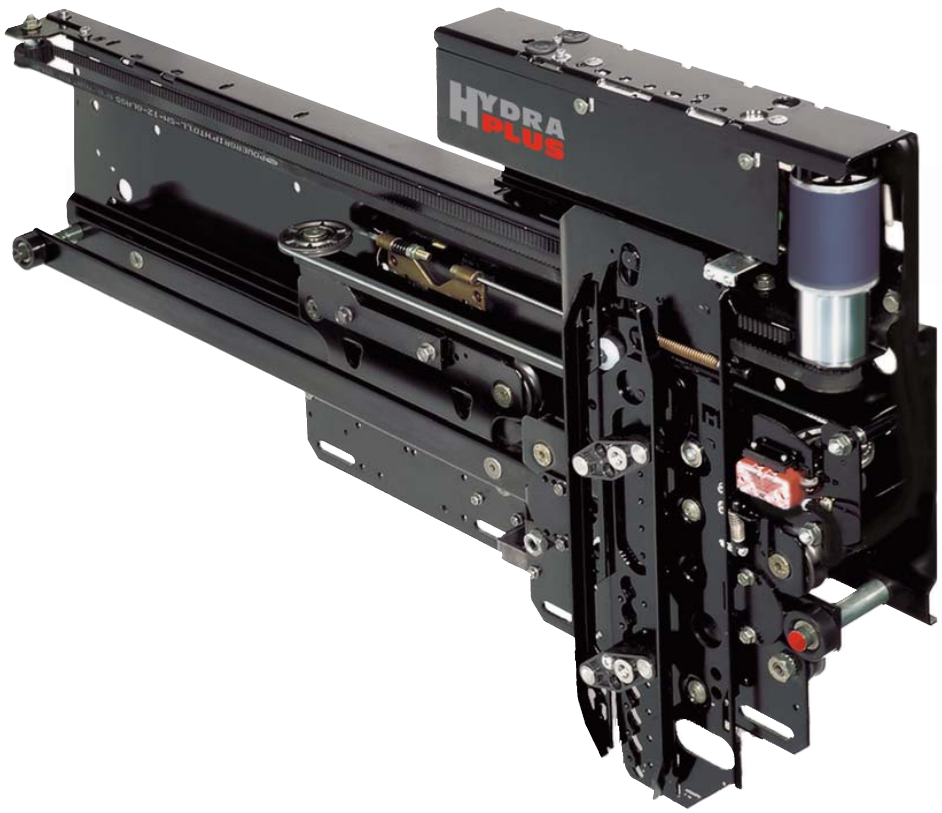
WITTUR

西尔康轿门
SELCOM CAR DOOR

HYDRA PLUS

操 作 手 册
OPERATING INSTRUCTION



3201.32.0209 ed.B

中 中文 1 至 24 页

GB English page 25 to 48

MOD.	DESIGNATION	DATE
B	对意大利语和德语版本做了更正。 *Corrections to Italian and German language.*	03/10/05
A	更新了文件版面和以下几点: 1.1, 8, 10.1, 10.2, 11, 13, 14, 16 *Up-dated document's lay-out and the following points: 1.1, 8, 10.1, 10.2, 11, 13, 14, 16*	01/09/05

目录

使用下列符号标示重要的安全信息和危险警告:

危险

特别警告

有伤人的危险(比如尖锐边缘、突出部件)

有损坏机器的危险（ 比如安装错误）

带电零部件

感谢您选用**威特**产品!

安装前请阅读本说明书。您可以了解到很多有关安装和系统维护的重要注意事项，让你的投资得到最大的回报。同时你也可以获得至关安全的产品维护保养方面的知识。

威特长期以来一直致力于研究低噪音、高质量和环境友好的产品。

☞ 本手册随货发运，必须一直放在电梯机房内。 按照当前惯例，所有产品都有铭牌及合格证标志。如果需要产品其他方面的信息，请把铭牌数据告知我们。

希望您对我们的产品满意。

您忠实的
威　特

☞ **注意事项**

- **威特**对由于第三方损坏包装材料引起的产品损坏不负任何责任。
- 开始安装前，检查收到的产品是否与订单和装箱单一致以及产品在运输过程中有无损坏。

- 根据持续研发的方针，**威特**保留技术改进的权利，恕不另行通知。本手册包含的图例、说明和数据为指示性而非强制性的资料。

⚠ - 为了保证产品安全，避免任何更改或损坏。
- **威特**产品只限使用原装零部件。
- **威特**产品只限用于电梯行业，因此**威特**只对在规定行业的使用负责。
- 本产品只作专业用途，禁止任何不适用途，包括出于爱好或 DIY。

- 为了避免人员伤害和设备损坏，必须由受过专门培训的人员负责搬运、安装、调试和维护本产品。操作人员必须穿着工作服，并使用适当的工具。

- 根据现行规定，正确安装时涉及到的土建工作应由专职的砖石工人来完成。
- 根据现行规定，现场电气连接应由专职的电工来完成。
- 根据现行规定，所有电子／电气元件的金属支架都必须适当接地。

⚠ - 接通电源前，检查产品对电力供应的要求。

- 开始操作电子／电气元件前，请断电。

- **威特**不负责安装时的土建工作以及设备的供电。

- **威特**对由于紧急开门装置使用不当引起的人员伤害及财产损坏不负任何责任。

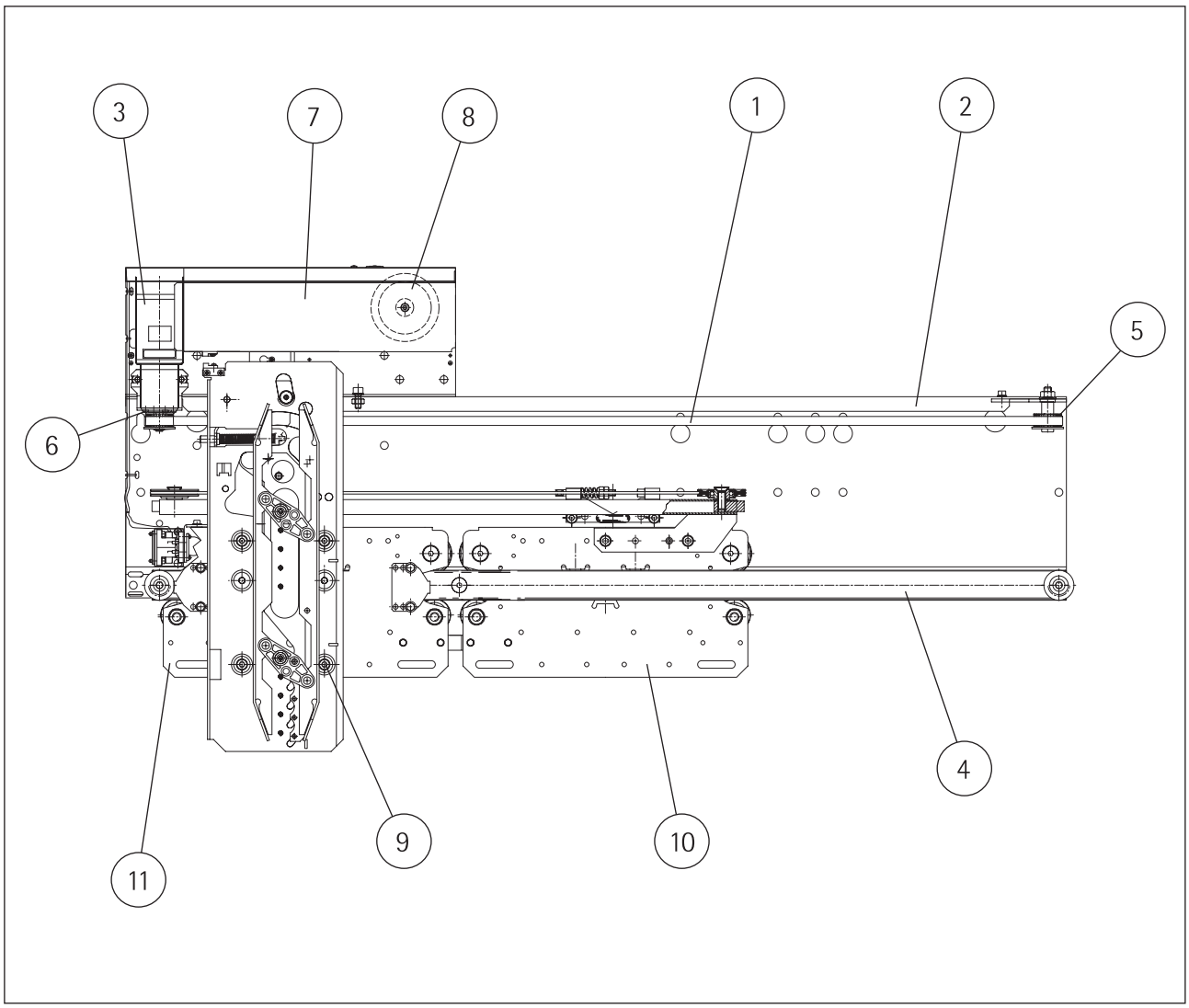
建议

- 存放期间产品应使用原包装，以防进水或凝缩，包装材料应防水、防日晒。
- 包装材料不得乱扔。
- 拆除的产品应按地方法规进行处理，不得乱扔。
- 切勿随意扔弃，请尽量回收利用。
- 回收前请检查不同包装材料的材质，以适当的方式回收。

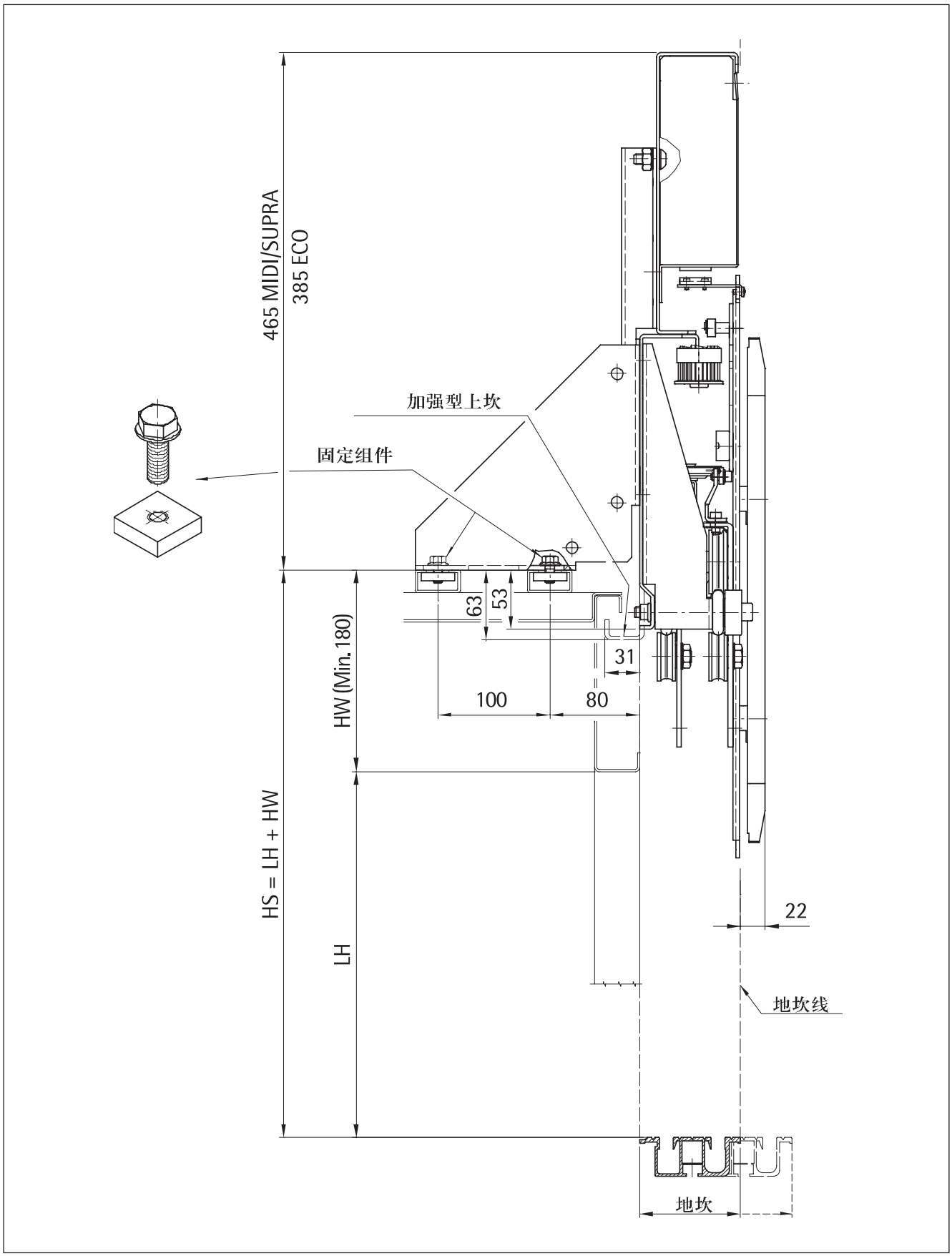
1- 概述

3201-HYDRA-PLUS系列轿门由齿形带（1）传动，包括安装门电机（3）的门上坎（2）、上导轨（4）、皮带轮（5，6）以及电子驱动部分（7）和变压器（8）。

伸缩式门刀（9）与齿形传动带（1）相连，用以驱动门滑板（10-11）打开和关闭。

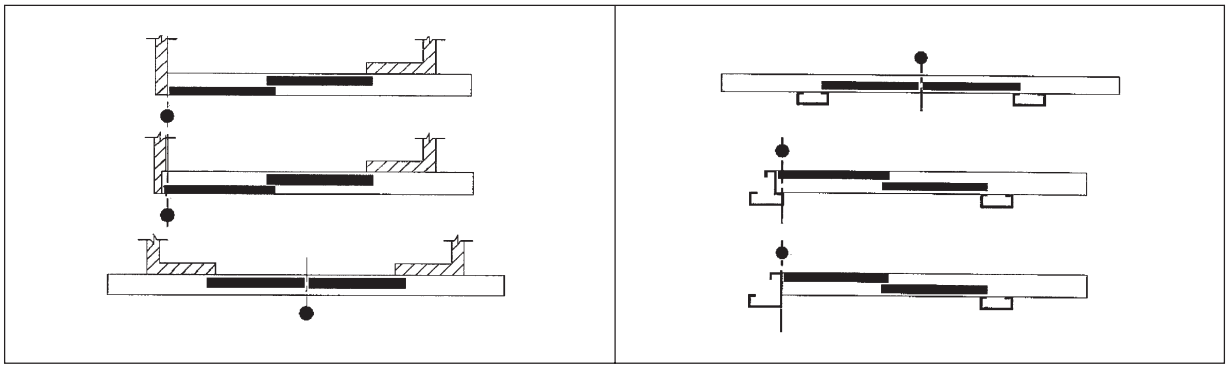


1.1- 门机安装在轿顶


465 MIDI/SUPRA
385 ECO
加强型上坎
固定组件
63
53
31
100
80
HW (Min. 180)
HS = LH + HW
LH
22
地坎线
地坎

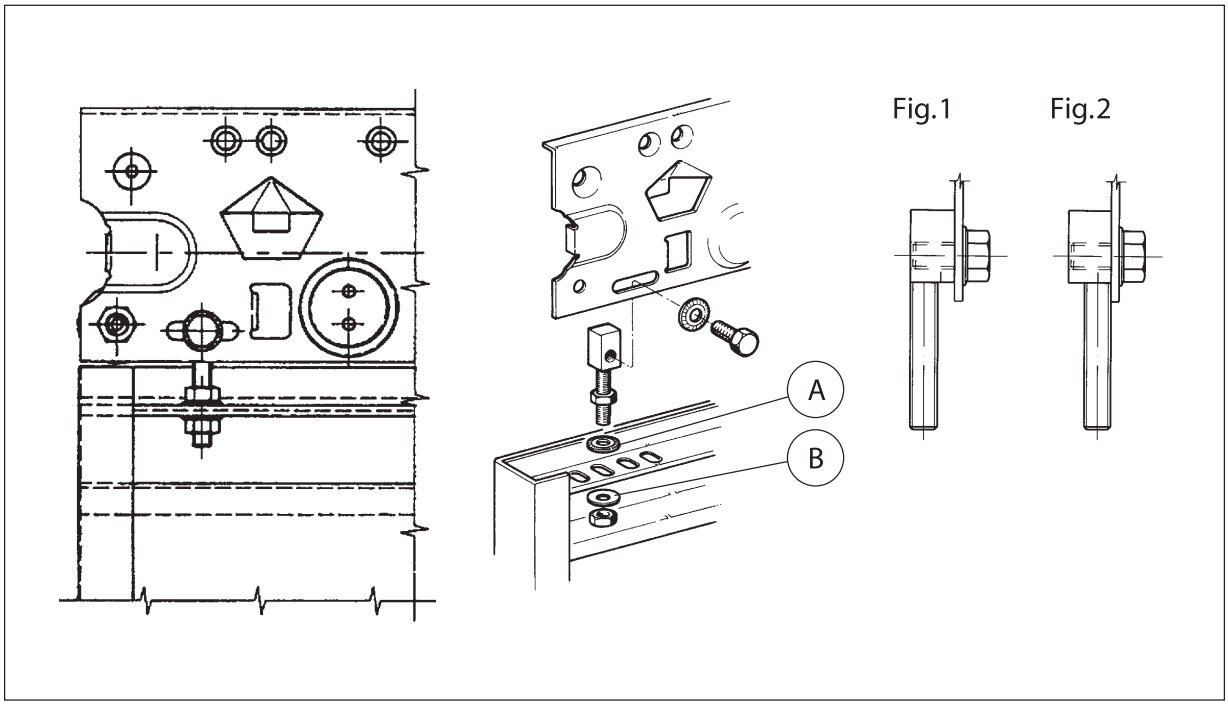
2- 对准层门与轿门

导轨固定螺栓顶部的红色缓冲垫表示所有层门与轿门位置的垂直基准线。
对于旁开门，红色缓冲垫表示净开门线（不包括越程）。
对于中分门，红色缓冲垫表示净开门中心线。



3- 安装吊门螺栓

每扇门板必须至少有两个固定点。
对于不锈钢门板，如图1所示安装螺栓。
对于包层厚度超过1mm的门板，如图2所示安装螺栓。
锥形垫圈“A”应放在门封头的上部，平垫圈“B”应放在门封头的下部。



4 - 调整吊门螺栓的间隙

当门板悬挂在上坎导轨上时，吊门螺栓应按图1固定。 对于标准开门宽（小于等于850mm）的门，螺栓B之间的距离比净开门高度（至少2米）小。 这就意味着调节吊门螺栓可以改变间隙A，吊门螺栓的最大调整量为30mm。按图2安装门板就可以避免这种情况。如果间隙调整了，门板高度也必须相应调整。

