

P38 Door Latch Tests

These tests will work on any P38 Range Rover front door latches. RHD vehicles have a CDL, Key Switch, and Door Ajar switch in the RHF Latch, and just a CDL switch and Door Ajar Switch in the LHF Latch.

LHD Vehicles have the CDL, Key Switch, and Door Ajar switches in the LHF Latch, and only the CDL Switch and Door Ajar Switch in the RHF Latch. The tailgate locking in LHD vehicles is still controlled by the CDL switch in the RHF latch (as with RHD vehicles), so if your tailgate stops working, then test the RHF latch first.

All tests are done with the latch UNPLUGGED and a meter on 'Ohms'. I personally use one with a beep tone. Tests with a 'Meter Closed Circuit' reading will give a beep tone as a Pass. Tests with 'Meter Open Circuit' reading should give no beep tone.

When you unplug the latch from the outstation, the vehicle will lock the other doors automatically due to the operation modes of the CDL switch. If you don't want the other doors to lock, then you can disconnect the biggest connector on the outstation, which interrupts the power/communication lines from the BECM to the outstation, so the 'lock' signal isn't passed on. Just remember to plug this back in before putting the door card back on!!

The first table shows the wire colours at the LATCH connector (for vehicles with the wiring loom from the latch).

The second table shows the same tests, but with the wiring colours of the door loom wiring for testing at the outstation. (useful for vehicles with the earlier style latches where the connector is moulded into the latch).

Wire colours for vehicles with wiring loom coming out of door latch (approx. 1996 onwards)

CDL Test: Positive Probe: Red Wire Negative Probe: Black Wire Move CDL switch down (sill lock button down) Meter Open Circuit: Pass Any other reading: Fail	CDL Test 2: Positive Probe: Red Wire Negative Probe: Black Wire Move CDL switch up (sill lock button up) Meter Closed Circuit: Pass Any other reading: Fail
Key Switch Test**: Positive Probe: White Wire Negative Probe: Black Wire Move Key Switch down (turn key left in door) Meter Closed Circuit: Pass Any other reading: Fail	Key Switch Test 2**: Positive Probe: White Wire Negative Probe: Black Wire Move Key Switch up (turn key right in door) Meter Closed Circuit: Pass Any other reading: Fail
Door Ajar Switch Test: Positive Probe: Blue Wire Negative Probe: Black Wire Door Open (unlatched) Meter Closed Circuit: Pass Any other reading: Fail	Door Ajar Switch Test 2: Positive Probe: Blue Wire Negative Probe: Black Wire Door Closed (Latched) Meter Open Circuit: Pass Any other reading: Fail
CDL Motor: Positive Probe: Purple Negative Probe: Green Resistance: 4Ω - 20Ω	Superlock Motor: Positive Probe: Pink Negative Probe: Green Resistance: 30Ω - 1.3KΩ

Wire colours for vehicles with vehicle wiring loom plugging directly into latch (approx. 1994 - 1996)

CDL Test: Positive Probe: Green/Red Wire Negative Probe: Black Wire Move CDL switch down (sill lock button down) Meter Open Circuit: Pass Any other reading: Fail	CDL Test 2: Positive Probe: Green/Red Wire Negative Probe: Black Wire Move CDL switch up (sill lock button up) Meter Closed Circuit: Pass Any other reading: Fail
Key Switch Test**: Positive Probe: Blue/Red Wire Negative Probe: Black Wire Move Key Switch down (turn key left in door) Meter Closed Circuit: Pass Any other reading: Fail	Key Switch Test 2**: Positive Probe: Blue/Red Wire Negative Probe: Black Wire Move Key Switch up (turn key right in door) Meter Closed Circuit: Pass Any other reading: Fail
Door Ajar Switch Test: Positive Probe: Pink/White Wire Negative Probe: Black Wire Door Open (unlatched) Meter Closed Circuit: Pass Any other reading: Fail	Door Ajar Switch Test 2: Positive Probe: Pink/White Wire Negative Probe: Black Wire Door Closed (Latched) Meter Open Circuit: Pass Any other reading: Fail
CDL Motor: Positive Probe: Orange/Black Negative Probe: Pink/Black Resistance: 4Ω - 20Ω	Superlock Motor: Positive Probe: Orange/Pink Negative Probe: Pink/Black Resistance: 30Ω - 1.3KΩ

The resistance tests for the locking motors are a guide only to see if there is any connection across the motor windings. If these are open circuit with no connection, then it is possible the motors have either rusted or burnt out.

**** Key Switch test:** Because of the way the key switch works, it triggers the microswitch whenever the key is turned in EITHER direction. When the key is centralised in the lock, or removed the meter should read OPEN CIRCUIT. If there is still a connection across the key switch when the key is removed, then this is also a FAIL as it is basically telling the BECM that the key is ALWAYS turned in the lock.

Martin Cox - Sept 2014