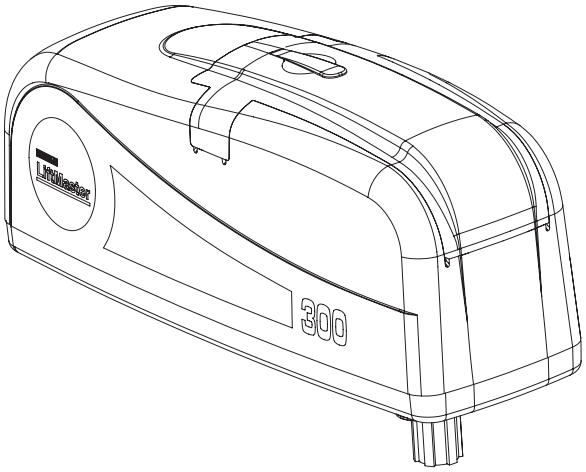

ART300-24MB - Instructions

MAGIC BUTTON®
AUTOMATION

LIFTMASTER®

VICTORIA

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WARNING

IMPORTANT ADVICE: THESE INSTRUCTIONS ESSENTIALLY DESCRIBE THE INSTALLATION OF THE ART300-24MB DRIVE WITH THE ACCESSORY ARM ART-3, FOR INSTALLATION ON A SWING DOOR.
IF THE ART-1 FOLDING DOOR ARM OR THE SPACE-SAVING ART-2 DOOR ARM ARE INSTALLED IT IS ESSENTIAL TO FOLLOW THE INSTRUCTIONS INCLUDED WITH THOSE ITEMS. THE INSTALLATION WORK VARIES FROM THESE INSTRUCTIONS AT SOME POINTS. WARNING AND SAFETY ADVICE IS EXCEPTED FROM THIS.

PLEASE START BY READING THESE IMPORTANT SAFETY RULES • SAVE THESE INSTRUCTIONS

This safety alert symbol means "Caution" - failure to comply with such an instruction involves risk of personal injury or damage to property. Please read these warnings carefully.
This gate drive mechanism is designed and tested to offer appropriately safe service provided it is installed and operated in strict accordance with the following safety rules.
Incorrect installation and/or failure to comply with the following instructions may result in serious personal injury or property damage.

Do not wear rings, watches or loose clothing while servicing or installing a gate opener.

Installation and wiring must be in compliance with your local building and electrical installation codes. Power cables must only be connected to a properly earthed supply.

Entrapment between the moving gate and walls due to the opening movement must be avoided by using safety edges or IR sensors when necessary.

Please remove any locks fitted to the gate in order to prevent damage to the gate. A special E-Lock is available as accessory.

After installation, ensure that the gate opener system is properly adjusted and that the safety system and the manual release function correctly.

This drive **must not** be used with a gate incorporating a wicket door.

The actuating member of a biased-off switch, if installed, is to be located within direct sight of the gate but away from moving parts. Unless it is key operated, it is to be installed at a minimum height of 1,5m and not accessible to the public.

It is important to make sure that the gate always runs smoothly. Gates which stick or jam must be repaired immediately. Employ a qualified technician to repair the gate, never attempt to repair it yourself.

Keep additional accessories away from children. Do not allow children to play with any controls. Keep remote controls away from children. Operate gate when it is in full view and no one is near the gate. A gate can cause serious injuries or death as it openes or closes.

Disconnect electric power to the system before making repairs or removing covers. Install an all pole disconnect switch in the permanent wiring if one is not present.

Make sure that people who install, maintain or operate the gate drive follow these instructions. Keep these instructions in a safe place so that you can refer to them quickly when you need to.

The gate drive system is to be regularly examined for any signs of wear and tear or damage. The gate drive system must not be used if repair or adjustments are needed.

CONTENT OF THE CARTON

- Motor 1x
- Release key 1x
- Hardwarebag 1x
- Manual 1x

OPTIONAL ACCESSORIES

ART-1 Folding door arm
ART-2 2m gate arm
ART-3 3m gate arm
ART-6 Base plate narrow fit
ART-7 Base plate standard

INSTALLATION

BEFORE YOU BEGIN
The ART is suitable for use with wide pillars, up to about 30cm in width. The maximum recommended opening angle of the gate is 125 degrees. Ensure that ample space is available next to the drive for the arms and assembly. Gates exposed to a high wind load must be fixed with an electric lock for additional protection. While the drive is fitted with internal limit switches, stops should also be mounted on the ground to prevent gate rattle or flutter. There are many factors to consider when choosing the right drive mechanism. Assuming that a gate functions properly, "startup" is the most difficult phase, once the gate is in motion, significantly less force is usually required to move it.

- **Gate size:** The gate size for this drive must not be more than 3.0m. Wind can brake or distort the gate, thereby increasing the amount of force needed to move it considerably.
- **Gate weight:** The weight of the gate must not be more than 250kg.
- **Effect of temperature:** Be sure that the ambient temperature where the drive is installed will be between -20 to +55 deg since low outdoor temperature can prevent the motor from starting. High outdoor temperatures along with frequent use can cause the motor thermal protection to operate. Wait 15 minutes if this has occurred.
- **Frequency of operation/operating time:** This gate opener is designed for intermittent duty and will cause the motor thermal protection to operate if it is operated continuously. It is designed to operate for over 5 cycles continuously or less than 30% duty cycle. Wait 15 minutes if this has occurred.