安装时吊门螺栓的标准位置

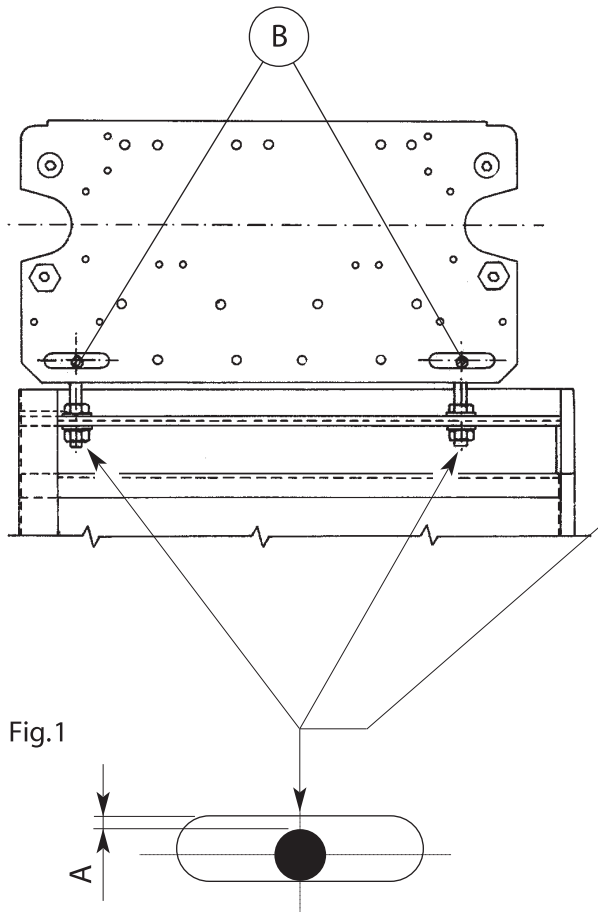


Fig.1

沿开门方向推门板得到图示位置，并用吊门螺栓固定

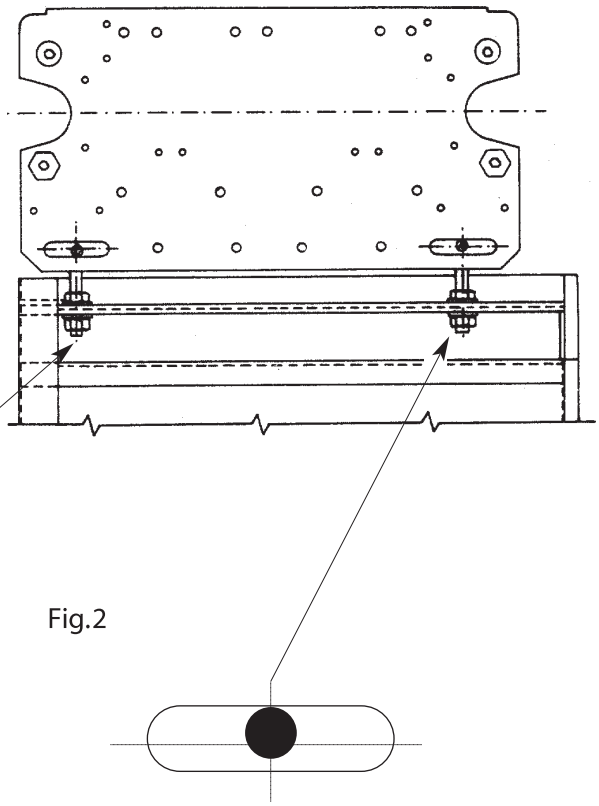


Fig.2

5 - 导靴的安装、维护和更换

门导靴套上固位销时稍稍用力压进，直至销舌与榫槽吻合（见图1）。
拆卸时只需从后面推，同时用螺丝刀分开舌部①。
导靴装到门板上和从门板上拆下来都很容易，即便是组装好的门板：事实上只需旋转90度成水平位置（图2），然后往外拉或推进地坎槽里。
偏心螺栓和槽形孔供安装时调整。
如图3所示安装开门侧导靴，这样门板掉下时导靴不会滑出地坎槽。

