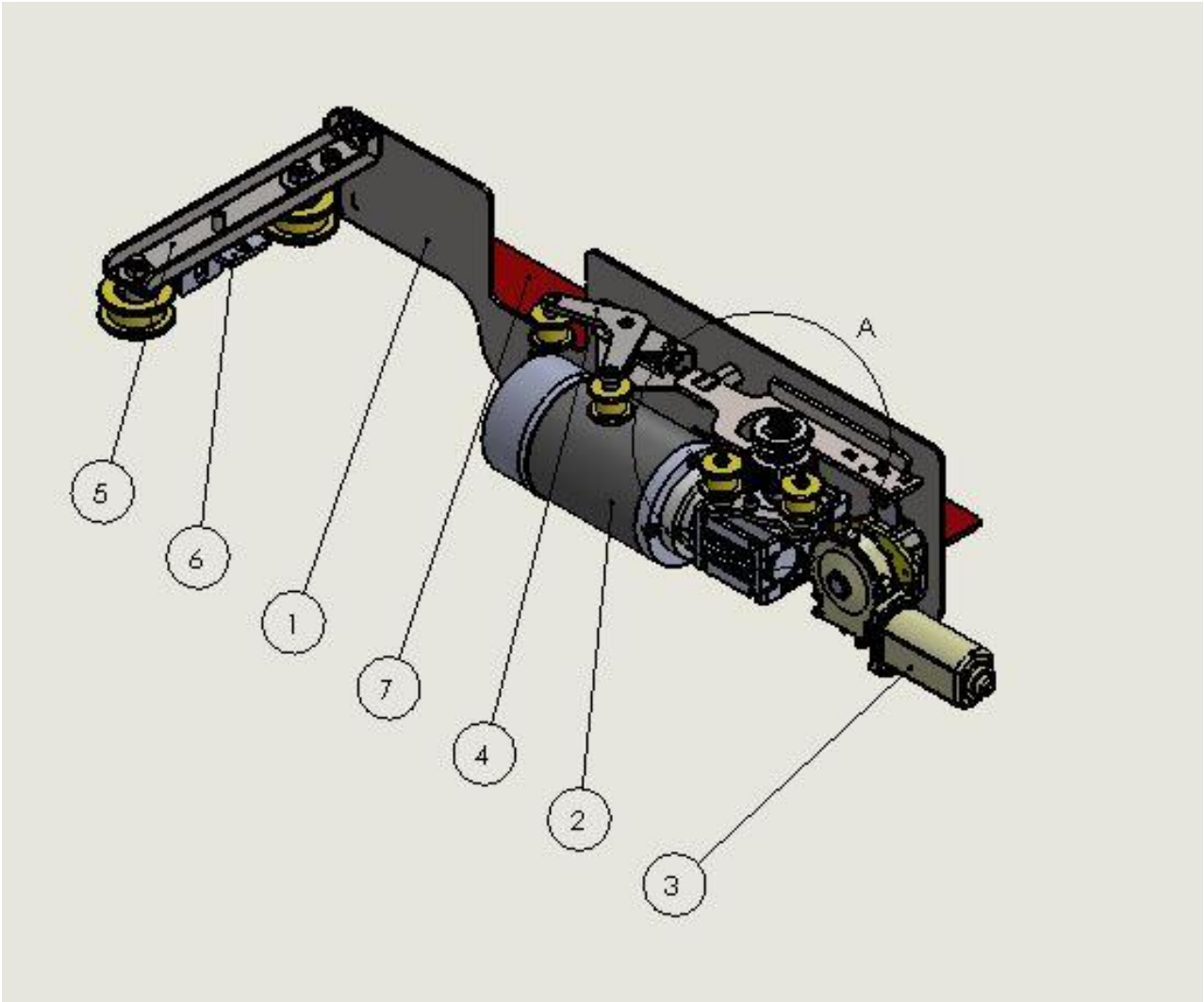


# FORD CUSTOM MODAL

## CONTENTS

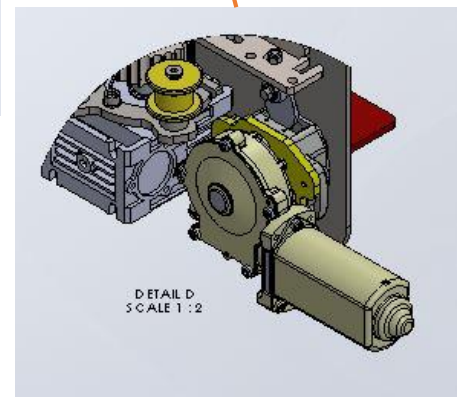
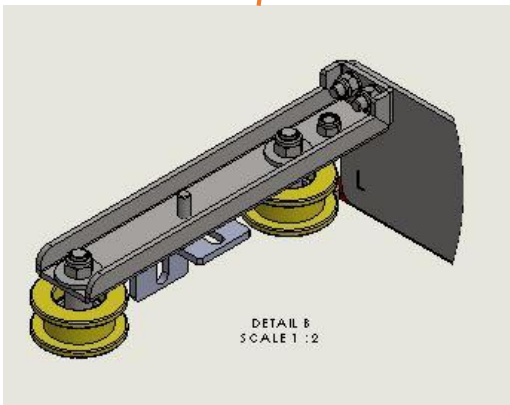
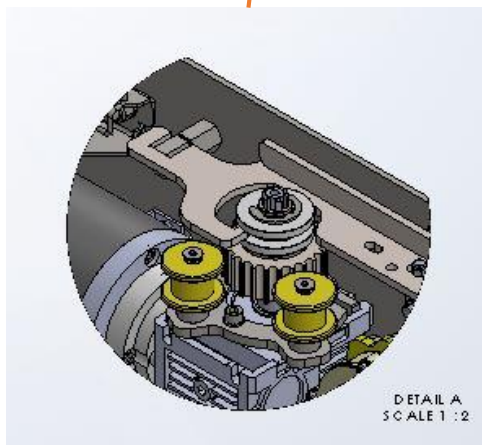
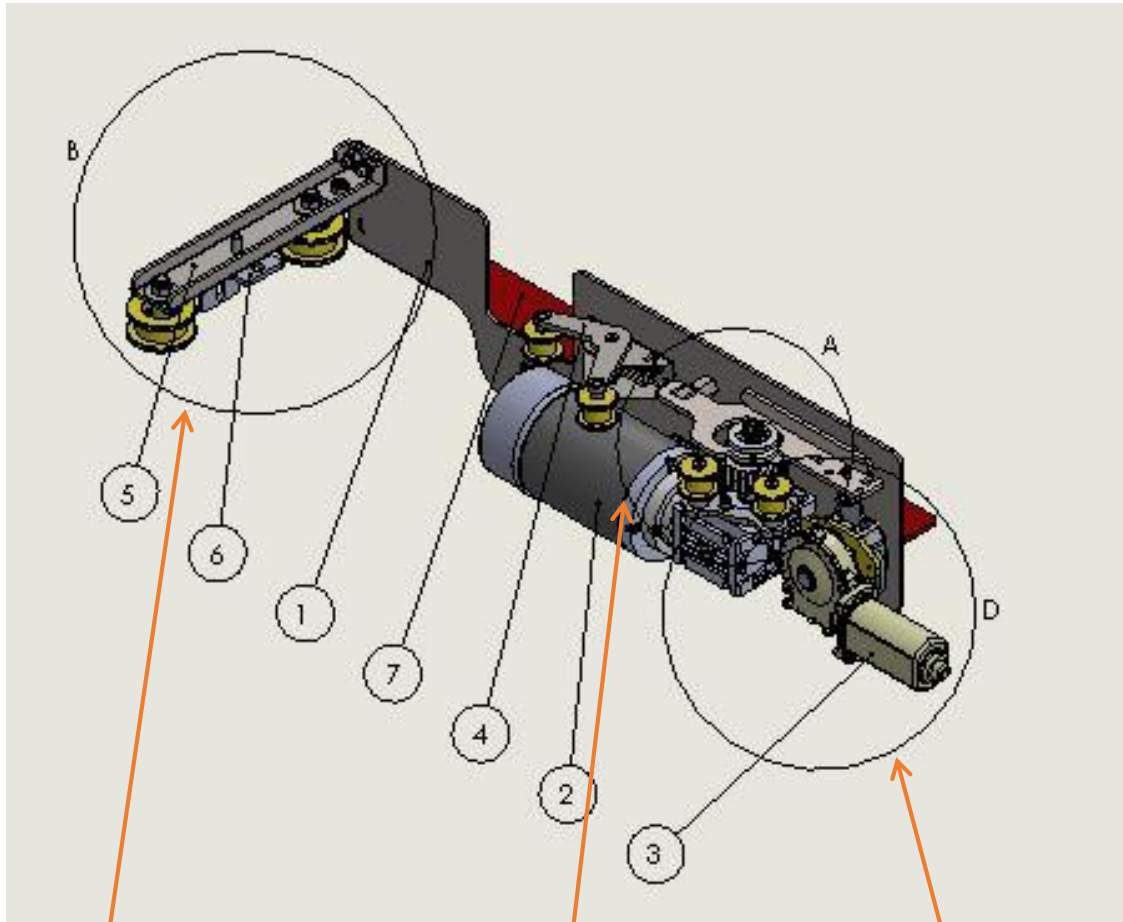
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## MAIN PARTS OF DOOR SYSTEM



