

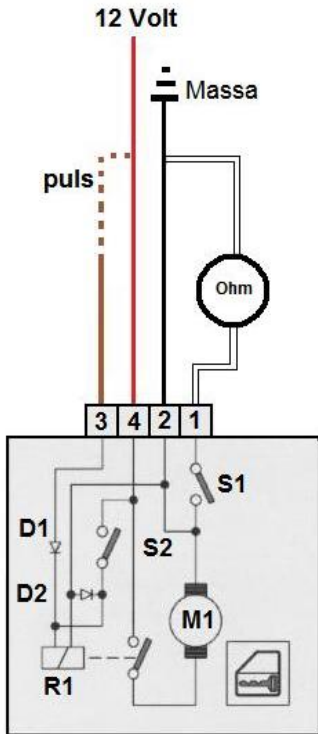
Checking switches in the sliding doors locking mechanism.

Units are built by Kiekert AG, a German company specialized in automated door locks systems.

In order to test the unit it is best to remove this from the car.

With 4 wires, preferably of different colors, with an .110 faston connecting cables are made.

In addition, you need a 12 volt power supply (battery or charger) and an universal ohmmeter.



I did made the connections in the following order:

- White wire, terminal 1 through the ohmmeter to minus
- Black wire, terminal 2 to minus
- Brown wire, terminal 3
- Red wire, terminal 4 to a 12 volt dc supply

A short pulse (± 0.5 sec) to 12 volts dc supply is the start pulse for the motor.

In the unit, there are the following components:

- S1 = contact indicating that the door is fully closed
- S2 = contact that ensures that, if the control pulse is disconnected the engine runs until the next stop position.
- R1 = motor relay
- D1 = diode D1 is one way pulse signal
- D2 = surge suppression diode for protection
- M1 = the motor that moves the latch hook.

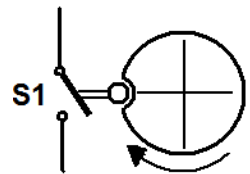
There are two fixed positions, IN = door is completely closed, OUT = door is released.

Once a control pulse is applied to terminal 3 the relay R1 is powered and the motor starts running. Switch S2 is closed and takes over the 12 volt supply from the pulse wire to the relay. When the opposite position is reached switch S2 opens and the motor stops.

Due to the rotation of the motor the hook moves from one position to the other and stops automatically. As soon as a new pulse is applied the hook moves to the opposite position.

The correct operation of the unit can be determined on working of contact S1.

If the hook is in the "IN" position contact S1 is broken. Once the motor starts running, this contact S1 is closed immediately and stays closed until the hook is back in the IN position. Using an ohmmeter this can be checked.



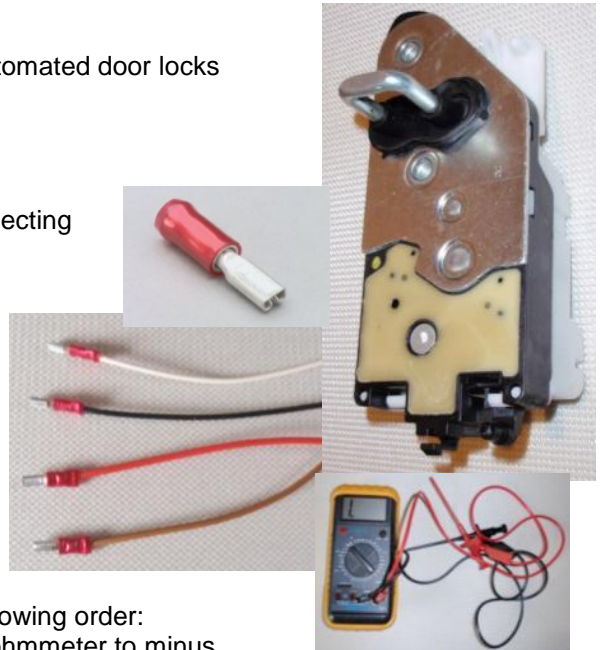
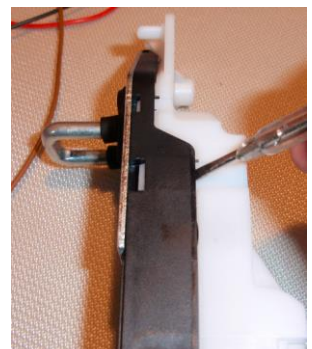
The operation of almost all components can be tested individually. This requires the unit to be removed from the car.

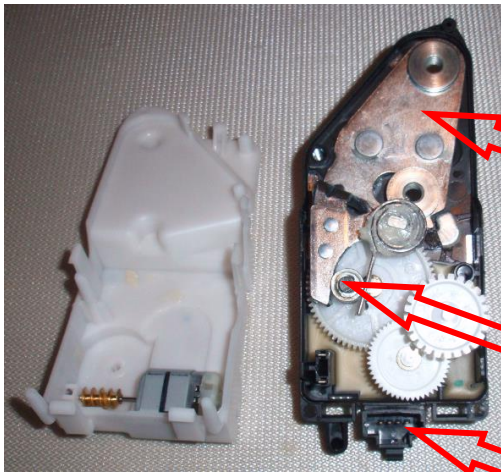
By pushing a flat screwdriver between the black and white cover the tabs can be pressed in a little bit.

Doing so on every tab the white body can be taken off.

Caution, the drive motor with worm shaft stays in the white cover.

(by closing the white cover again move this cover a little bit to push the gear and worm drive in a good position)





Please note, this is the unit for the right door shown. For the left door to be seen all the images in reverse.

Moving plate with hook

Gear with an eccentric placed bearing

Electric contacts (left to right) 4 – 3 – 2 – 1

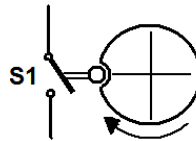
The motor can be tested by applying 12 volt directly to the terminals of the motor. For testing the plus and minus can be interchanged.

The electric components are underneath the gearbox. You can't see them because they are completely sealed.

The components in the unit can be tested by turning the gear "A".

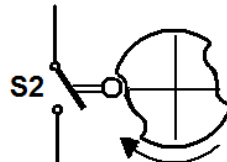
Contact S1

For testing contact S1 connect a universal ohmmeter to terminals 1 and 2. Only in the position shown, as the cam roller is in the 0 position, contact S1 is open. As soon as the gear moves a little bit contact S1 is closed and stays closed until the cam roller is back in the 0 position again.



Contact S2

Connect the ohmmeter to terminals 3 and 4. Pay attention that the COM terminal of the universal meter (usually the black wire) is connected to terminal 4 and the other test lead (usually red one) is connected to terminal 3. In the 0 and the 180 position of the cam roller, the contact S2 is open.



Once gear A is moved clockwise with the cam roller somewhere between 0 and 90 and between 180 and 270 contact S2 is closed and the universal meter displays some resistance value. (resistance value of the diode D1)

Diode D1

If you holds the cam roller in this position and exchanges the test leads, the ohmmeter must display a high resistance because the diode in reverse direction.

Diode D2

Diode D2 can't be checked with an universal meter.

Because diode D2 and the coil of the relay are connected in parallel, and the resistance of the coil resistance is much lower than the resistance over the diode you only measure the resistance of the coil.

