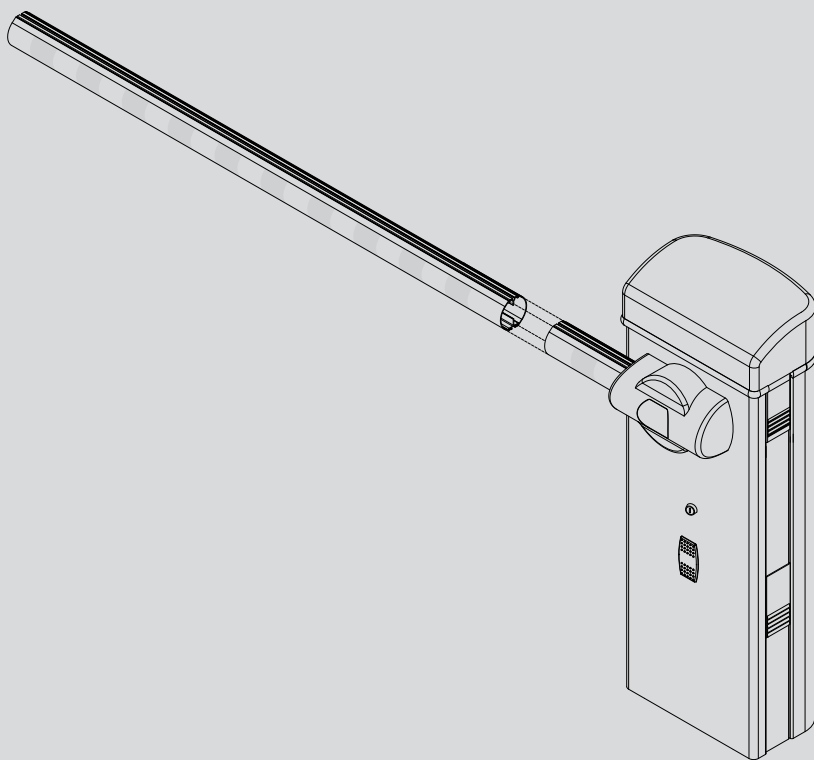


8



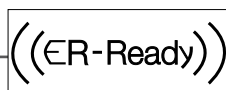
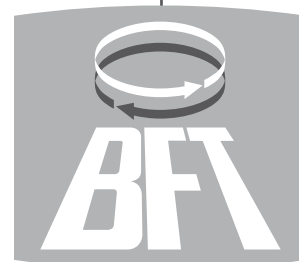
D811528 00100_03 10-11-09

ELECTROMECHANICAL CONTROL DEVICE FOR VEHICULAR BARRIERS



INSTALLATION AND USER'S MANUAL

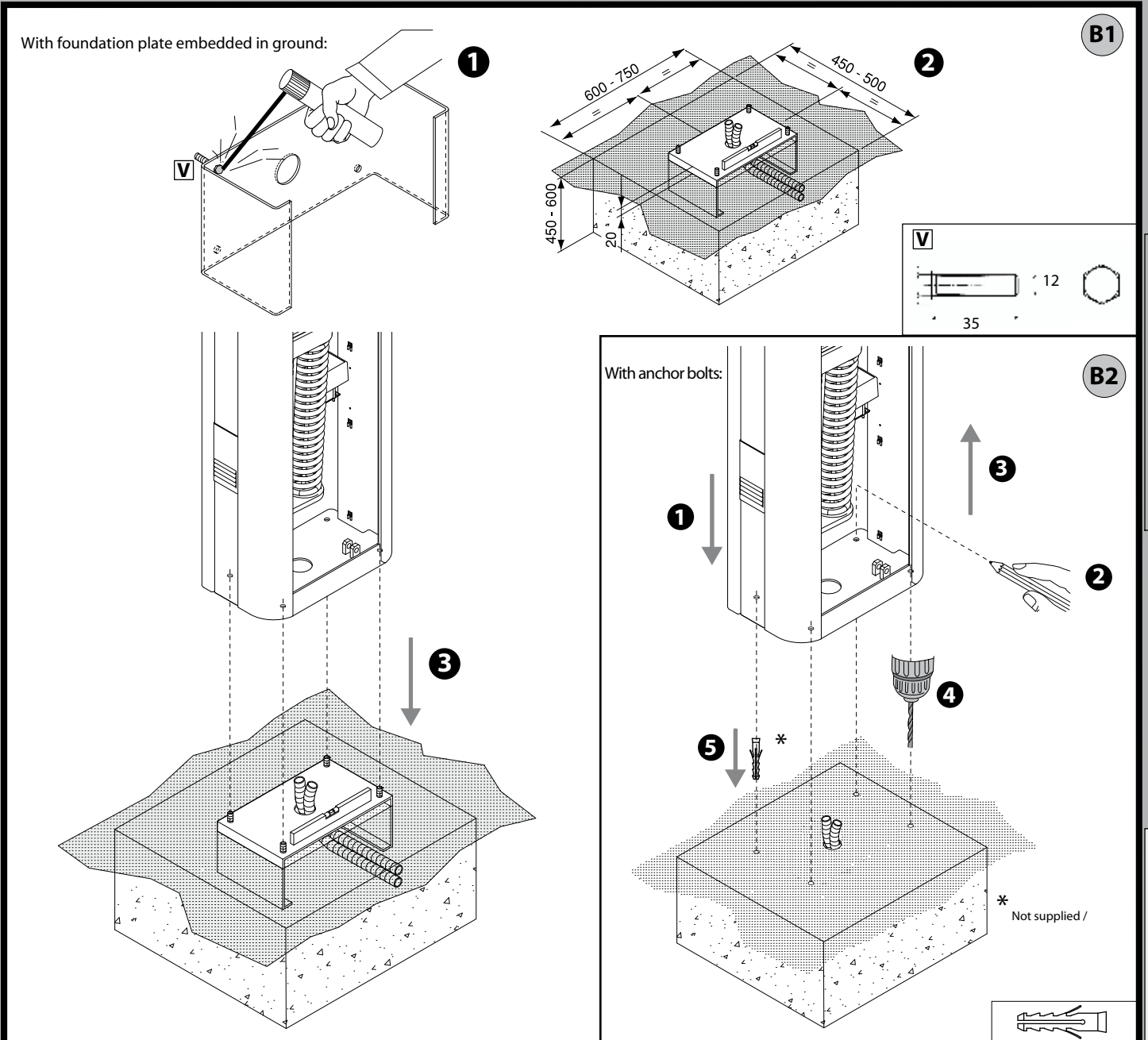
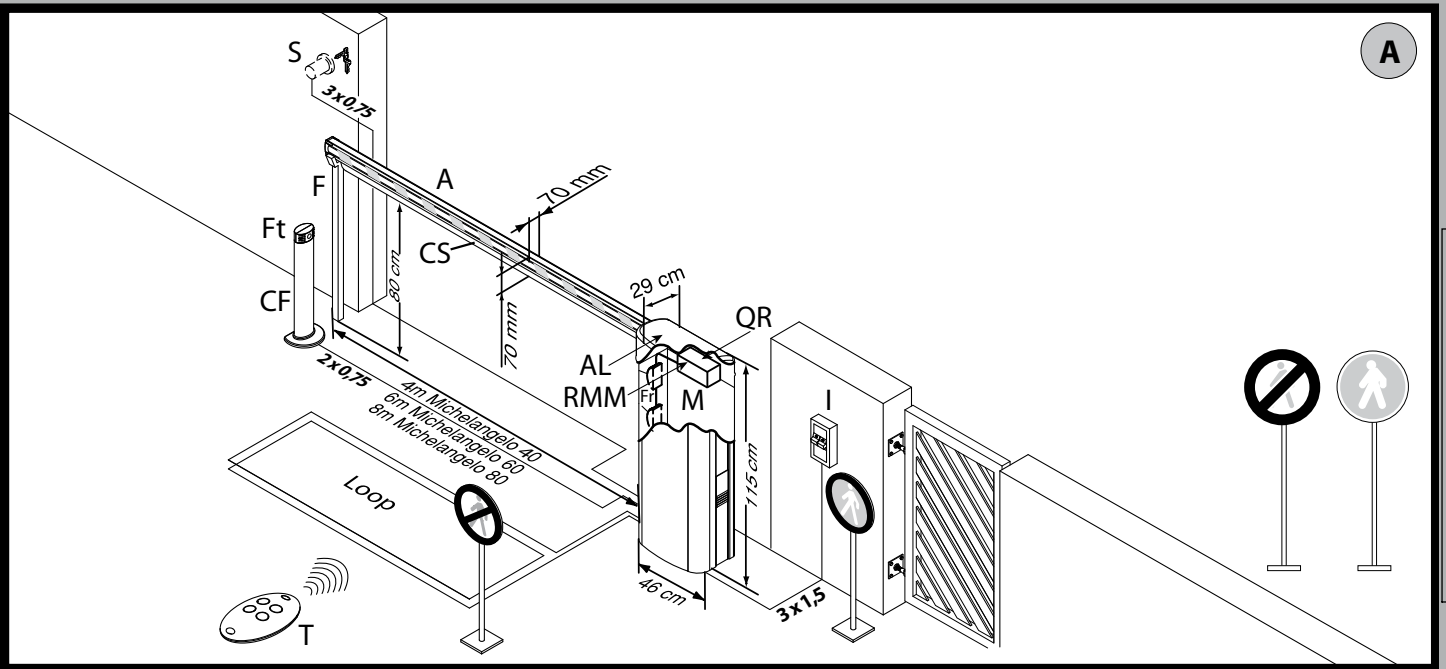
MICHELANGELO



AZIENDA CON SISTEMA DI GESTIONE INTEGRATO CERTIFICATO DA DNV = UNI EN ISO 9001:2000 = UNI EN ISO 14001:2004

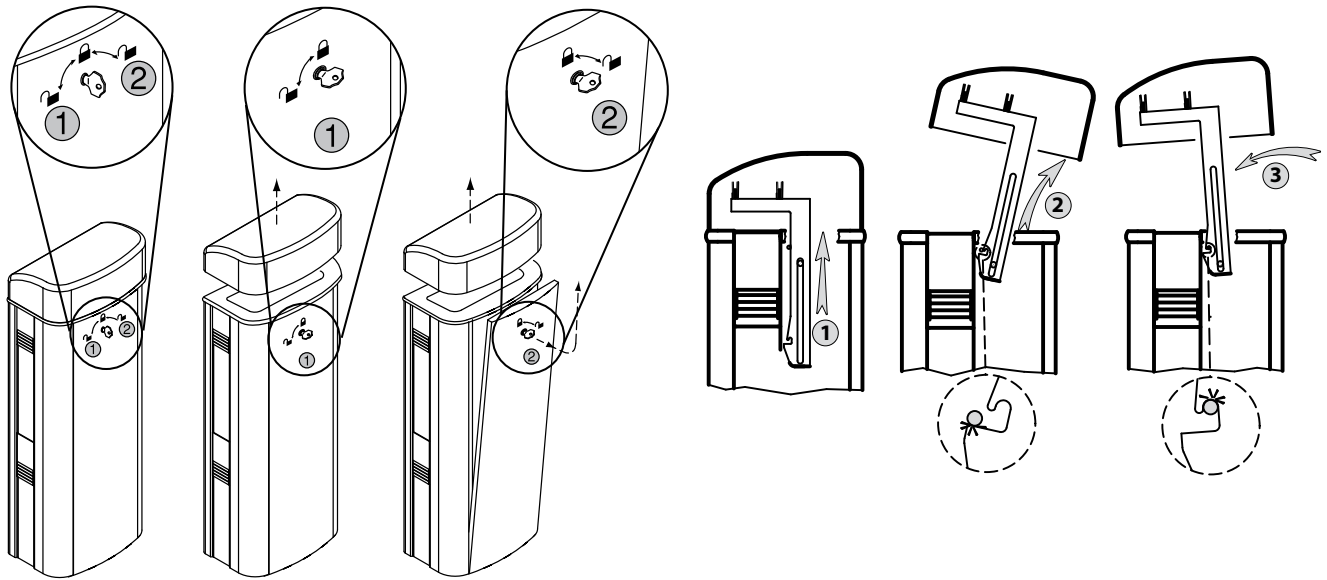
Attenzione! Leggere attentamente le "Avvertenze" all'interno! Caution! Read "Warnings" inside carefully! Attention! Veuillez lire attentivement les Avertissements qui se trouvent à l'intérieur! Achtung! Bitte lesen Sie aufmerksam die „Hinweise“ im Inneren! ¡Atención! Leer atentamente las "Advertencias" en el interior! Let op! Lees de "Waarschuwingen" aan de binnenkant zorgvuldig!

