



Automatic barrier

EN - Instructions and warnings for installation and use

IT - Istruzioni ed avvertenze per l'installazione e l'uso

FR - Instructions et avertissements pour l'installation et l'utilisation

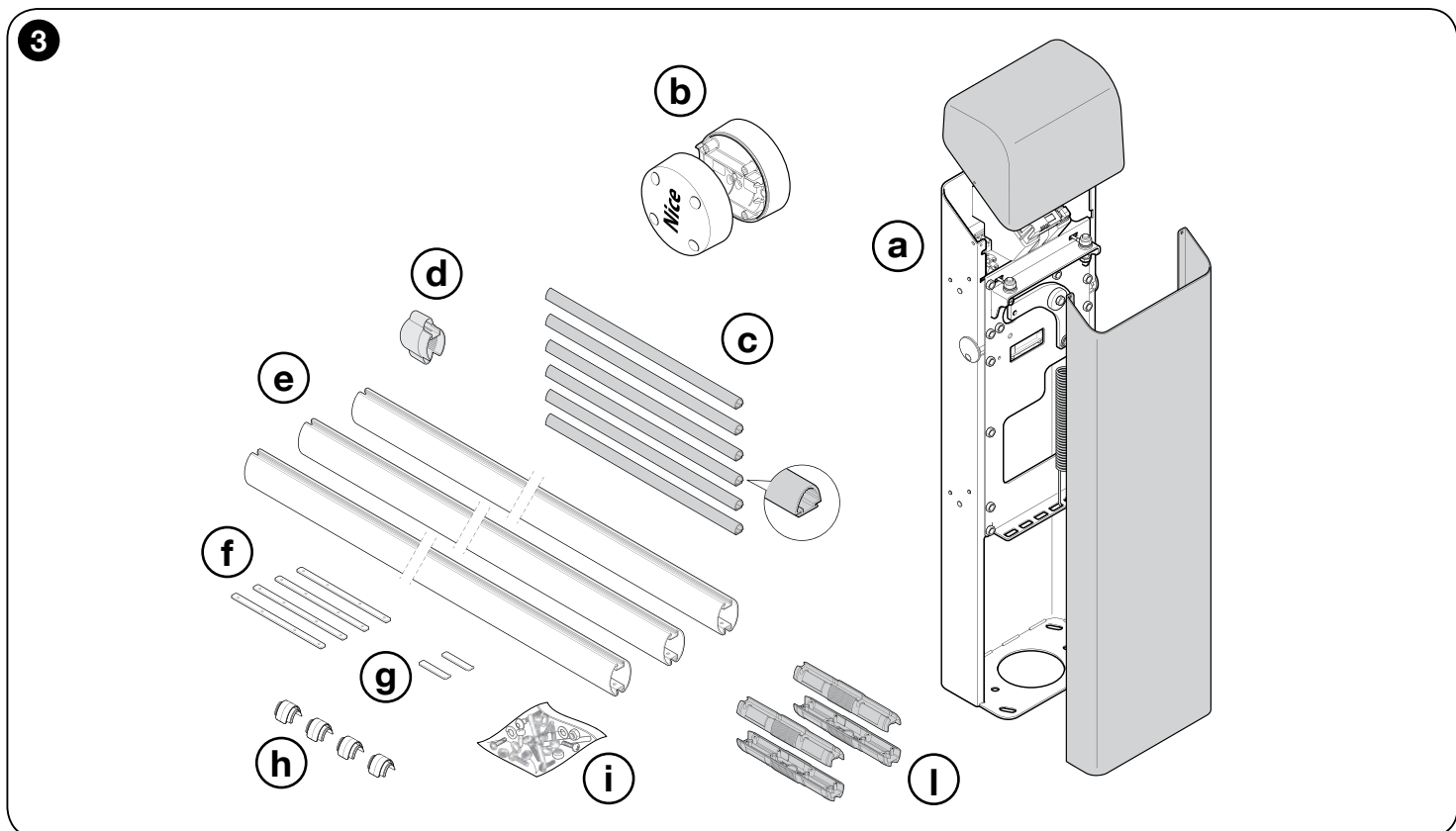
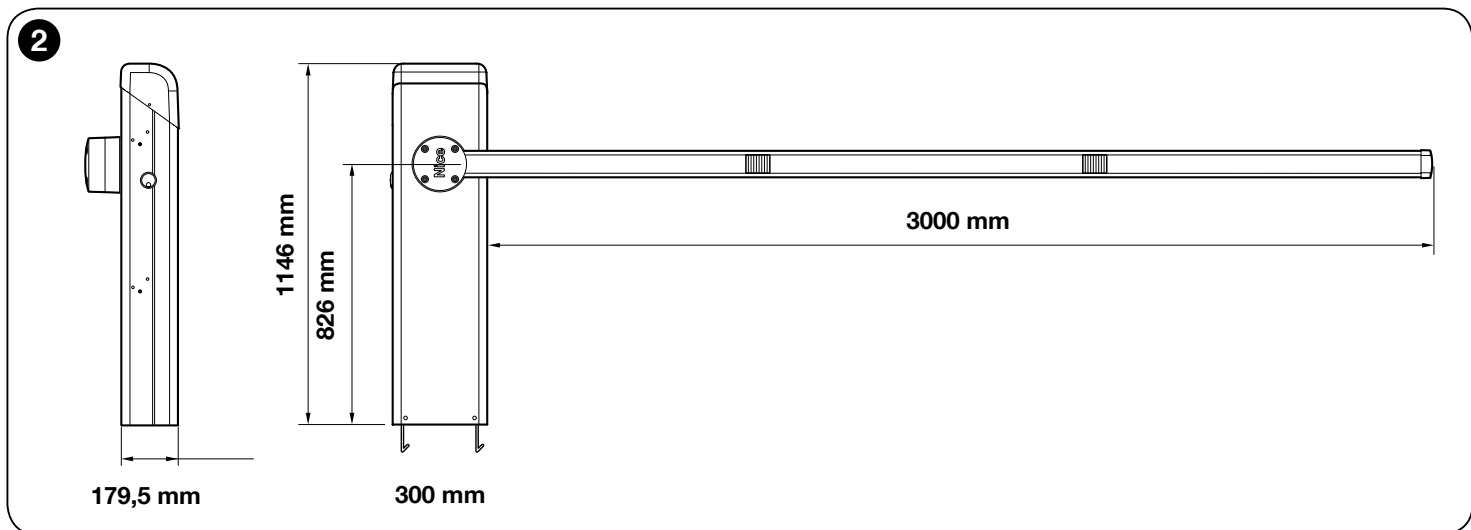
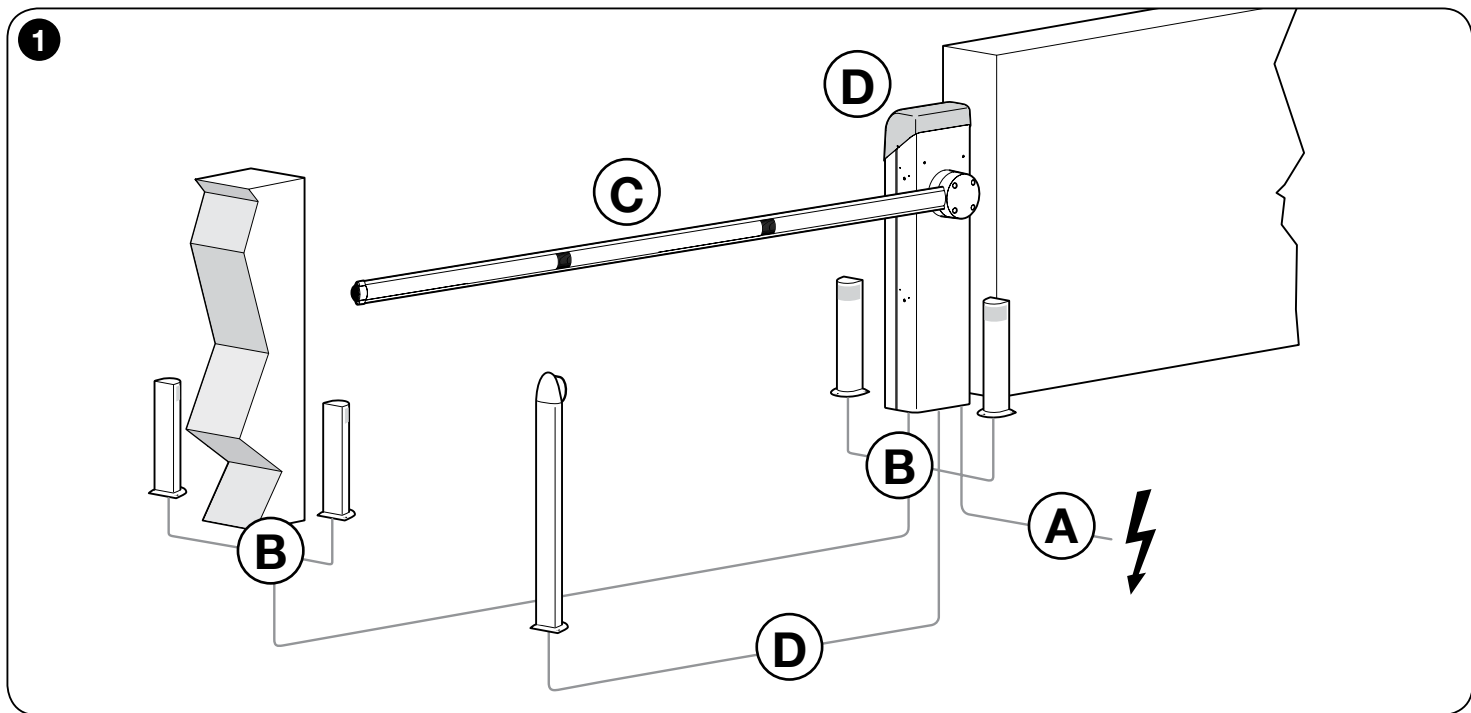
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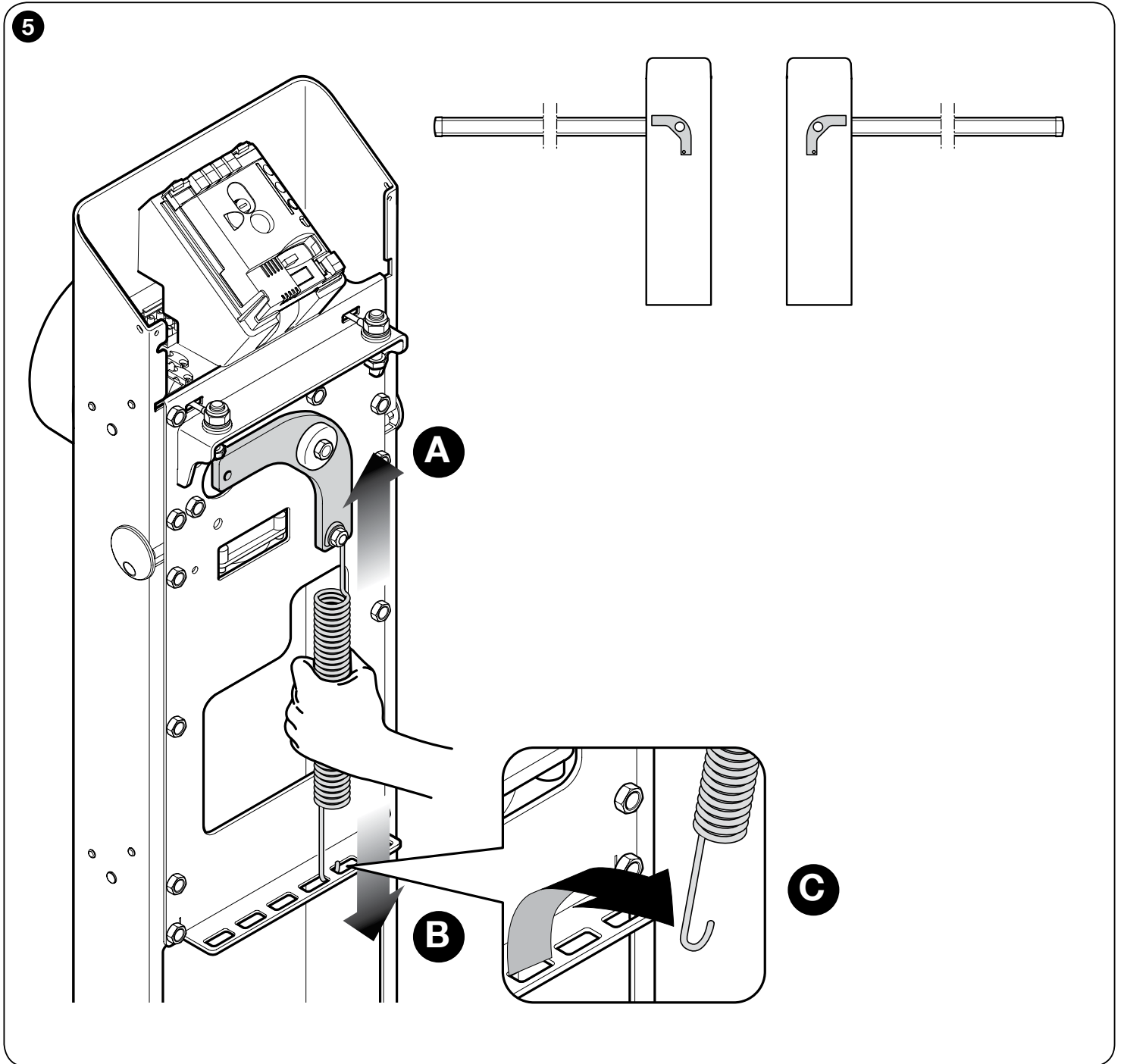
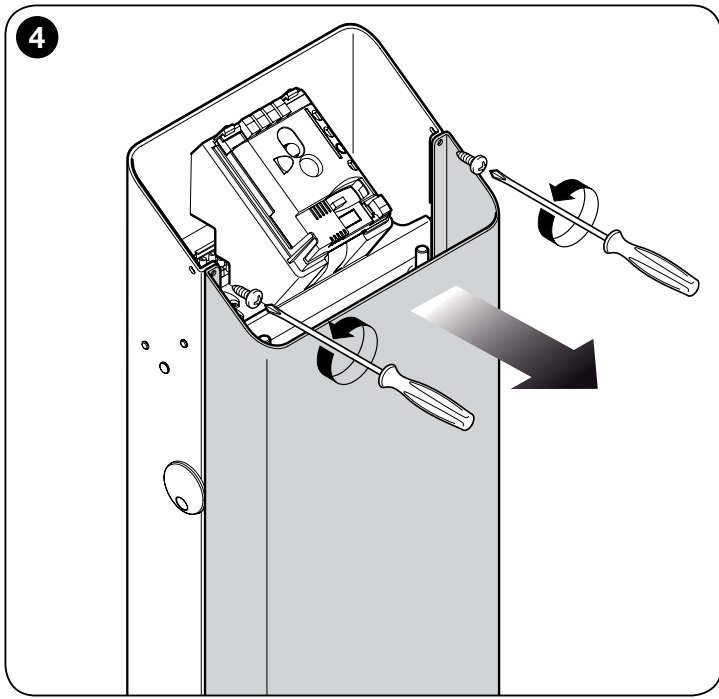
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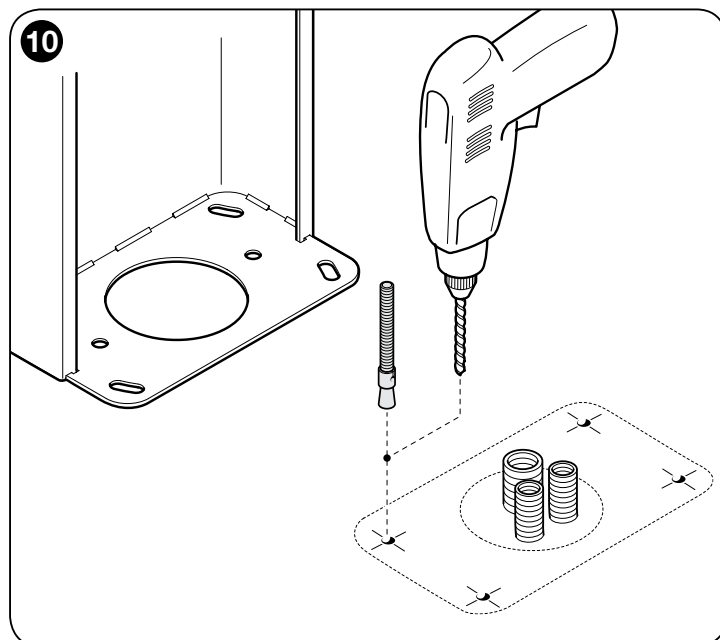
