Electric Window Controls

1974 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 the ON or ACC position.

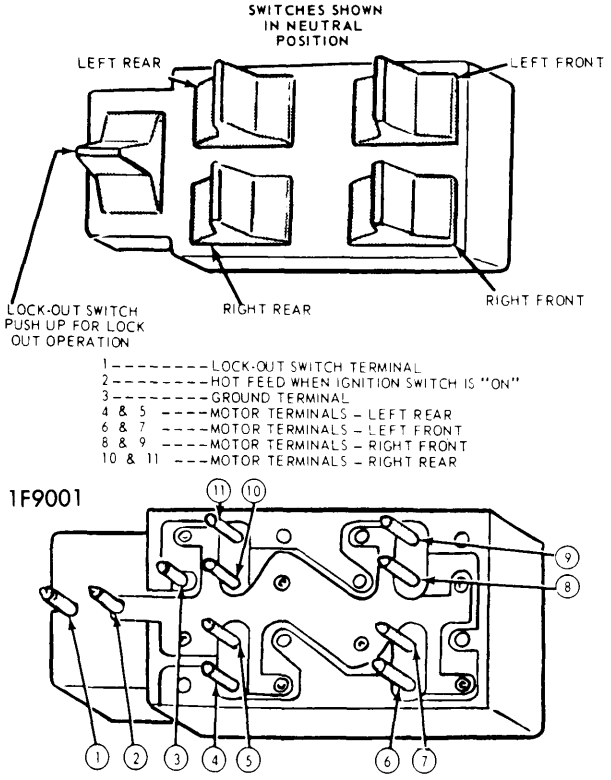
TESTING

Window Motor (Permanent Magnet) – With the motor removed from the vehicle, connect a fully charged battery to the motor with an ammeter in series. Current draw for this no load test should not exceed 5 amps. @ 12.8 volts, and should not fluctuate. Reversal of the battery connections will reverse direction of rotation and the current draw should be the same. Replace motor if current draw exceeds specifications.

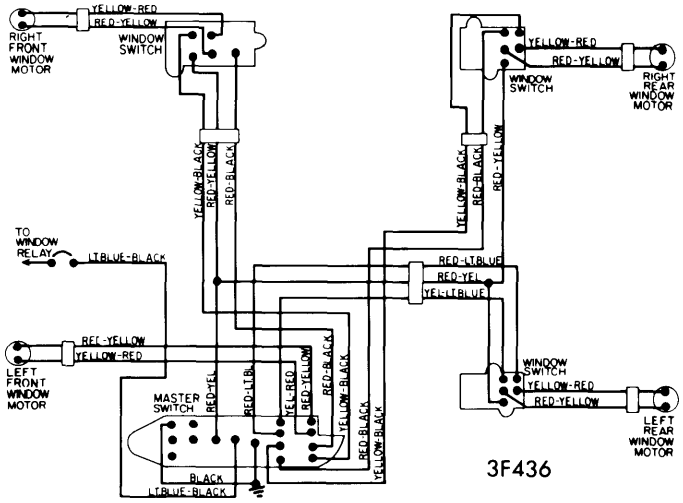
Power Window Master Switch – With switch removed from door, use a self powered test light or ohmmeter to perform following tests. *See illustration for pin numbers.*

1) Clip one test lead probe on switch pin No. 3 which is grounded. With all switches in neutral position, pins No. 4 through 11 should have continuity to pin No. 3.

2) Push any one or all four of the switches forward. All odd numbered pins of the switches pushed forward should lose continuity to pin No. 3.



POWER WINDOW MULTIPLE MASTER SWITCH PIN CONNECTIONS & NUMBERS



LINCOLN CONTINENTAL POWER WINDOW WIRING

3) Push any one or all four switches rearward and all even numbered pins (4 through 11) of the switches pushed rearward should lose continuity to pin No. 3.

