

# CARDONE™ ProTech®

Supporting Today's Vehicle Technician



## Window Lift Switch Test

### Application

Vehicles with power windows.

### Problem

Window lift motor still doesn't work after being replaced.

### Cause

One common root cause is a failed control switch.

### Solution

Check the switch with a voltmeter as follows:

1. With the ignition on, depress the driver's master window lift control switch to operate any other working window. This ensures there is power to the system; correct problems as necessary. Turn off ignition.
2. Disconnect the problem window motor from its harness in the door.
3. Using a digital voltmeter set to the 12 volt DC scale, connect the meter probes to the two motor contacts in the harness connector (if more than 2 wires see Motor Test below).
4. Operate the master control switch for the problem window. The voltmeter MUST read battery voltage. With the switch still depressed, move your finger around the button checking for intermittent operation - the reading must remain unchanged.
5. Now check the switch on the door with the problem. If the voltmeter does not read battery voltage, the problem is with the vehicle wiring or switch. To verify the operation of a 2-wire motor see motor test below and refer to ProTech® PT 42-0001.

**Corrosion damage and/or mechanical damage to the wiring, contacts or connectors in car doors prevent power getting to the motor. Simple, but a common problem.**

**MOTOR TEST:** Window lift motors with 2 wires operate by applying 12 volts in either of two polarities to the motor. To test, connect +12 volts and ground (fully charged car battery) directly to motor contacts: the motor should run in one direction. Change polarity to reverse motor (in normal use the switch changes polarity). Four wire motors (with express down) have 2 additional control wires, but the same test can be applied if the technician can identify the power wires (usually heavier gauge, refer to vehicle service manual for proper connections). Driver Controls and Child Safety Locks have added additional contact points and complexities to Window Lift Motor control wiring - one open segment disables the motor!

### Note

Early tailgate window lift motors (42-11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22) use a frame grounded brush and wound field magnets. For these motors the rotation direction is controlled by which terminal has +12 volts directly applied (the other terminal is open). For this test the motor frame must always be connected to ground (battery negative).