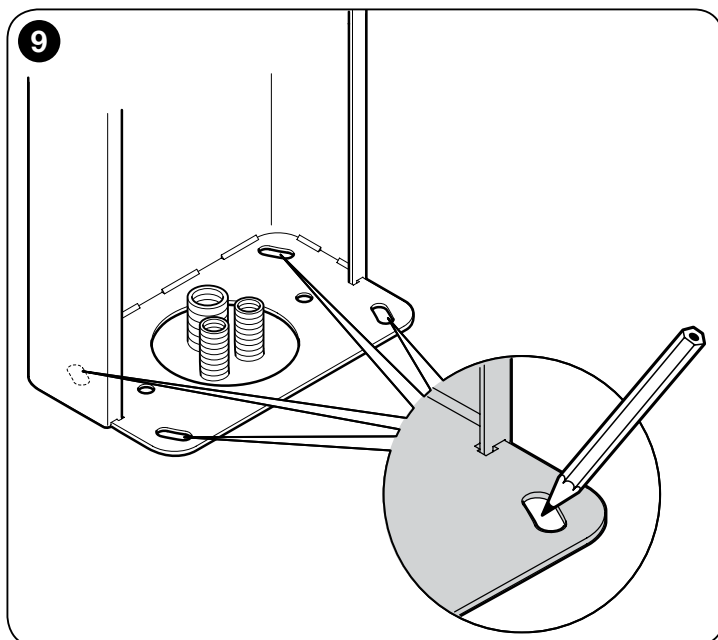
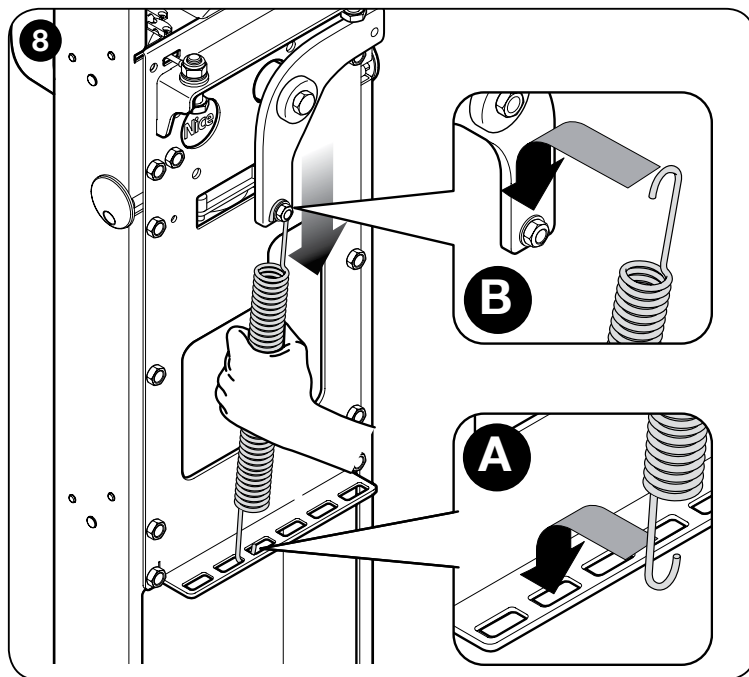
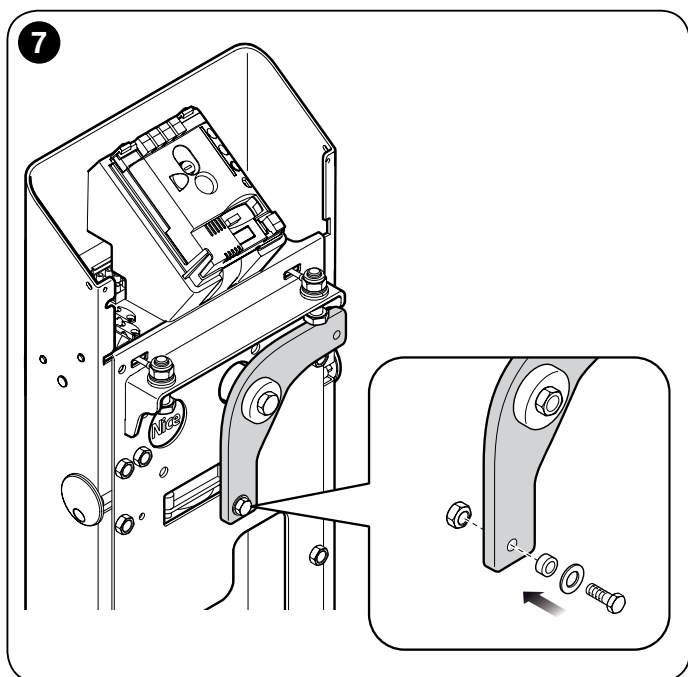
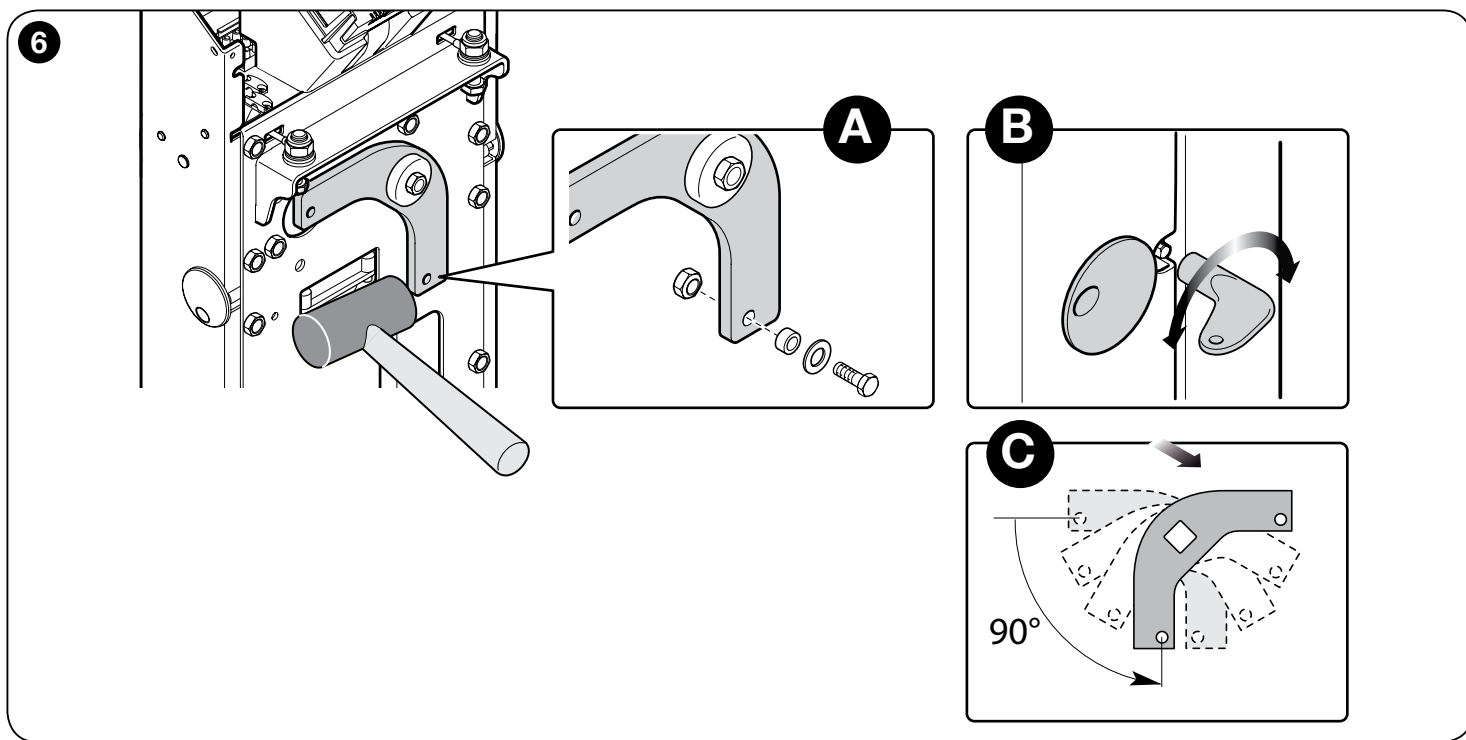
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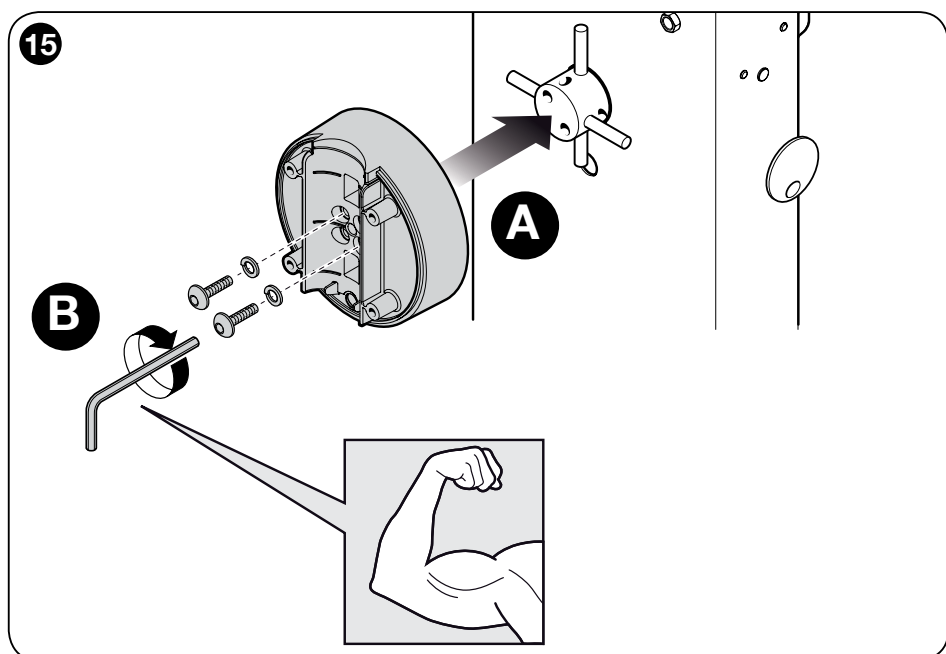
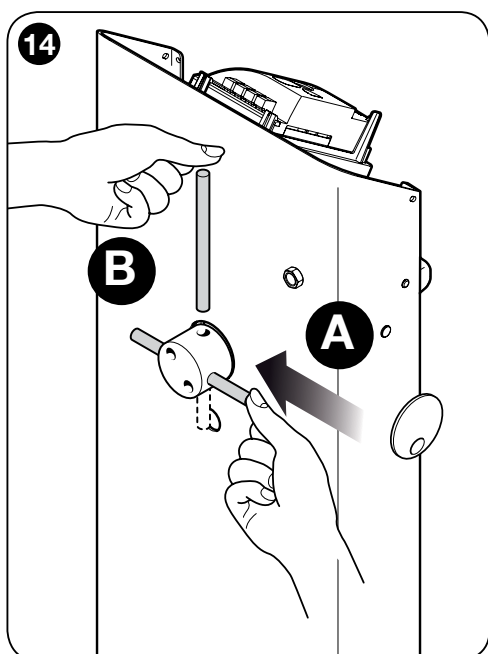
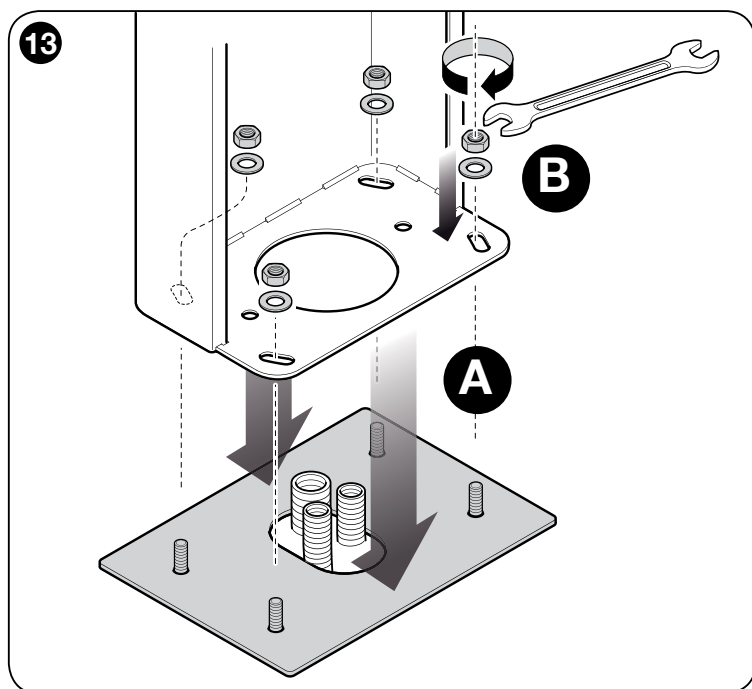
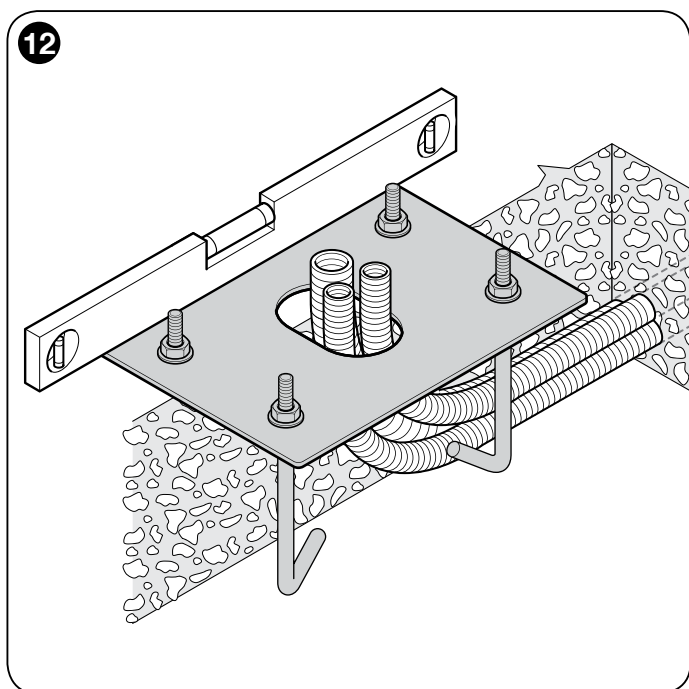
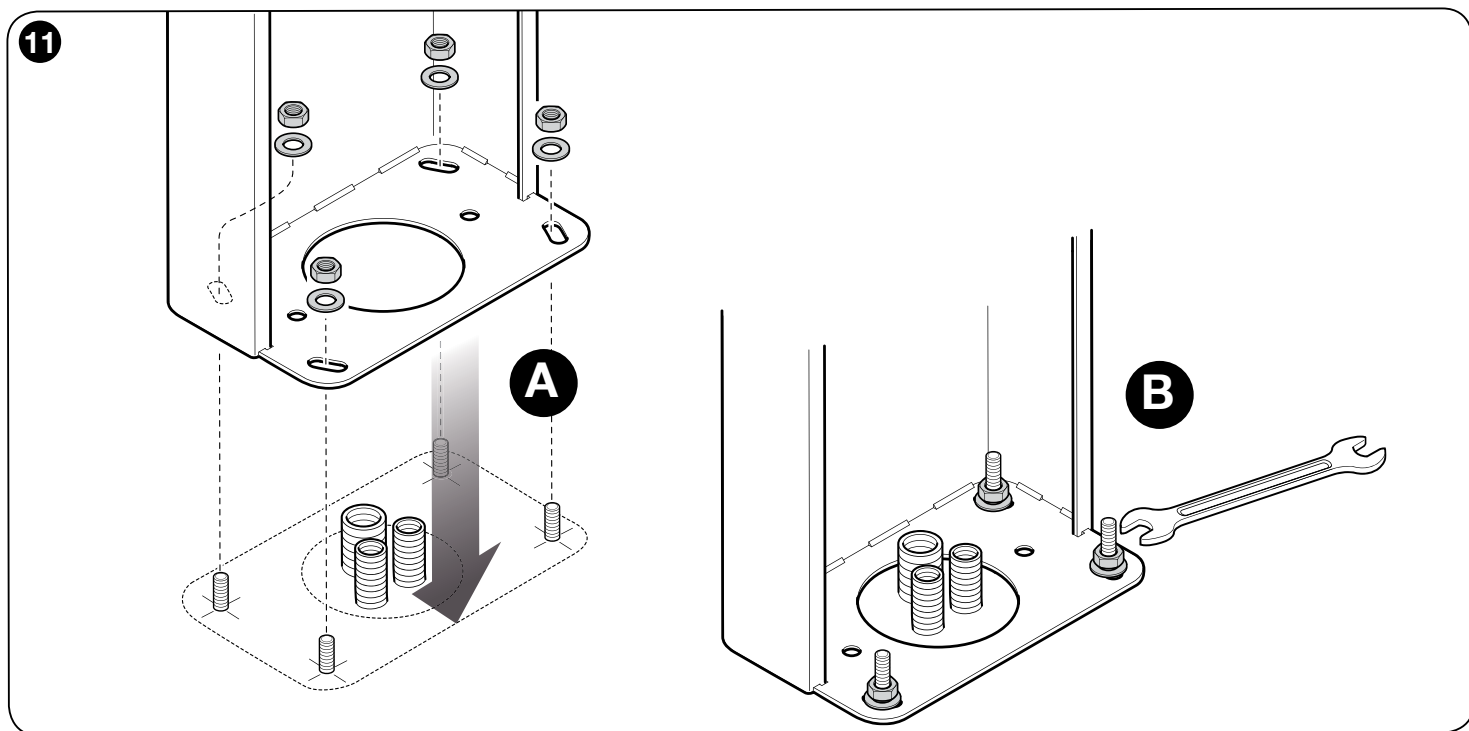
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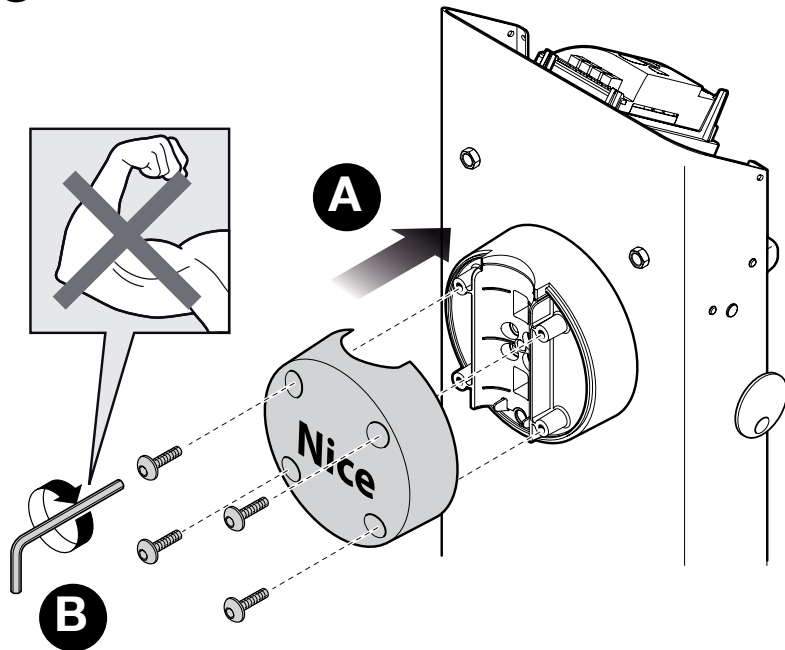