INSTALLATION CHECKLIST - PREPARATIONS

Check the carton contents **(figure 1)** and read the instructions carefully. Make sure your gate equipment operates perfectly. The gate must run evenly and smoothly and must not stick at any point. Remember that the ground level may be several centimeters higher in winter. The gate must be stable and as free of backlash as possible in order to prevent any unwanted to and fro movement. The more smoothly the gate leaf runs, the more sensitive the force adjustment must be.

Note down any materials you still need and obtain them before starting to install. Heavy-duty plugs, bolts, gate stops, cables, distribution boxes, tools, etc.

GATE TYPES

The gate type **(figure 2)** determines the location where the drive mechanism is installed. If the gate stop is on the ground, the drive mechanism must also be installed at a height that is as low as possible so that it cannot twist the gate. Use only parts of the gate frame for fixing purposes.

For steel gates, the gate fitting must be attached to the main frame. If you are uncertain whether the available support is sufficiently stable, reinforce it.

In the case of wooden gates, the gate fitting must be through bolted. It is advisable to fit a plate from the outside so that the fixing brackets cannot become loose over time. Thin wooden gates must also be reinforced in order to withstand the stresses encountered.

GATE SITUATION

The gate drive mechanism is suitable for use in conjunction with pillars with a max. thickness of 30cm. The amount of room around the pier affects the opening angle and the position of the arms **(figure 4)**.

The drive mechanism is equipped with built-in limit stops for both the OPEN and CLOSE directions. A different opening angle can be set for the left-hand wing as compared with the right-hand one.

GATE STOPS

A SWING GATE NEEDS A FIXED GATE STOP IN BOTH THE OPEN AND CLOSE DIRECTIONS. Gate stops save wear and tear on the drive mechanism, gate and fittings. Operating a gate without fixed limit stops results in poor performance. It is often dangerous, leads to premature wear in the case of heavy gates often exposed to wind stress.

ELECTRICAL INSTALLATION (FIG.11)

We recommend the use of control unit MB206.

ART300-24MB Terminal Block:

1= 24V Motor Supply

2= 24V Motor Supply

3= L1(OPEN/CLOSE) NC Limit

4= Limit COM

5= L2(CLOSE/OPEN) NC Limit

6= +V RPM counter

7= 0V RPM counter

8= RPM output

The cable leading from and to the control unit must be suitable for laying outdoors and, if required, run through ducts.

230 volt wiring and low-voltage lines may not be run via the same cable.

Generally speaking, the following minimum cable cross-sectional areas must be adhered to:

100-230Volt	1.5mm^2 or more
0-24Volt	0.5mm^2 or more

OPENING DRIVE

The release lock for the casing is located under the rubber waterproof cover. Use the socket spanner supplied in the hardware bag to lift the cover up. A type 1 Phillips screwdriver (small) is required if the drive hood needs to be dismantled. The drive hood can be taken off once the 4 screws have been removed. Now the drive can be unscrewed from the base plate (4x lock screws) **(figure 6-8)**.

RELEASING DRIVE FOR MANUAL OPERATION

The release lock for the casing is located under the rubber waterproof cover. Use the socket spanner supplied in the hardware bag to lift the cover up. The release key located beneath the hood should be inserted into the side openings and turned approx. 180 degrees until it cannot turn any further. The drive has now been released. To re-engage it, the key should be turned back to its original position **(figure 12)**.

Take care when unlatching the drive for manual operation. The door leaf can move in an uncontrolled way, especially if it is defective and not properly balanced.

INSTALLATION OF THE UNIT

1. Mount the arms on the motor **(Fig. 5)**. Switch to manual operation by inserting and turning the hexagonal key provided **(Fig. 11).**
2. Select and mark the mounting height on the pier **(Fig. 4+5)**.
3. The side of the gate mounted to the pier should be stable. If necessary, it should be reinforced, e.g. with a metal frame. Make sure that the screws used are long enough to ensure stable mounting. Ensure that there is enough room **(Fig. 4+9).**
4. Finding the right mounting position. Mount the drive on the pier and attach it to the gate. The drive exerts a great amount of force on the pier. A steel pier will provide the most stability. Welding the supplied hinge plate directly on to the pier will generally provide enough room for mount. In the case of thick brick or concrete pillars, the hinge plate should be welded onto a support plate, that is mounted in such a way that the plugs cannot work loose. Adhesive shear connectors are better than steel or plastic wedge anchors for this purpose. A threaded rod is then mounted into the masonry with a stress free adhesive seal. A watertight distribution unit should be mounted on the pier next to the hinge plate. The feed cable for the wing gate opener is led into this unit from underneath.

Several openings for the cable have been pre-punched in the base and need only be broken through, as required. The drive must be standing on a solid surface for the purposes of breaking the holes through to prevent the PVC base plate from breaking. A small, flat screwdriver should be used for breaking the holes through. For this purpose, tap on the screwdriver handle with the palm of the hand from the inside. Repeat this as necessary at several points on the pre-marked circle. The pre-punched area can then be easily removed and the strain relief supplied as standard fitted in its place.