QUICK INSTALLATION

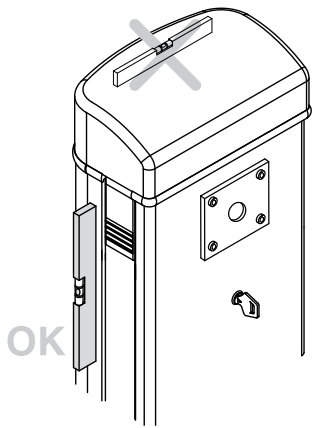


Opening and closing cover and door

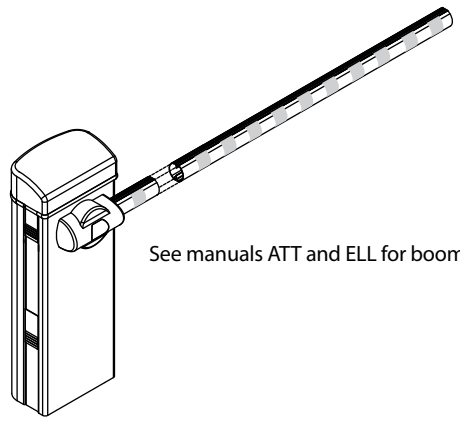
D



E

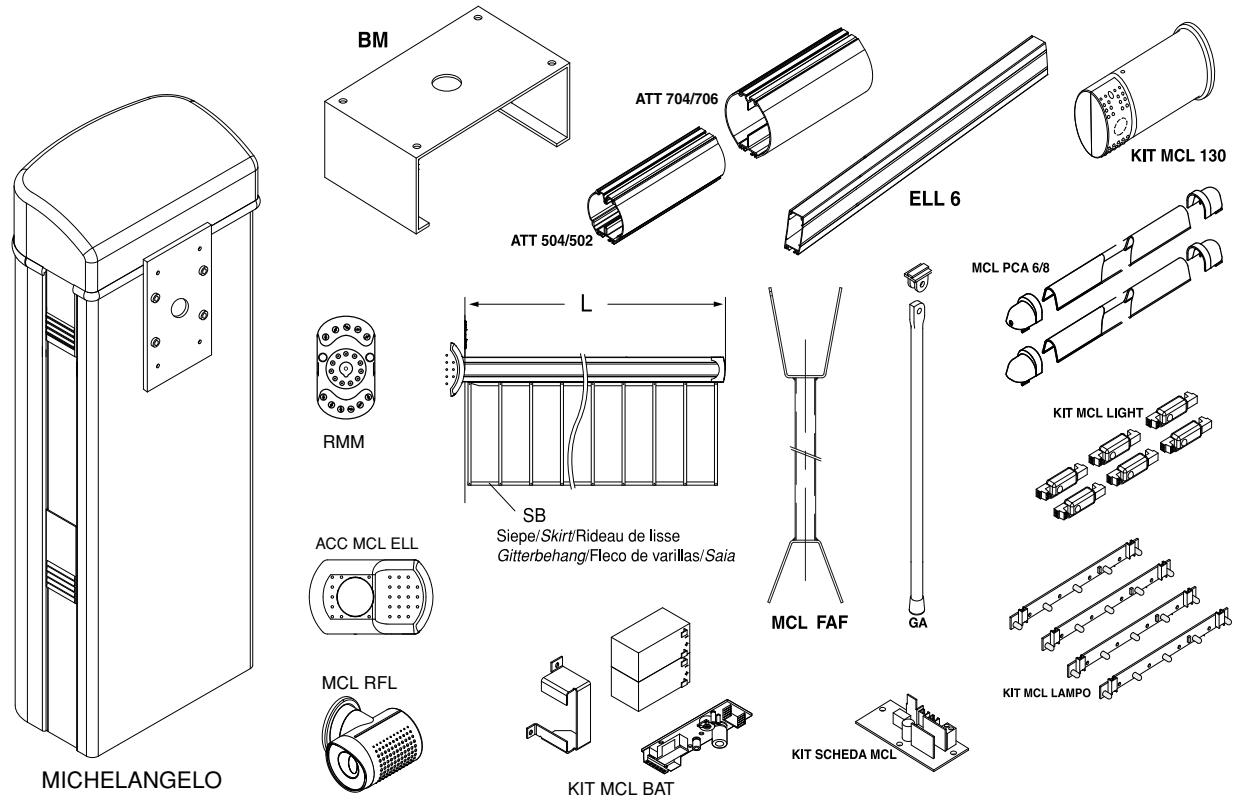


F



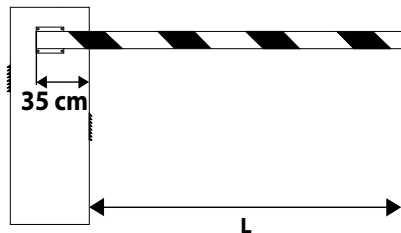
Optional extras

G



MICHELANGELO Accessories: working length of boom and balancing

SB			+ SB	+ SB	+ SB									+ SB	+ SB	+ SB							
MCL PCA (solo sopra l'asta)*1			+ PCA	+ PCA		+ PCA	+ PCA		+ PCA	+ PCA	+ PCA	+ PCA		+ PCA	+ PCA		+ PCA	+ PCA		+ PCA	+ PCA	+ PCA	
MCL PCA (solo sotto l'asta)*2									+ PCA		+ PCA									+ PCA	+ PCA		
KIT MCL LIGHT			+ LIGHT			+ LIGHT			+ LIGHT	+ LIGHT				+ LIGHT			+ LIGHT		+ LIGHT				
GAM			+ GAM	+ GAM	+ GAM	+ GAM	+ GAM	+ GAM	+ GAM	+ GAM	+ GAM	+ GAM	+ GAM										
BIR						+ BIR	+ BIR	+ BIR									+ BIR	+ BIR	+ BIR				
MCL 40 + ATT704	A	MIN L		2,8	2,8	2,9	3,2	3,3	3,4	3,5	3,6	3,5	3,7	3,9	3	3	3,1	3,5	3,5	3,6	3,8	3,8	
		MAX L		3	3,1	3,1	3,4	3,5	3,6	3,7	3,9	3,8	3,9	4	3,2	3,2	3,3	3,7	3,8	3,9	4	4	
	B	MIN L	3,4	2,1	2,1	2,2	2,4	2,4	2,5	2,6	2,7	2,6	2,7	2,8	2,3	2,3	2,4	2,6	2,7	2,8	2,8	2,9	3
		MAX L	4	2,5	2,6	2,6	2,9	2,9	3	3,1	3,3	3,2	3,3	3,5	2,7	2,7	2,8	3,1	3,2	3,3	3,4	3,5	3,6
	C	MIN L	2,6	1,6	1,6	1,7	1,9	2	2	2,1	2,2	2,1	2,2	2,3	1,8	1,8	1,9	2,1	2,1	2,2	2,3	2,3	2,4
		MAX L	3,2	2,1	2,1	2,2	2,4	2,5	2,5	2,6	2,8	2,7	2,8	2,9	2,3	2,3	2,4	2,7	2,7	2,8	2,9	3	3,1
MCL 40 + ELL6	A	MIN L		3	3,1	3,2	3,6	3,6	3,8	3,9					3,3	3,3	3,4	3,9	3,9				
		MAX L		3,3	3,3	3,4	3,8	3,9	4	4					3,5	3,5	3,7	4	4				
	B	MIN L	3,8	2,3	2,3	2,4	2,6	2,7	2,8	2,9	3,1	3	3,1	3,3	2,5	2,5	2,6	2,9	3	3,1	3,3	3,3	3,3
		MAX L	4	2,7	2,8	2,9	3,2	3,3	3,4	3,5	3,7	3,6	3,8	4	2,9	3	3,1	3,5	3,6	3,7	3,9	4	4
	C	MIN L	3	1,8	1,8	1,9	2,1	2,2	2,3	2,3	2,4	2,3	2,5	2,6	2	2	2,1	2,3	2,4	2,5	2,6	2,7	2,8
		MAX L	3,8	2,3	2,3	2,4	2,7	2,8	2,9	3	3,1	3	3,2	3,4	2,5	2,5	2,6	3	3	3,2	3,3	3,4	3,6
MCL 60 + ELL6	A	MIN L	5,3	4,2	4,3	4,4	4,9	5	5,4	5,3	5,4	5,4	5,5	5,6	4,5	4,6	4,7	5,3	5,4	5,4	5,5	5,6	5,7
		MAX L	6	4,7	4,8	4,9	5,5	5,6	5,9	6	6	6	6	6	5	5,1	5,2	5,9	6	6	6	6	6
	B	MIN L	4,8	3,2	3,2	3,3	3,9	4	4,3	4,2	4,4	4,3	4,4	4,5	3,6	3,7	3,8	4,3	4,4	4,5	4,4	4,5	4,8
		MAX L	6	4	4,1	4,2	4,9	4,9	5,3	5,3	5,5	5,5	5,5	5,5	4,4	4,4	4,5	5,3	5,3	5,5	5,5	5,6	5,9
MCL 60 + ATT704 + ATT502	A	MIN L	5,2				4,5	4,5	4,7	4,9	5,1	5,2	5,2	5,3				4,7	4,8	5	5,2	5,3	5,4
		MAX L	6				5,2	5,3	5,5	5,7	5,9	5,9	6	6				5,5	5,6	5,8	6	6	6
	B	MIN L	3,8				2,8	2,9	3,1	3,1	3,4	3,4	3,5	3,6				3,3	3,4	4,2	3,8	3,8	3,9
		MAX L	5,1				4,1	4,2	4,5	4,5	5	4,9	5	5,1				4,5	4,6	5	5,1	5,1	5,1
MCL 60 + ATT706	A	MIN L	5,3	3,6	3,7	3,8	4,2	4,3	4,4	4,5	4,7	4,6	4,8	5	3,8	3,9	4	4,4	4,5	4,6	4,8	4,9	5,1
		MAX L	6	4,1	4,2	4,3	4,7	4,8	4,9	5,1	5,3	5,2	5,4	5,6	4,3	4,4	4,5	4,9	5	5,2	5,4	5,5	5,7
	B	MIN L	4,2	2,9	2,9	3	3,3	3,3	3,5	3,6	3,7	3,6	3,8	3,9	3	3,1	3,2	3,5	3,6	3,7	3,8	3,9	4
		MAX L	5,3	3,6	3,7	3,8	4,2	4,2	4,4	4,5	4,7	4,6	4,8	5	3,8	3,9	4	4,4	4,5	4,6	4,8	4,9	5,1



L: Working boom length.

*1 (above boom only)

*2 (below boom only)

MICHELANGELO 80 Accessories: working length of boom and balancing

G2

SB			+ SB	+ SB	+ SB									+ SB	+ SB	+ SB						
MCL PCA (solo sopra l'asta)*1			+ PCA	+ PCA		+ PCA	+ PCA		+ PCA	+ PCA	+ PCA	+ PCA		+ PCA	+ PCA		+ PCA	+ PCA		+ PCA	+ PCA	+ PCA
MCL PCA (solo sotto l'asta)*2									+ PCA		+ PCA									+ PCA	+ PCA	
KIT MCL LIGHT			+ LIGHT			+ LIGHT			+ LIGHT	+ LIGHT				+ LIGHT			+ LIGHT			+ LIGHT		
GAM			+ GAM	+ GAM	+ GAM	+ GAM	+ GAM	+ GAM	+ GAM	+ GAM	+ GAM	+ GAM										
BIR						+ BIR	+ BIR	+ BIR									+ BIR	+ BIR	+ BIR			
MCL 80 + ATT706		MIN L		5,4	5,5	5,6								5,6	5,6	5,8						
		MAX L		5,6	5,7	5,8								5,8	5,9	6						
MCL 80+ ATT704+ ATT504		MIN L	7,9				6,4	6,5	6,8	7,1	7,4	7,1	7,5	7,9			6,9	7	7,3	7,6	7,8	7,9
		MAX L	8				7,1	7,2	7,5	7,8	8	7,6	8	8			7,3	7,4	7,8	8	8	8

Boom balancing

1

MANUALE - MANUAL - MANUEL
BEDIENUNGSANLEITUNG - MANUAL - HANDMATIG

AUTOMATICO - AUTOMATIC - AUTOMATIQUE
AUTOMATIK - AUTOMÁTICO - AUTOMATISCH

2

45°

0°

3

G3

4

90°

+ 45°

45° OK

- 45°

0°

5

MANUALE - MANUAL - MANUEL
BEDIENUNGSANLEITUNG - MANUAL - HANDMATIG

AUTOMATICO - AUTOMATIC - AUTOMATIQUE
AUTOMATIK - AUTOMÁTICO - AUTOMATISCH

*1 (above boom only) *2 (below boom only)

35 cm

L: Working boom length.

MICHELANGELO 80

90°

OK

0°

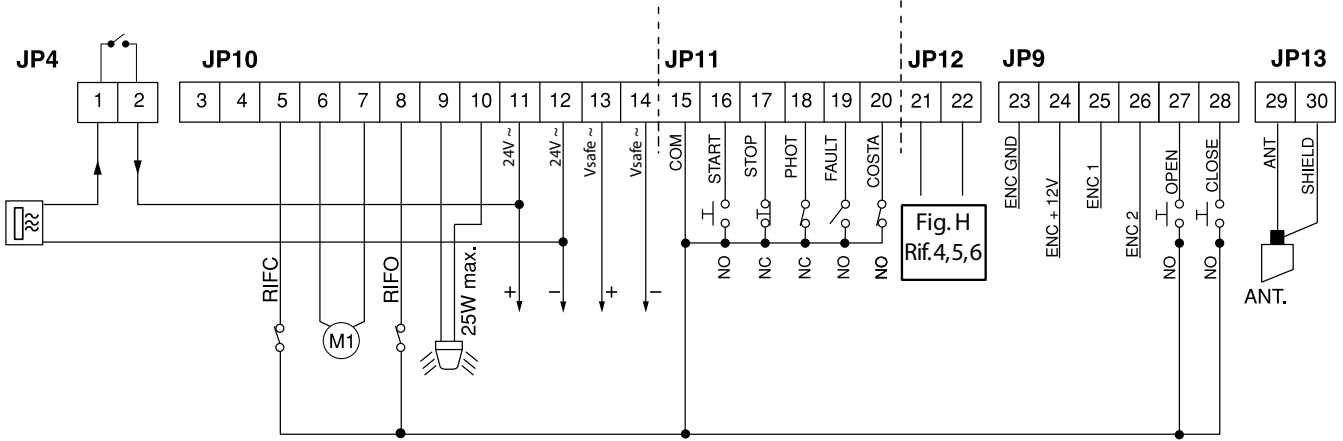
< 90°

KO

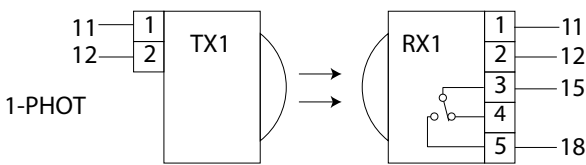
0°

Terminal board wiring

H

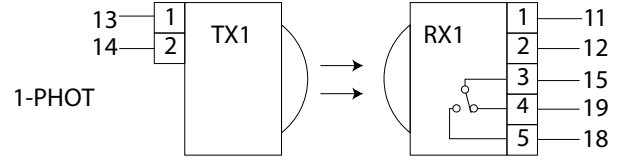


1 TEST PHOT=OFF

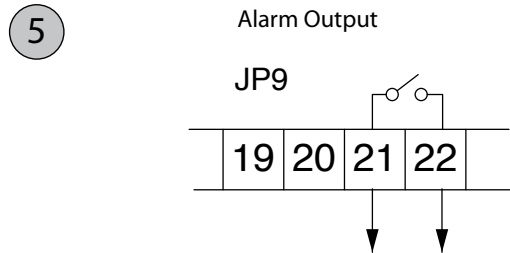
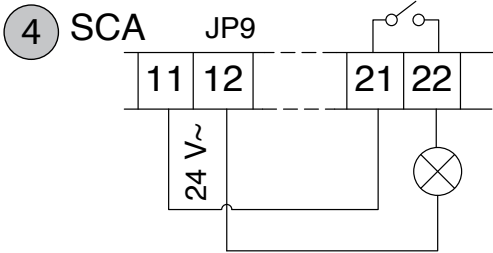
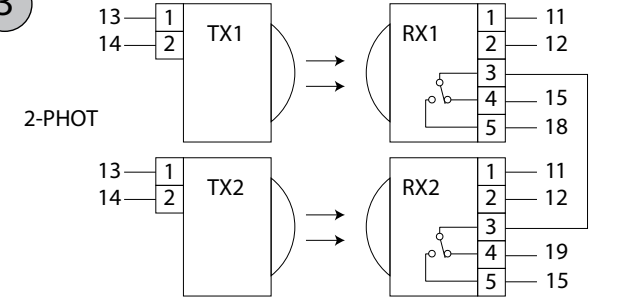


