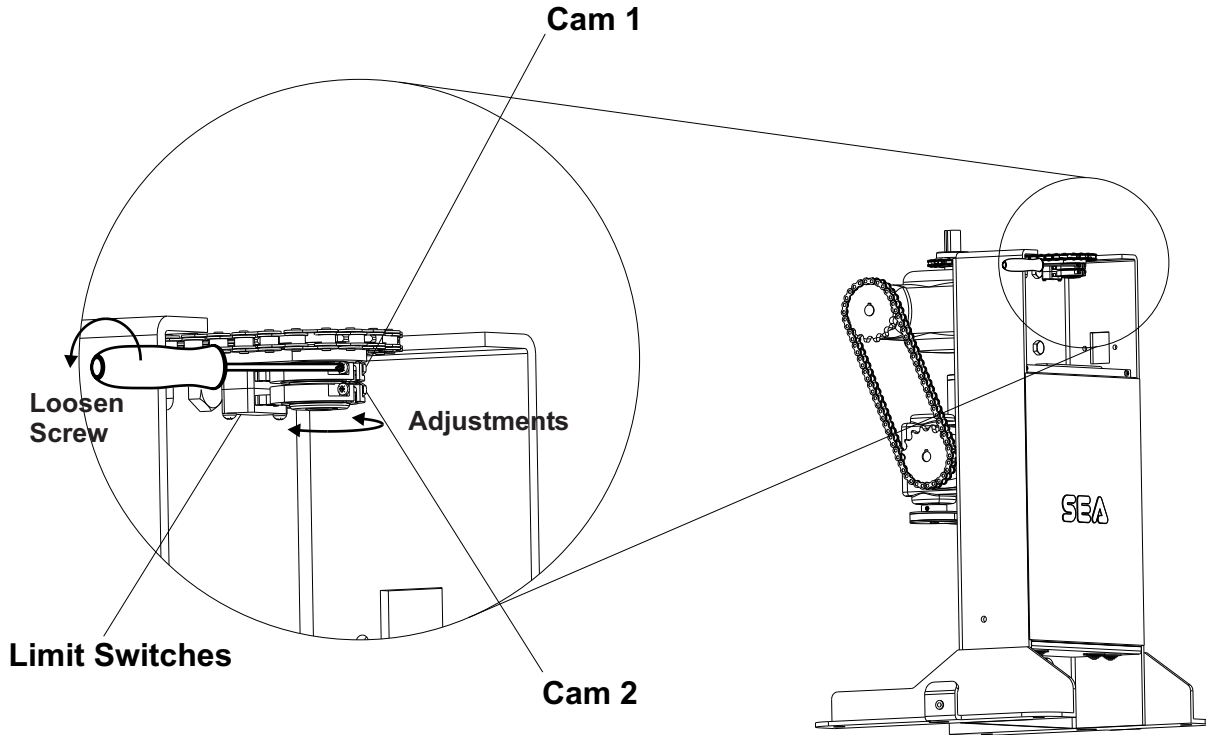


Fig.28

Turn the handle as shown in Fig. 28, place the gate into opening phase and adjust the cam 1 or 2 in relation to the right or lefthand opening, bring back the gate into closing phase and adjust the remaining cam. Bring back the handle into releasing phase.