☞ 每扇门至少装有两个导靴。

☞ 维护时，检查导靴是否安装牢固，有无严重磨损。

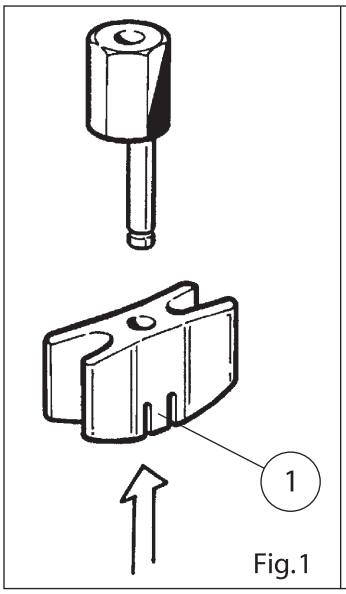


Fig.1

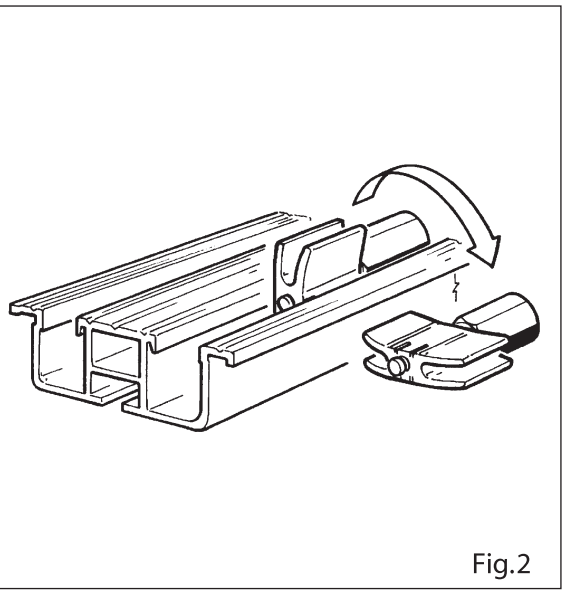


Fig.2

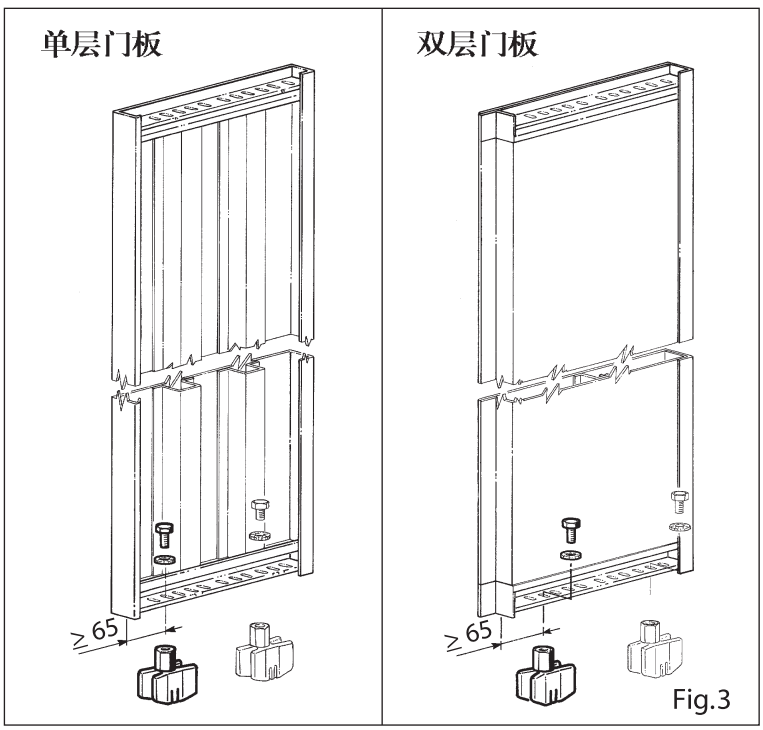


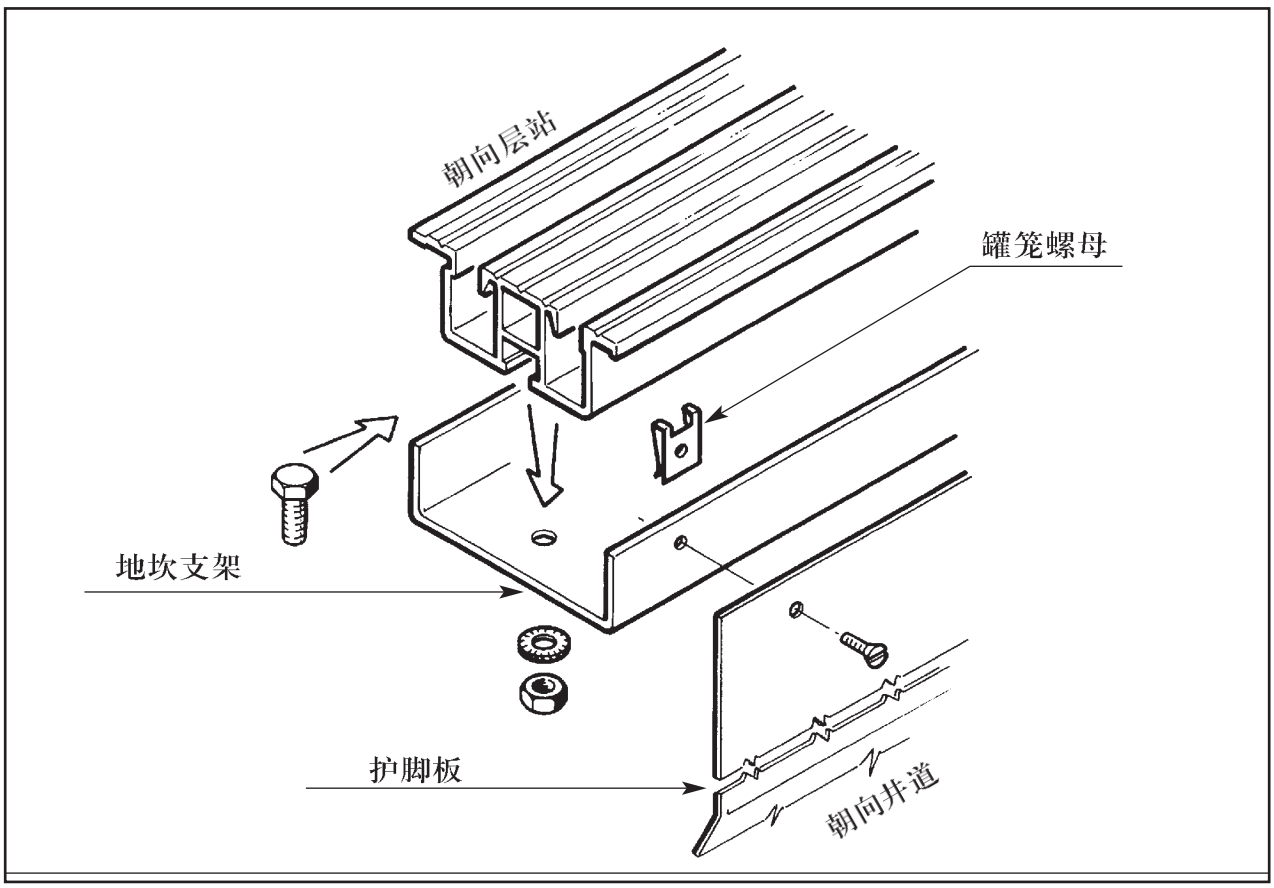
Fig.3

6 – 安装地坎和护脚板

标准地坎:
如图所示安装护脚板。
加强型铝地坎:
护脚板直接安装到地坎支架上的螺孔里，不用罐笼螺母。

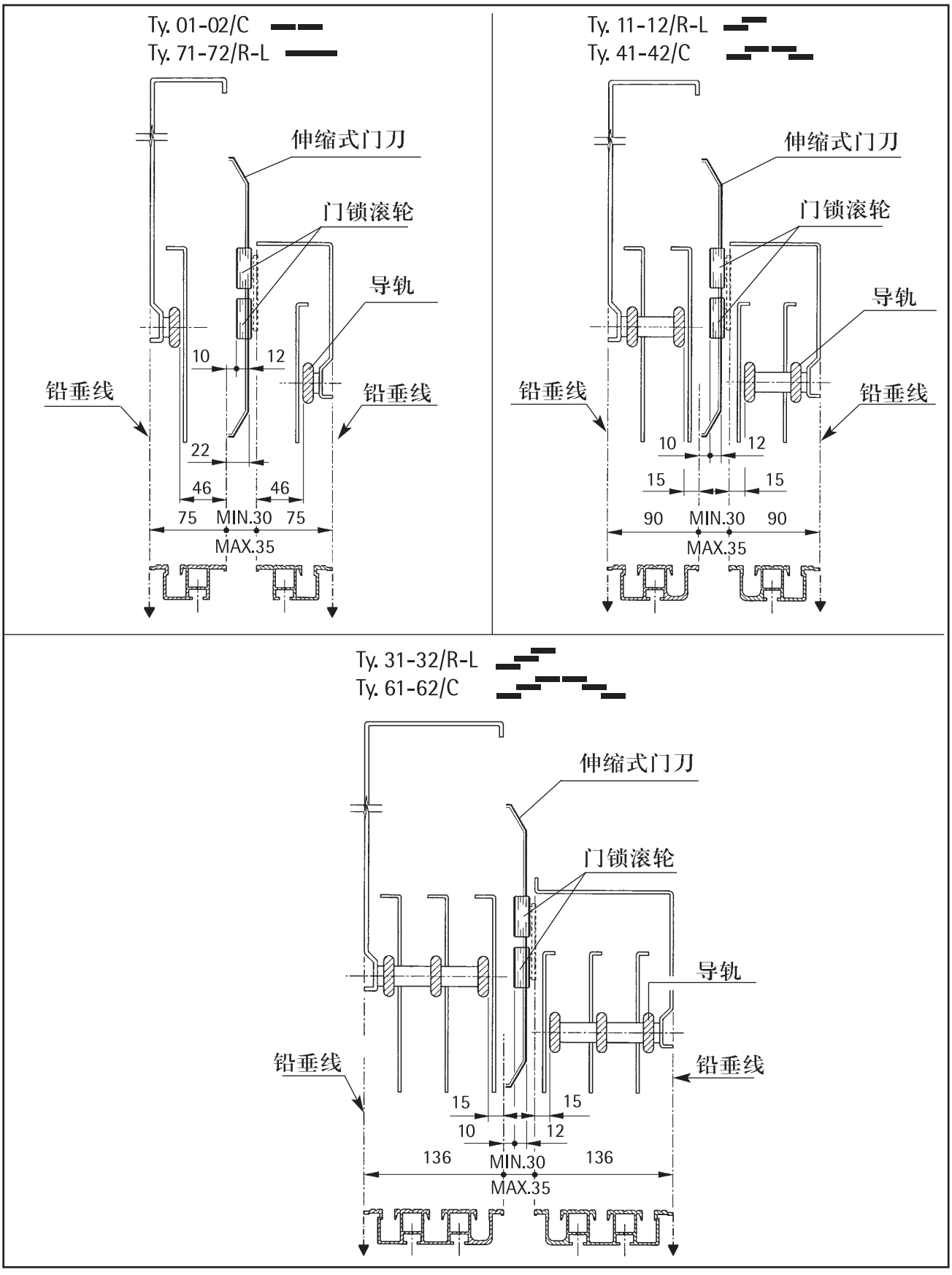
如果螺栓丢失，可用 M5 x 8 螺栓替代。

注意: 螺栓太长会干扰门导靴。



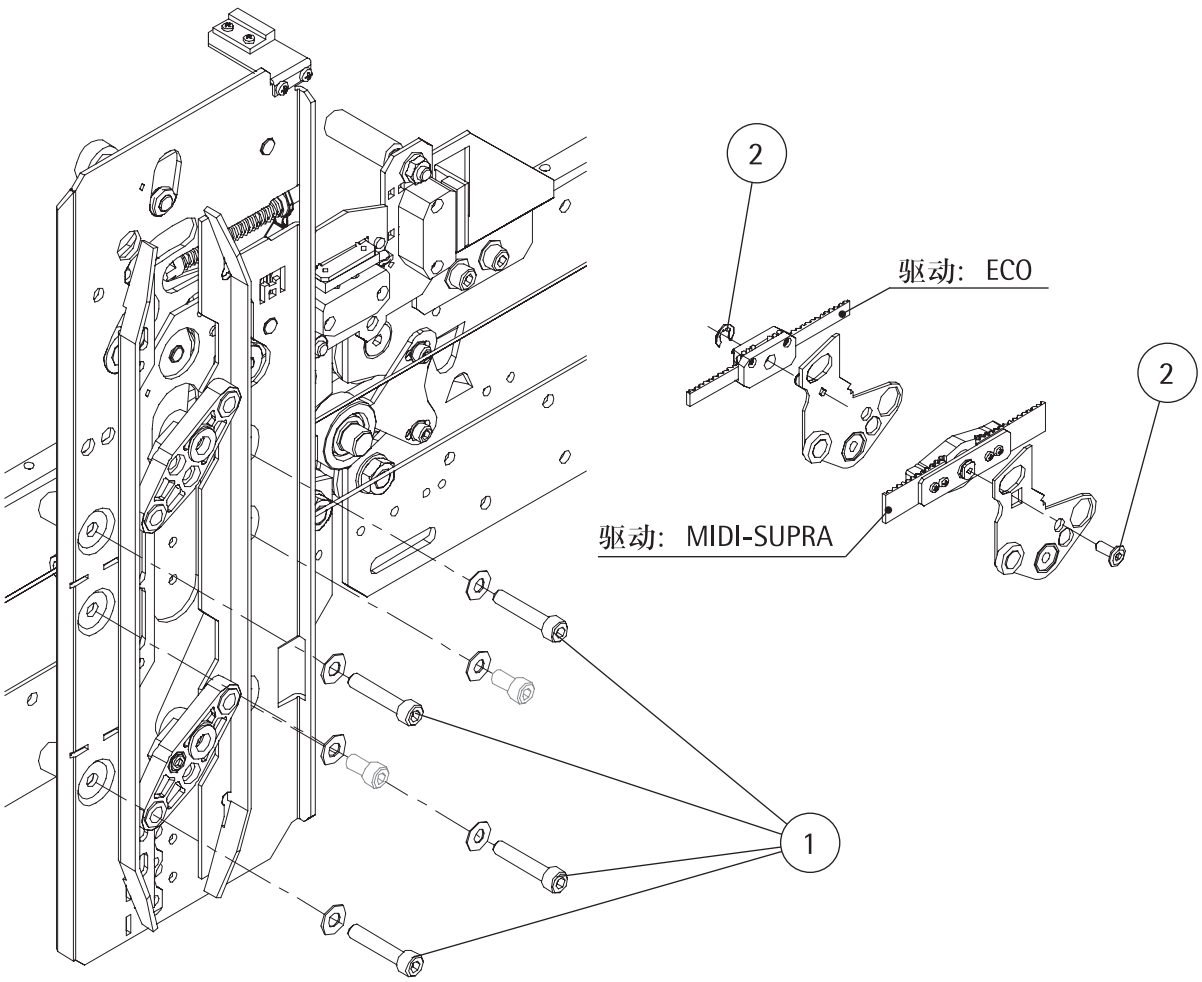
7 - 门机与地坎的对准

将铅垂线对准地坎内缘。



☞8- 固定门刀

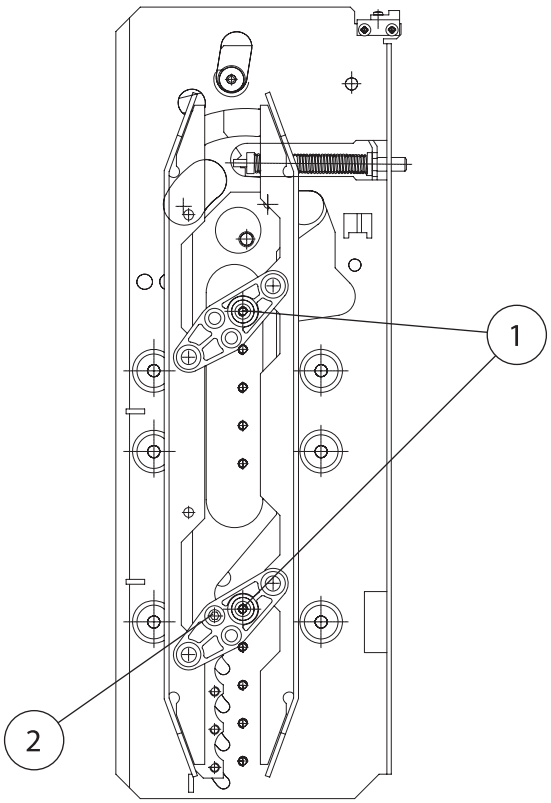
门板安装好以后，用4只螺栓（1）及相应的皮带固定装置（2）来固定门刀。



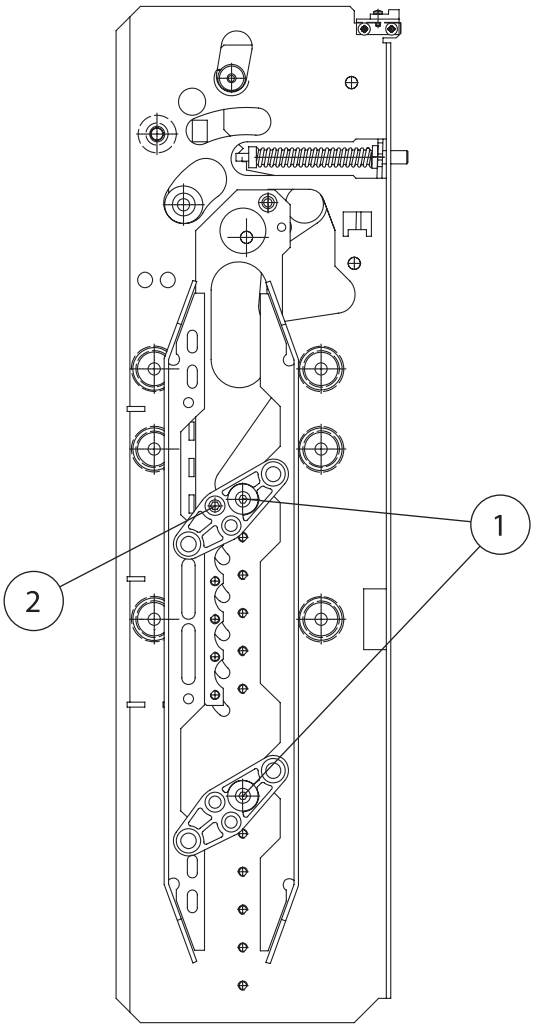
9 - 门刀高度的调整

拧松螺栓（1）和（2），根据位置要求调节门刀片的位移，调好位置后重新拧紧螺栓（1）和（2）。每次可调整25mm的位移量。

位移0-125mm的门刀



位移150-250mm的门刀

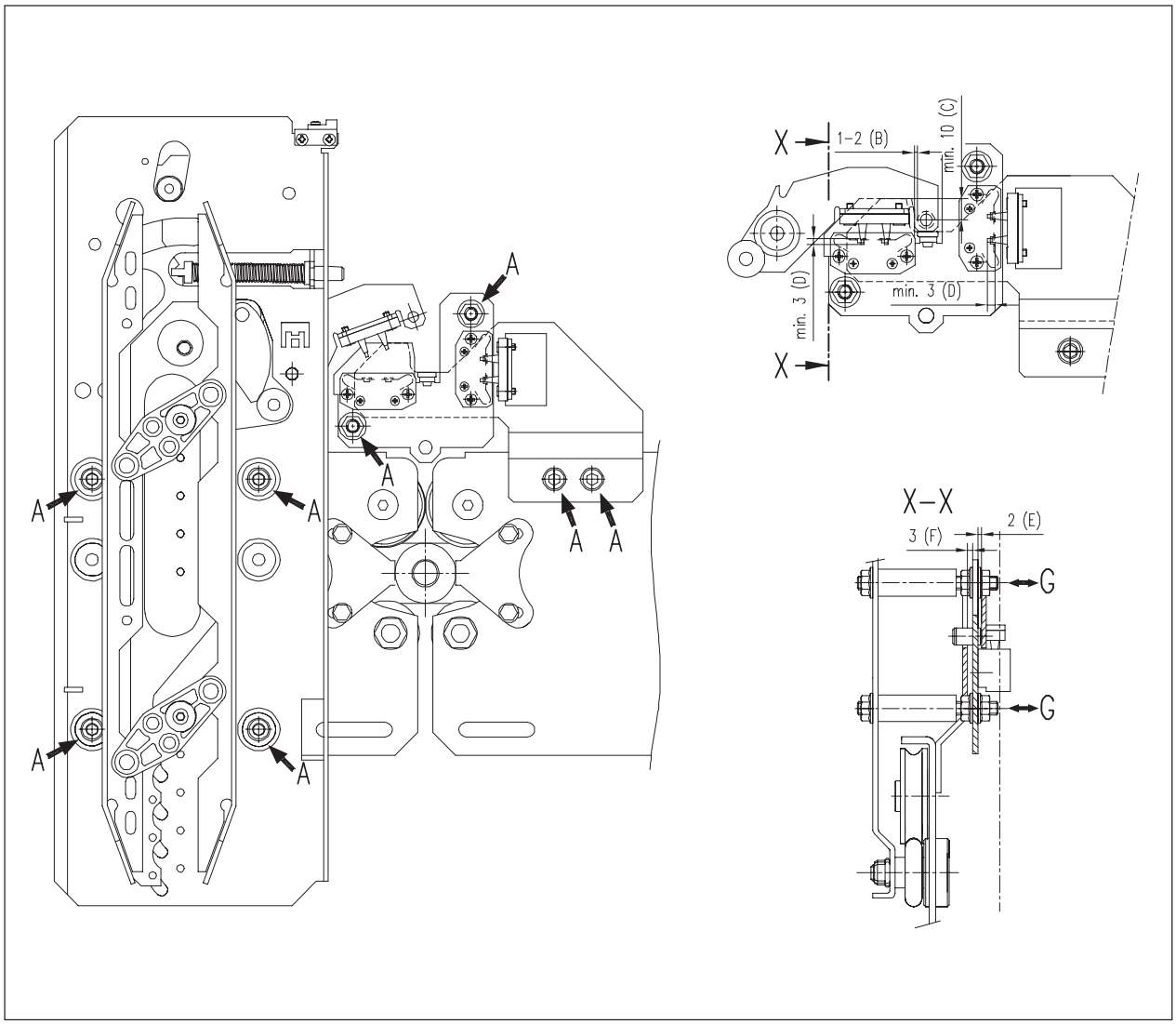


10 - 轿门锁（ 可选）

10.1 安装和维护过程中都必须检查轿门锁功能

- 每年必须至少维护一次

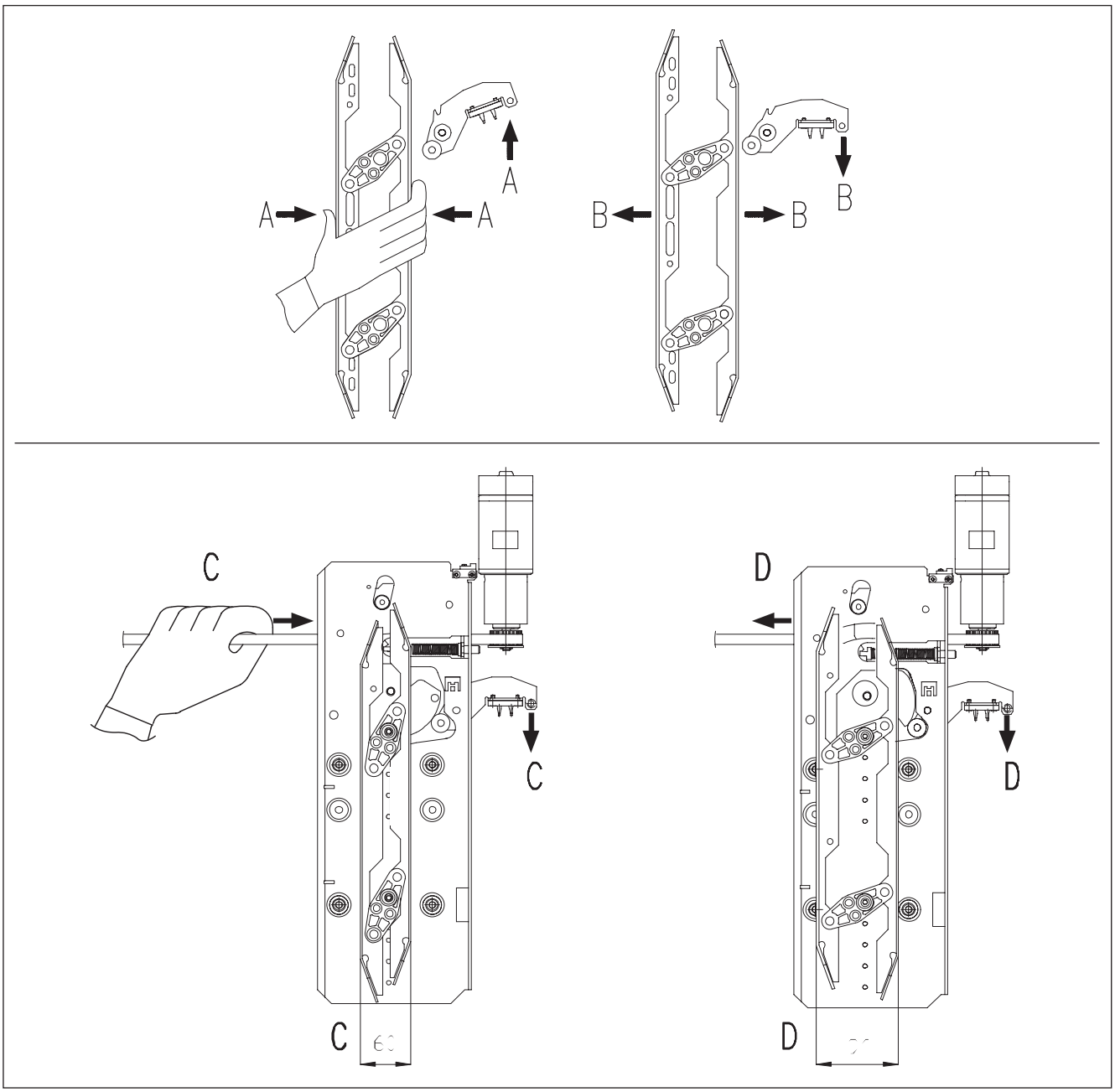
- 轿厢在厅门区外时轿门锁必须锁住轿门，即锁钩必须碰触缓冲块。
- 所有门锁构件，如锁钩、锁口及辅助锁口（只对于中分门）都必须安装牢固（A）。
- 门打开时安全电路必须断开。
- 完全闭锁时，锁钩必须与锁鼻至少重叠10mm（C）。
- 锁钩和锁口的间距应该为1-2mm（B）。
- 触点应该清洁并稍加打磨（可看到金属）。
- 触点动作时，锁钩与锁鼻的重叠必须至少7mm。
- 触点应该被压进至少3mm（D）。
- 电气接线端应该安全和牢固。
- 触点应该与触座孔中心对准，不要碰触座孔的边缘。
- 锁钩和锁口的间隙应该为2mm（E）。而锁口和辅助锁口的间隙应该为3mm（F）。若必要，调整锁口（G）。



10.2 确保轿门锁功能正常

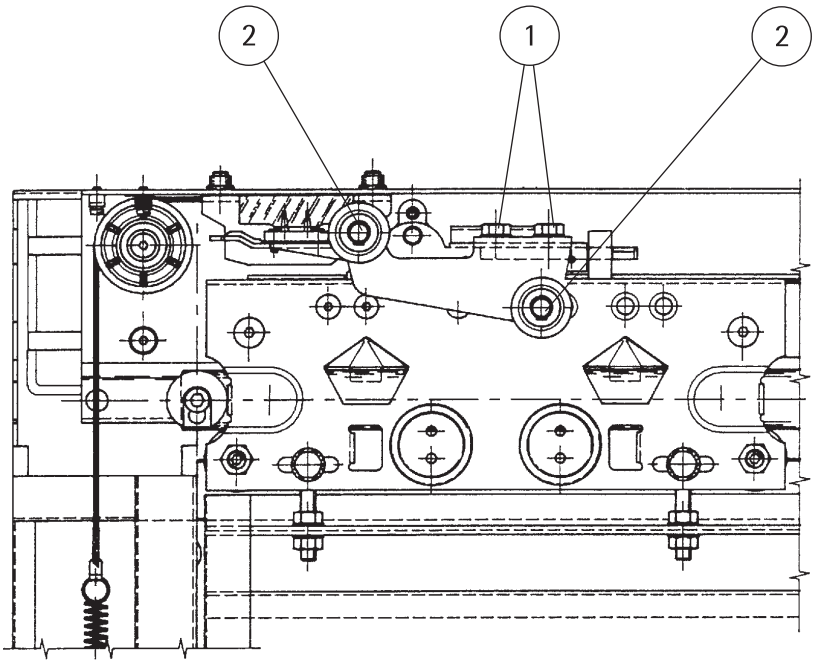
- 按压门刀片（A, B），检查锁钩的动作是否灵活。
- 通过以下步骤检查和确认轿门锁的功能:
  - 关掉门机的电源。
  - 用手把门完全关闭，门刀必须完全收回（C）。
  - 松开皮带，门刀应该在弹簧力的作用下自动伸展到完全打开的位置。此过程中，锁钩必须保持在完全闭锁的位置（D）。
- 上述步骤不能实现时，必须更换轿门锁。

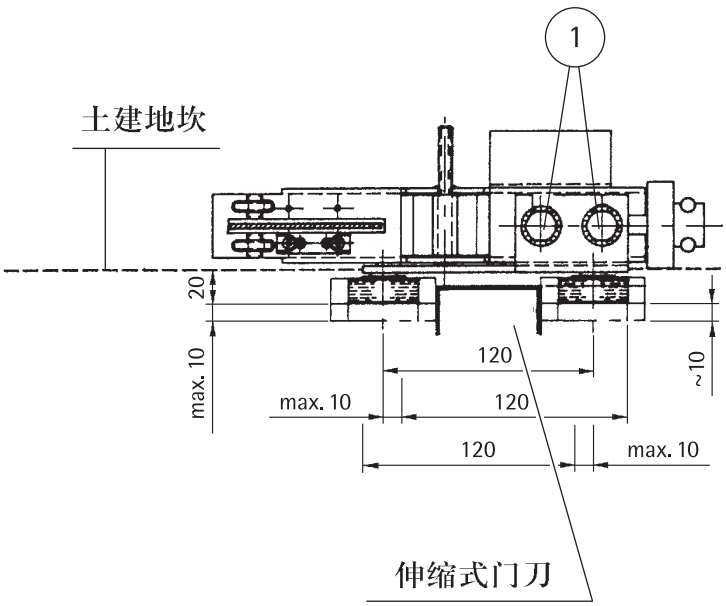
- 为了确保轿门锁的功能可靠，下列情况下也必须更换轿门锁:
  - ECO驱动的门机已经运行100万次或5年以上
  - MIDI / SUPRA驱动的门机已经运行300万次或5年以上。



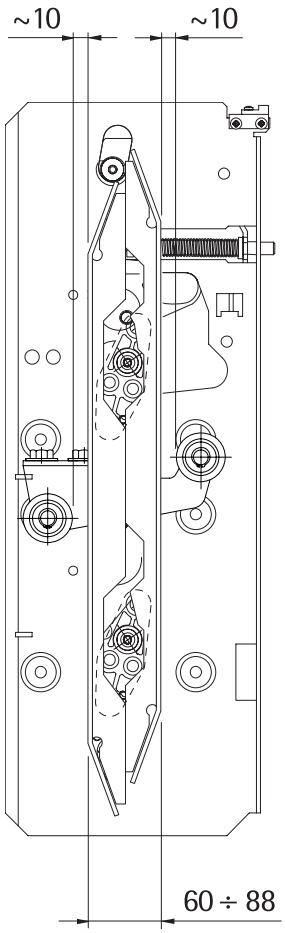
11- 调整门锁滚轮

用一个CH-17扳手拧松螺栓（1），从最低楼层（轿厢上行）开始往上逐层调整和对准锁轮（2）。
根据下一页的图示调整锁轮的位置。
要保证锁轮和地坎线之间有足够的间距，以便提供越程。





