

Electric Sunroof

4-19

CHRYSLER CORP., FORD MOTOR CO., GENERAL MOTORS

DESCRIPTION

Sunroof is operated by a two position switch, operable with ignition switch on. When activated, sunroof moves down and retracts rearward, moving on guide rails to storage place between headlining and roof. Sunroof can be partially left open by releasing control switch at any position in either direction of travel.

ELECTRICAL SYSTEM

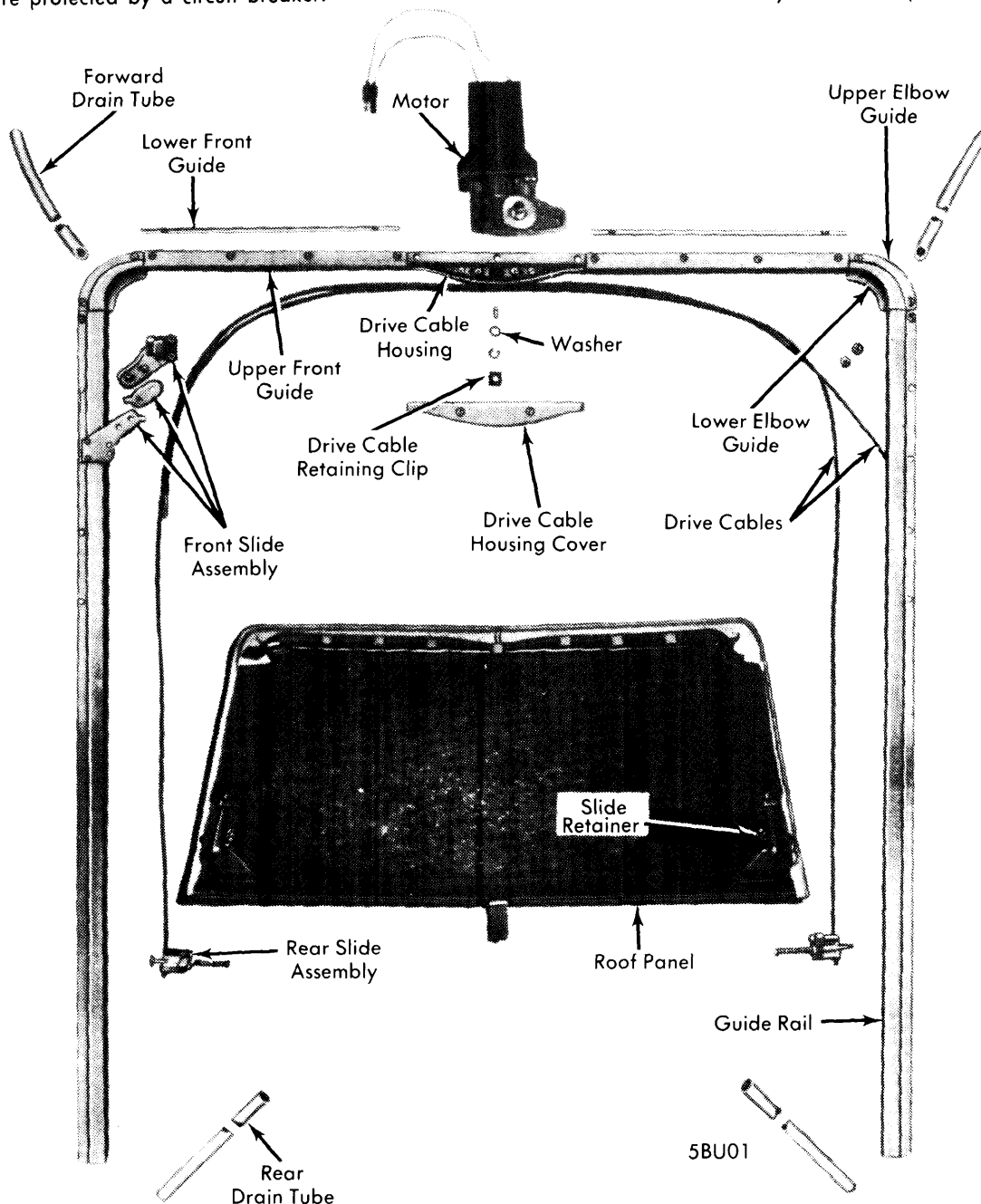
Chrysler Corp. — Sunroof is actuated by a two-way electric motor mounted near center of windshield header area. Motor and wiring are protected by a circuit breaker.

