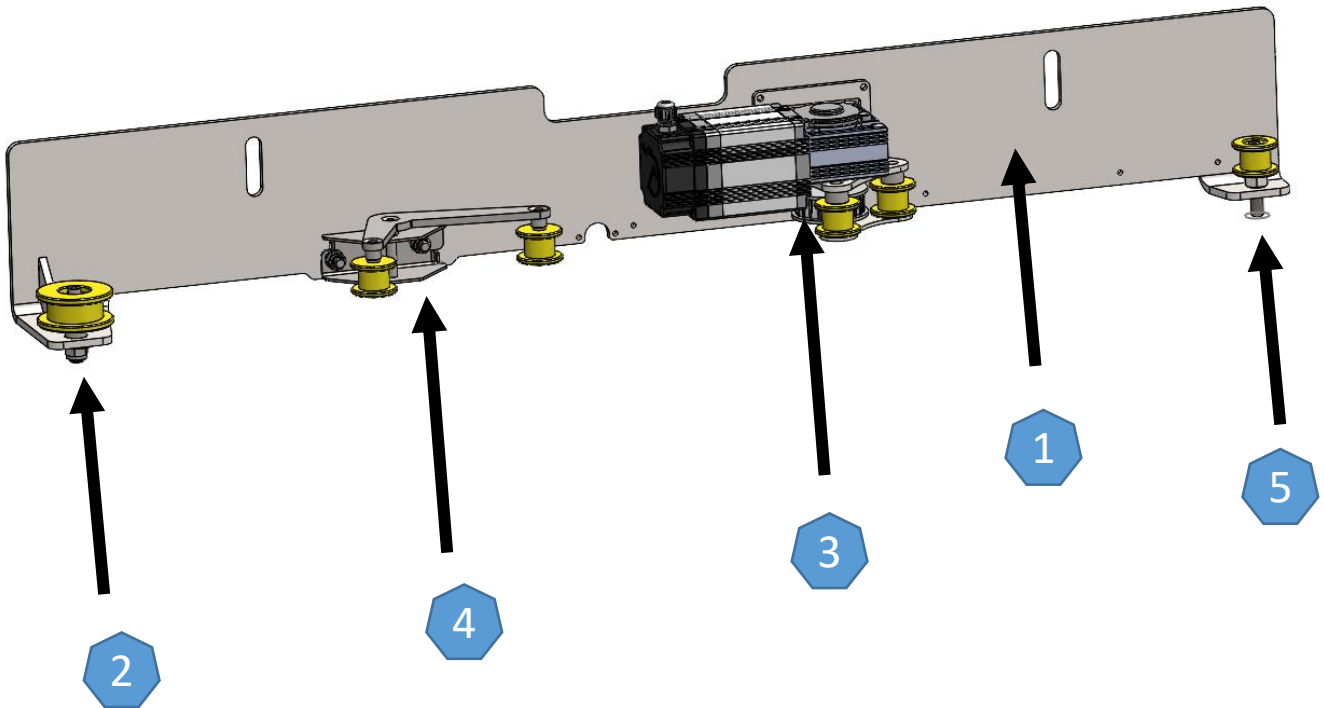


# MERCEDES-VITO

## AUTOMATIC SLIDING DOOR AND STEP SYSTEMS

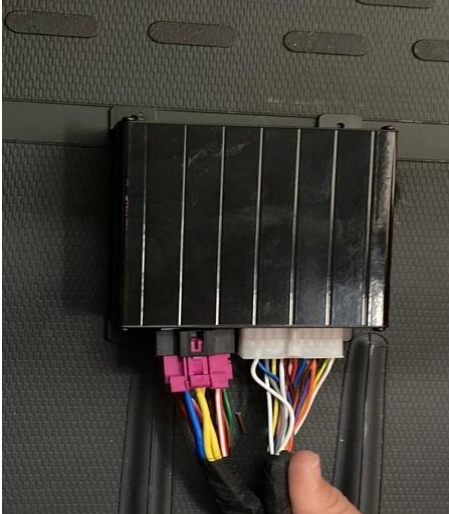


## MAIN COMPONENTS OF DOOR SYSTEM



ITEM NO.	DESCRIPTION OF THE ITEM
1	DOOR SYSTEM CHASSIS
2	REAR ROUTING GROUP
3	MAIN SYSTEM ENGINE (MOTOR ) GROUP
4	BELT TENSIONING GROUP
5	FRONT ROUTING GROUP