Photocell test LOGIC OFF

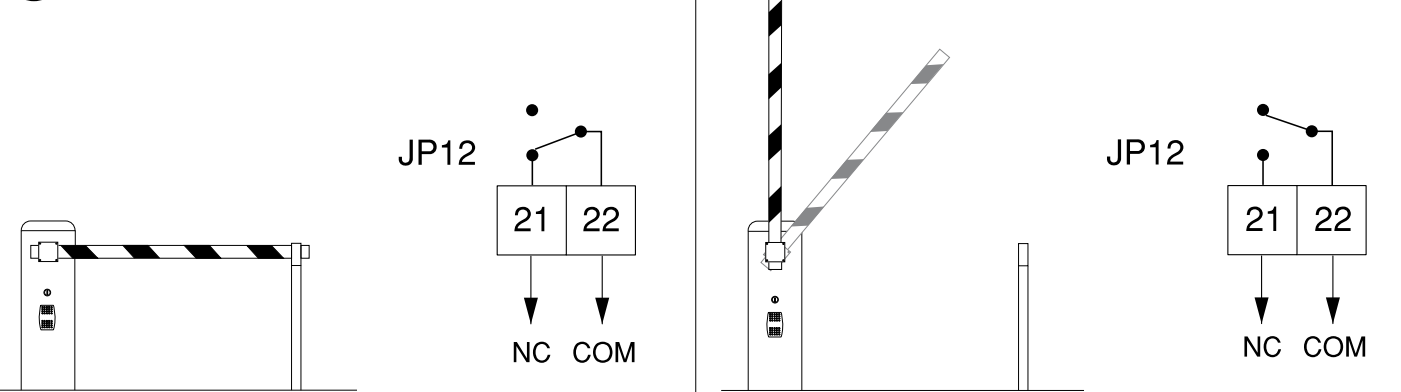
2 TEST PHOT=ON



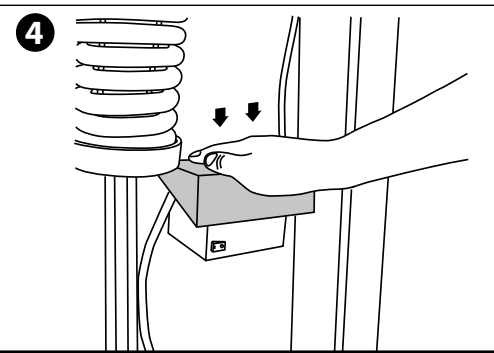
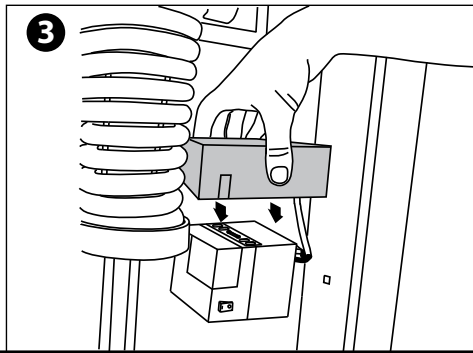
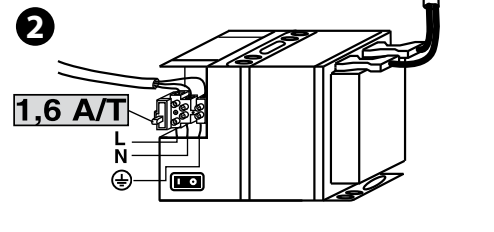
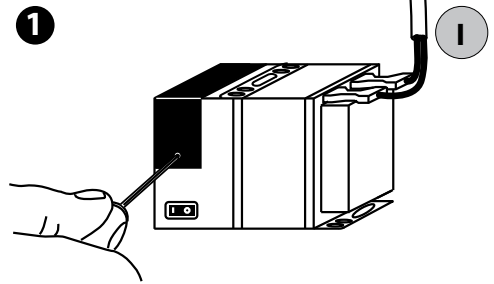
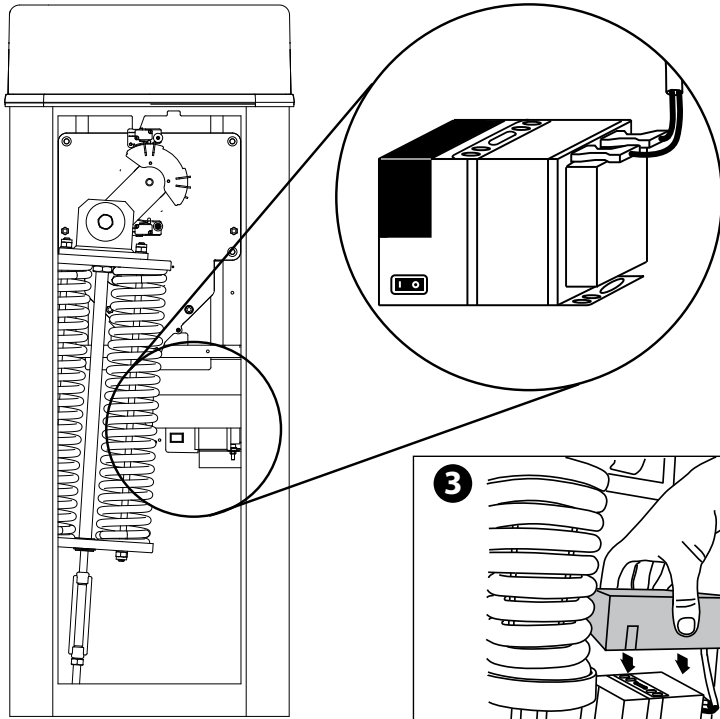
3



6 Connection To Parky Car-park Management System,



Transformer wiring



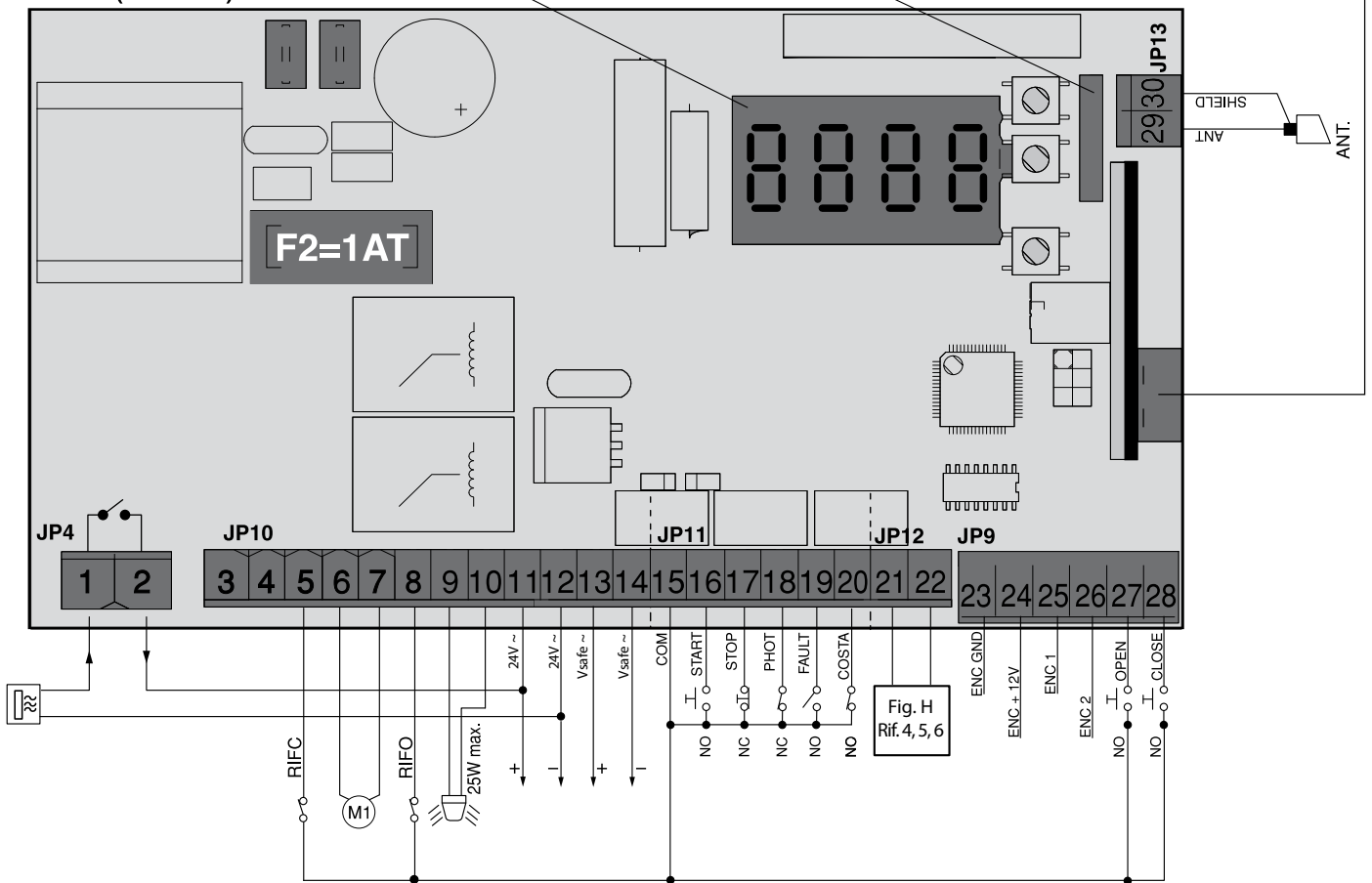
Display plus programming keys,

Palmtop programmer connector,

SCS1 optional board connector,

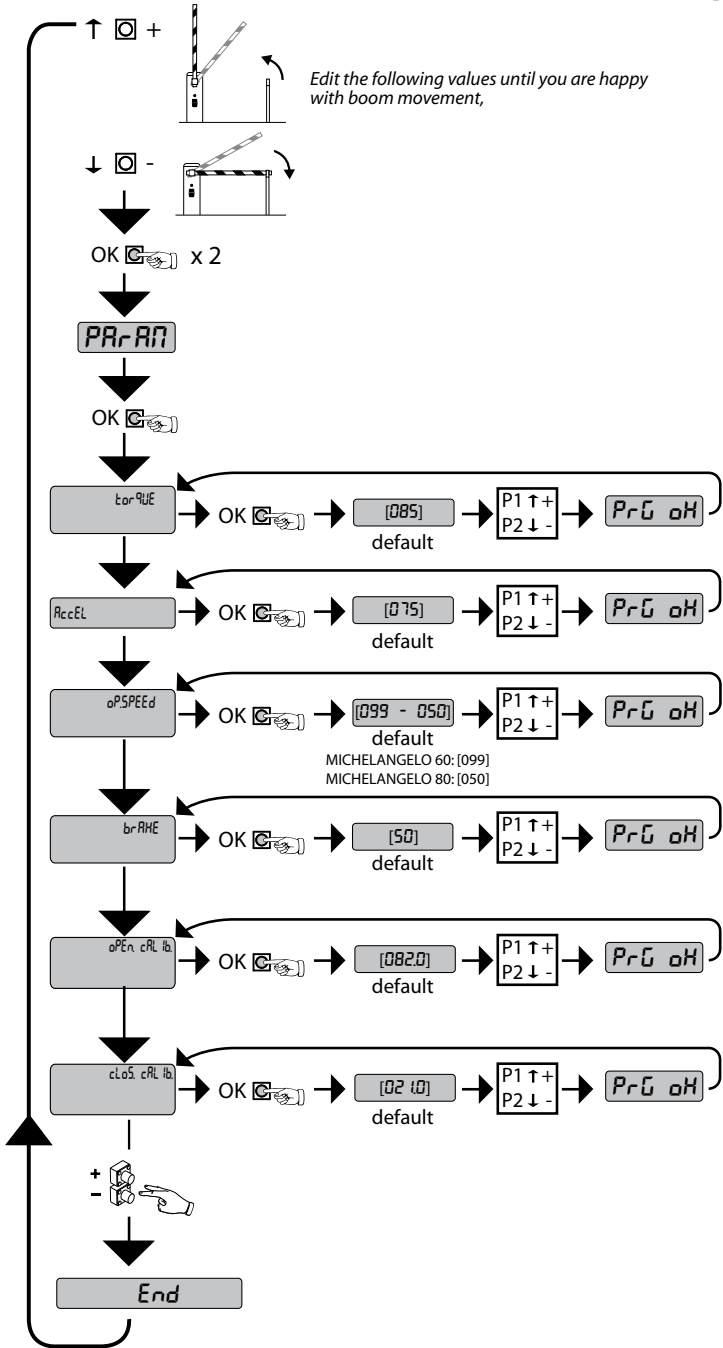
L

JP8 JP6
(24V~) + -



PRELIMINARY ADJUSTMENTS,

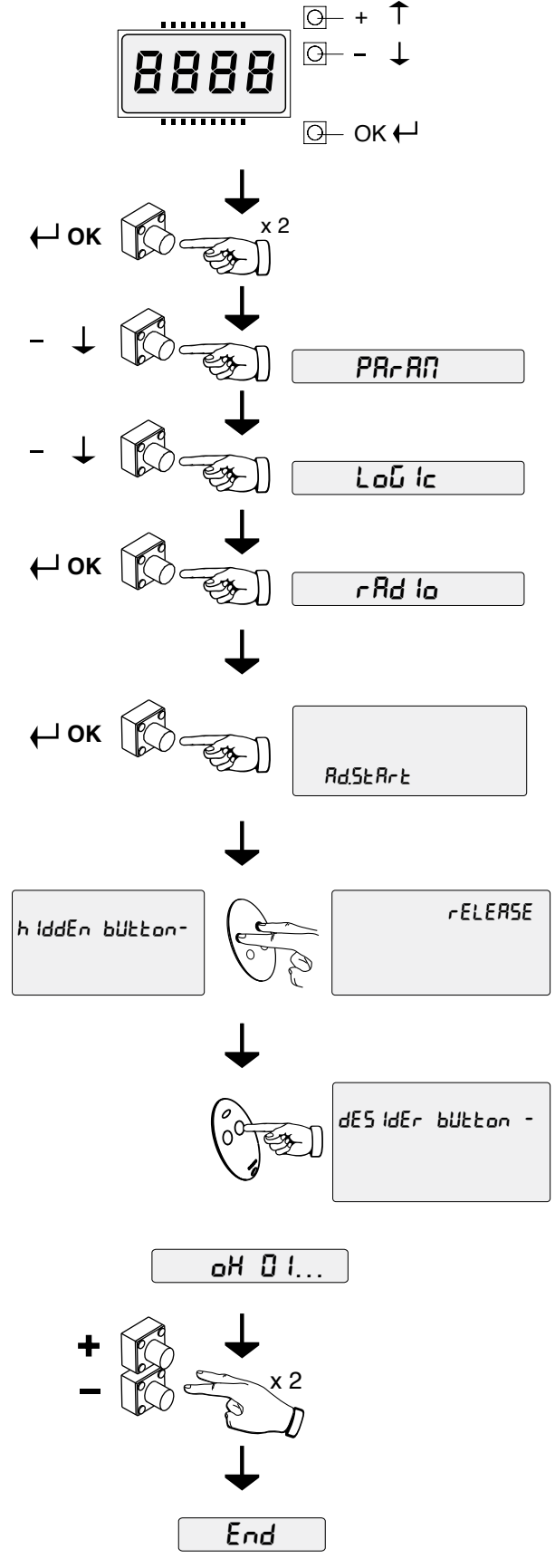
(M)