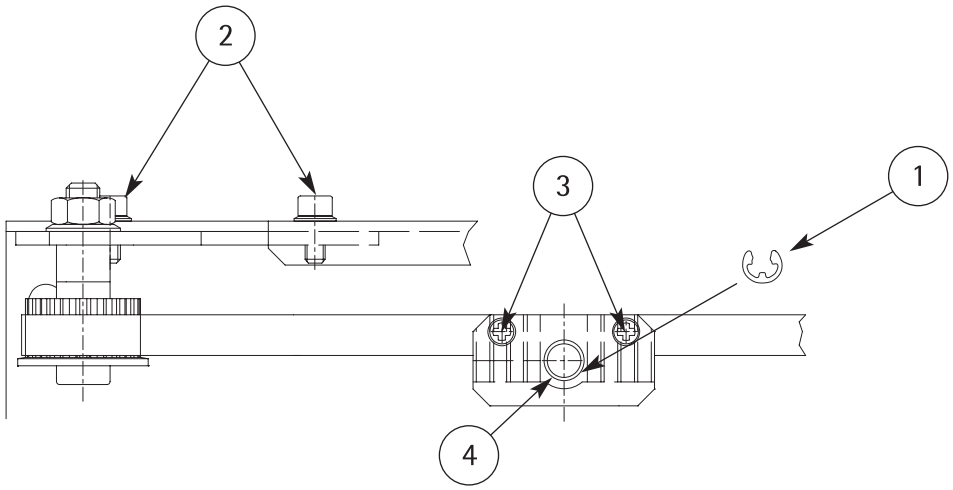
12- 门刀在厅门锁滚轮之间的位置



13- 更换皮带

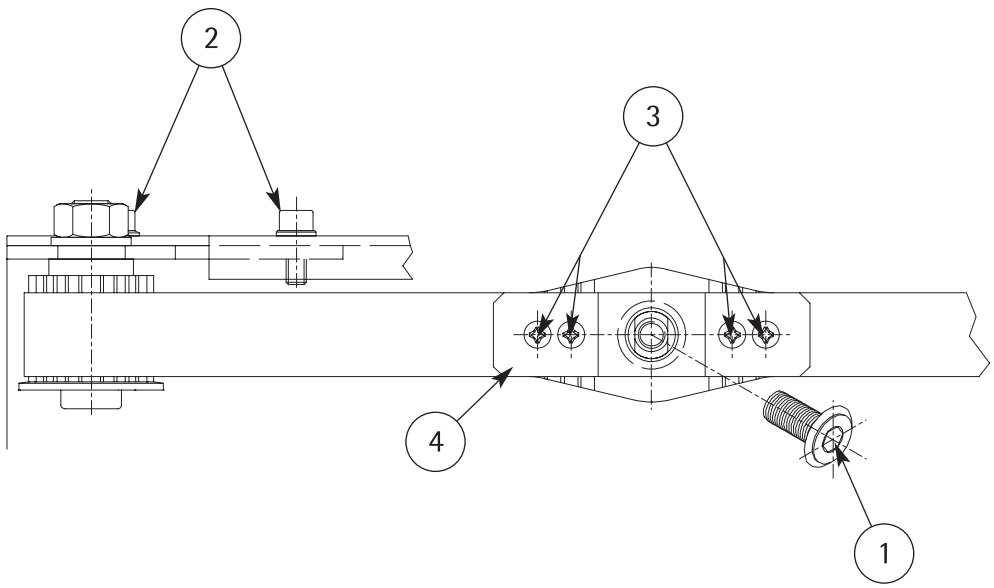
ECO

取下保险开口挡圈（1）。
拧松（只是拧松而不取下）螺栓（2），以便放松皮带。
拧松皮带扣件（4）上的两只螺栓(3)，完全松开皮带。



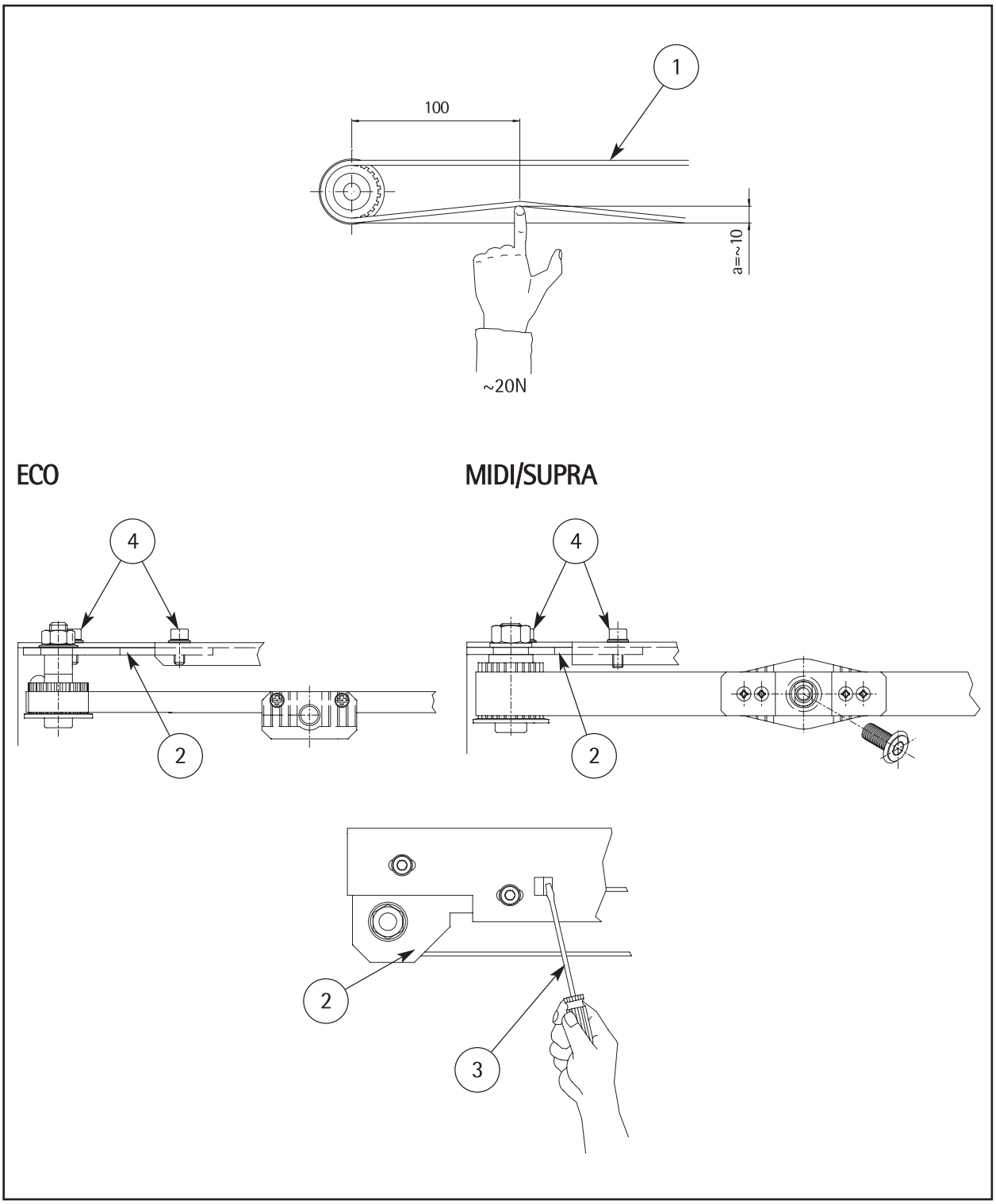
MIDI/SUPRA

拧松螺栓（1），松开皮带固定扣。
拧松（只是拧松而不取下）螺栓（2），以便放松皮带。
拧松4只螺栓(3)，取下盖板（4），取出皮带。



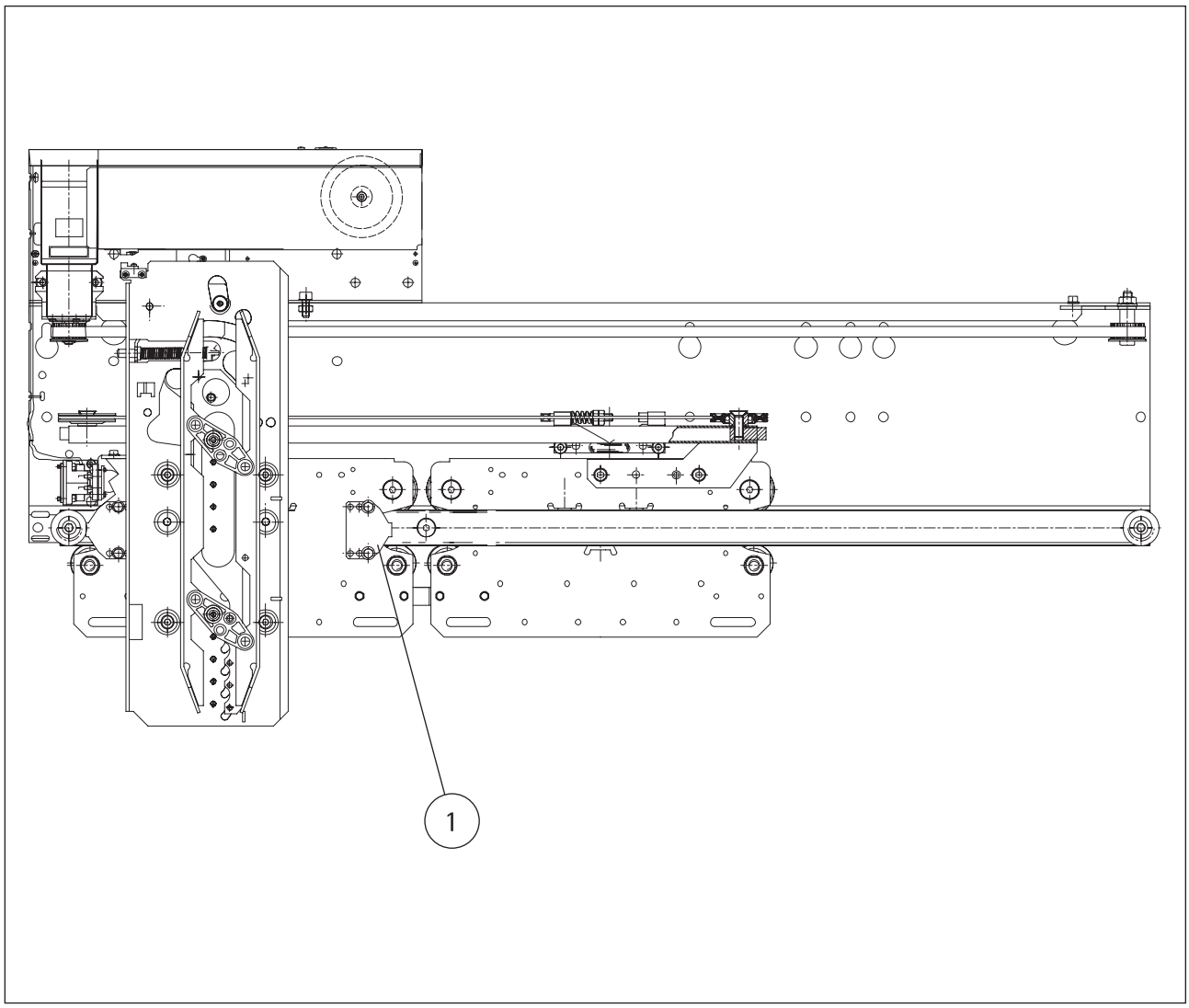
14- 调整齿形带的张力

要调整齿形带（1）的张力，必须用螺丝刀（3）撬动支架（2），使尺寸“a”约为10mm，然后拧紧螺栓（4）固定好位置。



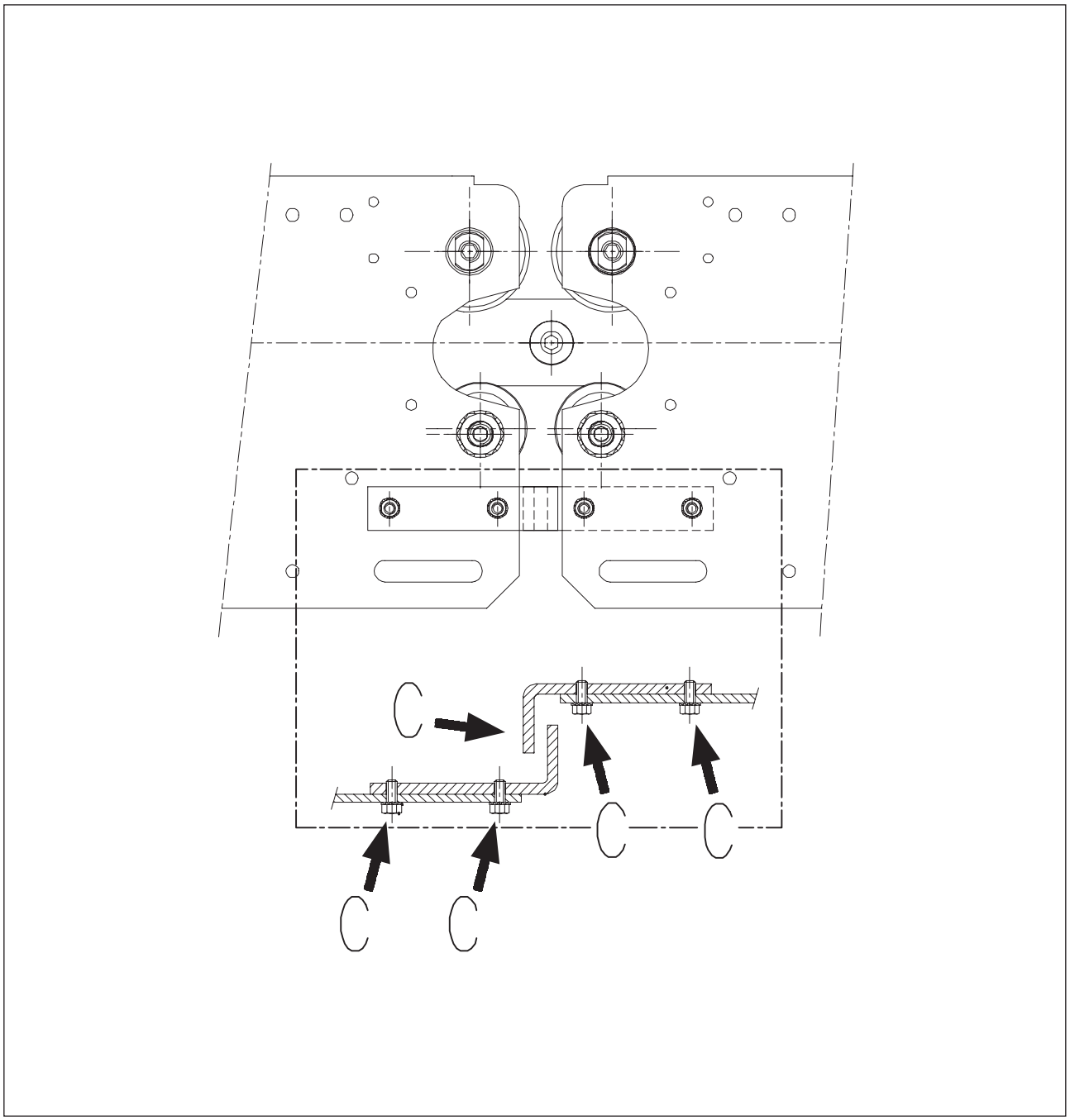
15- 调整净开门宽度

可以通过位于开门侧高速门滑板上的可调定位器（对应①）来调整净开门宽度。



16- 低速门的同步调整

维护过程中检查并确认保险钩到位（如下图所示）并且安装牢固。



17- 滑动滚轮

上滚轮槽的设计与导轨面不一致，所以上滚轮与导轨不完全接触。（见图1）
当上滚轮槽与导轨面完全接触时（见图2），说明上滚轮已磨损，应更换。
其它需要更换滚轮的原因:
- 轴承噪音过大 （有赃物进入）
- 偏心轮变形发出过量噪音 (通常发生在门长时间不使用的情况下)。

如果没有上述原因，建议每7年换一次上下滚轮。

Fig.1

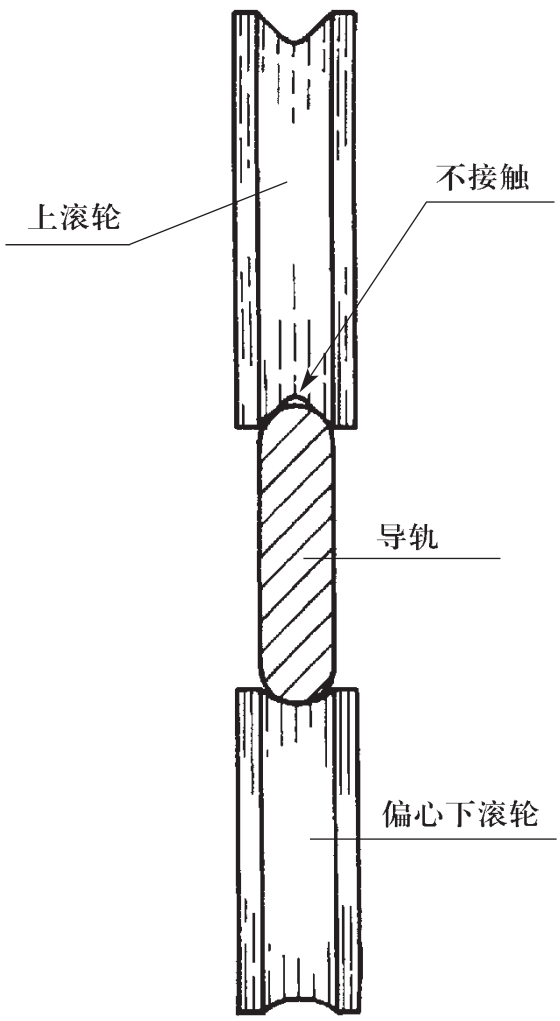
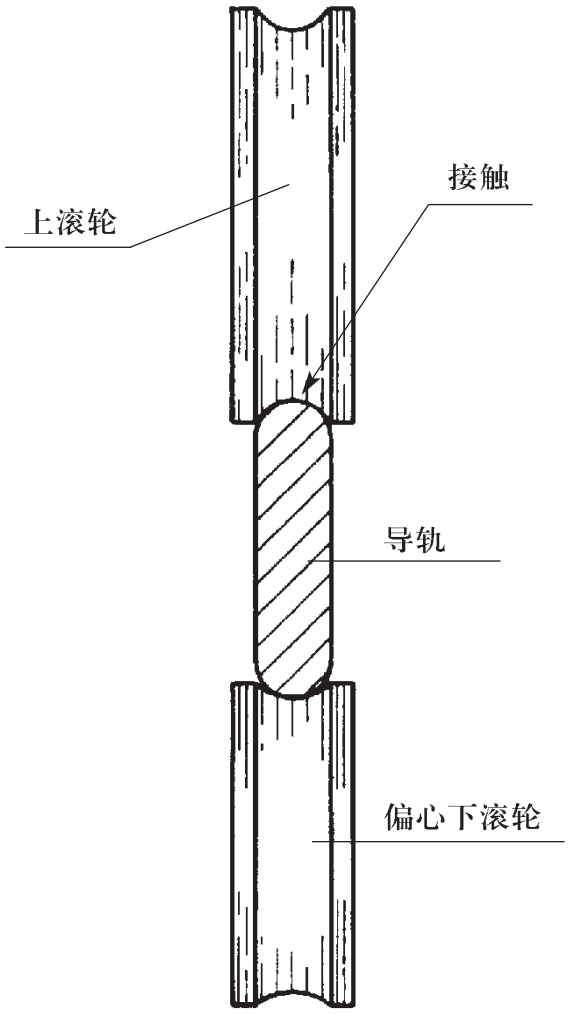
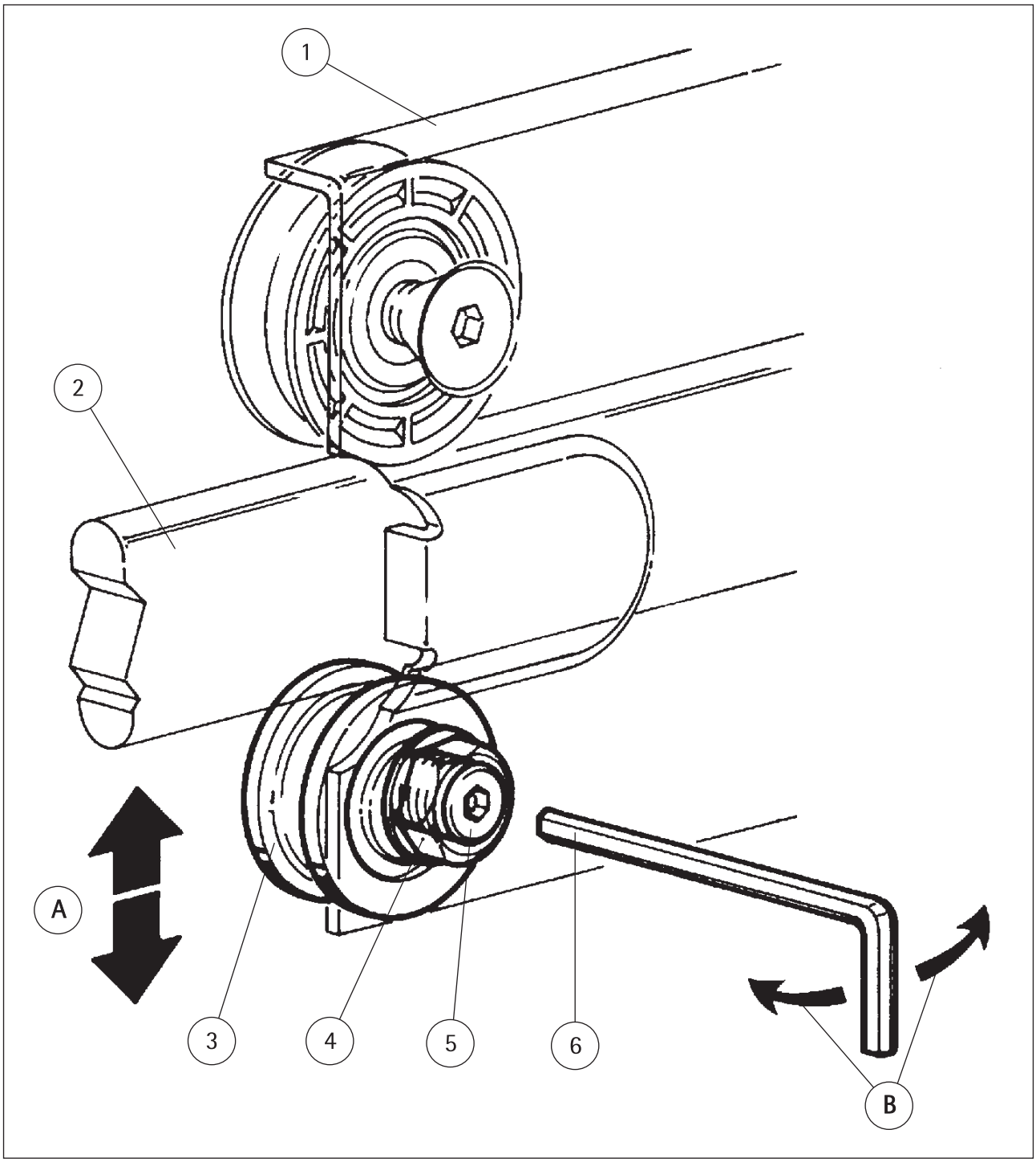


Fig.2



18- 调整滚轮

通过调整下滚轮 (3)上的偏心螺栓，可使上坎(1)和导轨(2)之间无间隙。
用19 mm 的扳手拧下螺栓 (4)，并用6 mm的L形六角扳手 (6)沿箭头 (B)方向顺时针或反时针转动偏心螺栓 (5)，调整导轨和滚轮的间隙，使滚轮能自由转动为宜。
调整后，重新拧紧滚轮止动螺栓 (4)。



维护门系统的几点注意事项

为了防止故障或误操作和使系统处于良好状态，需定期检查门系统的技术性能，以确保符合适用法规的规定。
技术性能取决于以下因素:

- 工作量
- 工作年限
- 门重
- 气候或环境条件
- 环境洁净度
- 正确的维护
- 等等

同时技术性能也会影响到:

- 门与门、门与门柱之间间隙或公差;
- 门刀间隙;
- 固定件或联接件的状态;
- 零部件磨损状况;
- 门锁及相关触点的性能;
- 其它可能受应用方式影响的零部件。

基于以上原因，本公司无法逐一列出零部件的更换时间表。

安装时用到的所有螺栓的拧紧力矩见下表:

螺栓	最大力矩 (Nm)	最小力矩 (Nm)
M3	1,1	0,9
M4	2,6	2,1
M5	5,1	4,1
M6	9	7
M8	21	17
M10	42	34
M12	71,4	57,1

需要时请参考上表。

INDEX

The points that are important under the safety viewpoint and danger warnings are indicated with these symbols:


Danger general


Important warnings


Risk of personal injury (e.g. sharp edges, protruding parts)


Risk of damage to mechanical parts (e.g. incorrect installation)


Live parts

Congratulations on choosing a **WITTUR** product!

