



**Operator for
rolling shutters**

FA01197-EN



H4

H40230120 - H41230120

H40230180 - H41230180

INSTALLATION MANUAL



WARNING!
important safety instructions for people:
READ CAREFULLY!



Premise

• This product should only be used for the purpose for which it was explicitly designed. Any other use is dangerous. CAME S.p.A. is not liable for any damage caused by improper, wrongful and unreasonable use • Keep these warnings together with the installation and operation manuals that come with the operator.

Before installing

(checking what's there: if something is missing, do not continue until you have complied with all safety provisions)

• Check that the automated parts are in proper mechanical order, that the operator is level and aligned, and that it opens and closes properly. Make sure you have suitable mechanical stops • If the operator is to be installed at a height of less than 2.5 m from the ground or other access level, make sure you have any necessary protections and/or warnings in place • If any pedestrian openings are fitted into the operator, there must also be a system to block their opening while they are moving • Make sure that the opening automated door or gate cannot entrap people against the fixed parts of the operator • Do not fit upside down or onto elements that could bend. If necessary, add suitable reinforcements to the anchoring points • Do not install door or gate leaves on tilted surfaces • Make sure any sprinkler systems cannot wet the operator from the ground up.

Installing

• Suitably section off and demarcate the entire installation site to prevent unauthorized persons from entering the area, especially minors and children • Be careful when handling operators that weigh over 20 kg. If need be, use proper safety hoisting equipment • All opening commands (that is, buttons, key switches, magnetic readers, and so on) must be installed at least 1.85 m from the perimeter of the gate's working area, or where they cannot be reached from outside the gate. Also, any direct commands (whether buttons, touch panels, and so on) must be installed at least 1.5 m from the ground and must not be reachable by unauthorized persons • All maintained action commands, must be fitted in places from which the moving gate leaves and transit and driving areas are visible • Apply, if missing, a permanent sign showing the position of the release device • Before delivering to the users, make sure the system is EN 12453 standard compliant (regarding impact forces), and also make sure the system has been properly adjusted and that any safety, protection and manual release devices are working properly • Apply Warning Signs where necessary and in a visible place, (such as, such as the gate's plate

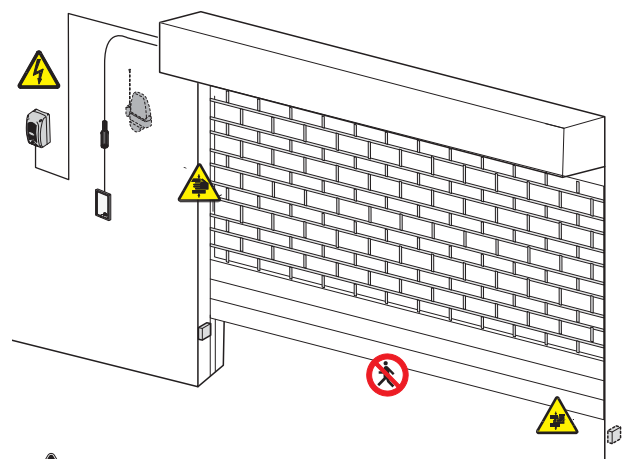
Special instructions and recommendations for users

• Keep gate operation areas clean and free of any obstructions. Make sure that the photocells are free of any overgrown vegetation and that the operator's area of operation is free of any obstructions • Do not allow children to play with fixed commands, or to loiter in the gate's maneuvering area. Keep any remote control transmitters or any other command device away from children, to prevent the operator from being accidentally activated. • This apparatus is not for people (including children) with physical, mental and sensory issues, or even ones without any experience, provided this happens under close supervision or once they have been properly instructed to use the apparatus safely and to the potential hazards involved. • Frequently check the system for any malfunctions or signs of wear and tear or damage to the moving structures, to the component parts, all anchoring points, including cables and any accessible connections. Keep any hinges, moving joints and slide rails properly lubricated • Perform functional checks on the photocells and sensitive safety edges, every six months. To check whether the photocells are working, wave an object in front of them while the gate is closing; if the operator inverts its direction of travel or suddenly stops, the photocells are working properly. This is the only maintenance operation to do with the power on. Constantly clean the photocells' glass covers using a slightly water-moistened cloth; do not use solvents or other chemical products that may ruin the devices • If repairs or modifications are required to the system, release the operator and do not use it until safety conditions have been restored • Cut off the power supply before releasing the operator for manual openings and before any other operation, to prevent potentially hazardous situations. Read the instructions if

the power supply cable is damaged, it must be replaced by the manufacturer or authorized technical assistance service, or in any case, by similarly qualified persons, to prevent any risk • It is FORBIDDEN for users to perform any OPERATIONS THAT ARE NOT EXPRESSLY REQUIRED OF THEM AND WHICH ARE NOT LISTED in the manuals. For any repairs, modifications and adjustments and for extra-ordinary maintenance, CALL TECHNICAL ASSISTANCE • Log the job and checks into the periodic maintenance log.

Special instructions and recommendations for everyone

• Keep clear of hinges and mechanical moving parts • Do not enter the operator's area of operation when it is moving • Do not counter the operator's movement as this could result in dangerous situations • Always pay special attention to any dangerous points, which have to be labeled with specific pictograms and/or black and yellow stripes • While using a selector switch or a command in maintained actions, keep checking that there are no persons within the operating range of any moving parts, until the command is released • The gate may move at any time and without warning • Always cut off the mains power supply before performing any maintenance or cleaning.



Danger of foot crushing



Danger of hand crushing






Danger! High voltage.



No transiting while the barrier is moving

LEGEND

-  This symbol shows which parts to read carefully.
-  This symbol shows which parts describe safety issues
-  This symbol shows which parts to tell users about.

The measurements, unless otherwise stated, are in millimeters.

DESCRIPTION

This product complies with current safety standards.

Gearmotor with aluminum half-shells, ABS half-shell adapters and aluminum half-crowns with ABS shells.

The range includes:

- H40230120 - Irreversible gearmotor complete with release pull-cord and handle. Hoisting strength: 120 Kg.
- H41230120 - Reversible gearmotor. Hoisting strength: 120 Kg.
- H40230180 - Irreversible gearmotor complete with release pull-cord and handle. Hoisting strength: 180 Kg.
- H41230180 - Reversible gearmotor. Hoisting strength: 180 Kg.

Intended use

The H operator is designed to power all types of rolling shutters in residential, business and public settings.

 Any installation and/or use other than that specified in this manual is forbidden.

Limits to use

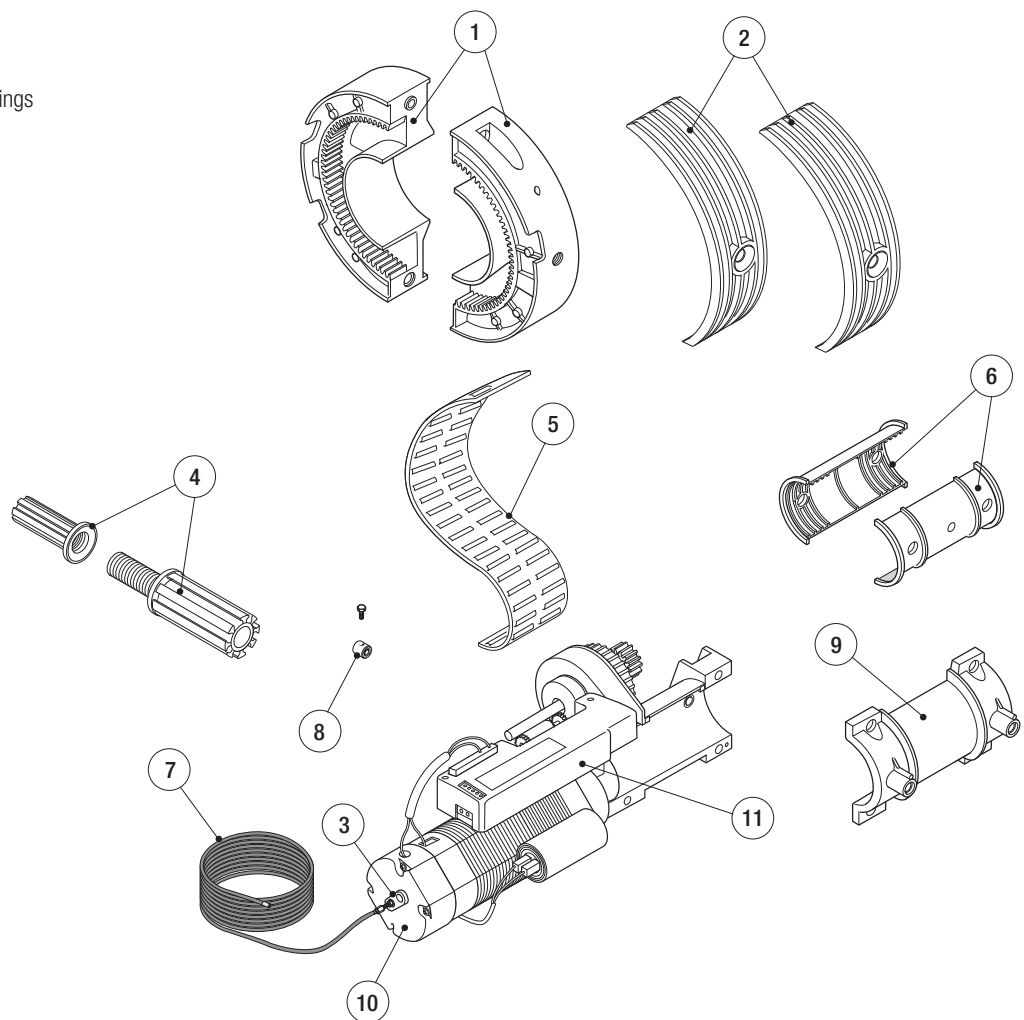
Type	H40230120 - H41230120	H40230180 - H41230180
Maximum hoisting strength (kg)	120	180