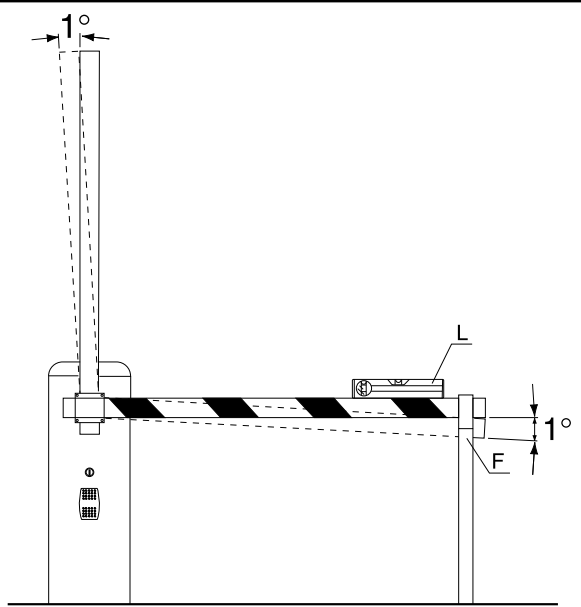
Edit the following values until you are happy with boom movement,

MEMORIZING REMOTE CONTROLS

(O)



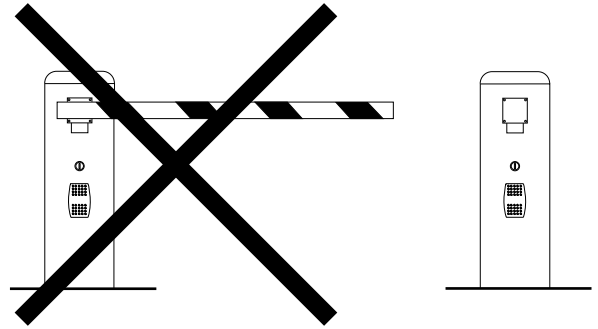
(N)



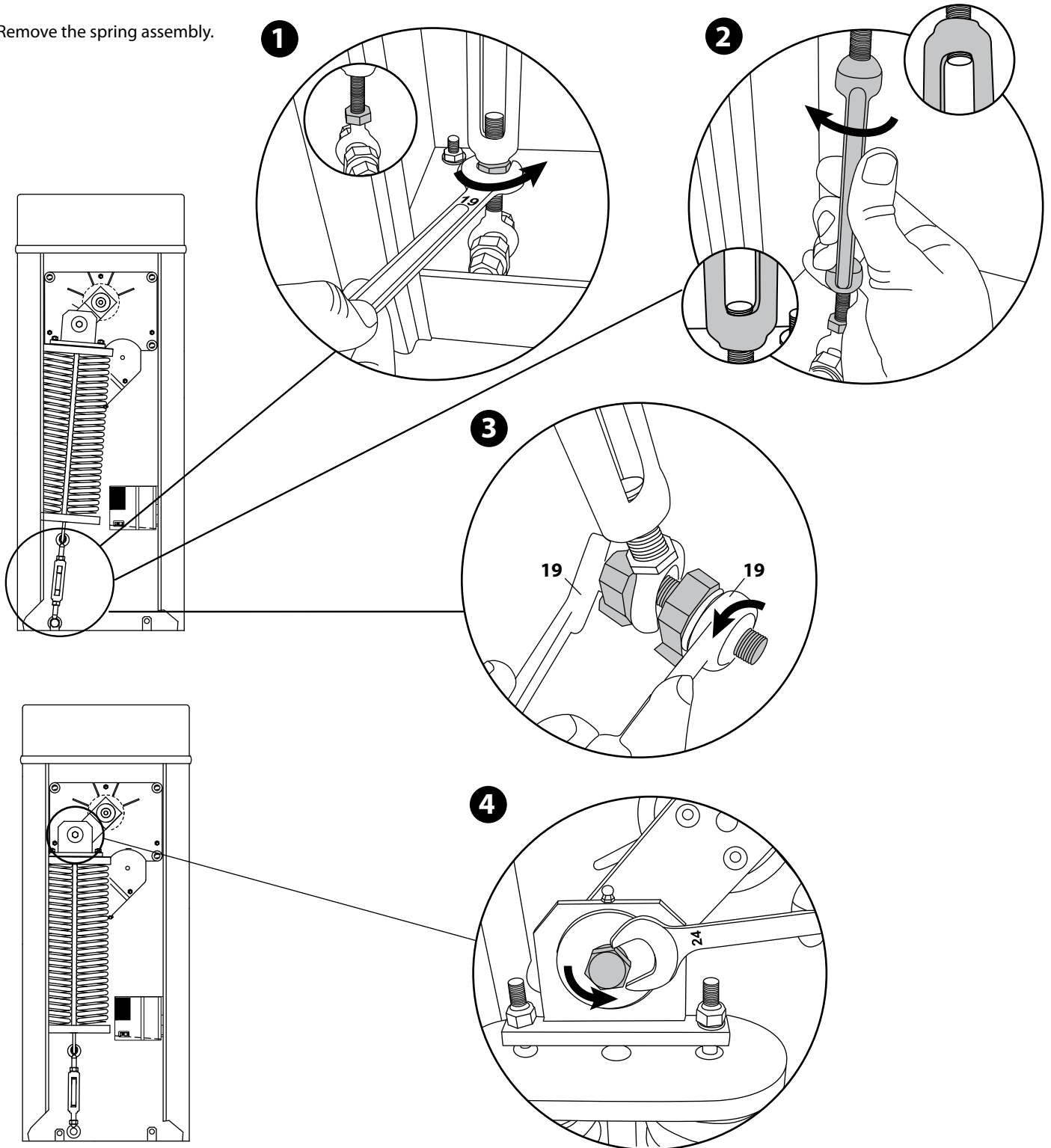
Assembly of right boom

AA

Make sure the spring is not under tension and the boom is not fitted.

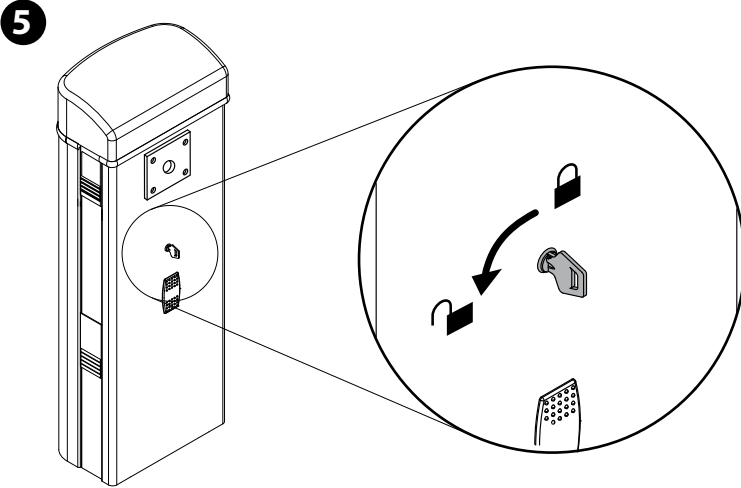


Remove the spring assembly.



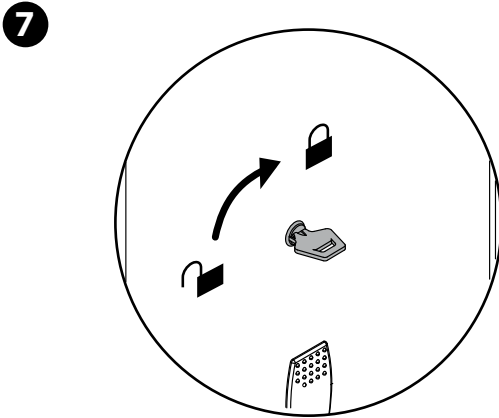
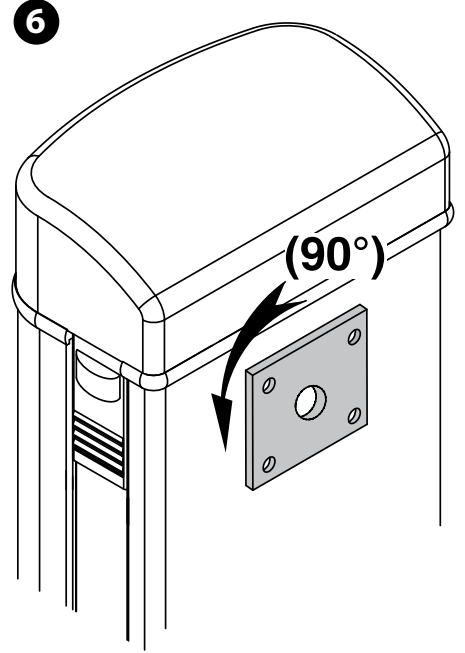
Refit the right-hand spring assembly,

AB



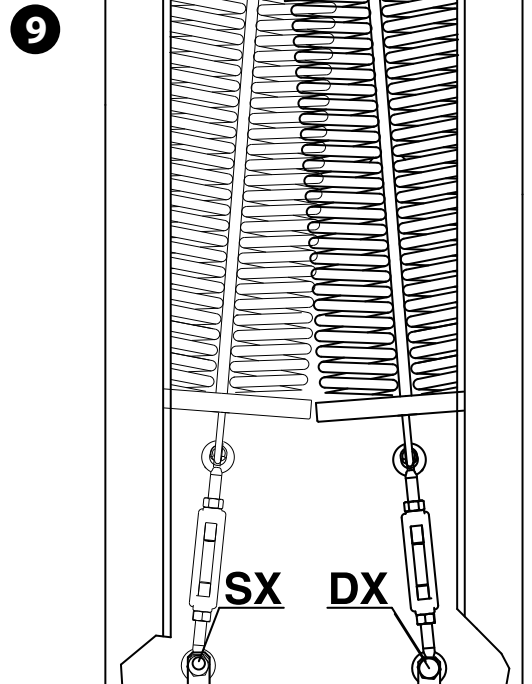
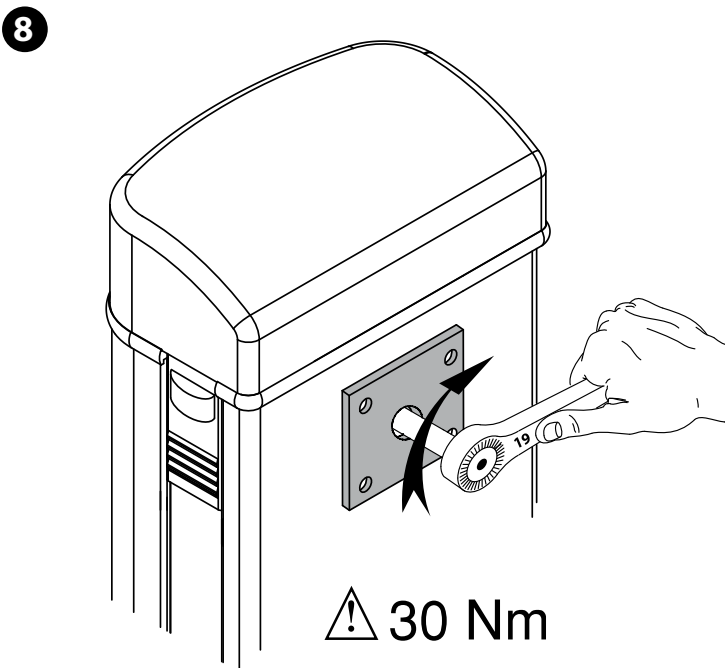
MANUALE - MANUAL - MANUEL
 BEDIENUNGSANLEITUNG - MANUAL - HANDMATIG

 AUTOMATICO - AUTOMATIC - AUTOMATIQUE
 AUTOMATIK - AUTOMÁTICO - AUTOMATISCH

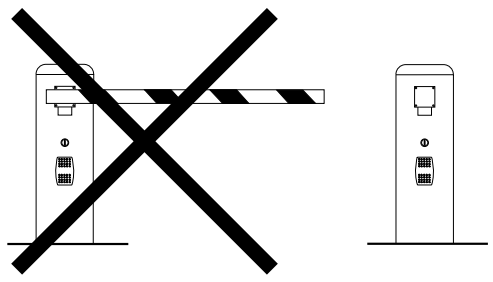


MANUALE - MANUAL - MANUEL
 BEDIENUNGSANLEITUNG - MANUAL - HANDMATIG

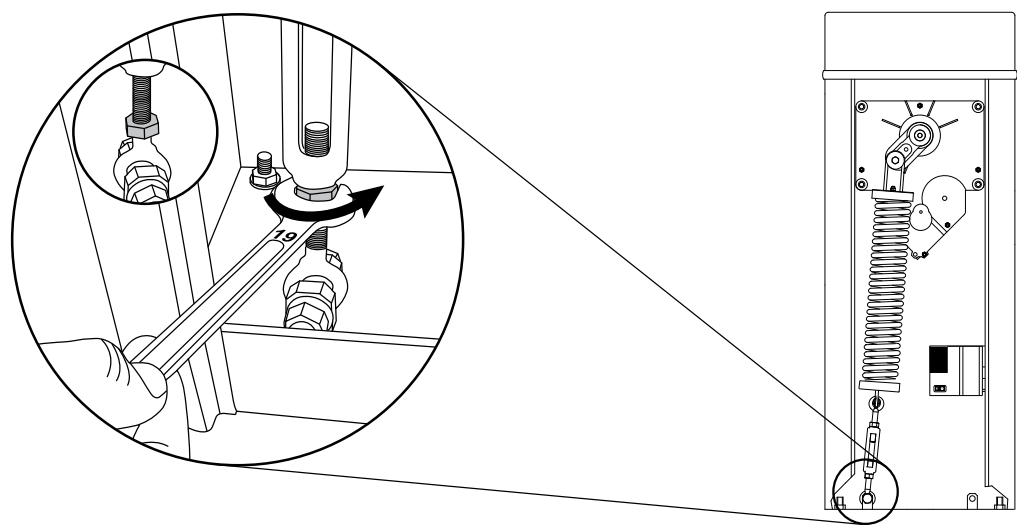
 AUTOMATICO - AUTOMATIC - AUTOMATIQUE
 AUTOMATIK - AUTOMÁTICO - AUTOMATISCH



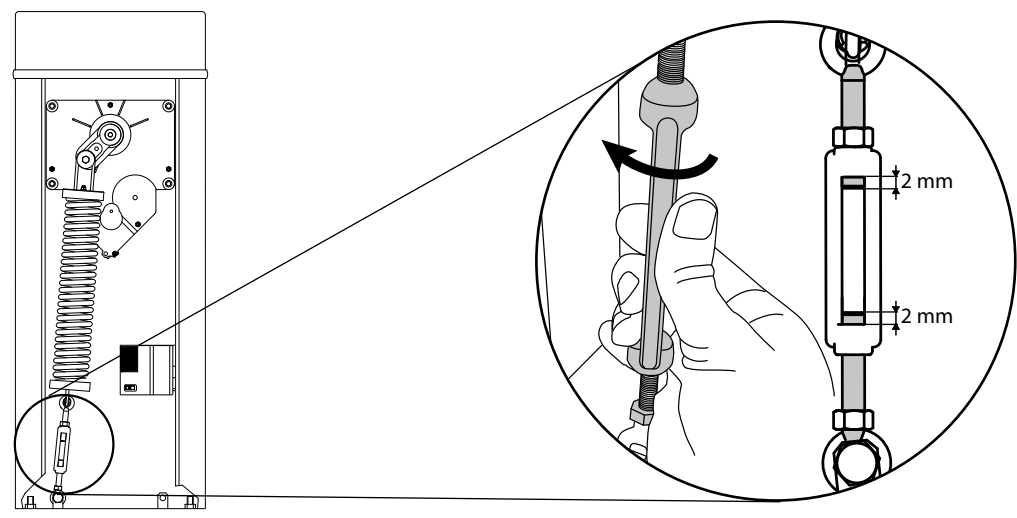
Make sure the spring is not under tension and the boom is not fitted.