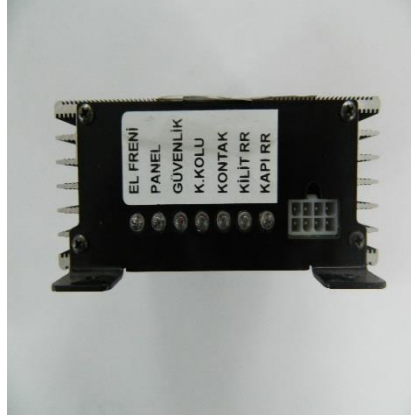
ITEM NO	DESCRIPTION OF PIECE
1	DOOR SYSTEM CHASSIS
2	MOTOR GROUP
3	GRASP GROUP
4	BELT STRETCHING GROUP
5	LONG STAYS GROUP
6	STAYS STRAP PIECE
7	CHASSIS STAYS GROUP

## MAIN PARTS OF DOOR SYSTEM



## MAIN PARTS OF DOOR SYSTEM

### Control Unit ve RF Module



**Electrical Wiring :** It provide to movement and signal control of automatic door.

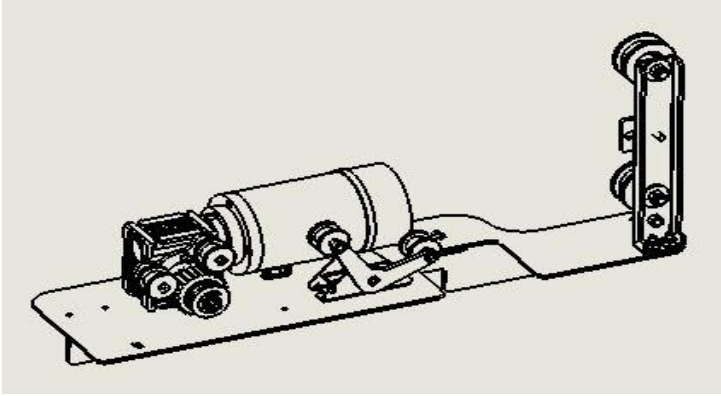


**In-door electrical wiring:** It provides to spent less power of automatic door for bring from the open position to the closed position



**Unbolting System:** It is the mechanism that automatically opens the door without changing the original lock mechanism of the vehicle door.

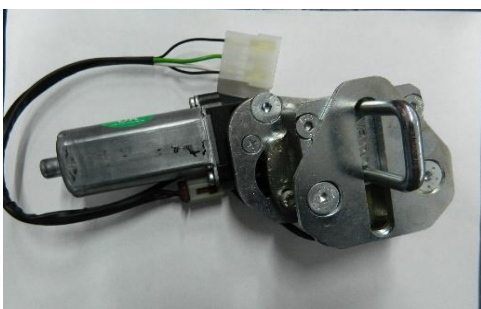
## MAIN COMPONENTS OF DOOR SYSTEM



**Door Drive Mechanism:** It is the part containing the system units and placed under the automatic door on the vehicle chassis.



**Motor Group**



**Lock Puller System:** The automatic door ensures that less force is exerted to bring it from the open position to the closed position.



**Cable Sheaves:** Cable sheaves absorb the belt looseness that occurs during sudden changes in direction of the automatic door.

**Movement Sheaves:** Allows you to complete the motion in a frictionless manner by determining the direction of motion.



## MAIN PARTS OF DOOR SYSTEM



**Encoder:** It allows automatic position information of the door to be transferred to the control unit and distance adjustment can be made.

## SECURITY SYSTEMS OF VELDO AUTOMATIC DOOR



**Security Wired:** The automatic door allows the door to open automatically in case of any obstruction or jamming.

**Overcurrent control:** It is a security system that is switched on when the security fuse is disabled.

**User controlled security system:** When the door is automatically closed, the door automatically opens when the user commands from the front panel button or the door opening lever.

## SECURITY SYSTEMS OF VELDO AUTOMATIC DOOR

**Audible and light warning system:** If the automatic door opens when the vehicle is moving or standing, if the door is opened from the inside opening arm; the user is audibly alerted.

In the form of an audible warning in short tones during closing, there is an intermittent audible warning in long tones during opening. When the door is opened and closed, the control unit sounds an audible warning. The user is warned by the light in the front panel button when the door is open.

**Speed-controlled safety system:** When the vehicle is moving when the vehicle speed is above a certain limit (5 km / h) and the door is not open and the door is open; it automatically closes when a certain speed limit (5km / h) is exceeded. Also, if the sliding door is attempted to open manually from the inside when the vehicle is moving, the system prevents the door from opening.