Once the pier plate has been mounted, the drive can then be fitted. The drives can be used left or right without requiring conversion. For the purposes of fitting the drive, the lock screws need to be re-inserted and tightened up.

GATE FITTING

For steel gates, fixings should be welded on or through bolted. When through bolting the gate, use large washers or a plate on the other side. The drive mechanism exerts an extremely high force on this joint.

Fixings must be through bolted for wooden gates. Wood deflects under load and the bolt will become loose. Due to movement caused by repeated loading, the wood deflects more and more until the gate no longer closes correctly and has to be repaired.

The arm should not be mounted while fully extended **(see Fig. 4).** The drive is self-locking. The unit should be mounted with an offset of about 90 degrees. If the arm's point of contact is further to the outside, it will require less room at the side but it will be harder to drive. Mount the drive provisionally (e.g. with finger-tight thumb-screws), and check the mounting position by opening the gate manually.

LIMIT SWITCH

The internal limit switch of the ART turns the drive off when the preset point is reached. Remove the cover of the drive unit and release the operator. Manually move the gate into the “OPEN” position and define the endstop of the angle with the cam. Turn the cams until the desired end point has been reached. Check which cam has which function (e.g. upper cam opens gate).

Position of the operator:

Moving the gate clockwise, the endstop has to be defined with the upper cam.

Moving the gate anticlockwise, the endstop has to be defined with the lower cam.

See picture **11D**

Upper cam = connection 3/4

Lower cam = connection 4/5

Switch the drive on, let it run until the desired point is reached and interrupt the current with the aid of the main switch. Now turn the limit-switch dial to the microswitch trigger point.

Most control units have a time function. This should always be set 3 - 5 seconds more than the time actually required. The preliminary setting should be made for more than this to allow a safety margin. After the necessary adjustments to the system have been made, the time can be set more accurately. ***NB: The drive works more slowly under windy conditions.***

SAFETY MEASURES

A WING GATE OPENER SHOULD ALWAYS BE OPERATED IN CONJUNCTION WITH CONTACT STRIPS AND / OR LIGHT BARRIERS AS SAFETY FEATURES.

Please ensure that you comply with the standards, regulations and safety devices applicable to your particular case.

Should the force generated by the moving wing at its closing edge exceed 400 N, additional safety features must be fitted suitable for the application.

FINAL REMARKS

Arrange the handover of the wing gate opener with your customer Make sure that persons will operate the gate are familiar with its functions and can operate them without problems. Have your customer practice operating the gate until he is fully acquainted with all the following:

- Main switch.
- Rules of operation (e.g. do not drive through while the gate is still opening).
- Additional safety features (photoelectric barrier, contact strip, flashing lights, etc.).
- Switch to manual operation in case of power failure.
- Provide the customer with a full set of instructions. Inform him to keep them in a safe place and read them when possible.
- Reference a checklist, so that you have a record of which functions have been explained and of any points not dealt with.

ACCESSORIES

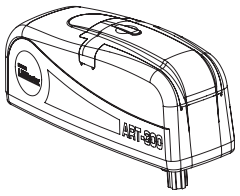
Model 94335E	3-channel mini transmitter, 433.92MHz
Model 9747E	Keypad, 433.92MHz
Model 760E	Key switch
Model 100027	1-Function Keyswitch, surface mount (Flush mount - 100010)
Model 100041	2-Function Keyswitch, surface mount (Flush mount - 100034)
Model 100263	Infrared barrier
Model 203285	E-Lock 12 Volt
Model 203292	Loop Detector 1 Channel
Model 203308	Loop Detector 2 Channel
Model 203315	Standard Hardstop
Model 203322	Hard Stop High
Model 203339	Mechanical Floor Lock for Double Wings
Model 600008	IR Sensor Stand - 530mm
Model 600015	Key Switch Stand - 1100mm
Model 600046	2.5 Safety Edge Set (Small)
Model 600053	20m Bulk Pack Safety Edge Profile (Small)
Model 600060	Assembly Pack Safety Edge (Small)
Model 600077	Bulk pack (not shown)
Model 600091	Main switch
Model 600138	20m Bulk Pack Safety Edge Profile (Medium)
Model 600145	20m Bulk Pack Safety Edge Profile (Large)
Model 600152	Assembly Pack Safety Edge (Medium/Large)
Model 600169	1m (3.2 ft.) Safety Edge Profile (Medium)
Model 600176	1m (3.2 ft.) Safety Edge Profile (Large)
Model 600213	Interface Box for Safety Edges

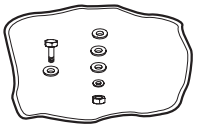
TECHNICAL DATA

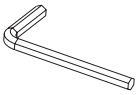
Modell	ART300-24MB
Voltage in	VAC 230V AC/24AC/24VDC
Voltage out (Motor)	VDC 24
Power	W 60
Current (max)	A 22
Current (no load current)	A 0,5
Torque	Nm 250
Motor speed	RPM 2200
Travel speed	cm/s 25
Duty cycle (max)	Cycles/h 50
Working temperature range	deg C -20°C/+55°C
Protection class	I
Degree of protection	IP 44
Weight	Kg 9
Max. gate wing lenght	m 2,5
Max. gate weight at max. wing lenght incl. 20% reserve	Kg 300