Technical data

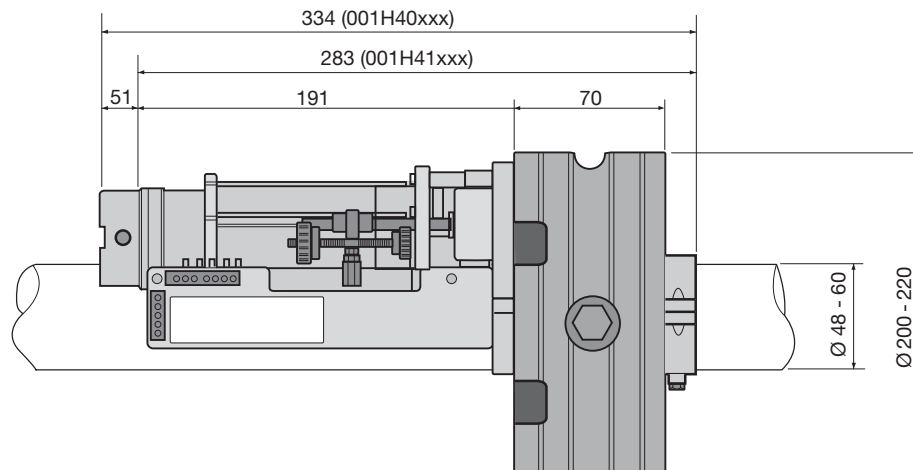
Type	H40230120	H41230120	H40230180	H41230180
Protection rating (IP)	40	40	40	40
Power supply (V - 50/60 Hz)	~230	~230	~230	~230
Power supply to motor (V - 50/60 Hz)	~230	~230	~230	~230
Current draw (A)	1.8	1.8	2.6	2.6
Power (W)	410	410	600	600
Duty cycle (%)	30	30	30	30
Crown turns (rpm)	10	10	10	10
Operating temperature (°C)	-20 ÷ +55	-20 ÷ +55	-20 ÷ +55	-20 ÷ +55
Weight (Kg)	7.9 - 7.4	7.9 - 7.4	7.9 - 7.4	7.9 - 7.4
Motor's thermal monitoring (°C)	160	160	160	160

Description of parts

1. Aluminum half-crowns
2. Half-shell adapters for Ø 220 mm springs
3. Adjustment regulator
4. Release handle
5. Bearing-strip
6. Half-shell adapters for Ø 60 mm pole
7. Release cord
8. Cord-fastening terminal
9. Aluminum half-shell
10. Gearmotor
11. Limit switch



Dimensions



GENERAL INSTRUCTIONS FOR INSTALLING

△ Only skilled, qualified staff must install this product.

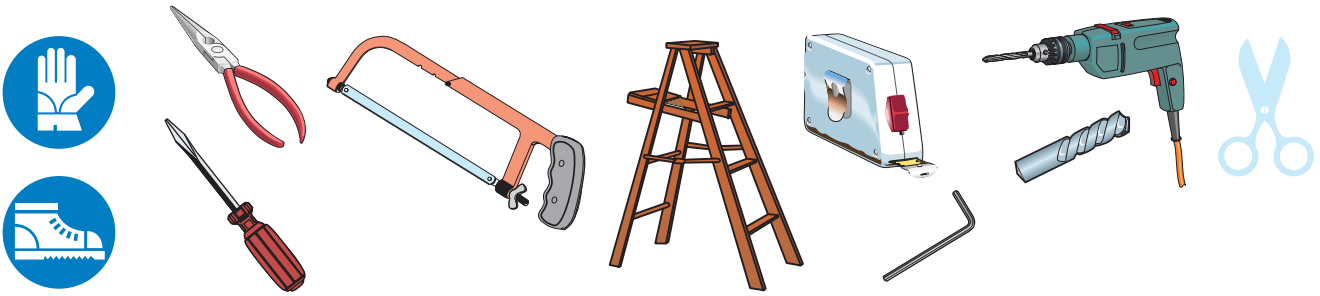
Preliminary checks

△ Before beginning the installation, do the following:

- Make sure that installing the operator does not cause any hazardous situations;
- Have in place a suitable dual pole cut-off switch with minimum contact openings of 3 mm, and section the power supply;
- Set up suitable tubes and conduits for the electric cables to pass through, making sure they are protected from any mechanical damage;
- ⊕ Make sure that any connections inside the container (ones that ensure continuity to the protection circuit) are fitted with additional insulation with respect to those of other electrical parts inside;
- Make sure the shutter structure is sturdy, that the hinges are efficient and that there is no friction between any fixed and moving parts;
- Make sure the shutter's springs are in good working condition and that the slide rails are not deformed.

Tools and materials

Make sure you have all the tools and materials you will need for installing in total safety and in compliance with applicable regulations. The figure shows some of the equipment installers will need.



Cable types and minimum thicknesses

Connection	Cable type	Cable length 1 < 10 m	Cable length 10 < 20 m	Cable length 20 < 30 m
Motor power supply	FROR CEI 20-22 CEI EN 50267-2-1	3G x 1.5 mm ²	3G x 1.5 mm ²	3G x 2.5 mm ²
Flashing light		2 x 1.5 mm ²	2 x 1.5 mm ²	2 x 1.5 mm ²
Photocell transmitters		2 x 0.5 mm ²	2 x 0.5 mm ²	2 x 0.5 mm ²
Photocell receivers		4 x 0.5 mm ²	4 x 0.5 mm ²	4 x 0.5 mm ²
Power supply to accessories		2 x 0.5 mm ²	2 x 0.5 mm ²	2 x 1 mm ²
Command and safety device		2 x 0.5 mm ²	2 x 0.5 mm ²	2 x 0.5 mm ²
Antenna connection	RG58	max. 10 m		

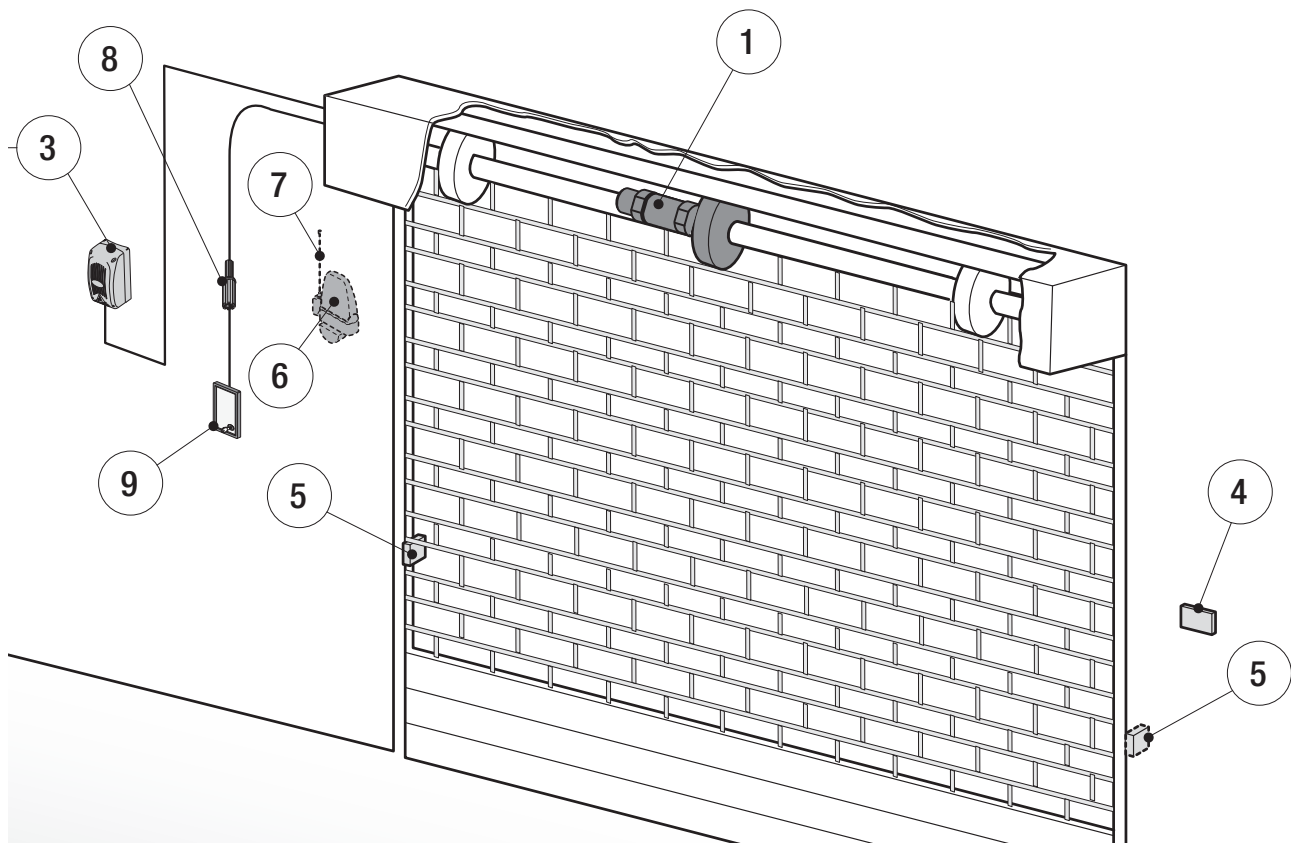
If cable lengths differ from those specified in the table, establish the cable sections depending on the actual power draw of the connected devices and according to the provisions of regulation CEI EN 60204-1.