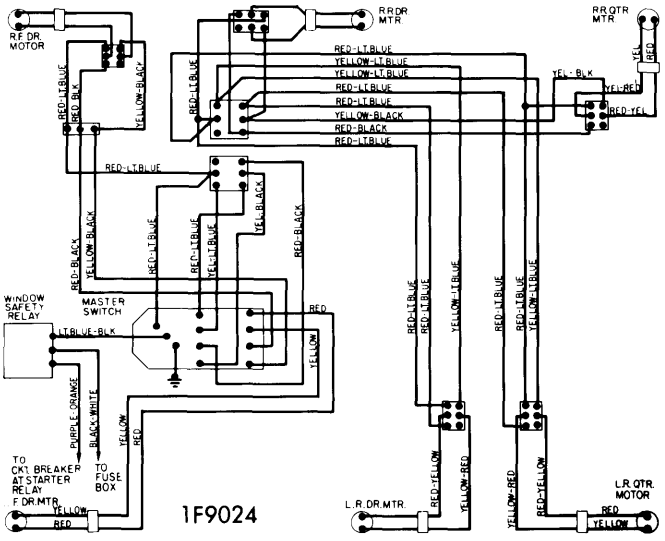
4) Remove test lead clip from pin No. 3 and connect it to pin No. 2. With all switches in neutral position, only pin No. 1 should have continuity to pin No. 2.

5) Push any one or all four switches forward and hold in that position. All odd numbered pins of switches pushed forward should have continuity to pin No. 2.

6) Pull any one or all four switches rearward and hold in that position. All even numbered pins of the switches pulled rearward should have continuity to pin No. 2.

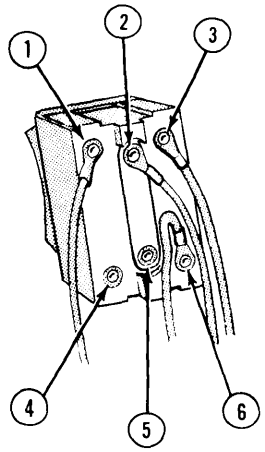
7) If any one switch does not test as above, replace switch.

Power Window Single Switch – Torino, Montego and Cougar two-door models use two single switches as a master switch instead of the multiple master switch. Tests all single switches with a self powered test light or ohmmeter as follows:



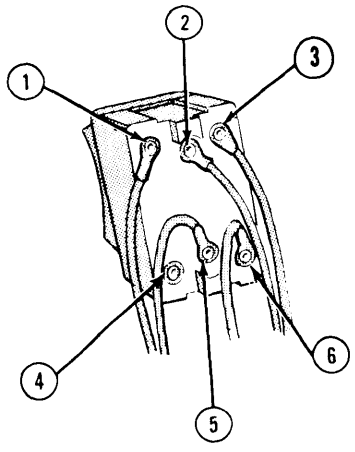
FORD & MERCURY POWER WINDOW WIRING

1974 FORD MOTOR CO. (Cont.)



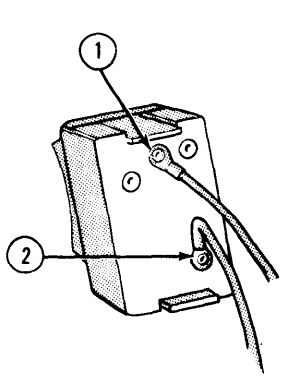
① MOTOR TERMINAL – DOWN
② GROUND
③ BATTERY FEED
④ INTERNALLY CONNECTED TO TERMINAL 3
⑤ CONNECTED BY BUSS BAR TO TERMINAL 2
⑥ MOTOR TERMINAL – UP

Single Switch Test (With External Buss Bar)



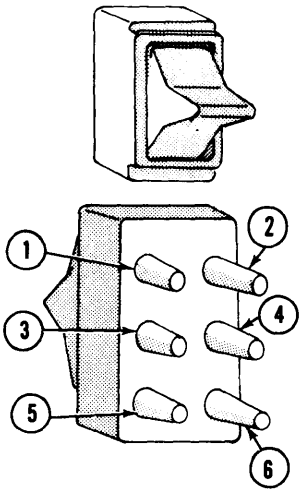
① MOTOR TERMINAL – DOWN
② GROUND OR REMOTE FEED
③ BATTERY FEED
④ INTERNALLY CONNECTED TO TERMINAL 3
⑤ GROUND OR REMOTE FEED
⑥ MOTOR TERMINAL – UP