## MAIN COMPONENTS OF DOOR SYSTEM



Control Unit



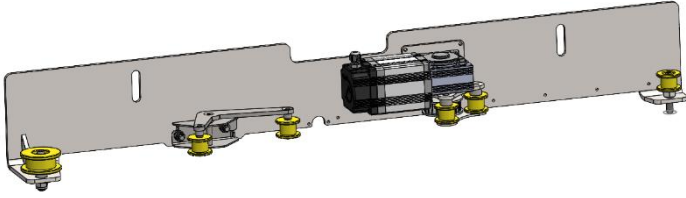
**Electrical Wiring:** It provide to movement and signal control of automatic door.



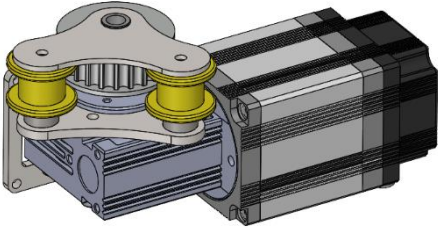
**RF Transmitter Module:** It transmission the door security and door handle signals wirelessly to the control unit.

**RF Transmitter:** Rf transmitter must be in the unlocking mechanism.

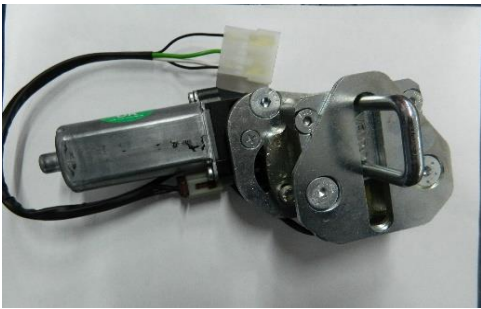
## OTOMOTİK KAPI SİSTEMİNİN ANA PARÇALARI



**Door Excitation Mechanism :** It contains system units and is placed on the car chassis under the automatic door.



**Motor (Engine) 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.

## 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 security system:** When the vehicle's speed exceeds a certain limit (5 km/h), the doors do not open, and when the vehicle is in motion with the door open, they automatically close when the speed exceeds a specific limit (5 km/h). Also, if an attempt is made to manually open the sliding door from the inside while the vehicle is in motion, 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.



2 - With the original remote control of the vehicle.



3- With the original door handle of the vehicle.

## SECURITY SYSTEMS OF VELDO AUTOMATIC DOOR



In order to avoid battery discharge failure due to the high standby current of the system;

If you wait for a long time, the system must be put into sleep mode.

Putting the system into Sleep Mode;

The door must be closed, the ignition key must be turned OFF, and the central locks must be locked





## ASSEMBLING OF AUTOMATIC DOOR



The driver's seat and the right passenger seat are removed.



The lower lock wire of the sliding door is removed and taken into the door.



The lower leg of the sliding door is removed.

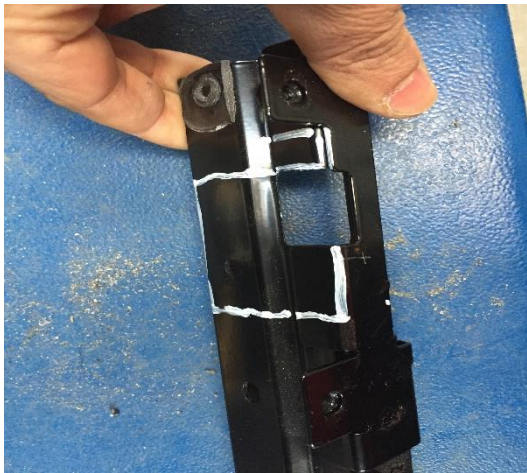


In order to prevent the door from falling, a supporting material is placed under the door after the door leg is removed.