Before starting the installation of this product, read the information contained in this document.

You will find important warnings on how to assemble and maintain your **WITTUR** product in good operating conditions and to get the maximum of your investment.

You will also find important information concerning the product care and maintenance which are an important factor to ensure safety at all times.

WITTUR has long been involved in research aimed at reducing noise level and in design that takes into due consideration the product quality and the conservation of environment.

☞ This document is an integral part of the supply and must be available in the lift power room at all times.

All products are provided with identification type label and in case with certification marks in accordance with the current rules.

In case of need concerning the product, the identification data on the label must be always communicated to us.

We hope you will get full satisfaction from this **WITTUR** product. Yours faithfully.

WITTUR

☞ **WARNINGS**

- **WITTUR** will not be held liable for any damage caused by tampering of the packing material by thirds.
- Before starting assembly, check that the product received corresponds to the order and to the packing list and that no damage has occurred in transit.
- Within its policy of continual research, **WITTUR** reserves to make changes to its products without notice. The figures, descriptions and data contained in this manual are intended as purely indicative and not binding.
- ⚠ To ensure the safety of the product, avoid any alteration or tampering.
- **WITTUR** liability will be limited to the original components only.
- **WITTUR** product is intended for use in the lift sector only, therefore **WITTUR** liability shall be limited to such use.
- This product is intended for professional use. Any improper use, including for hobby or DIY, is prohibited.
- In order to prevent any injury to persons and damage to property, the handling, installation, adjustment and maintenance must be carried out by suitably trained personnel, using appropriate clothing and equipment.
- Any masonry work connected with the correct installation of the product must be executed in a workmanlike manner according to the applicable laws.
- The connection of the electric units to the local power supply must be executed in a workmanlike manner according to the applicable laws.
- All metal parts supporting the electric/electronic units must be connected to an earth system in a workmanlike manner according to the applicable laws.
- ⚠ Before connecting the product to the power supply check that the product's requirement corresponds with the power supply available.
- Before starting any work on the electric/electronic components disconnect power from the system.

- **WITTUR** shall have no responsibility on the execution of masonry works or the connection of electric/electronic components to the power supply.

- **WITTUR** shall not be liable for damages/injury to property/persons caused by improper use of the emergency opening devices.

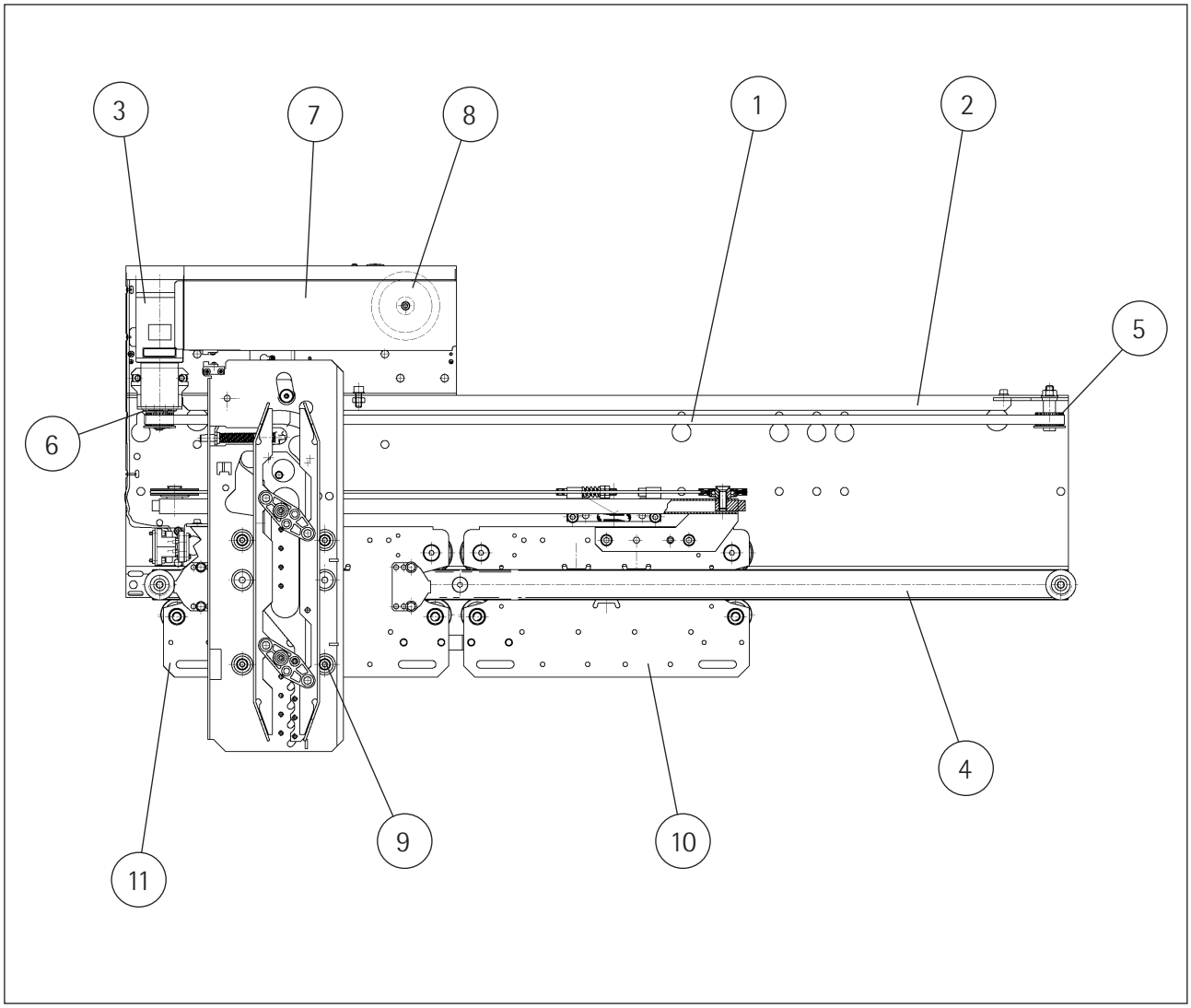
SUGGESTIONS

- Keep the material in the original packing, protected from bad weather and direct exposure to sun during the storage period in order to avoid the accumulation of water/condensation inside the packing material.
- Never dispose of packing material in the environment.
- Once dismantled, the product should be conveniently disposed as provided for by the local laws; never dispose of in the environment.
- Whenever possible, re-cycling is preferable to disposal in dump sites.
- Before re-cycling check the nature of the various materials and re-cycle in the appropriate way.

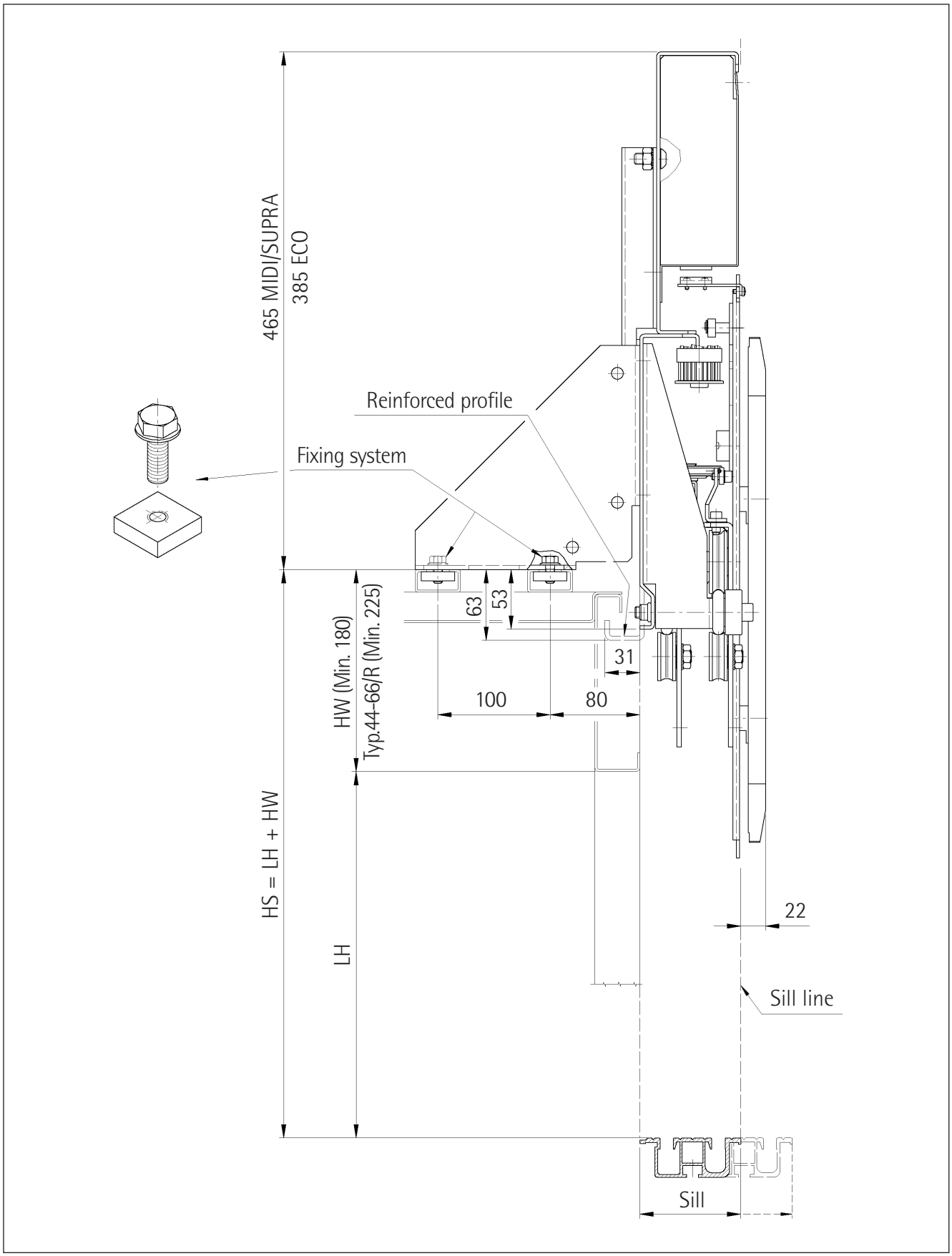
1 - GENERAL DESCRIPTION

Linear car door 3201- HYDRA-PLUS with toothed belt transmission (1) consisting in a plate (2) which supports the door drive (3) and mounting of top tracks (4), transmission pulleys (5-6), as well as electronic assembly layout (7) and transformer (8).

The coupler (9) is attached to the toothed belt (1) for driving the door trucks (10-11) open and close.



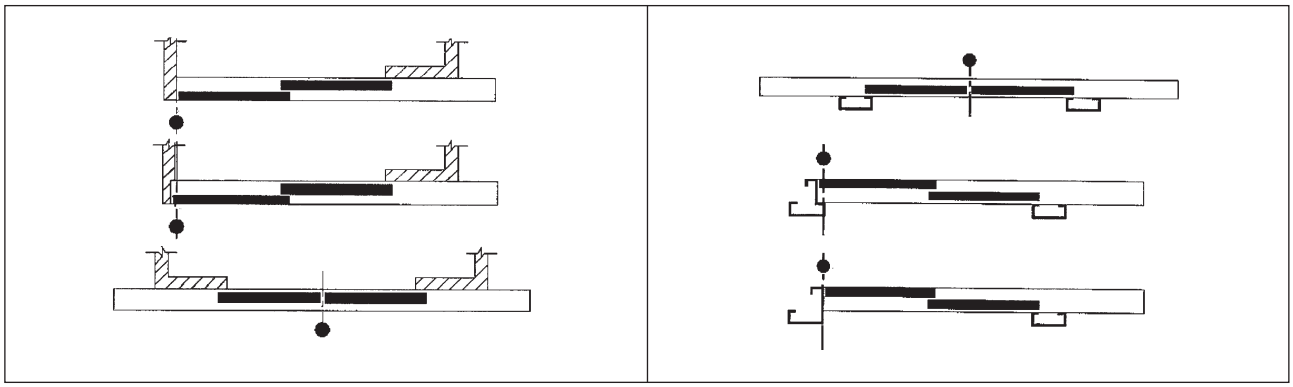
1.1 - Operator fixing on car roof



☞ 2 - LANDING DOOR ALIGNMENT WITH CAR DOOR

The red buffer on top track fixing screw, represents the vertical reference for the position of all the landing and car doors.

While for the telescopic doors the red buffer indicates the door's clear opening line, runby excluded, for central opening doors it indicates the center of the clear opening.



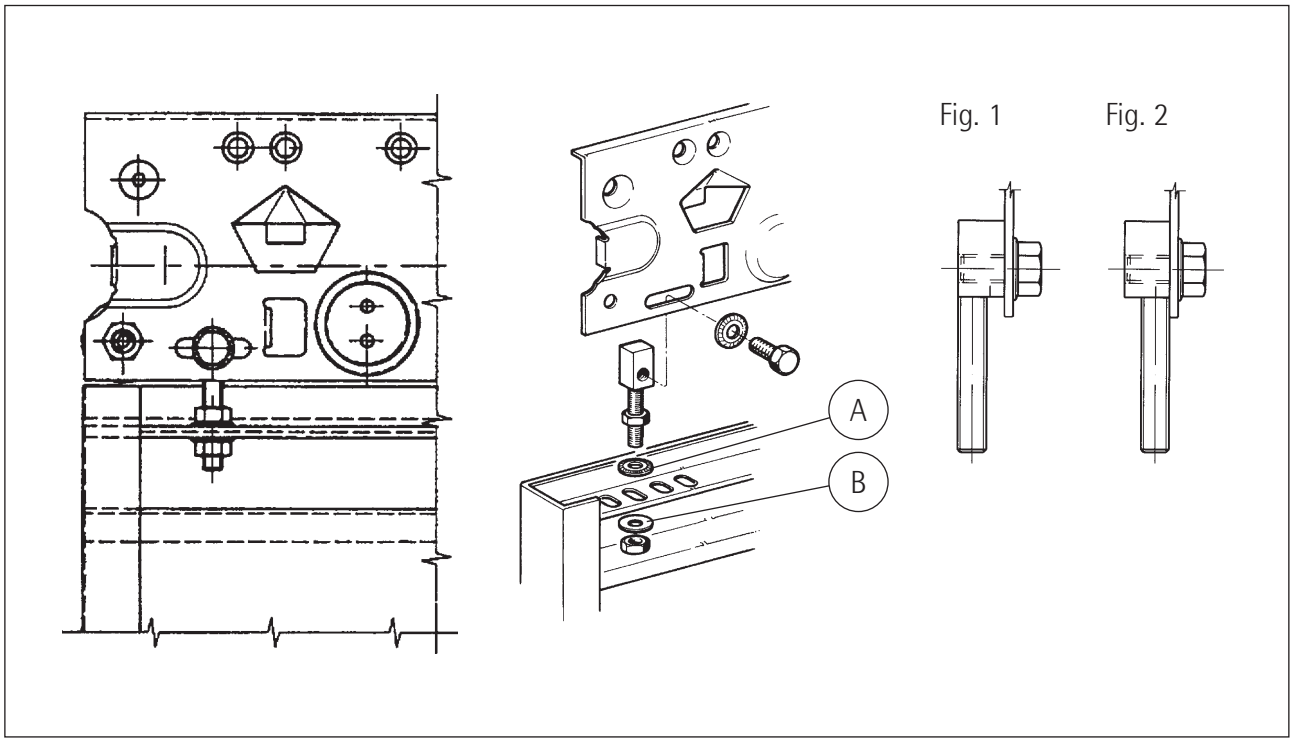
☞ 3 - ASSEMBLY OF PANEL FIXING BOLTS

Each panel must have at least two fixing points.

For the antirust panels mount the bolts according to figure 1.

For the panels having a covering of more than 1mm thick, mount the bolts according to figure 2.

The "A" type conical washers should be placed on the top part of the door fixing profile. The "B" type flat washer beneath.



4 - CLEARANCE RECOVERING OF THE PANEL ASSEMBLING BOLTS

When the panels are hung to the hanger tracks the fixing screws should be placed according to figure (1). For standard opening doors (up to 850 mm) the distance between the screws "B" is small compared to the clear opening height (at least 2 metres high). This means that the clearance "A" can be varied by means of adjusting panel hanger bolts, which permits up to 30 mm of adjustment. This can be avoided by installing panels as figure (2) during erection. The panel height adjustment must be made after having effected the clearance recovering.

Standard position for the fixing screws of panel hanger bolts at the time of assembling.

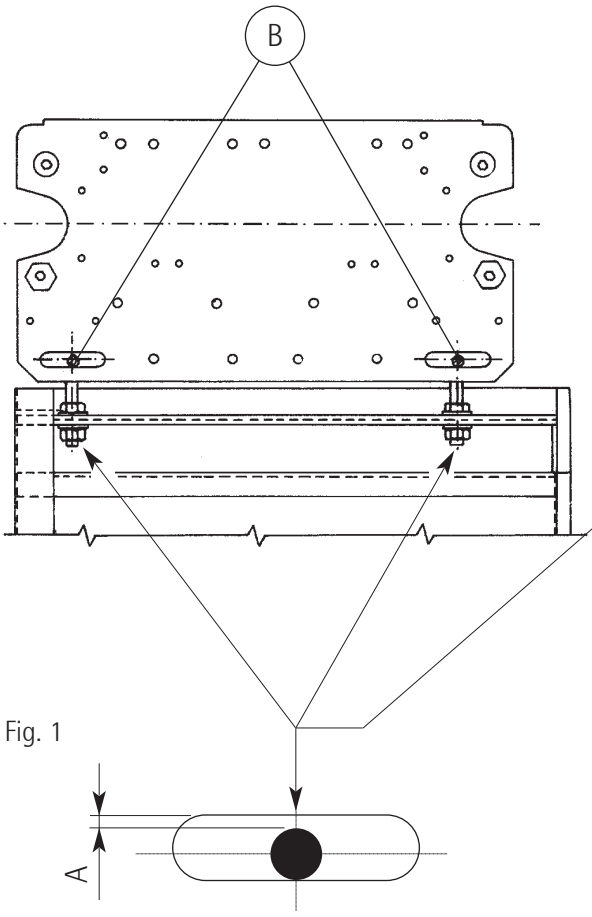


Fig. 1

Position to be assumed by the fixing screws of panel hanger bolts; in order to get it, please push the panel in the direction of the opening.

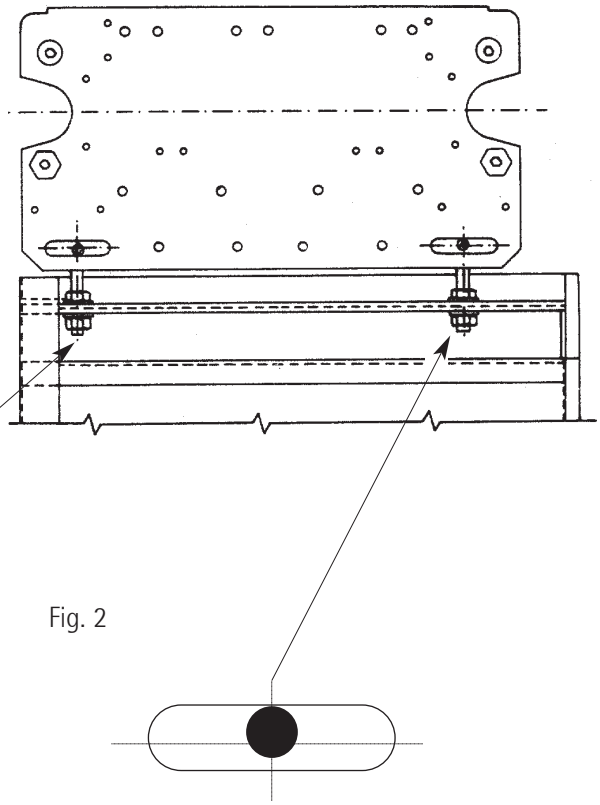


Fig. 2

5 - BOTTOM SLIDING SHOES ASSEMBLY, MAINTENANCE AND REPLACEMENT

The shoe on the retaining pin is mounted with slight pressure until the proper tongues fit inside the groove (Fig. 1).