Single Switch Test (Without Buss Bar)



① WINDOW CIRCUIT FEED
② BATTERY FEED

Window Lockout Switch Test



4FO02

① POWER FEED, OR GROUND FROM DRIVERS SWITCH (ALLOWS OPERATION OF INDIVIDUAL WINDOWS FROM L. F. DOOR)
② HOT FEED FOR SINGLE SWITCH (BUS BAR TO PIN NO. 5)
③ MOTOR TERMINAL – UP
④ MOTOR TERMINAL – DOWN
⑤ HOT FEED
⑥ POWER FEED, OR GROUND FROM DRIVERS SWITCH (ALLOWS OPERATION OF INDIVIDUAL WINDOWS FROM L. F. DOOR)

Single Power Window Switch Test

POWER WINDOW SINGLE SWITCH PIN CONNECTIONS & NUMBERS

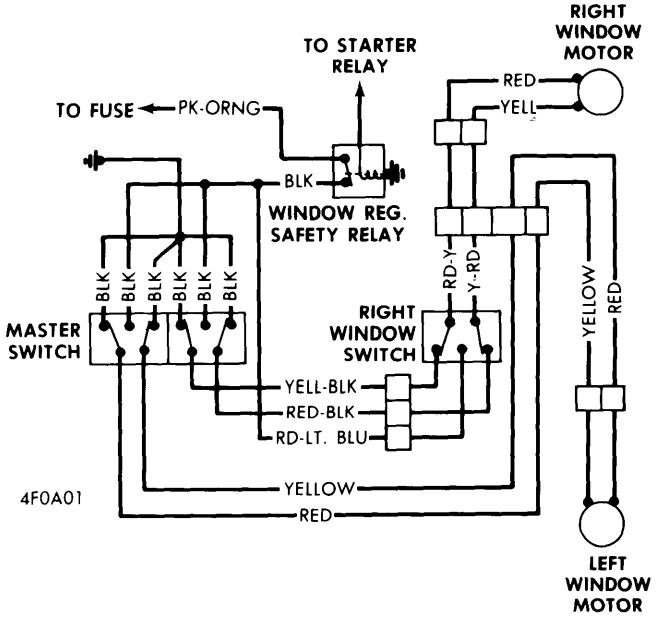
1) With switch removed from door and in neutral position, there should be no continuity between terminals 1 & 3, 2 & 5 and 4 & 6 (see illustration).

2) With switch toggle pushed downward, there should be continuity between terminals 2, 4 & 5, and 1 & 3. Terminal 6 should be disconnected from all other terminals.

3) With switch toggle pushed upward, there should be continuity between terminals 2, 3 & 5, and 4 & 6. Terminal 1 should be disconnected from all other terminals. If switch does not function properly, replace switch.

Power Window Relay – Relay location in engine compartment varies with different models. Torino, Montego and Cougar; relay is located to left of center of firewall. Ford, Mercury, Continental and Meteor; located on firewall above and to right of brake master cylinder. Thunderbird and Mark IV; located on firewall left side above wire connectors.

Relay Testing – Connect one lead of a test lamp to ground and the other to output side of relay. Turn ignition switch to "ON" or "ACC" position and test lamp should light. If not, test continuity of wiring from ignition switch to actuating terminal of relay. Check voltage availability at input terminal of relay. If wiring and voltage is functioning correctly, replace relay.



COUGAR, MONTEGO & TORINO 2 DR. POWER WINDOW WIRING

REMOVAL & INSTALLATION

POWER WINDOW SWITCH

Ford, Mercury, Meteor, Mark IV, Thunderbird, Continental – Remove screw from front of bezel, lift bezel and switch from arm rest. On driver's door, bezel and nut for remote control mirror must also be removed. Switch can then be separated from connector. To install, reverse procedure.