## ASSEMBLING OF AUTOMATIC DOOR



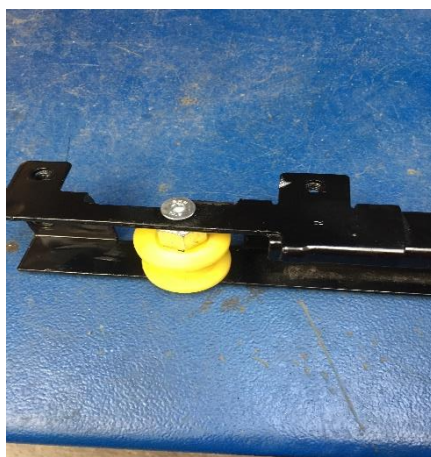
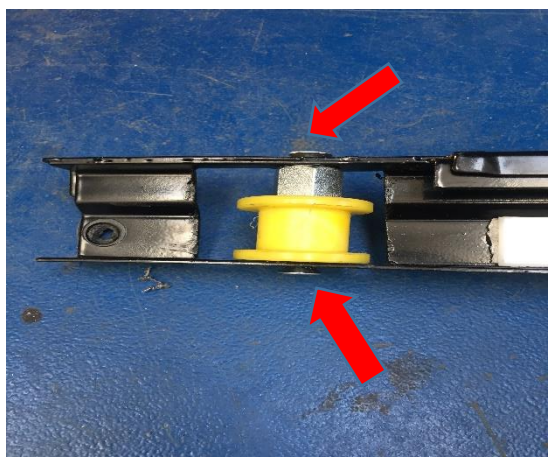
The sliding door bottom rail is removed



On the drawn part of the rail, unloading is done with the help of an air saw.



For the assembly of the rail roller, the position of the roller is determined, and drilling is performed in parallel with the help of a drill.



The rail roller is positioned as in the figure and its two screws are tightened.



## ASSEMBLING OF AUTOMATIC DOOR



Ulpolen is stuck into the rail with the help of double-sided tape.



The original holes of the rail are drilled with the help of an M6 drill.



The front part of the rail is corrected as in the figure. In order to fix the ulpolen from the front, it is drilled with the help of an M5 drill and fixed with a countersunk bolt and nut.



At the back of the step, the unloading process is carried out so that we can pass the belt. It is marked from the place shown.

## ASSEMBLING OF AUTOMATIC DOOR



The marked place is emptied with the help of  $\varnothing 38$  punch



The edges of the emptied place are smoothed with the help of an air saw.



After the process of sticking, mounting the rail pulley and opening the rear belt transition area; Ulpolen is mounted in the rail's place.



M6 countersunk bolts included in the box should be used to prevent the lower movable leg from hitting the screws while mounting the rail.



## ASSEMBLING OF AUTOMATIC DOOR



The locking mechanism located on the lower leg is dismantled.



The rivet is removed from the location shown in the lock, and the lock mechanism is mounted in its place



The belt joining bracket is positioned on the leg as shown and marked through the holes shown.



The marked holes are drilled with an M6 drill and fixed with countersunk head bolts as in the figure

## ASSEMBLING OF AUTOMATIC DOOR



The chassis support sheet located at the bottom of the vehicle is marked and cut from the marked places.



The chassis support sheet is cut as shown in the figure.



7 cm



12 cm



The rear passage of the belt is emptied with the help of an air saw in a way that it is 12x7 cm wide, in accordance with the dimensions in the figure



## ASSEMBLING OF AUTOMATIC DOOR



The front roller hole of the belt opens from the place shown in the figure.



With reference to the chassis of the vehicle (5.5 cm), the front of the rail is emptied with the help of an air saw.



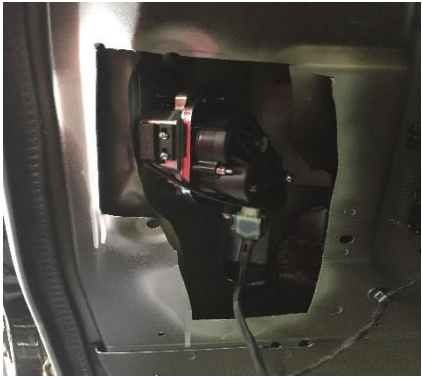
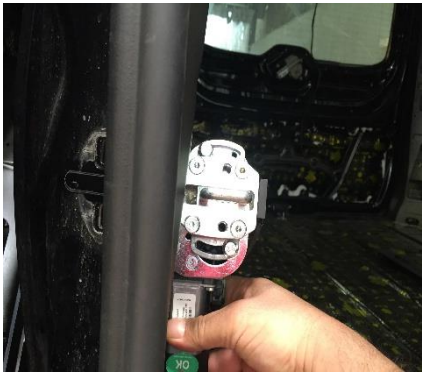
The image of the place emptied with the help of an air saw is the same as in the photo.



