ENGLISH

EC MACHINE DIRECTIVE COMPLIANCE DECLARATION

(DIRECTIVE 89/392 EEC, APPENDIX II, PART B)

Manufacturer: FAAC S.p.A.

Address: Via Benini, 1
40069 - Zola Predosa
BOLOGNA - ITALY

Hereby declares that: the 844 MC-T automation system

- is intended to be incorporated into machinery, or to be assembled with other machinery to constitute machinery in compliance with the requirements of Directive 89/392 EEC, and subsequent amendments 91/368 EEC, 93/44 EEC and 93/68 EEC;

- complies with the essential safety requirements in the following EEC Directives:

  73/23 EEC and subsequent amendment 93/68 EEC.
  89/336 EEC and subsequent amendments 92/31 EEC and 93/68 EEC.

  and furthermore declares that unit must not be put into service until the machinery into which it is incorporated or of which it is a component has been identified and declared to be in conformity with the provisions of Directive 89/392 EEC and subsequent amendments enacted by the national implementing legislation.

Bologna, 1 January 1997

Managing
Director

A. Bassi

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WARNING FOR THE INSTALLER

GENERAL SAFETY OBLIGATIONS

1) **CAUTION! It is important for personal safety to follow all the instructions carefully. Incorrect installation or misuse of the product may cause people serious harm.**
2) Read the instructions carefully before starting to install the product.
3) Packaging material (plastic, polystyrene, etc.) must not be left within reach of children as it is a potential source of danger.
4) Keep the instructions in a safe place for future reference.
5) This product was designed and manufactured strictly for the use indicated in this documentation. Any other not expressly indicated use may damage the product and/or be a source of danger.
6) FAAC accepts no responsibility due to improper use of the automation or use other than that intended.
7) Do not install the appliance in an area subject to explosion hazard: inflammable gasses or fumes are a serious safety hazard.
8) Mechanical construction elements must meet the provisions of UNI8612, CEN pr EN 12604 and CEN pr EN 12605 Standards.
   To obtain an adequate level of safety in non EU countries, the above mentioned Standards must be observed in addition to national standards.
9) FAAC will not accept responsibility if the principles of Good Workmanship are disregarded in constructing the closing elements to be motorised, and if any deformation occurs during use of the said elements.
10) Installation must meet the following Standards: UNI8612, CEN pr EN 12453 and CEN pr EN 12635.
    The safety class for the automation must be C+D.
11) Before carrying out any work on the system, switch off the power supply.
12) The mains power supply of the automation must be fitted with a all-pole switch with contact opening distance of 3mm or greater. Use of a 6A thermal breaker with all-pole circuit break is recommended.
13) Make sure there is a differential switch with 0.03A threshold upstream of the system.
14) Check that the earthing system is correctly made and connect the closure metal parts to it. Also connect the Yellow/Green wire of the automation to the earthing system.
15) The automation includes an intrinsic anti-crushing device consisting of a torque control which, however, must be installed together with other safety devices.
16) The safety devices (e.g.: photocells, sensitive edges, etc…) protect any dangerous areas against **Movement mechanical risks**, such as, crushing, dragging, or shearing.
17) Use of at least one indicator-light is essential for each system (e.g.: FAAC LAMP MINILAMP, etc.) as well as a sign adequately fixed to the frame structure, in addition to the devices mentioned at point "16".
18) FAAC accepts no responsibility regarding safety and correct operation of the automation, should components made by manufacturers other than FAAC be used in the system.
19) Use only FAAC original spare parts for maintenance.
20) Do not make any alterations to the components of the automation.
21) The installer must supply full information regarding manual operation of the system in case of an emergency and hand to the user of the system the "User's Guide" included with the product.
22) Do not allow children or other persons to stand near the product while in operation.
23) Keep remote controls or any other pulse generator well away from children, to prevent the automation from being activated accidentally.
24) The user must refrain from attempting to repair or adjust the system personally and should contact qualified personnel only.
25) **Anything not expressly provided for in these instructions is not permitted.**

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AUTOMATION 844 MC-T & 844 T Control unit

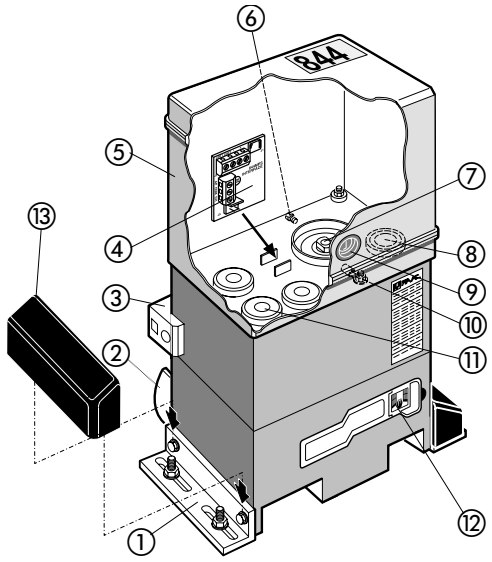
These instructions apply to the following model:

844 MC-T

The FAAC mod. 844 MC-T automation for sliding gates is an electromechanical operator powered by three-phase voltage, transmitting motion to the sliding leaf via a rack and pinion drive suitably coupled to the gate.
The irreversible system ensures the gate is mechanically locked when the motor is not operating and, therefore, no lock need to be installed.
The gearmotor is supplied with an adjustable mechanical clutch, providing the necessary anti-crushing protection.
A convenient manual release makes it possible to move the gate in the event of a power-cut or fault.
The 844 T (optional) electronic control unit must be housed in a separate box.

The 844 MC-T automation is designed and manufactured to control access of vehicles. Avoid any other use whatever.

1. DESCRIPTION AND TECHNICAL SPECIFICATIONS



① Securing corner plates
② Pinion gear
③ Limit inductive sensor
④ 844 INTERFACE card
⑤ Cover
⑥ Breather screw
⑦ Anti-crushing clutch adjustment screw
⑧ Bore for accessing oil filling cap
⑨ Cover lock with triangular key
⑩ Operator earthing connection
⑪ Routing holes for connection cables
⑫ Lever release system
⑬ Protective sides

Fig. 1

1.1. MAXIMUM USE CURVE

The curve enables you to find maximum work time (T) according to use frequency (F).
E.G: The 844 MC-T gearmotor can operate continuously at 60% use frequency.
To ensure efficient operation, you have to work in the work range under the curve.
Important: The curve is obtained at a temperature of 24°C. Exposure to the sun's rays can reduce use frequency down to 20%.

Calculation of use frequency

This is the percentage of effective work time (opening + closing) compared to total cycle time (opening + closing + pause time). Calculation formula:

$$\%F = \frac{Ta + Tc}{Ta + Tc + Tp + Ti} \times 100$$

where:
Ta = opening time
Tc = closing time
Tp = pause time
Ti = interval time between one complete cycle and the next