For multiple, sequential loads along the same line, the dimensions on the table need to be recalculated according to the actual power draw and distances. For connecting products that are not contemplated in this manual, see the literature accompanying said products

Standard installation

1. Gearmotor
2. Control panel
3. Radio receiver
4. Internal push-button panel
5. Photocells

6. Flashing light
7. Antenna
8. Pull-cord release handle
9. Safety case for the pull-cord release handle



Fitting the gearmotor to the spring pole

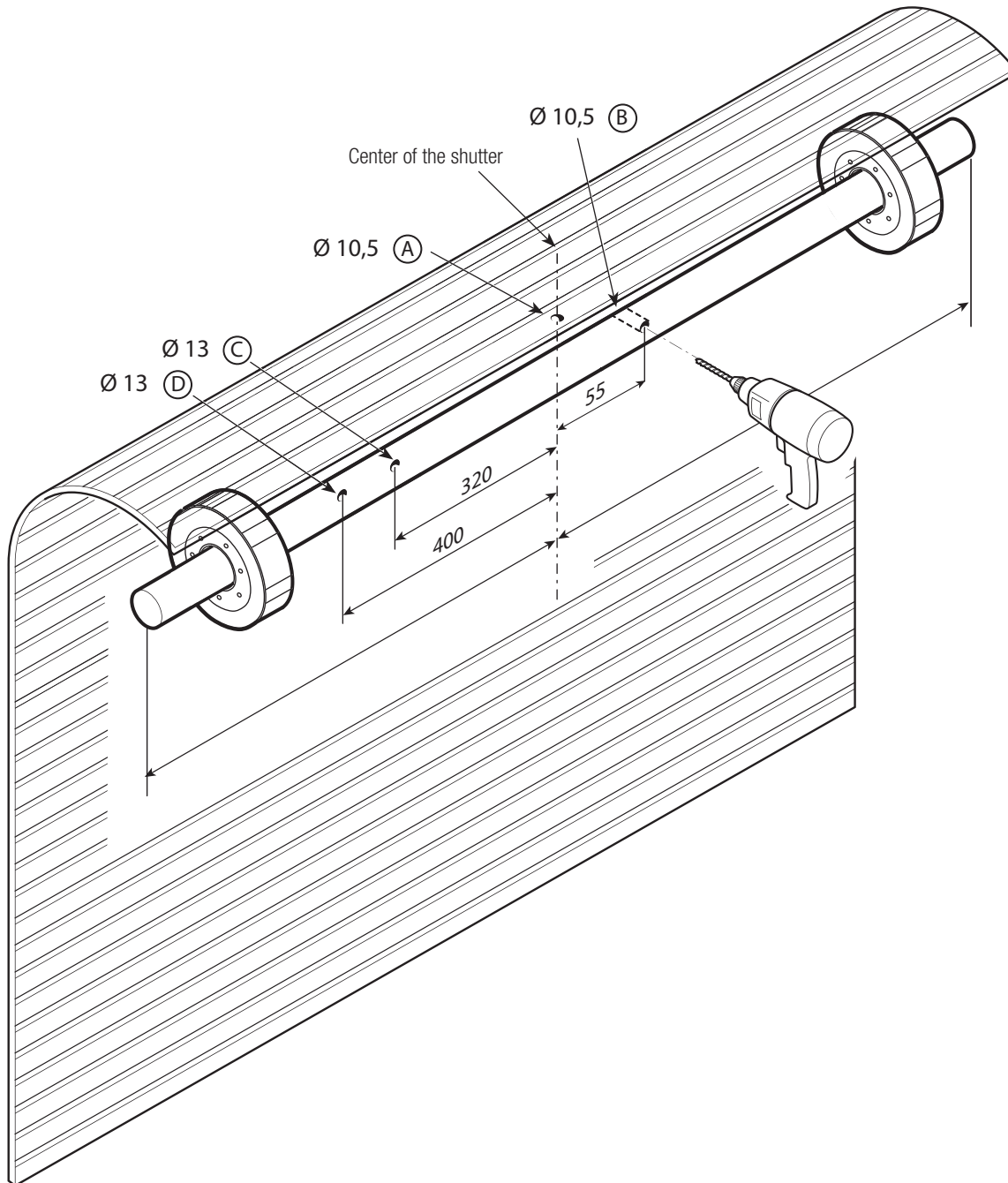
△ The following illustrations are mere examples in that the space for fastening the operator and accessories varies depending on the installation area. It is up to the fitter, therefore, to choose the most suitable solution.

△ The gearmotor is set up to be fitted on the left-hand side of the shutter's center (inner view).

When fitting the gearmotor onto the right-hand side, drill opposite to the sides (from the center of the shutter) described below.

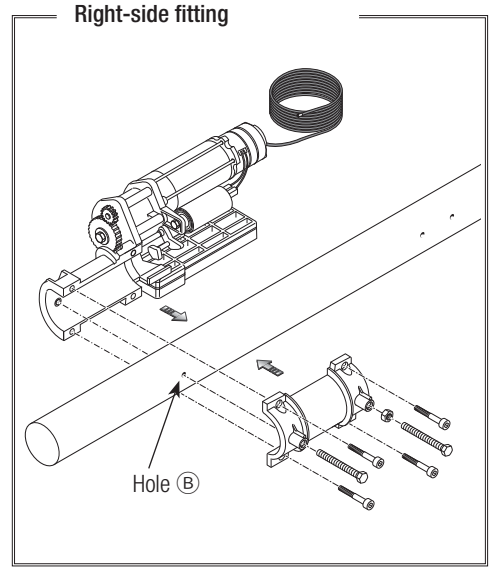
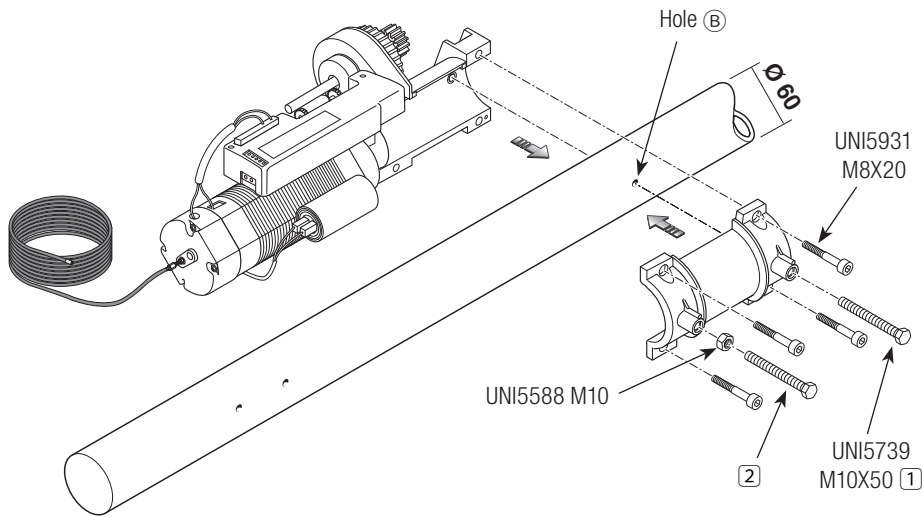
Drill the shutter at (A) and the pole at (B), (C), (D) by using the measurements shown below.

📖 Hole (D) must be drilled only when an electric lock is fitted.

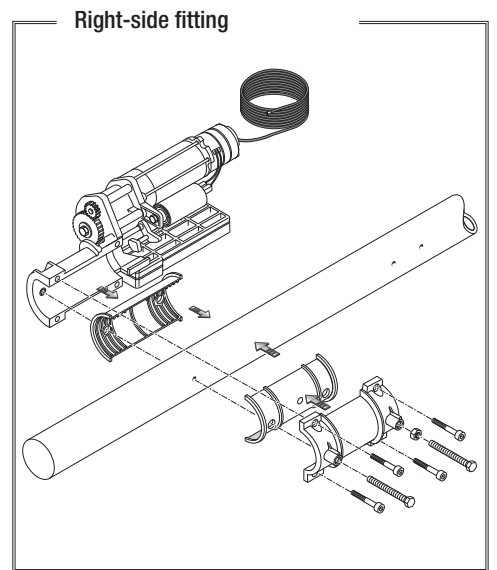
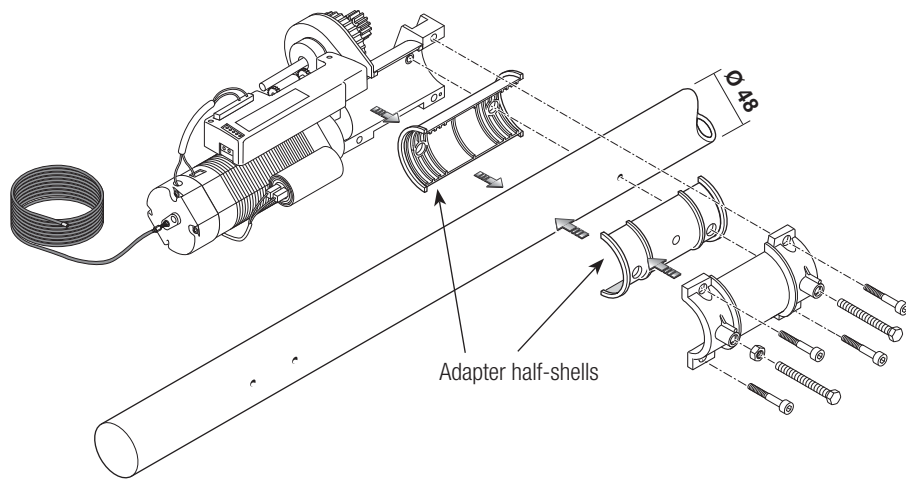


Rest the gearmotor to the pole and fasten the aluminum half-shell.