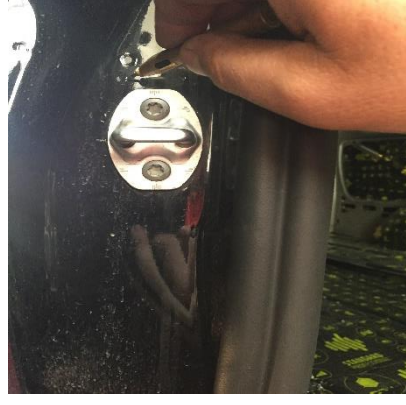
The places cut with the help of air saw, should be insulated with zinc spray.



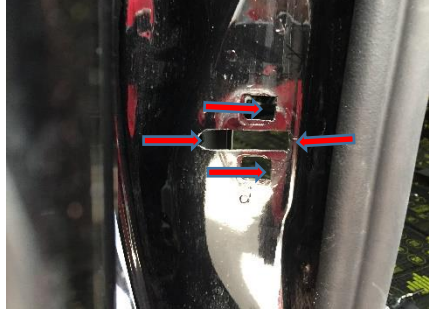
## ASSEMBLING OF AUTOMATIC DOOR



The vacuum motor is held next to the lock to determine the part to be emptied from the inside, then it is emptied with the help of an air saw.



Before the lock-pulling U bar is removed, the upper, lower, rear centers are marked and dismantled.



In order for the U bar of the lock puller to move comfortably and to close the door completely, the indicated places are emptied with the help of an air saw.

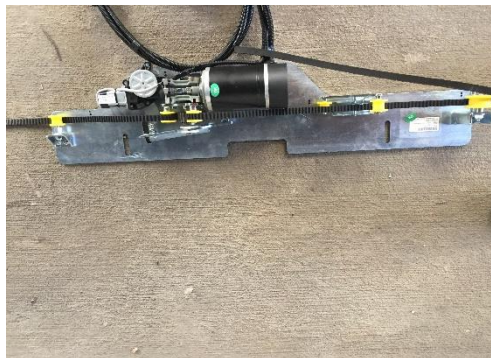


The locking puller is placed in place, centered and its two screws are tightened. The interior and exterior assembly is as in the picture.

## ASSEMBLING OF AUTOMATIC DOOR



The chassis fixing screws are passed through the original holes on the vehicle's underframe



The main system belt is attached to the rollers as shown in the figure before the chassis is assembled



The automatic door frame is fixed with the help of washers and nuts, hanging on the fixed screws



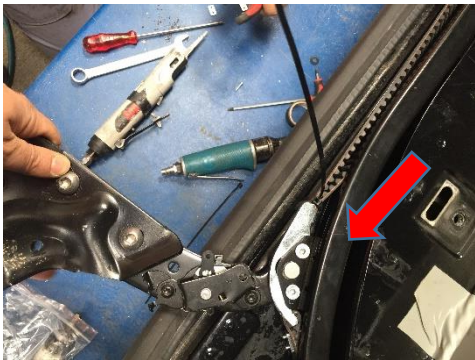
The automatic adjustment of the door frame is made by taking the door rail as a reference and making sure that the belt moves properly, then the screws are tightened. Chassis mounting is completed.



## ASSEMBLING OF AUTOMATIC DOOR



The front part of the main system belt is the part that will be installed first. The assembled version of the front part is as shown in the figure. The screws are mounted facing outwards.



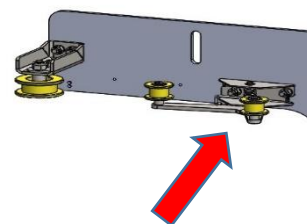
The lower roller is placed on the rail and brought to the bend point of the rail. The cornering point is where the belt is most tense. That is why the tension adjustment of the belt is made here.