**In case of accident or emergency:** In case of emergency, the vehicle door can be opened manually from the inside and outside from the original door opening levers manually

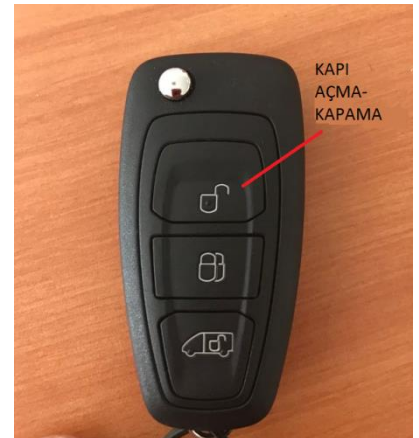
## WORKING WAYS OF VELDO AUTOMATIC DOOR SYSTEM



**1 -** With the on / off button mounted on the front chest of the vehicle



**2 -** With the original door handle of the vehicle.



**2 -** With the original vehicle of the vehicle.

## ASSEMBLING OF AUTOMATIC DOOR



Driver and passenger seats are first removed and removed from the car in order to mount Veldo automatic sliding doors.



Remove the right front door platen plastic.



The seats are like disassembled.



The steps have been removed, it looks like.



## ASSEMBLING OF AUTOMATIC DOOR



B is removed after the inner handle on the mast and the hanging pin are dismantled.



The B-beam is like dismantled.



The sliding door step plastic is dismantled.



The step plaque is like disassembled.

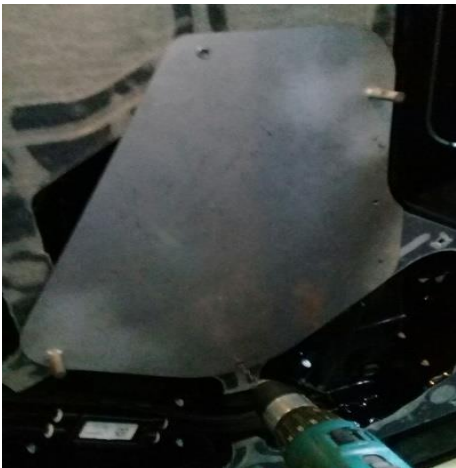
## ASSEMBLING OF AUTOMATIC DOOR



Remove the carton of the sliding door.



The cardboard is dismantled.



The unlocking mechanism template is attached as shown.

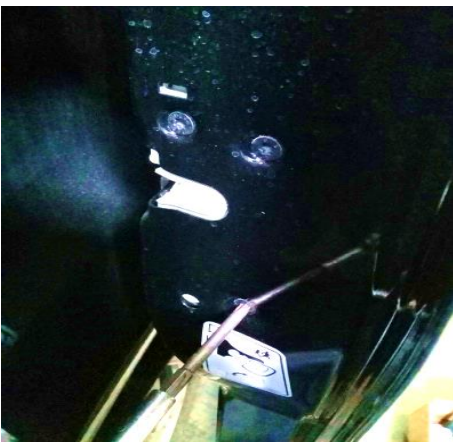


Insulation in the door is cut like this.

## ASSEMBLING OF AUTOMATIC DOOR



The holes are drilled with the help of the unlocking mechanism template. (6mm)



Sliding door lock is removed.



Lower foot lockout is removed.



Lower leg lockout shape.

## ASSEMBLING OF AUTOMATIC DOOR



Remove the rubber (plug) on the locktail. The wire is getting into the door. Replaces tire.



The original unlocking tab is removed from the place.



Velto unlocking is fitted like a connect.



The lower foot lock is attached to the door handle switch.



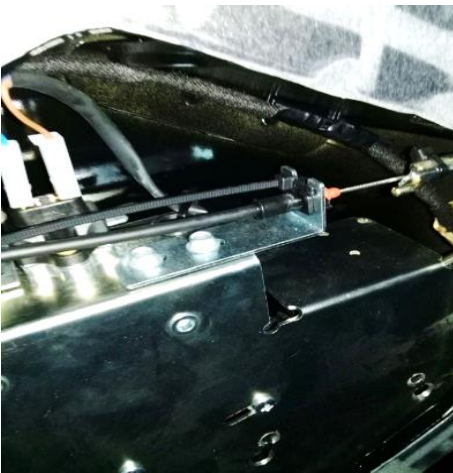
## ASSEMBLING OF AUTOMATIC DOOR



Connect like this.



The original is connected and unlocked.



The original lock connected and unlocked as shown in picture.



Door handle switch, wire adjustment is done.



## ASSEMBLING OF AUTOMATIC DOOR



The unlocking wire is adjusted.



The unlocking mechanism is attached to the top plate.

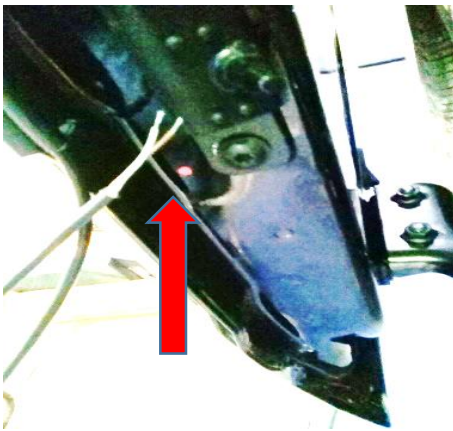


The unlocking mechanism is as shown in the picture.

## ASSEMBLING OF AUTOMATIC DOOR

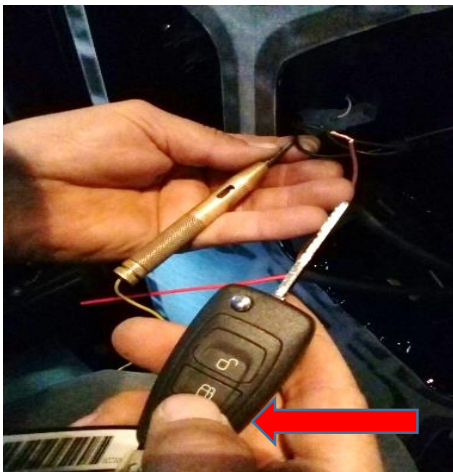


The safety wick is fitted according to the door form.

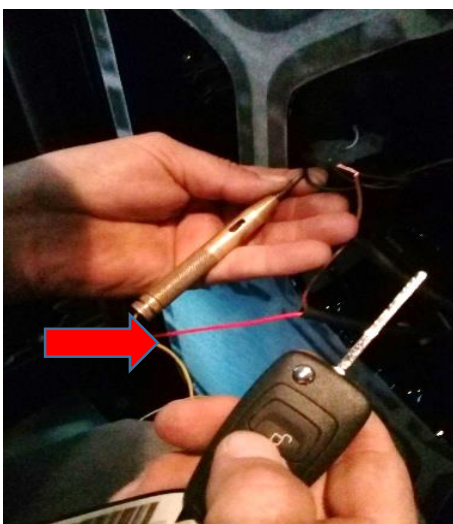


The security cord is penetrated through the marked location of the cable passage hole.

The security cord is connected to the interior color of the door.



The unlocking cable with the central locking door signal is connected to the brown cable as bridge



The cable with the central unlock signal is left blank.

## ASSEMBLING OF AUTOMATIC DOOR



The non-signal cable is cut and the red cable is connected to the switch side.



The connection looks like the picture.

