

# CARDONE™ ProTech®

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## Bench Test for 2-Wire Window Lift Motors

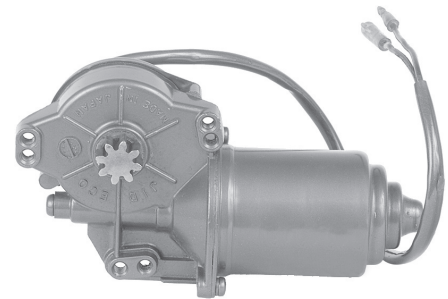
**Application** All vehicles with electric windows (2-wire motor).

**Problem** Window lift motor replacement only operates in one direction.

**Cause** Possible faulty wiring or control switch.

**Solution** Most 2-wire window lift motors depend on a voltage polarity change to control direction. If the motor runs in one direction but not the other, the problem is in the vehicle wiring or switching. The test below can be used on 2-wire motors (typical unit shown).

**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). (See PT 42-0003 for frame-grounded motors & switch test).



**Bench Test** **Step 1:** Directly connect positive battery voltage to one motor wire and battery ground to the other motor wire. The motor should run in one direction.

**Step 2:** Reverse battery connections. The motor should now run in the opposite direction. If motor does not run, repeat test making sure connections and voltage source are good. After verifying proper motor operation, check the vehicle for these possible problems:

- Faulty switch circuitry or wiring
- Faulty or misadjusted window lift mechanism
- Refer to vehicle service manual for additional tests

**Note** If your window lift motor has more than 2 wires, it will be necessary to refer to the vehicle service manual for proper testing.