

(a) There is a short in wiring, motor, or panel switch, or circuit breaker is faulty. Disconnect wiring harness connector at motor. Remove wiper arms and blades. Connect an ammeter between battery and Terminal L on motor. On R-W-X-S-P-D-C models also connect a jumper between Terminal P<sub>2</sub> and ground. If motor now runs and average ammeter reading is less than 6 amps., motor is okay and problem is in panel switch or wiring.

If motor does not run or it runs and draws more than 6 amps, check to see if wiper linkage or pivots are binding or caught. Disconnect drive link from motor. Reconnect jumper wire. If motor now runs and draws less than 3 amps., repair linkage system.

(b) If motor does not run or it draws more than 3 amps., check to see if motor or gearbox are jammed internally. Remove motor housing and inspect for loose magnets or magnet retainer against armature, frozen or loose bearings, or a loose bearing retainer. With linkage disconnected, turn armature in gearbox to determine if gears are jammed. Replace faulty gearbox or housing. Also, replace armature if blackened. Refer to motor repair section for disassembly and reassembly procedures.

(c) If motor is not jammed internally, check to see if there is a short in motor. Remove motor housing. Check brush leads for signs of shorts to housing. Check armature for burned or blackened windings which could mean internal shorts. Replace armature, if it is burned. Refer to motor repair section for motor disassembly and re-assembly procedure.

(5) If after several minutes no voltage has appeared or test lamp has not turned on at Terminal L to indicate a cycling circuit breaker, disconnect wiring harness and connect a jumper from battery to Terminal L. On R-W-X-S-P-D-C-Y models also connect a jumper from Terminal P<sub>2</sub> to ground. If motor now runs, wiring or panel switch is faulty.

#### **Condition**

**MOTOR WILL RUN AT HIGH SPEED, BUT NOT AT LOW SPEED. MOTOR WILL RUN AT LOW SPEED, BUT NOT AT HIGH SPEED.**

#### **Procedure**

(1) If motor will not run on high speed, put panel switch in high position and connect a test lamp between motor Terminal H and ground (See Fig. 4). If motor will not run on low speed, put panel switch in low position and connect a test lamp between motor Terminal L and ground (See Fig. 4).

(2) If test lamp does light at motor terminal, there is an open in wiring or switch. If test lamp lights at motor terminal, brush is not making contact with armature. Remove motor housing and free-up brush or seat brush spring properly (See motor repair section).

#### **Condition**

**(H-N MODELS) MOTOR WILL KEEP RUNNING WITH PANEL SWITCH IN PARK OR OFF POSITION.**

#### **Procedure**

Remove wiring harness. Connect jumper from Terminal P<sub>2</sub> to Terminal L (See Fig. 4).

Connect second jumper from Terminal P<sub>1</sub> to battery. If motor runs to park position and stops, panel switch is faulty. If motor keeps running and does not park, replace gearbox assembly. Refer to motor repair section for disassembly and re-assembly procedures.

#### **Condition**

**(R-W-X-S-P-D-C MODELS) MOTOR WILL KEEP RUNNING WITH PANEL SWITCH IN PARK OR OFF POSITION.**

#### **Procedure**

Remove wiring harness. Connect jumper from terminal P<sub>1</sub> to battery. Connect second jumper from terminal L to ground. If motor runs to park position and stops, panel switch is faulty. If motor keeps running and does not park, replace gearbox assembly. Refer to motor repair section for disassembly and reassembly procedure.

#### **Condition**

**MOTOR WILL STOP WHEREVER IT IS AT WHEN PANEL SWITCH IS PUT IN OFF POSITION. (WIPERS DO NOT CONTINUE RUNNING TO PARK POSITION.)**

#### **Procedure**

(1) Remove motor wiring connector and clean terminals. Reconnect connector and test motor. If problem persists, proceed to Step No. 2.

(2) Put panel switch in park position.

(3) Connect a voltmeter or test lamp between Terminal P<sub>1</sub>, and ground.

If there is 12 volts or test lamp lights at Terminal P<sub>1</sub>, check the voltage at Terminal P<sub>2</sub>. If voltage at Terminal P<sub>2</sub> is 0 or test lamp does not light motor park switch is faulty and gearbox assembly must be replaced (Refer to motor repair section for motor disassembly and re-assembly procedures). If there is 12 volts at Terminal P<sub>2</sub>, or test lamp comes on, there is an open in the panel switch or the wiring.

### **TWO SPEED PANEL SWITCH TESTS (Figs. 5 and 6)**

To test the switch, disconnect the wiring and remove from the instrument panel. For removal and installation of the wiper switch see "Instrument Panels".

Using a continuity tester or an ohmmeter, test for