

Checking switches in the B-post actuator.

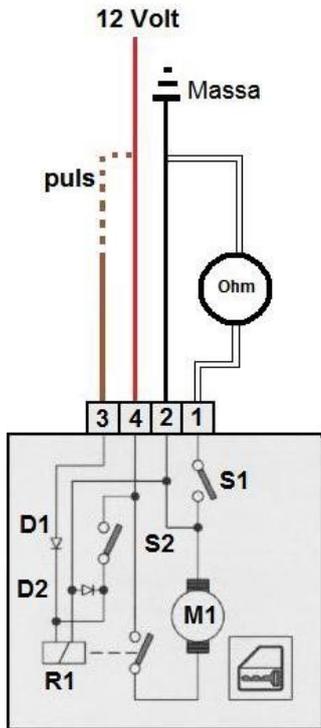
Information courtesy of Marinus van der Leest

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

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

With 4 wires, preferably of different colours,

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



On my test set-up, connections are

White = terminal 1 measure ohm's to earth
Green = terminal 2 to earth (-ve 12 volt)
Red = terminal 3 apply +12 volt pulse to operate
Yellow = terminal 4 to +ve 12 volt

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

Sealed 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 motor runs until the next stop position.

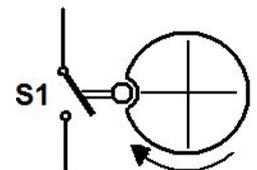
R1 = motor relay
D1 = diode D1 is one way pulse signal
D2 = surge suppression diode for protection S2
M1 = the motor that moves the latch hook.

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

If a 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.

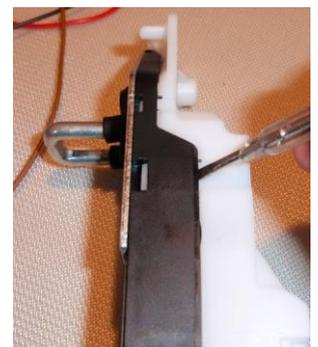
The correct operation of the unit can be determined on working of contact S1. If the hook is in the "IN" position contact S1 is broken. Once the motor starts running, this contact S1 is closed immediately and stays closed until the hook is back in the IN position. This can be checked using an ohmmeter.

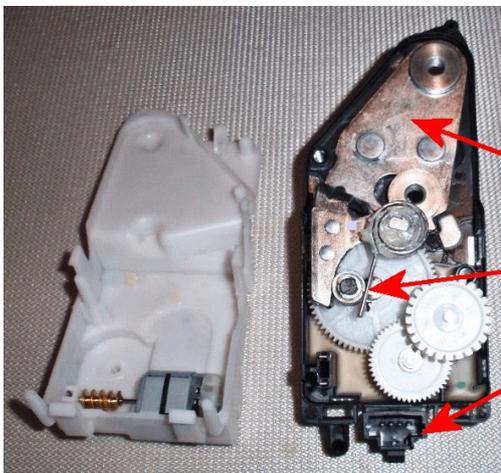


The operation of almost all components can be tested individually, but requires the unit to be removed from the car.

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.*

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





This is for the right-hand door
(Drivers Door in UK)

Moving plate holding
the lock hook (staple)

Gear wheel with
eccentric-placed bearing

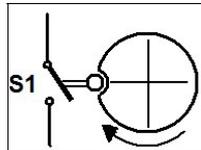
Electrical contacts
left to right 4-3-2-1

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.

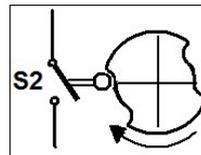
The electric components are underneath the gearbox. You can't see them because they are completely sealed.

Test the components in the unit by turning the gear "A".

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.



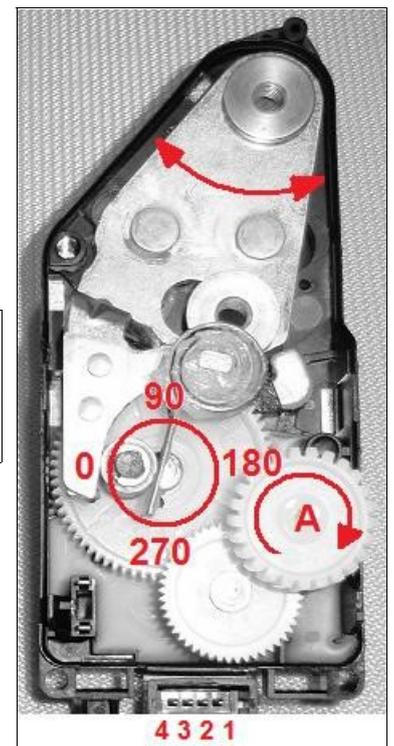
Contact S2: Connect the ohmmeter to terminals 3 and 4. Pay attention that the -ve terminal of the meter is connected to terminal 4 and the +ve is connected to terminal 3. In the 0 and the 180 position of the cam roller, contact S2 is open.



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 meter displays resistance of the diode D1.

Diode D1 If you hold the cam roller is this position and swap the test leads, the ohmmeter must display a high resistance because the diode in reverse direction.

Diode D2 can't be checked with a meter because diode D2 and the relay coil are connected in parallel. The resistance of the coil is much lower than the resistance of the diode so you only measure the resistance of the coil.



Mine are marked L1 R1 etc Part nos: 916466 (left) and 916465 (right)

L1 operates at 12v 0.35-0.45 amp. Just starts at 5.7 volts S1 = 0.0Ω

L2 operates at 12v 0.25-0.35 amp. S1 = 0.0Ω (into yellow car May 2023)

L3 operates at 12v 0.25-0.33 amp. Just starts at 5.6 volts (old, taken out May 2023)

L4 operates at 12v 0.35-0.44 amp. S1 = 5Ω intermittent (second-hand May 2023)

R1 new operates at 12v 0.30-0.45 amp. Just starts at 5.1 volts (new, into yellow car May 2023)

R2 operates at 12v 0.25-0.35 amp.

R3 operates at 12v 0.25-0.35 amp. Just starts at 5.6 volts S1 = 10Ω varies. (taken out May 2023)

R4 dead – motor OK; faulty switches or relay – takes 0.08 amp @ 6.5 volts (second-hand May 2013)

R5 new operates at 12v 0.1-0.15 amp Just starts at 4.5 volts S1 = 0.0Ω - Lithuania May 2023

R6 new - Germany August 2023