Use frequency graph

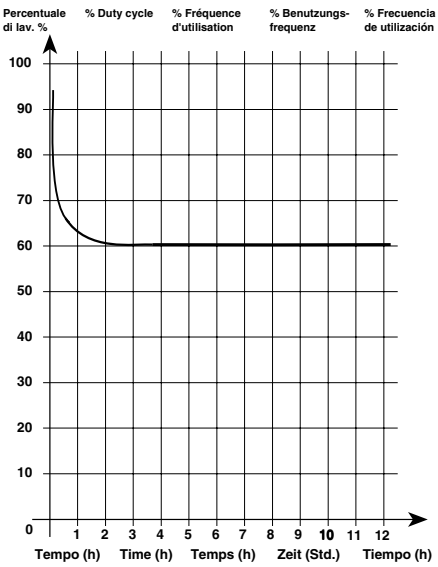


Table 1 TECHNICAL SPECIFICATIONS OF 844 GEARMOTOR

MODEL	844 MC-T
Power supply	400V 3ph + N (+ 6 % - 10 %) 50Hz
Power absorption (W)	950
Reduction ratio	1 ÷ 30
Number of pinion teeth	Z16
Rack	module 4 with 12.566 pitch
Max thrust (daN)	190 (Z16)
Max torque (Nm)	62
Thermal protection for winding	135 °C
Use frequency	60 % (See graph)
Quantity of oil (l)	1,8
Type of oil	FAAC XD 220
Ambient temperature range	-20 ÷ +55 °C
Gearmotor weight (Kg)	15
Protection class	IP 44
Max weight of gate (Kg)	2200 (Z16)
Gate speed (m/min)	9,5 (Z16)
Gate max length (time-out)	40m (Z16)
Clutch	double disk in oil bath
Protective treatment	cataphoresis
Appliance	844 T (optional)
Limit switch	inductive sensor with plate
Gearmotor overall dimensions LxHxD (mm)	see fig. 2
Technical specifications of electric motor	
RPM	1400
Power consumption (W)	950
Current absorption (A)	2,5
Power supply	400V 3ph + N (+ 6 % - 10 %) 50Hz

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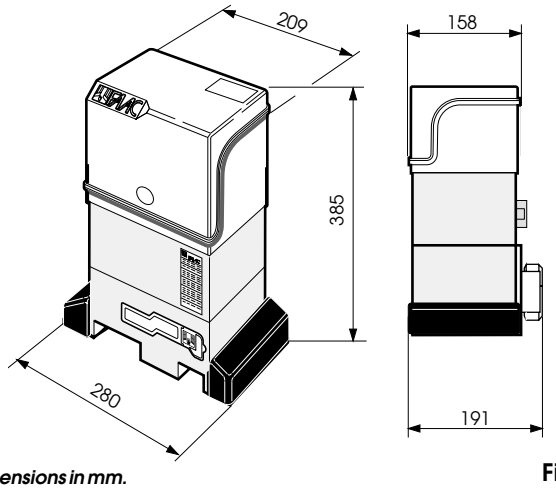
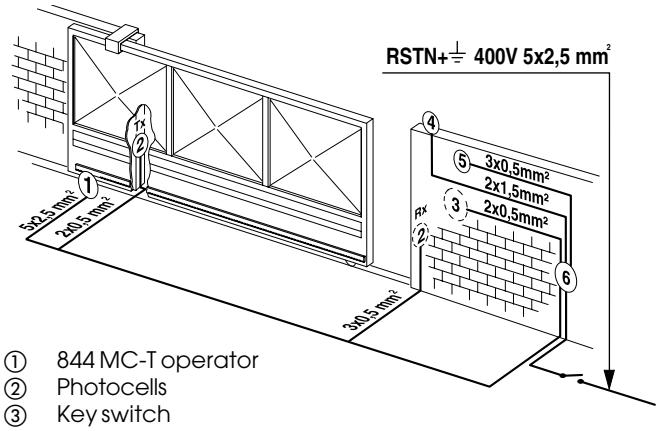
2. DIMENSIONS



Dimensions in mm.

Fig. 2

3. ELECTRICAL EQUIPMENT (standard system)



① 844 MC-T operator
② Photocells
③ Key switch
④ Flashing light
⑤ Radio receiver
⑥ 844 T elec.unit

Fig. 3

4. INSTALLATION OF AUTOMATION

4.1. PRELIMINARY CHECKS

To ensure safety and an efficient automation, make sure the following requirements are met:

- The gate structure must be suitable for automation. In particular, wheel diameter must be in proportion to the weight of the gate to be automated, an upper guide must be supplied, and travel limit mechanical stops must be fitted to prevent the gate from derailing.
- The characteristics of the soil must ensure sufficient stability of the foundation plinth.
- There must be no pipes or electrical cables in the plinth excavation area.
- If the gearmotor is exposed to passing vehicles, if possible, fit adequate guards to protect against accidental impact.
- Check if an efficient earth plate is present for connection to the gearmotor.

4.2. FOUNDATION PLATE MASONRY

1) Assemble the foundation plate as shown in Fig.4.
2) The foundation plate must be positioned as in Fig. 5 (right-hand closure) or Fig. 6 (left-hand closure) to ensure the rack and pinion mesh correctly.
3) Prepare a foundation plinth as in Fig.7 and enclose the foundation plate in a wall providing one or more sheaths for routing electric cables. Using a spirit level, check if the plate is perfectly level. Allow the cement to set.
4) Lay the electrical cables for connection to the accessories and power supply as in Fig.3.
   To facilitate making connections, allow the cables to protrude by about 45 cm from the hole (Fig.5-6 ref.❶) of the foundation plate.

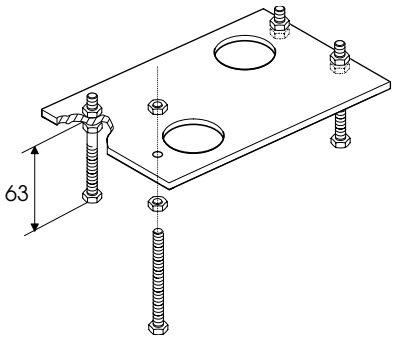


Fig. 4

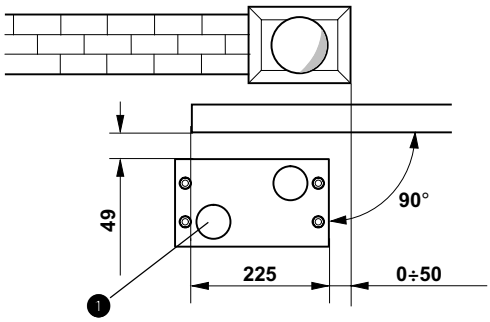


Fig. 5

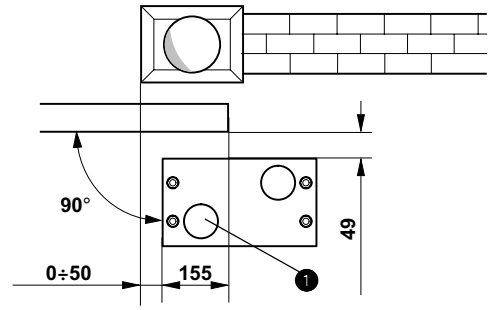


Fig. 6

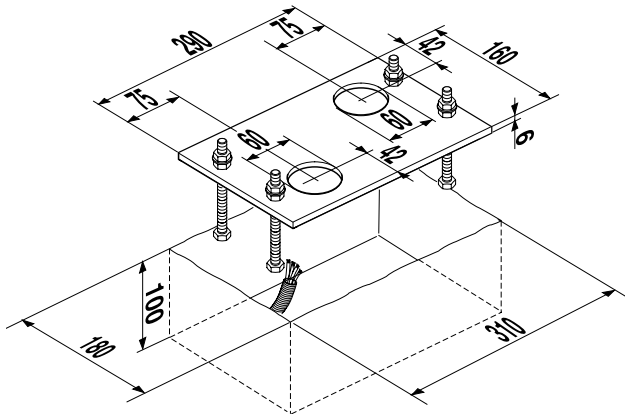


Fig. 7

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4.3. MECHANICAL INSTALLATION

1) Assemble the securing corner plates and anti-vibration spacers to the operator as shown in Fig. 8.
2) Open the operator cover using the supplied triangular cavity key as in Fig.9.
   The cover stays in open position by means of an appropriate locking system.
3) Place the operator on the plate using the supplied washers and nuts as in Fig.10.
   When doing this, route the cables through the raceway in the operator's lower half-body.
   To access Interface card 844, route the cables through the appropriate holes (Fig.1. ref.11), using the supplied cable grippers.
4) Adjust height of the feet and distance from gate, consulting Fig.11.
5) Secure the gearmotor to the foundation plate, tightening the nuts as shown in Fig.12.
6) Prepare the operator for manual operation as explained in paragraph 7.
7) Remove and store the breather screw (Fig.13).

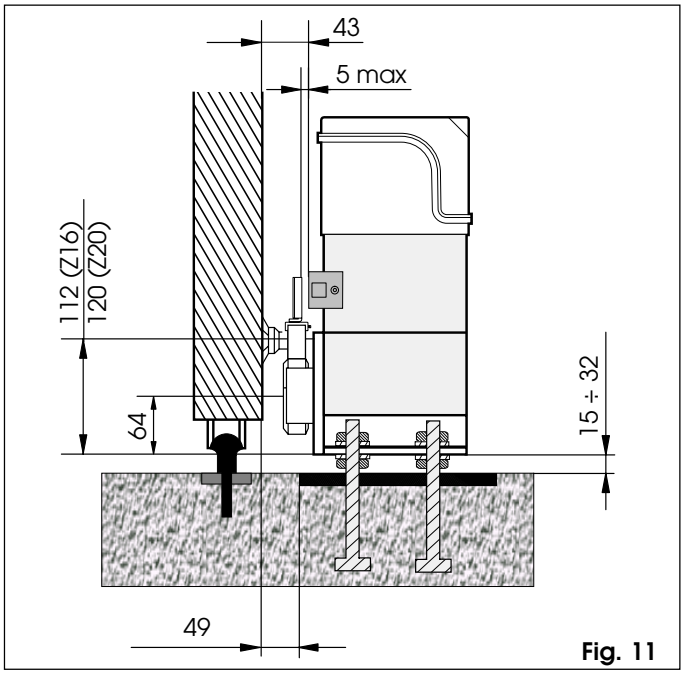

Fig. 11

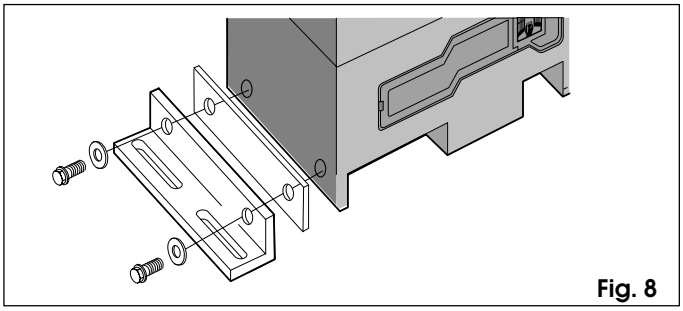

Fig. 8

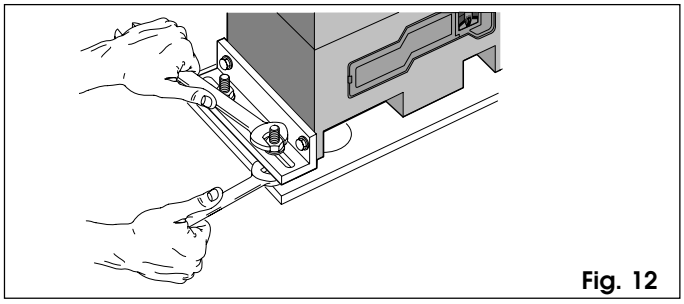

Fig. 12

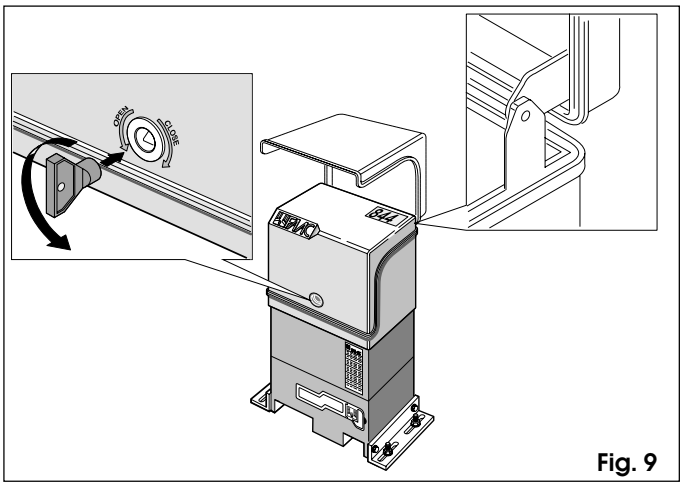

Fig. 9

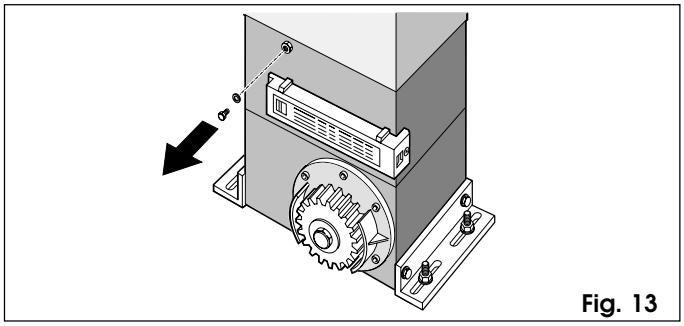

Fig. 13

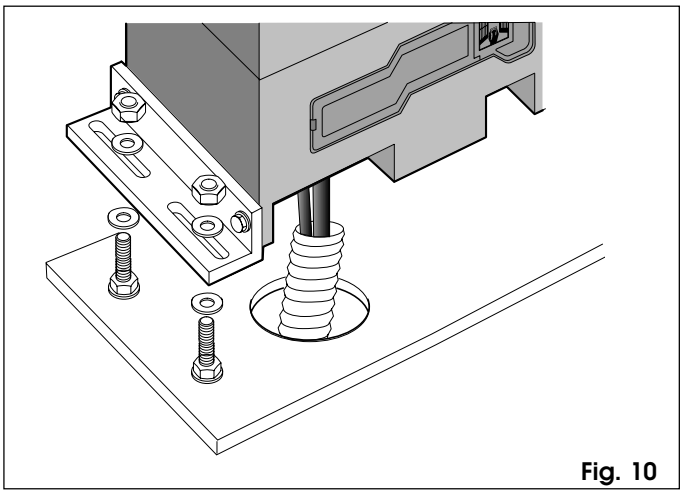

Fig. 10

4.4. INSTALLING THE RACK

4.4.1. STEEL RACK TO BE WELDED (Fig.14)

1) Fit the three threaded pawls on the rack element, locating them in the upper part of the slot. In this way, play on the slot will accommodate any adjustments that may be necessary later on.
2) Manually place the leaf in closed position.
3) Rest the first section of the rack level on the pinion gear, and weld the threaded pawl on the gate as shown in Fig.16.
4) Move the gate by hand, checking whether the rack rests on the pinion gear, and weld the second and third pawl.
5) Position another rack element next to the previous one, using a section of rack as in Fig.17, to synchronize the teeth of the two elements.
6) Move the gate by hand and weld the three threaded pawls, carrying on until you have covered the entire gate.

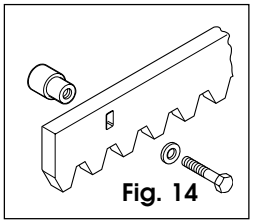

Fig. 14

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4.4.2. STEEL RACK TO BE BOLTED (Fig. 15)

1) Manually place the leaf in closed position.
2) Rest the first section of the rack level on the pinion gear and insert the spacer between the rack and the gate, locating it in the upper part of the slot.
3) Mark the drilling point on the gate. Drill Ø 6.5 mm. and tap with a Ø 8 mm. taps. Tighten the bolt.
4) Move the gate by hand, checking whether the rack rests on the pinion and repeat operations at point 3.
5) Position another rack element next to the previous one, using a section of rack as in Fig. 17.
6) Move the gate by hand and execute the securing operations as done for the first element, carrying on until you have covered the entire gate.

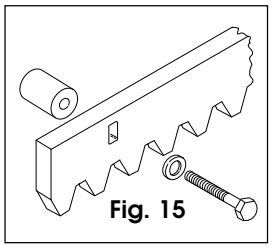

Fig. 15

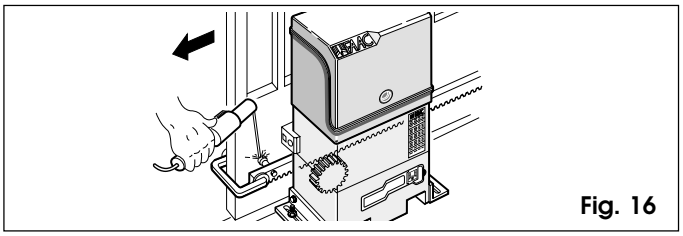

Fig. 16

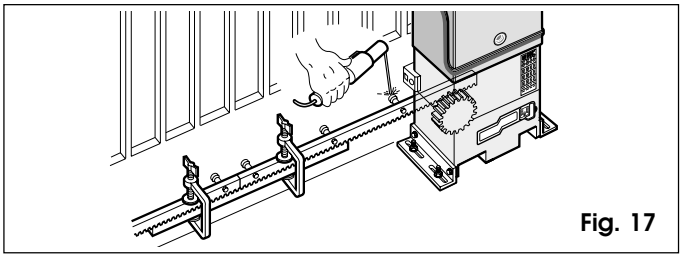

Fig. 17

Notes on the rack

- As the gate moves, make sure that no rack elements lose contact with the pinion.
- Do not, repeat do not, weld the rack elements either to the spacer or to each other.
- After installing the rack, to ensure correct meshing with the pinion gear, we advise you to lower the position of the gearmotor by approximately 1.5 mm (Fig.18).
- Manually check that the gate reaches the mechanical limit stops correctly, and that there is no friction during travel.
- Do not apply grease or other lubricants between rack and pinion.

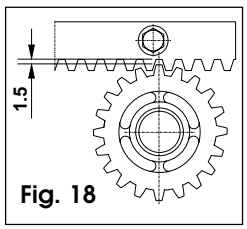

Fig. 18

5. START-UP

5.1. CONNECTION TO ELECTRONIC CONTROL UNIT

➲Before attempting any work on the control unit (connections, programming, maintenance), always turn off power supply.

Observe points 10, 11, 12, 13 and 14 of the GENERAL SAFETY OBLIGATIONS.

Observing the instructions in Fig.3, lay the raceways and make the electrical connections of the 844 T electronic unit to the selected accessories.

Always separate power cables from control and safety cables (push-button receiver, photocells, etc.). To prevent any electronic noise whatever, use separate sheaths.

This control unit can be installed in boxes E, L and LM. Before securing the card in the box, fit the supplied support feet (long for mod. E, short for models L and LM) in the 3 S-holes (Fig.20).

5.1.1. 844 T ELECTRONIC CONTROL UNIT

TABLE 2 844 T TECHNICAL SPECIFICATIONS

Power supply	400V 3ph+N (+6 -10 %) 50Hz
Motor max load	950 W
Accessories power supply	24Vdc
Accessories max load	500 mA
Warning light power supply	24V~ (5W max)
Ambient temperature range	- 20°C + 55°C
Fuses	transformer primary winding accessories
Quick-fit plugs	- for decoding cards or RP receivers -
Inputs	OPEN/PART OPEN/STOP/CLOSURE SAFETY DEVICES/ LIMIT-SENSORS
Outputs	warning light flashing light motor 24Vdc accessories power supply
Programming	pause time (5-10-15-30-60-120-180 sec.) logics A1/A2/S1/S2/E1/E2/B/C pre-flashing
Motor braking	fixed
Safety timing	255 sec.

5.1.2. 844 T LAY-OUT

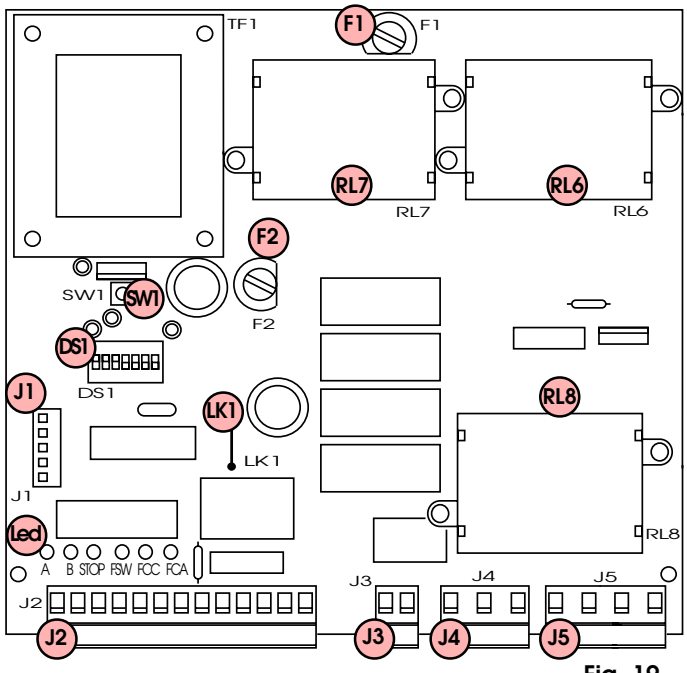

Fig. 19

TABLE 3 844 T CONTROL UNIT COMPONENTS

F1	Fuse F1 5x20 F5A/250V rapid (transformer)
F2	Fuse F2 5x20 T1,6A/250V delayed (accessories)
SW1	RESET push-button
DS1	Programming microswitches
Led	Input status signalling LEDs
J1	Quick-fit plug for decoding cards/RP receivers
J2	Low voltage terminal block for inputs/accessories
J3	Flashlight output terminal block (230V~ max 60W)
J4	Motor output terminal block
J5	Line power supply input terminal block
LK1	Bridge for warning light free contact
RL6-7	Motor relay
RL8	Braking relay

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5.1.3. ELECTRICAL CONNECTIONS

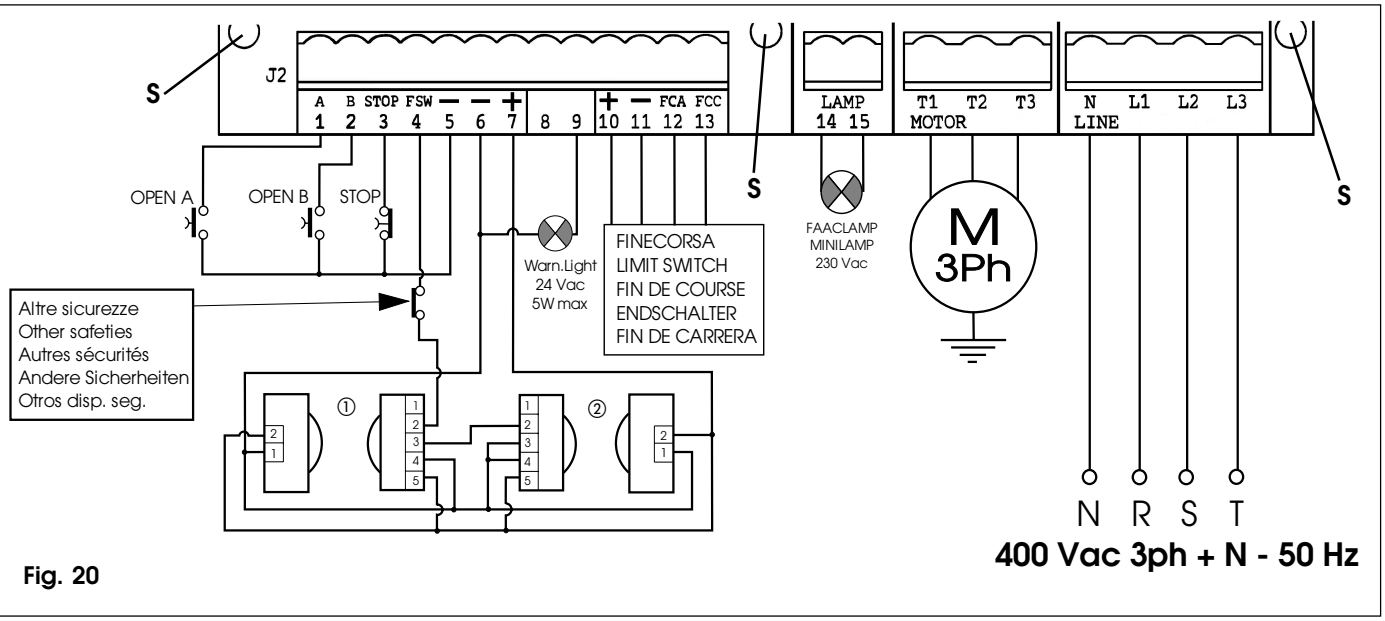

Fig. 20

5.2. DESCRIPTION

5.2.1. J1 PLUG

The J1 plug is used for rapid connection of cards MINIDEC, DECODER, RP RECEIVERS (Fig. 21, 22, 23)

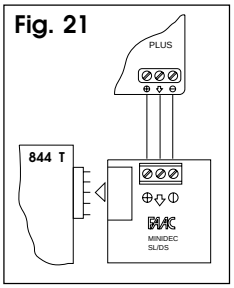

Fig. 21

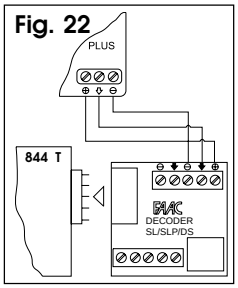

Fig. 22

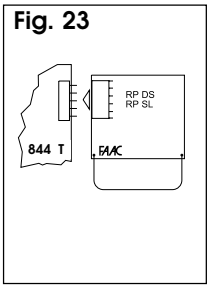

Fig. 23

Install by fitting the accessory cards so that their components side faces the inside of the 844 T electronic appliance.
Insert and remove the cards after cutting power.

5.2.2. TERMINAL BLOCK J2 (low voltage)

1 = OPEN A (N.O.) – Total opening
This is any pulse generator with N.O. contact which, when activated, produces a gate opening movement. In A, E and S logics, it commands both opening and closing.
To install several Open A devices, connect N.O. contacts in parallel.

2 = OPEN B (N.O.) – Pedestrians Opening / Closing
This is any pulse generator with N.O. contact which, when activated in logics A, E and S, produces a gate opening movement for pedestrians. In B and C logics, it commands a closing movement.
To install several Open B devices, connect N.O. contacts in parallel.

3 = STOP command (N.C.)
This is any device (e.g. a push-button) which, by opening a contact, stops gate movement.
To install several stop devices, connect the N.C. contacts in series.
➲If Stop devices are not connected, link the input to the common contact (terminal 5) via a jumper.

4 = FSW closure safety devices contact (N.C.)
Safety devices are all devices (photocells, sensitive edges, magnetic coils) with N.C. contact, which, if there is an obstacle in the area they protect, operate to interrupt gate movement. The purpose of the closure safety devices is to protect the gate movement area during closing.
If the safety devices are tripped during closure, gate movement is reversed, while they have no effect during opening. If tripped when the gate is open or pausing, closing safety devices prevent its closing.
To install several safety devices, connect the N.C. contacts in series.
➲ If closing safety devices are not connected, link this input to the common contact (terminal 5) via a jumper.

5 = Common contact for commands

6 = Common/negative of accessories power supply (-)

7 = 24 Vdc accessories power supply positive (+)
Max load of accessories is 500 mA.
To calculate absorption values, refer to the instructions for individual accessories.

9 = Warning light output (24 Vac)
The maximum load of the warning light is 5 W.
For instructions on operation of the warning light, consult microswitches programming.
➲ If you cut out jumper LK1, you obtain a voltage free contact between terminals 8 and 9 (see fig.24).

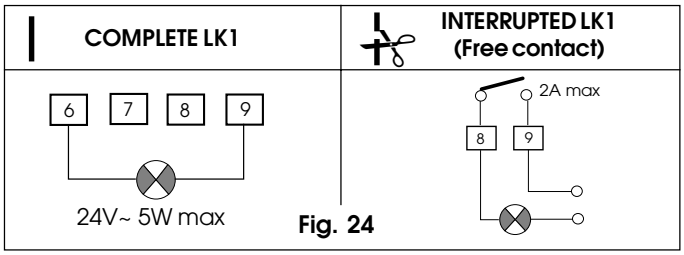

Fig. 24

10 = 24 Vdc (+) power supply for inductive limit switch

11 = Limit switch common contact

12 = Opening limit switch (N.O.)

13 = Closing limit switch (N.O.)

N.B.: terminals 10-11-12-13 should be connected to the 844 INTERFACE card (supplied with gearmotor), observing the diagram in Fig.20.

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5.2.3. TERMINAL BLOCK J3 (high voltage)

Terminal board for connecting flashlight (max 60W).

5.2.4. TERMINAL BLOCK J4 (high voltage)

Terminal board for connection of motor.

5.2.5. TERMINAL BLOCK J5 (high voltage)

Terminal board for supplying 400V 3ph + Neutral - 50 Hz.
Connect the yellow-green earth cable as shown in Fig.25.

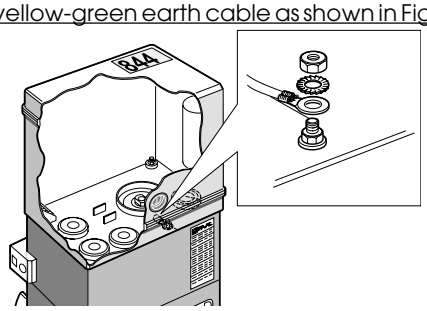


Fig. 25

5.2.6. SIGNALLING LEDs

6 LEDs are fitted on the card, indicating status of terminal block inputs:
LED LIGHTED = contact closed
LED OFF = contact open

TABLE 4 STATUS OF LEDS

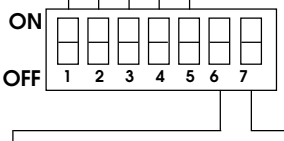
LED	LIGHTED	OFF
OPEN A	command active	command inactive
OPEN B	command active	command inactive
STOP	command inactive	command active
FSW	safety devices disengaged	safety devices engaged
FCC	closing limit sensor disengaged	closing limit sensor engaged
FCA	opening limit sensor disengaged	opening limit sensor engaged

5.3. PROGRAMMING

To program operation of automation, use the microswitches as shown below.

Logic	SW1	SW2	SW3
E1	ON	ON	ON
B	OFF	ON	ON
S2	ON	OFF	ON
E2	OFF	OFF	ON
A1	ON	ON	OFF
C	OFF	ON	OFF
S1	ON	OFF	OFF
A2	OFF	OFF	OFF

Pause time (sec) (1)			
Logic A1-A2-S2	S1	SW4	SW5
5	15	ON	ON
10	30	OFF	ON
30	60	ON	OFF
120	180	OFF	OFF



Operation of warning light			
	Gate status		
SW6	Closed	Opening/Open	Closing
ON	Light Off	Steady light	Light
OFF			Flashing

Pre-flashing (2)	SW7
Yes	ON
No	OFF

(1) Pause times include pre-flashing if any
(2) Pre-flashing begins 5" before every movement.

➲ You must press the RESET push-button after every programming operation.

Function logics

The following are available:
A1/A2 = "Automatic" S1/S2 = "Safety"
E1/E2/B = "Semi-automatic" C = "Deadman"

Operation of automation in the different logics is indicated in Tables 5-6-7-8-9-10-11-12.

Pause time

Pause time is waiting time in open position before re-closing when an automatic logic was selected.
Pause times include pre-flashing if any

Operation of warning light

Used to change the appearance of the warning light at closing by making it flash.

Pre-flashing

Flashing light pre-flashing time of 5 sec before any movement can be selected. This warns anyone near the gate that it is about to move.

TABLE 5 LOGIC A1 (AUTOMATIC)

LOGIC A1	PULSES		
GATE STATUS	OPENA-OPENB(1)	STOP	SAFETY DEVICES
CLOSED	opens and closes after pause time (2)	no effect	no effect
OPEN FOR PAUSE	re-closes after 5" (3)	stops the count	freezes pause until disengagement
CLOSING	reverses motion	stops	reverses motion
OPENING	no effect	stops	no effect
STOPPED	re-closes (2)	no effect	no effect

TABLE 6 LOGIC A2 (AUTOMATIC PLUS)

LOGIC A2	PULSES		
GATE STATUS	OPENA-OPENB(1)	STOP	SAFETY DEVICES
CLOSED	opens and closes after pause time (2)	no effect	no effect
OPEN FOR PAUSE	re-closes after 5" (3)	stops the count	when disengaged, re-closes after 5"
CLOSING	reverses motion	stops	stops and reverses at disengagement (2)
OPENING	no effect	stops	no effect
STOPPED	re-closes (2)	no effect	no effect

TABLE 7 LOGIC S1 (SAFETY)

LOGIC S1	PULSES		
GATE STATUS	OPENA-OPENB(1)	STOP	SAFETY DEVICES
CLOSED	opens and closes after pause time (2)	no effect	no effect
OPEN FOR PAUSE	closes immediately (2-3)	stops the count	when disengaged, re-closes after 5"
CLOSING	reverses motion	stops	reverses motion
OPENING	reverses motion	stops	no effect
STOPPED	re-closes (2)	no effect	no effect

TABLE 8 LOGIC S2 (SAFETY PLUS)

LOGIC S2	PULSES		
GATE STATUS	OPENA-OPENB(1)	STOP	SAFETY DEVICES
CLOSED	opens and closes after pause time (2)	no effect	no effect
OPEN FOR PAUSE	closes immediately (2-3)	stops the count	freezes pause until disengagement
CLOSING	reverses motion	stops	stops and reverses at disengagement (2)
OPENING	reverses motion	stops	no effect
STOPPED	re-closes (2)	no effect	no effect

TABLE 9 LOGIC E1 (SEMI-AUTOMATIC)

LOGIC E1	PULSES		
GATE STATUS	OPENA-OPENB(1)	STOP	SAFETY DEVICES
CLOSED	opens (2)	no effect	no effect
OPEN	re-closes (2)	no effect	no effect
CLOSING	reverses motion	stops	reverses motion
OPENING	stops	stops	no effect
STOPPED	re-closes (when safety devices engaged, it re-opens) (2)	no effect	no effect

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TABLE 10 LOGIC E2 (SEMI-AUTOMATIC PLUS)

LOGIC E2	PULSES		
GATE STATUS	OPENA-OPENB(1)	STOP	SAFETY DEVICES
CLOSED	opens (2)	no effect	no effect
OPEN	re-closes (2)	no effect	no effect
CLOSING	reverses motion	stops	stops and reverses at disengagement (2)
OPENING	stops	stops	no effect
STOPPED	re-closes (when safety devices engagged, it re-opens) (2)	no effect	no effect

TABLE 11 LOGIC B (SEMI-AUTOMATIC)

LOGIC B	PULSES			
GATE STATUS	OPEN A	OPEN B (4)	SAFETY DEVICES	STOP
CLOSED	opens ((2)	no effect	no effect	no effect
OPEN	no effect	closes(2)	prevents closing	no effect
CLOSING	no effect	no effect	stops movement	stops movement
OPENING	no effect	no effect	no effect	stops movement
STOPPED	completes opening (2)	completes closing (2)	prevents closing	no effect

TABLE 12 LOGIC C (DEADMAN)

LOGIC C	CONTROLS HELD DOWN CONTINUOUSLY		PULSES	
GATE STATUS	OPEN A (5)	OPEN B (4 e 5)	SAFETY DEVICES	STOP
CLOSED	opens	no effect	no effect	no effect
OPEN	no effect	closes	prevents closing	no effect
CLOSING	no effect		stops movement	stops movement
OPENING		no effect	no effect	stops movement
STOPPED	completes opening	completes closing	prevents closing	no effect

(1) OPEN B input commands partial opening.
(2) With pre-flashing selected, movement begins after 5 sec.
(3) If the pulse is sent during pre-flashing, counting is restarted.
(4) OPEN B input commands closing.
(5) Push-button must be kept pressed to activate gate movement. When the push-button is released, the gate stops.

5.4. FAULT CONDITIONS

The following conditions cause certain effects to normal operation of automation:

① microprocessor error
② safety electronic timing tripped (operation is interrupted if continuous work time exceeds 255 sec.).
③ limit sensors disconnected (or both engaged)

• Conditions ① and ② cause automation to stop.
• Condition ③ causes an alarm situation disabling any activity: Normal operation can be restored only after eliminating the alarm cause and pressing the RESET push-button (or turning off power supply momentarily).
To have this condition signalled, the warning light must be connected: the alarm is signalled by very rapidly flashing light (0.25 sec).

5.5. ROTATION DIRECTION CHECK

1) Release the operator, take it manually to mid-travel and re-lock it (see par. 8).
2) Power up the system and then press the RESET push-button.
3) Give an Open command to the operator, check if the gate moves in opening direction and then press the RESET push-button to stop the leaf moving.
4) If rotation direction is incorrect, change over wiring of cables T1 and T3 of the electric motor.

5.6. POSITIONING TRAVEL LIMIT PLATES

The 844 MT-C operator has inductive limit sensors (Fig.1 ref.3) which, when they detect the movement of a plate secured to the upper part of the rack, command gate movement to stop.
Procedure for correct positioning of the two supplied plates:

1) Assemble the limit sensor centering the plate with respect to the support threaded pins (Fig.26).
2) Power up automation.
3) Manually take the gate to opening position, leaving at least 2 cm from the travel limit mechanical stop.
4) Allow the plate to slide over the rack in opening direction. As soon as the FCA LED on the 844 T card goes off, move the plate forward by about 45 mm and secure it to the rack by tightening the screws.
5) Manually take the gate to closing position, leave a distance of about 2 cm from the travel limit stop mechanism.

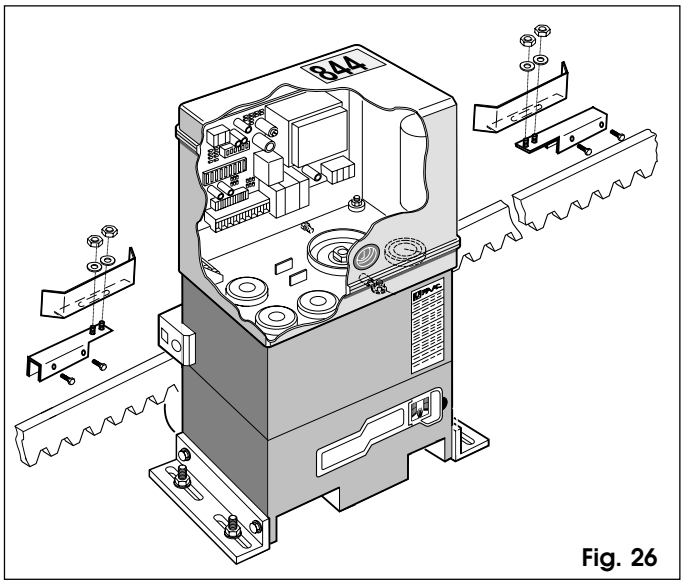

Fig. 26

6) Allow the plate to slide over the rack in closing direction. As soon as the FCC LED on the 844 T card goes off, move the plate forward by about 45 mm and secure it to the rack by tightening the screws.
7) Re-lock the system (see paragraph 8).
8) Command a complete gate cycle to check if the limit sensors are tripping correctly.
N.B.: If the limit sensors are reversed (e.g. if the FCC LED goes off when the gate is open), change over the cables connected to the FCA and FCC inputs.

Notes on plate positioning

- The distance between limit sensors and plates must be ≤ 5mm (Fig.11).
- To avoid damaging the operator and/or interrupting operation, leave a distance of least 2 cm from the travel limit mechanical stops.

5.7. ADJUSTING TRANSMITTED TORQUE

The 844 MC-T automation has an anti-crushing mechanical clutch which (according to adjustment) limits the thrust of the gate if it meets an obstacle.
After the obstacle is removed, the gate restarts moving either until it reaches the limit sensor or when safety time has elapsed.
We advise you to set the torque limiter to conform to relevant current laws.
Procedure for setting the tripping threshold of the anti-crushing system:

1) **Turn off power to the automation.**
2) Remove the hole guard and fully unscrew the cover of the clutch adjustment screw as shown in Fig.27.

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3) Keep the motor shaft locked with the supplied lever and adjust the clutch adjustment screw as in Fig. 28.

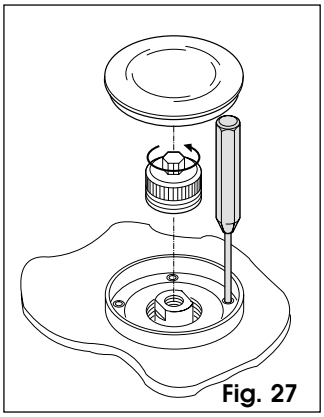

Fig. 27

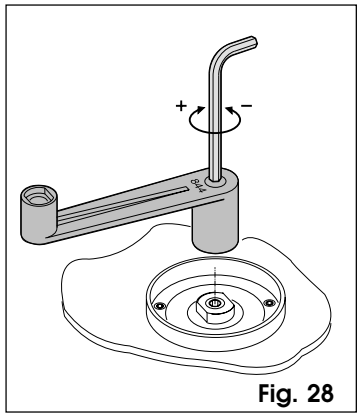

Fig. 28

To increase torque, turn the screw clockwise.
To reduce torque, turn the screw anti-clockwise.
➲The operator is supplied with clutch set to maximum value. Therefore, you should initially turn the screw anti-clockwise to reach optimum setting.

4) Power up the automation and check if the anti-crushing system operates correctly.

➲ The operator is supplied as standard with a clutch adjustment spring for gates up to 1,000 Kg.
For heavier gates, use the alternative spring (also supplied).
To replace the spring, proceed as in Fig. 29.

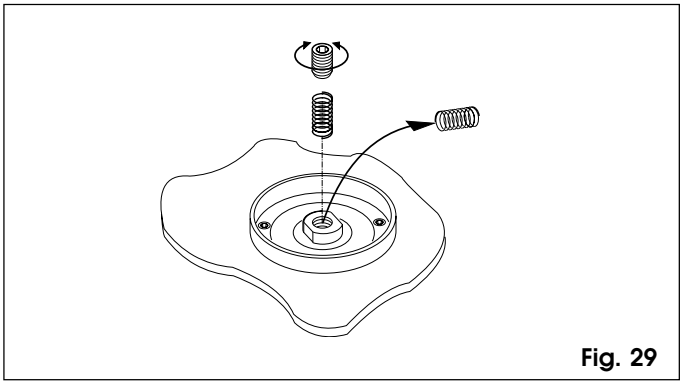

Fig. 29

6. AUTOMATION TEST

After installation, apply the danger sticker on the top of the cover (Fig 30).

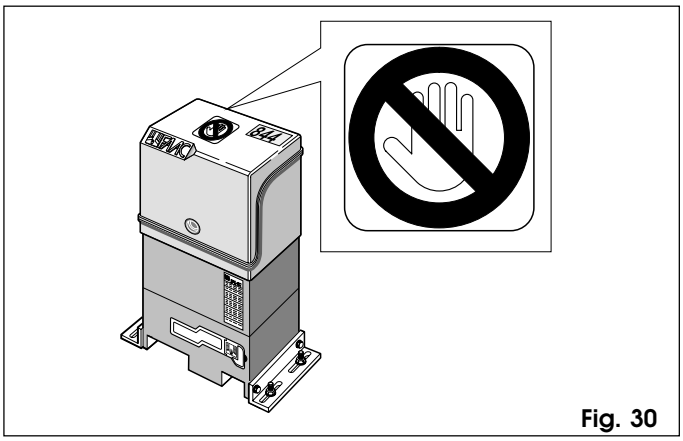

Fig. 30

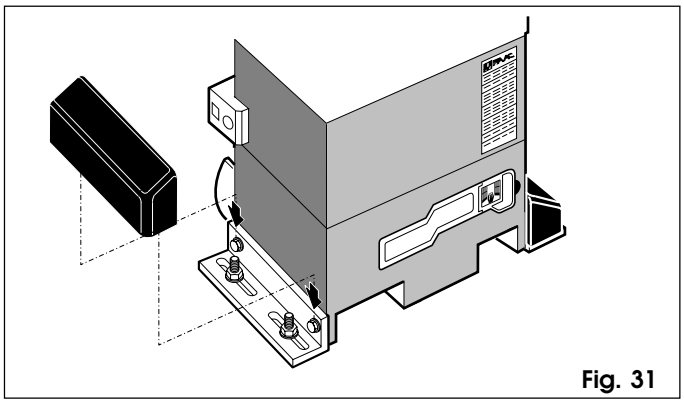

Fig. 31

Using pressure, fit the side guards of the operator securing screws (Fig. 31).
Check operating efficiency of the automation and all accessories connected to it.
Hand the "User's Guide" to the Client, explain correct operation and use of the gearmotor, and indicate the potentially dangerous areas of the automation.

7. MANUAL OPERATION

If the gate has to be operated manually in the event of a power-cut or fault to the automation, use the release device as follows:

1) Open the protective door and fit the supplied key in the lock (Fig. 32).
2) Turn the key clockwise and pull the release lever as shown in Fig. 33.
3) Open or close the gate manually.