For the disassembling it is sufficient to push it from the rear side and at the same time with a small screw-driver to, part the tongues (1) one after the other.

The shoe mounting and disassembling to the panel is very easy even with assembled panels: in fact it is enough to turn them 90 degrees, put them in a horizontal position (Fig. 2) and pull them towards the outside or push them into the sill's groove.

The pin's eccentricity and the presence of the slots allow considerable adjustment.

Fix bottom sliding shoes of the opening side as drawing Fig. 3, so that in case of breaking down of door panel the bottom shoe can't fall out from the sill channel.

Each door must have at least two sliding blocks.

☞ Check during maintenance that sliding guide shoes are present, securely fixed and have impermissible wear.

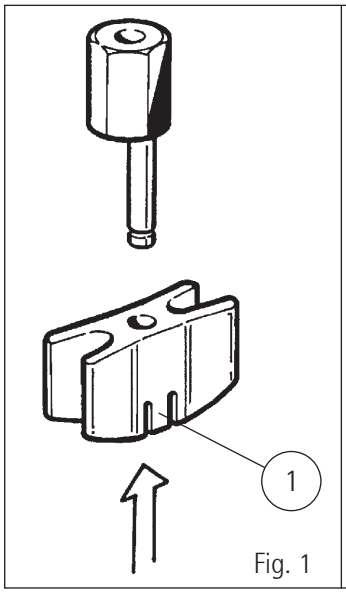


Fig. 1

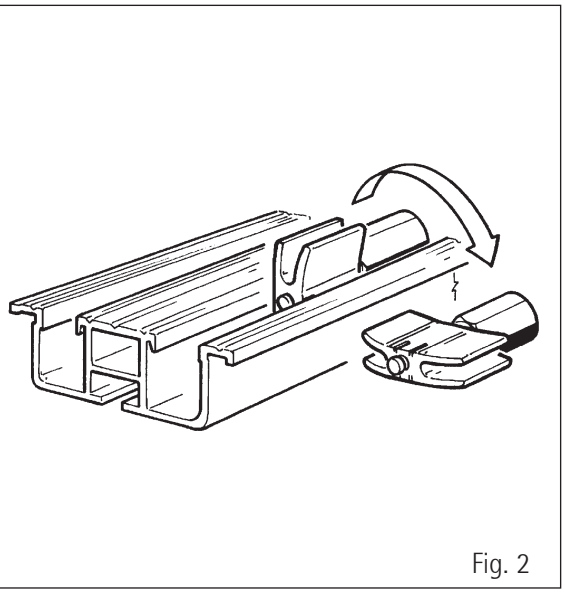


Fig. 2

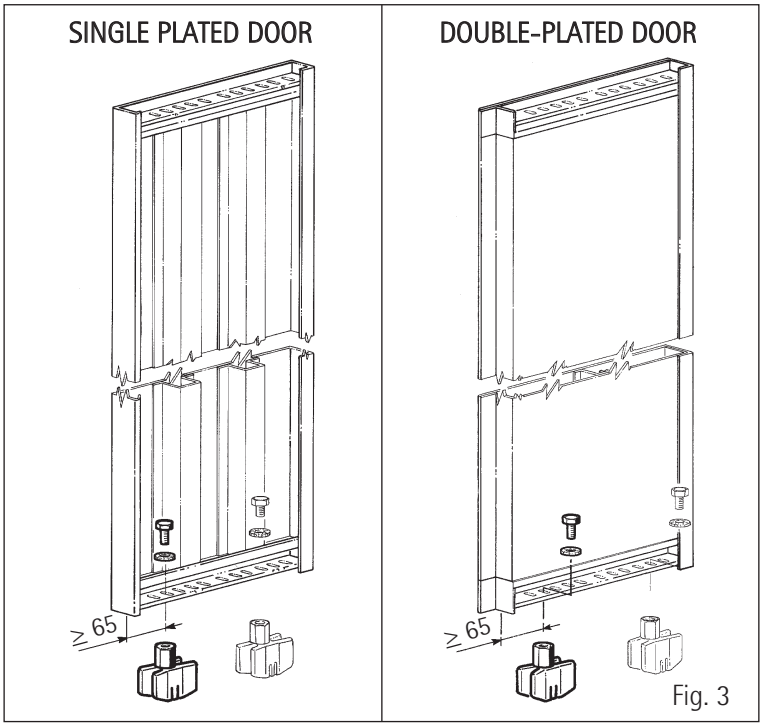


Fig. 3

6 - ASSEMBLY OF SILL AND TOE GUARD TO SUPPORT

Standard sill:

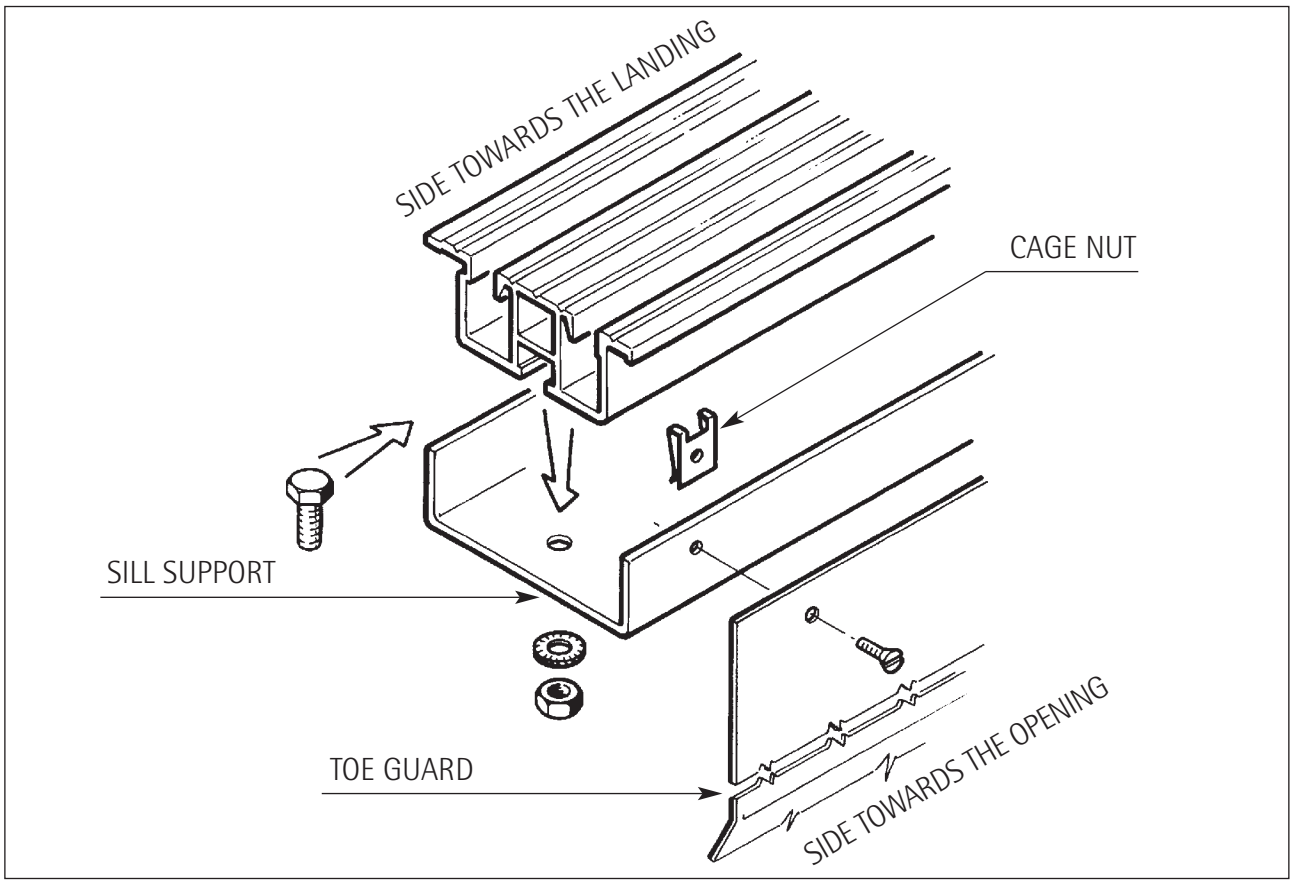
The toe guard fixing is executed as shown in the picture.

Reinforced aluminium sill:

The face is fixed directly through threaded holes without using the cage nut.

☞ In the event of screws being lost, use M5 x 8 type flat socket screws.

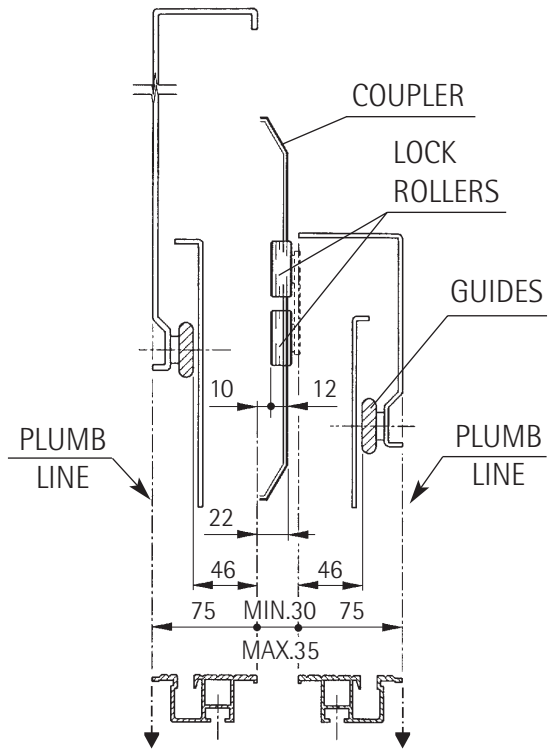
NOTE: longer screws can interfere with panel shoes.



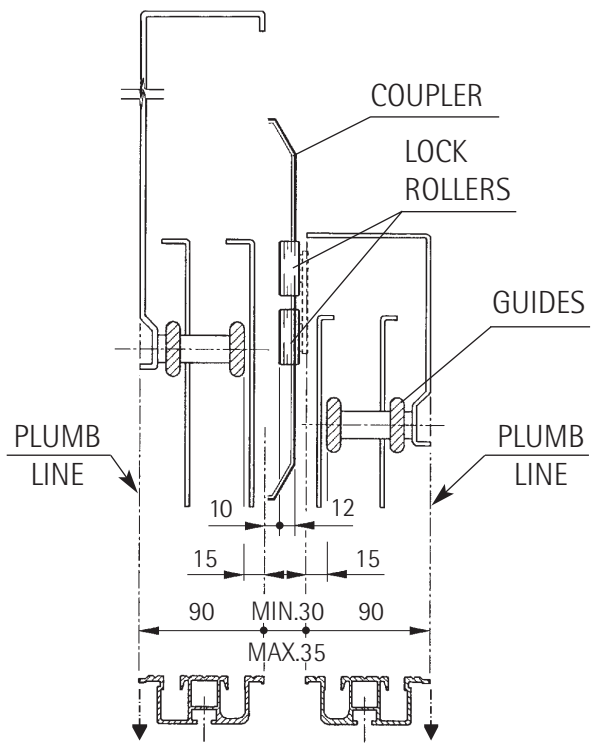
7 - PLACING THE MECHANISMS ON THE THRESHOLDS

Align to plumb with reference to the internal edge of the thresholds.

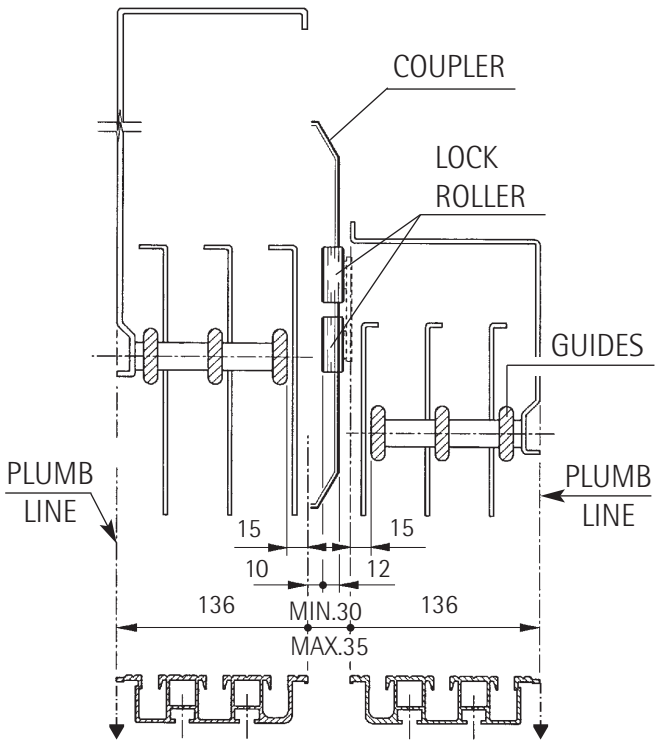
Ty. 01-02/C
Ty. 71-72/R-L



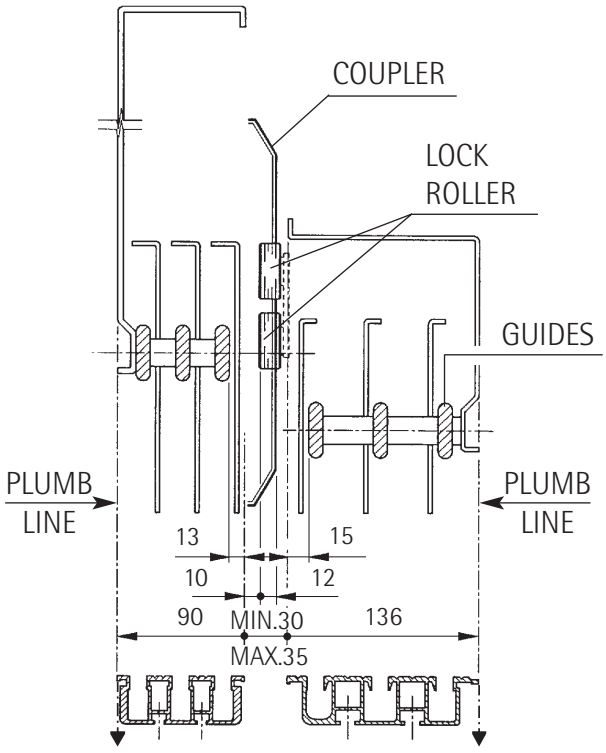
Ty. 11-12/R-L
Ty. 41-42/C 43-44/R



Ty. 31-32/R-L
Ty. 61-62/C 65-66/R

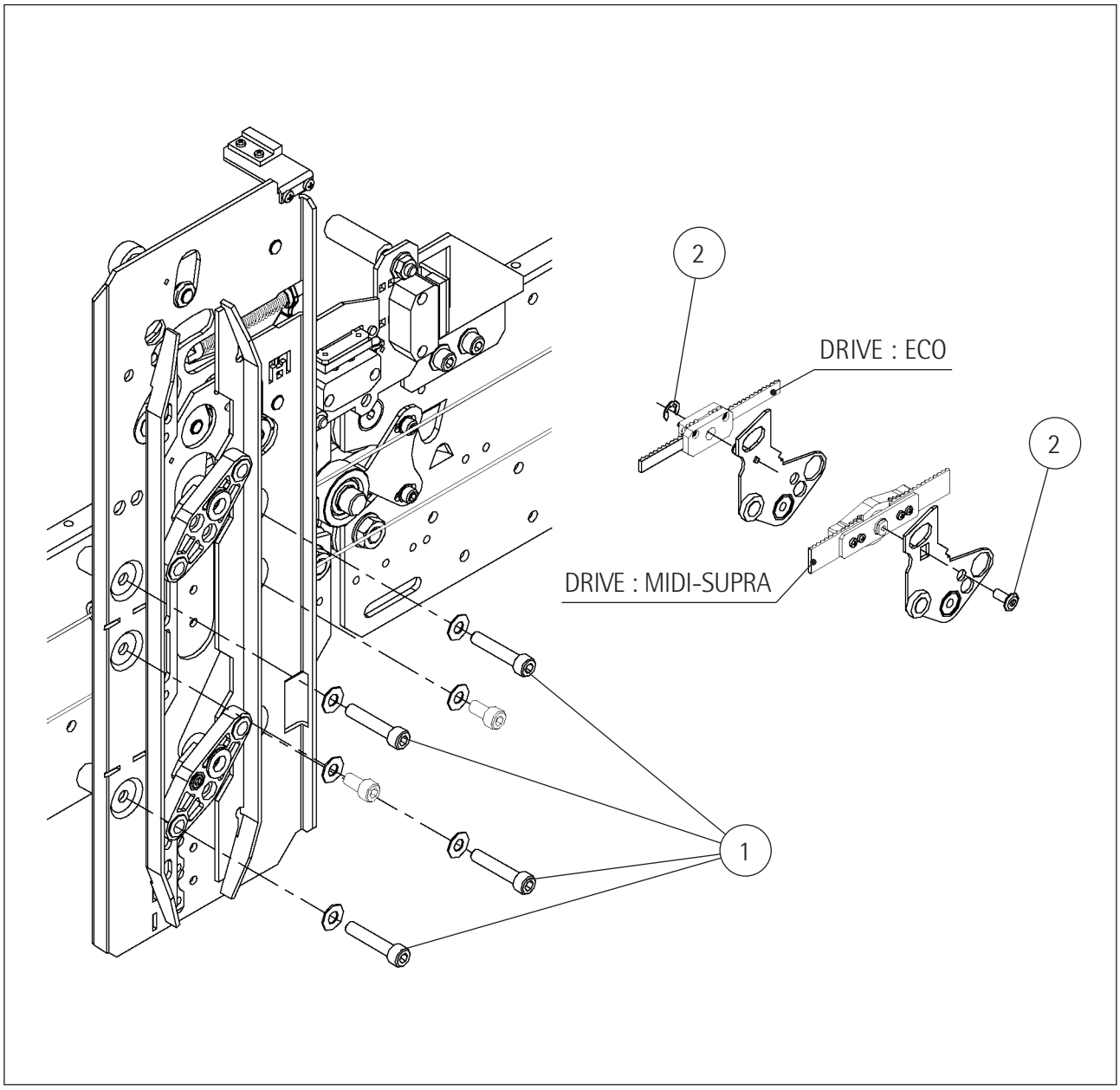


Ty. 31-35/R-L



8 - FIXING OF THE COUPLER

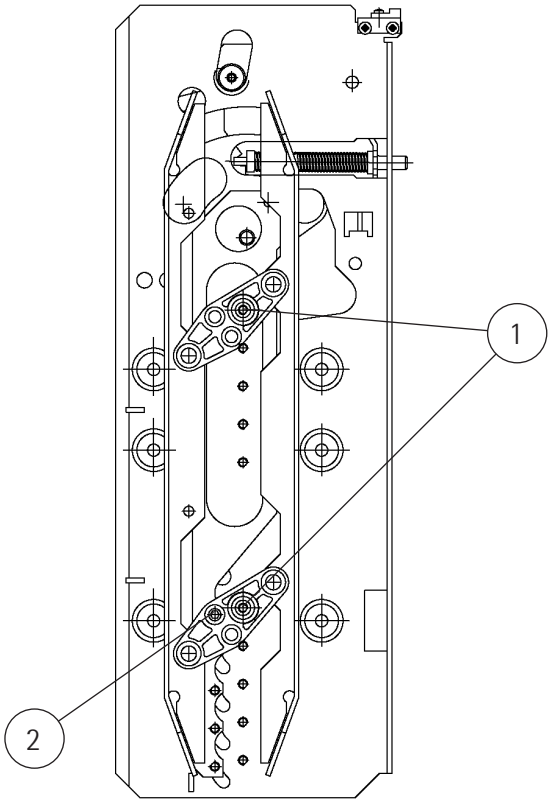
After the assembly of the door panels proceed by fixing the coupler using the 4 screws (1) and the relevant belt-fixing systems (2).