Also check the wiring diagram when connecting. First, make an in-door connection.



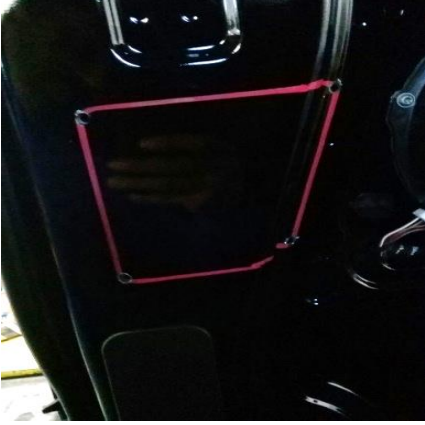
The template for the latching mechanism is fitted as follows.



It is drawn like this.



## ASSEMBLING OF AUTOMATIC DOOR



Cut with an air saw, drill through its corners.



It is then cut from the scored places.



entering is done according to the original balance for the locking mechanism.



Karşılık sacı ile şekildeki gibi işaretlenir.

## ASSEMBLING OF AUTOMATIC DOOR



Marking is like in shape.



Drill from the corners with a 10 mm drill.



Cutting is done as follows.



The lock catch mechanism is as shown in the picture. (outside)



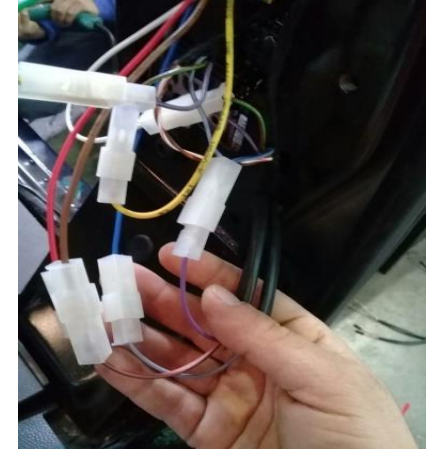
## ASSEMBLING OF AUTOMATIC DOOR



The lock catch mechanism is as shown in the picture. (from inside)



Lock puller mechanism cable passage is as shown in the picture.



The front pole switch control module is connected according to the connection diagram.



The car battery negative (-) and (+) ends are removed and the battery is removed.

## ASSEMBLING OF AUTOMATIC DOOR



The lower motor cable hole is drilled like this.



Expanded with  $\varnothing 38\text{mm}$  punch.



The main system is drilled to pass through the installation. (only mop)



The main system is installed as shown in the picture.

## ASSEMBLING OF AUTOMATIC DOOR



The main system is drilled to pass through the installation. (only mop)



The installation (-) tie-brown cable is connected to the (-) pole of the battery.



The installation (+) lead red wire is connected to the positive (+) pole of the battery.



The panel button hole is drilled in the front part of the left cup holder as it is. (Ø16mm)

## ASSEMBLING OF AUTOMATIC DOOR

In the main system installation, the door on / off button cable is brought from the back of the center console to the panel socket and the plugs are attached to the button. It is then installed in place of the panel.

- = white,
- + = red,
- COM = white-blue
- ON = black



Panel Button



It looks like the panel button is mounted.



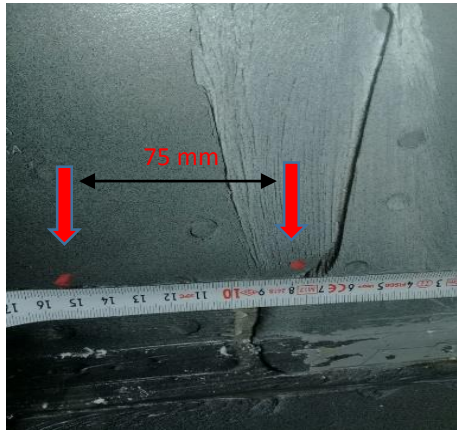
The lower guide is removed from the footwell.



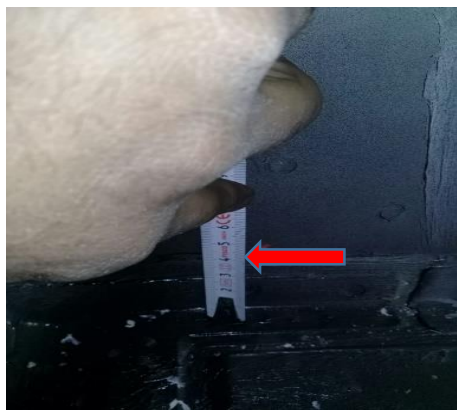
The front orientation foot is marked with the template.



## ASSEMBLING OF AUTOMATIC DOOR



Marking is as shown in the Picture.



Height measurement (45 mm)



Drilled with Ø 60 mm punch.



The holes are shaped like this.



## ASSEMBLING OF AUTOMATIC DOOR



The hole on the outer side is cut like this so that the wedge is screwed.



The foot connection holes are marked as shown.

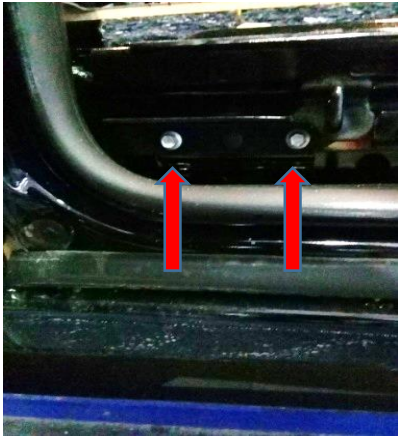


The foot connection holes are drilled as shown. ( $\varnothing$  8.5mm)

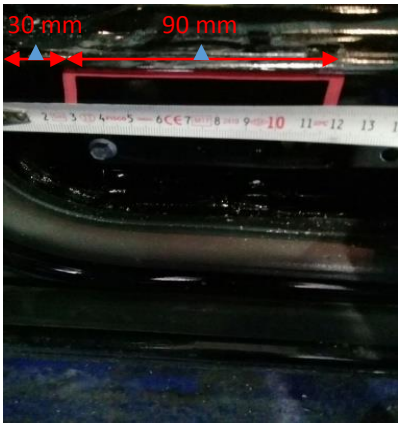


The front guide foot is fixed as shown in the picture.

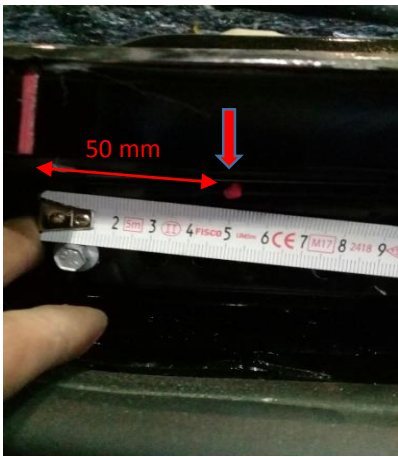
## ASSEMBLING OF AUTOMATIC DOOR



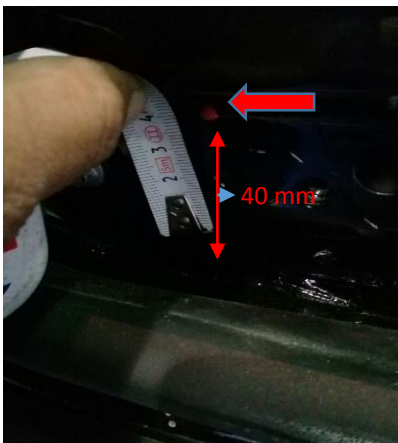
Remove the rear fastening pad from its place.



