FORD MOTOR CO.

DESCRIPTION

Power windows are operated by reversible type motors mounted with each individual window regulator. Each window has an individual switch for separate control. A master control switch is located on the left front door, and all windows may be controlled from this switch. A lock out switch is incorporated in the master switch and when actuated prevents window operation from the individual switches. A relay prevents window operation unless the ignition switch is in "ON" or "ACC" position.

Power Mini-Vent Windows are used on Lincoln Continental, Lincoln Mark V and Thunderbird. The mini-vent system actuates both vent and main side glass.

TESTING

WINDOW MOTOR

With motor and drive assembly removed from vehicle, connect a fully charged battery to motor with an ammeter connected in series. Current draw for this no load test should not exceed 5 amps. at 12.8 volts, and should not fluctuate. Reversal of battery connections will reverse motor rotation and current draw should be the same. Motor must be replaced if current draw exceeds specifications.

MASTER WINDOW SWITCH

1) Test procedures are performed using a self powered test light or ohmmeter. All test procedures are performed with switch removed from vehicle. See *illustration for reference to pin numbers referred to in test procedures.*

2) Connect one test lead probe to pin three, which is grounded. With all switches in neutral position, pins four through eleven should have continuity with pin three.

3) Push any one of all four switches forward. All odd numbered pins of switch pushed forward should lose continuity with pin three.

4) Push any one of all four switches rearward and all even numbered pins (four through ten) of switch pushed rearward should lose continuity with pin three.

5) Remove test lead probe from pin three and connect to pin two. With all switches in neutral position, only pin one should have continuity with pin two.

6) Push any one of all four switches forward and hold in that position. All odd numbered pins of switch pushed forward should have continuity with pin two.

7) Push any one of all four switches rearward and hold in that position. All even numbered pins of the switch pushed rearward should have continuity with pin two. If any one switch does not test correctly, as previously outlined, switch must be replaced.

SINGLE WINDOW SWITCH

NOTE - *Granada, Monarch, LTD II, Cougar, Fairmont & Zephyr models use two single switches as a master switch, instead of a multiple master switch. Switches are tested using single window switch test procedures.*

1) Test procedures are performed using a self powered test light or ohmmeter. All tests are performed with switch removed from vehicle. See *illustration for reference to pin numbers referred to in test procedures.*

2) With switch removed and in neutral position, there should be continuity between pins one and three, two and five, and four and six.

3) With switch pushed down, there should be continuity between pins two, four and five, and one and three. Pin six should be disconnected from all others.

4) With switch pushed up, there should be continuity between pins two, three and five, and four and six. Pin one should be disconnected from all others. If switch does not test correctly, as previously outlined, switch must be replaced.

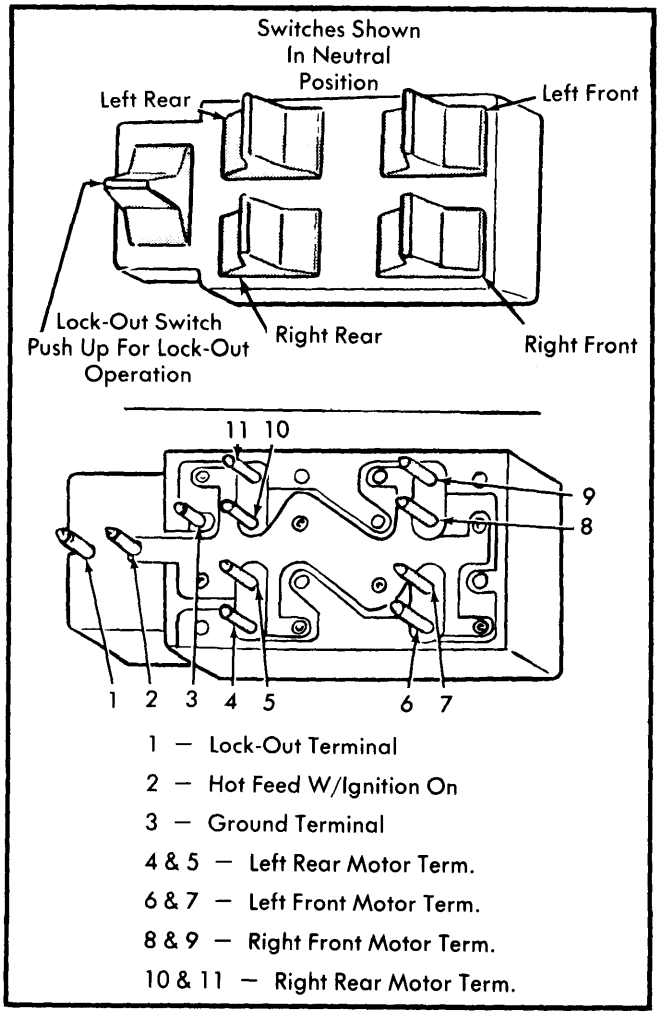
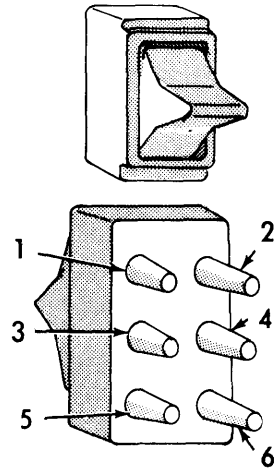