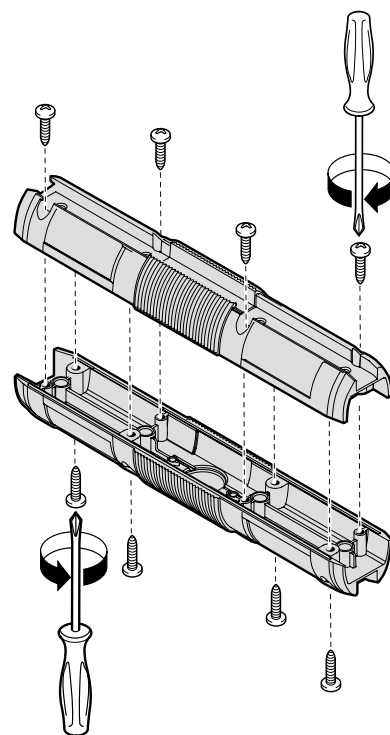




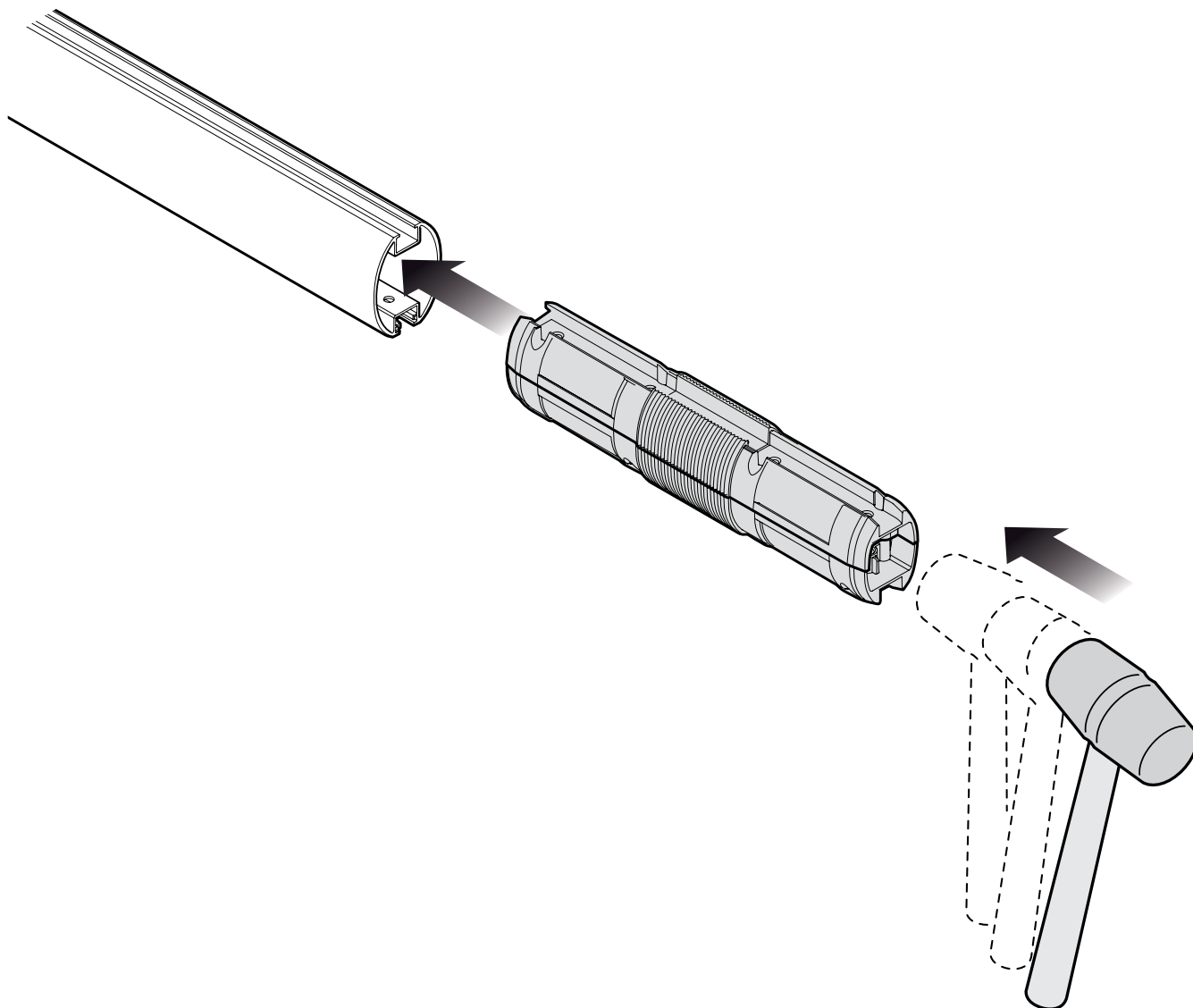
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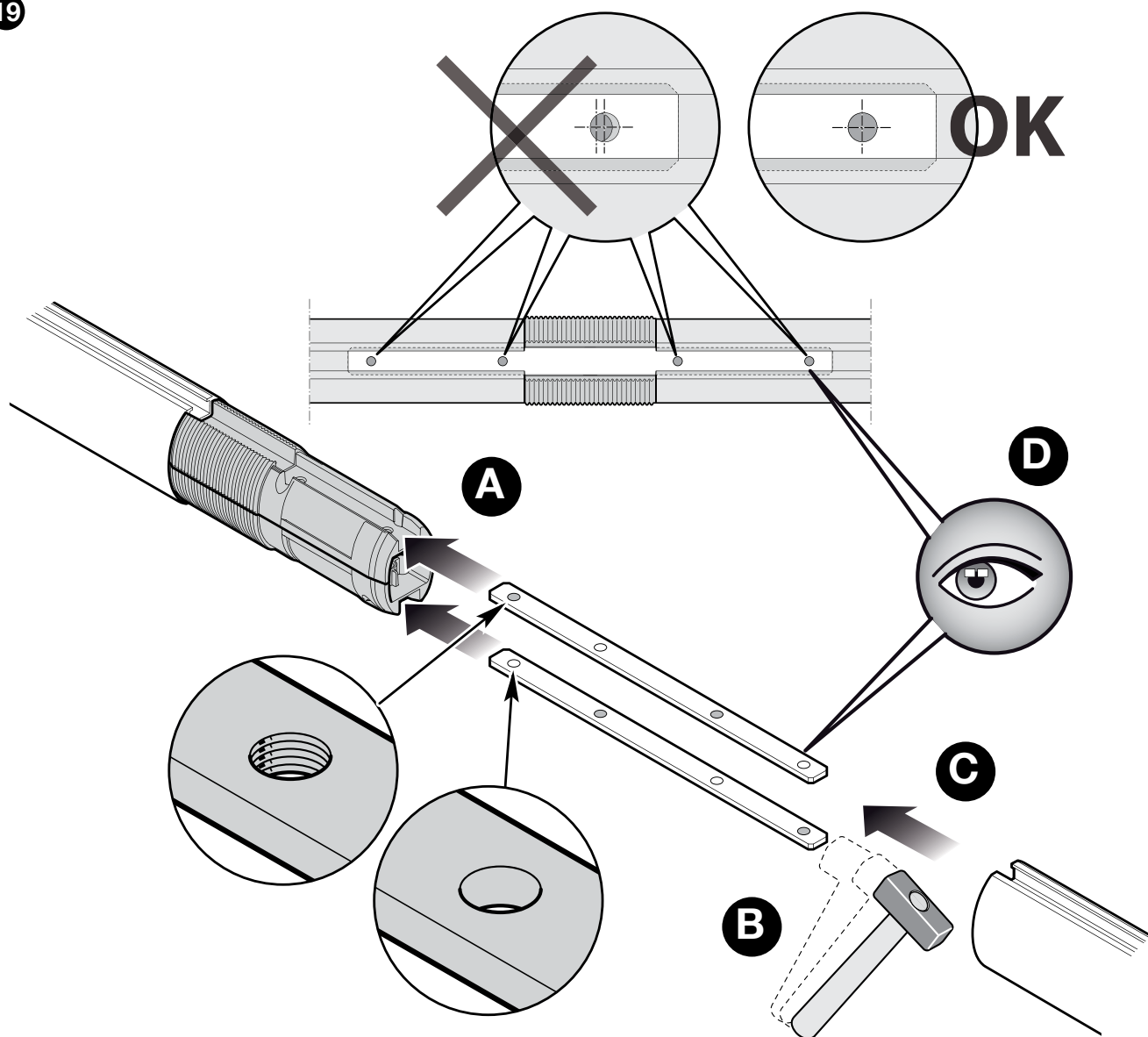
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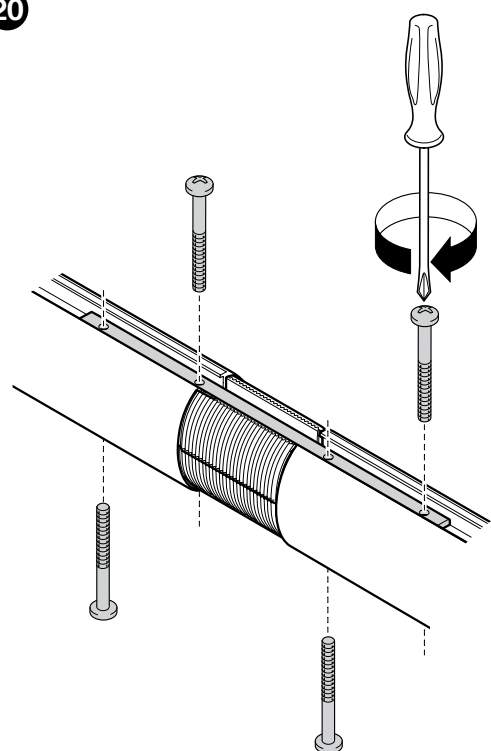
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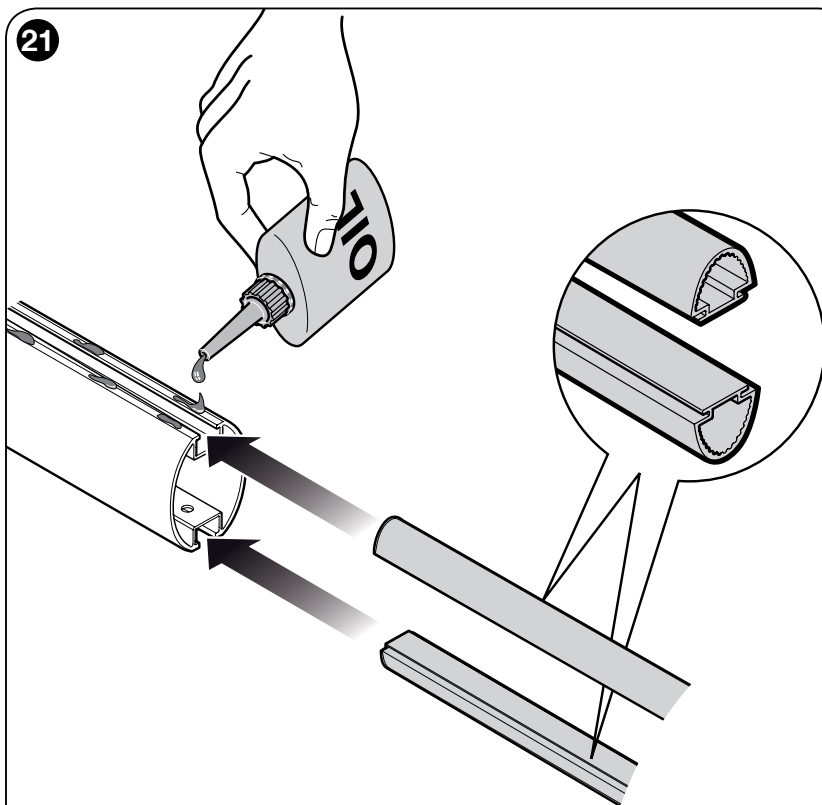
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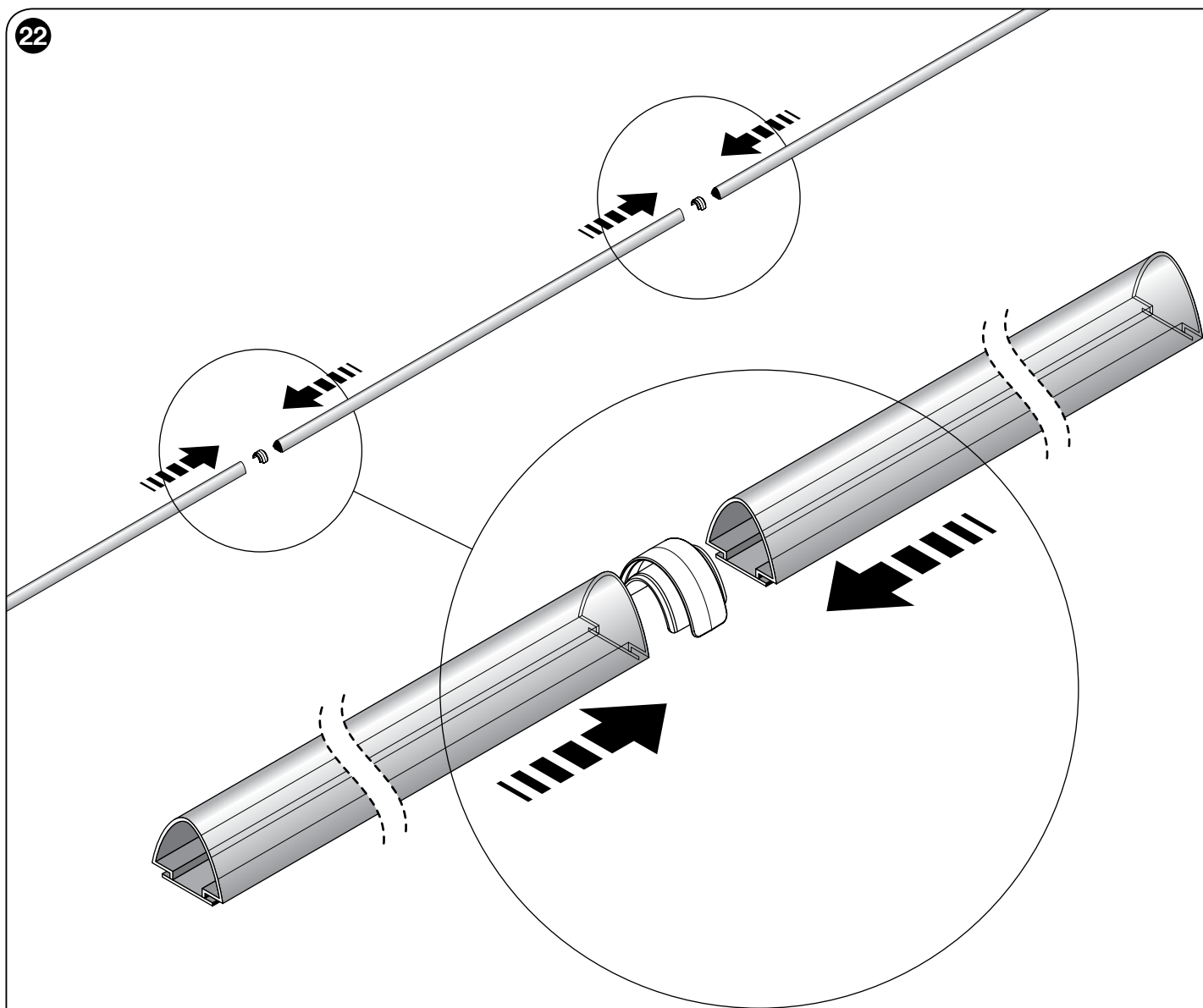
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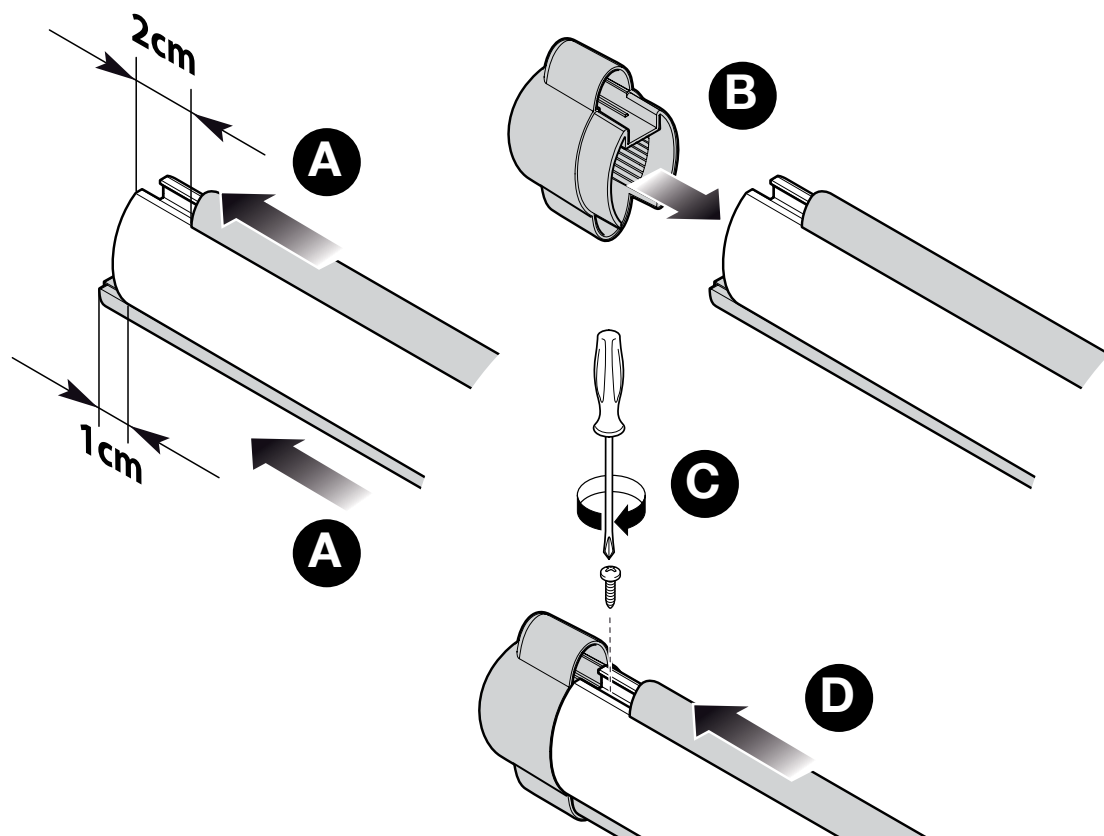
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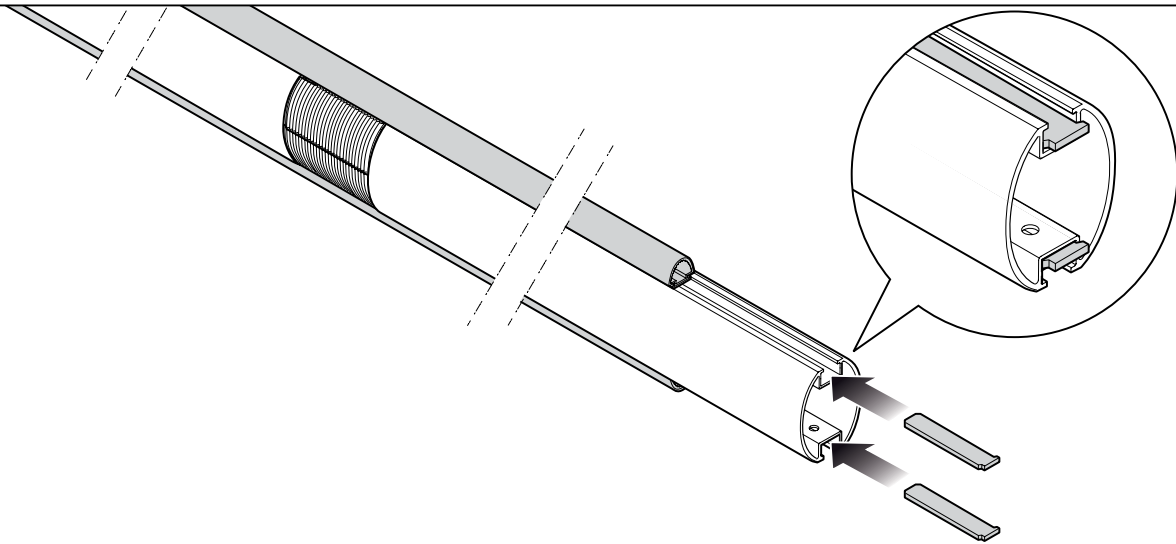
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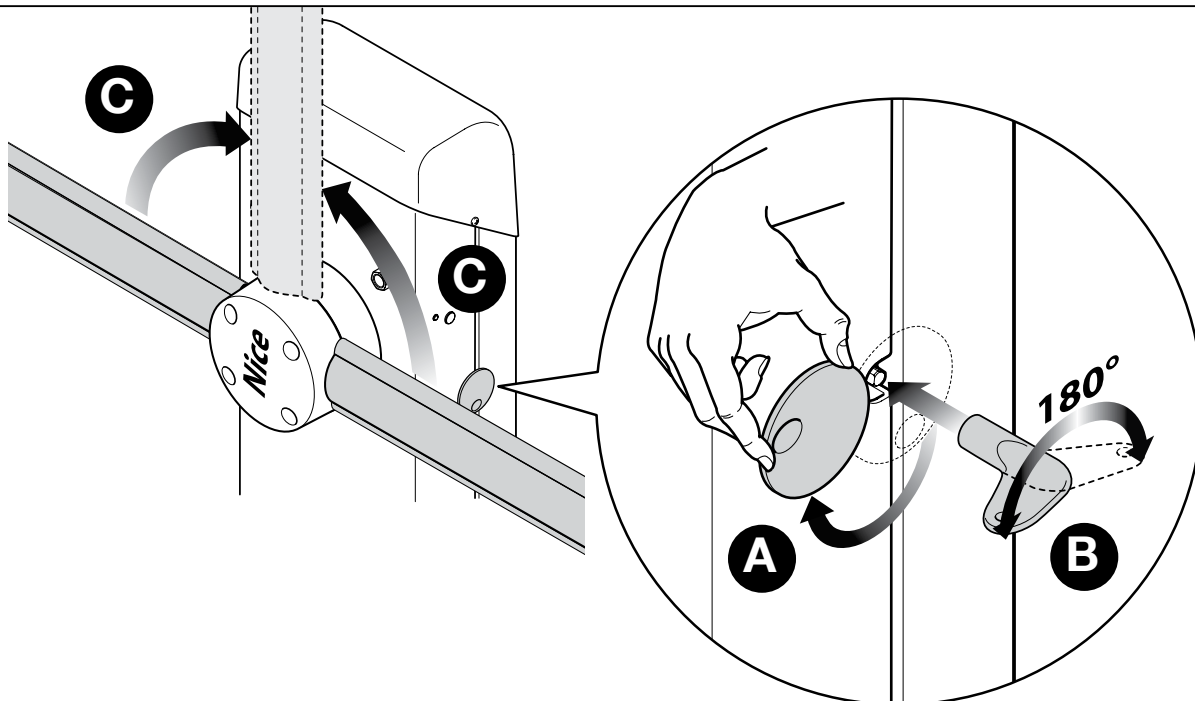
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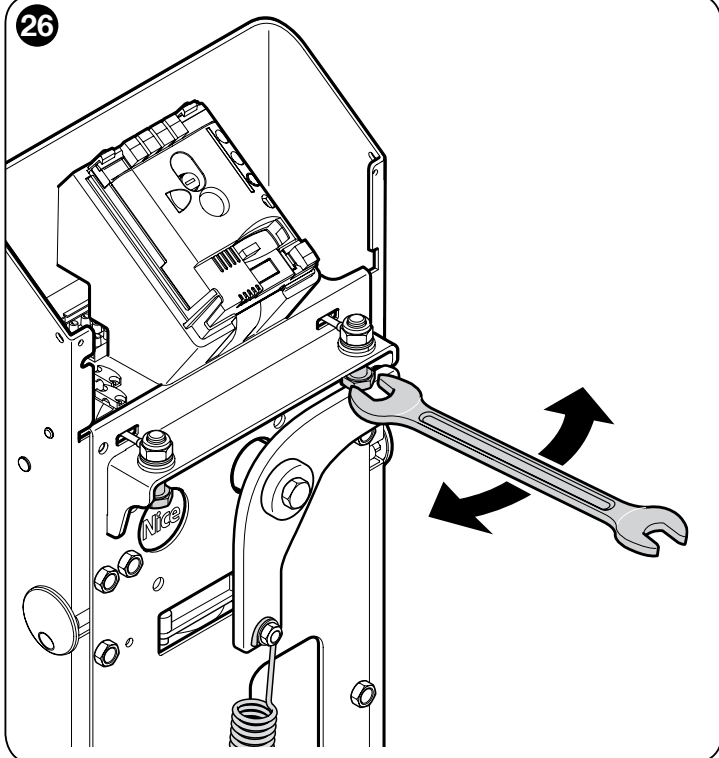
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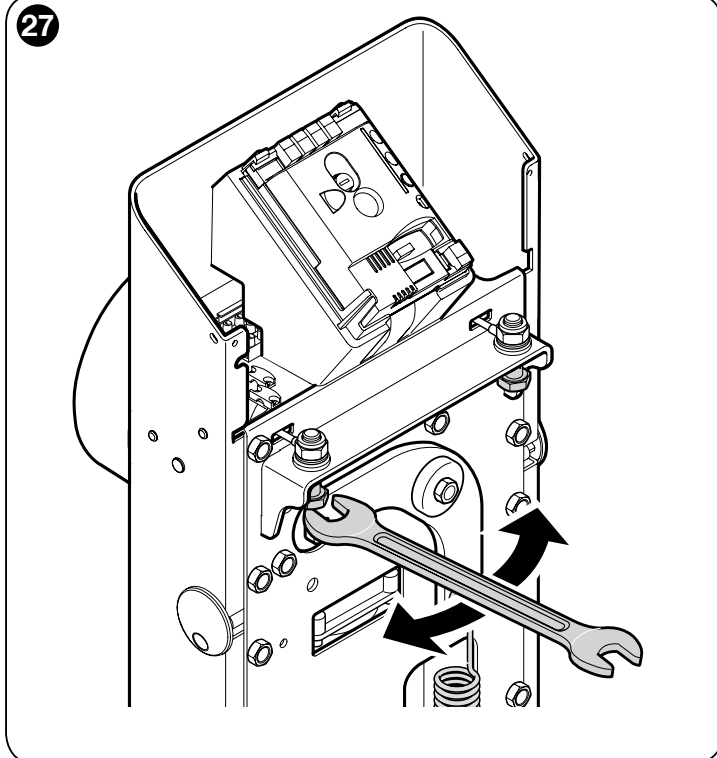
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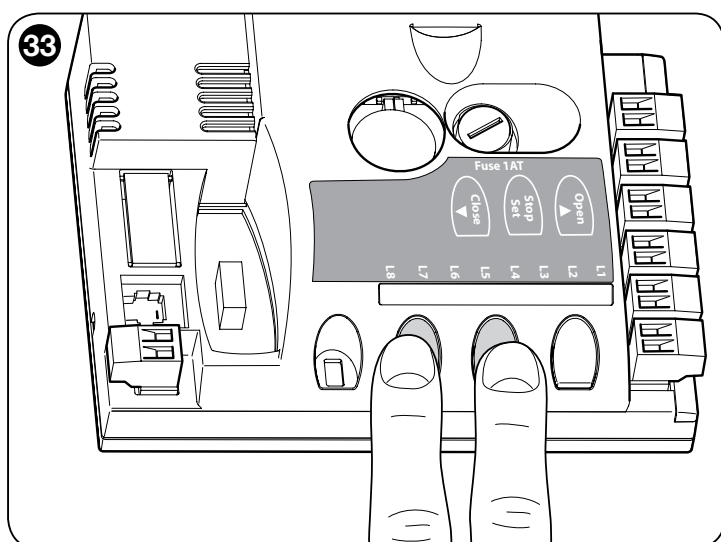
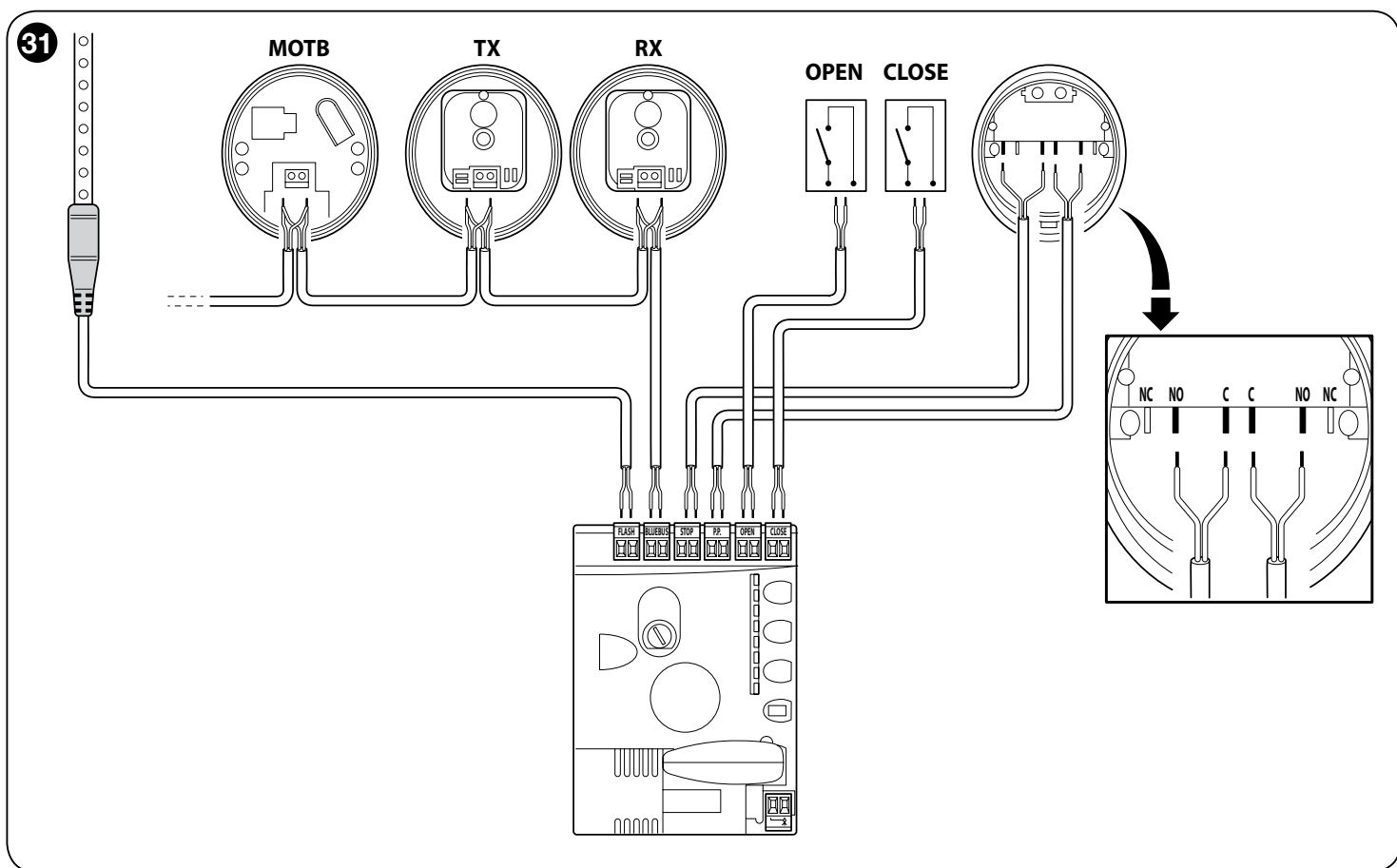
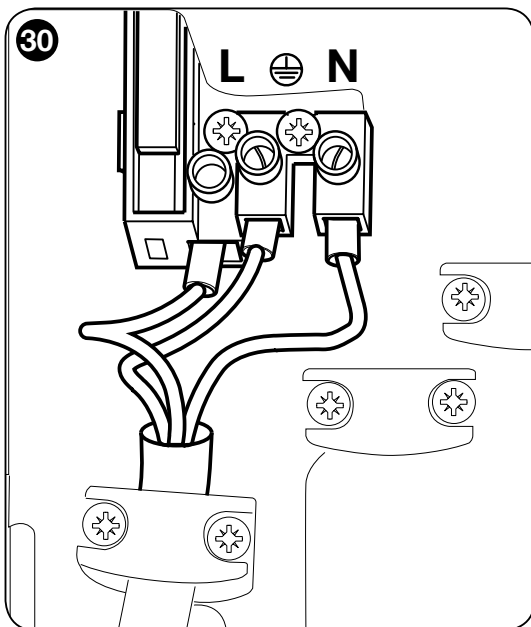
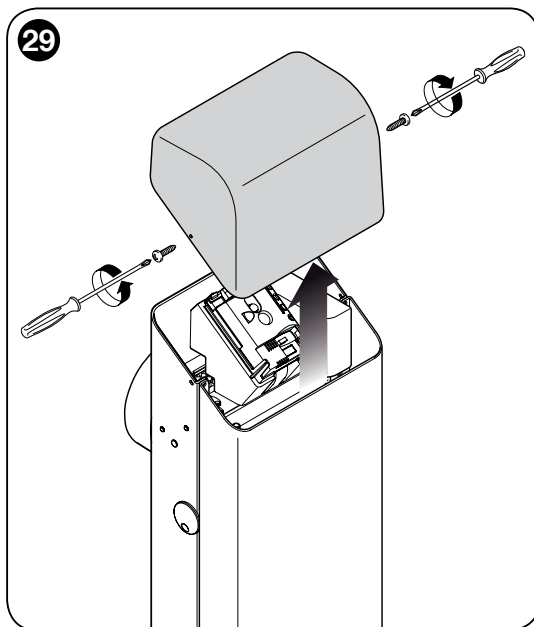
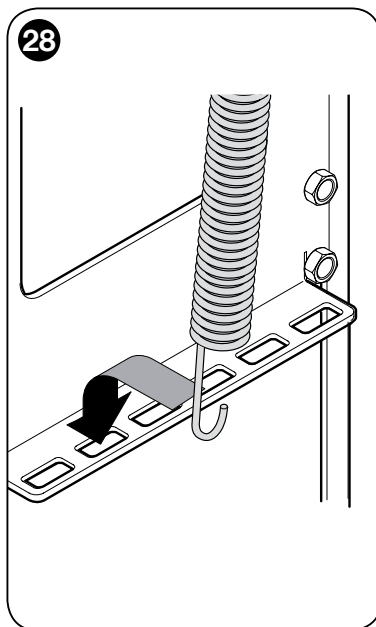