For the rear routing bracket, the top sheet is marked and cut.



The rear routing hole is measured 50 mm from the end of the rear sheet and cut.



It is marked 40 mm from the bottom.

## ASSEMBLING OF AUTOMATIC DOOR



It is drilled with Ø 60mm punch from marked place.



The upper part of the pierced part is cut flat like the figure.



The lower routing bolt hole is measured from the back of the sheet and is marked as follows.



Mark the hole as 20 mm from the outer part and drill the holes. Expanded with Ø 6.5mm drill.

## ASSEMBLING OF AUTOMATIC DOOR



The lower routing bracket looks like it is mounted.



The lower foot plate rivets are pierced and removed.



As shown in the figure, the belt passes and the ulpolen is marked for screwing.



Marked places are cut off.  
The remaining sheet is marked and cut.



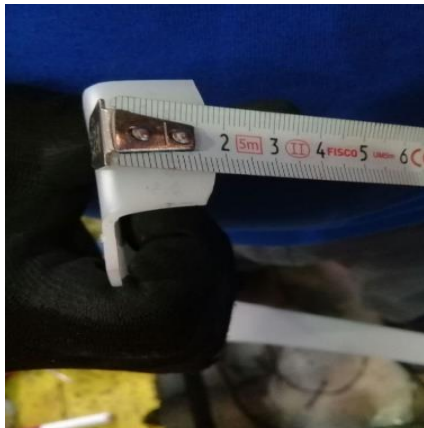
## ASSEMBLING OF AUTOMATIC DOOR



The front part of the ulpolen is cut in a mark of 300 mm length and 5 mm in width.



The front of the cut ulpolen bends like this. The lower side of the bent part is cut 5 mm further.



The bent part is about 18-20 mm. A double sided tape is affixed inside the ulpolen.



Ulpolen is glued and screwed like this.

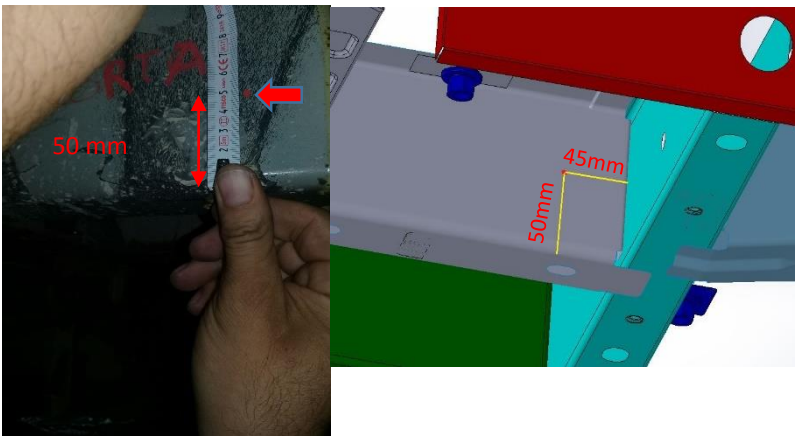
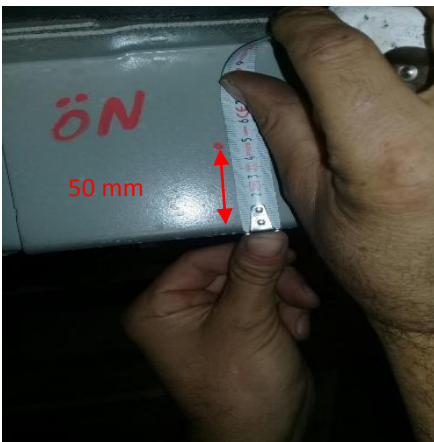
## ASSEMBLING OF AUTOMATIC DOOR



The Ulpolen is assembled as shown in the picture.



The front belt pass-through measures are like those. , Drilled with Ø60 mm punch.



The middle frame belt passage hole is marked as shown and drilled with Ø60 mm punch.

## ASSEMBLING OF AUTOMATIC DOOR



The front belt through hole is drilled with Ø60 mm punch.



The middle belt through hole is drilled with Ø60 mm punch.



The pierced part looks like it.



The central hole is drilled directly with the second sheet.

## ASSEMBLING OF AUTOMATIC DOOR



The rear leg guiding hole is marked in the figure.



The marked part is cut with air saw.  
The cut part looks like it.



Attach the chassis hanger front bolt for reference.



The rear bolt holes are marked as shown.



## ASSEMBLING OF AUTOMATIC DOOR



Marked holes are drilled with Ø11 mm drill.



The M8 rivet is tightened into the drilled holes.



The chassis is fixed in place of the hanger.



The belt is then passed through the rear guide foot.

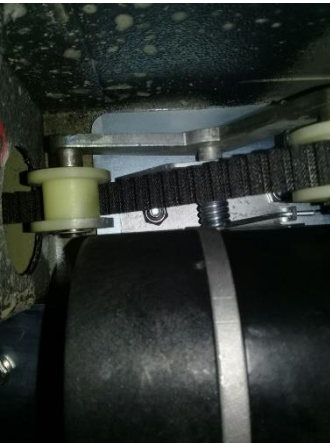
## ASSEMBLING OF AUTOMATIC DOOR



The position of the strap on the long foot is like this.



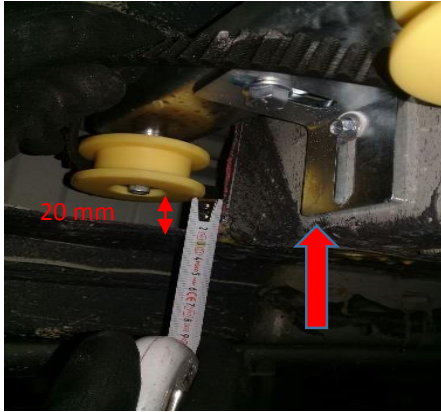
The chassis is assembled in place.



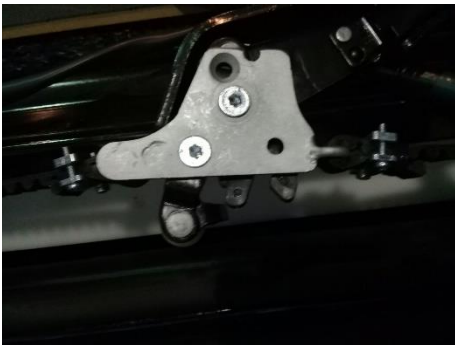
The way of the belt is like the way.



## ASSEMBLING OF AUTOMATIC DOOR



The long foot hanger attaches like this.



The belt connection bracket is attached to the lower leg as shown.



The belt is connected as it is.  
The belt adjustment is made at the corner of the lower leg.



Then the lower leg is fitted.