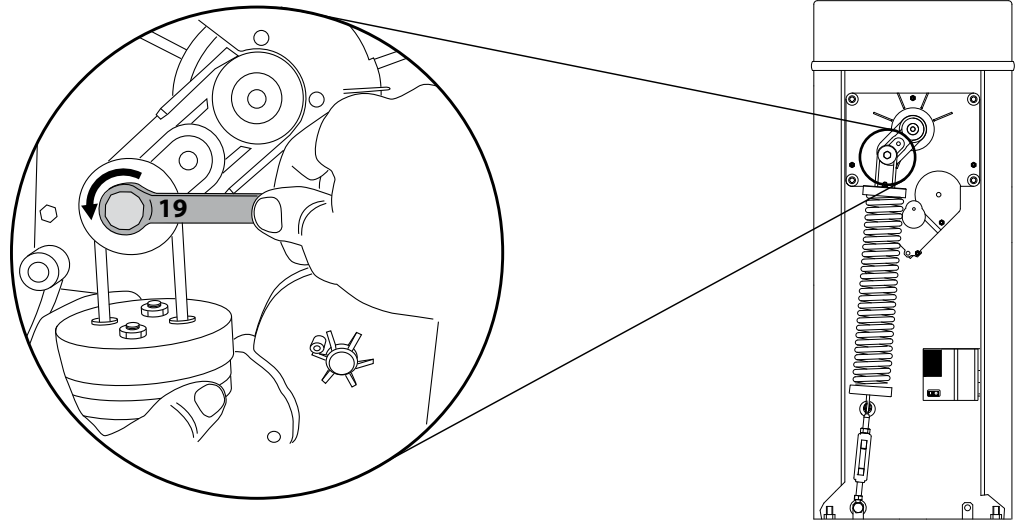
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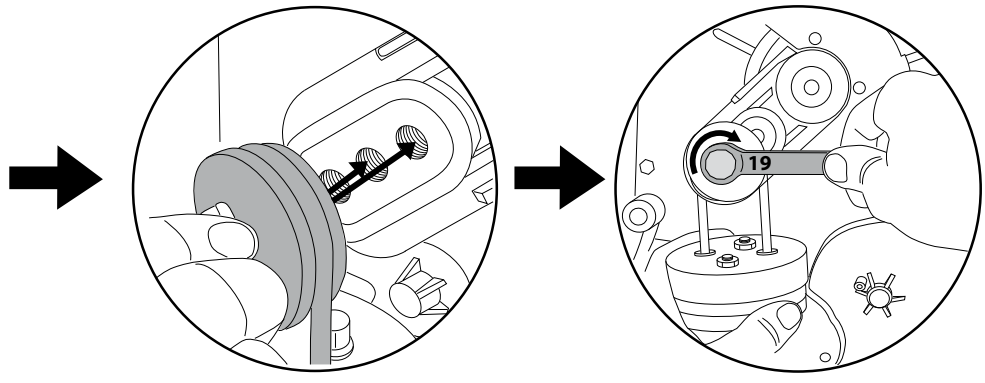
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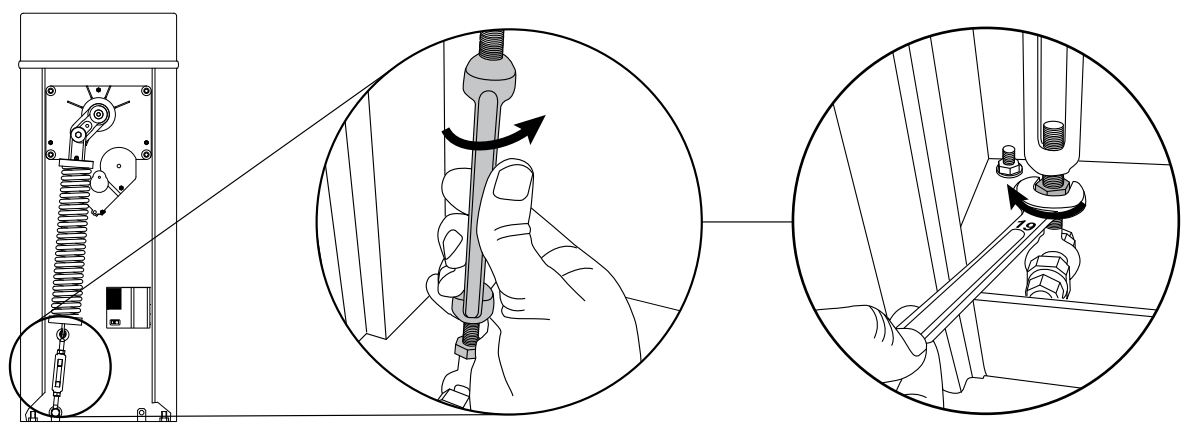
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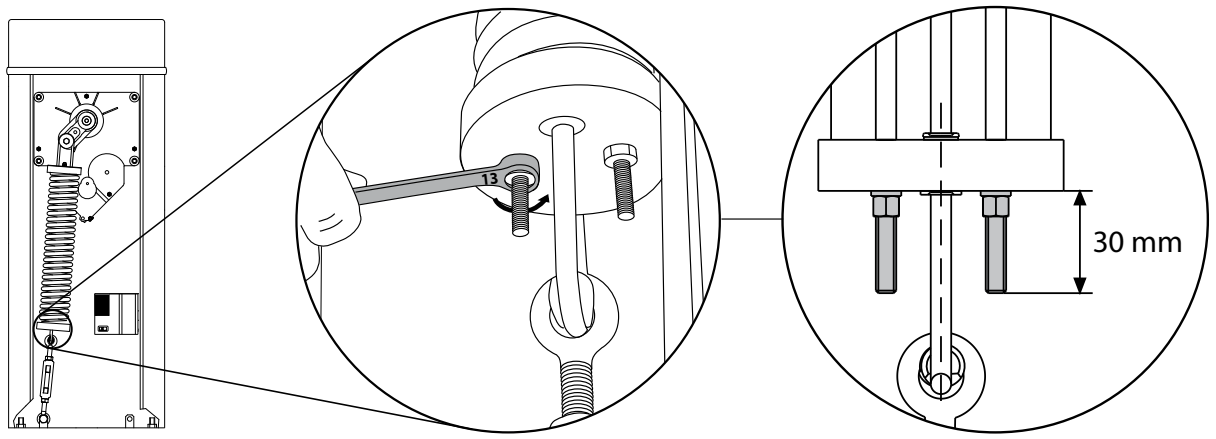
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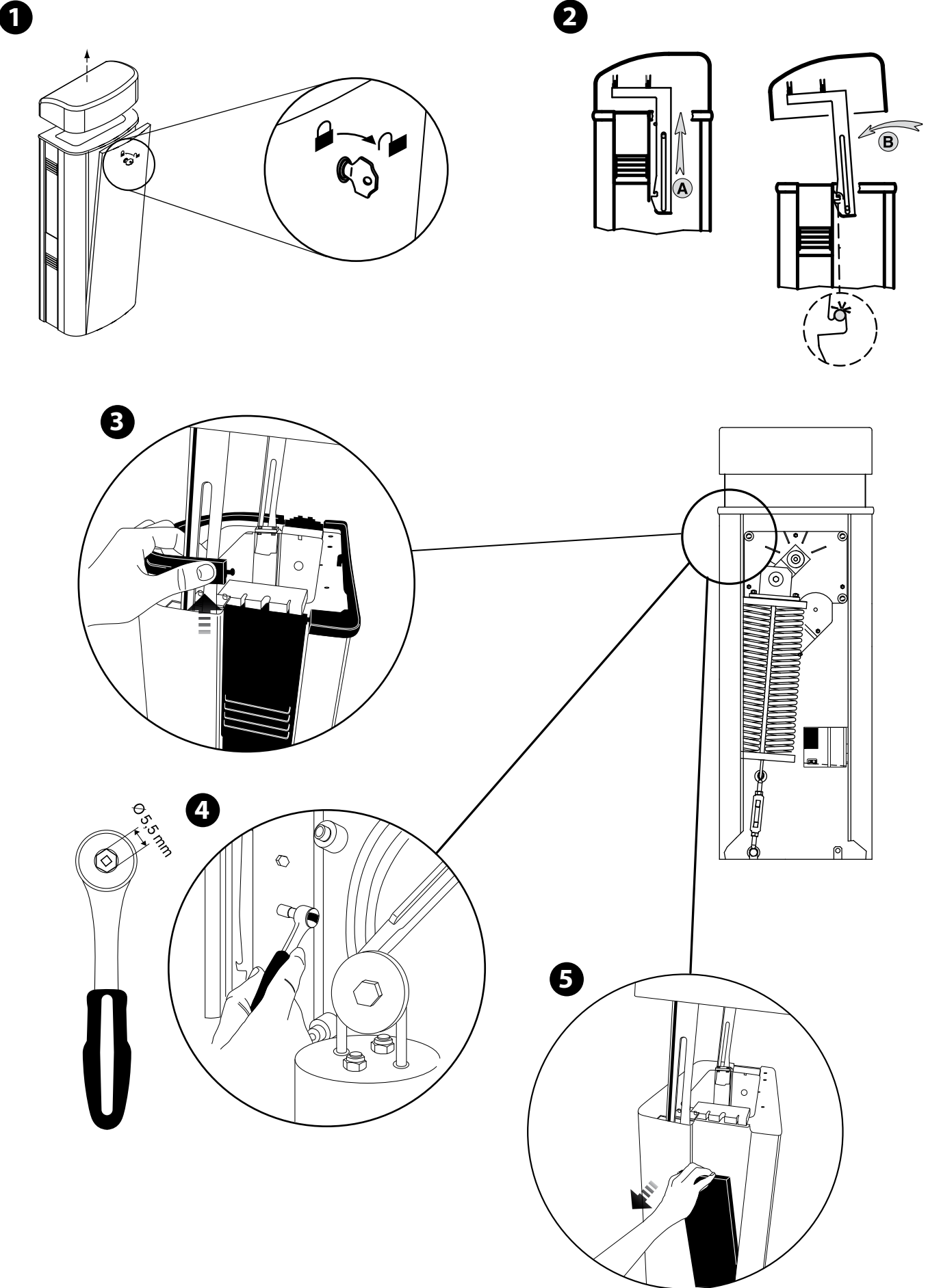


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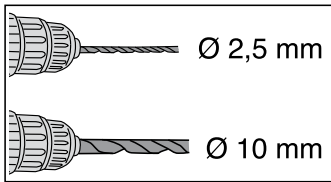
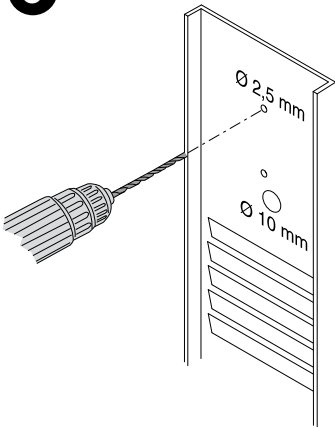
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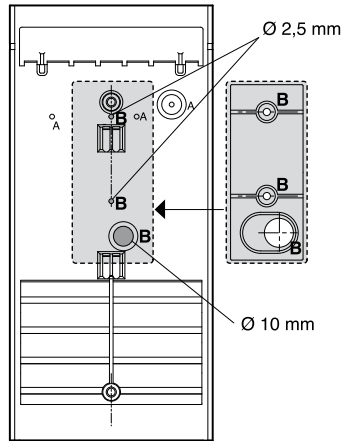


Fitting Photocell 130

6

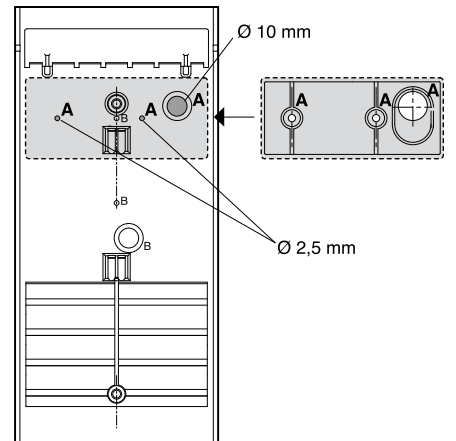


7A



PHOTOCELL 130 vertical holes,

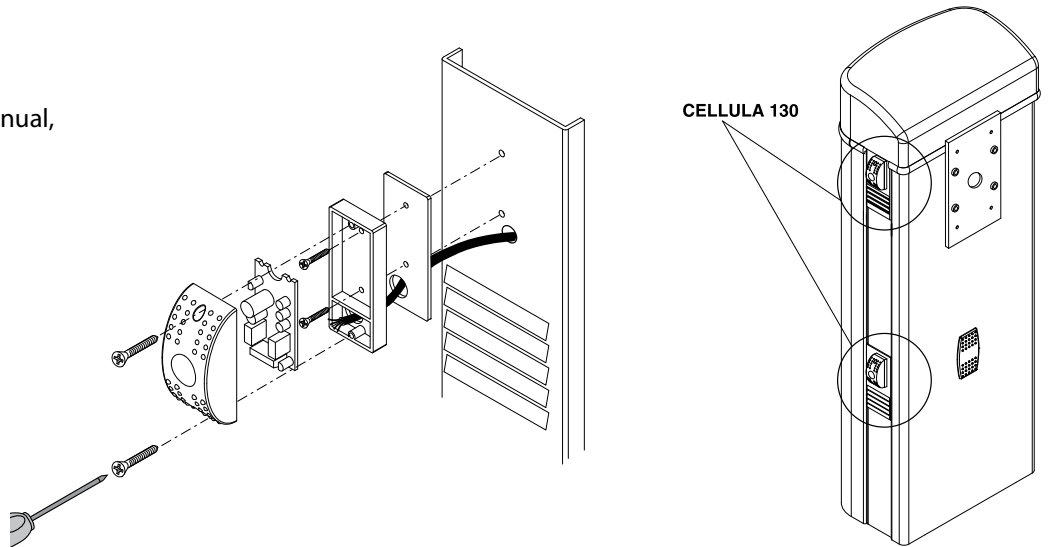
7B



PHOTOCELL 130 horizontal holes,

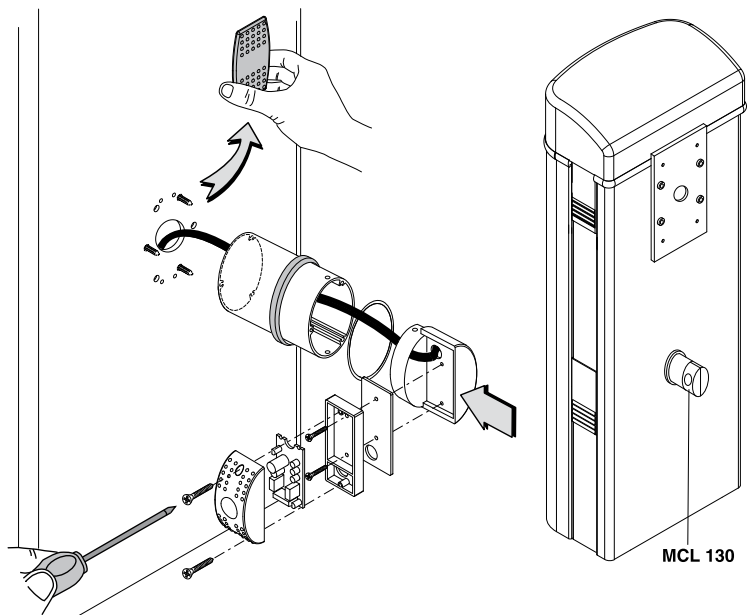
8

Refer to PHOTOCELL 130 manual,



Refer to MCL 130 manual for assembly of stations,

WARNING! For MCL 80 boom with opening on right only: install station unit before moving spring assembly.