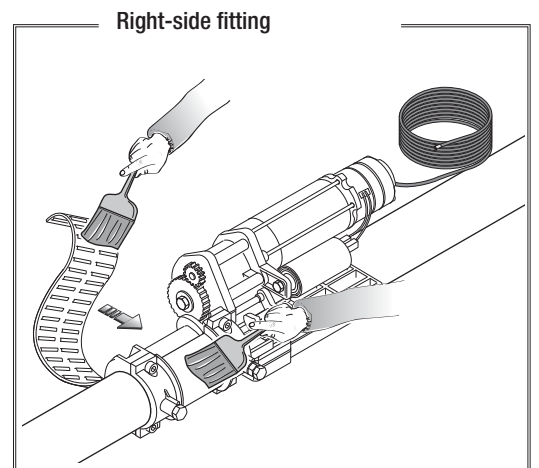
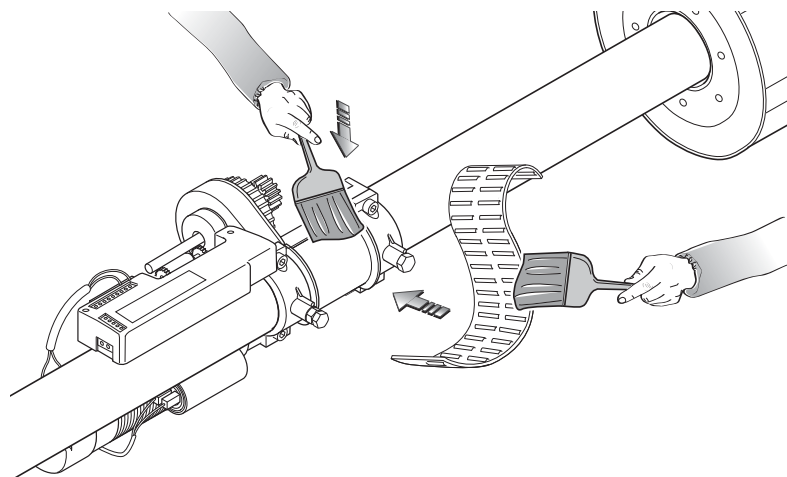
△ For $\varnothing 60$ mm shutter pole. Fasten the gearmotor's aluminum half-shells directly onto the spring pole, and at hole completely tighten the anti-rotation screw and the play-adjustment screw **B** 1 2.



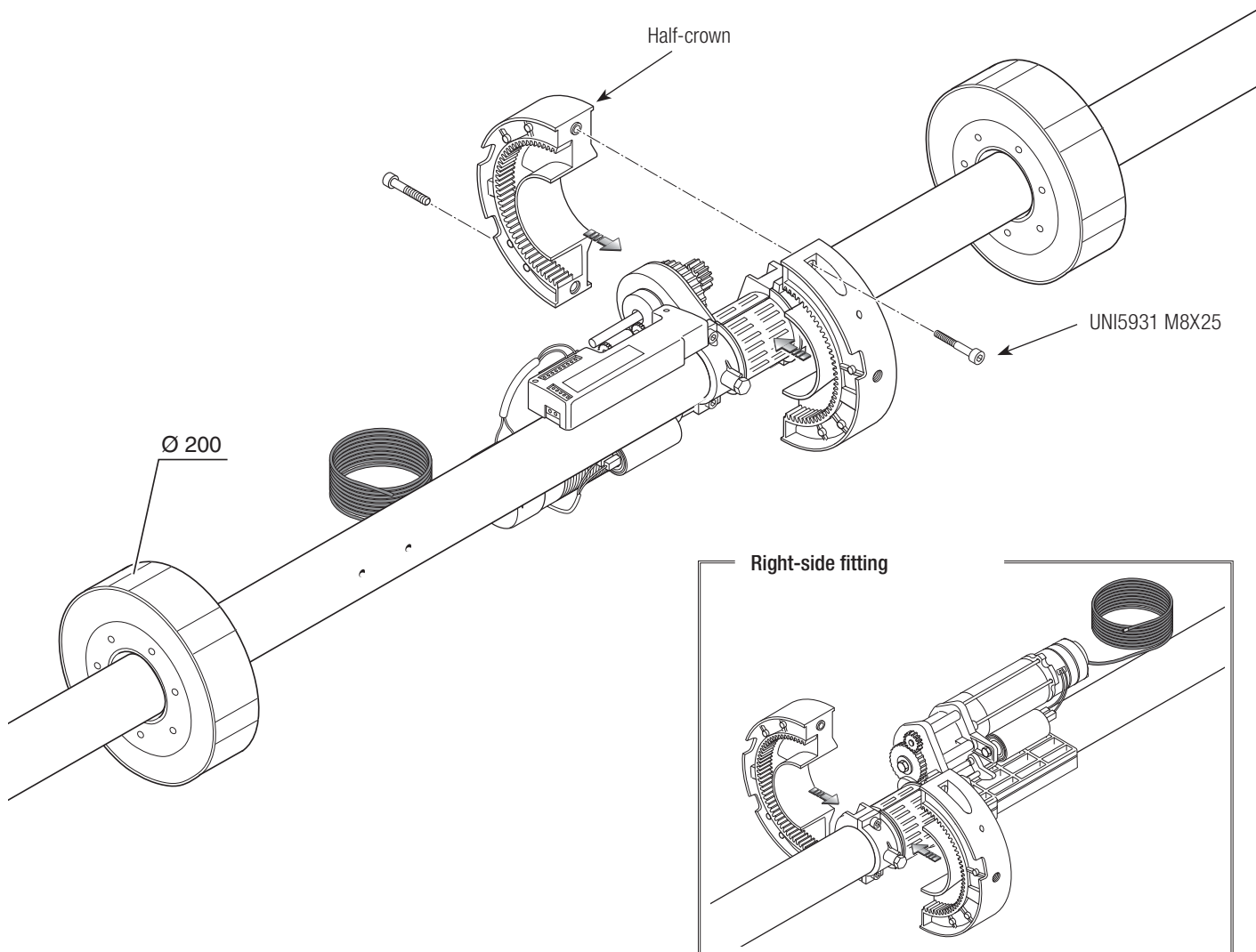
△ $\varnothing 48$ mm shutter tube, before fastening the half-shells to the pole, fit the two adapters.



Lubricate, before fitting the bearing strip.

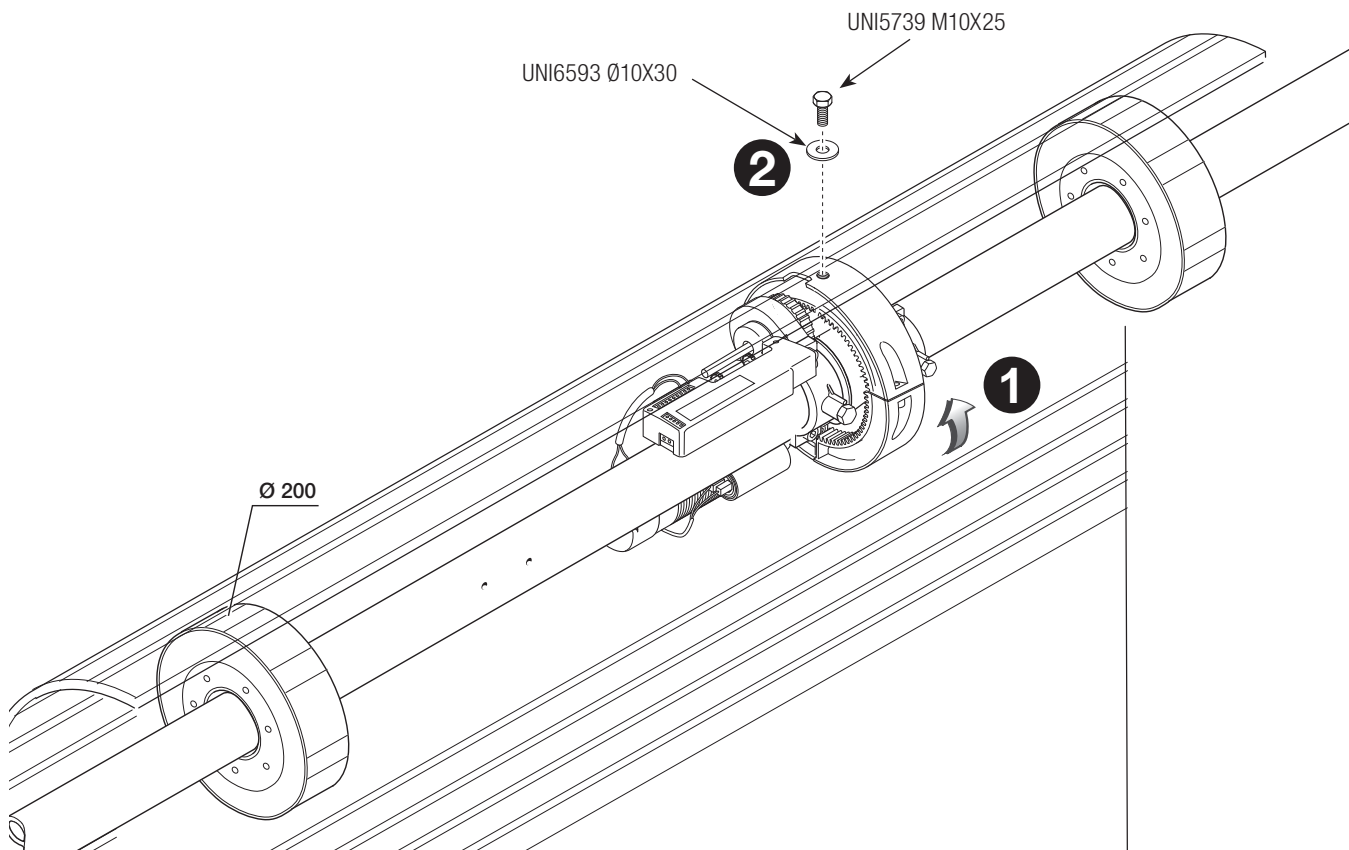


With \varnothing 200 mm springs, apply the two aluminum half-crowns and tighten the UNI5931 M8x25 bolts.