Fig. 1 Power Window Multiple Switch Pin Connection Location and Identification

WINDOW RELAY

With one test lamp lead connected to relay output side and ignition in "ON" or "ACC" position, test lamp should light. If lamp does not light, check continuity of wiring harness from ignition switch to actuating terminal on relay. Check voltage at input terminal. If wiring and voltage are good, replace relay.

FORD MOTOR CO. (Cont.)



1 — Hot Feed Or Ground From Master Switch.

2 — Hot Feed Single Switch

3 — Up Motor Term.

4 — Down Motor Term.

5 — Hot Feed

6 — Hot Feed Or Ground From Master Switch.

Fig. 2 Power Window Single Switch Pin Connection Location and Identification

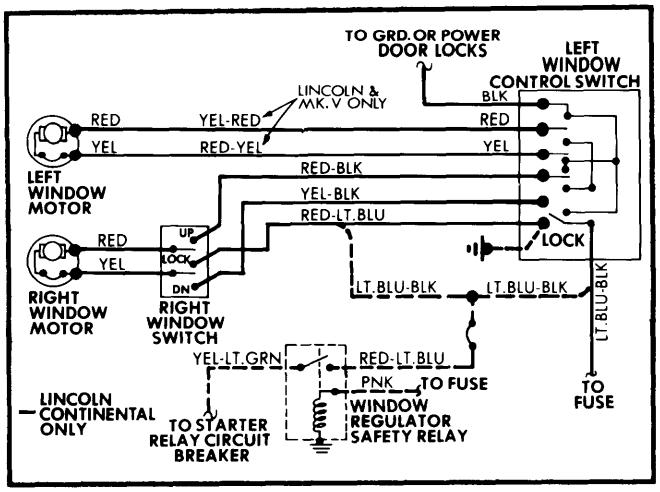


Fig. 4 Two Door Model Power Window Wiring Ford, Mercury, Continental Mark V

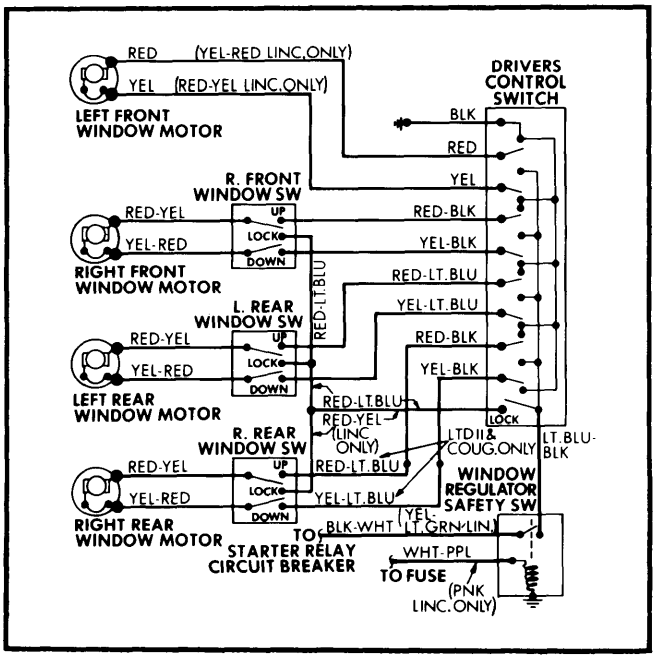


Fig. 5 Ford Motor Co. Four-Door Models Power Window Wiring Diagram

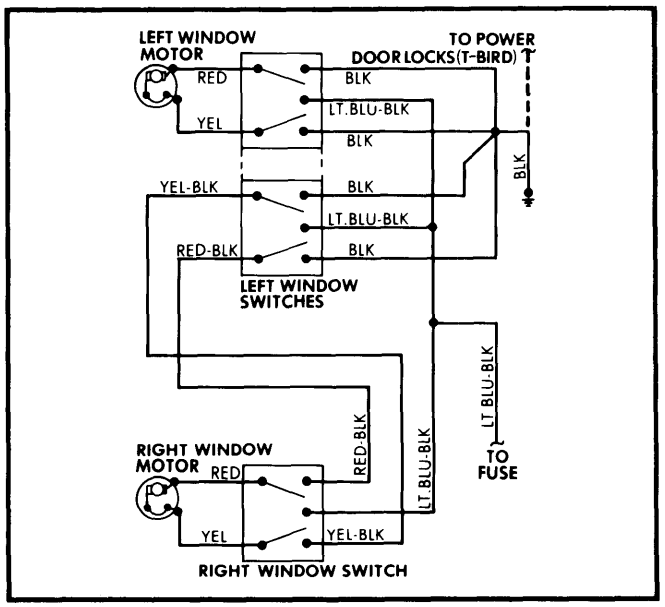


Fig. 3 Two-Door Models Power Window Wiring Diagram LTD II, Cougar, Granada, Monarch Thunderbird and Versailles

REMOVAL & INSTALLATION

POWER WINDOW SWITCH

Removal (Granada, Monarch, LTD II, Cougar, Fairmont & Zephyr) — Remove switch bezel retaining screw from bottom side of switch. Pivot lower edge of bezel out and up. Switch is held in place by electrical contact pins. Carefully pry switch from connector with a small blade screwdriver.

Installation — To install, reverse removal procedure.

Removal (Lincoln Continental, Lincoln Mark V, Versailles, Thunderbird & XR7) — Remove screw from front of bezel and switch from arm rest. On drivers door, bezel and nut for remote control mirror must also be removed. Switch can then be separated from connector.

Installation — To install, reverse removal procedure.

FORD MOTOR CO. (Cont.)