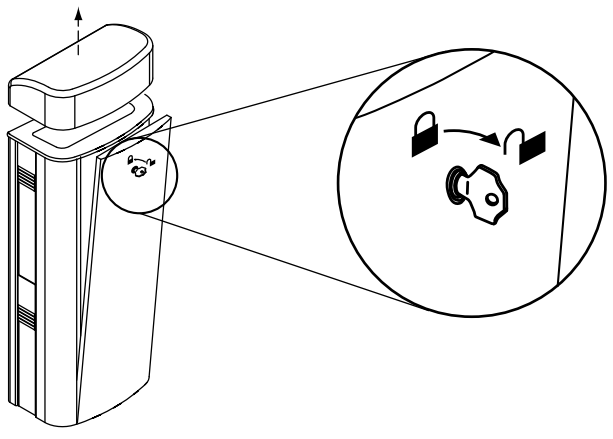


Fitting RMM

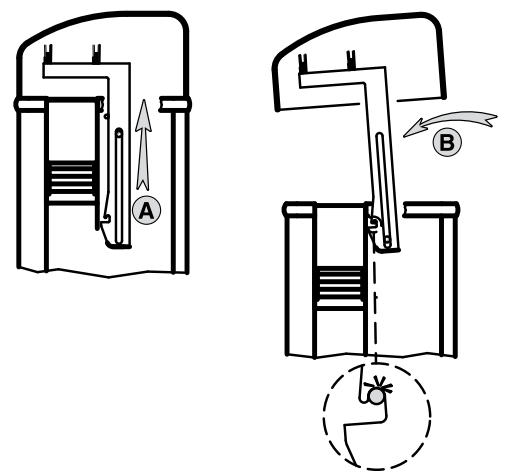
AG

D811528 00100_03

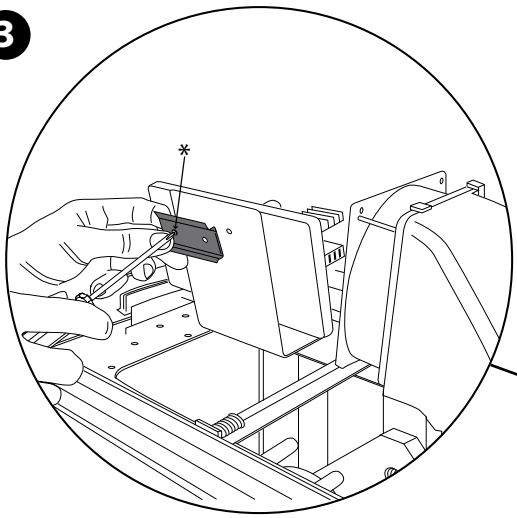
1



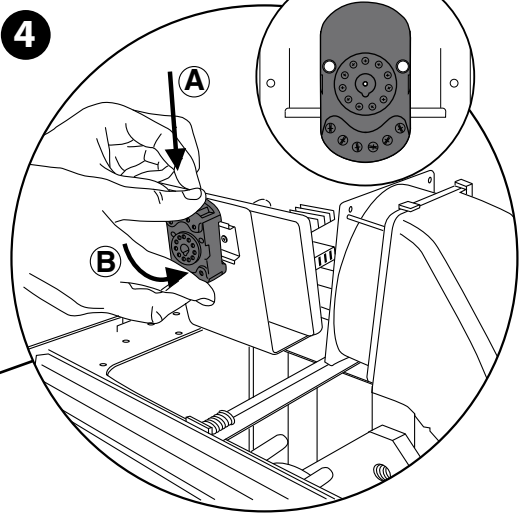
2



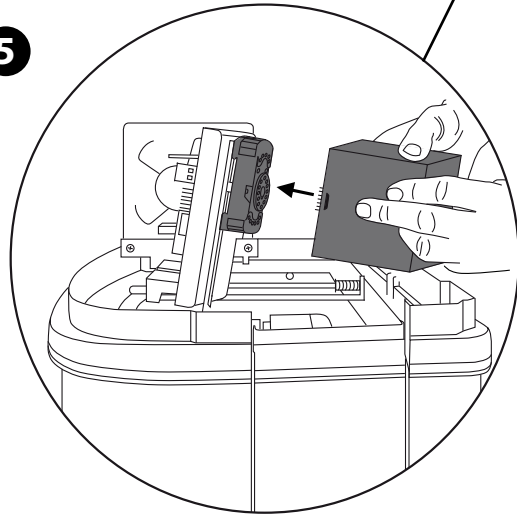
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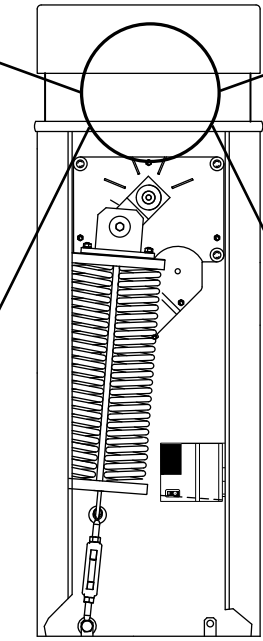
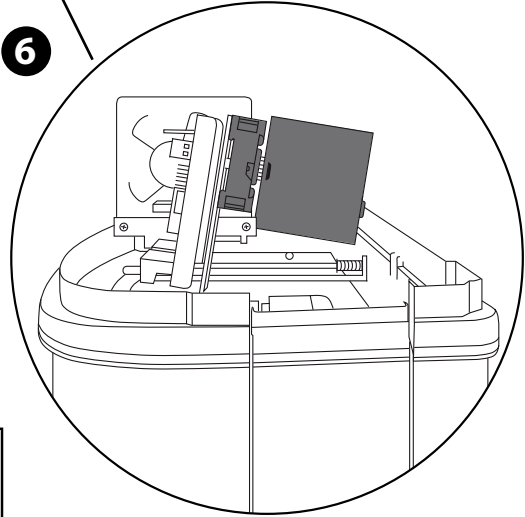
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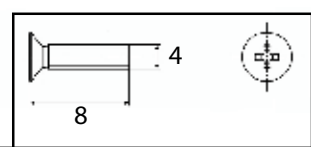
5



6



* Not supplied



ACCESS TO MENUS

Press the OK key

LEGENDA

+ ↑

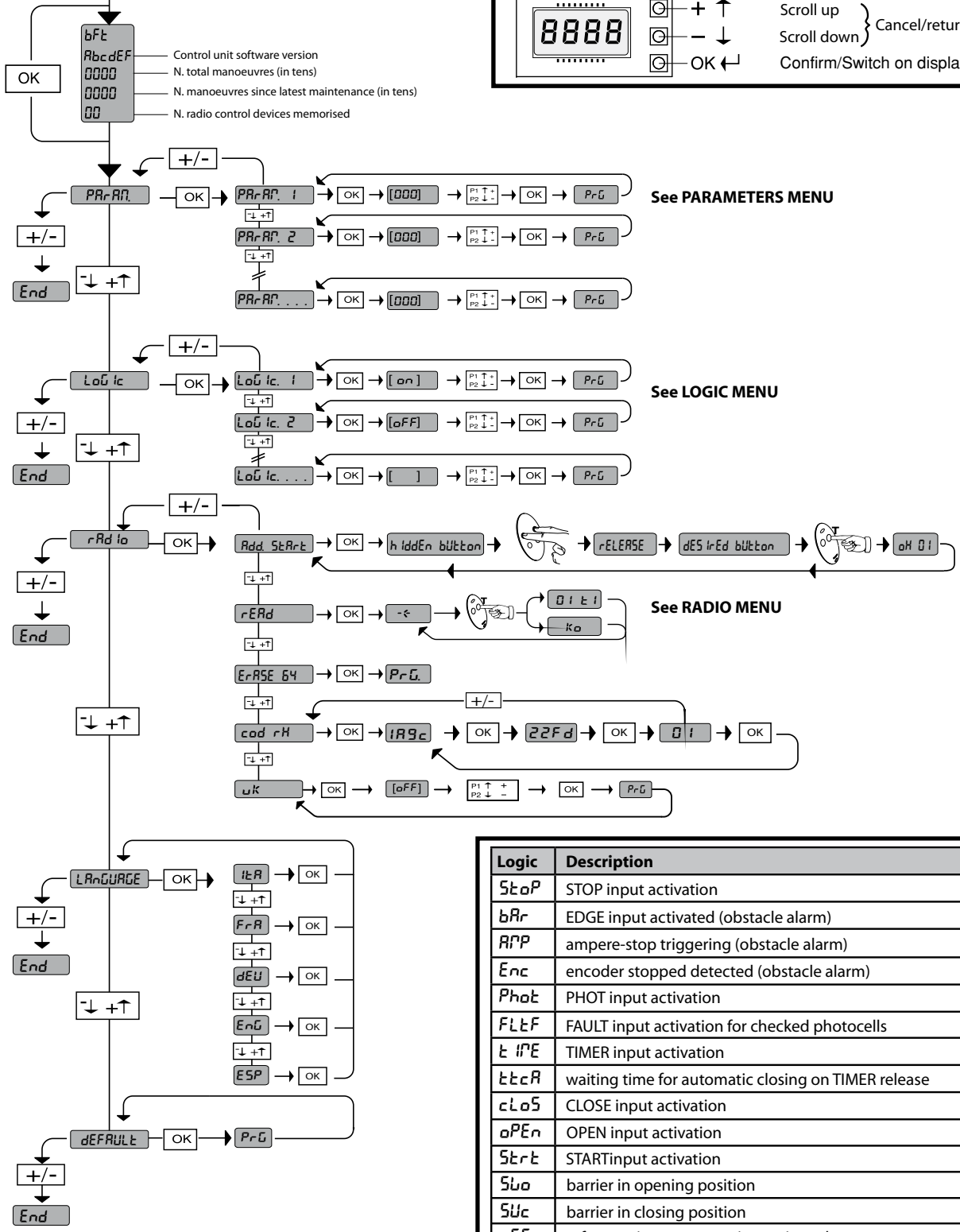
- ↓

OK ↵

Scroll up } Cancel/return to main menu

Scroll down }

Confirm/Switch on display



See PARAMETERS MENU

See LOGIC MENU

See RADIO MENU

Logic	Description
StoP	STOP input activation
bAr	EDGE input activated (obstacle alarm)
rPP	ampere-stop triggering (obstacle alarm)
Enc	encoder stopped detected (obstacle alarm)
Phot	PHOT input activation
FLtF	FAULT input activation for checked photocells
tIrE	TIMER input activation
tEcR	waiting time for automatic closing on TIMER release
cLoS	CLOSE input activation
oPEn	OPEN input activation
StAr	START input activation
SLo	barrier in opening position
SUc	barrier in closing position
rEFo	reference input on opening activated
rEFc	reference input on closing activated
tH	overload signal indication (the system completes the manoeuvre in progress and does not allow new ones until the signal indication has been eliminated).
ErDH	check on safety devices failed
ErIH	check on motor control failed
Er2H	power supply cables for motor or encoder signal reversed
Er4H	overload error (the system remains under protection lock until the error has been corrected).
ErEF	error due to position references both active.

35.40 — Set torque threshold %
 — Maximum motor torque %

WARNING! Important safety instructions. Carefully read and comply with the Warnings booklet and Instruction booklet that come with the product as incorrect installation can cause injury to people and animals and damage to property. They contain important information regarding safety, installation, use and maintenance. Keep hold of instructions so that you can attach them to the technical file and keep them handy for future reference.

1) GENERAL SAFETY

WARNING! An incorrect installation or improper use of the product can cause damage to persons, animals or things.

- The “**Warnings**” leaflet and “**Instruction booklet**” supplied with this product should be read carefully as they provide important information about safety, installation, use and maintenance.
- Scrap packing materials (plastic, cardboard, polystyrene etc) according to the provisions set out by current standards. Keep nylon or polystyrene bags out of children’s reach.
- Keep the instructions together with the technical brochure for future reference.
- This product was exclusively designed and manufactured for the use specified in the present documentation. Any other use not specified in this documentation could damage the product and be dangerous.
- The Company declines all responsibility for any consequences resulting from improper use of the product, or use which is different from that expected and specified in the present documentation.
- Do not install the product in explosive atmosphere.
- The units making up the machine and its installation must meet the requirements of the following European Directives: 2004/108/EEC, 2006/95/EEC, 98/37/EEC, 99/05/EEC (and later amendments). For all countries outside the EEC, it is advisable to comply with the above-mentioned standards, in addition to any national standards in force, to achieve a good level of safety.
- The Company declines all responsibility for any consequences resulting from failure to observe Good Technical Practice when constructing closing structures (door, gates etc.), as well as from any deformation which might occur during use.
- The installation must comply with the provisions set out by the following European Directives: 2004/108/EEC, 2006/95/EEC, 98/37/EEC, 99/05/EEC and subsequent amendments.
- Disconnect the electrical power supply before carrying out any work on the installation. Also disconnect any buffer batteries, if fitted.
- Fit an omnipolar or magnetothermal switch on the mains power supply, having a contact opening distance equal to or greater than 3,5 mm.
- Check that a differential switch with a 0.03A threshold is fitted just before the power supply mains.
- Check that earthing is carried out correctly: connect all metal parts for closure (doors, gates etc.) and all system components provided with an earth terminal.
- Fit all the safety devices (photocells, electric edges etc.) which are needed to protect the area from any danger caused by squashing, conveying and shearing, according to and in compliance with the applicable directives and technical standards.
- Position at least one luminous signal indication device (blinker) where it can be easily seen, and fix a Warning sign to the structure.
- The Company declines all responsibility with respect to the automation safety and correct operation when other manufacturer’s components are used.
- Only use original parts for any maintenance or repair operation.
- Do not modify the automation components, unless explicitly authorised by the Company.
- Instruct the product user about the control systems provided and the manual opening operation in case of emergency.
- Do not allow persons or children to remain in the automation operation area.
- Keep radio control or other control devices out of children’s reach, in order to avoid unintentional automation activation.
- The user must avoid any attempt to carry out work or repair on the automation system, and always request the assistance of qualified personnel.
- Anything which is not expressly provided for in the present instructions, is not allowed.
- Installation must be carried out using the safety devices and controls prescribed by the EN 12978 Standard.