Torino, Montego, Cougar – Remove switch bezel retaining screw from bottom side of switch. Then 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 screwdriver. To install, reverse procedure.

FRONT DOOR WINDOW MOTOR & DRIVE

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

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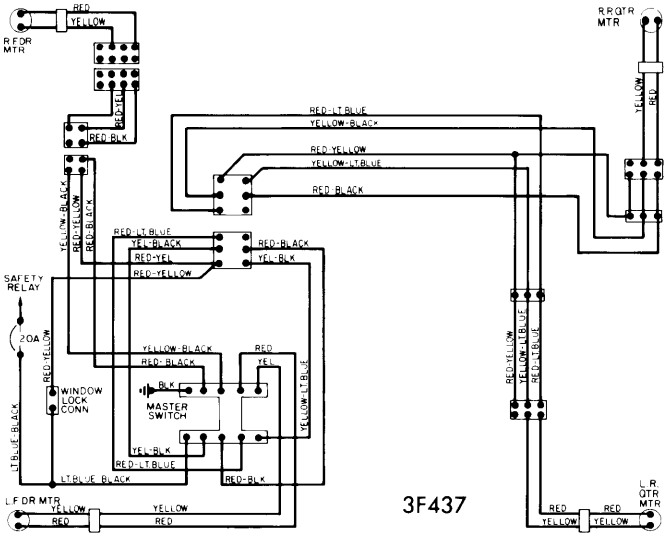
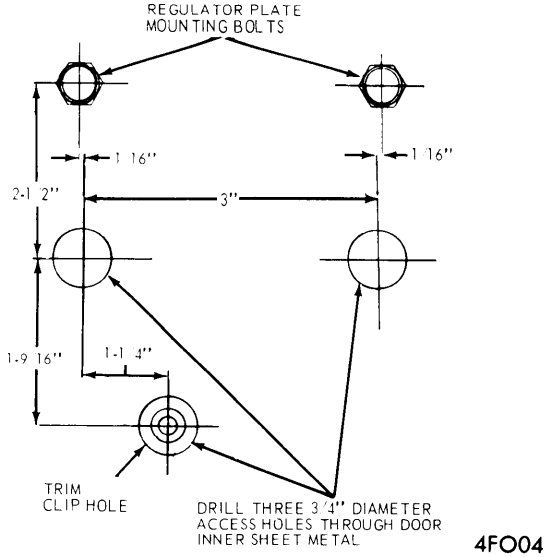
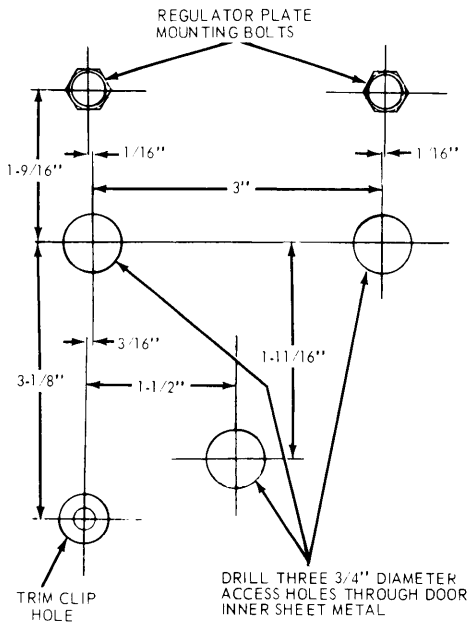


MARK IV & THUNDERBIRD POWER WINDOW WIRING



Continental (Dual Tubular Run Window System) – 1) Make a template from dimensions given in illustrations. Templates shown are for right doors, reverse templates for left doors.

2) Position template on door and center punch drill locations. Remove template and drill holes with a ¾" hole saw. *NOTE – Raise glass to full up position before drilling.* Saw pilot drill should be as short as possible, about ¼" beyond saw.