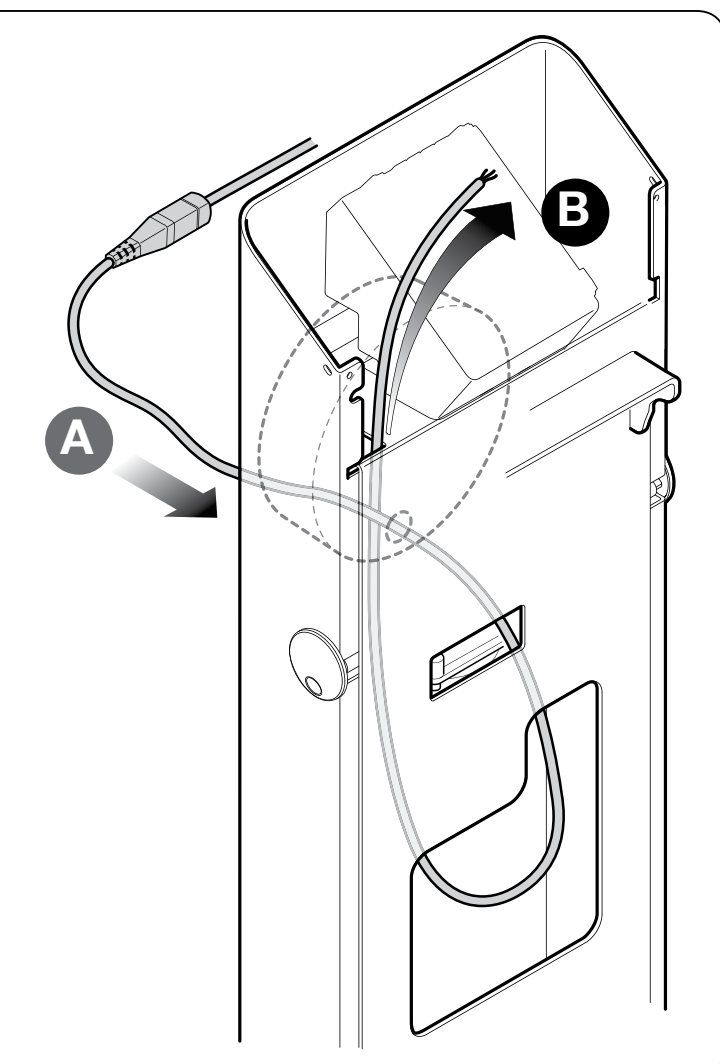
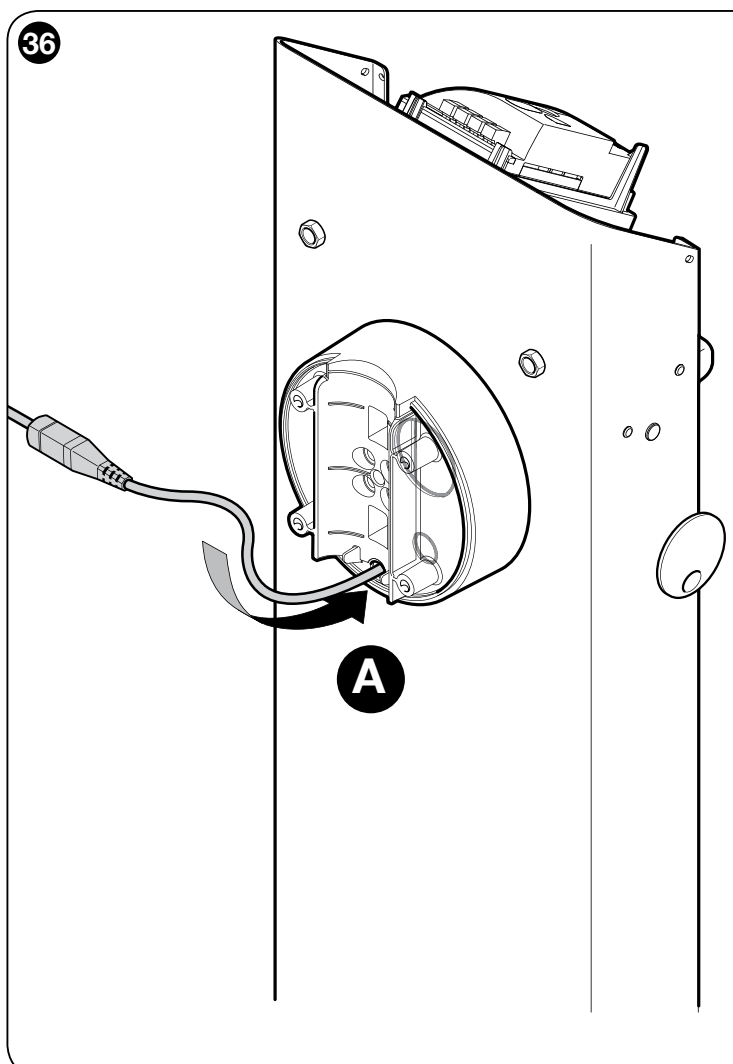
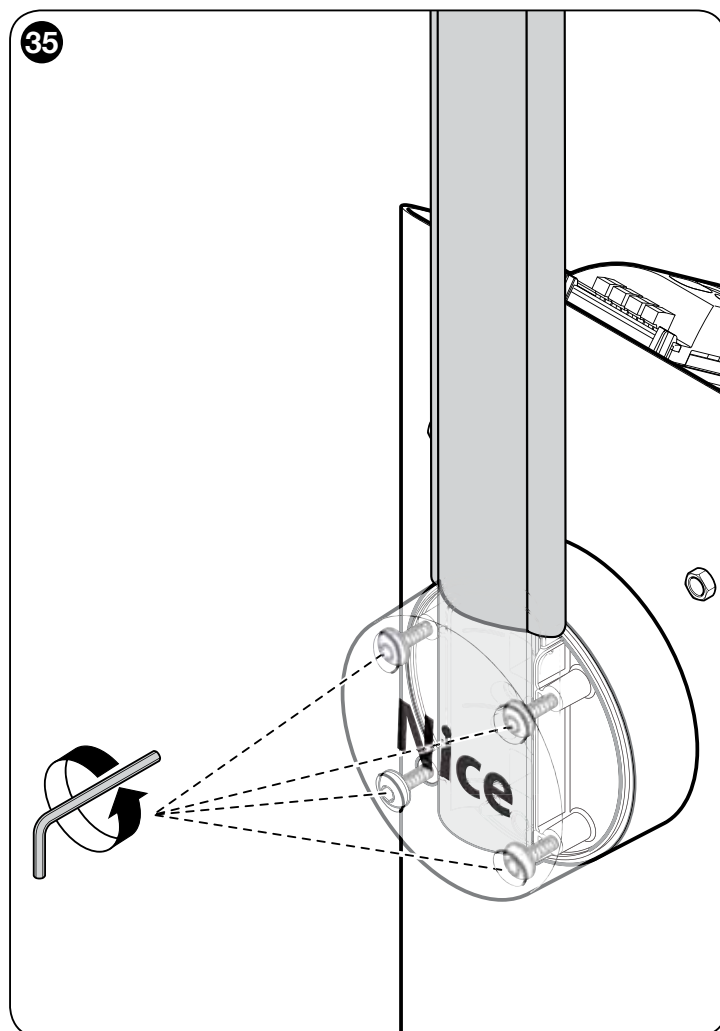
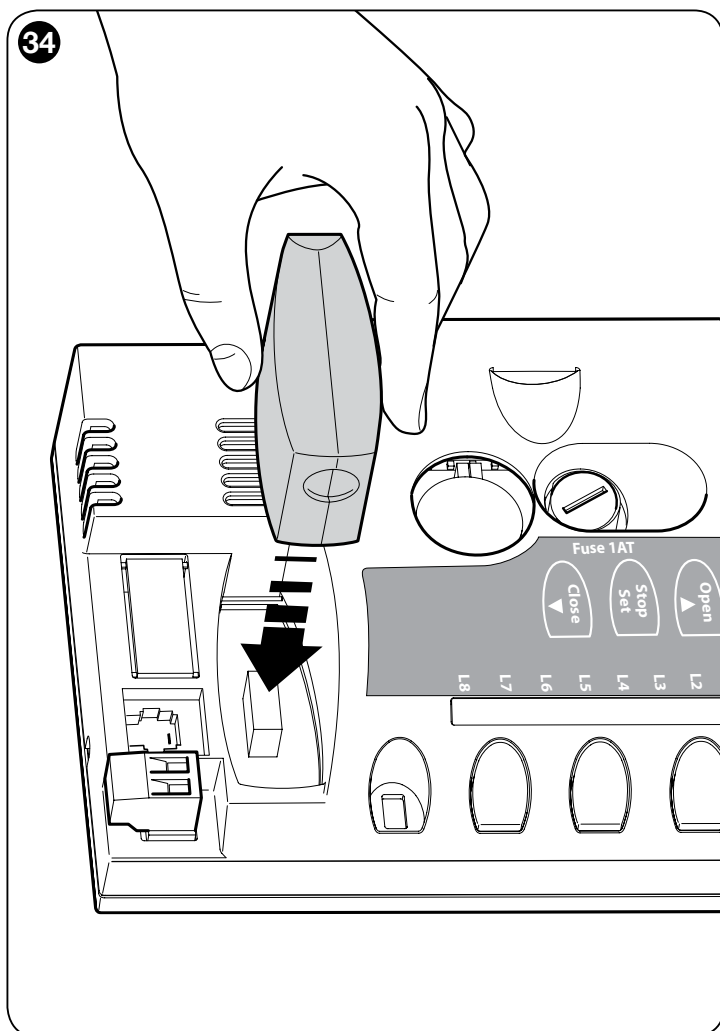
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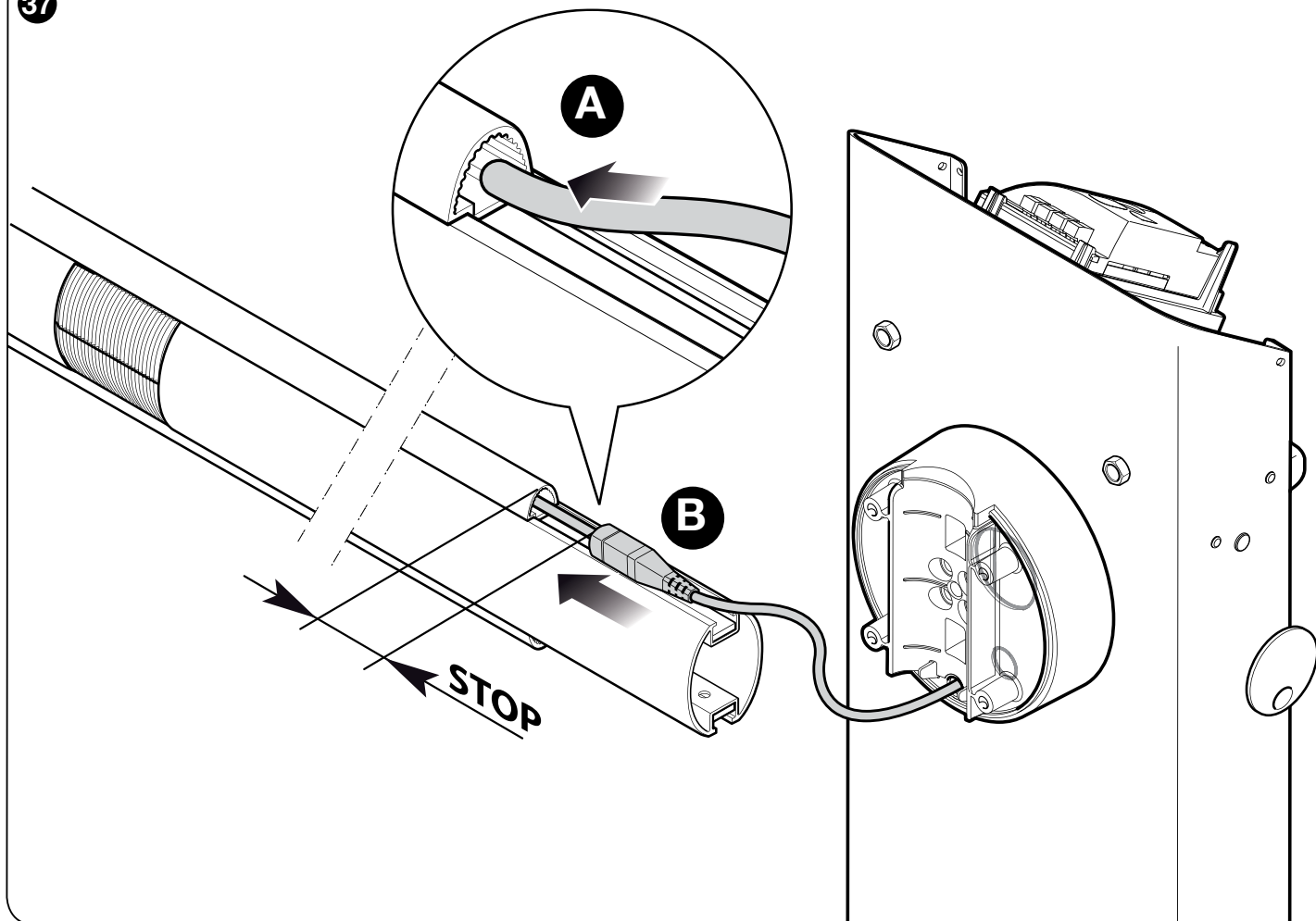
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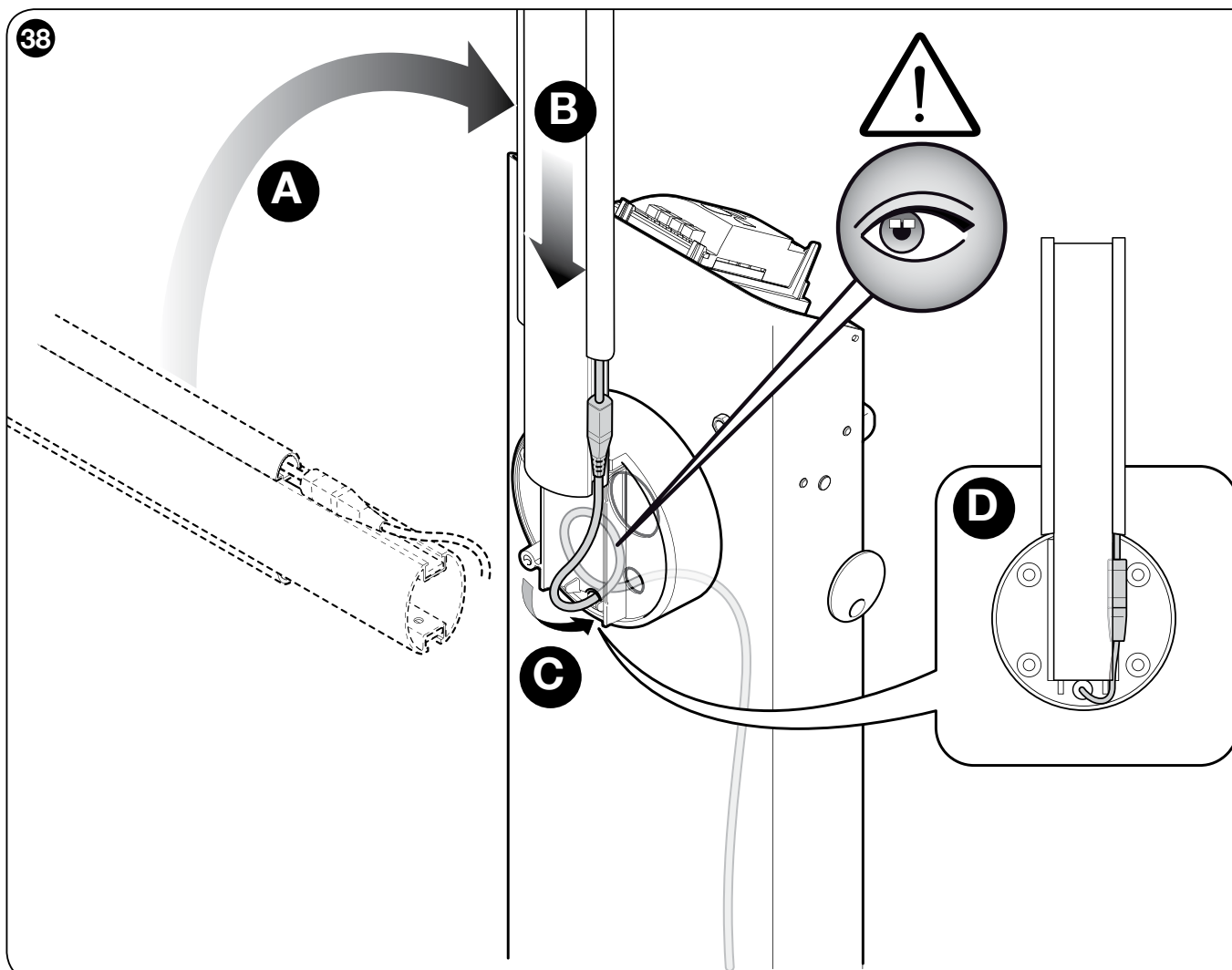