Ford Motor Co. — Sun roof is actuated by a two-way electric motor mounted at center of windshield header area. Motor is operated by a two-way control switch on roof panel.

General Motors — Electric power is supplied from a fuse mounted 40 ampere circuit breaker, then wiring leads to an accessory junction block and ignition relay located on reinforcement at left shroud. Wiring is then routed from relay up through left pillar and across headliner to control switch.

MANUAL OPERATION

Sunroof can be closed manually in the event of power failure as follows: Remove auxiliary drive cover (small round plug in



**BUICK SUNROOF HARDWARE
ALL OTHER MODELS SIMILAR**

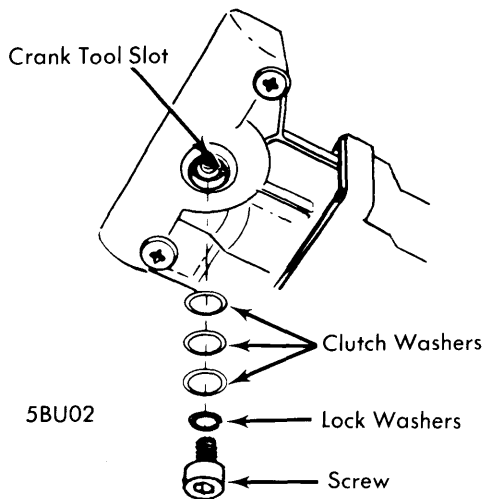
CHRYSLER CORP., FORD MOTOR CO., GENERAL MOTORS (Cont.)

center of headliner near front edge of roof opening) by grasping with fingers and pulling outward. Using hex head auxiliary crank tool, remove Allen screw from motor drive assembly noting number and type of washers removed with the screw. Screw and washers provide drive clutch adjustment. Insert threaded end of crank in socket in winding gear, and turn crank clockwise to close sunroof. After closing, install screw with washers in proper order, tighten screw securely and replace plug.

TROUBLE SHOOTING & ADJUSTMENT

SLIPPING CLUTCH

If motor runs freely and panel fails to close completely, clutch in auxiliary drive is slipping and requires adjustment. Remove auxiliary drive cover and tighten adjusting screw. If clutch still slips, remove screw and add washer(s), supplied with operating handle in glove box. Tighten screw and check operation.



CLUTCH SCREW & ADJUSTING WASHERS

ROOF PANEL DOES NOT RUN TRUE

Close roof panel to determine side that jams. Open roof panel, remove drive housing center cover and pry off cable retaining clip. **CAUTION** — Clip is made of spring steel, hold hand over clip to prevent rapid spring up. To move right side forward, lift right cable at front of pinion and pull one or more teeth to left. Install retaining clip and drive housing cover, and check operation. Follow same procedure on left side to move left side forward.

CAUTION — DO NOT accidentally move panel while cable is off pinion.