1 A

MANUAL







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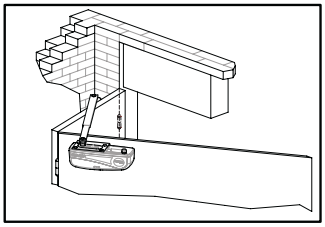

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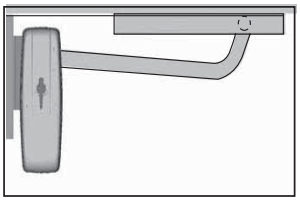

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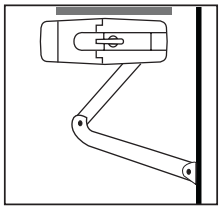

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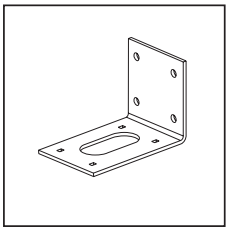

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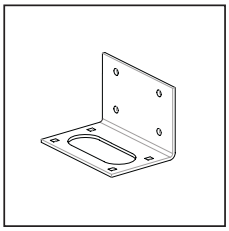

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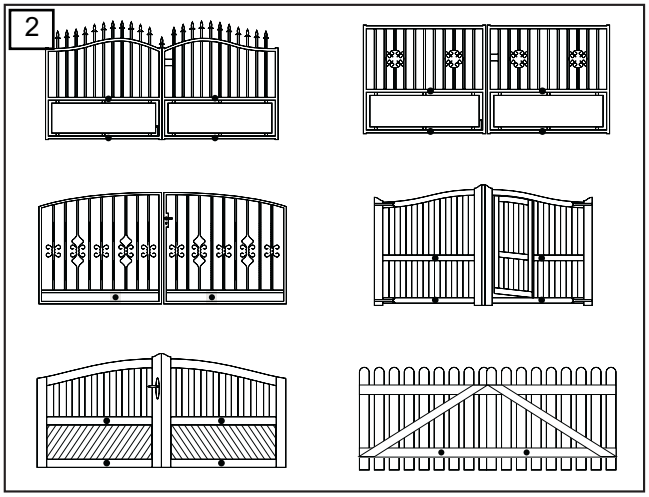

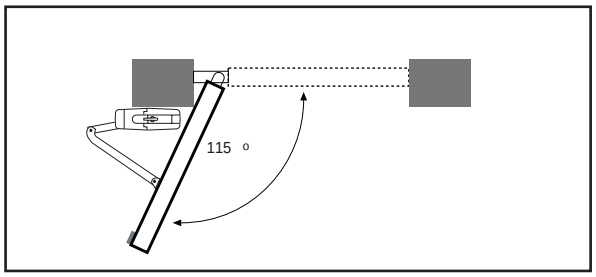

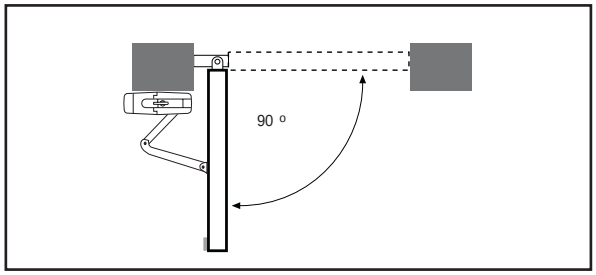

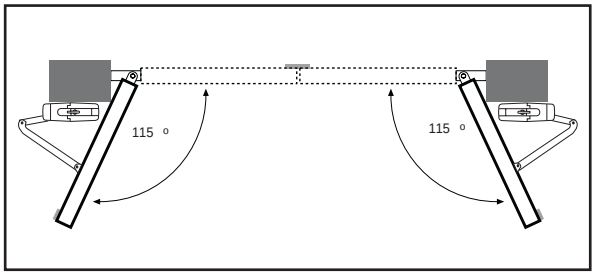

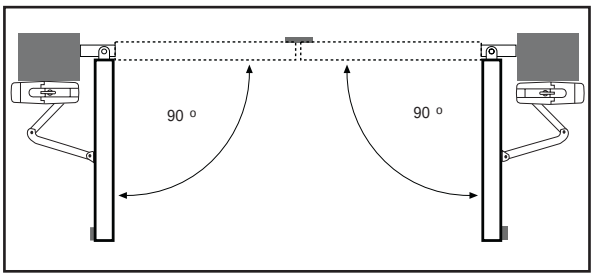

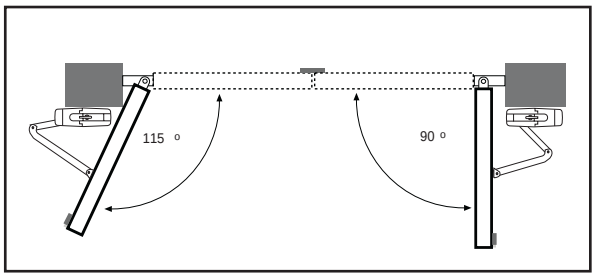

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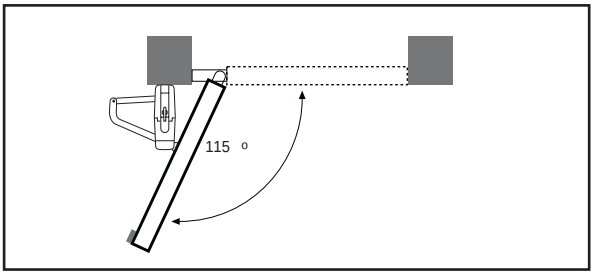