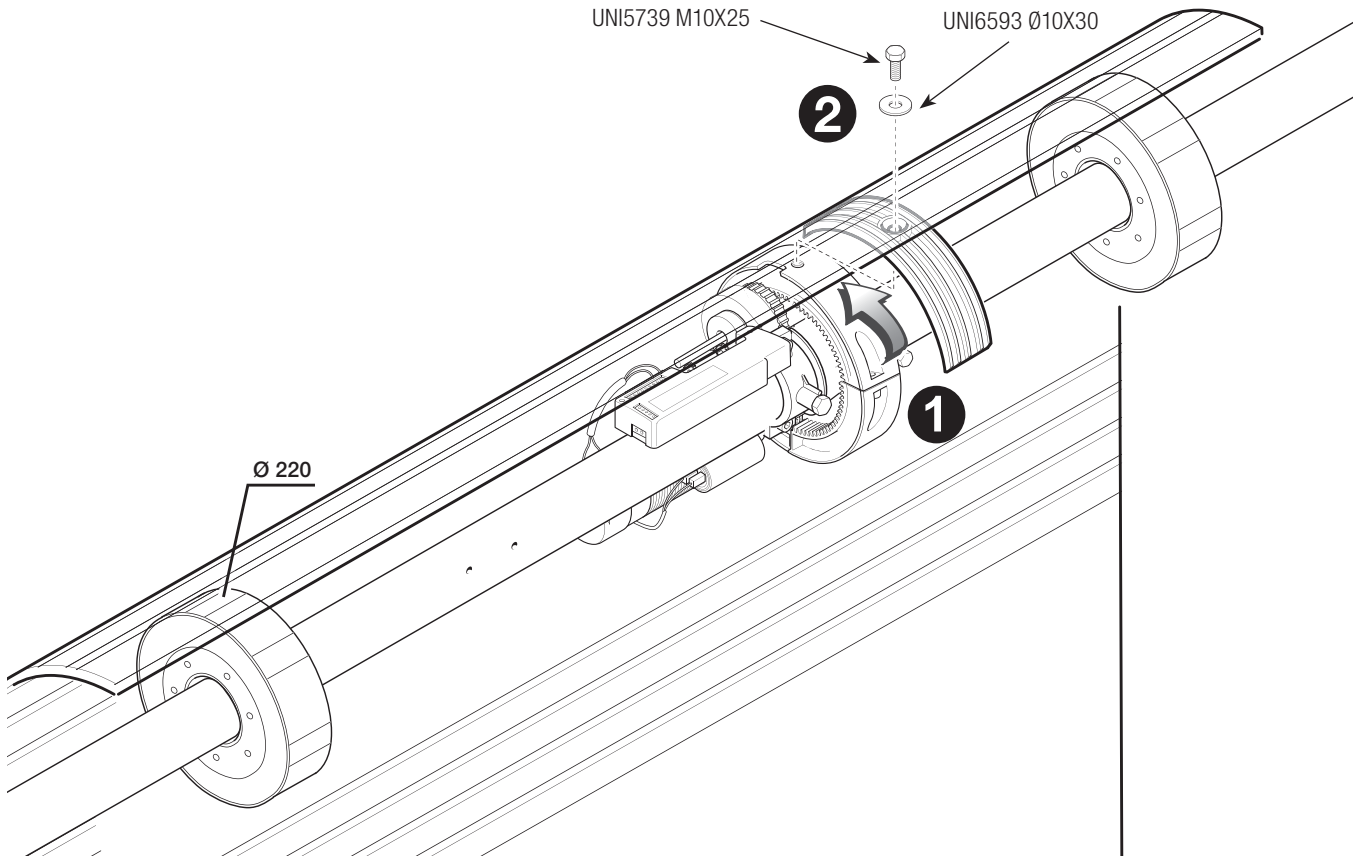


Turn the two half-crowns until the hole matches hole **(A)** at the center of the shutter. Tighten the UNI5739 M10X25 bolt and washer.

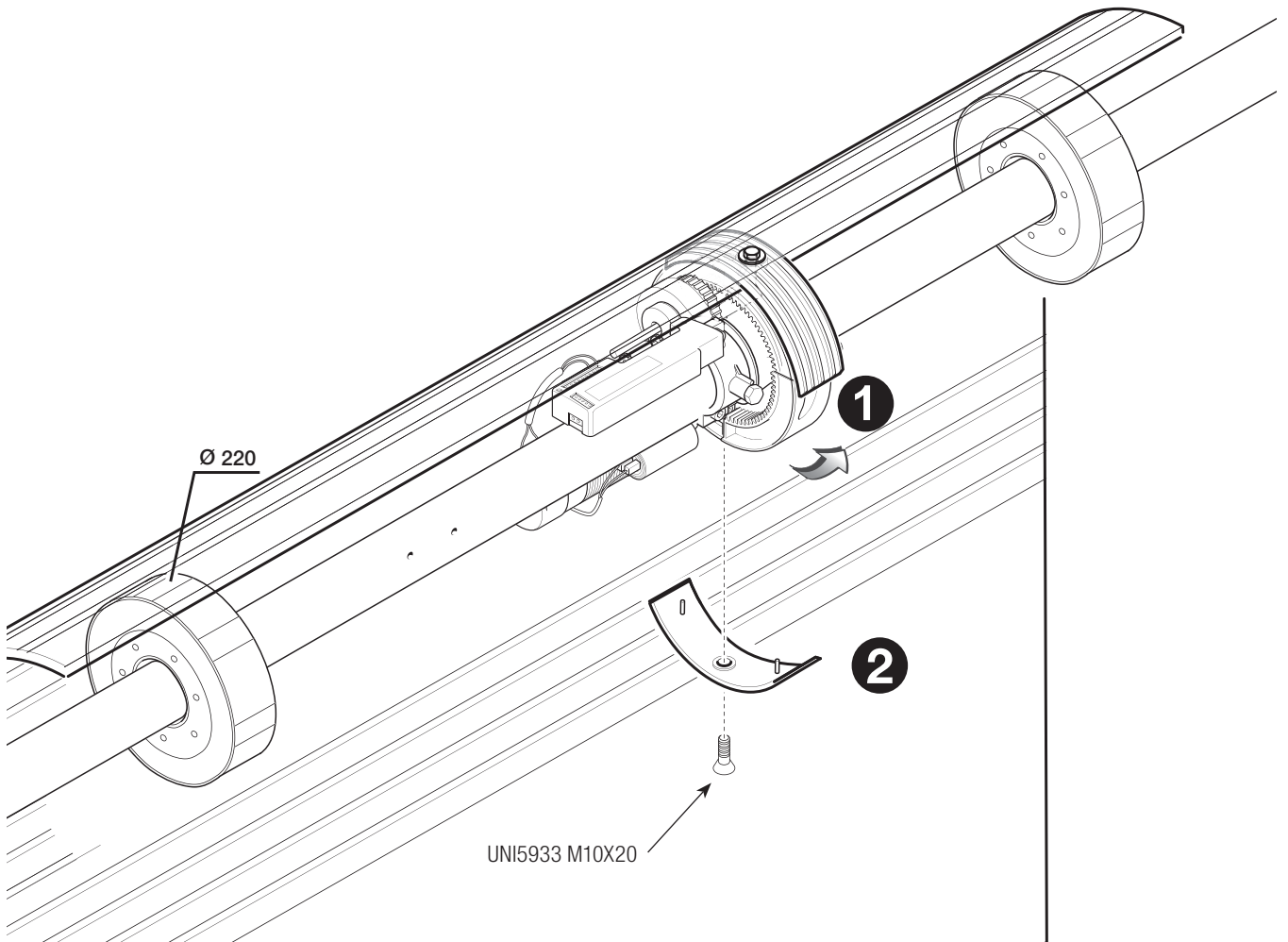
Warning! when the gearmotor is right-hand fitted, before hooking up the shutter, you must establish the closing limit-switch points (see next chapter).



With \varnothing 220 mm springs, hook up the two half-shell adapters. Fasten the first by using a UNI5739 M10X25 bolt and washer, turning it so the hole aligns with **A** at the center of the shutter.



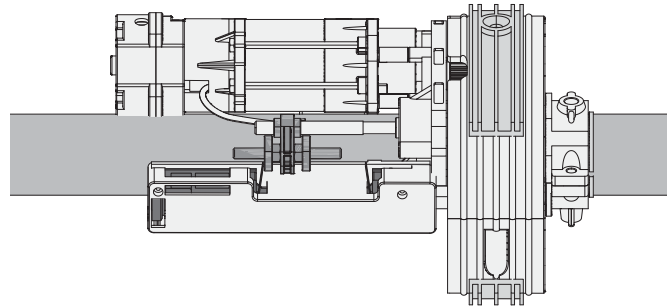
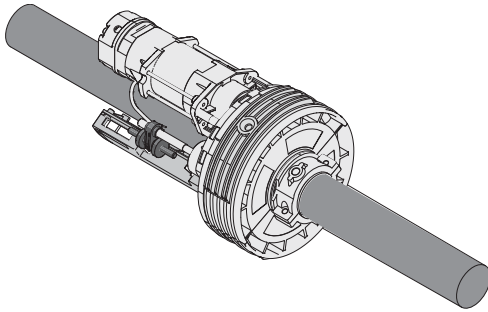
The second half-shell should be fastened using a UNI5933 M10X20 screw.



⚠ Cut off the mains power supply before making any adjustments to the limit-switches.