CABLE GUIDE ALIGNMENT

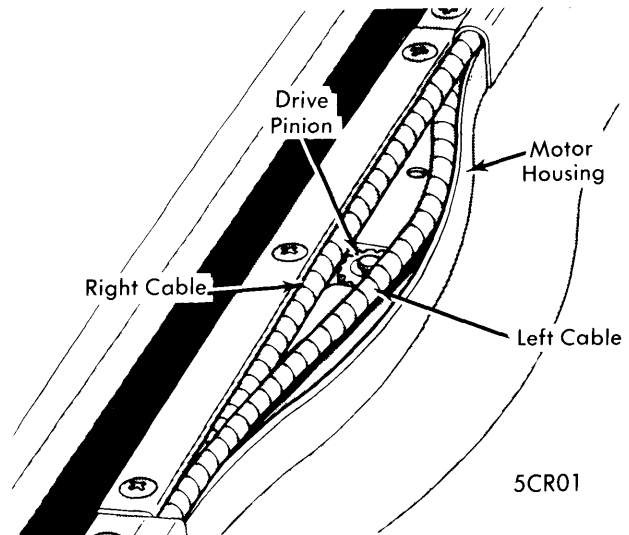
If roof panel jams during operation, check both front corner lower cable guides for alignment with front and side guides. If necessary, shim lower corner guides for alignment with adjacent guides. If panel fails to rise, joints of cable slides are out of alignment and are jamming cable drive. Loosen guide rail, corner and connector rails, and cable drive housing retaining screws a few turns. Retighten screws one by one, continually activating the drive mechanism. Where necessary, realign points where resistance is felt.

REMOVAL & INSTALLATION

MOTOR & DRIVE GEAR

Chrysler Corp. — 1) Remove visors and bracket, and upper front and side garnish moldings. Remove both left and right "A" post moldings. Pull switch bezel down gently to remove from header. Pull headliner down gently to remove from spurs and cemented area. Remove cable guide cover and drive cable retaining clip.

2) Remove front cable guide mounting screws (both left and right) and cable guide retainer. Remove fabric around motor mounting screws (if necessary). Disconnect both harness leads to motor, marking connectors and switch for correct installation. Remove motor mounting screws and remove motor from under header and lining. To install, reverse removal procedure.



ROOF DRIVE CABLE REMOVAL

Ford Motor Co. — 1) Slide sunroof panel fully open and disconnect battery ground cable. Remove cable drive housing cover, drive cable retaining clip and disengage drive cables from pinion.

2) If only drive pinion is being replaced, remove snap ring flat washer and pinion from shaft. Install new pinion, secure with flat washer and snap ring. Re-engage cables to pinion, install retaining clip and cable drive housing cover.

3) Remove both sun visor assemblies, center bracket, motor and drive assembly. Pull control switch down from roof and remove windshield upper and side garnish molding and rail garnish moldings. To install, reverse removal procedure.

General Motors — 1) Open sunroof and disconnect battery cable. Disconnect headlining trim lace across front of sunroof opening and remove windshield garnish moldings, side rail garnish moldings, both sun visors and center sun visor bracket. Remove drive pinion cover button and access hole trim. Carefully grip control switch bezel and pull switch out from retainer in headlining.

2) Pull harness through opening and disconnect connector. Carefully detach headlining across front of sunroof opening and windshield header. Remove front cable guide cover and header pad. Remove electrical connectors from motor. Remove motor retaining screws and remove motor from under header

CHRYSLER CORP., FORD MOTOR CO., GENERAL MOTORS (Cont.)

lining. To install, reverse removal procedure. **NOTE** — Before installing motor, check sunroof alignment with opening and adjust as necessary.

SUNROOF SLIDING PANEL

Chrysler Corp. — Remove panel headlining and trim molding. Remove both left and right front guides. Pry spring loaded guide pin out of mounting in sunroof panel and remove rear cable guide assemblies. Raise panel slightly and remove leaf spring from slider spool on rear guide assembly. Remove panel out through top of roof. To install, reverse removal procedure.

Ford Motor Co. — 1) If equipped with Moon Roof option, halo molding must be removed first. Push sun shade to rear and open roof panel half way. Remove three screws on forward portion of molding. Close roof to within 3" of fully closed position and deflect front center of halo molding down so that tabs at front of molding are removed from track mechanism. Fully close roof panel and slide halo molding forward. Deflect rear center of molding down so that track slide surface is removed from track. Slide halo molding forward to remove.