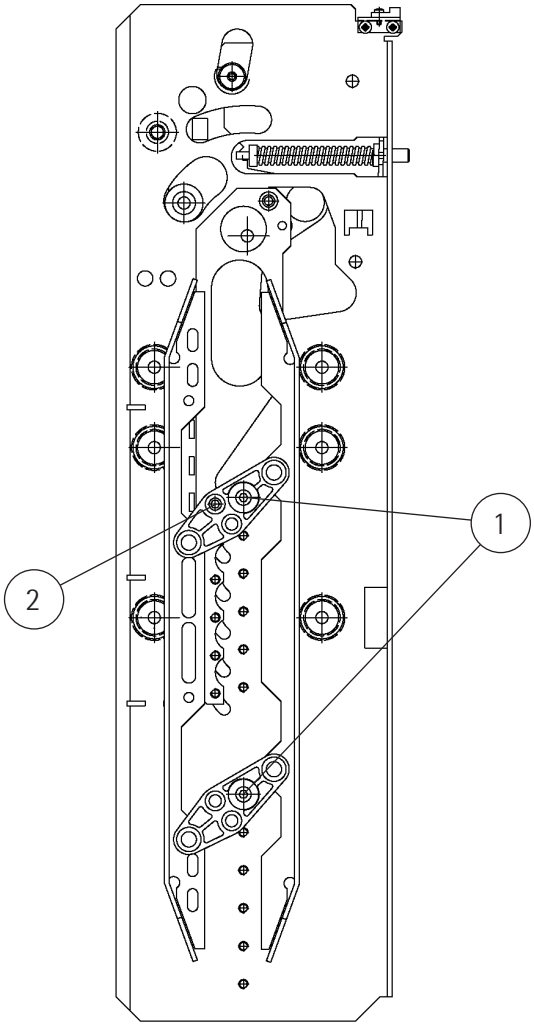
9 - ADJUSTMENT OF COUPLER HEIGHT

Adjust the offset of the coupler's vanes by unloosing the screws (1) and the screw (2), by placing the vanes in the required position and re-tightening the screws (1) and screw (2). Further shifting-offsets every 25 mm are possible.

Coupler with shifting-offset from 0 up to 125 mm



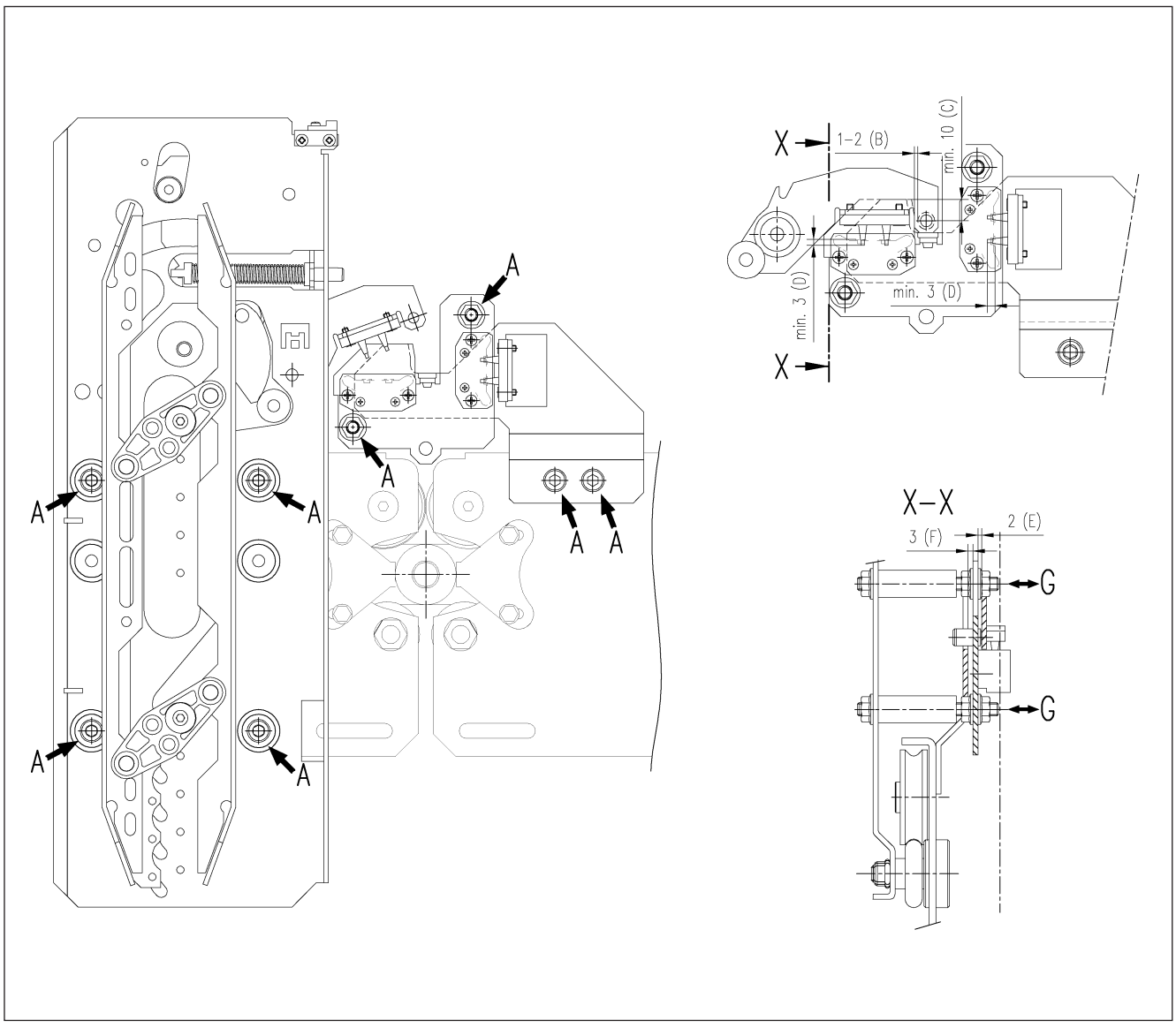
Coupler with shifting-offset from 150 up to 250 mm



10 - CAR DOOR LOCK (OPTIONAL)

10.1 - Must be checked during installation and maintenance

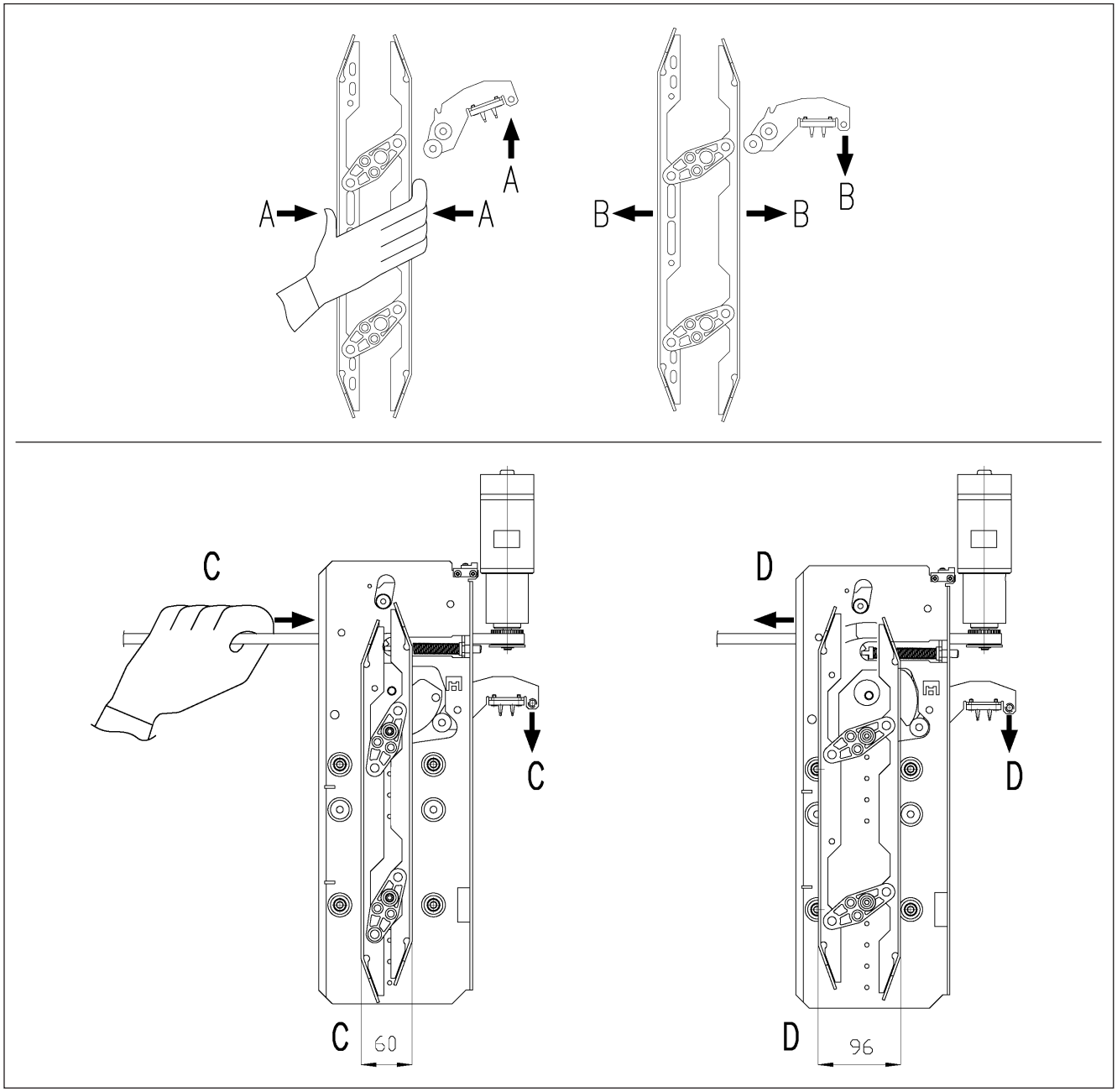
- **Maintenance has to be done at least one time per year**
- The car door lock must lock the door if the car is out of unlocking zone. Lock hook must touch buffer
- All parts of lock coupler, lock notch and additional lock notch (only centre opening) must be securely fixed (A)
- Safety circuit must be interrupted if the door opens
- Lock hook and beak overlap when lock is fully closed must be min. 10 mm (C)
- Gap between lock hook and notch should be 1-2 mm (B)
- Contacts should be clean and have minimal wear (metal visible)
- Lock hook and beak overlap when contact operates must be min. 7 mm
- The contact bridge should push the contact surface down min. 3 mm (D)
- Electrical terminations should be tight and secure
- Contact bridge should be aligned to the middle of contact holes, not touching the hole edges
- The distance between the lock hook and the lock notch should be 2 mm (E). The distance between Lock notch and additional lock notch should be 3 mm (F). If necessary adjust the lock notch accordingly (G).



10.2 - Ensure proper function of car door lock

- Check that lock hook is moving freely when pressing the lock vanes (A, B)
- Check that all bearing points of the car door lock are running smoothly with following method:
  - Turn the power of the operator OFF!
  - Move the door by hand on the belt to the completely close position - coupler must be fully retracted (C)
  - Release the belt, and check that the coupler is running itself (by spring force) to the completely extracted position. The lock hook must remain during this operation in the fully locked position (D)
- If the above mentioned test criteria are no longer fulfilled, the car door lock must be replaced

- To ensure a reliable function, the car door lock must be also replaced latest after
  - 1 Million cycles or 5 years in combination with the ECO drive
  - 3 Million cycles or 5 years in combination with the MIDI/SUPRA drive

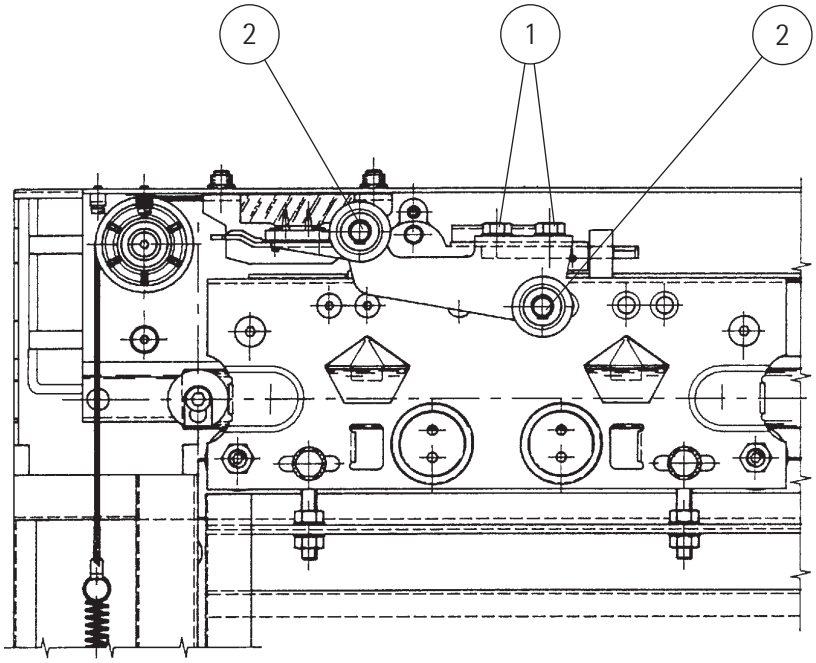


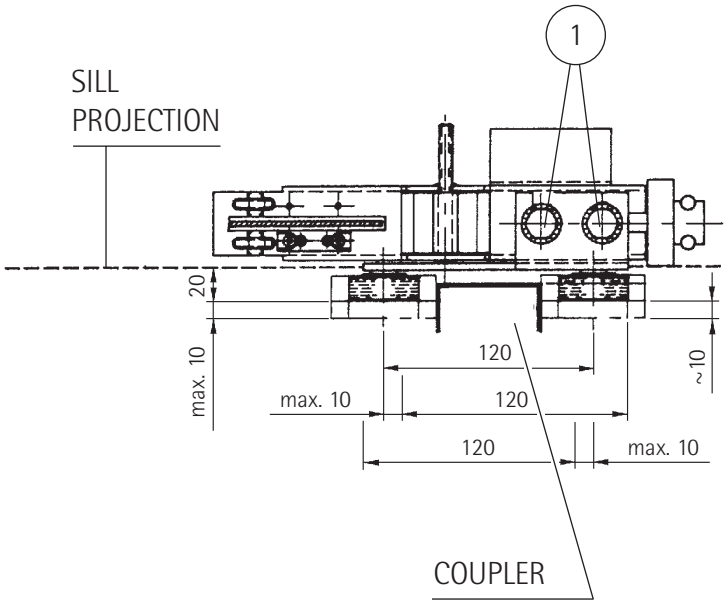
11 - ADJUSTMENT THE LOCK ROLLERS

Using a CH-17 spanner, loosen screws (1) and set the alignment of the lock wheels (2), starting from the lowest level, as the car is operated upwards.

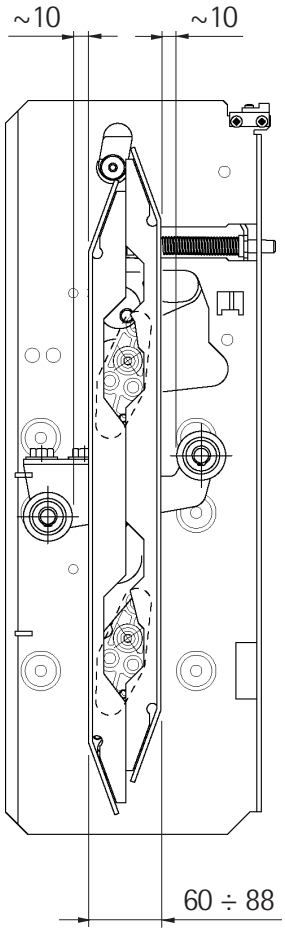
Move the wheel assembly unit and position it as shown on page 16.

Make sure that between the lock rollers and the car sill there is sufficient clearance to provide runby.





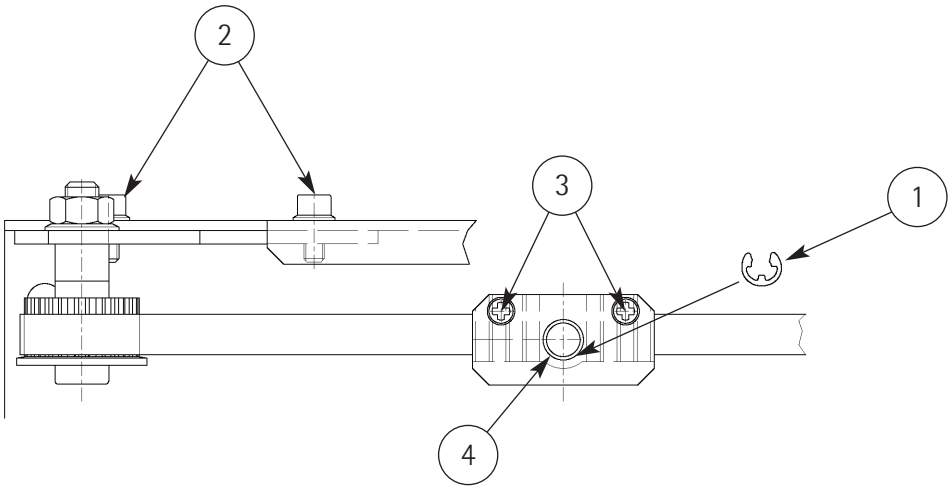
12 - POSITION OF THE COUPLER BETWEEN THE LANDING LOCK ROLLERS



13 - REPLACEMENT OF BELTS

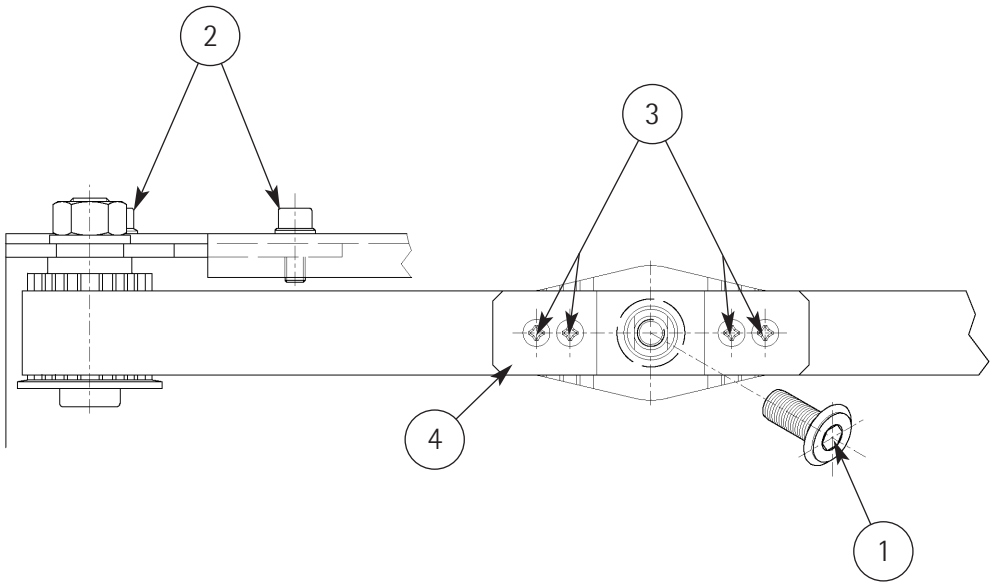
ECO

Remove the safety washer (1).
Loosen the screws (2) without removing them completely in order to loosen the belt.
Loosen the 2 screws (3) from the belt clamp (4) to loose the belt completely.



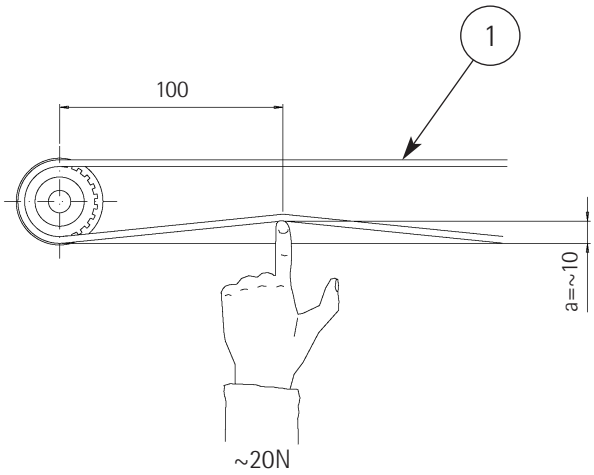
MIDI/SUPRA

Loosen screw (1) to unfasten the belt-clamp at the cam.
Loosen the screws (2) without removing them completely in order to loosen the belt.
Loosen the 4 screws (3). Remove cover plate (4) to completely take out belt.