## ASSEMBLING OF AUTOMATIC DOOR



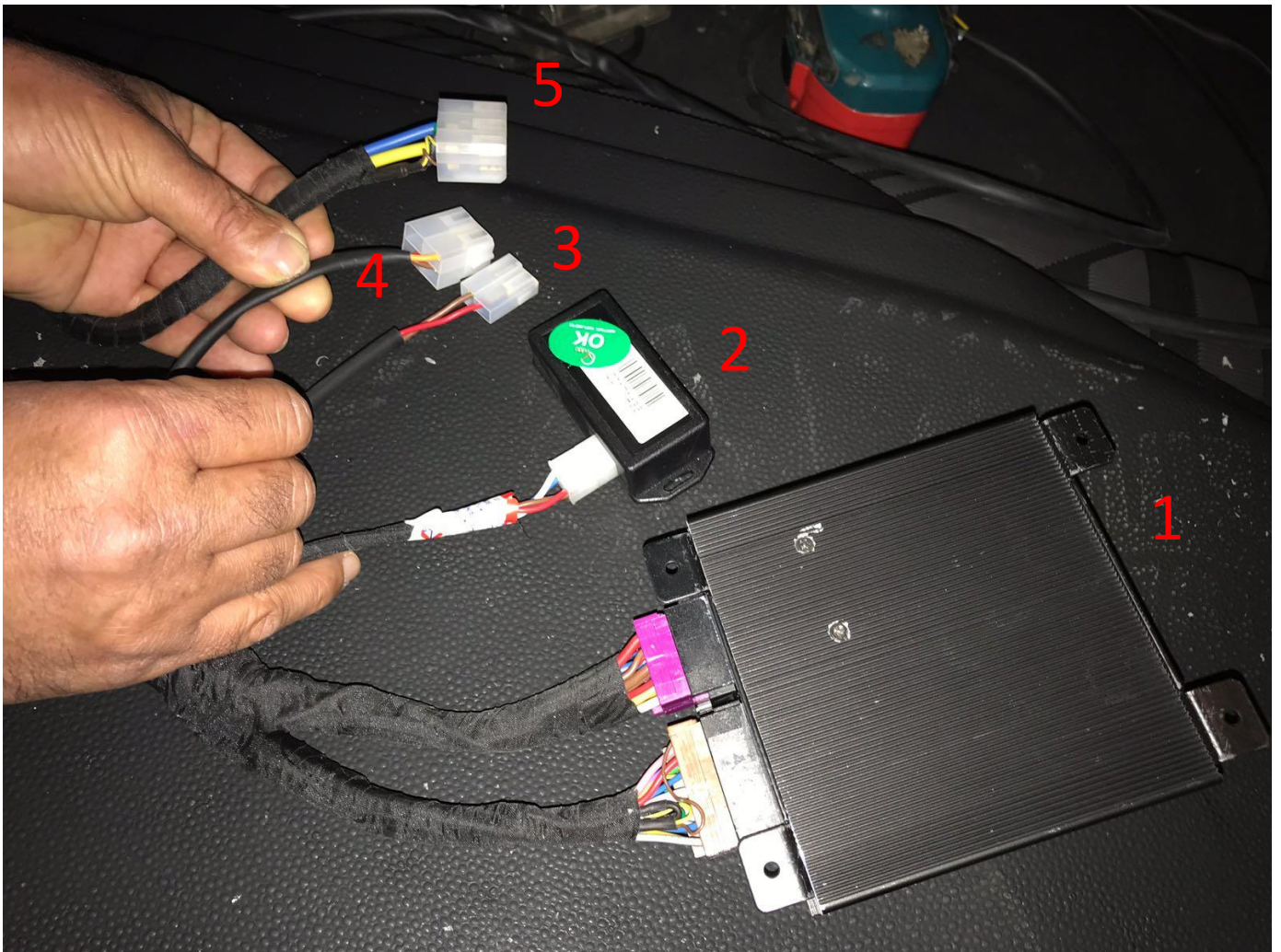
The chassis looks like it's mounted on the ground.



Finally, the protect cover looks like this.



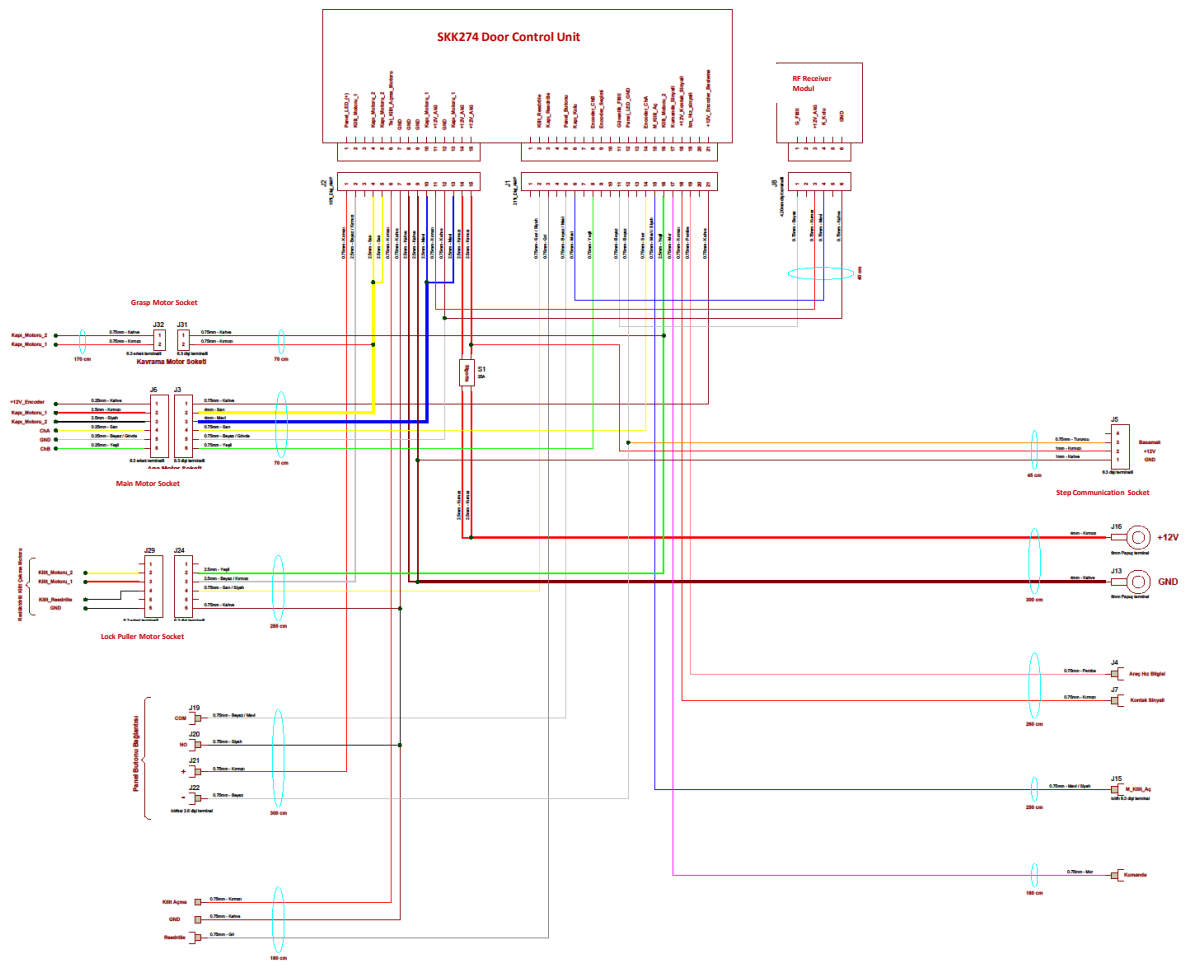
## ASSEMBLING OF AUTOMATIC DOOR



- 1 – Door control unit
- 2 – RF receiver
- 3 - Grasp socket
- 4 - Step motor socket
- 5 – Main system motor socket