2) On regular sunroof models, open sunroof approximately 3" and remove headlining trim panel retaining screws. Slide headlining trim panel forward out of retaining clips and then push trim panel rearward as far as possible.

3) On all sunroof models, remove outer and loosen inner retaining screws at both front guide shoe assemblies. Rotate guide assemblies so that slide portion is disengaged from track. Grip rear sunroof retainer pins and slide inward enough to disengage from guide pivot bracket. Rotate pins away from roof. Lift and remove roof up and out through top of vehicle. To install, reverse removal procedure.

General Motors (Buick LeSabre, Electra & Riviera) — 1) With sunroof open approximately 3", remove screws securing headlining panel to roof. Slide panel forward out of retaining clips. Close sunroof and push panel all the way to rear.

2) Remove outer and loosen inner retaining screws at both front guide shoe assemblies. Rotate guide assemblies so that slide portion is disengaged from track. Pull both rear slide and cable assemblies inward and out of retainer hole. Lift and remove sunroof up and out through top of vehicle. To install, reverse removal procedure.

General Motors (Cadillac) — 1) If equipped with Astrorof, halo molding must be removed first. Slide sunshade completely to rear and open roof panel half way. Remove three screws on forward portion of halo molding. Close roof to within 3" of fully closed position and deflect front center of halo molding down so that tabs at front of molding are removed from track mechanism. Fully close roof and slide molding forward. Deflect center rear of molding so track slide surface is removed from track. Slide halo molding forward to remove.

2) On regular sunroof models, open roof panel slightly and pry down front portion of headlining panel. Open sunroof to within 3" of fully open position to allow headlining frame to fall free of roof panel rear hooks. Pull headlining panel forward out of side guide rail tracks. Close sunroof and push headlining panel as far rearward as possible.

3) On all sunroof models, remove outer and loosen inner retaining screws at both front guide shoe assemblies. Rotate

guide assemblies so that slide portion is disengaged from track. Pull both rear slide and cable assemblies inward and out of retainer hole. Lift and remove sunroof up and out through top of vehicle. To install, reverse removal procedure.

General Motors (Century, Regal, Chevelle, Monte Carlo, Cutlass, LeMans, Gran Prix & Grand Am) — 1) Open sunroof approximately 8". Remove headlining panel, then slide headlining rearward into sunroof housing for stowage. Close sunroof. Remove outer and loosen inner retaining screws at both front guide shoe assemblies. Rotate each guide shoe inward to remove from guide rail.

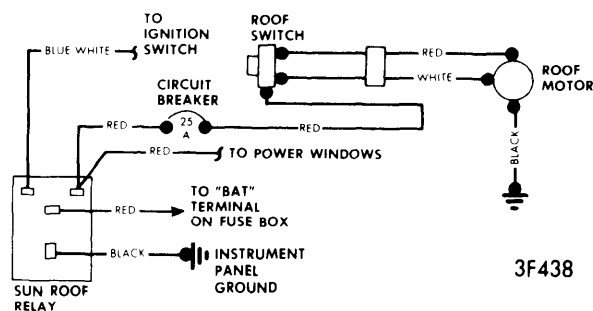
2) Remove rear guide retainer plate bolts and remove retainer plates. Disengage rear tension springs from roller and rotate springs inward. Raise front of panel and lift out from top of vehicle to remove. To install, reverse removal procedure.

REAR SLIDE & CABLE ASSEMBLY

Ford Motor Co. & Chrysler Corp. — **NOTE** — If one cable is defective, replace both. This assures parallel travel of roof panel. Remove sunroof panel as previously outlined. Remove cable drive housing cover and both front upper elbow guides. Pry off drive cable retaining clip. **CAUTION** — Clip is made of spring steel, cover clip when removing. Lift one cable free end from drive gear engagement and pull through front rail toward corner. Pull cable and slide out from side rail guide at corner. Remove opposite cable in same manner. To install, reverse removal procedures.

