ALL MODELS

DESCRIPTION

Ignition switches are mounted on steering columns and are actuated by a rod which is attached to ignition key locking mechanisms. On some models, the dimmer switch is located near the ignition switch and is actuated by a rod which is attached to the turn signal switch lever. The speed control switch (if equipped), is integral with the turn signal lever.

LOCK CYLINDER

All Models – Lock has two wing tabs and ignition key has large head for ease in grasping and improved operating leverage. Key can be removed only in "LOCK" position with ignition off and transmission engaged (automatic transmission in "PARK", manual transmission in reverse). Steering wheel will be locked or will lock immediately when wheel is turned.

IGNITION SWITCH

All Models – Sliding type switch mounted on steering column and controlled by an actuating rod which is operated by the lock cylinder through a rack-and-sector mechanism. Up and down movement of actuator moves switch slider back and forth within switch housing, establishing various switch positions.

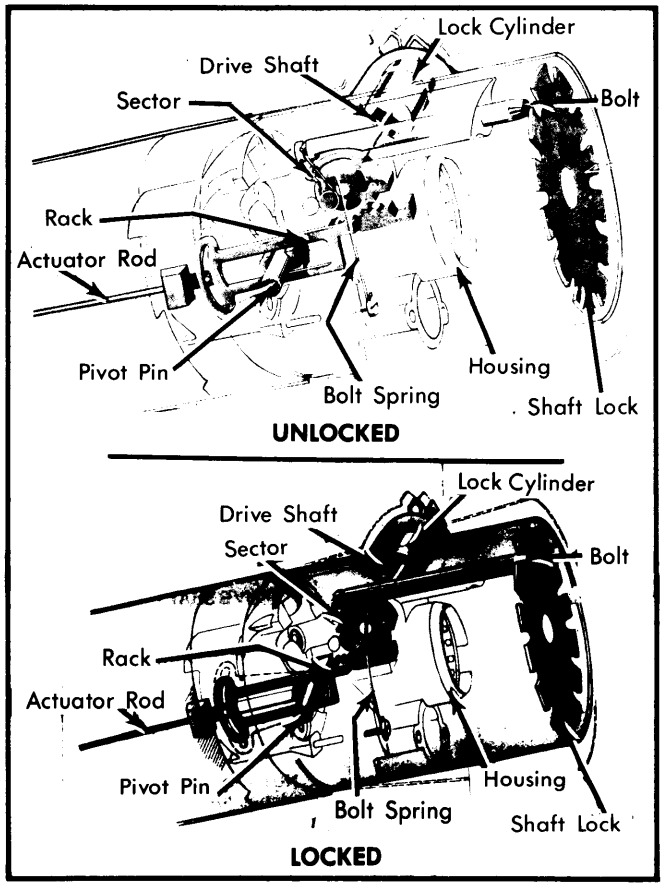

Fig. 1 General Motors Steering Column Locking Mechanism (Others Similar)

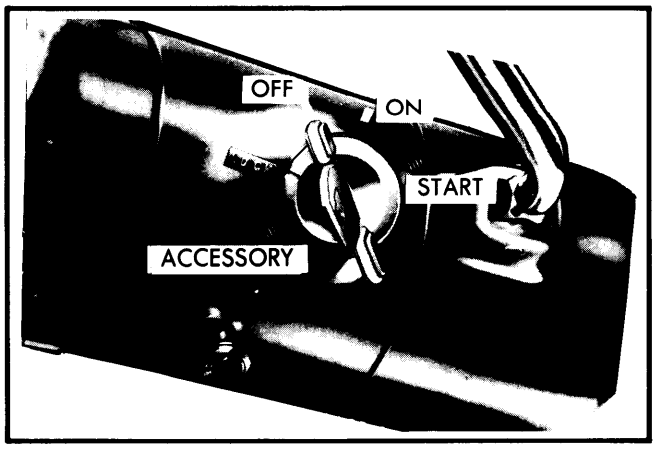

Fig. 2 Steering Column Lock Positions Common to All Models

SERVICING

Steering column must be lowered or removed for access to ignition switch on some vehicles. Steering wheel, directional signal and other components must be removed to gain access to lock cylinder retaining tab for lock cylinder removal.