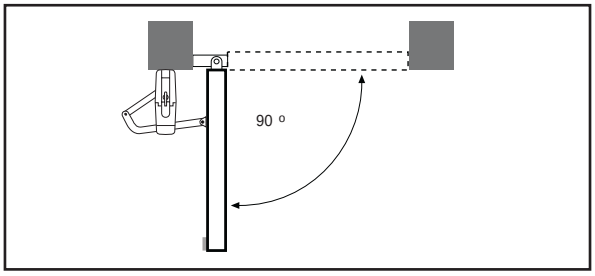

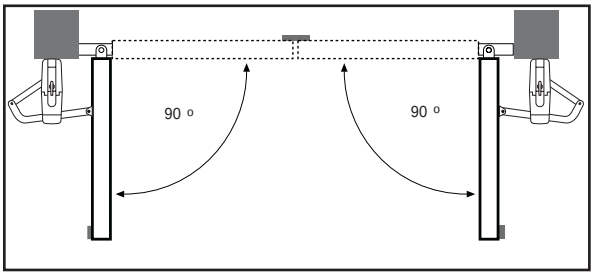

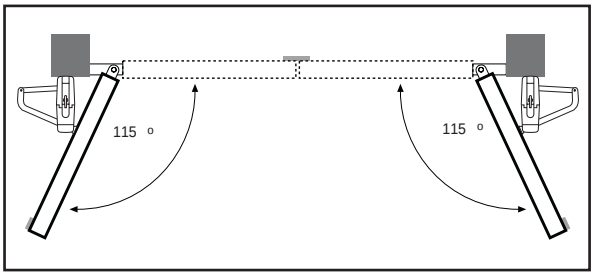

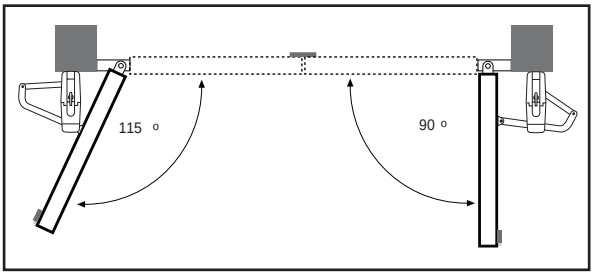

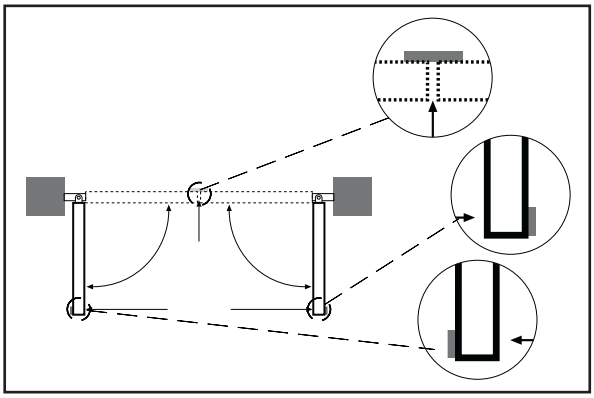

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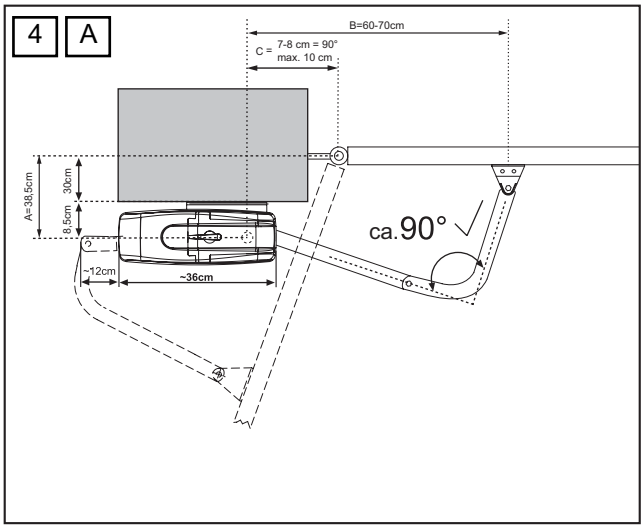