General Motors (Cadillac & Buick LeSabre, Electra & Riviera) — **NOTE** — If one cable is defective, replace both. This assures parallel travel of roof panel. Remove sunroof panel as previously outlined. Remove cable drive housing cover and both front upper elbow guides. Pry off cable retaining clip. **CAUTION** — Clip is made of spring steel, cover clip when removing. Lift one cable free end from drive gear engagement and pull through front rail toward corner. Pull cable and slide out from side rail guide at corner. Remove opposite cable in same manner. To install, reverse removal procedure.

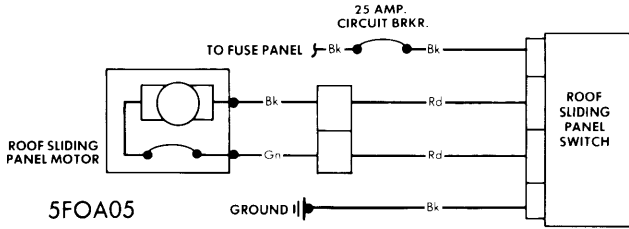
General Motors (Century, Regal, Chevelle, Monte Carlo, Cutlass, LeMans, Gran Prix & Grand Am) - **NOTE** — If one cable is defective, replace both. This assures parallel travel of roof panel. Remove sunroof panel as previously outlined. Disconnect trim lace and headlining at sides of sunroof opening. Working at top edge of sunroof opening, remove screws retaining each side guide rail, front stop and front guide cover. Remove center cable guide. Disengage side guide rail from front guide rail and pull rear guide and cable assembly forward out of side guide rail. Remove opposite cable in same manner. To install, reverse removal procedure.



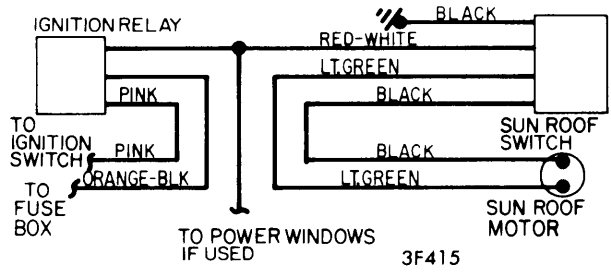
CHRYSLER CORP. SUNROOF WIRING DIAGRAM

Electric Sunroof

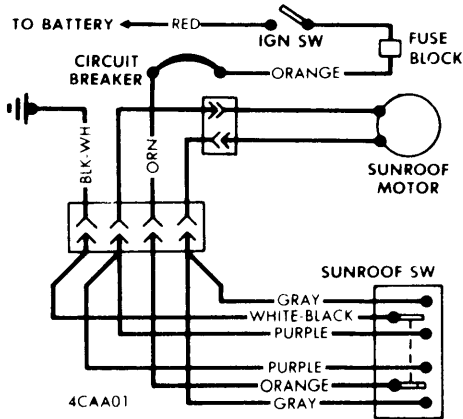
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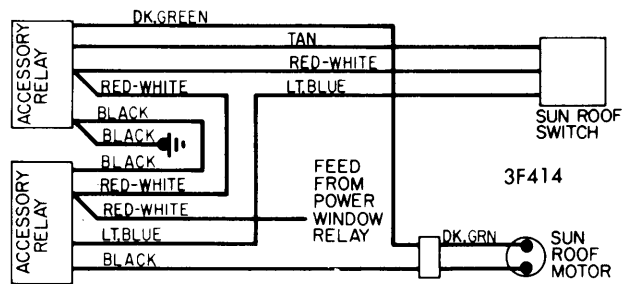
FORD MOTOR CO. SUNROOF WIRING DIAGRAM



CENTURY, REGAL, CHEVELLE, MONTE CARLO, CUTLASS
LeMANS, GRAND PRIX & GRAND AM
SUNROOF WIRING DIAGRAM



CADILLAC SUNROOF WIRING DIAGRAM



LeSABRE, ELECTRA & RIVIERA
SUNROOF WIRING DIAGRAM