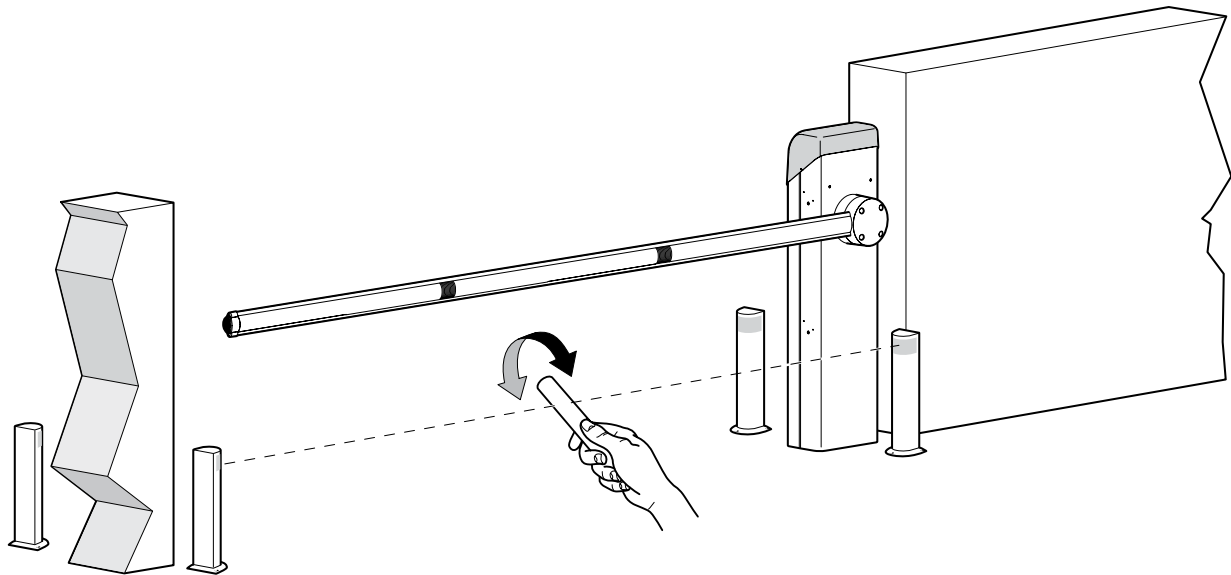
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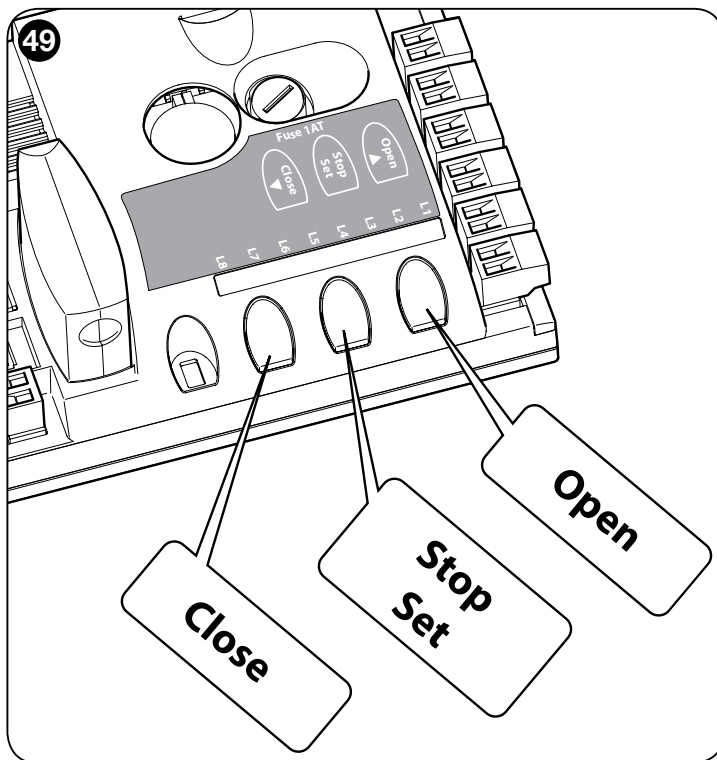
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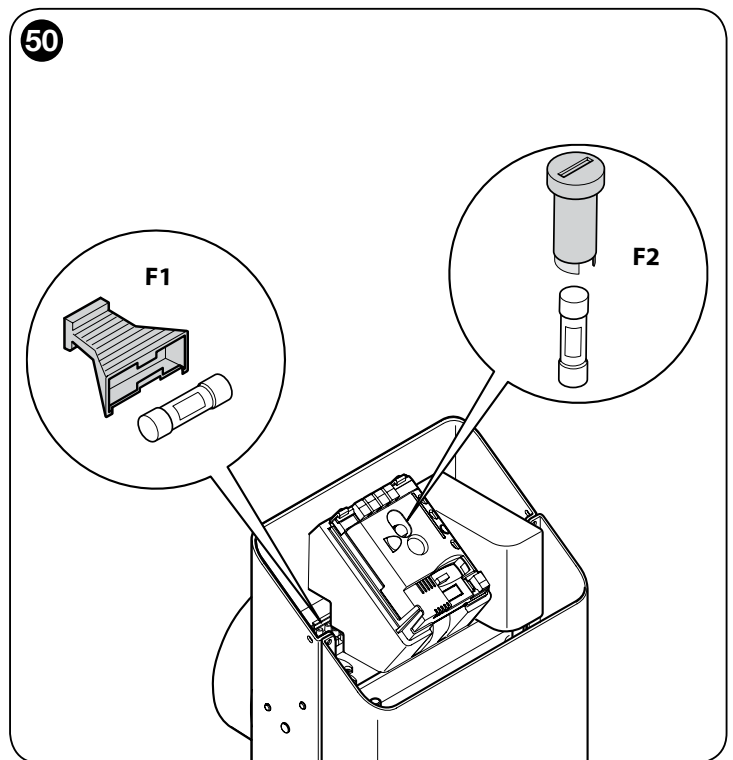
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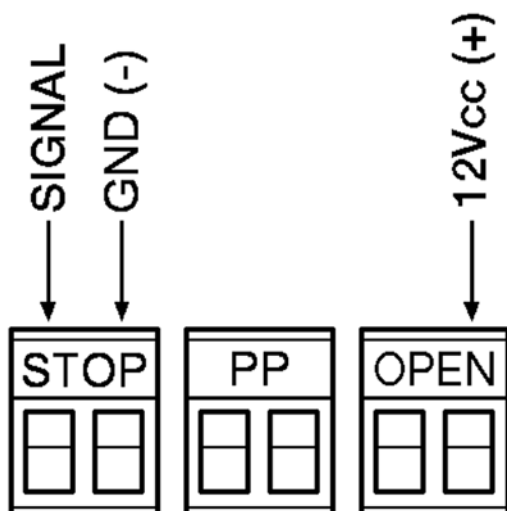
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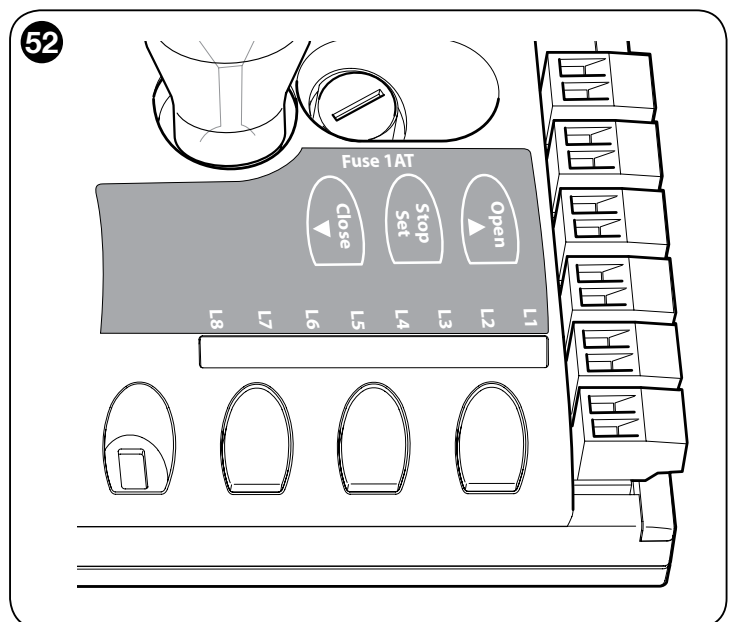
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1 WARNINGS AND GENERAL PRECAUTIONS