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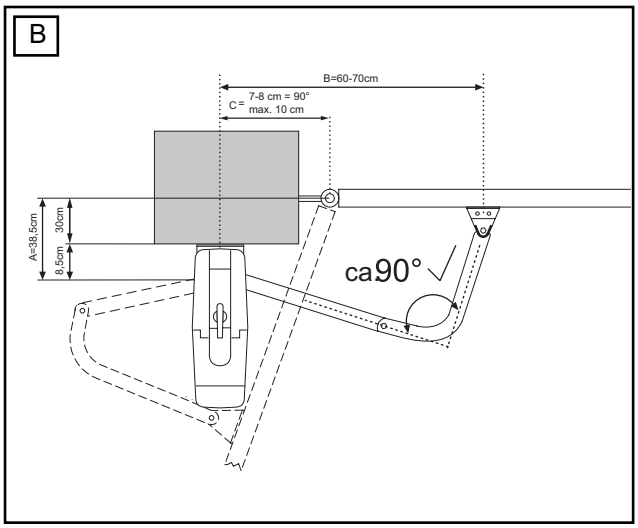

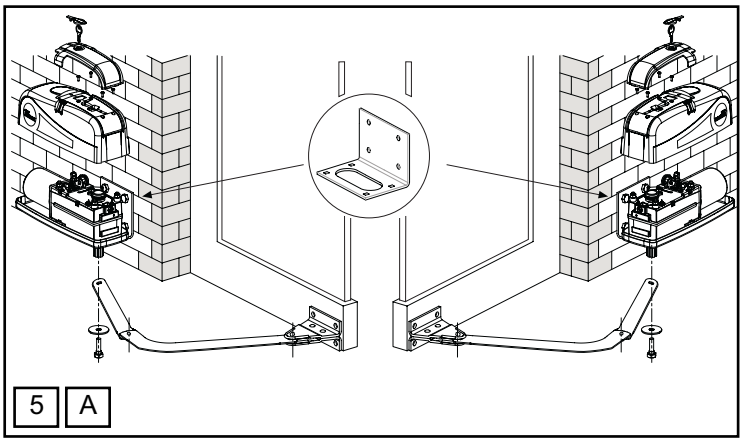

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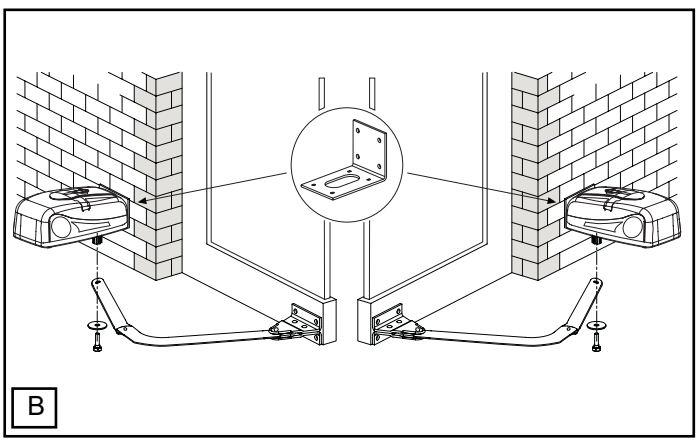