### Stop in opening

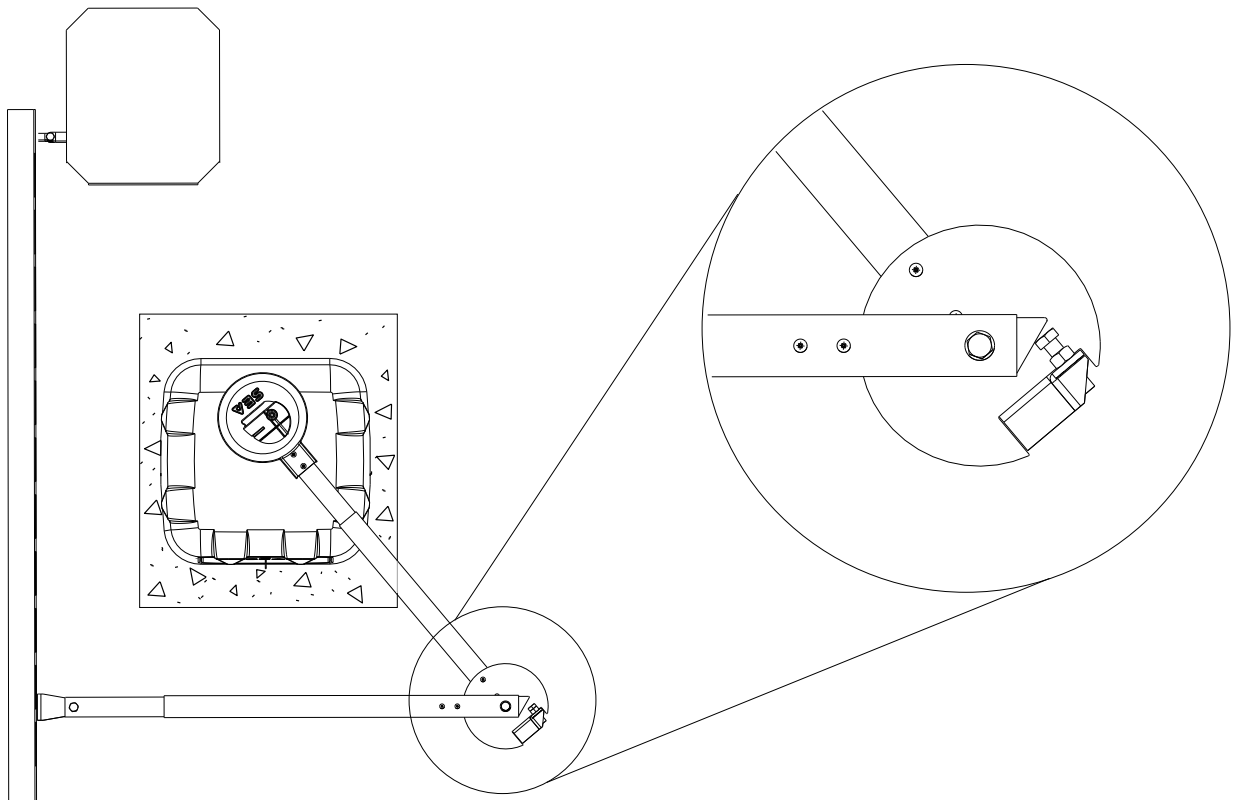


Fig.29





## MECHANICAL INSTALLATION

### 12. Arm

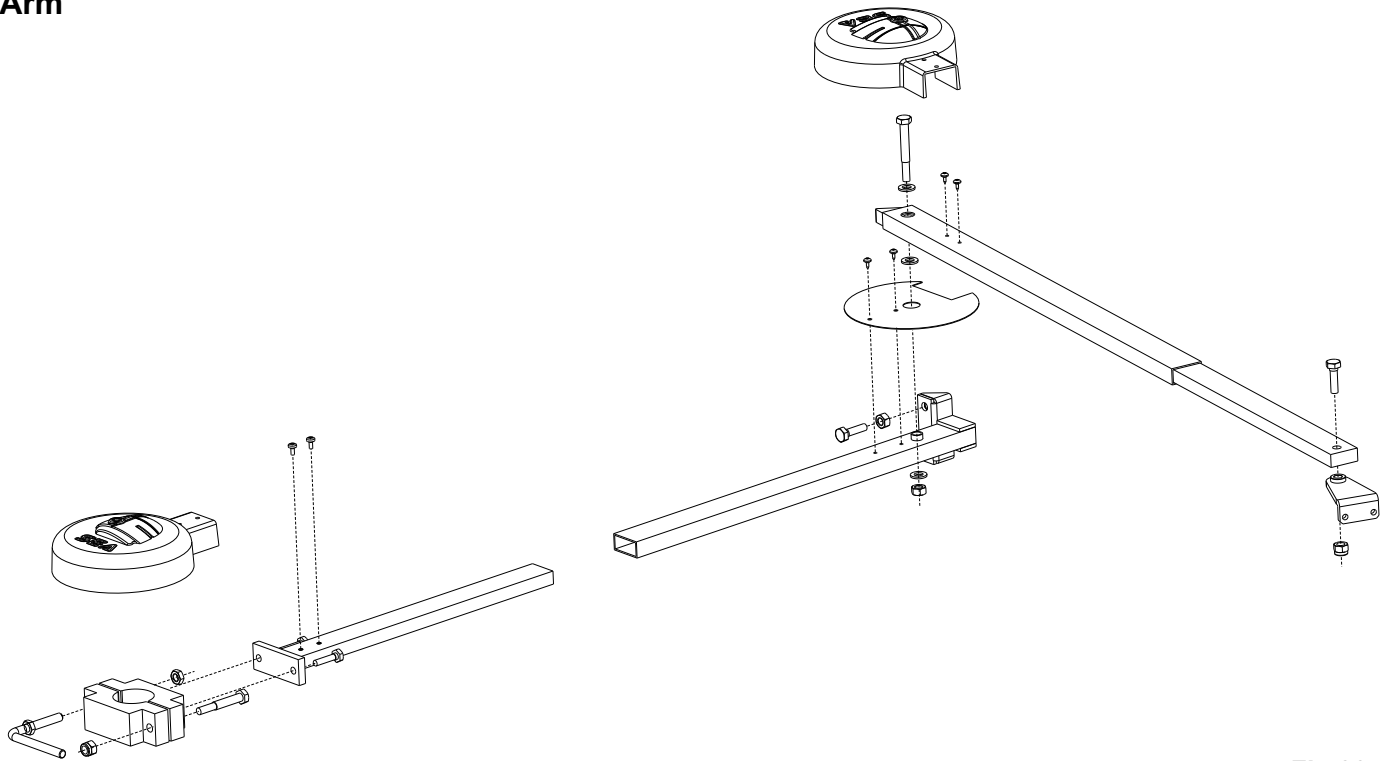


Fig.30



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**JOINT 24V-24V PLUS**

## **SALES CONDITIONS**

**GENERAL WARNING:** Installation must be realized using parts and accessories approved by SEA. SEA is not responsible for incorrect installations and/or non-compliance with safety standards according to the law in-force. SEA is in no way liable for any damages and/or malfunctioning due to using parts and accessories non-compliant with the safety standards.

**ORDERS:** Orders are processed upon approval by SEA. Buyers must confirm orders by sending a written Purchase Orders to SEA. Purchase Orders are intended as confirmation of orders and binding for the buyer, which accepts SEA sales condition.

**QUOTATION:** Quotation and special offers with a non-specified duration expires automatically after 30 days.

**PRICES:** Prices are based on the Price List in force. Discounts and quotation from Sales Rep. and other selling branches must be approved by SEA. Prices are F.O.B SEA Warehouse in Miami and do not include shipments costs. SEA reserves the right to modify the price list at any time and provide notice to its sales network.

**PAYMENT:** Method of payments and terms are notified by SEA and displayed on the commercial invoice.

**DELIVERY:** The delivery time on the invoice is not binding and represents an estimated delivery. Shipments costs will be charged to the buyer and SEA is not responsible for delays and/or damages occurred to the products during shipment.

**COMPLAINS:** Complains and/or claims must be notified to SEA within 7 business days after receiving the products. Claims and complains must be supported by original documents. Customer must contact the factory for instructions and authorization. Merchandise returned for credit must be current, uninstalled and unused and returned in its original packaging. Freight must be pre-paid on all authorized returns.

**REPAIRS:** Repairs and parts are subject to the availability in stock. Shipment of products for repairs must be pre-paid by the customer. Products shipped without authorization, sender's details and description of the problems will be refused. Customers must contact SEA for instructions.

**WARRANTY:** for the original buyer only:

Hydraulic and oil-bath motors: 36 months warranty from the date of invoice on manufacturing, assembling and workmanship defects.