LINCOLN CONTINENTAL DUAL TUBULAR RUN WINDOW SYSTEM TEMPLATE DIMENSIONS (2-DR.)

LINCOLN CONTINENTAL DUAL TUBULAR RUN WINDOW SYSTEM TEMPLATE DIMENSIONS (4-DR.)

3) Disconnect motor wires at connector. Working through the ¾" holes, remove motor and drive-to-regulator attaching screws. Remove motor and drive from door.

4) To install, reverse removal procedure. To ensure proper motor drive gear engagement to regulator, temporarily install motor to regulator with screws. Cycle motor, after gears engage, tighten screws.

Cougar, Torino, Montego, Thunderbird, Mark IV, (Single Tubular Run Window) – Disconnect motor wires at connector. Working through ¾" holes, remove three motor and drive-to-regulator attaching screws. Then remove motor and drive assembly. To install motor, reverse removal procedure. To ensure proper motor drive gear engagement to regulator, install motor to regulator with screws hand tight and cycle motor. After gears engage, tighten screws.

Ford, Mercury, Meteor (Mini-Vent Window) – 1) Drill a ¾" hole in dimple located near bottom edge of door opposite window motor drive. The hole saw pilot drill should be as short as possible, about ½" beyond saw.

2) Disconnect motor wires at connector. Remove center pin from rivet attaching motor support to inner panel with a drift punch. Remove rivet with a ¼" drill. Working through the two existing holes and drilled hole, remove motor and drive attaching screws and remove assembly from door.

3) To install, reverse removal procedure. To ensure proper motor drive gear engagement to regulator, temporarily install motor to regulator with screws. Cycle motor, after gears engage, tighten screws. Install a nut and retainer assembly (Part No. 354394-S2) on motor bracket. Use a ¼-20 x ½" screw in place of rivet for motor bracket.

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.

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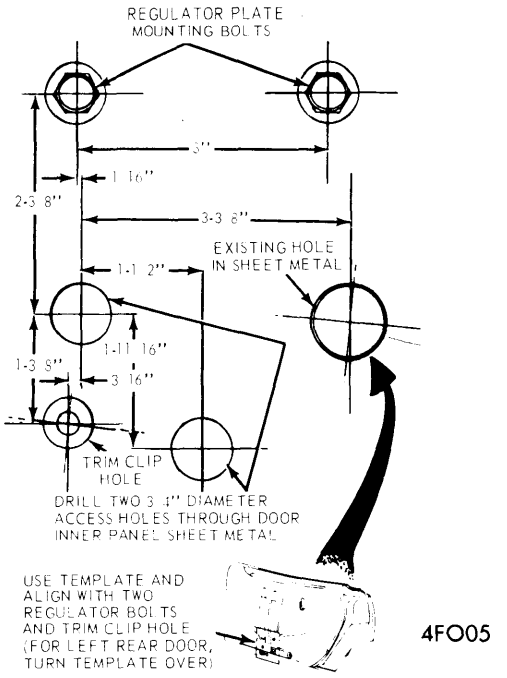
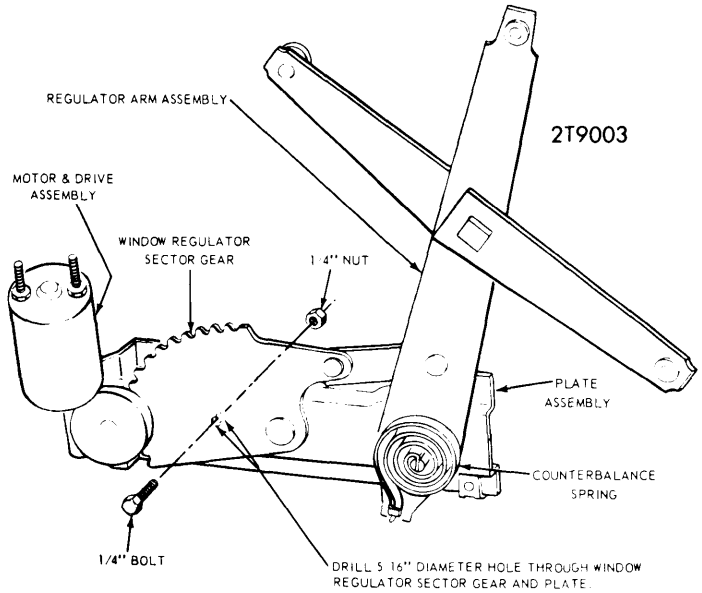
Continental (Tubular Run & Channel Guide) – Procedure for removal and installation of rear door window motor is same as front door procedure, except a different template is used. *See Continental Front Door Window Motor Removal and Installation.*