# DOOR SYSTEM DIAGRAM

## Vito-T5-Ford Lion Door Market SKK274 Grasp System Facility

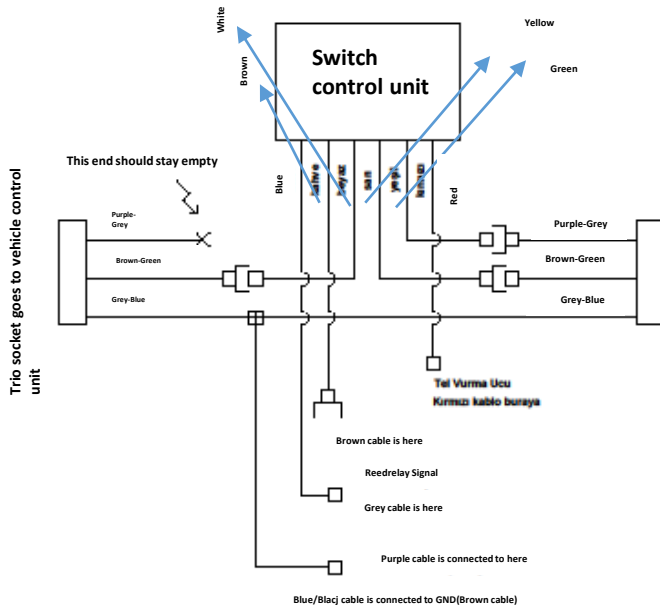


VELDO TEKNOLOJİ	
DEVRE ADI	ANA İBRETEN TESBİHİ
REVİZYON	SKK274
ÇİZEN	MEHMET DURAN

## KAPI SİSTEMİ ŞEMASI

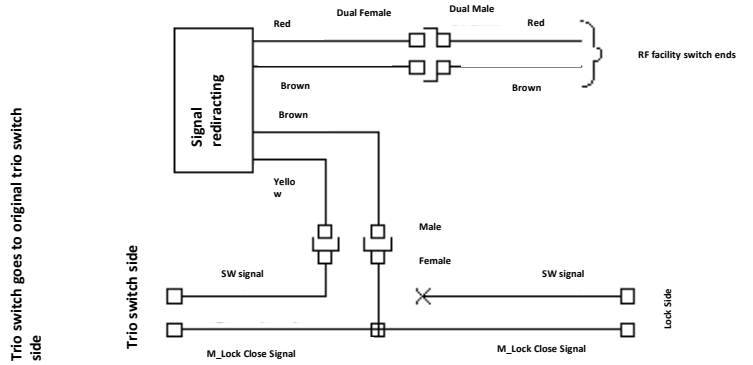
### Ford Custom Original Switch Connection Diagram

#### Middle stick switch control unit connection



- Note: If the original switch of the vehicle has different colors from the above cable color:
- Purple cable will be connected to the signaling cable when the control's on button is pressed.
  - If there is no brown / green cable in the vehicle installation, the cable is signaling when the button of the remote control is pressed, the above connection will be made accordingly.
  - If the button on the remote control is pressed the cable that does not give any signal is the cable corresponding to the purple / gray above, the above connection is made accordingly

#### Signal redirecting connection inside the door



- Note: when the original switch connection is made, first the in-door connection will be made !
- All three switch cables inside the door are black, test with control lamp to find the appropriate cable.
  - All of the vehicle doors are closed, the control lamp's tongs are connected to GND (chassis), and the cables are controlled by commanding the car from turn-on to turn.
  - It is the cable 'M\_lock close' which gives a signal to the lock button which performs the closing process of all the doors, where it is linked to the routing module by taking an attachment as in the above schematic.
  - The 'SW signal' cable, which does not signal in all commands issued from the control, is cut as if it were on the screen, the part of the cable that is disconnected is left empty, the connection to the switch is made as if the female plug is plugged in on the schematic.

The ignition connections should be taken from the small connectors on the side of the accumulator below the driver's seat

## WORKING AND CONTROL OF AUTOMATIC DOOR SYSTEM

**Initial working status:** Control unit is connect to facilities and when the insurance is installed and the first energy is supplied;

- The central locks of the control are switched to the locked position by pressing the button, then press the central locks open button to switch the control on, so that the command to open the middle door of the controller is activated.
- The door is manually opened. When the panel button is held pressed and the short buzzer starts to be heard, the open command from the control panel is given and the panel button is released. In this case, the door first goes to the closing direction, then to the opening direction and finally the door closes completely, The buzzer 2 identifies the encoder by giving a short beep.
- In this position, the buzzer is constantly bouncing and waiting for commands. Door closes after command. All the lights on the control unit are turned off and the buzzer is muted.

### General Working:

#### When the door is opened

- The lock catcher gives out the door.
- Unlocking engine unlocks the door by tapping the unlocking wire.
- The door starts to open the door of the motor, during which the buzzer is tilted in long tones and the door is opened.
- Opening is as much as the taught opening, the door system measures this distance with the encoder



## WORKING AND CONTROL OF AUTOMATIC DOOR SYSTEM

### General Working:

#### When the door is closed

- The door starts to close the engine door, while the buzzer bites in short tones the door is closing.
- When the door is completely closed (if the door reed relay is not defective, it understands this operation with reed relay, if the reed relay is faulty, it understands this operation with over current) the buzzer finishes the hoisting operation,
- The lock pull mechanism pulls the door in.

**Door operation settings:** The part where the control settings of the control unit are made. These settings are made when the ignition is switched off. These settings are;

#### **1- Door distance adjustment :**

- The door opens manually to the desired distance, the buzzer is uninterrupted and continuously bounces.
- Press and hold the panel button, is entered into the learning mode (the situation where the buzzer is intermittently interrupted) without leaving the panel knob.
- The door learns the encoder direction by first going to the closing direction and then to the opening direction.
- After this process, the door goes back to the closing direction and closes the door completely.
- The locking catch pulls the door, the buzzer shuts the long probe twice, so the door distance is taught.

## WORKING AND CONTROL OF AUTOMATIC DOOR SYSTEM

**Door operation settings:** It is the part where the operation settings of the control unit are made. These settings are made when the ignition is switched off. These settings are;

### 2- Doorhandle selection:

- Press and hold the panel button to enter the learning mode.
- The panel button is depressed without leaving as long as the buzzer is interrupted.
- After a while the buzzer is shut up
- Once the long end has been activated, the outer door handle becomes activated
- If the shorter probe bites twice, the outer door arm becomes passive.