FRONT DOOR WINDOW MOTOR & DRIVE

NOTE — *For all models, remove trim panel, watershield and door mounted radio speakers (if equipped).*

Removal (All Models) — If door is not equipped with access holes for motor and drive retaining screws, drill ½" holes, using a hole saw, in door. Dimples located on inner door panel are used as a guide for hole positioning. Disconnect multiple connector at motor. Remove motor and drive retaining bolts, motor and drive.

Installation — To install motor and drive, reverse removal procedure. To insure correct motor drive gear engagement to regulator, temporarily install motor to regulator with screws. Cycle motor and tighten screws after gears engage.

REAR DOOR WINDOW MOTOR & DRIVE

NOTE — *For all models, first remove rear door trim panel, watershield and support glass in up position before removing motor assembly.*

Removal (All Models) — Follow same procedure as outlined in FRONT DOOR WINDOW MOTOR & DRIVE REMOVAL.

Installation — Follow same procedure as outlined in FRONT DOOR WINDOW MOTOR & DRIVE INSTALLATION.

POWER MINI-VENT WINDOW MOTOR & DRIVE

Removal (Thunderbird, Continental Mark V & Lincoln Continental) — **1)** Remove door trim panel and water shield. Drill a ¾" access hole in dimple located at bottom edge of door opposite window motor drive.

CAUTION — *Hole saw pilot drill should not protrude more than ¼" beyond hole saw.*

2) Disconnect multiple connector at motor. Remove motor and drive retaining screws through 2 existing holes and new hole just drilled. Separate motor and drive from regulator and remove from door.

Installation — To install motor and drive, reverse removal procedure. To ensure correct motor and drive gear engagement to regulator, temporarily install motor to regulator with screws. Cycle motor and tighten screws after gears engage.