WARNINGS

Correct controller operation is only ensured when the data contained in the present manual are observed. The Company is not to be held responsible for any damage resulting from failure to observe the installation standards and the instructions contained in the present manual.

The descriptions and illustrations contained in the present manual are not binding. The Company reserves the right to make any alterations deemed appropriate for the technical, manufacturing and commercial improvement of the product, while leaving the essential product features unchanged, at any time and without undertaking to update the present publication.

USE OF AUTOMATION

As automation can be remotely controlled and therefore not within sight, it is essential to frequently check that all safety devices are perfectly efficient.

WARNING! In case of any malfunction in the safety devices, take immediate action and require the assistance of a specialised technician.

It is recommended to keep children at a safe distance from the automation field of action.

CONTROL

The automation system is used to obtain motorised access control. There are different types of control (manual, remote, magnetic badge, mass detector -Fig. AH- etc.) depending on the installation requirements and characteristics. For the various control systems, see the relevant instructions.

MAINTENANCE

WARNING: before opening the door, the spring must be unloaded (vertical boom). **WARNING:** Before carrying out any maintenance to the installation, disconnect the mains power supply. The following points need checking and maintenance:

- Photocell optics. Clean occasionally.
- Electric edge. Carry out a periodical manual check to ensure that the edge stops the bar in case of obstacles.
- Dismantle the gearmotor and replace the lubricating grease every two years.
- When any operational malfunction is found, and not resolved, disconnect the mains power supply and request the assistance of a specialised technician (installer). When the operator is out of order, activate the emergency release (see Fig. Y), if necessary, so as to release the manual boom opening and closing operations.

SCRAPPING

Materials must be disposed of in conformity with the current regulations. In case of scrapping, the automation devices do not entail any particular risks or danger. In case of recovered materials, these should be sorted out by type (electrical components, copper, aluminium, plastic etc.).

DISMANTLING

WARNING: before opening the door, the spring must be unloaded (vertical boom). When the automation system is disassembled to be reassembled on another site, proceed as follows:

- Disconnect the power supply and the entire electrical installation.
- Remove the actuator from its fixing base.
- Disassemble all the installation components.
- In the case where some of the components cannot be removed or are damaged, they must be replaced.

2) GENERAL OUTLINE

Compact electromechanical barrier suitable for limiting private areas, parkings, access areas for vehicles only. Available for passageways from 4 to 8 metres. Adjustable electronic limit switches, they guarantee correct boom stopping position. In case of intensive use, a thermal sensor activates the cooling fan.

The emergency release device for manual manoeuvre is controlled by a personalised key lock.

The actuator is always supplied for left-hand side fitting. However, when necessary, the opening direction can be reversed by means of simple operations.

The BM mod. foundation base (on request) makes barrier installation easier.

Appropriate fittings make it easy to install accessories.

The **LIBRA CMV** control panel is supplied by the manufacturer with standard setting. Any change must be set by means of the incorporated display or by means of the universal programmer.

3) TECHNICAL SPECIFICATIONS	
Power supply:	230V±10% 50Hz(*)
Power absorbed:	300W
Absorption (with accessories):	1 A
Internal lubrication:	permanent grease
Max torque:	600 Nm
Opening time:	6s (5-6m), 8s (8m)
Boom length:	4m (MICHELANGELO 40) 5-6m (MICHELANGELO 60) da 6m a 8m (MICHELANGELO 80)
Impact reaction:	encoder
Manual mechanical release:	customised key
Type of boom:	rectangular/round
Limit devices:	electrical incorporated and electronically adjustable
Maximum no. manoeuvres in 24h:	continuous operation
Working temperature:	from -20°C to +55°C
Degree of protection:	IP 24
Operator weight (without boom):	55 Kg (MICHELANGELO 40) 58 Kg (MICHELANGELO 60) 68 Kg (MICHELANGELO 80)
Dimensions:	see fig. A
Mains/low voltage insulation:	> 2M0hm 500V---
Dielectric strength:	mains/low voltage 3750V~ for 1 minute
Motor output current:	20A max (MICHELANGELO 40) 25A max (MICHELANGELO 60) 30A max (MICHELANGELO 80)
Cooling intervention temperature:	80°C
Supply to accessories:	24V~ (180 mA max absorption)
Barrie-open warning light:	24V~ 3W max
Blinker:	24V~ 25W max
Fuses:	see figure I-L
N° of combinations:	4 billion
Max. n° of remotes that can be memorized:	63

(*)= special power supply voltages on request.

Usable transmitter versions:

ALL ROLLING CODE transmitters compatible with



4.1) FOUNDATION PLATE (Fig. B1).

4.2) FASTENING ANCHOR BOLTS (Fig. B2).

5) FITTING OF THE ACTUATOR

WARNING! The barrier must be exclusively used for vehicles to drive through. Pedestrians must not walk within the operator

manoeuvring area. An appropriate pedestrian passageway must be provided for.

The passageway must be suitably indicated by means of the warning signs illustrated in Fig.A.

WARNING: before opening the door, the spring must be unloaded (vertical boom). The door of the box must be facing towards the inside of the property. When you stand in the middle of the passageway, facing outwards, if the box is on your left, the barrier is left-hand fitted, if the box is on your right, the barrier is right-hand fitted.

The actuator is always supplied for left-hand side fitting.

5.1) COVER AND DOOR OPENING AND CLOSING (Fig. D).

5.2) POSITIONING OF ENCLOSURE FIG.E

5.3) BOOM FIXING (Fig. F).

6) OPTIONAL ACCESSORIES (Fig. G)

Foundation Base - BM

Boom light kit - KIT MCL LIGHT

Blinker kit - KIT MCL LAMPO

Moveable boom rest rod - GA

Fixed boom support fork - FAF (compulsory with 7-8m boom).

Cellula130 post fixing kit - KIT MCL 130 (only when GA and SB are absent)

Skirt already assembled to the boom - SB (only for boom - ELL 6)

BIR passive safety edge

Lower and/or upper boom covering contour - MCL PCA 6/8

ELL 6 - ATT 704/706 - ATT 504/502 Booms.

ACC MCL ATT KIT (for ATT 704/706 - ATT 504/502)

ACC MCL ELL KIT (for ELL 6)

SCHEMA MCL KIT

LOOP

RMM (metal object detector 24V) (Fig. AG)

KIT MCL BAT,

KIT MCL RFL

6.1) MICHELANGELO 40-60 accessories: boom length limits and balancing (Fig. G1).

For further information about the installation and use of accessories, refer to the respective instruction manuals.

6.2) MICHELANGELO 80 accessories: Fig.G2.

6.3) BAR BALANCING (Fig. G3).

6.4) ATTACHMENT AND TENSIONING OF SPRING fig. AC-AD

7) Right-hand fitting (Fig. AA, AB)

- Carry out bar balancing as described in Fig. G3.

- Set the Direction Reversal logic to ON in the control panel.

Warning: the Direction Reversal logic must be configured to OFF for left-hand fitted barriers, and to ON for right-hand fitted barriers. Otherwise, the limit devices will not operate or an encoder direction error will be displayed.

8) Cellula 130 fitting (Fig. AE-AF)

9) MCL 130 fitting (Fig. AF)

10) ELECTRICAL INSTALLATION SET-UP

WARNING: before opening the door, the spring must be unloaded (vertical boom). Set up the electrical installation (fig. A) with reference to the current regulations for electrical installations. Keep the mains power supply connections definitely separate from the service connections (photocells, electric edges, control devices etc.).

Warning! For connection to the mains, use a multipolar cable having minimum 3x1.5mm² cross section and complying with the previously mentioned regulations (for example, if the cable is not protected, it must be at least equal to H07 RN-F, whereas if it is protected it must be at least equal to H07 VV-F with a 3x1.5 sq mm² cross section).

Fig. A shows the number of connections and section for a 100m length of power supply cables; for greater lengths, calculate the section for the true automation load. When the auxiliary connections exceed 50 metre lengths or go through critical disturbance areas, it is recommended to decouple the control and safety devices by means of suitable relays.

The main automation components are (fig. A):

- I) Type-approved adequately rated omnipolar circuit-breaker with at least 3,5 mm contact opening, provided with protection against overloads and short circuits, suitable for cutting out automation from the mains. Place, if not already installed, a type-approved differential switch with a 0.03A threshold just before the automation system.

- QR)** Control panel and incorporated receiver.
- S)** Key selector.
- AL)** Blinker
- M)** Actuators.
- A)** Bar.
- F)** Rest fork.
- CS)** Electric edge.
- Ft,Fr)** Pair of photocells.
- CF)** Photocell post.
- T)** 1-2-4 channel transmitter.
- RMM)** Inductive metal mass detector.
- LOOP)** Mass detector loops.

11) CONNECTION (Fig. H-I)

WARNING: The electrical connections must be carried out workmanlike by qualified experienced personnel, in conformity with all the current standards and with the use of appropriate materials.

Lay out the electrical installation with reference to the current electrical standards.

Keep the mains supply connections clearly separated from the service connections.

In the initial section of the electrical installation, fit a circuit breaker with a contact opening distance equal to or greater than 3,5 mm, provided with magnetothermal protection and a differential switch having adequate capacity for the appliance consumption. For the wiring, only use cables conforming to the harmonised or national standards, having a cross section corresponding to the initial protection, the appliance consumption and the installation conditions, for example a 3x1.5 sq mm (H 05 VV-F) cable.

Proceed as explained below:

1. Remove the transformer cover.
2. Unscrew the screw which locks the cap (Fig. I Rif. 1) and take the cap out.
3. Fix the cables to the terminal bar (Fig. I Rif. 2)

- L PHASE**
- N NEUTRAL**
- EARTH**

4. To close the cap, reverse the actions in step 2.
5. Refit the transformer cover and secure in place by means of the slots located on top of the transformer (Fig. I Rif. 3-4).

TERMINAL	DESCRIPTION
1-2	Control for cooling fan
3-4	Not used
6-7	Motor connections
15-5	Motor connections, closing reference
15-8	Motor connections, opening reference
9-10	Blinker connection (24 V~, 25W)
11-12	24 V~ 180mA max output – power supply for photocells or other devices (11+,12-).
13-14	24 V~ 180mA max output – power supply for photocell transmitters with check (Vsafe 13+, 14-).
15-16	START button (N.O.)
15-17	STOP button (N.C.). If not used, leave the jumper bridged
15-18	Photocell input (N.C.). If not used, leave the jumper bridged
19	Photocell FAULT input (N.O.) for photocells provided with N.O. check contact
15-20	Safety edge input (N.C.). If not used, leave the jumper bridged
21-22	Barrier-open warning light output (N.O. contact, 24V~/3W max) or, in alternative, alarm output (see configuration paragraph) and Connection To Parky Car-Park Management System
23-24-25-26	Encoder inputs
15-27	Open button (OPEN N.O.). If the TIMER logic on OPEN is enabled and the input remains engaged for over 3 sec., it commutes to clock input (TIMER N.O.). The TIMER input opens and keeps the barrier open when engaged; on disengagement, after waiting for the time set in the Automatic Closing Time parameter, it starts the closing movement (regardless of the TCA Logic status). If the command is interrupted by the STOP button being pressed or by the safety devices being triggered, it can be reset using the START input
15-28	Close button (CLOSE N.O.)
JP8-JP6	Board power supply (24V~) (JP8 +,JP6-)

12) ADJUSTMENTS

RECOMMENDED ADJUSTMENT SEQUENCE:
Adjusting the limit switches (See reference section) FIG.M
Programming remote controls (Fig. O)
Setting of parameters/logic, where necessary

13) PARAMETERS MENU (PAR-RF)
(TABLE "A" PARAMETERS)

14) LOGIC MENU (LOGIC)
(TABLE "B" LOGIC)

15) RADIO MENU (RAD-IO)

Logic	Description
Add Start	Add Start Key associates the desired key with the Start command
rERd	Read Checks a key of a receiver and, if memorized, returns the number of the receiver in the memory location (from 01 to 64) and number of the key (T1-T2-T3 or T4).
ErASE 64	Erase List WARNING! Erases all memorized remote controls from the receiver's memory.
cod rH	Read receiver code Displays receiver code required for cloning remote controls.
uk	ON = Enables remote programming of cards via a previously memorized WLINK transmitter. It remains enabled for 3 minutes from the time the W LINK remote control is last pressed. OFF =W LINK programming disabled.

- IMPORTANT NOTE: THE FIRST TRANSMITTER MEMORIZED MUST BE IDENTIFIED BY ATTACHING THE KEY LABEL (MASTER).

In the event of manual programming, the first transmitter assigns the RECEIVER'S KEY CODE: this code is required to subsequently clone the radio transmitters.

The Clonix built-in on-board receiver also has a number of important advanced features:

- Cloning of master transmitter (rolling code or fixed code)
- Cloning to replace transmitters already entered in receiver
- Transmitter database management
- Receiver community management

To use these advanced features, refer to the universal handheld programmer's instructions and to the CLONIX Programming Guide, which come with the universal handheld programmer device.

16) LANGUAGE MENU (LANGUAGE)

Used to set the programmer's language on the display.

17) DEFAULT MENU (DEFAULT)

Restores the controller's default factory settings.

18) CONNECTION TO PARKY CAR-PARK MANAGEMENT SYSTEM

The board can be configured in order to make an output available for controlling the barrier status. When the SCA Alarm logic is disabled (OFF) and the Alarm Time parameter is set to 0 s, the SCA contact (21-22) is configured as follows (Fig. H Rif. 6):

- contact **closed** between terminals **21-22** with the barrier **lowered**
- contact **open** between terminals **21-22** with the barrier **lifted**

19) LIMIT SWITCH SETTING

WARNING: before opening the door, the spring must be unloaded (vertical boom). The barrier is provided with programmable electronic limit switches and mechanical stop devices. There must be a rotation margin (about 1°) on closing and opening between the electrical limit switches and mechanical stop devices (Fig. N). The adjustment is carried out as follows:

The end-of-stroke opening and closing positions must be set by modifying the parameters of the control panel for Opening value Calibration and Closing value Calibration: if the value is increased, the end-of-stroke positions move towards the opening direction. The extent of the movement depends on the effective boom length: in the case of a 6-m boom, a unit change (1.0) entails a movement of about 4,4 cm which, proportionally, becomes about 5,8 cm for an 8-m boom.

The effective closing value also depends, in part, on the manoeuvring speed. It is therefore convenient to proceed to end-of-stroke calibration only after having set the other opening parameters.

To evaluate correctly the values set, you are advised to carry out a few complete consecutive manoeuvres.