Electro-mechanic motors and electronic control systems: 24 months warranty from the date of invoice on manufacturing, assembling and workmanship defects.

Lepus and Full Tank Standard model: 60 months warranty from the date of invoice on manufacturing, assembling and workmanship defects.

No warranty will be recognized for damages due to incorrect installation and/or improper use for which the product was intended. SEA warranty obligations shall be limited to repair or replace the defective product/parts at SEA option, upon examination of the products by SEA technical Staff. All replaced parts must remain property of SEA. The warranty status of the product remains an unquestionable assessment of SEA. Buyer must ship pre-paid defective products. Products under warranty will be returned pre-paid by SEA. Recognized defects, whatever their nature, will not produce any responsibility and/or damage claims to SEA USA Inc and SEA S.p.A. Warranty shall not cover any required labor activities. Warranty will in no case be recognized if alterations and any other changes will be found on products. Warranty will not cover damages caused by carriers, expendable materials and faults due to improper use with the products specifications. No indemnities are recognized during repairing and/or replacing of the products under warranty. SEA USA Inc. and SEA S.p.A. decline any responsibility for damages to person and objects deriving from non-compliance with safety standards, installation instructions or use of the products sold. It is intended that warranty will be recognized only on products bought through the SEA authorized network. Products must be installed by professionals. No warranty will be recognized if products are installed directly by the final user. Warranty does not apply in case of unexpected events such as fire, flood, electrical power surge, lightning, vandalism and others.

**SEA USA Inc. is not responsible for errors in technical information printed in catalogs and installation manuals.**





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