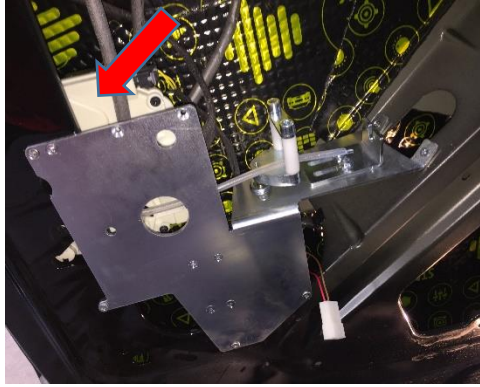
After the adjustment is made, the rear belt joining sheet is assembled.



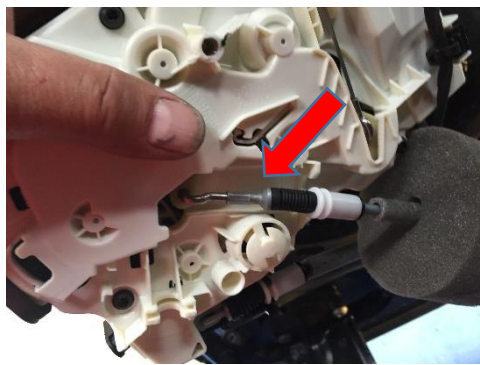
After the belt mounting process is finished, the lower leg is fixed in its place and attached diagonally to the tension spring located on the door



## ASSEMBLING OF AUTOMATIC DOOR



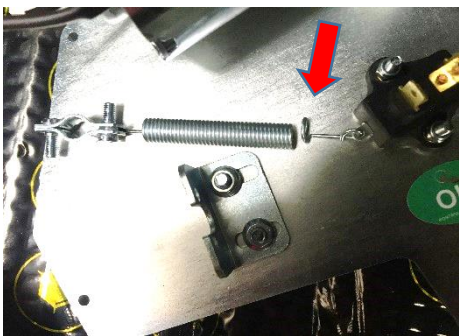
In order to assemble the door unlocking mechanism, the locking mechanism located in the front part of the sliding door is dismantled



The original door wire in the dismantled lock mechanism is removed.



The Veldo System Unlock Wire is installed in place of the original removed wire.

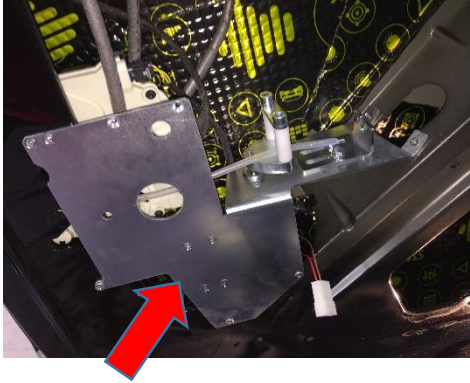


The switch spring in the in-door mechanism is cut from the place shown.



The lock wire that we remove from the lower part of the sliding door is attached to the place shown and connected with the spring at the end of the switch. When we pull the door handle, the door wire is adjusted with the adjustment bracket to pull the switch

## ASSEMBLING OF AUTOMATIC DOOR



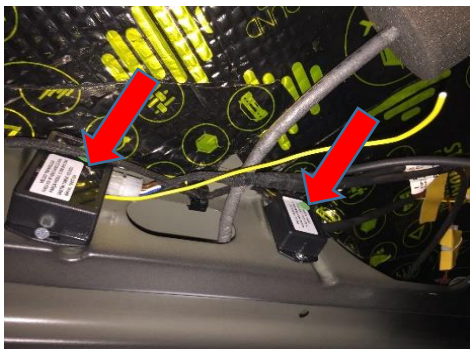
Installation of the inside door unlocking mechanism is carried out as shown.



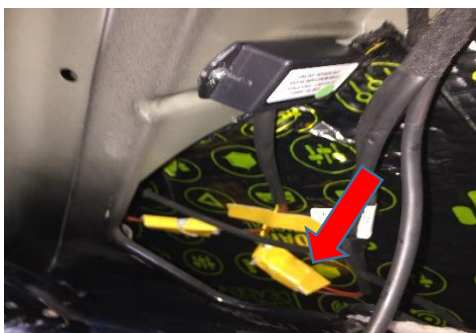
The wire that we unlock from the car itself is attached to the place indicated on the bracket. It is combined with the Veldo opening wire, with the help of brackets.



The wire is fixed with a hook and loop clamp through the holes located in the upper part of the bracket.