CAUTION – *Steering columns are collapsible; special care must be taken to avoid bumping, jolting or hammering on steering shaft and gearshift tube.*

REMOVAL & INSTALLATION

TURN SIGNAL SWITCH

Removal (American Motors) – **1)** Remove steering wheel. Remove lock plate cover by prying out of housing with 2 screwdrivers. Using suitable tool (J-23653), depress lock plate, pry snap ring from steering shaft groove and discard.

NOTE – *If shaft has metric threads, compressor tool must use Metric Forcing Screw (J-23653-4).*

2) Remove tool, snap ring, lock plate, directional signal cancelling cam, upper bearing preload spring and thrust washer from steering shaft. Place directional signal lever in right turn position and remove lever.

3) Depress hazard warning light switch and remove button by turning counterclockwise. Disconnect directional signal harness at connector block and tape to prevent sagging. Remove switch screws and pull switch and harness from column. Loosen steering column bracket screws if necessary to clear harness.

Installation – Install turn signal switch and tighten retaining screws to 35 INCH lbs. To complete installation, reverse removal procedure.

Removal (Chrysler Corp. Exc. Aries & Reliant) – **1)** Disconnect fusible link. Remove steering wheel and steering column cover. On LeBaron, Diplomat, St. Regis, Gran Fury, Newport, New Yorker and Imperial with tilt column, remove 2 nuts mounting column to lower panel reinforcement. Remove mounting bracket from steering column by removing 4 attaching bolts.

2) Remove wiring from steering column . Position gearshift lever full clockwise. If equipped with tilt steering, position at midpoint. Disconnect light blue wiring connector, remove signal lever attaching screw and pull lever from column.

ALL MODELS (Cont.)

NOTE – *If equipped with speed control, DO NOT remove lever, allow it to hang loose.*

3) Remove turn signal switch and upper retainer screws, carefully pull switch and wiring out of column.

Installation – Install guide wiring and switch down into column opening until switch is properly positioned. To complete installation, reverse removal procedure.

Removal (Chrysler Corp. Aries & Reliant) – **1)** Disconnect battery ground cable. Remove shift cable rod and cable. Disconnect wiring connectors, remove horn button pad and steering wheel. Pry out wiring trough retainers and remove wiring trough. Remove shift lever.

2) Remove 2 screws securing turn signal lever cover to housing and remove cover. Remove wiper switch assembly. Remove 2 screws securing wiper control to switch. Rotate control clockwise and remove shaft from switch. Remove upper bearing retaining screws. Remove retainer and lift switch up and out.

Installation – To install, reverse removal procedures.

Removal (Ford Motor Co.) – Disconnect negative battery cable. Remove upper and lower column shrouds. Remove switch lever by twisting and pulling it straight out. Peel back foam switch cover from turn signal switch. Disconnect electrical connectors. Remove 2 screws attaching switch to lock cylinder housing and disengage switch from housing.

Installation – Reroute wiring through column and secure switch to column. To complete installation, reverse removal procedure.

Removal (General Motors) – **1)** Remove steering wheel and lock plate. Remove upper bearing preload spring and turn signal cancelling cam. Remove upper thrust washer and turn signal lever. Push hazard switch in and unscrew knob.

2) Remove switch mounting screws, wrap a piece of tape around upper part of wires, then remove switch by pulling straight up. On column mounted dimmer switches, switch is mounted on left side of switch bowl.

Installation – Install switch and secure with mounting screws. To complete installation, reverse removal procedure.

SPEED CONTROL SWITCH

Removal (Chrysler Corp.) – **1)** Disconnect main fusible link in engine compartment. Remove steering column trim cover. On vehicles with tilt steering column, remove wiring trough from column.

2) Position gearshift lever to its full clockwise position (mid point for tilt steering columns). Disconnect speed control switch wiring harness connector. Remove turn signal attaching screw, remove lever and harness from column.

Installation – Use guide wire to install wire harness through steering column. Reconnect wiring harness connector. Position turn signal lever into place and secure with screw. To complete installation, reverse removal procedure.

Removal (Ford Motor Co. Exc. Escort & Lynx) – **1)** Pry center cover off steering wheel. Remove 4 retaining screws and remove outer cover. Remove 2 screws from back of steering wheel.

2) Unplug electrical connector and remove switch assembly. Remove steering wheel, remove screw holding brush assembly. