

SpeedStile FL

Installation Operation and Maintenance Manual

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Section 1

Introduction

General

Please read this manual carefully, it contains information that will assist you with all aspects of installation and Maintenance, including unpacking, so that a long and useful machine life can be achieved.

Gunnebo Entrance Control Ltd makes every effort to ensure that this manual is reviewed whenever significant changes are made to the design. However, our policy of continuous improvement may result in some small differences between the unit supplied and the description in this document.

Enquiries in this respect should, in the first instance, be directed to our Technical Department.

Telephone +44 (0) 1825 746105, Fax +44 (0) 1825 763835,

E-mail Turnsupport.entrancecontrol@gunnebo.com

Electrical Warnings

The electrical power used in this equipment is at a voltage high enough to endanger life. Before carrying out Maintenance or repair, you must ensure that the equipment is isolated from the electrical supply and tests made to verify that the isolation is complete.

When the supply cannot be disconnected, functional testing, Maintenance and repair of the electrical units is to be undertaken only by persons fully aware of the danger involved and who have taken adequate precautions and training.

Errors

Reports on errors, comments and suggestions concerning this manual are requested and encouraged. They should be submitted to:

Technical Department, Gunnebo Entrance Control Ltd, Bellbrook Business Park, Uckfield, East Sussex, TN22 1QQ, UK.

Telephone +44 (0) 1825 761022, Fax +44 (0) 1825 763835,

E-mail Turnsupport.entrancecontrol@gunnebo.com

Proprietary Notices

All data appearing herein is of a proprietary nature, with exclusive title to it held by Gunnebo Entrance Control Ltd. The possession of this Manual and the use of the information is therefore restricted only to those persons duly authorised by Gunnebo Entrance Control Ltd.

Do not reproduce, transcribe, store in a retrieval system or translate into any human or computer language, any part of this Manual without prior permission of Gunnebo Entrance Control Ltd.

Hardware Changes

No hardware changes may be made without authority from Gunnebo Entrance Control Ltd who will be responsible for ensuring that the proposed change is acceptable in all safety aspects. Personnel authorised by Gunnebo Entrance Control Ltd may only make hardware changes.

Any Maintenance or modification of Emergency Stop and Guarding Circuitry must be followed by safety checks on the whole hardwired Emergency Stop and Guarding Circuitry.

Prior to a hardware change, records must be made of the change, one of which MUST be sent to the Technical Department at Gunnebo Entrance Control Ltd.

Rotating Machinery

Rotating industrial machinery may possess huge amounts of stored energy. On no account must you commence Maintenance if you do not fully understand what you are doing and/or have not taken all the safety precautions normally associated with industrial electronic control systems and machines.

Before starting to work on the equipment, please make yourself familiar with all the associated blocks in the system, including control loops, mechanics, drives, transducers and electrics. Please read all the Manuals of the equipment you are unfamiliar with first.

Warnings, Cautions and Notes

Where necessary within the technical manual, Warnings, Cautions and Notes may be given.

Warnings

Are for conditions that might endanger people. The instructions given in Warnings must be followed precisely. They are given to avoid injury or death.

Cautions

Are for conditions that may cause damage to equipment, or may spoil work. The instructions given in Cautions must be followed to avoid spoilt work or damage to equipment.

Notes

Alert the user to pertinent facts and conditions.

Static Sensitive Devices

Some of the PCBs in the equipment covered by this Technical Manual contain Static Sensitive Devices. It is recommended that Maintenance and service engineers are fully aware of the Local Industry Regulations and procedures when handling such devices.

Good Practices

Equipment being installed must not be left unattended unless all potential mechanical and electrical hazards have been made safe. A competent person must be left in charge when the equipment is to be left while potentially unsafe.

The following points indicate good practice that will contribute to safety and avoid equipment damage.

- I. Ensure that all electrical power supplies are turned OFF and disconnected before working on any of the equipment.
- II. Never leave the equipment in a potentially dangerous state.
- III. Use only the correct tools for the task in hand.
- IV. When working on the equipment, remove any personal jewellery that may be conductive, or clothing that may become entangled with mechanical parts.

Equipment Safety Systems

Safety systems and controls, such as interlocks, covers and guards, must not be overridden or bypassed by personnel other than authorised staff who are qualified to carry out prescribed actions within specified Warnings.

Risk Assessment

Risk assessment is graded into categories of safety, rated 1 to 8 (where 8 is the highest risk level). The following activities are covered.

Rating	Activity
1	Cleaning
2	General Installation
3	Servicing
4	Servicing General Maintenance Using Chemical Fixers
5	Commissioning
8	Floor Drilling Glass Panel Installation

Rating 1: Cleaning.

Who is at Risk	Engineers or Site Personnel
Hazard	Mis-use of Cleaning Fluids
Current Controls	Compliance with COSHH regulations

Rating 2: General Installation

Who is at Risk	Site Personnel
Hazard	Objects/Tools in Installation area
Current Controls	Trained Installation Engineers

Rating 4: General Maintenance

Who is at Risk	Site Personnel
Hazard	Electric Shock
Current Controls	Isolation of Power/Trained Service Personnel

Using Chemical Fixer

Who is at Risk	Site Personnel within the Vicinity of the Work Area
Hazard	Fume Inhalation
Current Controls	Compliance with COSHH regulations

Rating 5: Commissioning

Who is at Risk	Site Engineer
Hazard	Power Supply/Moving Parts
Current Controls	Isolate Power

Rating 8: Floor Drilling

Who is at Risk	Installation Engineer
Hazard	Flying Debris and Noise
Current Controls	Protective Equipment <u>must</u> be worn

Glass Panel Installation

Who is at Risk	Installation Engineer
Hazard	Glass Breaking
	Incorrect handling techniques
Current Controls	Protective Equipment must be worn.

CE - Marking

The Gunnebo Entrance Control Ltd SpeedStile FL is CE marked, developed and manufactured according to the EU's Machinery, Low-Voltage and EMC-Directives.

Important Notice

The SpeedStile is a security product, any children or minors using the SpeedStile must be supervised and accompanied by a responsible adult. Gunnebo Entrance Control Ltd does not accept any liability if this rule is not enforced.

Section 2

Product Description

The GEC SpeedStile FL range is designed for high flow rate maintaining a medium degree of security. The passageway is bi-directional. The two directions of transit A and B can be configured in the following three modes.

- | | |
|----------------------|---|
| Unlock Mode. | - All persons are allowed transit. |
| Lock Mode. | - Transit is forbidden. |
| Reader Control Mode. | - Transit is only allowed for persons who have been given permission by a badge reader. |

The operating mode for each direction of transit can be set via the following methods.

- a. By remote control.
- b. By a command sent through the RS 485 serial line.

The priority on activation of the remote command or serial line command is set by a programmable parameter (Refer to the annex "Parameter Table" for reference)

Typical Unit



Technical Specification

Drive:		Motorised.
Material:	Top Front Cladding Panels Side Doors Plinth Cladding	Dependant on customer specification. Stainless steel 12mm clear Tempered Glass 12mm clear Tempered Glass Stainless steel
Function:		<p>Passage in both directions, electronically controlled. The SpeedStile FL is available in Normally Open (N/O) or Normally Closed (N/C) mode. In the N/O mode the SpeedStile FL provides an always-open walkway in the rest position – it will only close at an authorised entry or tailgating attempts. This provides high flow rates and increases the MTBF.</p> <p>In the N/C mode the unit provides a closed walkway which can only be opened on receipt of an authorised signal.</p> <p>The N/O cabinet can be configured to change to N/C mode via programmable parameter or remote switching.</p>
Mechanism:		<p>The Panels are moved by two 90deg bevel gears. The drive unit is a DC motor connected to a worm reduction gear and an angular sensor.</p> <p>A microprocessor control system guarantees the precise movement and positioning of the panels.</p> <p>The opening and closing speeds of the Panels are adjustable.</p> <p>A Safety photocell prevents the panels from closing on an obstruction. Should the normal panels operation be stopped by an obstruction, the controlling logic detects an abnormal condition and activates a series of operations aimed at protecting the user.</p>
Method of Operation:		<p>On receipt of a signal from the access control system, or push button, the panels will open. If an unauthorised person attempts to tailgate or tries to enter from the opposite direction – the system detects and closes the unauthorised passage and activates an alarm.</p> <p>Presence sensing is achieved with 8-off infrared sensors</p>
Power Supply:		230 Vac 50Hz or 115 Vac 60Hz (on demand)
Power Consumption:		Values refer to one SpeedStile FL.
Logic Power Supply Voltages:		24Vac and 30Vac

This quick guide is intended to give an overview over the main functionalities and settings of the SpeedStile FL gate. This guide will be valid for the narrow and the wide cabinet and cover both the Control Board and Motor Board main items. In either case refer to the main manual for an in depth knowledge of the whole possible functionalities and settings available.

Section 3

Instructions for Use

The information contained in this section should be used as a basis for the instruction of personnel in the correct use of the SpeedStile Range of Barriers.

Using the SpeedStile

Normally Closed

The SpeedStile is unlocked by presenting a personalised identity card or device to the access control reader (Supplied by others). It can also be unlocked by depressing a casework or remote reception push button, if fitted, or Free Passage configuration. This will activate the mechanism and open the paddles in the authorized direction, rendering the SpeedStile ready for use by walking through the walkway passage in the authorised direction.

Should the user decide not to proceed with the passage, the SpeedStile will remain unlocked for a predetermined time after which it will 'time out' and reset the unit making it available for the next person.

After the passage is complete the mechanism will be reactivated automatically to operate the paddles to the closed position.

Always check the status lights mounted on the top of the SpeedStyle casework for right of passage, i.e. Red Cross denotes opposite direction has right of passage or Green Arrow denotes right of passage.

Should the SpeedStile be used in the incorrect manner, i.e. used out of passageway sequence the wings will close and an alarm sound. Do not panic, retreat from the walkway, and wait for the alarm to stop and the system to reset automatically. During the alarm stage the status lights will flash, after reset check the status lights for right of passage.

Do not attempt to follow a person through the SpeedStile if you do not have an authorisation. This is known as Tailgating, and will activate the controller to close the gates between the authorised and unauthorised user. The SpeedStile will now go into the alarm and reset phase.

If the SpeedStyle and access control system has been configured for multiple authorisations, known as Stacking, the users may proceed in close proximity after the preceding passage occupant. Again, the status lights should be checked for right of passage.

Should the SpeedStile be set up for free passage, there is no need to wait for a valid authorisation; the passage may be freely used. Again, check the status lights for right of passage, in normal operation the opposite passage will be activated via the access control device requiring authorisation.

Normally Open

In Normally Open situation the SpeedStile will operate identically as for Normally Closed, except for the following.




The wings in normal operation will be fully retracted into the casework. On acceptance of an authorised user the SpeedStile will remain inactive. However, should an unauthorised person attempt to make passage the controller will activate the mechanism to block the walkway by closing the paddles. The SpeedStile will then go into the Alarm State.






Customer instructions for use

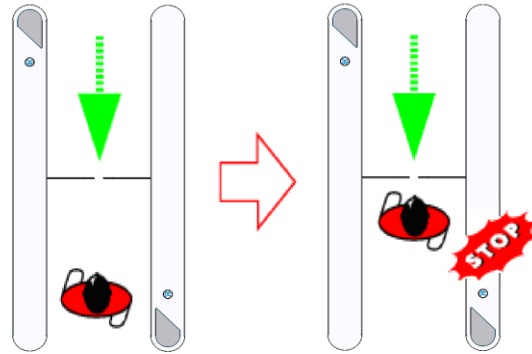
Below are simple instructions on how to use the Gunnebo SpeedStile FLsecurity barrier. If you follow the visual instructions given by the illumination display unit it should not take you long to get used to using the SpeedStile

Remember the product has been selected as a security deterrent, it is not designed to prevent you from entering, it is installed to protect you and the company assets from unauthorised persons gaining access.

Normal Use 	Green Card (Rest mode) <ul style="list-style-type: none"> • Present personal security card to the reader mounted on the unit for authorisation. • Wait for the Green Arrow to illuminate. • The wings will open.
	Green Arrow (Authorised use or designated free passage) <ul style="list-style-type: none"> • Proceed through the unit. <p>Note - For FREE PASSAGE configuration, the Green Arrow is displayed, authorisation is not required this is normally used for EXIT only.</p>
	Red Cross (Unit in use or no passage) <ul style="list-style-type: none"> • Wait until the passageway has been vacated and either the Green Card or Green Arrow to illuminate. (See above)

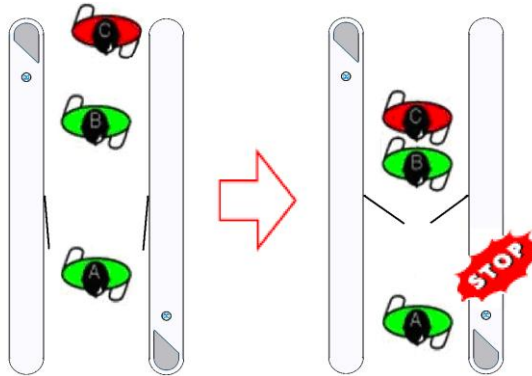
Alarm Conditions 	Flashing Red Cross and Audible Alarm (Fraudulent condition) <ul style="list-style-type: none"> • This mode will be activated via the following scenarios; <ol style="list-style-type: none"> 1 - The passageway is already in use and a second person has attempted to follow through without authorisation. (Tailgating) 2 -The passageway is currently in use and you do not have right of passage. • Do not panic. • Vacate the passageway. • Wait for the flashing Red Cross to stop flashing and the Audible Alarm to cease. • Wait for the Green Arrow to illuminate to indicate who has the right of passage.
	Flashing Green Card (Incorrect use mode) <ul style="list-style-type: none"> • Do not panic. • Remain in the walkway and present personal security card to the reader mounted on the unit for authorisation. • Authorisation will cancel the alarm condition and open the wings. • If this condition continues an audible alarm will sound and Red Cross flash. (See above)
	Flashing Green Arrow (Emergency Mode) <ul style="list-style-type: none"> • Do not panic. • Both Wings will open automatically to create a clear exit walkway. • It is not necessary to obtain security authorisation. • When the emergency scenario is finished the wings will revert back to full security mode. Please refer to correct usage above.

Wrong way detection



Should you attempt to use the unit without permission, i.e. against the authorised flow (Red Flashing Cross) the wings will close.

Tailgating



Person C attempts entrance by tailgating behind one or more authorised person (s) A and B.

The wings will close and block the passage as soon as the unauthorised user C is detected.

B and C must vacate the passageway.

The wings will re-open as soon as passageway is cleared.

At this time, B (authorised) may pass freely through passageway, their prior authorisation has been memorised by the system.

Programmable Parameters

The system operation is conditioned by the values given to certain parameters stored in the EEPROM on the Control Board.

When the control logic microprocessor executes the resident program it consults the values of the programmable parameters and sets the timings of certain actions and internal algorithms.

The values of these parameters can be adjusted or reset to a standard configuration by following the procedures given.

Obstacle sensitivity

The sensitivity of the obstacle detection is regulated by the trimmer TR4; TR4=0 is the maximum sensitivity and TR4=5 is the lower sensitivity.

Remember that after a detected obstacle or after an inversion in motion, the next cycle the obstacle will be internally set at the minimum sensitivity.

The Obstacle sensitivity is **the only setting that the operator can set also in Running mode.**

TR1 = 1 functions: closed position setup

When the TR1=1 a 'C' character will be displayed by the 7-seg display indicating that the board is in Closing setup mode.

The operator can set the closed position in two different ways:

- Automatic setting: in this way the closed position will be automatically set by the firmware in the middle of the open side A and open side B position. This is the default modality after uploading a new firmware erasing the EEPROM.
- Manual setting: the operator can move manually the door in the wanted closed position then fix this position by pressing a push button.
- Button S2: pressing this button the operator set the automatic closed position. An 'A' character will appear for a while on the 7-seg display;
- Button S4: pressing this button the operator will fix the closed position equal to the position where the door is located. A 'c' character will confirm this event;
- Button S3: show the actual setup: 'A' for the automatic mode and 'c' for the manual mode.

Note:- Ensure that the Zero setting cycle is performed before attempting to adjust the Close position.

Running mode

When the trimmer TR1 = 5 the board after reset will go in running mode.

If the Learning cycle is not present the board will block showing an error code on the 7-seg display

Control Board Maintenance Mode

Transit mode setup

Access mode

Any side could be programmed as Free, Controlled or Blocked. To set the transit mode the user has to enter the **Main menu/ Setup/ Transit** and properly set the Side A mode and Side B mode. In the same menu the operator could set the aisle mode from Normally closed (default) and normally open. If the operator selects Normally Open aisle mode, the doors will remain open unless a fraud attempt or an improper access to the gate is attempted.

Closing event

The operator can regulate when the closing command is raised by the control board. Two main ways are present:

- By time: as soon as the count event is generated a programmed timeout start; when the timer expires the door close; the parameters involved are:
 - **Main menu/Setup/Transit/Closing method = BY TIME**
 - **Main menu/Setup/Transit/ ByTime delay STD timeout**, for standard passage;
 - **Main menu/Setup/Transit/ ByTime delay WD timeout**, for a wide passage;
- By Position: the closing timer starts when the passenger is well after the doors line. The parameters involved are:
 - **Main menu/Setup/Transit/Closing method = BY POS**
 - **Main menu/Setup/Transit/ ByPos delay STD timeout**, for standard passage;
 - **Main menu/Setup/Transit/ ByPos delay WD timeout**, for a wide passage;

The previous timeouts are expressed in 128ms unit.

Reader Interface

SpeedStile FL is equipped with two reader interfaces: the **Reader A** to provide a permission in **A** direction and **Reader B** to provide a permission in **B** direction.

Any Reader interface holds two triggers, each one incrementing the permission's stack:

Trigger for a *normal* passage:

Trigger for an **ADA** passage.

When the Trigger for an **ADA** passage is signalled, **until the related stack is empty the gate will manage any passage in the related direction for users with limited mobility.**

The stacking is limited by a parameter:

- *Main-menu/Setup/Reader/Reader A max. valid* for Reader A;
- *Main-menu/Setup/Reader/Reader B max. valid* for Reader B;

If the reader fills up the stack, after the last validation the reader will be disabled until the stack is decremented.

The stack is decremented when a correct passage is made or when, after a validation and with the priority, the user doesn't cross the doors before a timer expires. The timeout is the parameter:

- **Main-menu/Setup/Transit/Passage timeout**

During a fraud condition that timer is frozen and reset after a normal condition is restored.

Each Reader can be programmed to work in a special way: **Reader in Level Activation mode**. If a Reader is programmed in this mode of work, when either the ADA trigger or the Normal trigger is signalled, until the signal is ON, users can pass through without other permissions. In other words the

Gate acts as in FREE access mode for the direction level activated. During the ON state only the Wrong way alarm is monitored and no Tail gating nor Intrusion alarms are checked.

To program the operation mode:

- *Main-menu/Setup/Reader/Reader A mode* for Reader A;
- *Main-menu/Setup/Reader/Reader B mode* for Reader B;
- If programmed as '**EDGE**' the Reader will act as normal Reader Interface;
- If programmed as '**LEVEL**' the Reader will act as **Level Activated** Reader.

The Readers can be enabled or disabled by parameters:

- *Main-menu/Setup/Reader/Reader A status* for Reader A;
- *Main-menu/Setup/Reader/Reader B status* for Reader B;

If the Reader is disabled the User will not validate.

If the Reader is ENABLED the status of the Reader will depend on several conditions.

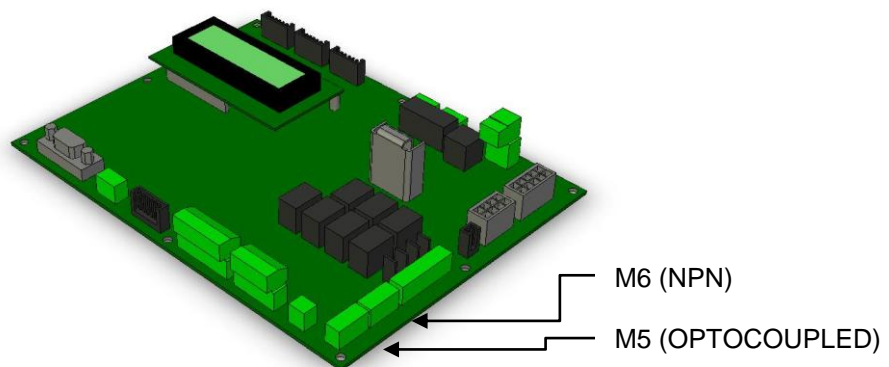
The actual status of the Readers in any moment will be indicated by two flags:

- **Reader A enable** flag, for Reader A;
- **Reader B enable** flag, for Reader B;

Readers input programming

SpeedStile FL provides twelve inputs each one programmable to be addressed to one of the Readers triggers.

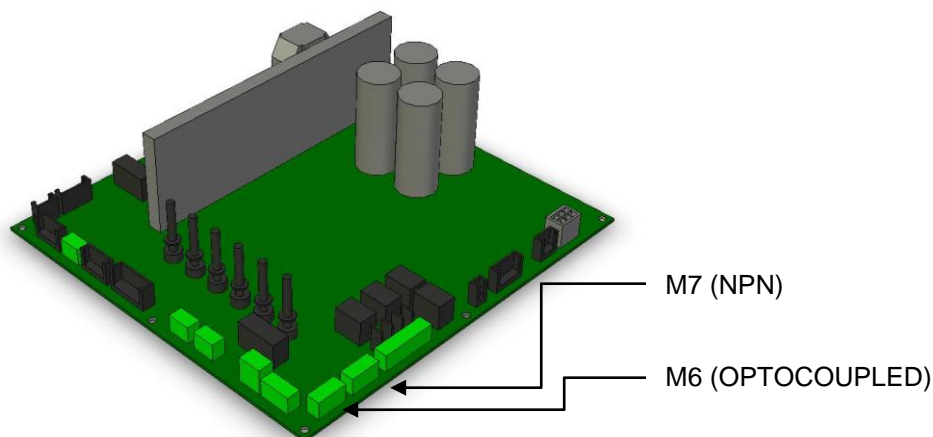
Figure Error! No text of specified style in document.-1: GC01 Reader inputs



M6 'NPN RELEASE'		
Pin	operation (*)	electrical characteristics
1	reader B authorisation	rated input voltage 5 Vdc; 3 mA @ 0 Vdc
2	GND	
3	reader B authorisation - wide	rated input voltage 5 Vdc; 3 mA @ 0 Vdc
4	GND	

M5 'OPTOCOUPLED RELEASE'		
Pin	operation (*)	electrical characteristics
1	+ reader B authorisation	rated input voltage 24 Vdc; 11 mA @ 24 Vdc
2	- reader B authorisation	
3	+ reader B authorisation - wide	rated input voltage 24 Vdc; 11 mA @ 24 Vdc
4	- reader B authorisation - wide	

Figure -2: MB01 Reader inputs



M7 'READER NPN IN'			
Pin	master side operation (*)	slave side operation (*)	electrical characteristics
1	reader A authorisation	reader B authorisation	rated input voltage 5 Vdc; 3 mA @ 0 Vdc
2	GND	GND	
3	reader A authorisation - wide	reader B authorisation - wide	rated input voltage 5 Vdc; 3 mA @ 0 Vdc
4	GND	GND	

M6 'READER OPTO IN'			
Pin	master side operation (*)	slave side operation (*)	electrical characteristics
1	reader A authorisation	reader B authorisation	rated input voltage 24 Vdc; 11 mA @ 24 Vdc
2	GND	GND	
3	reader A authorisation - wide	reader B authorisation - wide	rated input voltage 24 Vdc; 11 mA @ 24 Vdc
4	GND	GND	

To program the inputs to be linked to a proper Reader's trigger:

- Enter the menu *Main-menu/Setup/IO*;
- If the input to be programmed is on the GC01 board then select the *Control Board* sub-menu;
- If the input to be programmed is on the MB01 master board then select the *Master Board* sub-menu;
- If the input to be programmed is on the MB01 slave board then select the *Slave Board* sub-menu;
- Select the input to be programmed; any input can be programmed as:
 - a) **READER –A-**: will be linked to the Reader A interface, trigger for a normal passage;
 - b) **WIDE READER –A-**: will be linked to the Reader A interface, trigger for an ADA passage;
 - c) **READER –B-**: will be linked to the Reader B interface, trigger for a normal passage;
 - d) **WIDE READER –B-**: will be linked to the Reader B interface, trigger for an ADA passage;

For example if a given input is programmed to be “**WIDE READER –B–**“, when properly signalled, the stack of Reader B interface will be incremented and any passage in direction B until the stack reaches zero will be treated as **ADA** passage.

Validation process

To increment the stack of the Reader and to gain the passage authorization the user has to signal a proper input addressed to the Reader (A or B depending on the side where the user is). This is the validation process.

The validation process isn't allowed in any situation:

- **Validation when in Fraud alarm:** during a fraud alarm the user is permitted to validate if the parameter *Main-menu/Setup/Reader/State on alarms* is programmed as **"ENABLED"**. If it is programmed as **"DISABLED"**, during a fraud alarms, the Readers (both readers) will be disabled.
- **Validation when inside the Aisle:** if the user is inside the Aisle he can validate only if the parameter *Main-menu/Setup/Reader/validation type* is programmed as **"In-Validation"**. If the parameter is programmed as **"Out-Validation"** the reader will be disabled until the Aisle is clear.

Note: - Please be advised, if it is configured with In-Validation, and a user occupies the aisle for an extended period before validate, an Intrusion alarm is generated, and if the previous parameter in this condition is disabled then the user will not validate until the aisle is clear.

After a correct validation on the Reader A, the flag **Ack reader A** will pulse;

After a correct validation on the Reader B, the flag **Ack reader B** will pulse;

The pulse time is a parameter: *Main-menu/Setup/Reader/Passage Ack pulse*.

Fraud alarms

SpeedStile FL is able to manage the transit of users with permissions inside the walkway detecting and signalling a fraud attempt. To get this results the Gate controller uses several algorithms to make face to different scenarios. The fraud scenarios monitored by SpeedStile FL are:

- **Tail gating** scenarios;
- **Intrusion** scenarios;
- **Wrong way** scenarios.

The user can select a level of sensitivity making the gate more or less sensitive to the fraud conditions. Moreover the expert user can also tune each algorithm to adapt it to some particular scenario.

Two sets of parameters and sensitivity selections are available to meet the different requirements of fraud detection algorithm when the current transit is Normal rather than **ADA**.

Tail Gating alarm

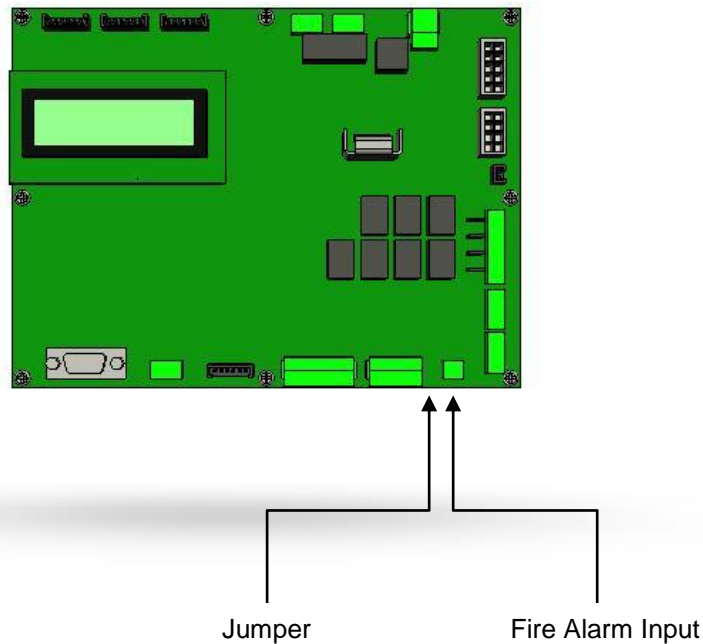
When user without permission tries to tailgate a user with permission, the Gate signals a Tail Fraud attempt alarm. Because of the key role of this feature in security Controlled mode and its impact on the transit flow, the user can select a level of sensitivity to make more or less sensitive the Gate to the tail scenarios. In particular the user can select one of four levels of sensitivity for a Normal transit and one of four levels of sensitivity for an ADA transit:

- *Main-menu/Setup/Fraud/Setup Std/Sensitivity Std* for a Normal transit;
- *Main-menu/Setup/Fraud/Setup Wide/Sensitivity Wide* for a Normal transit;

Emergency state and management

When the fire alarm input on the Gate Controller is triggered in a proper way then the Gate goes in Emergency state. In this state the doors are kept open all the time and no alarm or fraud condition will be monitored. In this condition the only active flag (see [0_Flags](#)) is the **Emergency flag**. The readers will be disabled and any previous stacked authorizations will be reset to zero. This state has the major priority over all others states. If the Emergency state is cleared then the gate will restart the normal operation.

Relevant parameters programming



The Fire alarm input is an opto-coupled input if the jumper W12 is open or is a NPN input if that jumper is closed (See the M0000125 manual for detailed information). The signal could be programmed as Normally Closed **NC** or Normally Open **NO**. The parameter path is:

- *Main-menu/Setup/Alarms/Fire Alarm input type: **NC/NO***

Note: - As default the parameter is set to **NC** we recommend where possible the default is kept as it is a safer configuration in the event of fire.

Output relays programming

SpeedStile FL provides a total of 15 programmable relays: 7 on the Control board (K1 : k7), 4 relays each on the Motor boards. These relays can be set as Normally closed or Normally open through jumpers and programmed to be addressed to a set of flags through a logical mask.

Flags

The system flags are a number of Boolean events collected by the Gate Controller which represents the state of the gate. Follows a table showing the whole set of flags and their meaning

Table Error! No text of specified style in document.-1: system flags reference

Flags	Meaning
Reader A enable:	Signals when the logic is ready to accept authorisations from the reader in A direction
Reader B enable:	Signals when the logic is ready to accept authorisations from the reader in B direction
Ack count A:	Pulse to acknowledge that a person passed the gate in direction A
Ack count B:	Pulse to acknowledge that a person passed the gate in direction B
Gate Busy A:	Signals that the gate engaged in direction A
Gate Busy B:	Signals that the gate engaged in direction B
Door closed	Signals that the doors are in closed position
Door opened	Signals that the doors are in open position
Gate Alarm:	Signals the alarm for intrusion or fraud attempt
Out Of Service:	Signals a technical alarm, fault of part of the system, power failure, gate unavailable because operating the start up checks
Emergency:	Signals that the Emergency command is being executed
Ack reader A:	Pulse to acknowledge the reader A that the authorisation was received
Ack reader B:	Pulse to acknowledge the reader B that the authorisation was received
Power failure	If the gate is equipped of battery, signals that the power failed

Relays programming

The user can program any single relay so that it can be activated when a logical mask on the system flags state became true.

The logical mask is composed in a series of instances in AND or in OR; any instance is the state of a desired flag.

For example it is possible to build a mask for a given relay in this way:

Relays K1 is true when:

- **(Reader A enable) AND (Reader B enable) AND (Door closed)**
The same flags sub set could be combined in this way:
- **(Reader A enable) OR (Reader B enable) OR (Door closed)**

The user can program a different mask one for each relays so that any relay could be activated with his particular logical combination of flags states. A typical program is an easy mask for any relays which associates it to a given flag state.

To program a relay mask the user have to access a proper sub menu.

Follows a table showing the proper sub-menu for any relay of the system.

Motor board / Master side	
K1	<i>Main-menu/Setup/IO/Master board/Conn:M8 Pin:5,6 Relay: K1</i>
K2	<i>Main-menu/Setup/IO/Master board/Conn:M8 Pin:7,8 Relay: K2</i>
K3	<i>Main-menu/Setup/IO/Master board/Conn:M8 Pin:3,4 Relay: K3</i>
K4	<i>Main-menu/Setup/IO/Master board/Conn:M8 Pin:1,2 Relay: K4</i>
Motor board / Slave side	
K1	<i>Main-menu/Setup/IO/Slave board/Conn:M8 Pin:5,6 Relay: K1</i>
K2	<i>Main-menu/Setup/IO/Slave board/Conn:M8 Pin:7,8 Relay: K2</i>
K3	<i>Main-menu/Setup/IO/Slave board/Conn:M8 Pin:3,4 Relay: K3</i>
K4	<i>Main-menu/Setup/IO/Slave board/Conn:M8 Pin:1,2 Relay: K4</i>
Control Board	
K1	<i>Main-menu/Setup/IO/Control board/Conn:M3 Pin:3,4 Relay: K1</i>
K2	<i>Main-menu/Setup/IO/Control board/Conn:M7 Pin:7,8 Relay: K2</i>
K3	<i>Main-menu/Setup/IO/Control board/Conn:M7 Pin:5,6 Relay: K3</i>
K4	<i>Main-menu/Setup/IO/Control board/Conn:M3 Pin:1,2 Relay: K4</i>
K5	<i>Main-menu/Setup/IO/Control board/Conn:M3 Pin:5,6 Relay: K5</i>
K6	<i>Main-menu/Setup/IO/Control board/Conn:M7 Pin:1,2 Relay: K6</i>
K7	<i>Main-menu/Setup/IO/Control board/Conn:M7 Pin:3,4 Relay: K7</i>

Inside any sub menu the user can:

- Set the logical operator choosing either **AND** operator or **OR** operator;
- Set the polarity from **1** (active high) or **0** (active low);
- Activate all the flags the user wants to include on the logical mask.

Maintenance test

The Maintenance state is a particular state where the normal operation of the gate is suspended and it is possible to make several test over the gate functionality. When in this state the gate still checks the [safety](#) zones to prevent any accident.

- Just entered the Maintenance menu the doors will open until a different command or test will change those states.
- When in Maintenance the [flag](#) **Out Of Service** is activated.

Entering the Maintenance mode

The gate goes in Maintenance mode when:

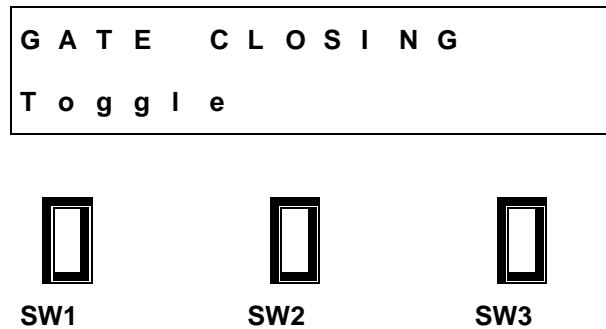
- The user enters the menu *Main-menu/Maintenance*
- Reg 2, **SerMaintenance** bit is set and the serial protocol is enabled.

Maintenance menu

Open / Close test

Path: *Main menu / Maintenance / Open-Close test*

The display will show:



On the first row, the display shows the current status of the doors; the possible statuses are:

- GATE CLOSING: the doors are closing but still moving;
- GATE CLOSE: the doors are in close position;
- GATE OPENING: the doors are opening but still moving;
- GATE OPEN: the doors are in open position.

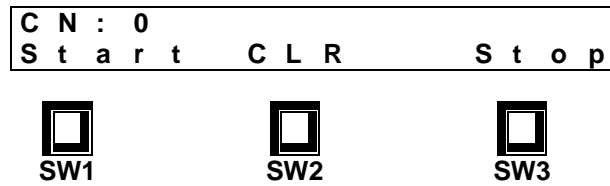
Pressing the **SW1** button the gate toggles his current status.

A buzzer sound signals any new given command.

If the [safety](#) area is obscured the motion will not start, or the closing is blocked (Press the Esc [key](#) combination to leave the test; the doors keep their last positions.

Repeated Open/Close test

Path: *Main menu / Maintenance / Repeated Open/Close test*



Pushing SW1 the cycle starts; it is stopped by pushing SW3.

The sequence is composed of alternative opening and closing of the two doors. During the cycles the obstacle detection is active.

On the upper row the counting of open/close sequence (CN) is displayed. Pushing SW2, the counter is cleared.

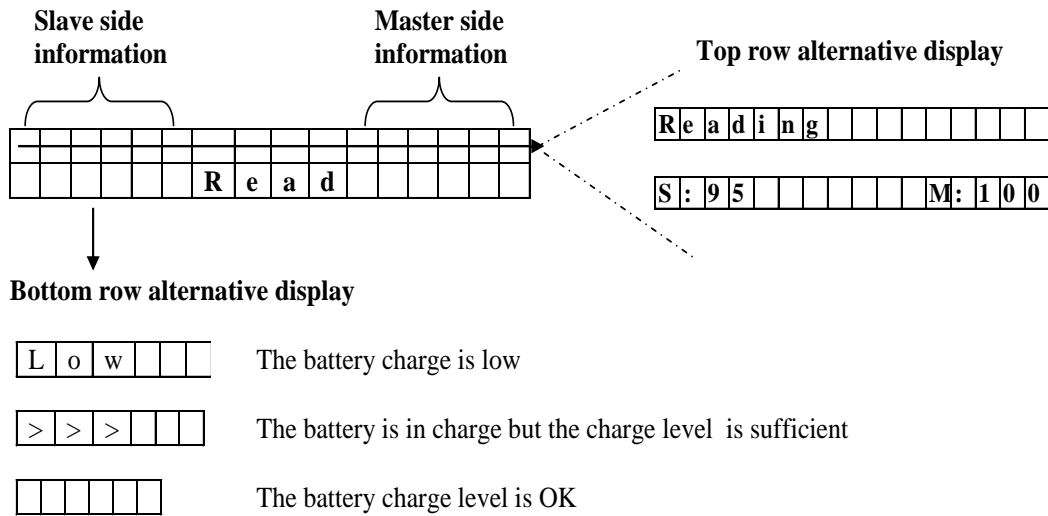
If the [safety](#) area is obscured the motion will not start, or the closing is blocked

Press the Esc [key](#) combination to leave the test; the doors keep their last positions.

Battery test

The Battery Maintenance menu allows monitoring the actual status of installed batteries if enabled. The tool allows reading of the batteries charge level and information about the charger status.

The display will show different information depending on the batteries status and pending operation:



To update the charge level press the **SW2** button; the battery will be shorted on a resistor for 10 seconds. During this time the charge value is read and at the end the display will show the actual charge level for both batteries. If the battery level is too low a “**Low**” string will appear; if the battery charge is sufficient for an open/close motion but lower than the maximum value a symbol “>>>” appears indicating the battery is in charge; if no symbols appears it means the battery is completely charged.

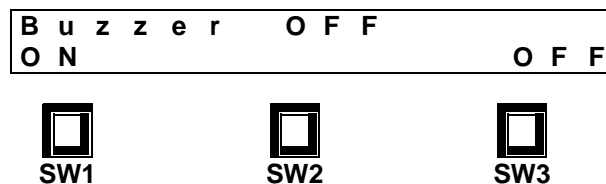
Note: The charge value is updated every 20 minutes, or by pressed SW2; this is because a usable value of charge has to be read, when a load is connected with the battery pack.

When the battery is shunted with a resistor, the battery will provide at about 500mA of Dc current. It is discouraged to frequently test because this could discharge the batteries.

If the battery pack is disconnected, the diagnostic will flag that the battery is in fault and will no longer be used by the gate. In this case the charge value will not be read and the display will show the last recorded value. To clear the fault, Reset the Motor Board when the battery pack is connected or to power down and power up the gate.

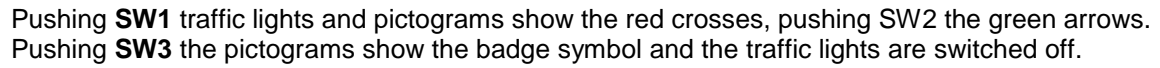
Buzzer test

Path: Main menu / Maintenance / **Buzzer test**



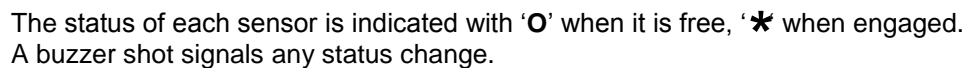
Pushing **SW1** the buzzer must sound; pushing **SW3** it is shut off. On the first row, the current command is displayed.

Path: *Main menu / Maintenance /* **Traffic lights test**



Real time photocells test

← **DIRECTION A**



Striped photocells test

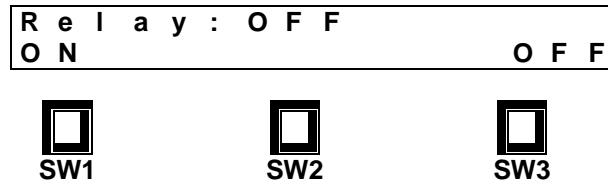
Path: Main menu / Maintenance / Striped Photocells

This test is very similar to the 'real time photocell' test with the difference that the logic memorizes the engaged sensors. Displaying which sensors have been engaged.
The buzzer is not used.

Relays test

Path: Main menu / Maintenance / Relay test

With this test, all the relay output mounted on the MB01 and GC01 board are tested.



In the upper row the status of the relay coils is reported.
With SW1 and SW3 the status could be changed.
A buzzer shot signals any status change.

Firmware upload

Firmware coding

Control Board firmware code:

- **FW0011AxxR:** FW0011 is the code identifying a Control Board firmware; the AxxR identify the version. For example the FW0011A03R identify the Control Board firmware version 0.3

Motor Board firmware code:

- **FW0012AxxR:** FW0012 is the code identifying a Motor Board firmware; the AxxR identify the version. For example the FW0012A03R identify the Motor Board firmware version 0.3

Upload procedure

The firmware of any boards of the gate is uploaded through the RS232 serial connection of the GC01 board. The following procedure is a sub set of instructions sufficient to upload the firmware.

1. In the laptop launch the OCConsole application;
2. Set the OCConsole to 19200 br, local character echo, and "Wait for handshake" with #42
3. Connect the RS232 cable to the GC01;
4. Set all dip switches ON in the GC01 board then **reset** the board (S4 button); a 'b' has to appear on the LCD display;
5. In the OCConsole send three times the ENTER command to connect to the loader; on the screen has to appear an echo showing the actual loader version and a list of available commands.

After loader activation it is necessary to connect with the board you want to upload the firmware. The command to connect a particular board is:

- **N1** to connect with the MB01 MASTER;
- **N2** to connect with the MB01 SLAVE;
- **N** to connect with the CONTROL BOARD

After connection, before to upload the firmware it is mandatory to erase the program memory:

- **Wf** will erase the program memory; after the command wait for the ‘**’

It is optionally possible erase the parameter memory (EEPROM);

Erasing the parameter memory in the GC01, the Control Board Parameter will be reset to their default value (similar to execute Vendor Init);

Erasing the parameter memory in the MB01, the Motor Board will need to make a new Learning procedure.

Some time could be necessary do the EEPROM erasing procedure if the new firmware changes the memory structure; in this case this circumstance will be signaled.

The command to erase the EEPROM is:

- **We** will erase the parameter memory; after the command wait for the ‘**’

Finally upload the firmware through the “Transfer” tool in the OCConsole. During the transfer be careful if an ‘E’ appears on the screen. This is an error condition and in this case the upload fails; don’t worry and repeat the erasing procedure then try again to upload the firmware.

After upload completion select the new board and repeat the previous operations.

Remember to set the dip switches OFF in the GC01 board before to restart the system after upload completion.

Version verify

It is possible to check the current firmware version uploaded in all boards in order to be sure the upload is executed with success.

Enter the Main menu of the GC01 board then select the “Versions” item; after selection on the display will appear (in a scroll list) the versions uploaded in the CB (control board), in the MS (Motor board Master side) and SL (Motor Board Slave side).

This procedure is possible only if the MB01 is in running mode, so only after a learning cycle has already been completed.

Section 5

Installation

Unpacking

On receipt of equipment on site, check all items are complete and undamaged. If for any reason transit damage has occurred, ensure the extent of any damage is recorded and if considered necessary report the incident to Gunnebo Entrance Control Ltd.

Electrical installation must be carried out by authorised staff. The placing, installation and specifications of all cables must comply with the instructions given in this document.

Gunnebo Entrance Control Ltd do not accept responsibility for any injury or damage incurred due to departure from the instructions in this Technical Manual.

Tools Required

- Industrial hammer drill
- Concrete drill bit 12mm
- Socket 17mm AF (x2)
- Torque wrench
- Metric Allen Keys (1 x set)

Please read carefully before commencing the installation

Site Preparation

The following illustrations show the site preparation details that are required for the various units.

Concrete to BS 5328 :1997 specification - Type ST5

The base must be flat and level to +/-5mm over the SpeedStile area.

The base must be laid with under floor conduits with a minimum diameter of 20mm rising in the positions indicated on the particular illustration, to accommodate the cables for power supplies and any remote control devices.

Note - It is recommended that power cables should be routed at the MASTER end.

One conduit should be dedicated to the mains supply cable, which must be three core, earthed rated at 10 amps minimum. When laid there should be at least 1.5 metres of tail.

(See Fig 5.8 for cable routing recommendations)

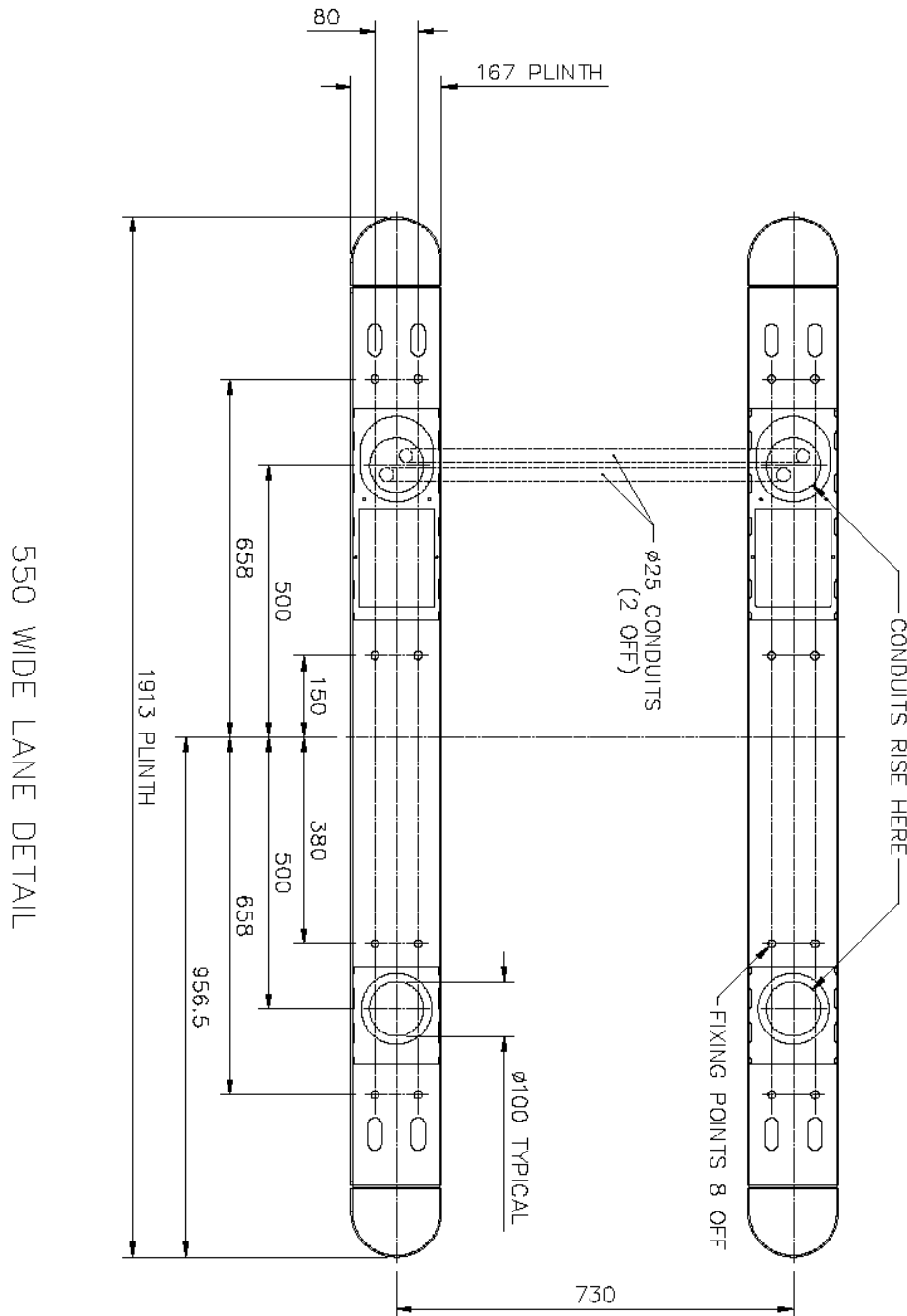
It is recommended that the mains power to the unit passes through a Residual Current Circuit Device for maximum safety.

A second conduit should be provided for any remote control cables that may be required. On units controlled by pushbuttons or footswitches a four core cable having a minimum conductor size of 0.5mm sq. should be laid and a 1.5m tail left. (Screened cables are NOT normally required)

For units that are to be controlled by Card Access or similar it is recommended that Gunnebo Entrance Control Ltd Technical Personnel are advised prior to starting the installation routines.

SpeedStile FL General Lane Configuration

SpeedStile FL NC

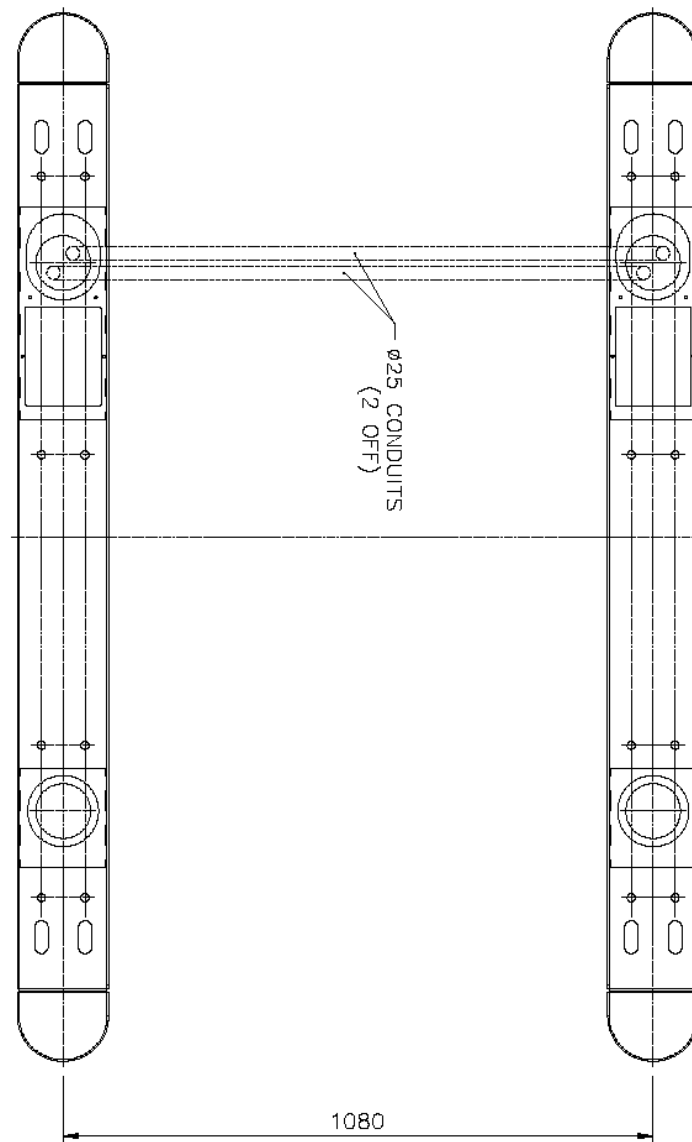


Concrete to BS 5328:1997 specification, type ST5. Base to be flat and level to +/- 5mm over the SpeedStile footprint area.
2000 x 500 x 150 deep min, per cabinet

IMPORTANT

- Any horizontal pipe or conduit runs below the SpeedStile must be at least 140mm below FFL.

900 WIDE LANE DETAIL



Unit Positioning

The following details should be noted, when planning the location of the SpeedStile unit.

- Allow 50mm to the rear of the SpeedStile to enable removal of the glass side access panel.

Floor Drilling

The following guidelines are given to ensure that the unit is positioned correctly.

- Mark the floor fixing positions carefully as shown on the appropriate illustration and check the conduit risers are correct.
- If the SpeedStile is to be installed as a multiple installation it is recommended that all fixing and conduit positions are marked and checked prior to drilling.
- Stand the unit over the marked positions and check that the bolt and conduit holes in the base of the unit match the floor markings.
- Check all clearances to adjoining Barriers or Wall.

When satisfied that all is correct move the unit away and drill the floor. Fit the anchor bolts.

Installation Kit

First Lane (FL)

Item	Quantity
SpeedStile Cabinets	2
Unit end cladding	2
Unit end foot	2
Anchor Bolts (72544001)	8

Next Lane (NL)

Item	Quantity
SpeedStile Cabinet	1
Unit end cladding	2
Unit end foot	2
Anchor Bolts (72544001)	4

Setting to Work

The following installation procedures are recommended to install the SpeedStile
Mark a chalk line on the ground for alignment of the units.

- Place the units in the required position.
- Make sure the units are perfectly parallel and correctly aligned.

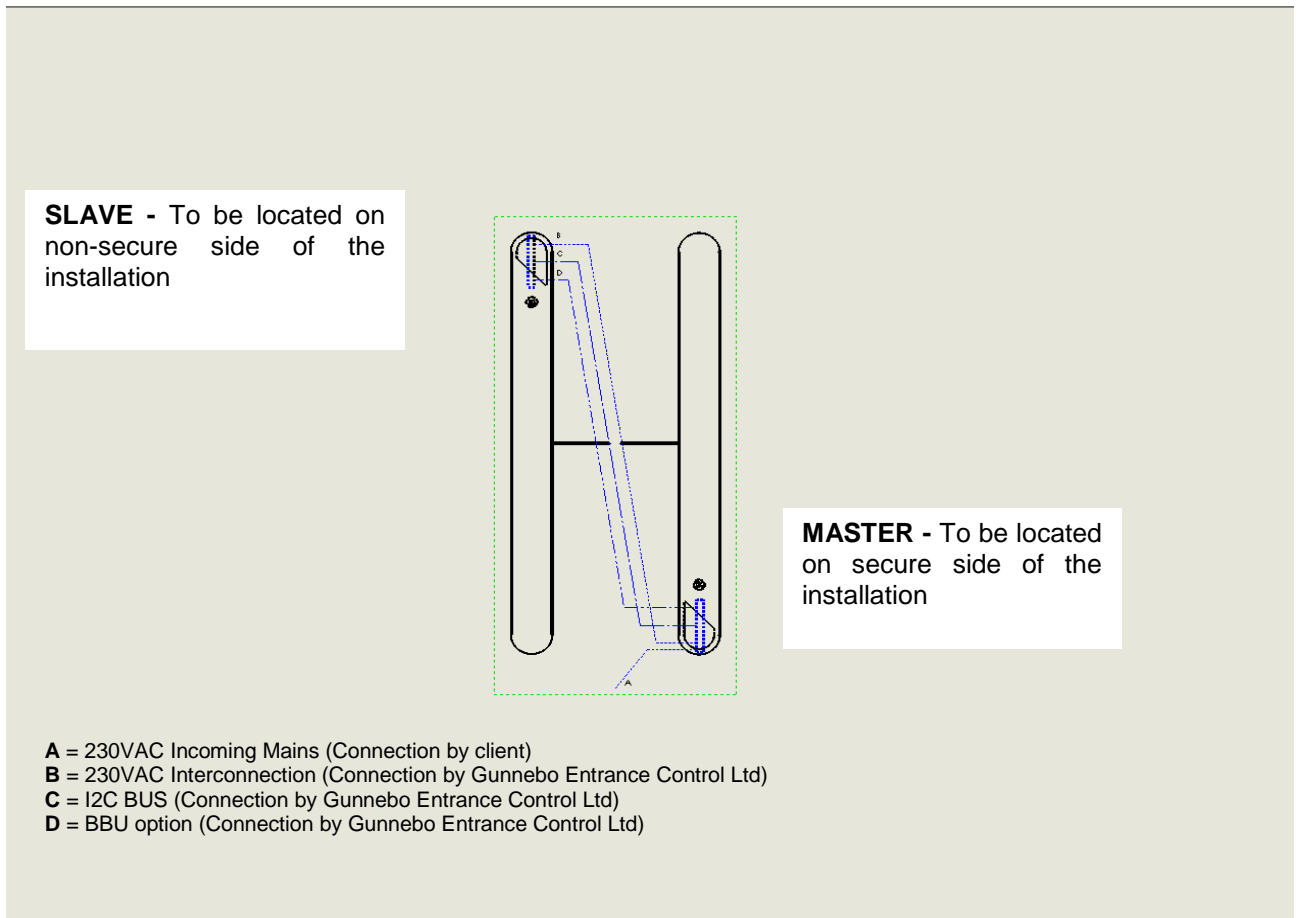
This is of maximum importance for the system to operate properly.

- Mark the position of the fixing holes on the floor.
- Move the units and drill the anchor fixing holes to the floor.
- Re-position the units and anchor them to the floor by means of the anchor fixings.
- Make sure that the frame is perfectly level, checking in transverse and longitudinal direction, use shims and all other necessary measures to obtain the required result.
- In the open position the edge of the wing must be parallel with the casework.

Electrical Connections

Note – The following routines must be carried out by a qualified electrician.

Fig 5.8 - Basic Electrical Interface Preparation



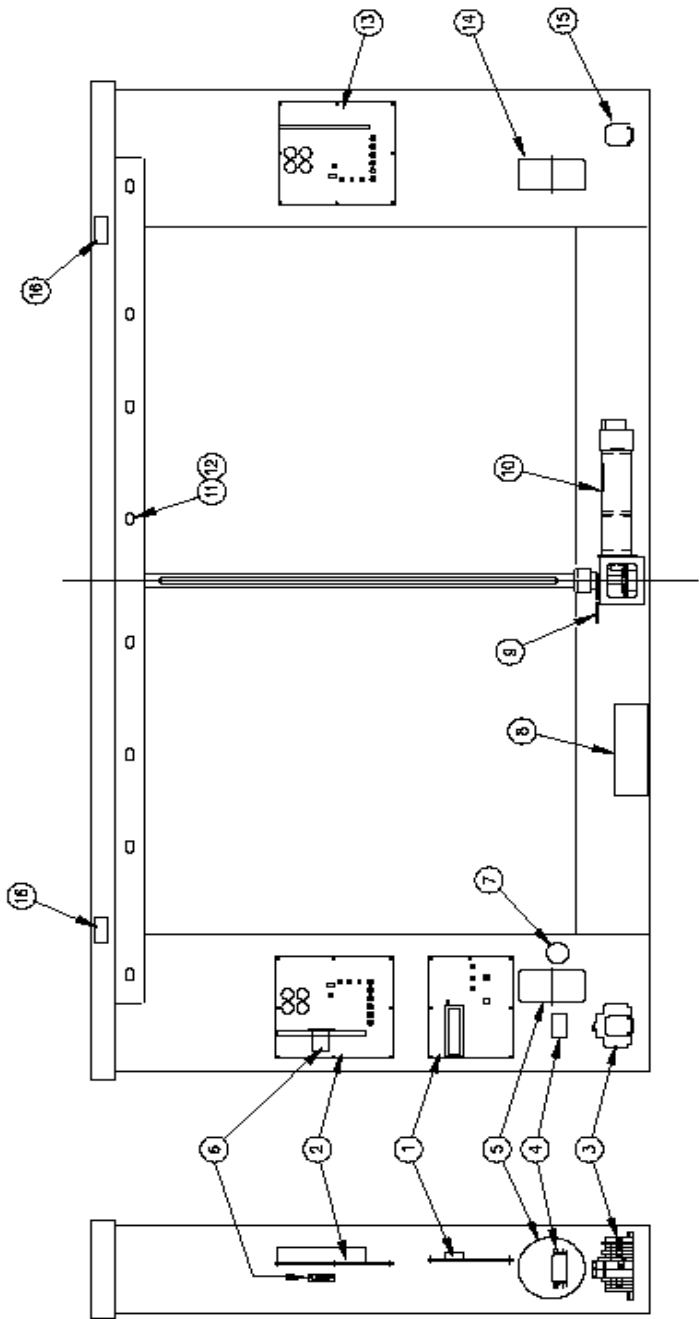
A

Installation notes

After installation and **before powering** the electronics please check as follows:

1. Disconnect the motors the battery and the brakes from the MB01;
2. Manually rotate the doors, and check if it has as low oscillation as possible in respect to the gear box; high oscillation with no encoder motion implies a low level of precision in moving the door, and the diagnostic could generate false Faults by the sensor position switch. This goal is reached by an accurate coupling of the angular gear box.
3. Check the mechanical stop: the doors must not hit the glass when in contact with the mechanical stop. During a zero setting the doors will find this position to set the open limits.
4. The doors have to rotate without discontinuities or excess friction;
5. Check if all connections are present:
 - The position sensor;
 - The encoder;
 - The Photocells;
 - The CAN bus;
 - The Emergency input in a proper way.
6. Be sure the position sensors are mounted accurately: the reed sensors must be mounted with a minimum gap of 2mm and must not hit the end stop;
7. The photocells have to be set Normally Closed
8. The Address (dip switches) of the Boards:
 - MB01 Slave Side = 2;
 - MB01 Master Side =1;
 - GC01 = 0;

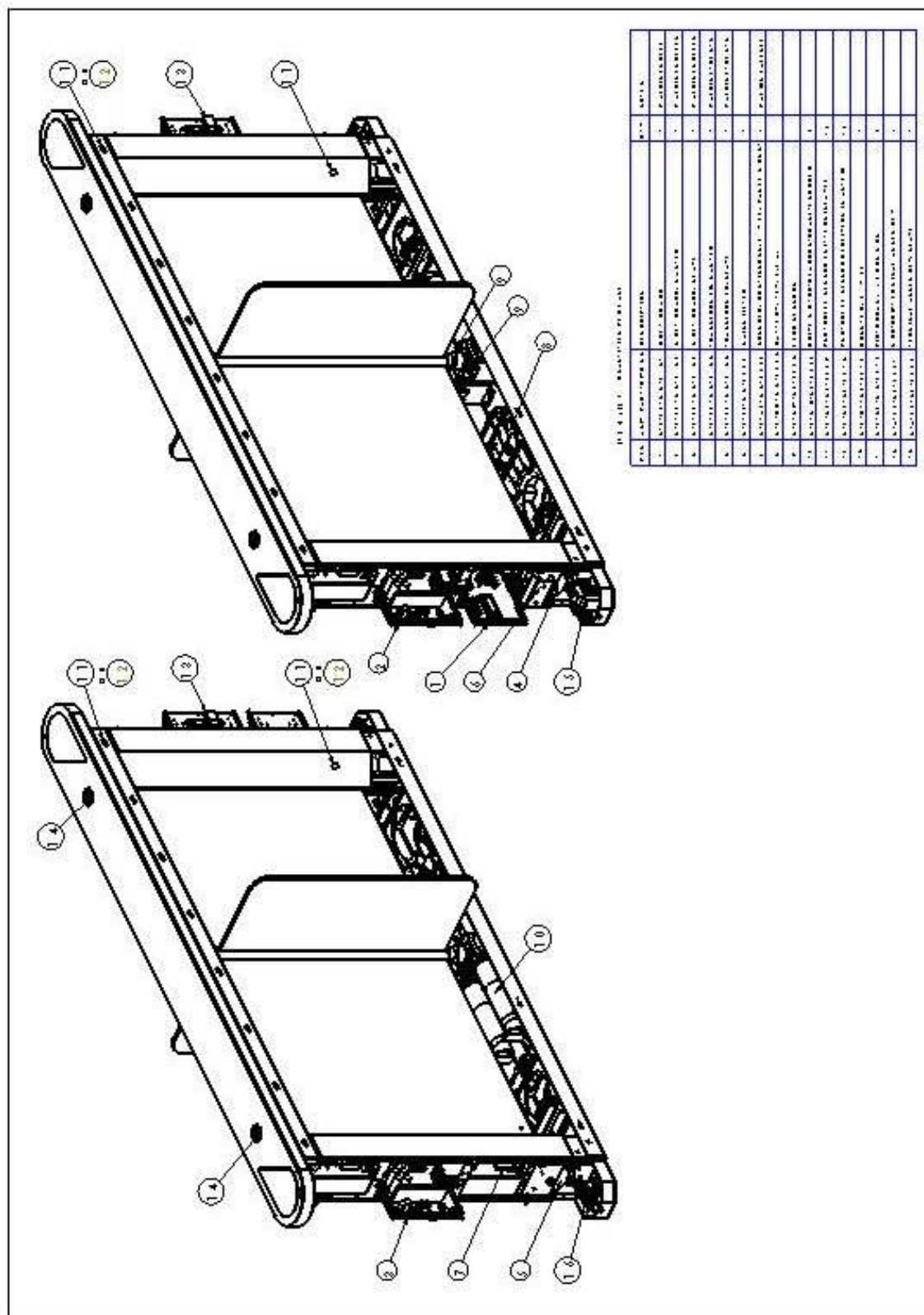
In all cases keep the motor and battery disconnected until the correct firmware is installed and the gate is safe! Be careful about the sensor position parts and do not power the gate until they are covered.



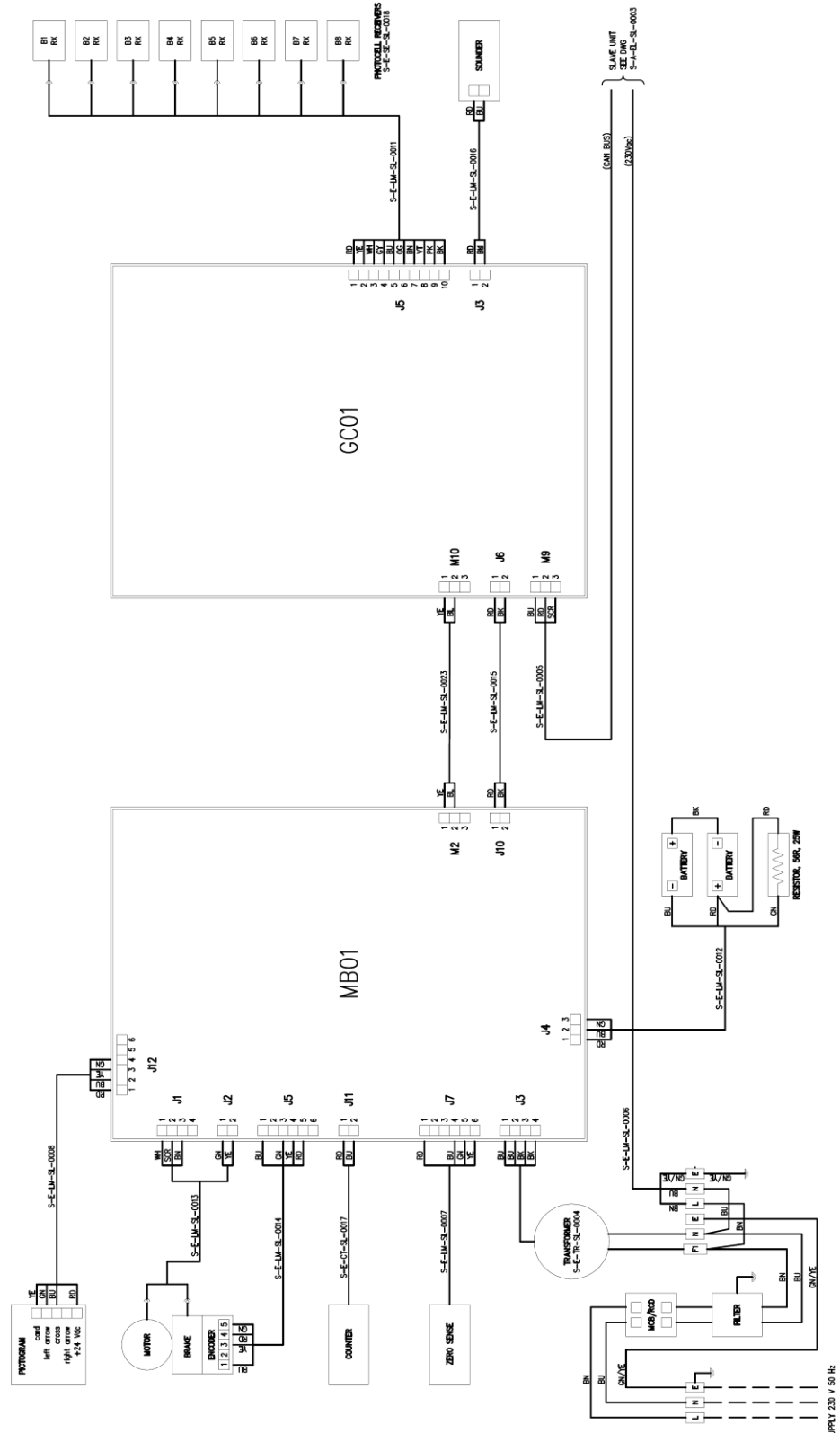
ITEM	DESCRIPTION	ASM PART/DWG No	ITALIS PART No
1	DC01 BOARD	S-E-EL-MU-Q001	ES00274
2	W001 BOARD, MASTER	S-E-EL-MU-Q002	ES00276
3	W02/ACD/TERMINAL ASSEMBLY		
4	W005 FILTER	S-E-FI-MU-Q003	EM1507
5	TRANSFORMER, MASTER	S-E-EL-MU-Q003	ET00318
6	COUNTER, 24 V dc	S-E-CT-SL-Q007	
7	SOLINER, CONTINUOUS, 24V dc, PANEL MOUNT	S-E-AL-MU-Q007	EAL0302
8	BATTERIES, 2 x 12V, 2.2 Ah	S-E-BB-MU-Q003	

FOR MASTER WIRING CONNECTIONS REFER TO DWG No S-A-EL-SI-Q002
FOR SLAVE WIRING CONNECTIONS REFER TO DWG No S-A-EL-SL-Q003
FOR MASTER MCD/ACD/TERMINAL WIRING REFER TO DWG No S-A-EL-SL-Q001
FOR SLAVE TERMINAL WIRING REFER TO DWG No S-A-FI-SI-Q001

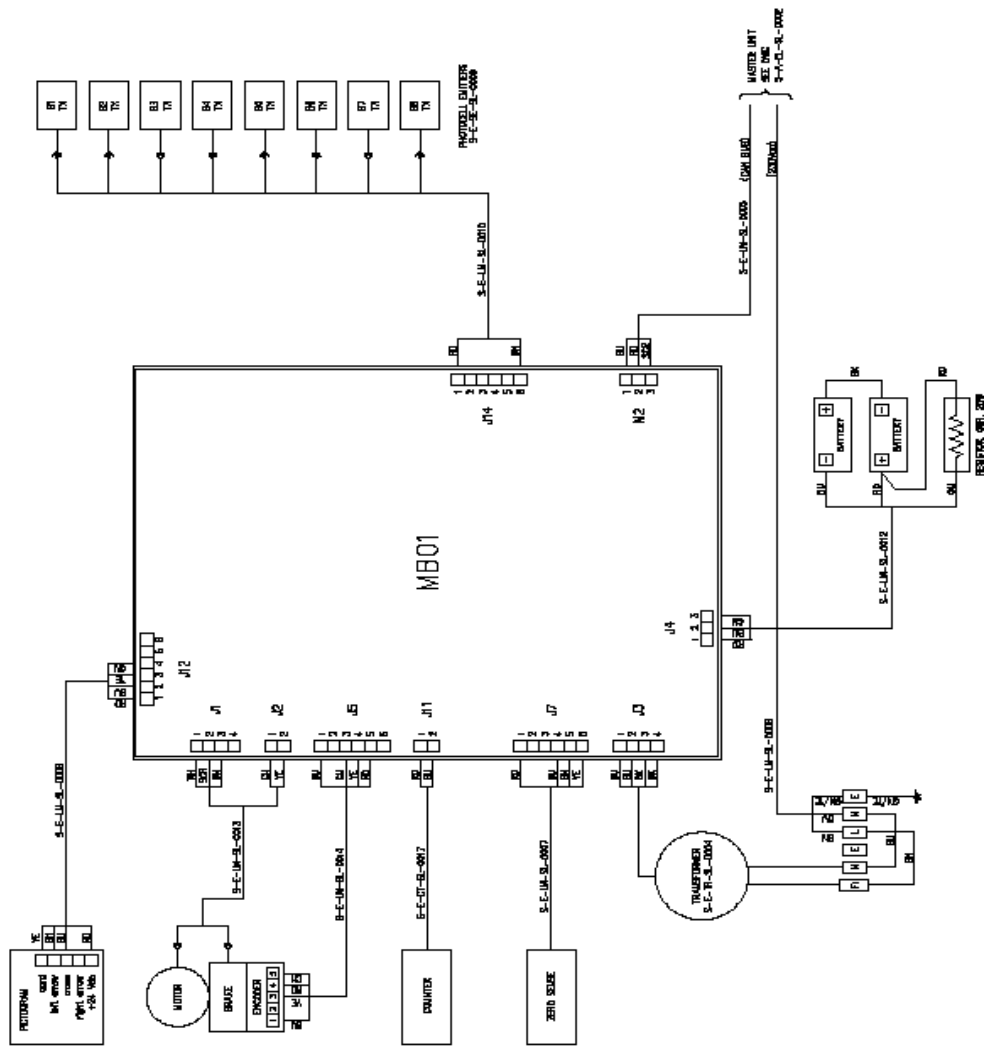
ITEM	DESCRIPTION	ASM PART/DWG No	ITALIS PART No
9	ZERO SENSORS	S-E-SH-SL-Q0023	
10	DRIVE MOTOR/GEARBOX/BRAKE/ENCODER	S-E-MD-SL-Q020	
11	PHOTOCELL SENSOR RECEIVERS (MASTER)	S-E-SE-SL-Q0016	
12	PHOTOCELL SENSOR EMITTERS (SLAVE)	S-E-SE-SL-Q006	ES00275
13	W001 BOARD, SLAVE	S-E-EL-MU-Q002	ET00318
14	TRANSFORMER, SLAVE	S-E-EL-MU-Q003	
15	TERMINAL ASSEMBLY, SLAVE		
16	PICTOGRAPH, +ve COMMON	S-E-SL-MU-Q010	



Master Block Wiring



Slave Block Wiring



Section 6

Maintenance

General Care

The GlasStile GSS Entrance Gate should be cleaned and greased at regular intervals, using the following approved materials.

Routine Cleaning, all finishes

Cleaning agent. Soap or mild detergent water.

Action: Sponge rinse with clean water, wipe dry as necessary

Fingerprints

Cleaning agent: Soap or warm water or organic solvent (acetone, alcohol, genciene)

Action: Rinse with clean water and wipe if necessary

Stubborn Stains and Discoloration, all Finishes

Cleaning agent: Mild cleaning solutions or domestic service cleaners.

Action: Rinse well with clean water and wipe dry.

Oil, Grease Marks, all Finishes

Cleaning agent: Organic solvents (acetone, alcohol genclene, trichlorethane).

Action: Clean after with soap and water, rinse well with clean water and wipe dry.

Rust and other Corrosion products, Stainless Finishes

Cleaning agent: Oxalic acid. The cleaning solution should be applied with a swab and allowed to stand for 15 to 20 minutes before being washed away with water. May continue using a domestic surface cleaner to give final clean.

Action: Rinse well with clean water (precautions for acid cleaners should be observed).

Minor Scratches on Painted Surfaces

Cleaning agent: Lightly rub with cutting paste. Rinse area with water and dry. Apply touch-up paint in fine layers.

Action: Allow 2 weeks to harden. Blend into surrounding paintwork, using a fine cutting paste.

Deep Scratches on Painted Finishes Causing Rust

Cleaning agent: Remove rust with a small sharp knife. Apply rust inhibiting paint (red oxide). Fill scratch with fine body filler to just under finished surface. Follow procedure for minor scratches.

Cleaning agent:	For slight scratches, use impregnated nylon pads then polish with scruffs dressed with iron free abrasives. For deeper scratches, apply in direction of polishing. Then clean with soap or detergent as per routine cleaning.
Action:	Do not use ordinary steel wool, iron particles can become embedded in stainless steel and cause further surface problems.

Service Engineer carries out this action during service visits.

Ensure the assembly is kept clean.

Encoder Replacement

If an encoder must be replaced, effect the following operations.

- Disconnect the power supply
- Replace the device
- Check all relevant connections
- Restore the power supply
- Re-set to normal functioning

Replacing the Control Card

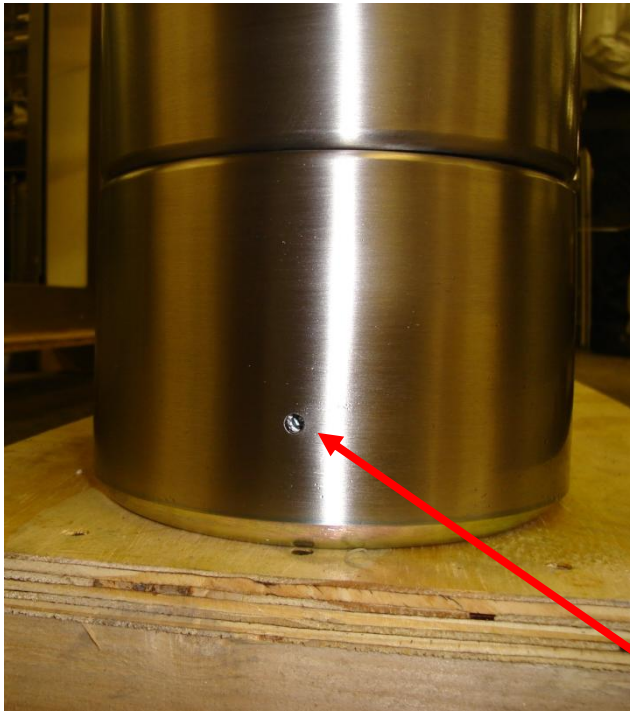
- Disconnect the power supplies.
- Remove all connectors from the PCB.
- If necessary remove the PCB supports.
- Reconnect the cables and connectors.
- Replace the PCB.
- Reconnect the power supplies.
- Switch ON the Unit and return it to normal operation.

Photocell Replacement

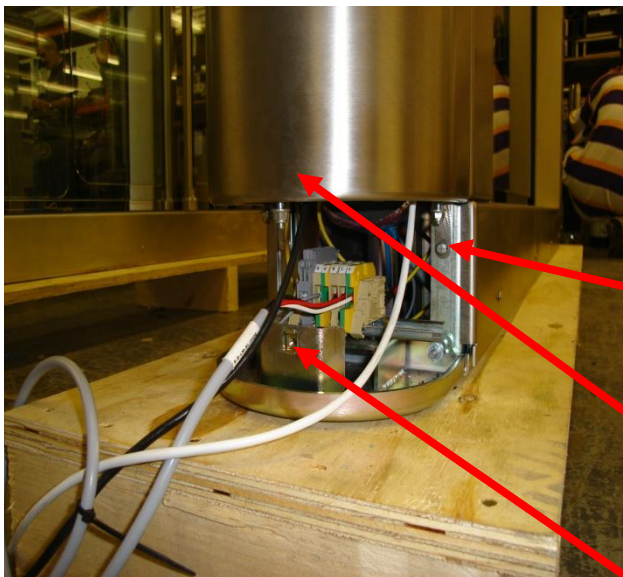
If a photocell must be replaced effect the following operations.

- Disconnect the power supply;
- Replace the device;
- Check all relevant connections;
- Restore the power supply;
- Effect the photocell test
- Re-set to normal functioning.

End cover removal



1. Loosen socket screw



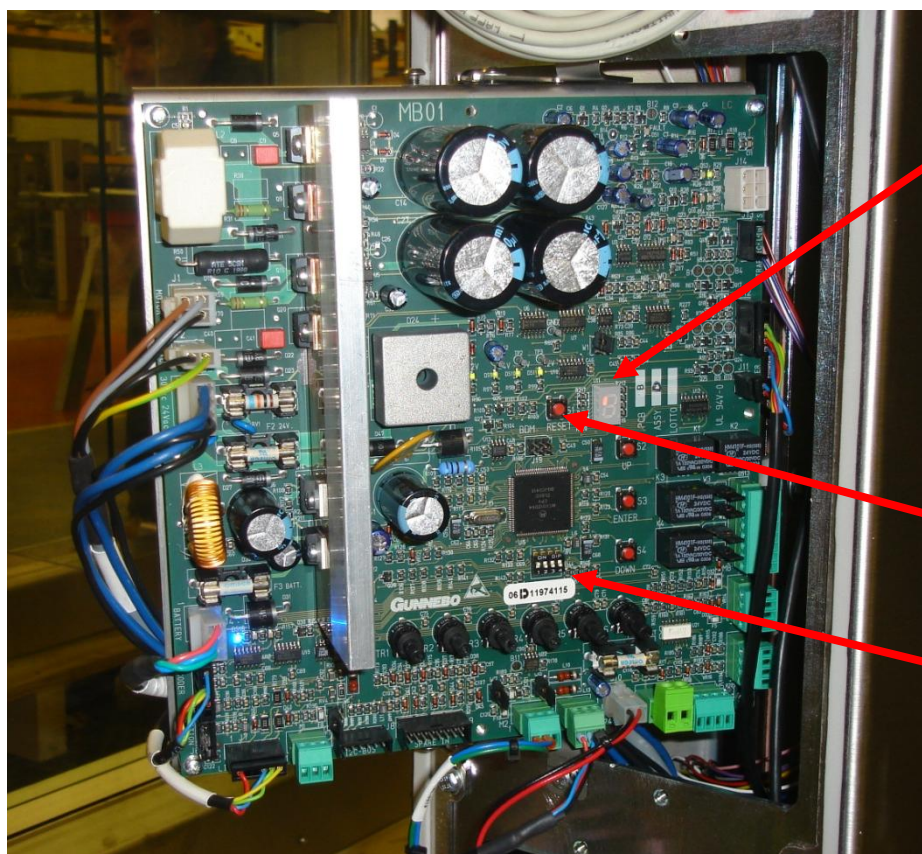
2. Once bottom end cover is removed, remove 2 fixings