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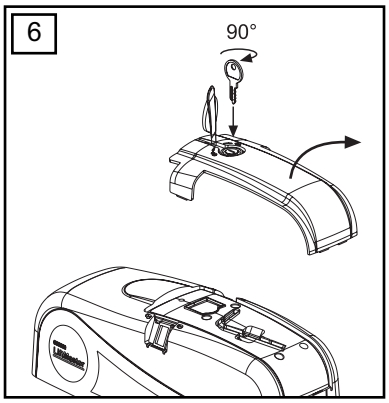
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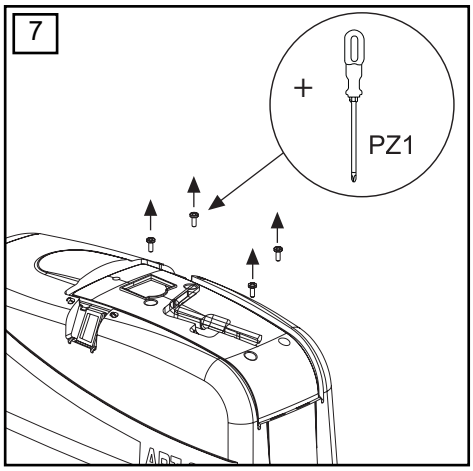
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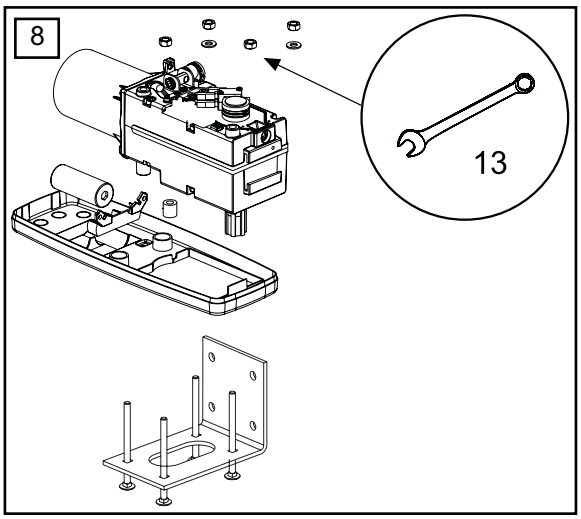
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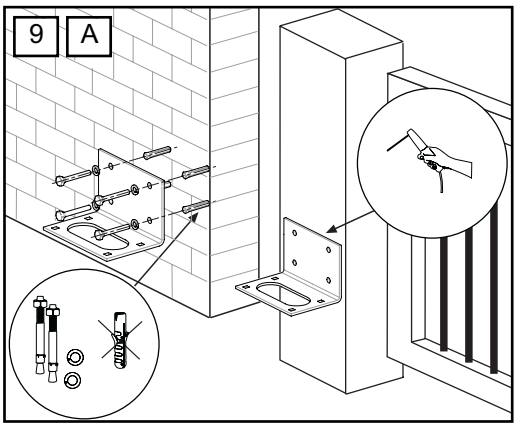
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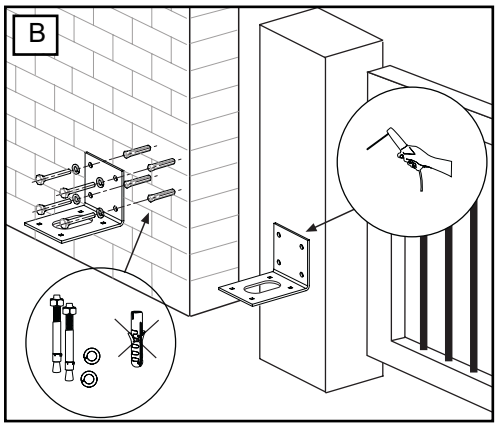
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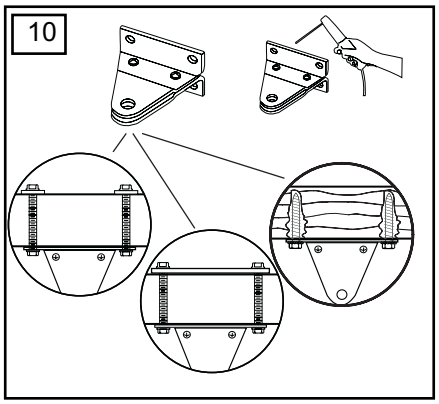