Adjusting the limit-switches when the gearmotor is left-hand fitted

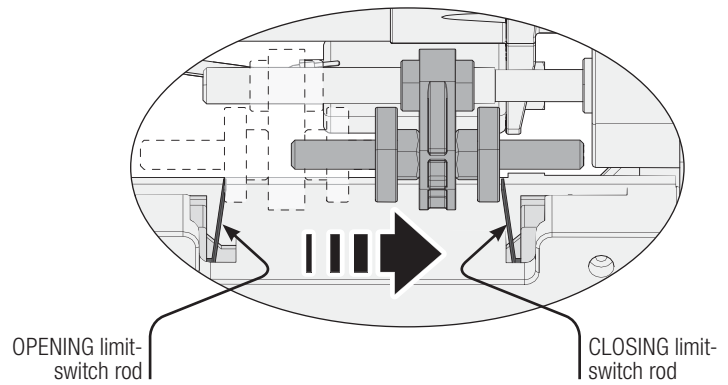
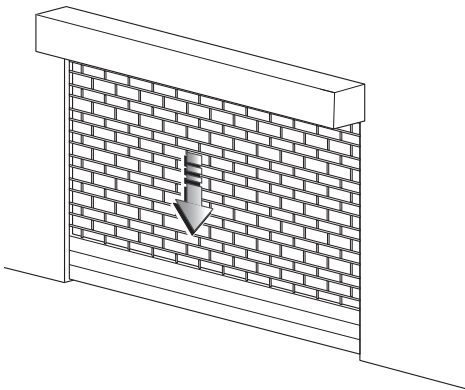
STARTING POSITION



Connect up the gearmotor as shown in figure **A** of the Electrical Connections chapter.

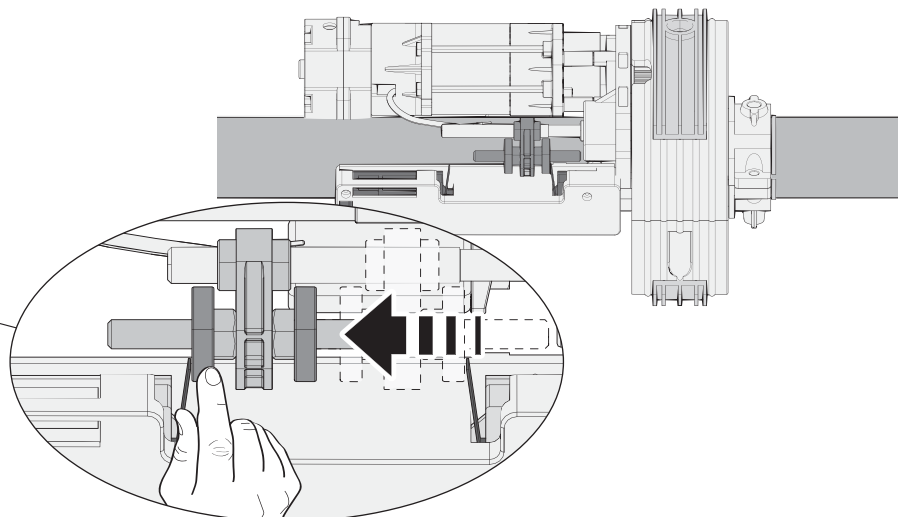
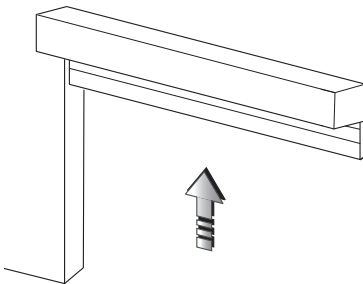
Closing limit-switch

With the shutter detached from the crown, power up the gearmotor and wait for the closing limit-switch to activate automatically.



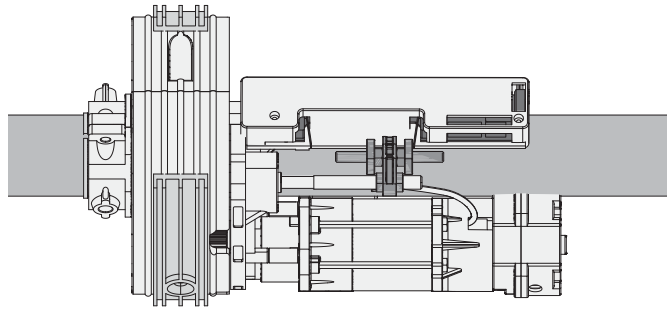
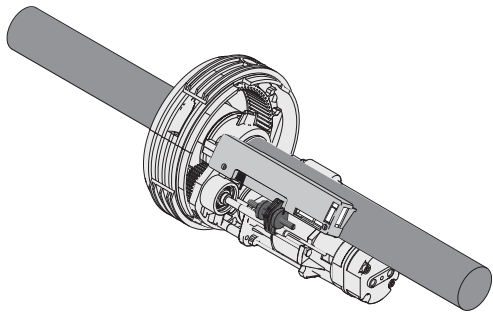
Opening limit-switch

Power up the gearmotor and raise the shutter. The micro-switch rod must trigger the shutter to stop. If the shutter reaches the wrong limit-switch point, close it again and repeat the procedure, moving the crown until you achieve the proper position.



Adjusting the limit-switches when the gearmotor is right-hand fitted

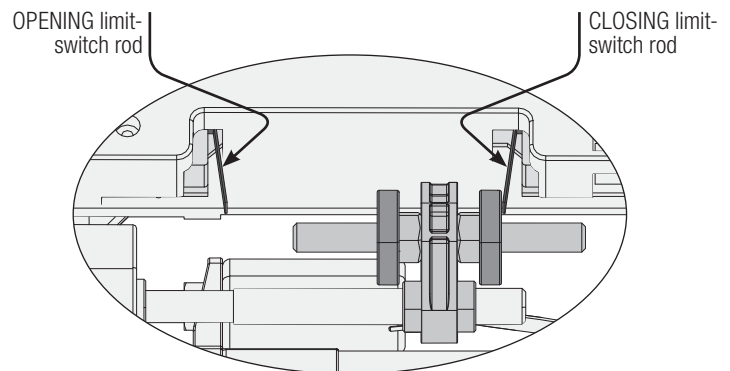
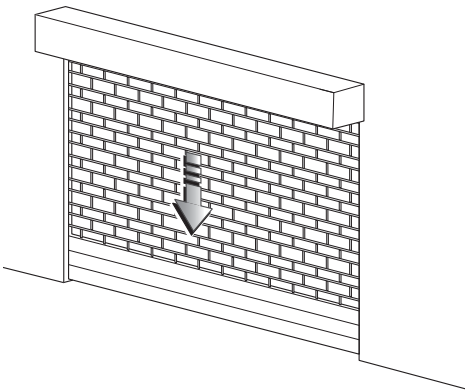
STARTING POSITION



Connect the gearmotor as shown in the picture **B** in the Electrical Connections chapter

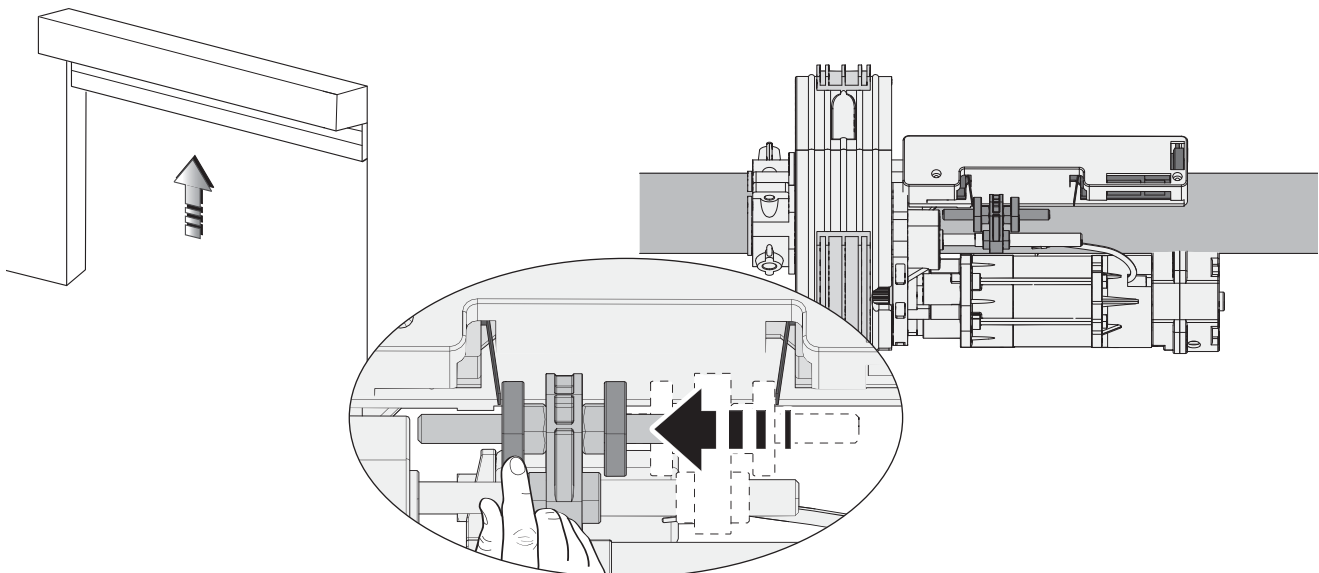
Closing limit-switch

The gearmotor is factory set up with the closing limit-switch activated.
There are no operations to be carried out.



Opening limit-switch

Power up the gearmotor and raise the shutter. The micro-switch rod must trigger the shutter to stop.
If the shutter reaches the wrong limit-switch point, close it again and repeat the procedure, moving the crown until you achieve the proper position.