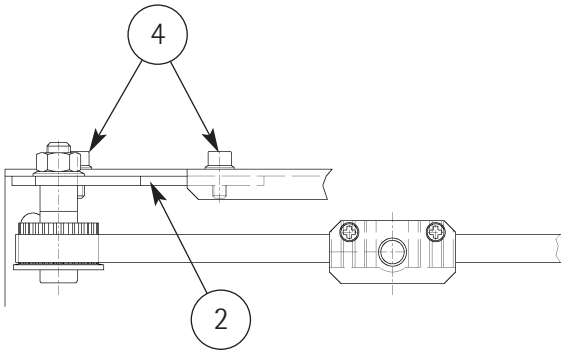


14 - ADJUSTMENT OF TOOTHED BELT TENSION

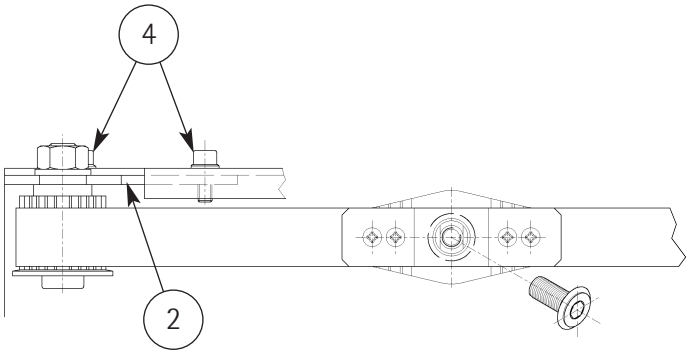
To adjust the toothed belt (1) tension, it is necessary to span the support (2) by using a screwdriver (3). Make sure that size "a" is around circa 10 mm, then fix the position by tightening the screws (4).

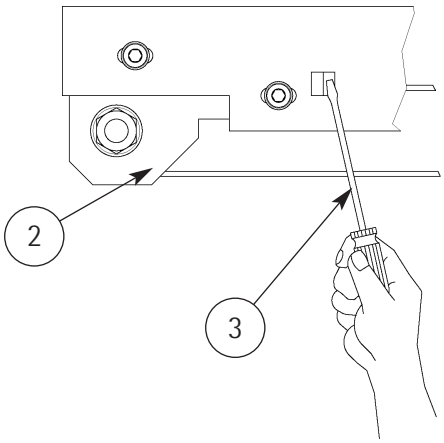


ECO



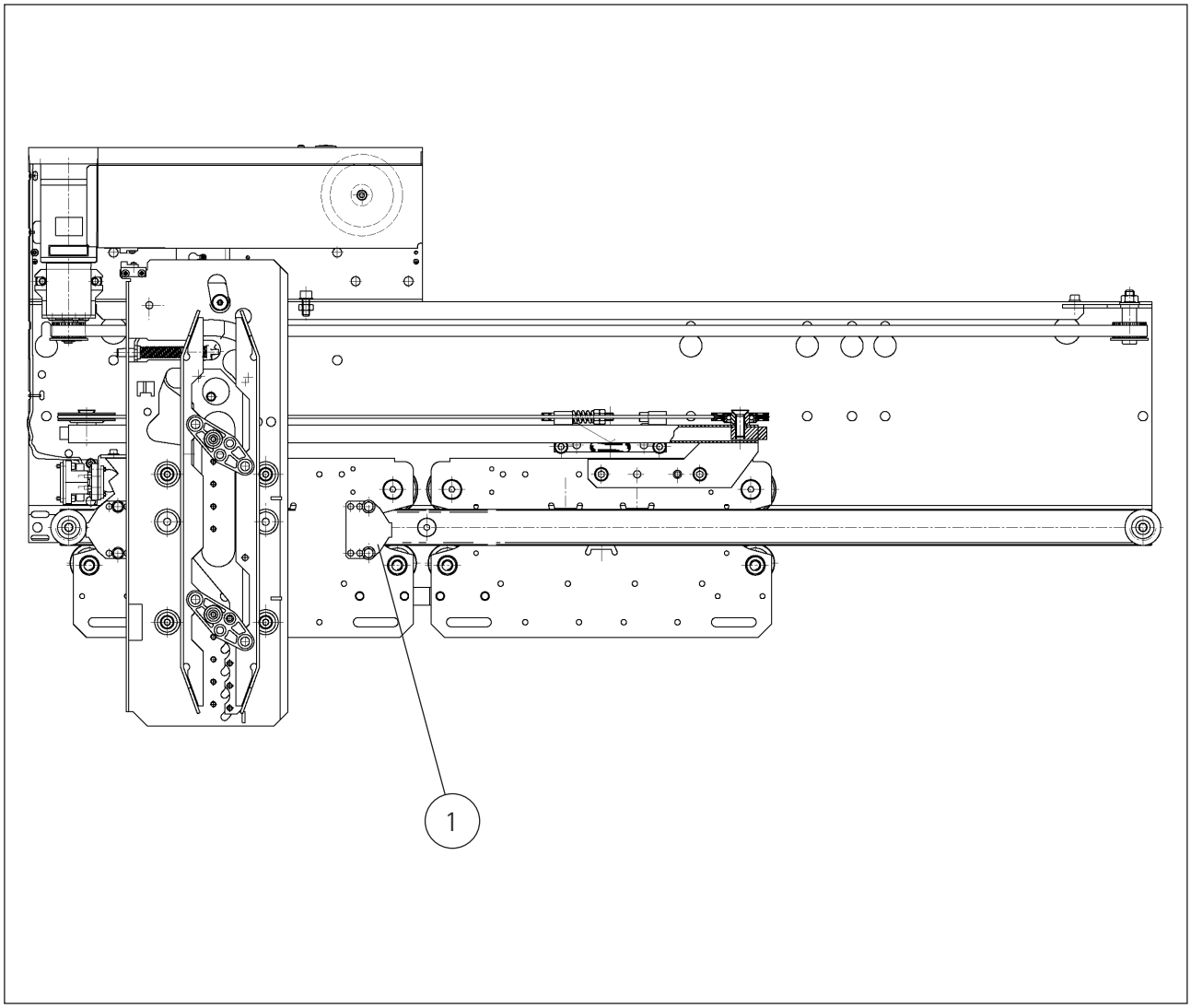
MIDI/SUPRA





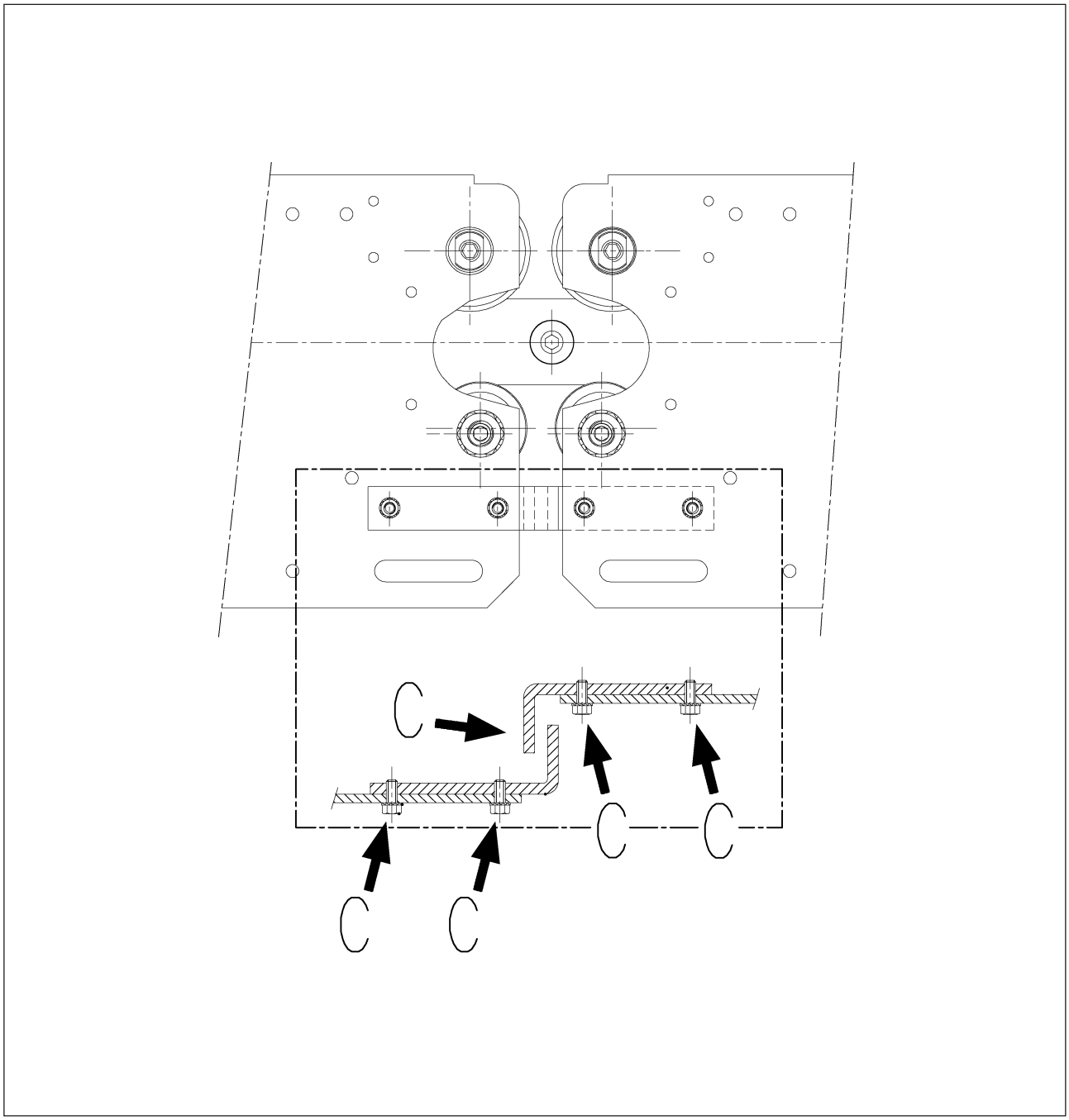
15 - ADJUSTING THE CLEAR OPENING

Adjustment of the clear opening is obtained by means of an adjustable retainer (1) placed on high speed truck, opening side.



16 - SLOW HANGER SYNCHRONISATION

Check during maintenance that the emergency driving hook is present and securely fixed.



17 - SLIDING ROLLERS

The design of the top rollers race is different from the guide's so that they do not sit at the race centre (see Fig. 1).

These rollers should be replaced because worn out when a contact marking with the guide at the race bottom is noticed (see Fig. 2).

Other factors that indicate the need for roller replacement are:

- Excessive noise of the bearing (caused by the penetration of dirt between the balls).
- Excessive noise due to eccentric deformation (normally this occurs when the doors stand still for long periods of time).

☞ Without any of the above listed problems we suggest to change the upper and lower rollers every 7 years.

Fig. 1

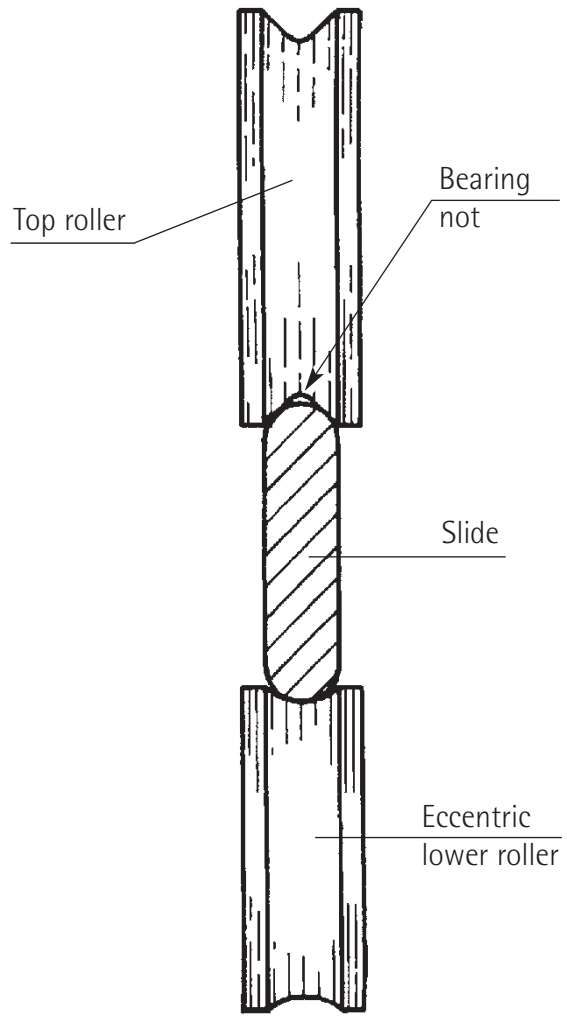
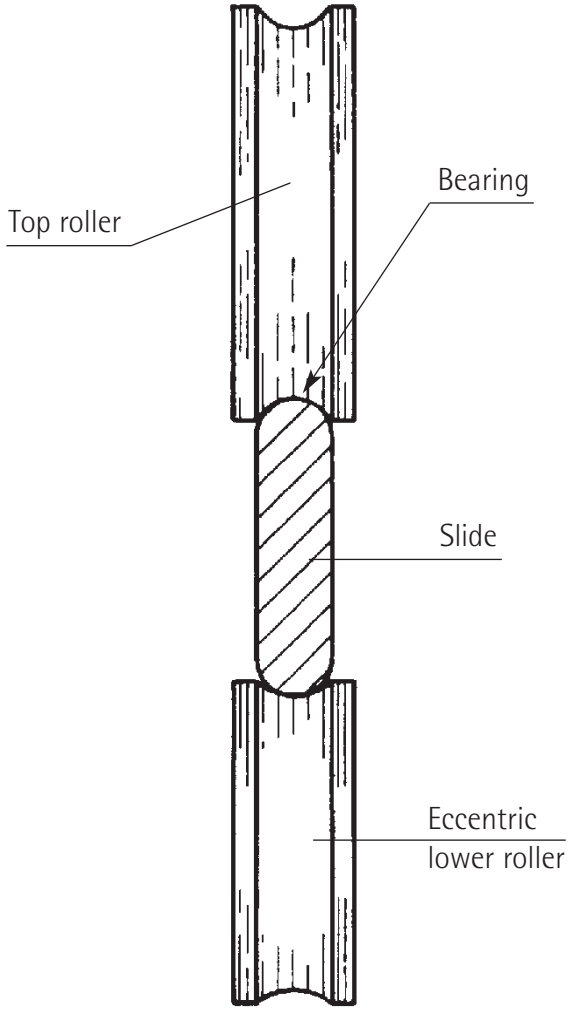


Fig. 2

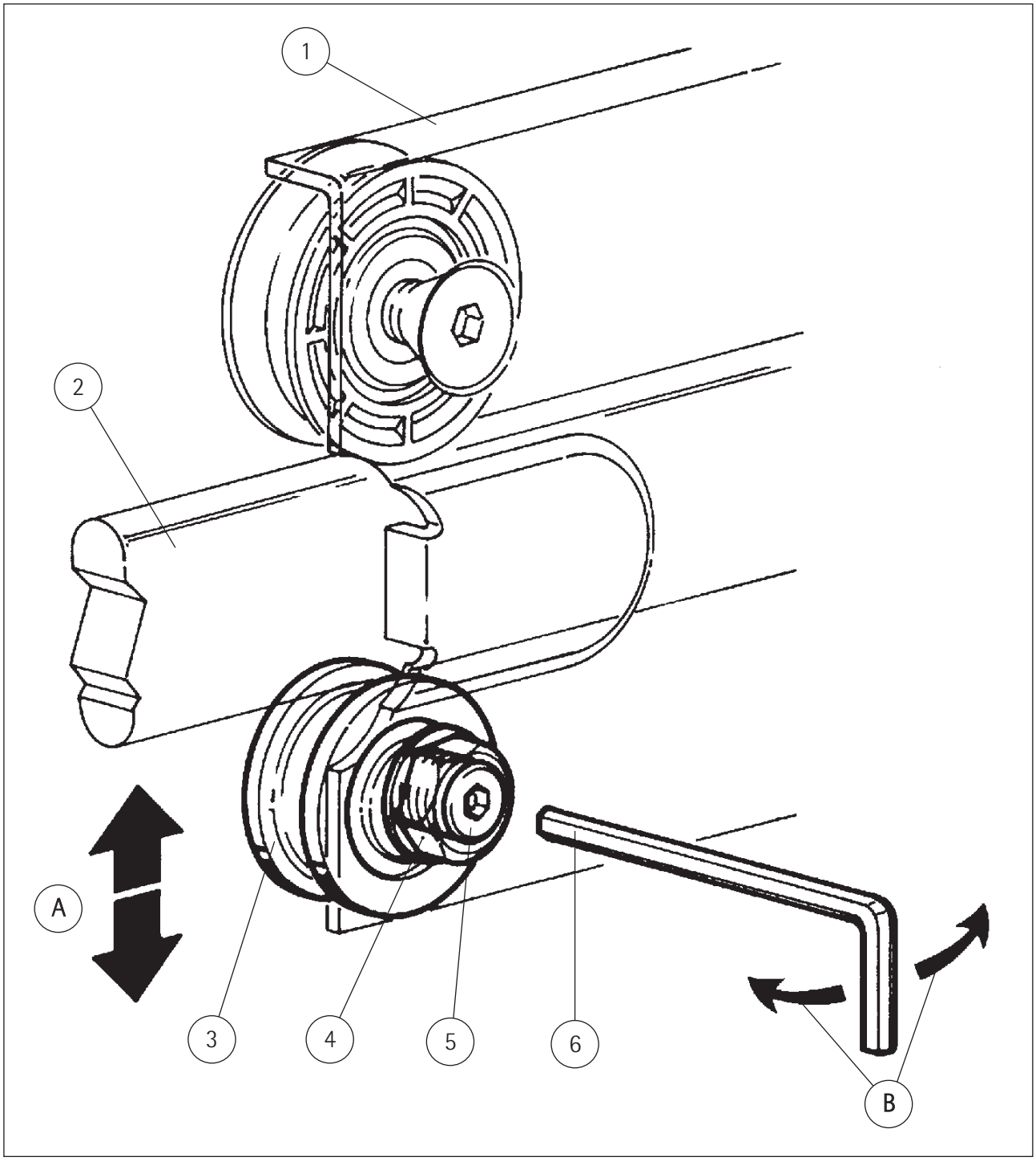


18 - SLIDING ROLLERS ADJUSTMENT

To get rid of the play between the hanger (1) and the sliding guide (2), adjust the excentric bolt on the bottom roller (3).

Unscrew the bolt (4) with a 19 mm spanner and turn the excentric bolt (5) clockwise or anticlockwise, as indicated by the arrows (B) with a 6 mm allen-key (6) so as to get rid of the play between the guide and roller but leaving enough play to allow the roller to rotate freely.

After this adjustment, rescrew the roller stopping bolt (4).



WARNINGS ON HOW TO KEEP THE DOORS IN GOOD OPERATING CONDITIONS

⚠ In order to prevent failures or incorrect operation and to maintain the system in good conditions, the technical efficiency of the system should periodically be checked, to ensure compliance with the applicable laws.

The technical efficiency depends on various factors such as:

- Work load
- Years of operation
- Door weight
- Climatic and environmental conditions
- Cleanness of environment
- Correct maintenance
- Etc.

And it can affect:

- Clearance/interference between the doors, and between the doors and posts according to the applicable laws
- Clearance of coupling device
- Status/conditions of fixing and coupling elements
- Conditions of parts affected by wear
- Efficiency of the lock and relevant contacts
- Any other parts that may be affected by the type of application.

For these reasons it is not possible to establish a general part replacement programme beforehand.

⚠ All screws used for the assembly of our product are screwed by means of a tightening torque as shown on following table :

Screw	Max torque (Nm)	Min torque (Nm)
M3	1,1	0,9
M4	2,6	2,1
M5	5,1	4,1
M6	9	7
M8	21	17
M10	42	34
M12	71,4	57,1

In case of need please refer to above table.

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