LINCOLN TUBULAR RUN & CHANNEL GUIDE WINDOW TEMPLATE DIMENSIONS (REAR DOOR)

Ford, Mercury & Meteor Model 57 (Single Guide Window System) – Remove three motor and drive assembly attaching screws through access holes provided. Disconnect motor wires at connector and remove motor from door. To install, reverse procedure. Temporarily install motor attaching screws. Cycle motor to insure proper engagement of drive-to-sector gears, then tighten screws.



MOTOR & DRIVE ASSEMBLY REMOVAL

Torino, Montego, Ford, Mercury, Metor (Single Tubular Run Window System) – Disconnect motor wires at connector. With Ford, Mercury and Meteor, locate drill dimple for motor and drive lower attaching screw. Drill a ¾" hole in dimple location. Working through holes in door panel, remove motor assembly attaching screws and remove motor. To install, reverse procedure. Temporarily install motor attaching screws. Cycle motor to ensure proper engagement of drive-to-sector gears, then tighten screws.

QUARTER WINDOW REGULATOR & MOTOR

Continental (Tubular Run & Channel Guide Window System) – 1) Regulator and motor must be removed as an assembly. Remove quarter trim panel and watershield. Remove trim panel front retainer bracket.

2) Remove regulator equalizer arm inner panel attaching screw. Lower glass and remove front guide, then remove rear upper stop. Support glass and remove glass channel bracket. Disconnect motor wires and motor support bracket.

3) Remove center pin from regulator and motor support attaching rivets with a drift punch, then drill out rivets. Disengage regulator arm roller from glass channel. Raise glass partially and remove it from rear guide. Remove rear guide and regulator from quarter panel. To separate motor from regulator, mount assembly in a vise and drill a 5/16" hole through sector gear and regulator plate (see illustration). Install a ¼" bolt in hole to keep gear from moving when motor is removed. This must be done to prevent personal injury.

4) To install, reverse removal procedure. Bolt regulator and motor mounting plate to inner panel in place of rivets. Install suitable nut and retainer assembly fasteners (Part No. 378622-S2) on regulator mount plate and motor support plate. Use ¼ x ½" regulator attaching screws.

Torino, Thunderbird, Mark IV (Guide & Run Sliding Window System) – 1) Motor and regulator must be removed as an assembly. Remove quarter trim panel and watershield. Remove center pin from the four rivets attaching regulator to inner panel with a drift punch. Drill out rivets with a ¼" drill.

2) Disconnect regulator motor wires, disengage window regulator arm from drive arm bracket and remove regulator and motor assembly.

3) To install, reverse removal procedure. Install four suitable nut and retainer fasteners (Part No. 378622-S2) on regulator mounting plate at attaching holes. Install regulator assembly in panel and use ¼ x ½" screws.

Ford, Mercury & Meteor Model 65 (Single Guide Window System) – 1) Motor may be removed without removing regulator. Remove quarter trim panel and watershield. Locate two drill dimples in quarter inner panel, raise glass fully up and drill dimples with a ¾" hole saw. Hole saw pilot drill should be as short as possible, about ¼" beyond saw. Disconnect motor lead wires at connector. Remove motor attaching screws and remove motor from regulator.

2) To install motor, reverse procedure. Temporarily install motor attaching screws. Cycle motor to ensure proper engagement of drive-to-sector gears, then tighten screws.