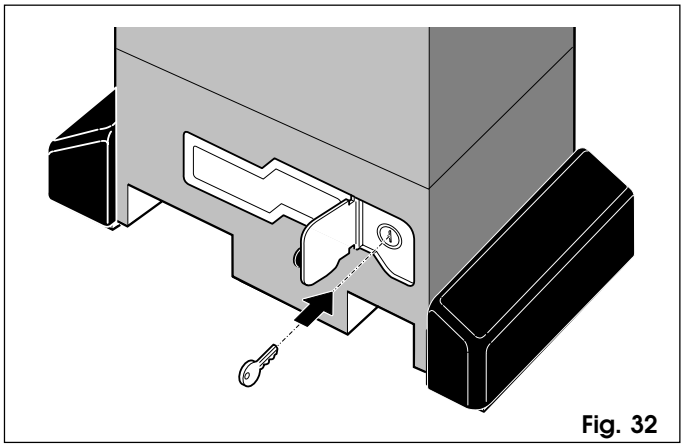

Fig. 32

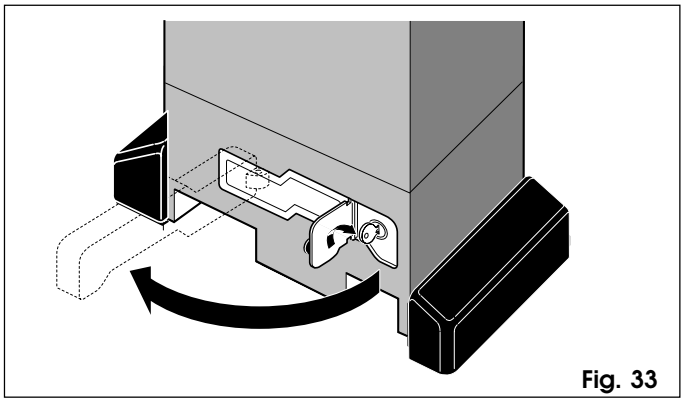

Fig. 33

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8. RESTORING NORMAL OPERATING MODE

To avoid an involuntary pulse from activating the gate during the manoeuvre, before re-locking the operator , switch off power to the system.

1) Re-close the release lever.
2) Turn the key anti-clockwise.
3) Remove the key and close the lock protection door.
4) Move the gate until the release mechanism meshes.

9. SPECIAL APPLICATIONS

There are no special applications.

10.MAINTENANCE

When doing maintenance jobs, always check that the anti-crushing clutch is correctly set, and that safety devices are operating efficiently.

10.1. TOPPING UP WITH OIL

Periodically check quantity of oil inside the operator.
An annual check is sufficient for low to medium use frequency; for heavier duty, check every 6 months.
To access the tank, temporarily remove the oil filling plug (Fig.1 ref.8).
Oil visual check: oil must nearly touch the copper windings of the electric motor (Fig. 34).
To top up, pour in oil up to the level indicated above.
Use only FAAC XD 220 oil and no other.

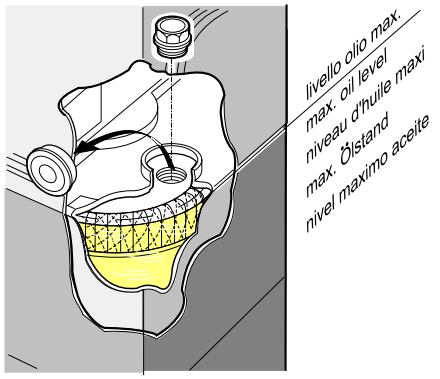

Fig. 34

11.REPAIRS

For repairs, contact FAAC's authorised Repair Centres.

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USER'S GUIDE

AUTOMATION 844 MC-T

Read the instructions carefully before using the product, and keep them for future consultation.

GENERAL SAFETY REGULATIONS

If installed and used correctly, the 844 MC-T automation will ensure a high degree of safety.
Some simple rules regarding behaviour will avoid any accidental trouble:

- Do not stand near the automation and do not allow children and other people to stand there, especially while it is operating.
- Keep remote controls or any other pulse generator well away from children to prevent the automation from being activated involuntarily.
- Do not allow children to play with the automation.
- Do not willingly obstruct gate movement.
- Prevent any branches or shrubs from interfering with gate movement.
- Keep illuminated signalling systems efficient and clearly visible.
- Do not attempt to activate the gate by hand unless you have released it.
- In the event of malfunctions, release the gate to allow access and wait for qualified technical personnel to do the necessary work.
- After enabling manual operating mode, switch off the power supply to the system before restoring normal operating mode.
- Do not make any alterations to the components of the automation.
- Do not attempt any kind of repair of direct action whatever and contact qualified FAAC personnel only.
- Call in qualified personnel at least every 6 months to check the efficiency of the automation, safety devices and earth connection.

DESCRIPTION

The 844 MC-T automation is ideal for controlling industrial vehicle access areas.
The 844 MC-T automation for sliding gates is an electromechanical operator which transmits movement to the sliding leaf via a pinion with rack or chain appropriately coupled to the gate.
Operation of the sliding gate is controlled by electronic control equipment housed in a container separated from the operator.
When, with the gate closed, the control equipment receives an opening command by remote control or from another suitable device, it activates the motor until the opening position is reached.
If automatic operating mode was set, the gate closes automatically after the selected pause time has elapsed.
If semiautomatic operating mode was set, a second pulse must be sent to allow the leaves to close again.
An opening pulse during re-closing, always causes movement to reverse.
A stop pulse (if supplied) always stops movement.
For details on sliding gate behaviour in different function logics, consult the installation technician.
Automations include safety devices (photocells, sensitive edges) that prevent the gate from closing when there is an obstacle in the area they protect.
The system ensures mechanical locking when the motor is not operating and, therefore, installing any lock is unnecessary.
Manual opening is, therefore, only possible by using the release system.
The gearmotor has an adjustable mechanical clutch providing the necessary anti-crushing protection.
An inductive sensor detects transit of metal plates secured on the rack, which correspond to the travel limit positions. The electronic control equipment is housed in a container which is separate from the gearmotor.
A handy manual release facility makes it possible to move the gate in the event of a power cut or fault.
The warning-light indicates that the gate is currently moving.

MANUAL OPERATION

If the gate has to be operated manually in the event of a power-cut or automation fault, use the release device as follows:

1) Open the protective door and fit the supplied key in the lock (Fig. 1).
2) Turn the key clockwise and pull the release lever as shown in Fig. 2.
3) Open or close the gate manually.

RESTORING NORMAL OPERATION MODE

To avoid an involuntary pulse from activating the gate during the manoeuvre, before re-locking the operator, switch off power to the system.

1) Re-close the release lever.
2) Turn the key anticlockwise.
3) Remove the key and close the lock protection door.
4) Move the gate until the release mechanism meshes.

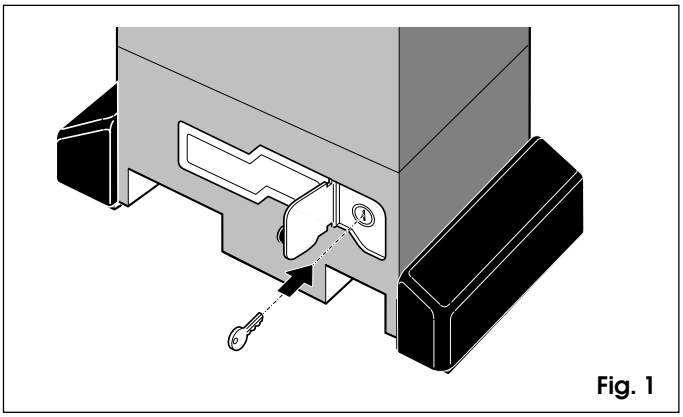

Fig. 1

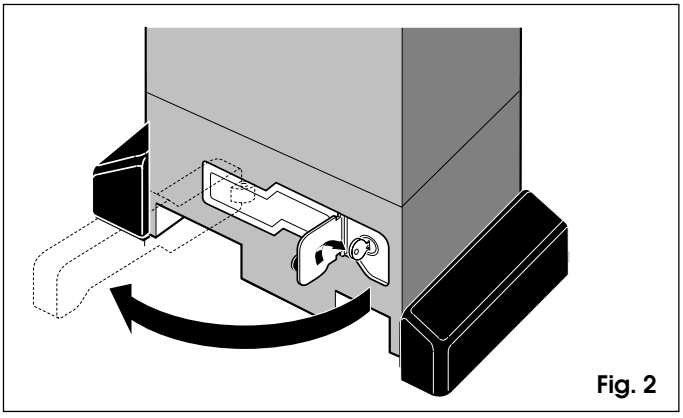

Fig. 2