### Security:

#### 1- When the door is opened:

- If there is an obstacle in the opening direction, the door stops with overcurrent.
- During the opening process, it is expected that the door will be closed again with the panel button or the control.

#### 2- In case of emergency:

- If the vehicle speed is below 20km and the central locks are closed then the vehicle speed falls below 5km, if the ignition is open, the door lock is opened if the outer door is pulled the door can be opened manually with the internal emergency arm on the valve. In this case, the buzzer is constantly bouncing.

## WORKING AND CONTROL OF AUTOMATIC DOOR SYSTEM

**3- When the door is closed:** If one of the following events occurs, the door stops and reopens.

- If a jamming door in the closing direction detects excessive current,
- If there is a impact in the safety wick while the door is closed
- If the door is pulled out while the door is closed
- If the panel button is pressed while the door is closed
- If the control is pressed while the door is closed

### On-off commands:

#### 1- Close commands:

- If the vehicle is moving and the vehicle speed is 5 km or more and the door is attempted to be opened from the inside, it closes immediately without allowing manual opening.
- If the door is opened automatically, if the vehicle is started and the handbrake is lowered, the door goes to the close and even if the open commands are given in this position, the door is not opened, it is notified in short tones by voice warning.
  - The door is open and the car speed is 5 km and automatically switches off regardless of how it is opened or in which position it is.
- When the door is open and the vehicle speed is less than 5 km, the parking brake is activated when the handbrake is applied or the ignition is off. The door automatically closes when the control is active.

#### 2- Open commands

When the door is closed and the vehicle speed is below 5 km, the handbrake is applied or the ignition is switched off automatically when the panel switch and the control are active.

## ATTENDANCE OF DOOR SYSTEM

- Veldo Automatic Automatic door and step systems must be maintained once a year.
- System General Checks are done.
- The system belt changes.
- The unlocking pattern changes.

**NOTE: Uncared products will be evaluated outside the scope of the Guarantee.**

## TERMS OF GUARANTEE OF DOOR SYSTEM

The terms of the warranty are part of the purchase agreement between the Veldo authorized dealer and the customer. The customer accepts the warranty terms by signature. Veldo guarantee certificate is given to the customer during delivery of the vehicle. The customer is required to present this document in order to be able to process the warranty. All of the automatic door / step including the parts are guaranteed for 2 years. The start of the guarantee is the delivery date of the Product Assembly or Customer.



## **DISCLAIMER OF WARRANTY TERMS**

- Maintenance and repair of the automatic door / step must be carried out on time, regularly, by the appropriate technical knowledge and competent services and in accordance with the periodic maintenance and repair procedures.
- Failure to follow the instructions in the user manual.
- Automatic door / step; is used under improper conditions or under overload except for the purpose,
- If an original or non-equivalent part is attached to the automatic door / step, or if a change has been made by the manufacturer which is not technically approved,
- If the need for repairs in the purchased item is not reported in time,
- In spite of the warning made by the service, if the vehicle owner or the user has not provided the opportunity to repair it
- Defects caused by use in extremely dusty, damp, extreme hot or cold environments
- Failures caused by natural disasters such as flood, fire, earthquake etc.
- The depreciation and abrasion of the parts which are the result of normal use and the nature of the material is not guaranteed. Examples of these pieces that have been subjected to abrasion include system belt, unlocking tines and rollers. However, parts are guaranteed if the material, workmanship and assembly error, that is, the fabrication error, are detected in these parts. If there are any changes or modifications to the product, the warranty does not apply in case of malfunctions.

## FAULT DIAGNOSIS AT DOOR SYSTEM

Fault	Cause	Control Points
The door never moves.	<ul style="list-style-type: none"> <li>The fuse might have been thrown out.</li> <li>The system belt may be broken.</li> <li>The unlocking motor may be faulty.</li> <li>Unlocking cable may be broken.</li> </ul>	<ul style="list-style-type: none"> <li>Fuse defects should be detected and corrected</li> <li>The system belt is checked, if it is broken, it is changed.</li> <li>If the unlocking turns idle and the sound of buzzing sounds, the wire is broken and replaced with the new one.</li> <li>If the door is operated from the control, the button is defective and the change is made.</li> </ul>
The door is opened, the engine is running but the door is not opened.	<ul style="list-style-type: none"> <li>Unlocking cable may be broken.</li> </ul>	<ul style="list-style-type: none"> <li>If the unlocking motor is idling and sounding buzzing, the wire is broken and replaced with the new one.</li> </ul>
After the door is opened, it is jerking off.	<ul style="list-style-type: none"> <li>The belt turnbuckle group may be defective.</li> </ul>	<ul style="list-style-type: none"> <li>The belt turnbuckling spring may be broken, a spring change is made.</li> </ul>
The door is moving intermittently when opening / closing.	<ul style="list-style-type: none"> <li>The reedrelay may be faulty.</li> <li>The encoder may be faulty.</li> </ul>	<ul style="list-style-type: none"> <li>A magnet is held in front of the reed relay, and if the lock pulling motor is not working, the reed roll is faulty.</li> <li>The magnet is held in front of the reed relay, the encoder is defective if the lock pull motor is running.</li> </ul>
After the sliding door is commanded, it is going to open continuously.	<ul style="list-style-type: none"> <li>The reedrelay may be faulty.</li> </ul>	<ul style="list-style-type: none"> <li>A magnet is held in front of the reed relay, and if the run does not run, the reed relay is faulty.</li> </ul>
When the door closes, the buzzing sound comes.	<ul style="list-style-type: none"> <li>lock puller may be faulty.</li> </ul>	<ul style="list-style-type: none"> <li>After the door closes, the lock catch is checked. Since there may be a problem in the gear, the lock pulling mechanism is changed.</li> </ul>
After the door closes, it stays outside, behind the door remains a gap.	<ul style="list-style-type: none"> <li>lock puller may be faulty.</li> </ul>	<ul style="list-style-type: none"> <li>If the magnet is held in front of the reed relay, there is no movement with the lock puller, or if the U is broken.</li> </ul>
Security wired does not work	<ul style="list-style-type: none"> <li>Door control unit may be faulty. If the checks we've done are not working on the final wicket, If the door is not stalled when you trigger the white wire (-) in the main system installation, the control unit is faulty.</li> <li>There may be a problem with the safety wired electrical installation.</li> </ul>	<ul style="list-style-type: none"> <li>Open the door. when the brown cable is connected with the white cable, if the door stops and goes back, the wick is defective. Change roving.</li> <li>If the door stops and does not go back, when I give the white cable (-) trigger to the under the door (OPKON cable) under the front right seat, if the door stops and goes back, there is a break in the OPKON cable under the door. Change the opkon cable.</li> <li>If the fuse still does not work, the control unit is faulty if the door does not stop and return when you trigger the white wire (-) in the main system installation.</li> </ul>

## ASSEMBLING OF AUTOMATIC DOOR



The Veldo automatic door label is affixed and the assembly is completed.