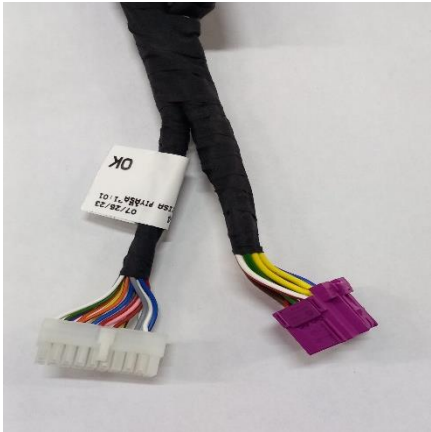
The in-door transmitter module and switch protection modules are fixed in the door as shown in the figure.



The sockets are insulated with a soft material in order to prevent noise



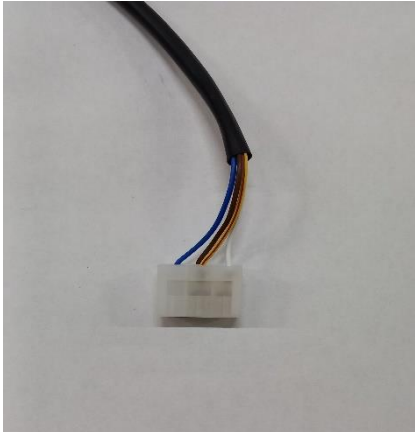
**MAIN SYSTEM INSTALLATION CABLE TIPS**



**1**



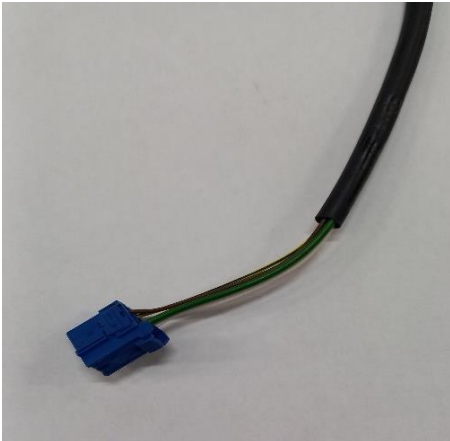
**2**



**3**



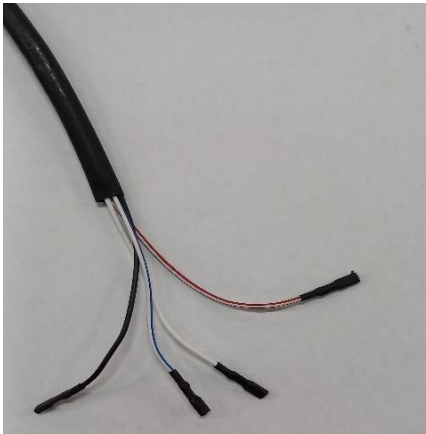
**4**



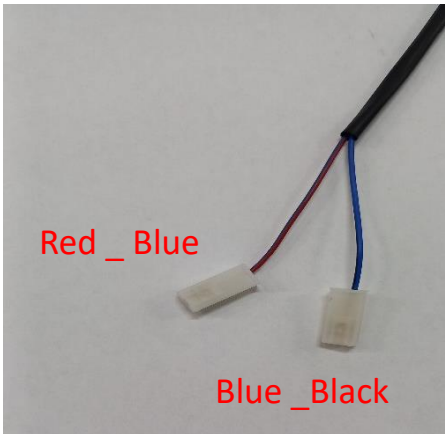
**5**



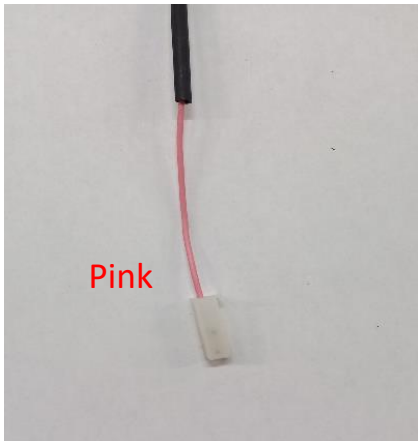
**6**



**7**



**8**



**9**

## MAIN SYSTEM INSTALLATION CABLE TIPS



**10**



**11**

- 1- Control Unit (ECU) Sockets
- 2-Main System Engine Output Sockets
- 3-Step Signal Socket:
- 4-**Optional**: Opkon Socket: Used only in vehicles without a door switch.
- 5-Lock Puller Socket
- 6-Power Cables
- 7-Panel Button Cables
- 8-Blue-Black (**Central Lock Unlocking**) and Red-Blue (**Central Lock Locking**) Cables
- 9-Speed Information (km/h) Cable
- 10-B Pillar Switch Cables
- 11-Ignition Open Information Cable:

The cable for the door open/close button in the main system wiring is routed from behind the center console to the panel slot. Its connectors are then plugged into the button, and finally, the panel is installed.

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

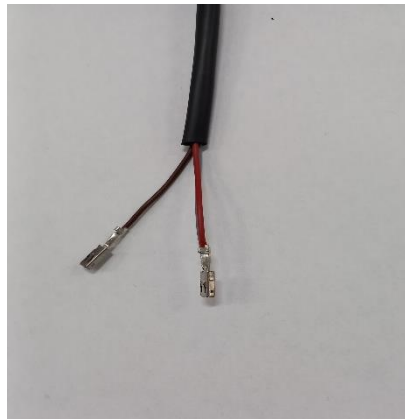


**Panel Button**

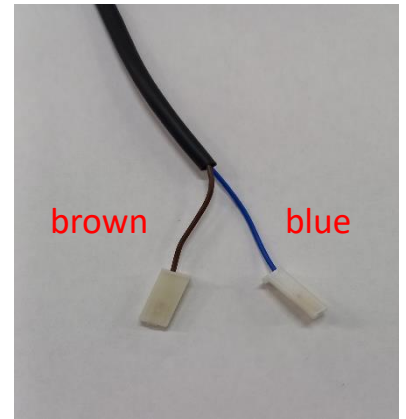
## DOOR INTERIOR WIRING CABLE ENDS



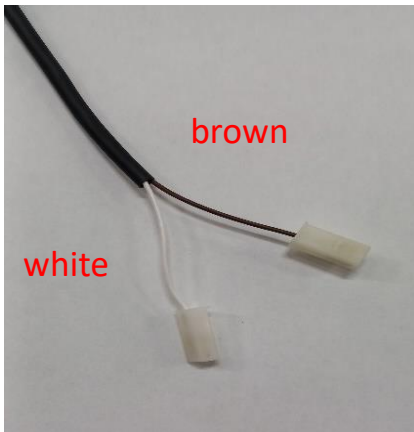
1



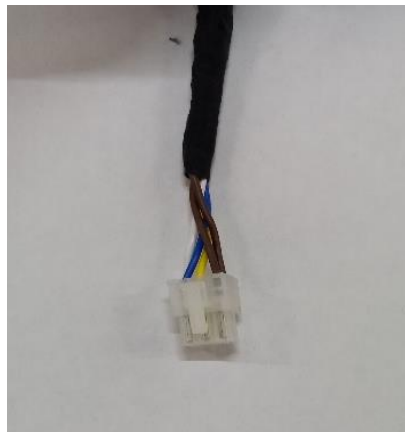
2



3



4



5

1- Indoor Cable Harness

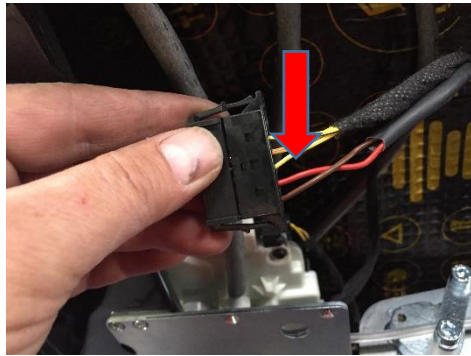
2-Door Switch Cables

3-Spring-loaded Switch (Tractor Switch) Cables

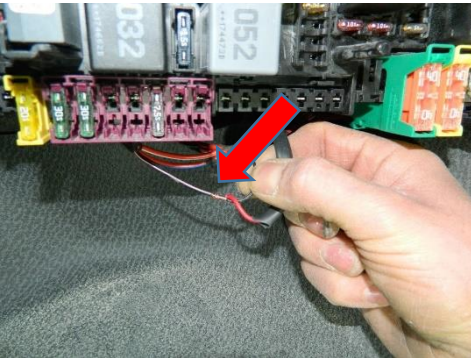
4- Security Wick Cables

5-RF Transmitter Socket

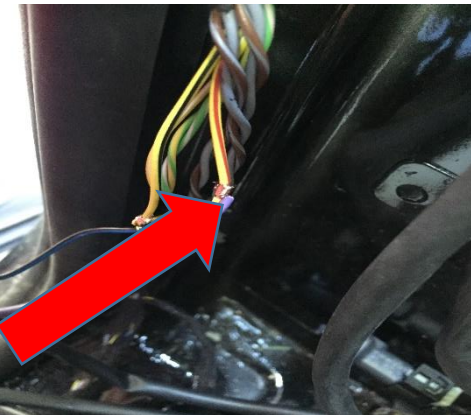
## ASSEMBLING OF AUTOMATIC DOOR



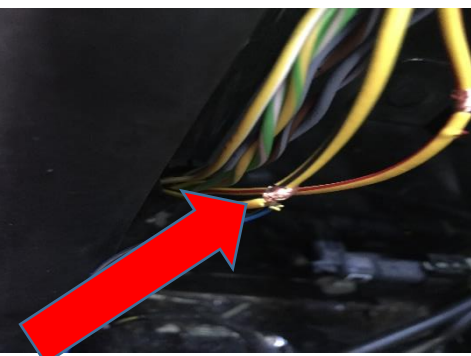
The original door switch socket on the sliding door of the car is removed. The brown and red wire opening ends in the inner door installation are mounted in the empty place of the switch as in the figure. The socket is installed in place.



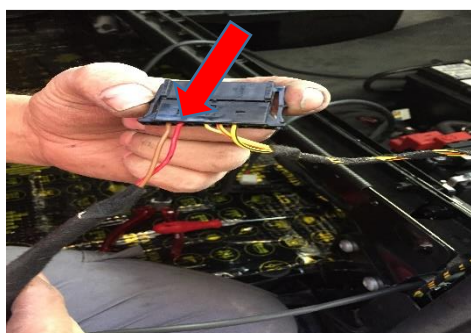
The **red-black (contact cable)** in the main system installation is connected by obtaining contact information from the **pink and black cable** in the fuse box under the right glove box.



The central unlock signal cable (blue-black) in the vehicle's original installation is connected to the yellow-red cable on the B pillar of the vehicle.