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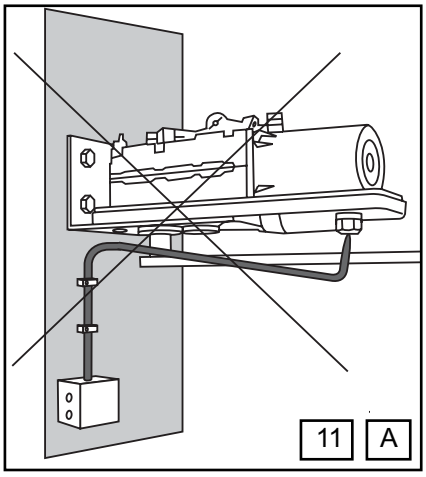
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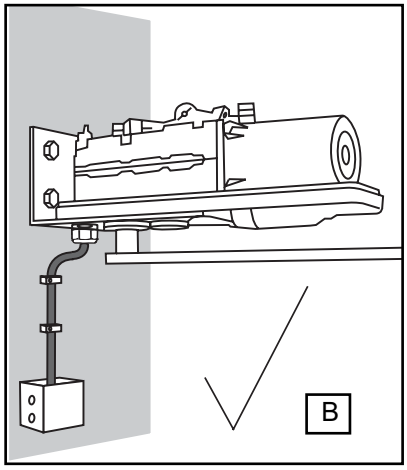
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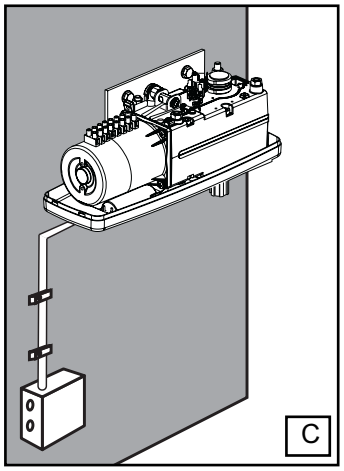
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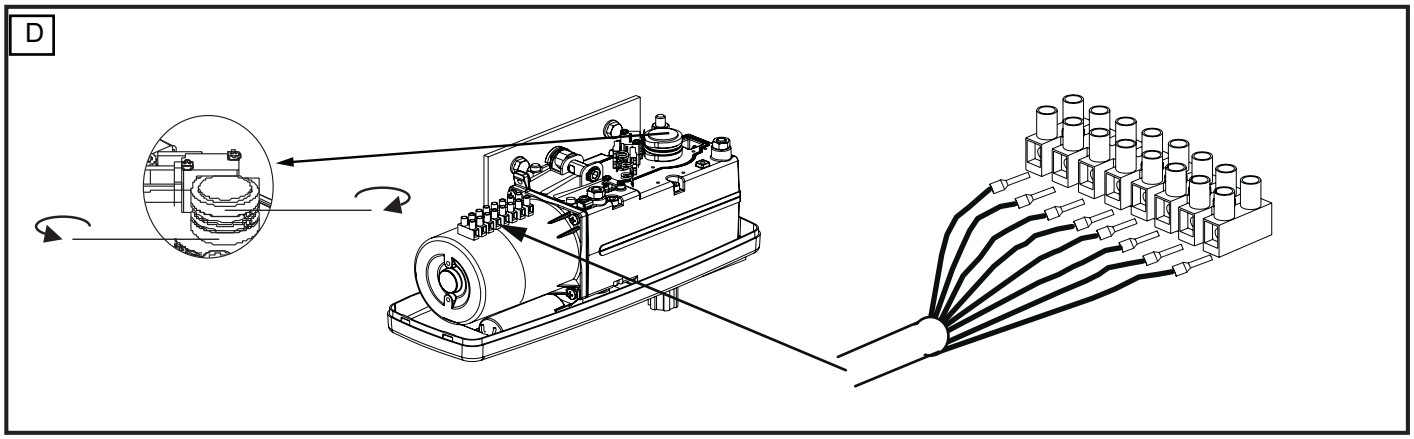
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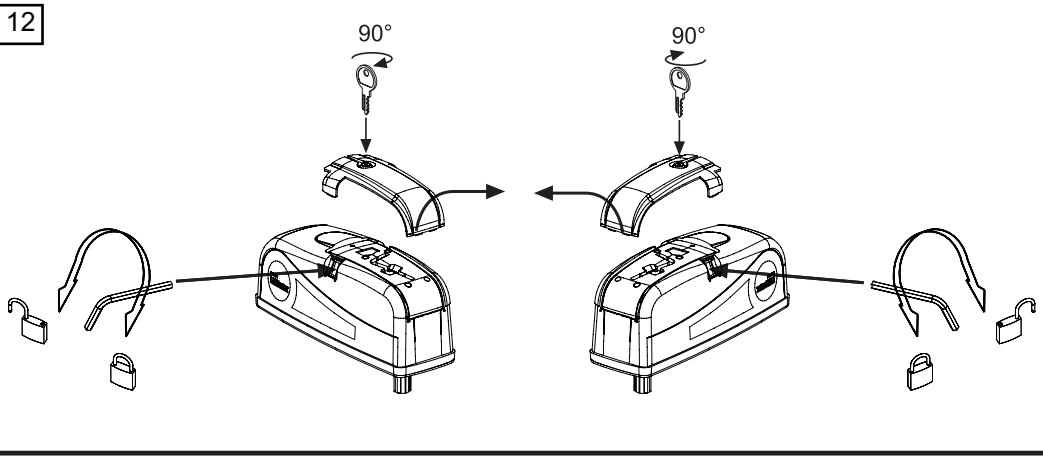
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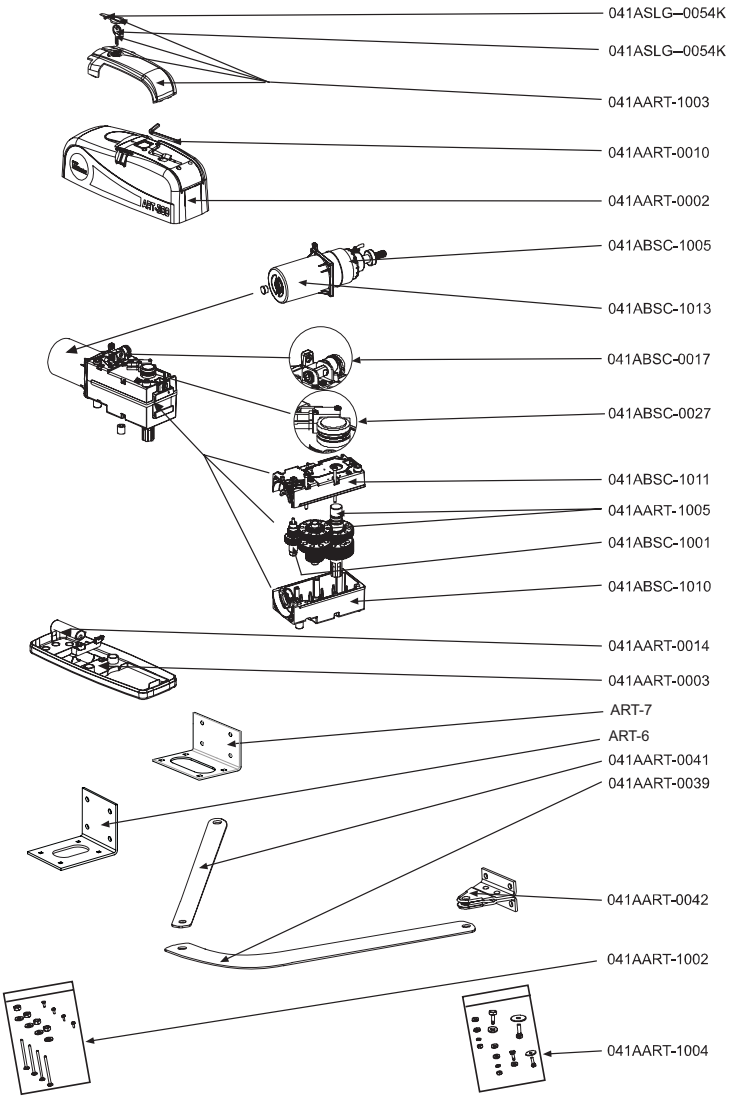
90°

13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