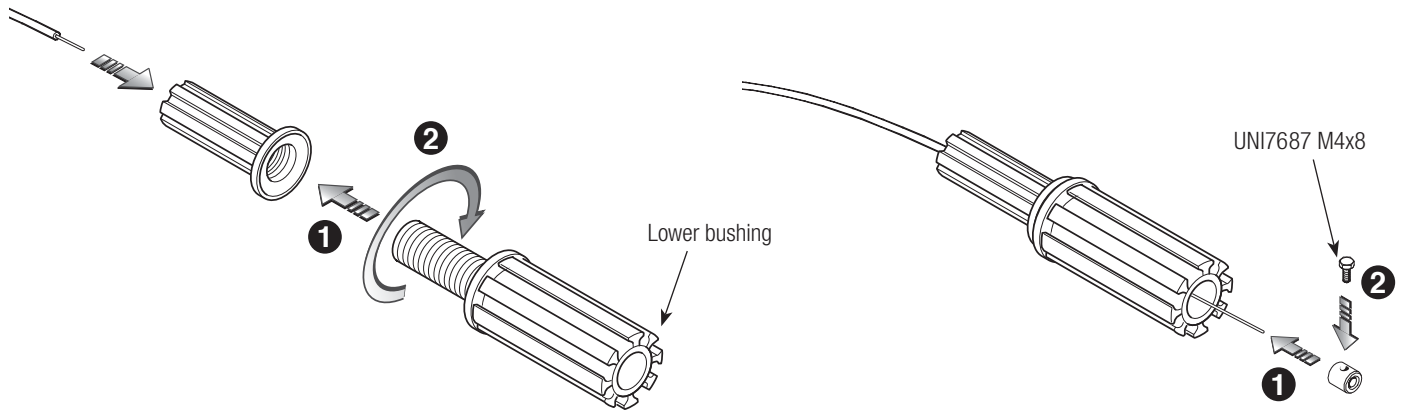
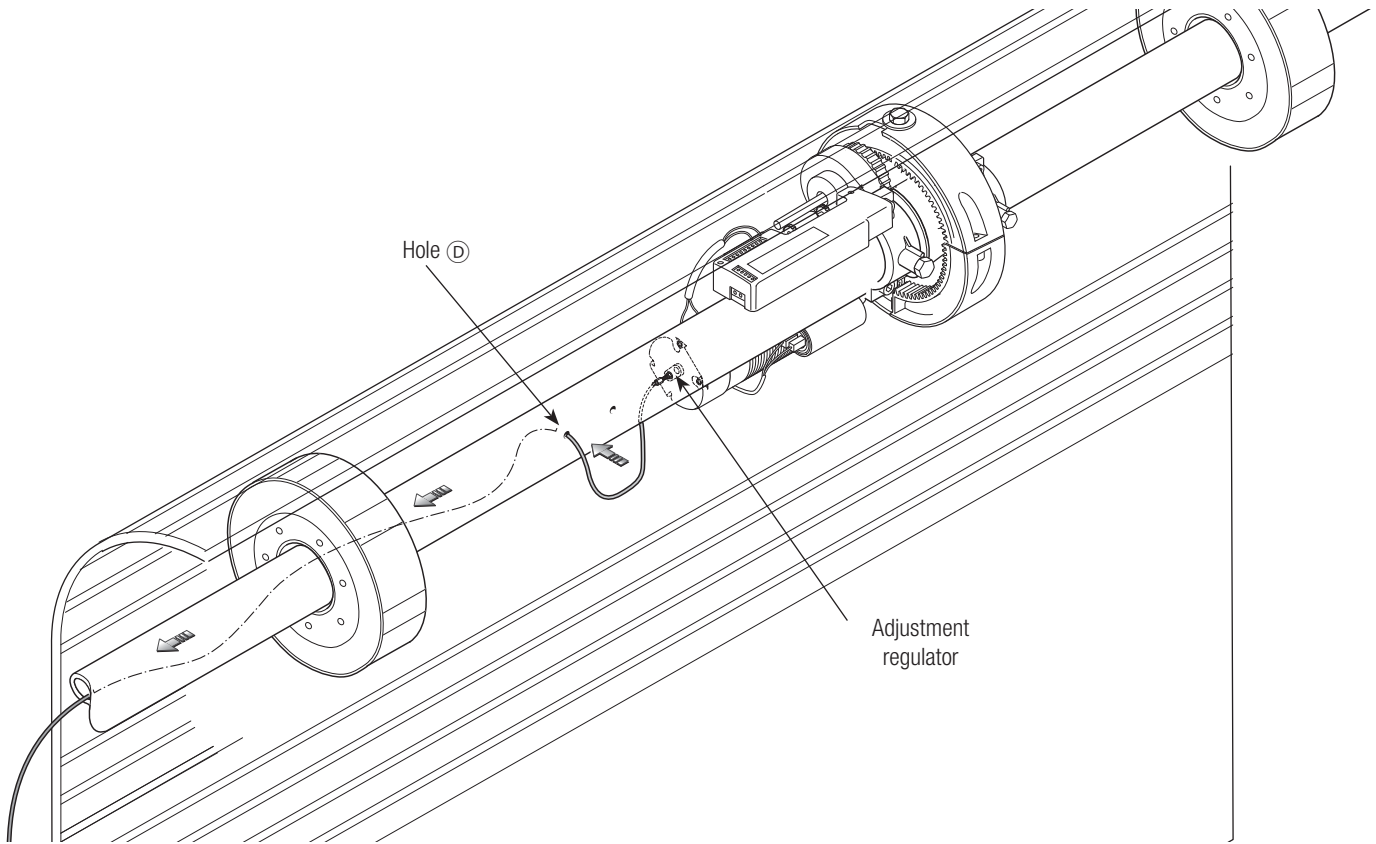
ASSEMBLING THE PULL-CORD RELEASE HANDLE

Push the cord through hole ① on the pole.

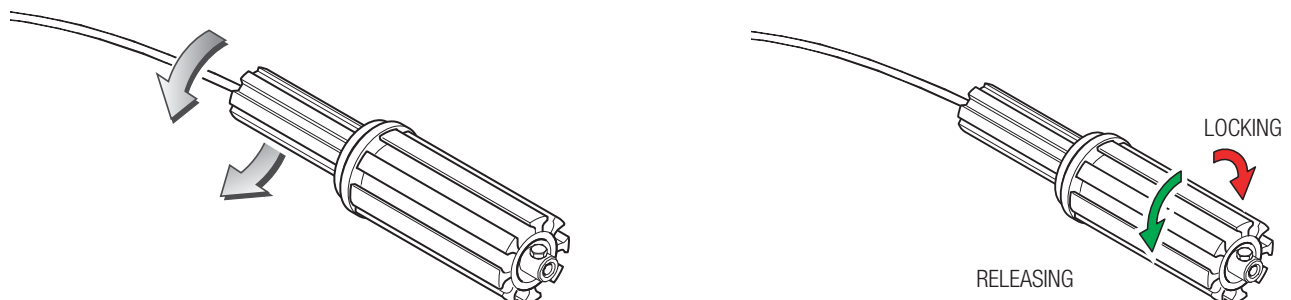
Fit the cord into the handle from the adjustment regulator side. Fit it all the way until the lower bushing;

Fit the terminal to the end of the cord and fasten it using a screw.

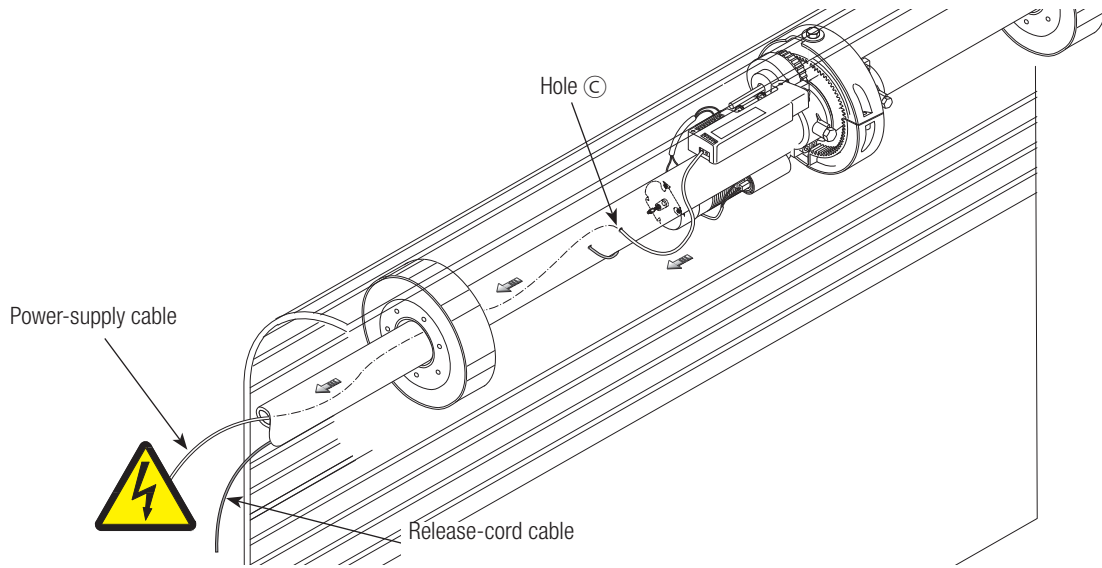
⚠ Prevent any acute angles from forming along the cord.



Eliminate any play on the cord by tightening the adjustment regulator fitted on the gearmotor. To release the gearmotor, turn the handle, to lock it back into place, turn the same handle the other way.