The central locking signal cable (red-blue) in the vehicle's original installation is connected to the yellow-black cable on the B pillar of the vehicle.



The switch socket on the B pillar of the vehicle is removed, the brown and red cables are replaced in the socket, corresponding to the inside door socket, and the socket is replaced.



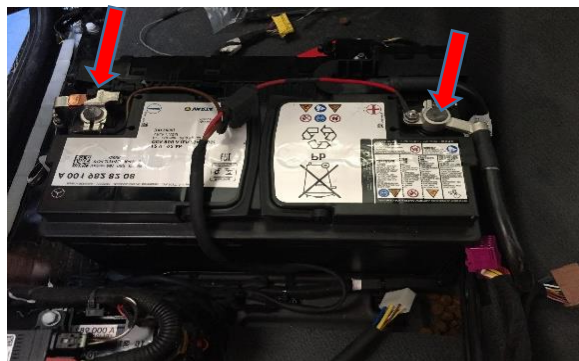
## ASSEMBLING OF AUTOMATIC DOOR



The vehicle's speedometer display is removed so that we can get speed information from the vehicle.



The speed information cable (pink) on our main system wiring is inserted into the «Empty place 9» in the socket located behind the speedometer. Then the socket is inserted into its place behind the speedometer



The energy connection of the system to the battery is made as it is shown in the figure



## OTOMOTİK KAPI SİSTEMİNİN MONTAJI

The door open/close button cable in the main system installation is brought to the panel slot from behind the central console (dashboard). Plugs are inserted into the button.

- = white

+ = red

COM = white-blue

ON = black



### Panel (Dashboard) Button



The panel button assembly is as it is shown in the figure

## ATTENDANCE OF DOOR SYSTEM

- 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 due to use at high temperatures from extremely dusty, damp, (+ 80), (- 30) degrees
- 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.
- Faults caused by insect or animal damage to the product or damage to the product cables.