20) EMERGENCY RELEASE (Fig. Y)

WARNING! When an actuator without bar needs to be released, ensure that the balancing spring is not compressed (bar in the opening position).

21) MALFUNCTION: CAUSES and REMEDIES

21.1) The bar does not open. The motor does not turn.

WARNING: before opening the door, the spring must be unloaded (vertical boom).

- 1) Check that the photocells are not dirty, or engaged, or not aligned. Proceed accordingly. Check the electric edge.
- 2) Check the correct connection of the drive motor and capacitor.
- 3) Check that the electronic appliance is correctly supplied. Check the integrity of the fuses.
- 4) Use the control unit self-diagnosis (Fig. I-O), to check whether the functions are correct. Identify any possible cause for the fault. If self-diagnosis indicates that a start command persists, check that there are no radio transmitters, start buttons or other control devices keeping the start contact activated (closed).

- 4) Use the control unit self-diagnosis (see "Acces to Menu"), to check whether the functions are correct. Identify any possible cause for the fault. If self-diagnosis indicates that a start command persists, check that there are no radio transmitters, start buttons or other control devices keeping the start contact activated (closed).
- 5) If the control unit does not work, it must be replaced.
- 6) Check the activation of the reference microswitches by checking the messages appearing on the control panel display.
- 7) Lubricate the guide-ressort tirants in case of rumors or vibrations.

21.2) The bar does not open. The motor turns but there is no movement.

- 1) The manual release was left engaged. Reset the motorised operation.
- 2) If the release is in the motorised operation position, check the gearmotor for integrity.

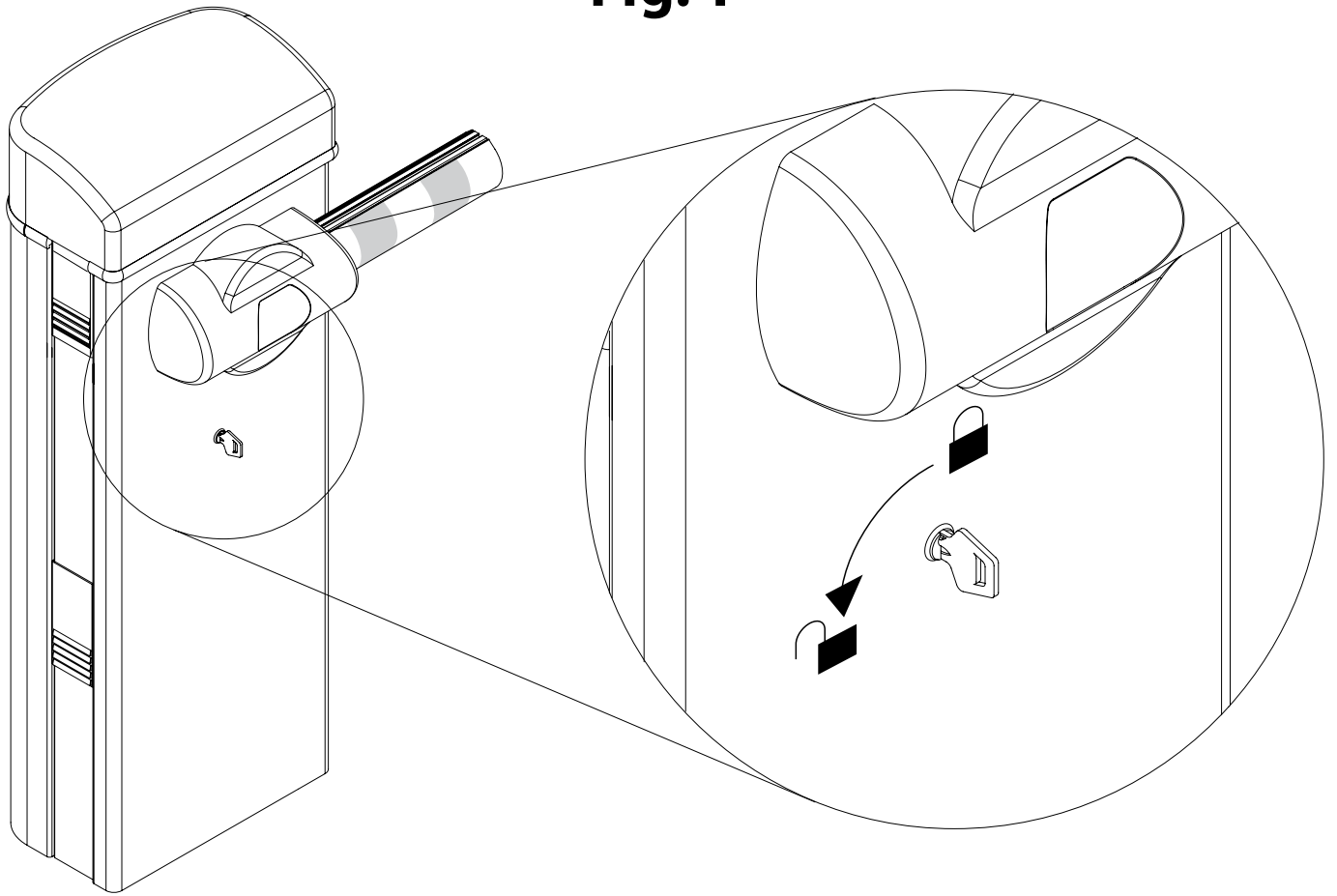
TABLE "A" - PARAMETERS MENU - (PR-RP)

Logic	min.	max.	default	Definition	Description
ECR	1	180	10	Automatic Closing Time	Automatic Closing Time [s] Set the numerical value of the automatic closing time from 1 to 180 seconds. Automatic closing can be deactivated by the TCA Logic, but it is always carried out on releasing the TIMER.
EMTQUE	60	99	85	Maximum torque	Maximum torque [%] Set from 60% to 99% the maximum torque that activation must be able to provide before generating an obstacle alarm. With the maximum value set, the control is disabled.
ACC EL.	1	99	75	Acceleration	Acceleration [%] Special parameter 14 on second-generation universal programmers. Set a value from 1% to 99% for the acceleration to be applied at the beginning of each movement.
OP. SPEED	1	99	99 M60 50 M80	Opening speed/Closing	Opening speed/Closing [%] Set the numerical value of the speed: 1% corresponds to the slow-down speed, 99% to the maximum speed.
BRAKE	0	85	50	Braking	Braking [%] Set from 0% to 85% the braking to be applied during the slow-down phase. The initial slow-down value is automatically calculated according to this parameter and the effective movement speed.
EMER.BRAKE	75	99	75	Emergency braking	Emergency braking [%] Set a value from 75% to 99% for the braking intensity in case of reversing movement or emergency braking; any values lower than those set in the "braking" parameter will be ignored.
CR.L. RP.	0	100	82	Opening value calibration	Opening value calibration [%] Special parameter 1 on second-generation universal programmers. Set the reference value from 0,0 to 100,0 for the required opening position (see Paragraph Limit Switch Setting).
CR.L. ch.	0	100	21	Closing value calibration	Closing value calibration [%] Special parameter 2 on second-generation universal programmers. Set the reference value from 0,0 to 100,0 for the required closing position (see Paragraph Limit Switch Setting).
ALARMA TIME	10	240	30	Alarm time	Alarm time [%] In the case of obstacle detection or photocell engagement for a period exceeding the time set (ranging from 10 s to 240 s), the SCA contact closes. The contact is subsequently opened by the STOP command or by triggering of the closing limit switch. Only active when the SCA Alarm logic is set to OFF. If set to 0s, the SCA contact becomes a connection to the Parky system (see Paragraph Connection To Parky Car-Park Management System).
ZONE	0	127	0	Zone	Zone [] Set the zone number between a minimum value of 0 and a maximum value of 127.

TABLE "B" - LOGIC MENU - (L o U t c)

Logic	default	Definition	Description																					
t c R	ON	Automatic closing time	ON: Activates automatic closing OFF: Excludes automatic closing Note: automatic closing on TIMER release cannot be deactivated.																					
2 StEP	OFF	2-step logic	ON: Enables the 2-step logic (prevails over the "3-step logic"). OFF: Disables the 2-step logic, activating the 4-step logic if the "3-step logic" is OFF.																					
3 StEP	ON	3-step logic	ON: Enables the 3-step logic (if the "2-step logic" is OFF). OFF: Disables the 3-step logic, activating the 4-step logic if the "2-step logic" is OFF. <i>Response to the START impulse</i> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Barrier</th> <th>2 steps</th> <th>3 steps</th> <th>4 steps</th> </tr> </thead> <tbody> <tr> <td>closed</td> <td rowspan="2">opens</td> <td rowspan="2">opens</td> <td>opens</td> </tr> <tr> <td>on closing</td> <td>stop</td> </tr> <tr> <td>open</td> <td rowspan="2">closes</td> <td rowspan="2">closes</td> <td>closes</td> </tr> <tr> <td>on opening</td> <td>stop + TCA</td> <td>stop + TCA</td> </tr> <tr> <td>after stop</td> <td>opens</td> <td>opens</td> <td>opens</td> </tr> </tbody> </table>	Barrier	2 steps	3 steps	4 steps	closed	opens	opens	opens	on closing	stop	open	closes	closes	closes	on opening	stop + TCA	stop + TCA	after stop	opens	opens	opens
Barrier	2 steps	3 steps	4 steps																					
closed	opens	opens	opens																					
on closing			stop																					
open	closes	closes	closes																					
on opening			stop + TCA	stop + TCA																				
after stop	opens	opens	opens																					
ibL oPEn	ON	Opening Impulse lock	ON: The Start impulse has no effect during the opening phase. OFF: The Start impulse becomes effective during the opening phase.																					
ibL t c R	OFF	Impulse lock TCA	ON: The Start impulse has no effect during the TCA dwell period. OFF: The Start impulse becomes effective during the TCA dwell period.																					
PrE-ALArn	OFF	Pre alarm	ON: The blinker comes on about 3 seconds before the motor starts. OFF: The blinker comes on at the same time as the motor starts.																					
hold-to-run	OFF	Hold-to-run control device	ON: Hold-to-run operation: the manoeuvre continues as long as the OPEN and CLOSE control keys are kept pressed. The radio transmitter cannot be used. OFF: Normal impulse operation.																					
FRSt cLS	OFF	Rapid closing	ON: Closes barrier after photocell disengagement, before waiting for the end of the TCA (automatic closing time) set. OFF: Command not entered.																					
Photc. oPEn	ON	Photocells on opening	ON: In case of obscuring, this excludes photocell operation on opening. During the closing phase, it immediately reverses the motion. OFF: In case of obscuring, the photocells are active both on opening and on closing. When a photocell is obscured on closing, it reverses the motion only after the photocell is disengaged.																					
tEst Phot	OFF	Photocell test	ON: Activates photocell check OFF: Deactivates photocell check																					
inu. d ir	OFF	Direction Reversal	ON: For right-hand fitted barrier (see Par. Right-hand fitting) OFF: For left-hand fitted barrier IMPORTANT: Default has no effect on the logic.																					
t mEr	OFF	TIMER OPEN	Special dip switch 1 on second-generation universal programmers. ON: OPEN pressed for over 3s becomes TIMER OFF: TIMER input disabled																					
ALArn ScR	ON	SCA Alarm	Signaling output on second-generation universal programmers. ON: The SCA contact (terminals 21-22) behaves as follows: with barrier open and on opening: contact closed (warning light on) with barrier closed: contact open: (warning light off) on closing: intermittent contact (blinking) OFF: The SCA contact closes according to the modes set by the Alarm Time parameter.																					
F iHEd codE	OFF	Fixed code	ON: The receiver is configured for operation in fixed-code mode. OFF: The receiver is configured for operation in rolling-code mode.																					
rAd io Pr oU	ON	Radio transmitter programming	ON: This enables transmitter storage via radio: 1 – First press the hidden key (P1) and then the normal key (T1, T2, T3 or T4) of a transmitter already memorised in standard mode by means of the radio menu. 2 – Within 10s press the hidden key (P1) and the normal key (T1, T2, T3 or T4) of a transmitter to be memorised. The receiver exits the programming mode after 10s, other new transmitters can be entered before the end of this time. This mode does not require access to the control panel. OFF: This disables transmitter storage via radio. The transmitters can only be memorised using the appropriate Radio menu.																					
mAStEr	OFF	Master/Slave	ON: The control panel is set as Master in a centralised connection. OFF: The control panel is set as Slave in a centralised connection.																					

Fig. Y



MANUALE - MANUAL - MANUEL
BEDIENUNGSANLEITUNG - MANUAL - HANDMATIG



AUTOMATICO - AUTOMATIC - AUTOMATIQUE
AUTOMATIK - AUTOMÁTICO - AUTOMATISCH



Thank you for choosing this product. The Firm is confident that its performance will meet your operating needs. This product meets recognized technical standards and complies with safety provisions. We hereby confirm that it is in conformity with the following European directives: 2004/108/EEC, 2006/95/EEC, 98/37/EEC, 99/05/EEC (and later amendments).

1) GENERAL SAFETY

WARNING Important safety instructions. Carefully read and comply with the Warnings booklet and Instruction booklet that come with the product as improper use can cause injury to people and animals and damage to property. Keep hold of instructions for future reference.

This product has been designed and built solely for the purpose indicated herein. Uses not contemplated herein might result in the product being damaged and could be a source of danger.

- The Firm disclaims all responsibility resulting from improper use or any use other than that for which the product has been designed, as indicated herein, as well as for failure to apply Good Practice in the construction of entry systems (doors, gates, etc.) and for deformation that could occur during use.

If installed and used correctly, the automated system will meet the required level of safety. Nonetheless, it is advisable to observe certain rules of behaviour so that accidental problems can be avoided:

- Keep adults, children and property out of range of the automated system, especially while it is operating.
- This application is not meant for use by people (including children) with impaired mental, physical or sensory capacities, or people who do not have suitable knowledge, unless they are supervised or have been instructed by people who are responsible for their safety.
- Children must be supervised to ensure they do not play with the application. Keep remote controls or other control devices out of reach of children in order to avoid the automated system being operated inadvertently.
- Check the system frequently, especially cables, springs or supports, to detect any loss of balance and signs of wear or damage.
- When cleaning the outside or performing other maintenance work, always cut off mains power.
- Keep the photocells' optics and illuminating indicator devices clean. Check that no branches or shrubs interfere with the safety devices (photocells).
- Do not use the automated system if it is in need of repair. In the event of a malfunction, cut off the power, activate the emergency release to allow access and call in qualified technical personnel (professional installer).
- If the automated system requires work of any kind, employ the services of qualified personnel (professional installer).
- Have the automated system checked by qualified personnel once a year.
- Anything that is not explicitly provided for in these instructions is not allowed.
- The operator's proper operation can only be guaranteed if the information given herein is complied with. The Firm shall not be answerable for damage caused by failure to comply with the installation rules and instructions featured herein.
- Descriptions and illustrations herein are not binding. While we will not alter the product's essential features, the Firm reserves the right, at any time, to make those changes deemed opportune to improve the product from a technical, design or commercial point of view, and will not be required to update this publication accordingly.