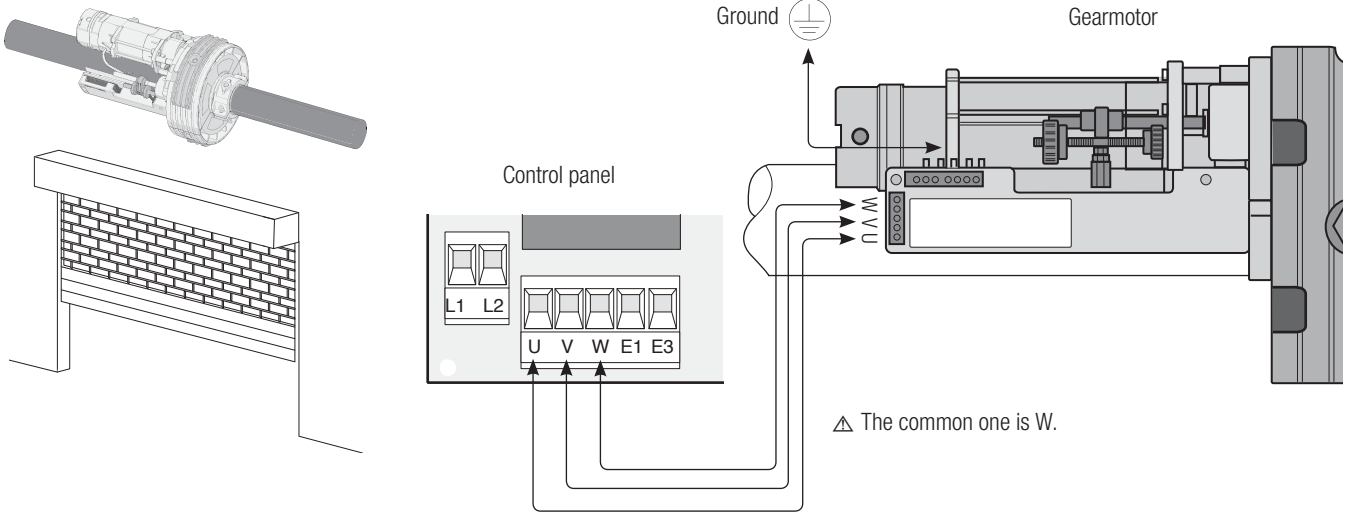


Connect the gearmotor to the control panel. Fit the cable into the pole by running it through hole ③.



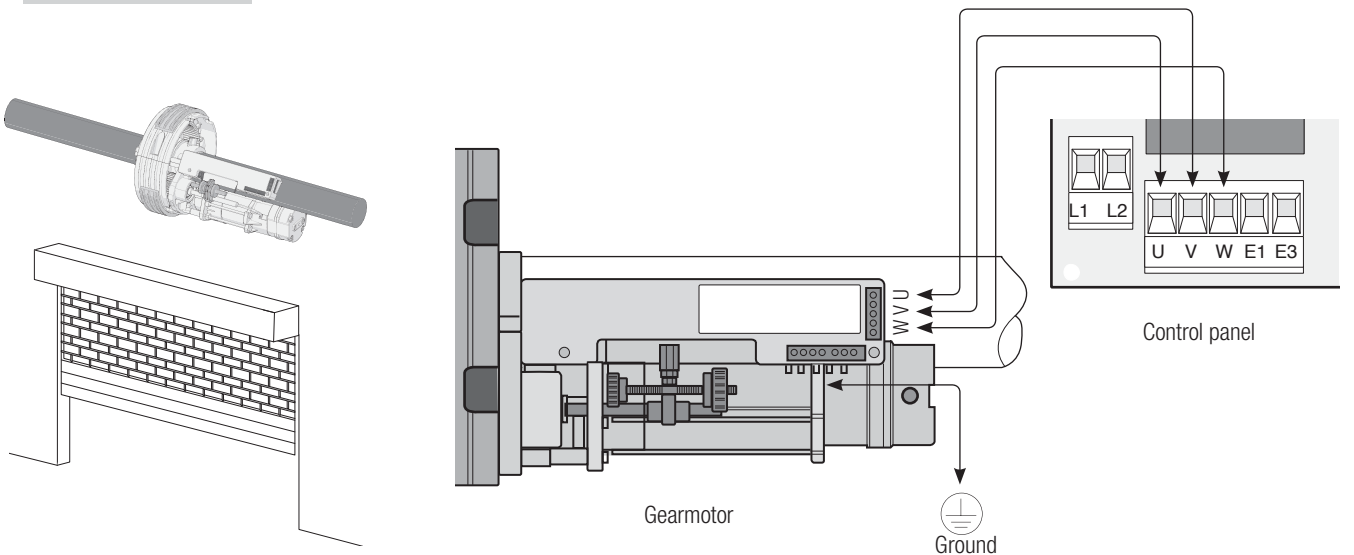
Left-hand gearmotor

A

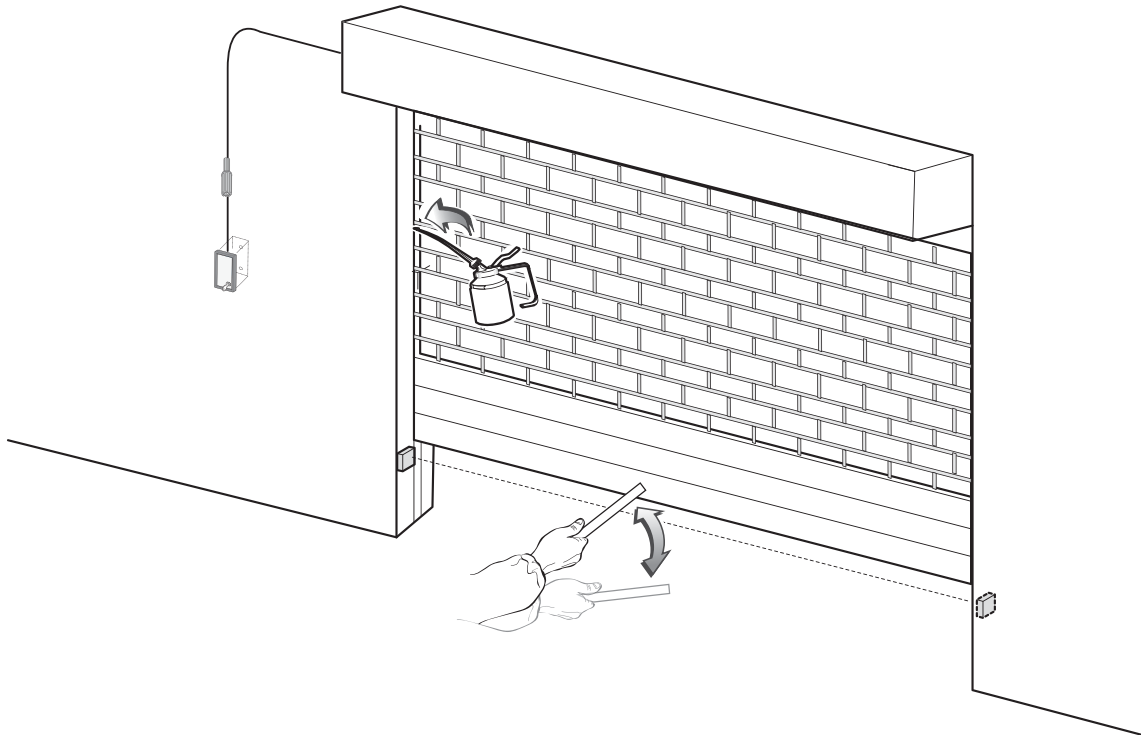


Right-hand gearmotor

B



☞ Before any maintenance jobs, cut off the mains power, to prevent possible hazards from unwanted movements by the operator. Use grease to lubricate the rotating points any time strange vibrations or squeaking occurs, as shown below.



Periodic maintenance

Periodic maintenance log to be filled in by users every six months.

Date	Notes	Signature

Extraordinary maintenance

- △ The following table is for logging any extraordinary maintenance jobs, repairs and improvements performed by specialized contractors.
- △ Any extraordinary maintenance jobs must be done only by specialized technicians.

Extraordinary maintenance log

Fitter's stamp	Name of operator
	Job performed on (date)
	Technician's signature
	Requester's signature
Job performed _____ _____ _____	

Fitter's stamp	Name of operator
	Job performed on (date)
	Technician's signature
	Requester's signature
Job performed _____ _____ _____	

TROUBLESHOOTING

MALFUNCTIONS	POSSIBLE CAUSES	FIXES AND REMEDIES
The operator neither opens nor closes	<ul style="list-style-type: none"> • Power supply is missing • The gearmotor is stuck • The transmitter's battery is run down • The transmitter is broken • The stop button is either jammed or malfunctioning • The opening/closing button or key-switch selector are jammed 	<ul style="list-style-type: none"> • Check main power supply • Call for assistance • Replace the batteries • Call for assistance • Call for assistance • Call for assistance
The operator opens but does not close	<ul style="list-style-type: none"> • The photocells are engaged • The sensitive-safety edge is engaged 	<ul style="list-style-type: none"> • Make sure the photocells are clean and in working order • Call for assistance
The operator closes but does not open	<ul style="list-style-type: none"> • The sensitive-safety edge is engaged 	<ul style="list-style-type: none"> • Call for assistance
The flashing light does not work	<ul style="list-style-type: none"> • The light-bulb is burned out 	<ul style="list-style-type: none"> • Call for assistance

DISMANTLING AND DISPOSAL

☞ CAME S.p.A. applies a certified Environmental Management System at its premises, which is compliant with the UNI EN ISO 14001 standard to ensure the environment is safeguarded.

Please continue safeguarding the environment. At CAME we consider it one of the fundamentals of our operating and market strategies. Simply follow these brief disposal guidelines:

♻️ DISPOSING OF THE PACKAGING

The packaging materials (cardboard, plastic, and so on) should be disposed of as solid household waste, and simply separated from other waste for recycling. Always make sure you comply with local laws before dismantling and disposing of the product.

DO NOT DISPOSE OF IN NATURE!

♻️ DISMANTLING AND DISPOSAL

Our products are made of various materials. Most of these (aluminum, plastic, iron, electrical cables) is classified as solid household waste. They can be recycled by separating them before dumping at authorized city plants.

Whereas other components (control boards, batteries, transmitters, and so on) may contain hazardous pollutants.

These must therefore be disposed of by authorized, certified professional services.

Before disposing, it is always advisable to check with the specific laws that apply in your area.

DO NOT DISPOSE OF IN NATURE!

REFERENCE REGULATIONS

This product complies with the relevant directives in force.



CAME.COM

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