3. Curved end cladding is pulled down to release and remove

4. Bottom end cover fixing position

MB01 pcb

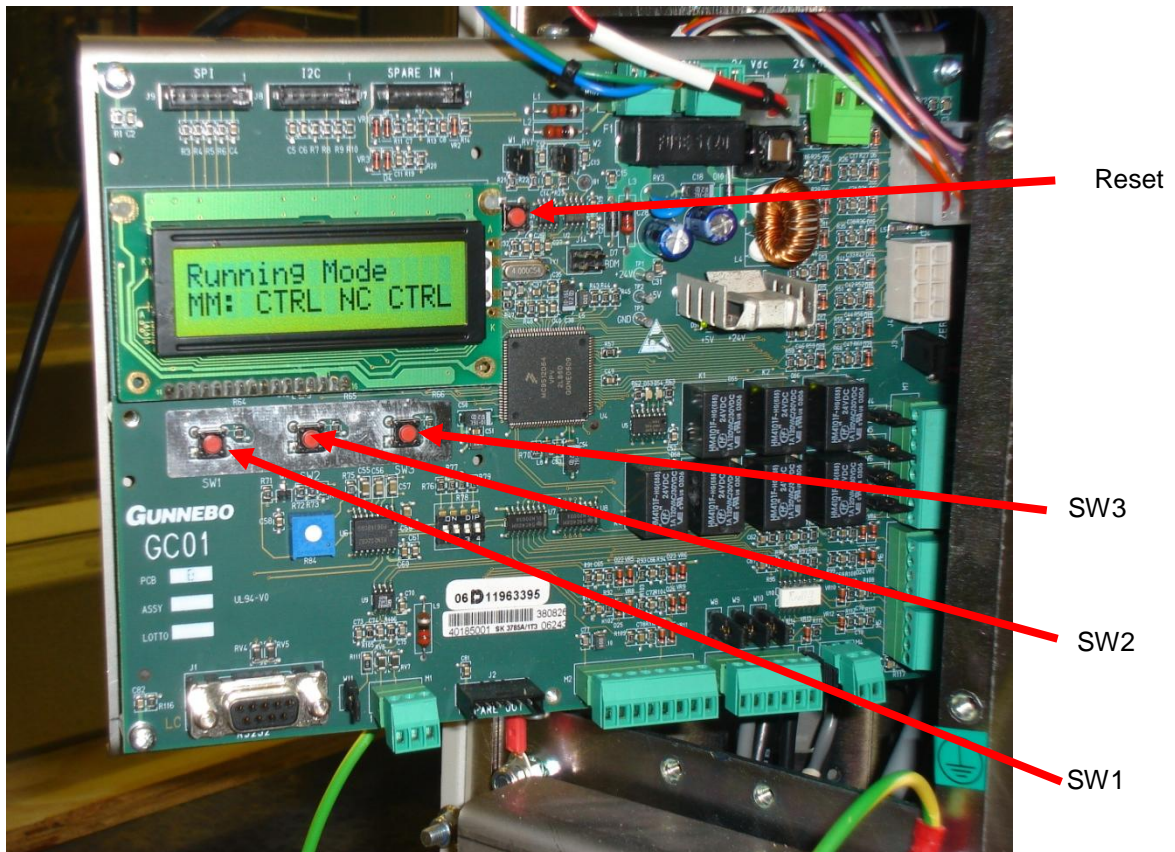
Motor Board (Master or Slave)



8 Segment display

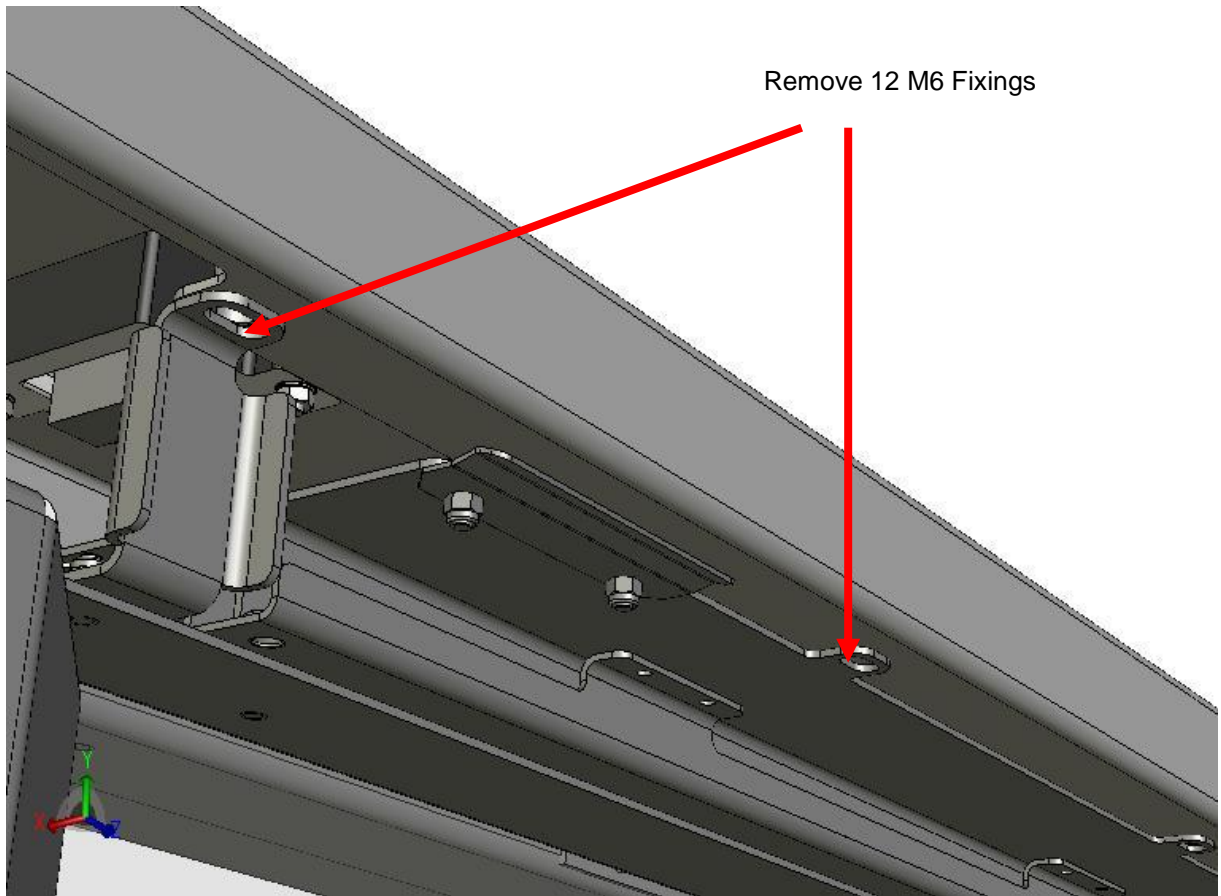
Reset switch

DIP switch

GC01 pcb**Control Board**

For details see Control Board Maintenance Section

Removal of Lid



Photocell Replacement

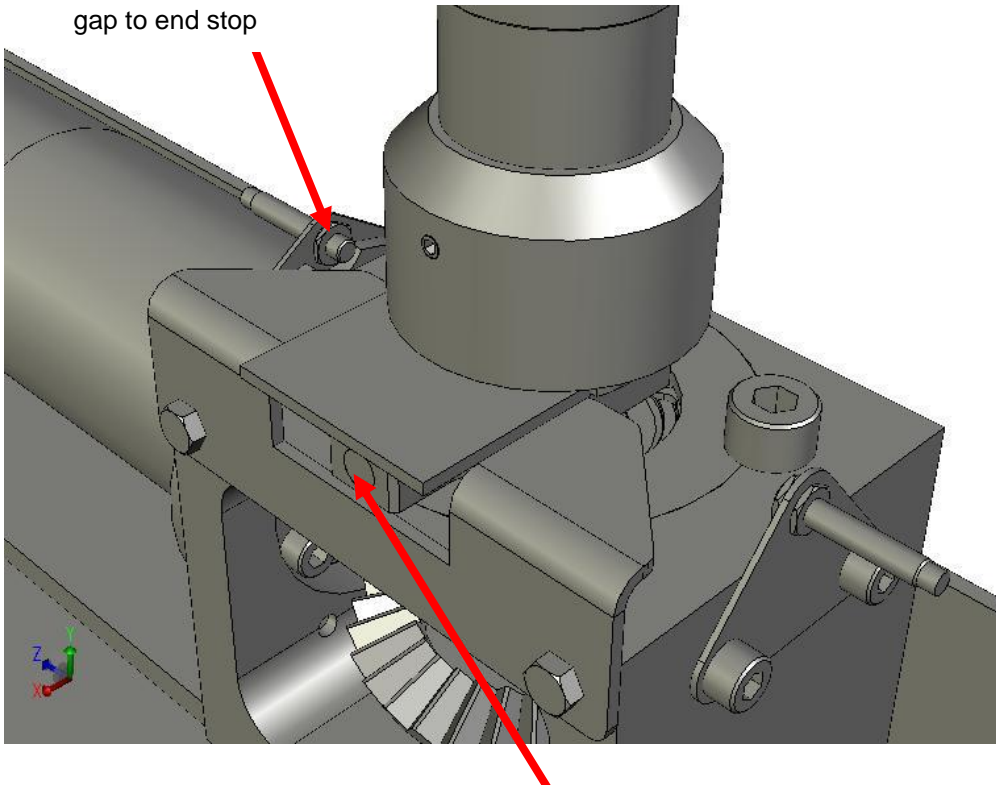
Photocell position in top section



Switch must be in position "L"

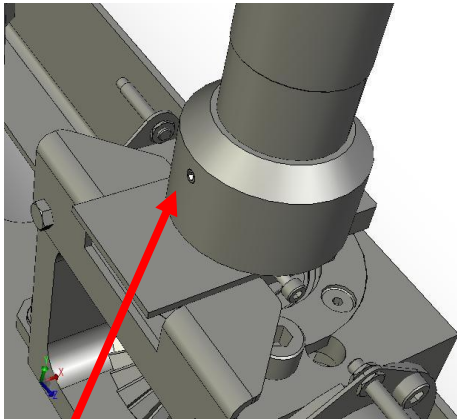
Limit Switch Replacement

Reed Switches 2-3 mm
gap to end stop

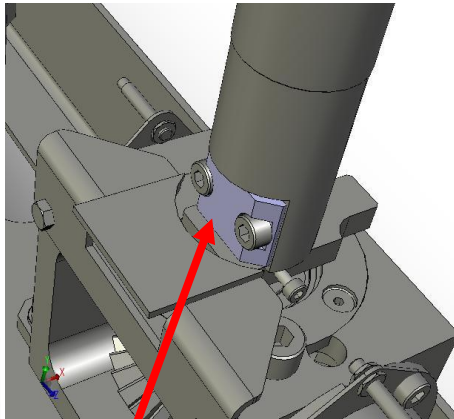


Limit Magnetic switch in end stop

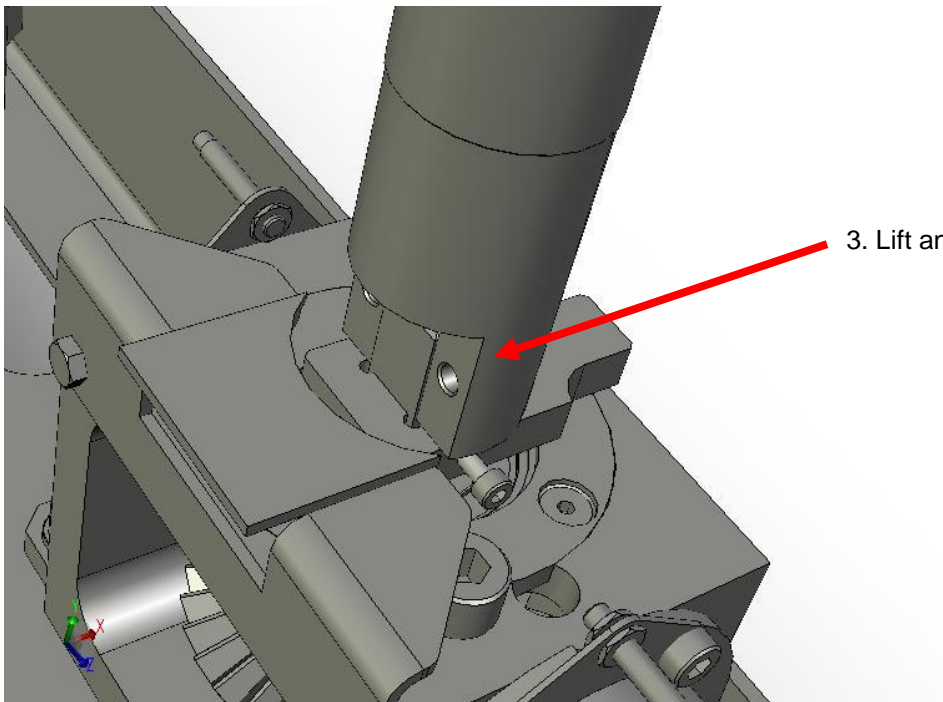
Rotor Panel Replacement



1. Loosen socket screw



2. Lift collar and remove socket screws



3. Lift and slide out rotor

Replacing Rotor Panel is the reverse order to removal method.

Spare Parts

Quantities listed are per SpeedStile Lane over a 24 month period.

[illegible]

По вопросам приобретения продукции:



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