1.1 - Safety instructions

• **CAUTION! – This manual contains important instructions and warnings for personal safety.** Incorrect installation could cause serious physical injury. We recommend that you read this entire manual with care before starting any work. If in doubt, do not install the product and contact the Nice technical assistance department.

• **CAUTION! – Important instructions: keep this manual in a safe place to enable future product maintenance and disposal operations.**

1.2 - Installation warnings

• Before commencing installation, check that the product is suitable for the intended kind of use (see paragraph 3.1 and 3.2). If not suitable, do NOT proceed with installation.

• The contents of this manual refer to a standard system such as that shown in **fig. 1**.

Considering the risk situations that may arise during installation phases and use of the product, the automation must be installed in observance of the following warnings.

- On the power line to the system, install a device for disconnection from the power mains with a gap between contacts that assures complete disconnection in the conditions of overvoltage category III.

- All product installation and maintenance operations must be performed with the automation disconnected from the power mains. If the power disconnect device is not visible from the location of the automation, before starting working, a suitable notice must be affixed on the power disconnect device stating "WARNING! MAINTENANCE IN PROGRESS".

- Connect the product to an electric power line equipped with an earthing system.

- During installation, handle the automation with care to avoid crushing, impact, dropping or contact with liquids of any type. Never place the product near sources of heat or expose to naked flames. This may damage product components and cause malfunctions, fire or hazardous situations. If this occurs, suspend installation immediately and contact the Nice Service Centre.

- Never make modifications to any part of the product. Operations other than as specified can only cause malfunctions. The manufacturer declines all liability for damage caused by makeshift modifications to the product.

- This product is not designed to be used by persons (including children) whose physical, sensorial or mental capacities are reduced, or with lack of experience or skill, unless suitable instructions regarding use of the product have been provided by a person responsible for safety.

- The product may not be considered an efficient system of protection against intrusion. If an efficient protection system is required, the automation must be integrated with other safety devices.

- Do not allow children to play with fixed control devices. Keep remote control devices out of reach of children.

- X-Bar cannot be used before the commissioning procedure as specified in chapter 5 "Testing and commissioning".

- The product's packaging materials must be disposed of in full compliance with local regulations.

1.3 - Special warnings related to European Directives applicable to the product

• "Construction Products" Directive:

Special warnings related to 89/106/EEC "Construction Products" Directive and subsequent modification 98/38/EEC applicable to the product:

- Complete installation of this product, as described in this instruction manual and for certain types of use (for example excluding exclusive use for vehicles) may class it in the field of application of the Directive "Construction Products" 89/106/EEC and relative harmonised standard EN 13241-1.

- Paragraph 1.3.1 specifies all installation criteria required to ensure that the product complies with the essential requirements of the directive 89/106/EEC; the installer should check and ensure that all these criteria are strictly observed.

- Failure to observe one or more of these criteria may mean that the X-Bar product may not meet all the essential requirements. **Use of the product in these situations is strictly prohibited until all the directive requirements are met; in this case, the label "ES13241-1.4870" applied on the product must be removed and the "EC declaration of Conformity" in appendix I of this manual may not be used.** As a consequence, the installer in turn becomes the manufacturer of the "automatic barrier", and must therefore observe all requirements of the Directive "Construction Products" 89/106/EEC and relative harmonised standard EN 13241-1. In this case X-Bar must be considered as a "machine component" and the "Declaration of conformity" in appendix II may be used (for insertion in the technical documentation).

• "Machinery Directive":

- Paragraph 1.3.1 specifies all installation criteria required to ensure that the product complies with the essential requirements of the "Machinery directive" 2006/42/EC (ex 98/37/EC). The installer should check and ensure that all these criteria are strictly observed.

- Failure to observe one or more of these criteria during installation or use

may mean that the X-Bar product may not meet all the essential requirements. **Use of the product in these situations is strictly prohibited until all the directive requirements are met: the “EC declaration of Conformity” in appendix I of this manual may not be used.** As a consequence, the installer in turn becomes the manufacturer of the “automatic barrier”, and must therefore observe all requirements of the Machinery Directive 2006/42/EC. The manufacturer must complete a risk assessment, which also includes the list of essential safety requirements as stated in “appendix I of the Machinery Directive”, specifying the relative solutions adopted. Note that the risk assessment is one of the documents that constitutes the automation “technical documentation”. This must be compiled by a professional installer with the possibility of using the “Declaration of Conformity” in appendix II to be compiled by the installer of X-Bar.

Special warnings regarding suitability of this product in relation to the “Machinery” Directive 2006/42/EC; to be taken into consideration when the installer becomes the manufacturer of the product. X-Bar is issued onto the market as a “quasi machine” and therefore constructed for incorporation in a machine or to be assembled with other machinery to produce a single “machine” in accordance with the Directive 2006/42/EC only in conjunction with the other components and in the ways as described in this instruction manual. As established in directive 2006/42/EC, this product may not be started up until the manufacturer of the machine, in which this product is incorporated, has not identified and declared as compliant with the directive 2006/42/EC.

• “Low Voltage” Directive:

Particular warnings concerning the suitable use of this product in relation to the 2006/95/EEC “Low Voltage” Directive:

This product meets the requirements of the “Low Voltage” Directive if used as specified in the configurations as envisaged in this instruction manual and in combination with the articles listed in the product catalogue of Nice S.p.a.

These requirements may not be guaranteed if the product is used in configurations or with other products that have not been foreseen; the use of the product is prohibited in these situations until the correspondence to the requirements foreseen by the directive have been verified by those performing the installation.

• “Electromagnetic compatibility” Directive:

Particular warnings concerning the suitable use of this product in relation to the 2004/108/EEC “Electromagnetic Compatibility” 2004/10/EEC:

This product has been subjected to tests regarding the electromagnetic compatibility in the most critical of use conditions, in the configurations foreseen in this instructions manual and in combination with articles present in the Nice S.p.a. product catalogue

The electromagnetic compatibility may not be guaranteed if the product is used in configurations or with other products that have not been foreseen; the use of the product is prohibited in these situations until the correspondence to the requirements foreseen by the directive have been verified by those performing the installation.

1.3.1 - Installation criteria and special warnings related to essential requirements

This product, if correctly installed, complies with the essential requirements as envisaged by the European Directive on “Construction Products” 89/106/EEC according to the provisions of harmonised standard EN 13241-1, as specified in **Table A**; and by the European Directive on “Machinery” 2006/42/EC.

Caution! – If X-Bar is intended for exclusively vehicle transit, it would be excluded from the field of application of EN 13241-1; in this case, compliance with some of the requirements stated in Table A may not be compulsory. Transit may be considered “exclusively vehicle” when there is an express prohibition for other types (for example pedestrians), such as by using adequate signs and,

if other types are required, there is adequate space in the immediate vicinity.

• Release of hazardous substances:

The product does not contain and/or release hazardous substances in conformity with the provisions of the standard EN 13241-1, point 4.2.9 and according to the list of substances stated in the web site of the European Community *: [http:// europa.eu.int/comm/enterprise/construction/internal/dangsub/dangmain_en.htm](http://europa.eu.int/comm/enterprise/construction/internal/dangsub/dangmain_en.htm)

(*) Last update: 17/03/2003

Special warning to guarantee compliance with the requirement – It is essential that also all other materials used in installation, such as electric cables, comply with this requirement

• Resistance to wind load:

Table B specifies resistance of the pole supplied to the differential pressure of the wind. The tests were performed with the pole fitted with the impact protection profile; other accessories may increase the exposed surface and thus reduce the resistance to wind load.

• Safe opening for vertically moving doors:

The product does not cause uncontrolled movements or dropping of the pole in the event of a fault on a single component of the suspension or balancing (spring) system.

Special warnings to guarantee compliance with the requirements:

- Perform installation in strict observance of all instructions in chapters “3 - Installation” and “5 - Testing and Commissioning”
- Ensure that a maintenance schedule is drawn up (for example, by using a “Maintenance indicator” connected to the FLASH output associated with the relative function - see Table 7); in which, all instructions in the chapter “Maintenance Schedule” must be strictly followed.

• Mechanical strength and stability of the product:

The product is designed and constructed to ensure that, during normal use, all forces applied, impact and normal wear will not damage or impair mechanical performance.

Caution: See specifications for the requirement “Safe opening for vertically moving doors”.

• Manoeuvring forces for power-operated doors/gates:

The operating forces applied by the pole in relation to the risks of crushing and impact are protected by means of one of the three following methods:

1 For operation with “hold-to-run” controls: as specified in EN 12453:2000, point 5.1.1.4. In this case the control button must be located in sight of the automation, and if accessible by the public, the control must not be available to the latter, for example protected by means of a key-operated selector switch.

2 For “semi-automatic” operating mode: by force limitation as specified in EN 12453:2000, points 5.1.1.5 and 5.1.3.3.

3 For “automatic” operating mode: by force limitation as specified in EN 12453:2000, points 5.1.1.5 and 5.1.3; in this case installation is compulsory of at least one pair of photocells as shown in **fig. 1**.

Specific warnings for “semi-automatic” and “automatic” operating modes: the type tests for checking efficiency of force limitation were performed with the Force setting at the maximum level (Force = 8) and Speed setting at the maximum value (Speed = 5 (100%); with the pole assembled as per the instructions and fitted with the “impact protection profile” above and below the pole and with the accessory “indicator lights” XBA4 inserted on the upper impact protection profile.

Special warning to guarantee compliance with the requirement: See specifications for the requirement “Safe opening for vertically moving doors”.

TABLE A - Essential requirements for CE marking (according to prospect ZA.1 of standard EN 13241-1)

Essential requirements	Point of standard	Result
Resistance to water	4.4.2	NPD*
Release of hazardous substances	4.2.9	Compliant
Resistance to wind load	4.4.3	Compliant
Heat resistance	4.4.5	NPD*
Permeability to air	4.4.6	NPD*
Safe opening for vertically moving doors	4.2.8	Compliant
Definition of the geometry of glass components	4.2.5	NPD*
Mechanical strength and stability	4.2.3	Compliant
Manoeuvring forces for power-operated doors/gates	4.3.3	Compliant
Durability of resistance to water, heat resistance and permeability to air	4.4.7	NPD*

* NPD = No Performance declared, when the product does not offer this performance, for example “Permeability to air”, or when the requirement is not applicable, such as “Definition of the geometry of glass components”.

TABLE B

Pole type	Class to EN 12424	Maximum wind speed	Type of phenomena according to the Beaufort scale
Pole supplied, assembled as per instructions	5 (> 1000 Pa)	389 m/s (108 km/h)	Storm

2 PRODUCT DESCRIPTION AND INTENDED USE

X-Bar is an electromechanical road barrier for residential use; it controls opening and closing of a road transit point with widths up to 3 metres.

CAUTION! – Any uses other than those specified herein or in environmental conditions other than as stated in this manual are to be considered improper and are strictly prohibited!

X-Bar is an electromechanical gearmotor with a 24 V motor, with incorporated flashing light signal and electric limit switch system. The control unit is set up for connected to devices belonging to the Nice Opera system and connection to the solar power system "Solemyo" (see paragraph 4.9.3).

X-Bar runs on electric energy and in the event of a power failure the pole can be released and moved manually. Alternatively the buffer battery model PS124 can be used (optional accessory - see paragraph 4.9.2), which guarantees a number of automation manoeuvres in the first few hours of power failure. To prolong this period or extend the number of manoeuvres, the Stand by function should be enabled (see table 6).

X-Bar is also designed for installation of the pole lights, mod. XBA4 (accessory - see paragraph 4.8).

3 INSTALLATION

3.1 - Preliminary checks for installation

Before proceeding with installation, check the condition of the product components, suitability of the selected model and conditions of the intended installation environment.

- Ensure that all material used is in perfect condition and suitable for use.
- Ensure that all product application limits can be observed (see paragraph 3.2).
- Ensure that the selected installation environment is compatible with the overall dimensions of the product (**fig. 2**).
- Ensure that the selected surfaces for barrier installation are solid and guarantee a stable fixture.
- Make sure that the fixing zone is not subject to flooding. If necessary, mount the barrier raised from the ground.
- Ensure that the space around the barrier enables easy and safe completion of manual manoeuvres.
- Ensure that there are no obstacles along the pole trajectory which prevent the opening and closing manoeuvres.
- Ensure that each device to be installed is in a sheltered location and protected against the risk of accidental impact.

3.2 - Product application limit

Before installing the product, ensure that all values specified in the chapter "Technical product specifications" and maximum cycle frequency as stated in **Table 1** are compatible with the intended use.

- Ensure that the estimated durability (see paragraph 3.2.1) is compatible with the intended use.
- Ensure that all limits, conditions and warnings in this manual can be observed.

TABLE 1			
Product Type	Maximum speed	Maximum work cycles per hour	Maximum consecutive work cycles
X-Bar with pole, without accessory	V5	100	50
X-Bar with pole and lights mod. XBA4	V4	80	40

3.2.1 - Product durability

The lifetime is the average economic duration of the product. The value of lifetime is strongly influenced by the intensity of the manoeuvres, i.e. the sum of all factors that contribute to product wear (see **Table 2**).

To estimate the lifetime of your automation, proceed as follows:

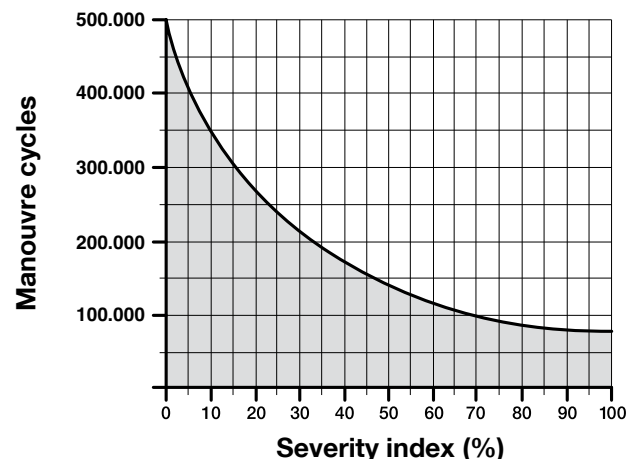
01. Add the values of the items in **Table 2** regarding the system conditions;
02. In **Graph 1** from the value obtained above, trace vertical line until it intersects the curve; from this point trace a horizontal line until it intersects the line of the "manoeuvre cycles". The obtained value is the estimated lifetime of your product.

The lifetime values specified in the graph are only obtainable if the maintenance schedule is strictly observed (see chapter "Maintenance schedule"). The estimation of lifetime is made on the basis of design calculations and the results of tests performed on prototypes. As it is only an estimation, it does not represent any form of guarantee on the effective lifetime of the product.

TABLE 2

	Severity Index
Pole with lights mod. XBA4	15 %
Ambient temperature above 40°C or below 0°C	15 %
Presence of dust or sand	10 %
Presence of saline mist	10 %
Interruption of manoeuvre via Foto > 10%	15 %
Interruption of manoeuvre via Alt > 10%	25 %
Force equal to 5 or 6	10 %
Force equal to 7 or 8	10 %
V3 and V4 speed	5 %
Speed V5	20 %

GRAPH 1



Example of calculating lifetime of road barrier X-Bar (refer to Table 2 and Graph 1):

X-Bar with lights XBA4 (severity index of 15%) - Presence of saline mist (severity index of 10%): **Total severity index = 25%**

The estimated durability is approx. 240,000 manoeuvre cycles.

3.3 - Typical system

Fig. 3 shows the components in the product pack:

- [a] - road barrier with built-in control unit
- [b] - pole support
- [c] - impact protection profile (6 parts)
- [d] - pole plug
- [e] - 3 aluminium profiles for pole (1 m each)
- [f] - 4 pole joining brackets
- [g] - 2 pole joining brackets
- [h] - 4 joints for impact protection rubber
- [i] - metal hardware (screws, washers, etc. keys for manual locking and release of the pole)
- [l] - 2 pole joints

Fig. 1 shows an example of an automation system set up with **Nice** components. With reference to the typical standard layout in **fig. 1**, locate the approximate position for installation of each component envisaged in the system.

CAUTION! – In general, position the ends of the ducting used for electrical cables in the vicinity of the points envisaged for fixture of the various components. Note: The ducting serves to protect electric cables and prevent accidental damage, such as in the case of impact.

The barrier is factory set for the closing manoeuvre to the left; in this phase, it is important to decide whether the opening direction of the pole is to be inverted.

If Closure to the right, is required proceed as follows:

01. Loosen the 2 screws fixing the cabinet door **Fig. 4**;
02. Remove the balancing screw, detaching it from the balancing lever (**Fig. 5 - phase A, B, C, D**);
03. Remove the balancing screw support bolt (**Fig. 6 - A**);
04. Release the gear motor (see paragraph 3.6 - **Fig. 6 - B**);
05. Turn the balancing lever through 90° (**Fig. 6 - C** - use a rubber mallet if required);
06. Tighten the balancing screw support bolt fully down (**Fig. 7**);
07. Attach the balancing screw in the correct location (**Fig. 8 - phase A, B**);
08. Lock the gear motor (see paragraph 3.6);
09. On the control unit, activate (ON) the function "**Motor rotation direction**" (see chapter 6 - Table 6).

Prepare the electrical cables needed for your system, referring to **Fig.** and **"Table 3 - Technical characteristics of electrical cables"**.

TABLE 3 - Technical specifications of electrical cables (Fig. 1)

Connection	Cable type	Maximum admissible length
A: Mains POWER SUPPLY cable	cable 3 x 1,5 mm ²	30 m (note 1)
B: Cable for BlueBus devices	cable 2 x 0,5 mm ²	30 m
C: POLE LIGHTS		
D: KEY-OPERATED SELECTOR SWITCH cable	cables 4 x 0,25 mm ²	30 m (note 2)
E: Built-in FLASHING LIGHT		
OPTIONAL FLASHING LIGHT: FLASHING LIGHT with aerial cable	cable 2 x 0,5 mm ² RG58 shielded cable type	30 m 20 m (less than 5 m recommended)

IMPORTANT – To make the connection, programming of the FLASH output must be modified (see paragraph 6.2 - Table 7)

Note 1 – If the power cable is longer than 30 m, a cable with a larger cross-section is required (3 x 2.5 mm²) and safety earthing is necessary in the vicinity of the automation.

Note 2 – If a MOMB transponder badge reader or MOTB digital keypad is used, a 2-wire cable is sufficient (2 x 0,5 mm²).

CAUTION! – The cables used must be suited to the installation environment.

3.4 - Barrier fixture

3.4.1 - If the support surface already exists

[*] The fixing surface must be perfectly smooth and flat. If the surface is in concrete, it must be at least 0.15 m thick, and must be adequately reinforced with steel cages. The concrete volume must be greater than 0.2 m³ (a thickness of 0.25 m corresponds to 0.8 m²; in other words equal to a square base of approx. 0.9 m per side).

Anchoring to the concrete can be by means of 4 expansion bolts, fitted with 12 MA screws, which resist to a traction load of at least 400 kg. If the fixing surface is in another material, the consistency must be checked and ensure that the 4 anchoring points can resist a load of at least 1000 kg. For fixture, use 12 MA screws.

Proceed as follows:

01. Open the barrier cabinet (**Fig. 4**);
02. Place the barrier on the fixing surface and trace the points where the slots are to be fixed (**Fig. 9**);
03. Move the barrier and drill the traced surface points; then insert 4 expansion bolts, not supplied (**Fig. 10**);
04. Position the barrier correctly and secure by means of the relative nuts and washers not supplied (**Fig. 11 - A, B**).

3.4.2 - If the support surface does not exist

01. Dig the foundation pit to house the foundation plate, (optional accessory). For the pit dimensions, refer to the specifications at point [*] of paragraph 3.4.1.
02. Prepare ducting for connection cables;
03. On the foundation plate, fix the 4 bolts, placing a nut on the upper side of each and one on the lower side of the plate. **Caution** – The lower nut must be tightened down to the threaded section;
04. Now cast the concrete, and before it sets, embed the foundation plate, which must be positioned flush with the surface, parallel to the pole and perfectly level (**Fig. 12**). Wait for the concrete to set completely; in general, at least 2 weeks;
05. Remove the 4 upper nuts of the bolts;
06. Open the barrier cabinet (**Fig. 4**);
07. Position the barrier correctly and secure by means of the relative nuts and washers supplied with the foundation plate e moved in point 04 (**Fig. 13 - A, B**).

3.5 - Pole installation

3.5.1 - Pole support assembly

01. Insert the two plugs in the relative seats on the output motor shaft (**Fig. 14 - phase A and B**);
02. Position the support on the output motor shaft, placing it in the “vertical pole” position and tighten the relative screws and washers fully down to secure (**Fig. 15 - phase A and B**);
03. Position the pole cover and partially secure by means of the 4 screws supplied (**Fig. 16 - phase A and B**).

3.5.2 - Pole assembly

01. Assemble the two joints (**Fig. 17**); each joint is made up of 2 half-shells and 8 self-tapping screws;
02. Insert a joint in the first aluminium profile (**Fig. 18** – use a rubber mallet to insert fully);
03. Insert the joint support brackets on both sides of the profile slots (**Fig. 19 - phase A, B, C, D**), ensuring correct alignment of the brackets (use a mallet to facilitate insertion);
04. Repeat the procedure from point 01, to insert the remaining aluminium profiles;
05. Position the holes of the joint support brackets so that they are aligned

with the holes on the profiles;

06. Secure the brackets with screws supplied for each joint (**Fig. 20**).
07. Lightly grease the aluminium guide on both sides (**Fig. 21**).
08. Perform this operation on both ends of the pole: insert the first part of impact protection rubber in the slot, through to the end of the pole; then insert the joint for the impact protection rubber (**Fig. 22**) and repeat with all parts;
09. Position the pole plug (**Fig. 23**);
A) the upper impact protection must be inserted by at least 2 cm; the lower impact protection must protrude by 1 cm;
B) Insert the pole plug;
C) Secure the plug using the relative screw;
D) Push the upper impact protection towards the plug, inserting it by 1 cm into the plug;
10. On the opposite end to that with the plug, insert the pole support plates (**Fig. 24**);
11. Insert the pole assembly in the pole support shell, pushing it up to the end and then tighten the 4 previously inserted support screws fully down.

3.6 - Manually releasing and locking the gearmotor

The gearmotor can be released manually on both sides of the barrier as shown in Fig. 25:

01. Rotate the key cover;
02. Insert the key supplied and turn through 180° both clockwise and anti-clockwise;
03. To lock the gearmotor, rotate the key through a further 180° in the same direction as before.

3.7 - Mechanical stop adjustment

01. Release the gear motor manually (see paragraph 3.6);
02. Manually move the pole through a complete Opening and Closing manoeuvre;
03. Then adjust the mechanical stop screws (**Fig. 26 and 27**) to align the pole vertically and horizontally;
04. Tighten down the nuts.

3.8 - Pole balancing

The pole needs to be balanced to establish the best balance between two factors: the weight of the pole and any accessories and the counterposed force of the balancing spring. The latter individually guarantees balancing of the pole; if this rises or lowers, proceed as described below.

01. Release the gear motor manually (see paragraph 3.6);
02. Manually move the pole to mid-travel (45°) and leave stationary. Then ensure that the pole remains still in position. If the pole tends to lift, reduce the tension of the spring, if the pole tends to drop, increase the tension of the spring. To modify spring tension, see point 04;
03. Repeat point 02 positioning the pole also at approx. 20° and approx. 70°. If the pole remains still in position, this means that balancing is correct; a slight off balance is admissible, but the pole must never move significantly. The off-balance value is only acceptable when the force required to move the pole (measured at right angles to the pole and at 1 m from the rotation axis) on Opening, Closing and in all other positions, does not exceed half the value of the maximum torque (for this product, approx. 5 kg at 1 m).
04. - If the pole is not correctly balanced; to balance move the pole to the maximum opening position.
 - Detach the balancing spring from its seat (**Fig. 28**) and move its anchoring point towards the centre, to reduce spring tension, or outwards to increase spring tension;
05. Lock the gear motor (see paragraph 3.6).

CAUTION! – All electrical connections must be made with the unit disconnected from the mains power supply.

01. Loosen the screws of the cover (Fig. 29);
02. Route the electric cables inside X-Bar, starting from the base towards the control unit and routing them to the left;
03. Connect the wires of the electric power cable to the 3-contact terminal with fuse and secure the cable with the collar (Fig. 30);
04. Connect the other cables as shown in the wiring diagram in Fig. 31.
Note – To facilitate cable connections, the terminals can be removed from their seats.

4.1 - Description of the electrical connections

- **FLASH** = this output is programmable (see Chapter 6, paragraph 6.2 - Level 2 programming - adjustable parameters) to connect one of the following devices:

– **Flashing light**: if programmed as “flashing light” on the “FLASH” output, a NICE flashing light model “LUCY B, MLB or MLBT” with a 12 V 21 W car type lamp. During the manoeuvre it flashes at intervals of 0.5 s lit and 0.5 s off.

– **“pole open indicator” - “activated if the pole is closed” - “activated if pole is open” - “flashing light for pole lights” and “maintenance indicator”**: if programmed with one of these 5 functions on the “FLASH” output, a 24 V indicator (max. 10 W) can be connected for the following signals:

“Pole open indicator” function

Pole closed: Off
Pole opening: Slow flashing light
Pole closing: Quick flash light
Pole open (not closed): lit

“Active if pole closed” function

Pole closed: On
All other cases: Off

“Active if pole open” function

Pole open: On
All other cases: Off

Function “flashing light for pole lights”

The indicator light or pole lights indicate execution of the manoeuvre in progress by flashing constantly at regular intervals (0.5 sec on; 0.5 seconds off)

Function “Maintenance indicator”

- indicator lit on for 2 seconds at the start of the opening manoeuvre = number of manoeuvres less than 80%
- flashing light indicator during execution of the entire manoeuvre = number of manoeuvres between 80 and 100%
- indicator constantly flashing = number of manoeuvres greater than 100%.

– **Suction cup**: a 24V max 10W suction cup can be connected (versions with electromagnet only, without electronic devices). When the pole is closed, the suction cup is activated to lock the pole in place. During the opening and closing manoeuvre it is deactivated.

– **Electric block**: a 24 V max 10 W electric block with latch can be connected (versions with electromagnet only, without electronic devices). During the opening manoeuvre, the electric lock is activated and remains active to free the pole and perform the manoeuvre. In the closing manoeuvre ensure that the electric block re-engages mechanically.

– **Electric lock**: a 24 V max 10 W electric lock with latch can be connected (versions with electromagnet only, without electronic devices). At the start of the opening manoeuvre, the electric lock is activated for a short period to release the pole and complete the manoeuvre. In the closing manoeuvre ensure that the electric lock re-engages mechanically.

- **BLUEBUS** = this terminal enables the connection of compatible devices; all are connected in parallel with just two wires conveying the electric power and communication signals. For further details see Chapter 8.

- **STOP** = input for devices that block or shut down the manoeuvre in progress; by setting the input accordingly, it is possible to connect Normally Closed type contacts, Normally Open contacts, constant resistance or optical devices. For further details see chapter 8.

- **PP** = input for devices control movement in Step-Step mode, enabling the connection of Normally Open contacts.

- **OPEN** = input for devices which control only opening manoeuvre. NO contacts can be connected to this input.

- **CLOSE** = input for devices which control only closing manoeuvre. NO contacts can be connected to this input.

- **AERIAL** = input for connection of the aerial for the radio receiver (the aerial is

incorporated on LUCY B, MBL, MLBT).

- **EDGE LIGHT** = this is a 12 V/21 W indicator light which can be configured in various ways, by means of the Oview programmer. With the factory setting, it performs the flashing light function, flashing at intervals of 0.5 s lit and 0.5 s off. With the edge light, diagnostic flashing is performed.

IMPORTANT! – NEVER CONNECT DEVICES OTHER THAN THOSE SPECIFIED.

4.2 - Initial start-up and electrical connections

CAUTION! – The final connection of the automation to the electrical mains must be made exclusively by a qualified skilled technician, in observance of current local standards.

Connect the control unit to an electric power line equipped with an earthing system. The power supply line must be protected by suitable magneto-thermal and differential switches. Envisage a mains disconnect device, with a contact opening distance that ensures complete disconnection in the conditions of overvoltage category III, or envisage a plug and socket system.

After powering up the control unit, perform the following checks:

- Make sure that the “Bluebus” LED flashes quickly for a few seconds and then regularly with a frequency of about one flash per second.
- If photocells are present, check that the leds on the latter also flash (both on TX and RX elements); the type of flash is not significant as this depends on other factors.
- Check that the device connected to the FLASH output is off (with factory setting).
- Ensure that the light on the control unit is switched off.

If the above conditions are not satisfied, switch off the power supply to the control unit and check the electrical connections previously made.

For more useful information see also chapter “7 Troubleshooting”.

4.3 - Pre-set functions

The control unit is equipped with a series of programmable functions, which are factory set with the most commonly used values. These values can be modified at any time: See chapter 6.

4.4 - Recognition of the connected devices

After the initial power-up, the control unit must be able to recognise the devices connected on the inputs “Bluebus” and “Stop”.

CAUTION! – The learning phase must be performed even if no device is connected to the control unit.

To indicate whether this operation is necessary, leds “L1” and “L2” on the control unit emit a number of flashes.

01. Press and hold down “Open” and “Set” keys at the same time (Fig. 32).
02. Release the keys when LEDs L1 and L2 start flashing quickly (after approx. 3 seconds).
03. Wait a few seconds for the control unit to complete the device learning phase. At the end of this phase, the “Stop” led must be lit and leds “L1” and “L2” must turn off (leds “L3” and “L4” may start flashing to indicate that the positions have not be learnt).

This procedure must be repeated in the case of modifications to the devices connected to the terminals BlueBus and Stop; for example, after connecting a new device to the control unit.

4.5 - Recognition of limit positions on opening and closing

After learning the connected devices, the control unit also has to learn the positions of the mechanical stops. In this phase, the pole travel distance is read, measured from the closing mechanical stop to the opening mechanical stop.

01. Manually release the gearmotor (see chapter 3.6) and manually position the pole at approx. 45° (mid-travel);
02. Lock the gear motor (see paragraph 3.6);
03. Press and hold down “Close” and “Set” keys at the same time (Fig. 33).
04. Release the keys when the manoeuvre starts (after approx. 3 seconds);
05. Wait a few seconds for the control unit to complete the position learning phase: pole closing, opening and closing.
06. Press “Open” for the pole to run a complete Opening manoeuvre.
07. Press “Close” for the pole to run a complete Closing manoeuvre.

During these manoeuvres, the control unit memorises the force required to complete these manoeuvres.

CAUTION! – The learning phases must never be interrupted. If this occurs, the entire learning procedure must be repeated.

At the end of the learning phase, if leds “L3” and “L4” flash, this means that there is an error. The phase for learning the mechanical stops can be repeated at any time, also after installation (for example, if the position of a mechanical stop is moved).

IMPORTANT – The deceleration points are calculated automatically by the control unit; after the position search phase, at least 2 or 3 complete manoeuvres must be performed before that control unit can correctly calculate the points of deceleration.

4.6 - Pole movement check

After learning the devices and completing the 2-3 manoeuvres to calculate deceleration, a number of Opening and Closing manoeuvres should be performed to ensure correct pole movement.

01. Press “Open” to activate an Opening manoeuvre; ensure that the pole starts to decelerate before reaching the opening position;
02. Press “Close” to activate a Closing manoeuvre; ensure that the pole starts to decelerate before reaching the closing position;
03. Make sure that the light on the control unit flashes at regular intervals (0.5 sec on, 0.5 sec off) during a manoeuvre.
04. Run a number of Opening and Closing manoeuvres to ensure that there are no points of increased friction or malfunctions.

CAUTION – If the manoeuvre starts from a position different from that of one of the mechanical stops (opening or closing), it is performed at low speed.

4.7 - Connecting a radio receiver

The control unit is fitted with a SM type connector for connection of a radio receiver (optional accessory) model SMXI, SMXIS, OXI or OXIT and similar. To insert the radio receiver, disconnect the control unit from the power mains and insert the receiver as shown in **fig. 34**.

Table 4 shows the actions performed by the control unit according to the outputs activated or the commands sent from the radio receiver.

TABLE 4	
SMXI, SMXIS Receiver	
output	description
Output no. 1	Step by step
Output no. 2	Partial Open (opens to approx. 45%; value programmable with Oview, see paragraph 4.9.1)
Output no. 3	Open
Output no. 4	Close
OXI receiver, OXIT programmed in “Extended Mode II”	
Command	description
Command no. 1	Step by step
Command no. 2	Partial Open (opens to approx. 45%; value programmable with Oview, see paragraph 4.9.1)
Command no. 3	Open
Command no. 4	Close
Command no. 5	Stop
Command no. 6	Apartment block Step by Step
Command no. 7	Step-Step High priority (controls also if automation is blocked)
Command no. 8	Unblock + Open
Command no. 9	Unblock + Close
Command no. 10	Open and block automation
Command no. 11	Close and block automation
Command no. 12	Block automation
Command no. 13	Release automation
Command no. 14	Courtesy light timer on
Command no. 15	Courtesy light on-off

4.8 - Connecting the pole lights (optional accessory)

01. Move the pole to the vertical position;
02. Unscrew the 4 screws that hold the pole cover (**Fig. 35**);
03. Remove the pole temporarily;
04. Insert the grommet in the pre-drilled hole for cable routing (**Fig. 36 - A, B**);
05. Route the lights cable through the impact protection rubber profile, using a guide to facilitate attachment if necessary (**Fig. 37 - A, B**);
06. If necessary, shorten the length of the lights cable: cuts may only be made at the points bearing the relative mark. After cutting, the plug at the cut end must be moved to seal off the new end;
07. Insert the cable first through the hole on the pole support and then through the hole on the cabinet (**Fig. 38 - A, B, C**); **Caution** – Leave a little extra cable in the pole support, to enable pole rotation through 90° without tensioning the cable;
08. Connect the lights cable to the FLASH terminal on the control unit: see diagram in **Fig. 39**;
09. Position and secure the connector in the slot on the pole (**Fig. 38 - D**);
10. Insert the pole and secure with its cover, tightening the 4 screws fully down and taking care not to pinch the wiring cable (**Fig. 40**).

4.9 - Connection of other devices

X-bar also enables power supply to external devices (a radio receiver or key-operated selector switch lighting) by receiving power from the control unit: for the type of connection, see **Fig. 41**.

The power supply voltage is 24 Vdc, -30%/+50%, with maximum available current 100 mA.

4.9.1 - Programming unit Oview

The use of the programming unit Oview enables complete and rapid manage-

ment of installation, maintenance and troubleshooting of any malfunctions of the whole automation system. Oview can be connected to X-Bar by means of the BusT4 connector on the control unit.

To access the BusT4 connector, open the cover of X-Bar and insert the connector in its seat (**Fig. 42**).

In general, Oview can be positioned at a maximum distance of 100 m of cable from the control unit; it can be connected to multiple control units simultaneously (max. 16) and can also remain connected during normal operation of the automation; to exceed these limits, observe the warnings in the Oview instruction manual and the Oview System Book system manual. If a OXI type radio receiver is present in the control unit, Oview enables access to the parameters of the transmitters memorised in this receiver. For detailed information, refer to the instruction manual of the Oview programmer or the “X-Bar” function data-sheet also available on the website www.niceforyou.com.

4.9.2 - Buffer battery mod. PS124 (accessory)

In the event of a mains power failure, X-Bar can also be powered by a buffer battery model PS124. To install and connect the battery, proceed as follows:

Caution! – The electric connection of the battery to the control unit must only be made after completing all installation and programming phases, as the battery constitutes an emergency power supply.

01. Connect the relative cable of the buffer battery and position the battery as shown in **Fig. 43**;
03. Remove the membrane on the control unit (**Fig. 44**);
04. Disconnect the mains power and fit the connector as shown in **Fig. 45**.

4.9.3 - Solemyo System (photovoltaic supply)

X-Bar is designed to be powered with the “Solemyo SYKCE” photovoltaic system. To connect IT to the control unit, use the socket that is normally used for the buffer battery (see paragraph 4.9.2).

IMPORTANT!

- When X-bar is powered by the “Solemyo” system, it **MUST NOT BE POWERED** at the same time from the electrical mains.
- Due to the limited solar power available, depending on the installation location and time of year, X-Bar can perform a maximum number of manoeuvres per day. Before installing the Solemyo system, check in the relative instruction manual whether the maximum number of possible manoeuvres is compatible with the intended use.
- The Solemyo system can only be used efficiently if the control unit is active and set with the Standby function set to “All” mode (only possible using the Oview programmer).

5

TESTING AND COMMISSIONING

These are the most important phases of automation set-up for ensuring maximum system safety. The test can also be performed as a periodic check of automation devices. Testing and commissioning of the automation must be performed by skilled and qualified personnel, who are responsible for the tests required to verify the solutions adopted according to the risks present, and for ensuring observance of all legal provisions, standards and regulations, and in particular all requirements of the standard EN 12445, which establishes the test methods for checking automations for doors and barriers. All these operations must be performed under the direct supervision of the head installer, i.e. the person who enters his/her name and signature in box N°1 of the declaration of conformity (see appendix I).

The additional or optional devices must undergo a specific test for functionality and correct interaction with X-Bar.

5.1 - Testing

The sequence of operations to be performed for testing refers to a standard system (**Fig. 1**) classed for “untrained users” and the automation activation set to “automatic control” which envisages, as a minimum protection level of the primary edge, device types C (force limitation - see standard EN 12445) combined with device types D (presence detectors, e.g. photocells). Bearing in mind that this type of use is among the most intensive, the same testing sequence can be effectively implemented in less intensive conditions.

- 1 Ensure that all specifications in this manual have been observed, with special reference to the chapter “1 Safety Instructions”.
- 2 Check correct balancing of the pole, see paragraph 3.8.
- 3 Check correct operation of the manual release, see paragraph 3.6.
- 4 Using the transmitter or key-operated selector switch, perform tests of opening, closing and stopping the barrier, and ensure that pole movement corresponds to specifications. Test several times to check for pole movement and any defects in assembly or adjustment and any possible points of friction.
- 5 Check operation of all system safety devices one at a time (photocells, sensitive edges, etc.). Each time a device is activated the “Bluebus” LED on the control unit must flash rapidly twice to confirm acknowledgement of the event.
- 6 Check correct operation of the photocells as follows: depending on whether one or two pairs of photocells have been installed, one or two parallelepipeds in rigid material are required (e.g. wooden panels) with the measurements 70 x 30 x 20 cm. Each parallelepiped must have three sides, one for

each size, in reflective material (e.g. mirror or white gloss paint) and three sides in opaque material (e.g. black matt paint). To test the photocells positioned at 50 cm from the ground, the parallelepiped must be placed on the ground or raised at 50 cm in the case of photocells placed at 1 m from the ground.

When testing one pair of photocells, the test specimen must be positioned exactly at the centre of the pole with the 20 cm sides facing the photocells and moved along the entire length of the pole (**Fig. 46**).

When testing two pairs of photocells, the test must first be performed individually for each pair of photocells, using one test specimen, and then repeated using two test specimens.

Each test specimen must be positioned laterally with respect to the centre of the pole, at a distance of 15 cm sides and then moved along the entire length of the pole (**Fig. 47**).

During these tests, the test specimen must be read by the photocells in any position along the entire length of the pole.

- 7 Ensure there is no interference between the photocells and other devices, by intercepting the optic axis joining the two photocells by means of a cylinder (diameter 5 cm, length 30 cm, **Fig. 48**): pass the cylinder first close to the TX photocell, then close to the RX and lastly at the centre between the two. Ensure that in all cases the device engages, changing from the active status to alarm status and vice versa, and that the envisaged action is generated in the control unit (for example movement inversion in the Closing manoeuvre).
- 8 **Check protection against the risk of lifting:** on automations with vertical movement, it must be ensured that there is no risk of lifting. This test can be performed as follows: hang a weight of 20 kg mid-way along the pole (for example, a sack of gravel), activate an Opening manoeuvre and ensure that during operation the pole does not exceed the height of 50 cm from the closing position. If the pole exceeds this height, reduce the motor force (see chapter 6 - Table 7).
- 9 If hazardous situations generated by the moving poles are protected by means of impact force limitation, measure the force as specified in the standard EN 12445. If motor force control is used as auxiliary function with the system for reduction of impact force, test and identify the setting that obtains the best results.
- 10 **Check efficiency of the release system:** place the pole in the Closing position and manually release the gearmotor (see paragraph 3.6) ensuring that there is no difficulty with this procedure. Ensure that the manual force required to move the pole on opening is no greater than 200 N (approx. 20 kg); the force is measured perpendicular to the pole and at 1 m from the rotation axis. Lastly, ensure that the key required for manual release is available in the vicinity of the automation.
- 11 **Power supply disconnection system check:** by using the power disconnect device, and disconnecting any buffer batteries, ensure that all leds on the control unit are off and that the pole remains stationary when any commands are sent. Check efficiency of the locking device to prevent inadvertent and/or unauthorised reconnection.

5.2 - Commissioning

Commissioning can only be performed after positive results of all test phases. Partial or "makeshift" commissioning is strictly prohibited.

- 1 Compile and provide the automation owner with the "**CE Declaration of conformity - Appendix I**", at the end of this manual, in the removable section.
- 2 Compile and provide the automation owner with the form "**Operation Manual**" at the end of this manual, in the removable section.
- 3 Compile the form "**Maintenance schedule**" containing all maintenance instructions for all devices in the automation and forward it to the owner. In the case of X-Bar, this form is present at the end of this manual, in the removable section.
- 4 Before commissioning the automation, ensure that the owner is adequately informed of all associated risks and hazards.
- 5 Permanently affix on the pole the label in the pack regarding the gearmotor manual release and locking operations.

- 6 ONLY for installations NOT IN CONFORMITY with the criteria stated in chapter 1.3.1 of this manual: produce the technical documentation of the automation, which must include the following documents: an overall drawing of the automation, the wiring diagram of all connections made, an assessment of all risks present and relative solutions adopted (see forms to be compiled on the website www.niceforyou.com), declarations of conformity of manufacturer of all devices used (for X-Bar see appendix II) and the declaration of conformity compiled by the installer.
Affix a dataplate on the barrier, specifying at least the following data: type of automation, name and address of manufacturer (responsible for commissioning), serial number, year of construction and CE mark.

6 CONTROL UNIT PROGRAMMING

The control unit has 3 keys **OPEN (▲)**, **STOP (Set)**, **CLOSE (▼)** (**Fig. 49**) that can be used both for controlling the unit during testing and for programming the available functions.

The programmable functions available are divided into 2 levels and their relative operating status is displayed by means of the 8 LEDs (**L1...L8**) on the control unit (**LED lit** = function active; **LED off** = function not active).

Programming keys:

OPEN (▲): the "OPEN" key enables control of pole opening or can be used, during programming, to move the programming point up.

STOP (Set): the "STOP" key enables the user to stop the manoeuvre; if pressed for more than 5 seconds, it enables entry to programming mode.

CLOSE (▼): the "CLOSE" key enables control of pole closing or can be used, during programming, to move the programming point down.

CAUTION! – During a manoeuvre (Open or Close) all three keys have the STOP function: all manoeuvres in progress are stopped.

6.1 - Level one programming (ON-OFF functions)

All level 1 functions are set by default to "OFF" and may be modified at any time as explained in **Table 5**. To check the value corresponding to each LED see **Table 6**.

IMPORTANT – The programming procedure has a maximum interval of 10 seconds admissible between the activation of one key and the next. When this time interval elapses, the procedure quits automatically, saving the changes made up until that time.

TABLE 5 - Programming procedure (first level functions)

01. Press and hold down the "Set" key for approx. 3 seconds;	
02. Release the key when LED L1 starts flashing;	
03. Press keys "▲" or "▼" to move from the flashing led to the led associated with the function to be modified;	
04. Press "Set" to change the status of the function: (short flash = OFF; long flash = ON)	
05. Wait 10 seconds (maximum time) to exit the programming mode.	

Note – During this procedure, points 03 and 04 need to be repeated when programming other functions to "ON" or "OFF" during the phase itself.

TABLE 6 - First level functions

LED	Description	Example
L1	Automatic closure	This function performs automatic closure of the pole after the programmed pause time. Factory setting: 30 seconds. Value programmable from 5 to 200 seconds.
L2	Reclose after photo	This function enables the pole to remain in Opening position for the time required for transit. When the function is active, operation depends on the parameter set in the function "Automatic closure": <ul style="list-style-type: none"> • with "Automatic closure" active, the Opening manoeuvre stops immediately after the photocells are disengaged and the Closure manoeuvre starts after 5 seconds. • with "Automatic closure" not active, the pole always reaches the maximum Opening position (even if the photocells are disengaged beforehand) and Closure starts after 5 seconds.
L3	Always close	This function is useful in the event of a power failure, even brief. In fact if this function is active(ON), when power is restored, the control unit detects the pole as open and starts Closure. For reasons of safety the Closure manoeuvre is preceded by a 3-second pre-flashing interval.
L4	Stand by	The Stand-by function allows consumptions to be reduced. If active, 1 minute after the end of the manoeuvre, the control unit turns off the "Bluebus" output (connected devices) and all the LEDs apart from the Bluebus LED which will flash more slowly. When the control unit receives a command normal operation is restored. When using X-Bar with the Solemyo system, a longer Stand By mode must be set. This operation is performed using the Oview programmer.
L5	Deceleration long	This function enables the user to double the space for starting deceleration, both in Opening and Closing. If the function is deactivated, deceleration is short.
L6	Pre-flash	This function activates a pause of 3 seconds between activation of the flashing light and the start of a manoeuvre.
L7	Sensitivity	When this function is set to "ON" the level of control unit sensitivity in obstacle detection can be increased considerably. If used as a means to read the "impact force" of the motor, the values "speed" and "motor force" must be set accordingly in the level 2 menu.
L8	Direction of motor rotation	This parameter enables inversion of the direction of motor rotation to enable barrier installation on the right; the factory setting is "OFF" (standard motor rotation – pole closure on left). Important – If the function is activated, the Opening and Closing positions must be memorised again (Paragraph 4.5).

6.2 - Level two programming (adjustable parameters)

All level 2 parameters are set by default as highlighted in grey in **Table 7**, and may be modified at any time as explained in **Table 8**.

The parameters can be set on a scale from 1 to 8. To check the value corresponding to each LED see **Table 7**.

IMPORTANT – In the programming procedure, the maximum time interval that can elapse between activation of one key and the next is 10 seconds. When this time elapses, the procedure terminates automatically, memorising the modifications made up until then.

TABLE 7 - Second level functions

Input LED	Parameter	LED (level)	Value	Description
L1	Time Pause	L1	5 seconds	Sets the pause time, i.e. the time that passes between the end of an opening manoeuvre and the start of an automatic closing manoeuvre. This parameter is only effective if the "automatic Closure" is active.
		L2	10 seconds	
		L3	20 seconds	
		L4	40 seconds	
		L5	60 seconds	
		L6	80 seconds	
		L7	120 seconds	
		L8	200 seconds	
L2	Function Step by step	L1	Open – stop – close – stop	Sets the sequence of commands associated with the input or the radio control: "Step by step".
		L2	Open – stop – close – open	
		L3	Open – close – open – close	
		L4	Apartment block (more than 2 sec. generates Stop)	
		L5	Apartment block 2 (less than 2 sec. generates partial opening).	
		L6	Step by step 2	
		L7	Hold-to-run	
		L8	Opening in semi-automatic mode, closing in dead man mode	
L3	Speed Motor	L1	Speed 1 (30% - slow)	Sets the motor speed during normal travel.
		L2	Speed 2 (47%)	
		L3	Speed 3 (65%)	
		L4	Speed 4 (82%)	
		L5	Speed 5 (100%) - fast	
		L6	Open V3, Close V2	
		L7	Open V4, Close V3	
		L8	Open V5, Close V4	
L4	Output FLASH	L1	Pole Open Indicator Function (24 V - 10 W)	Selects the type of device connected to the FLASH output. Important! – If the programmed setting is modified, check the type of voltage of the new device connected to the FLASH terminal and ensure that it corresponds to the type of voltage of the selected programming level.
		L2	Active if pole closed (24 V - 10 W)	
		L3	Active if pole open (24 V - 10 W)	
		L4	Flashing light (12 V - 21 W)	
		L5	Flashing light for pole lights (24 V - 10 W)	
		L6	Electric lock (24 V - 10 W)	
		L7	Suction cup (24 V - 10 W)	
		L8	Maintenance indicator (24 V - 10 W)	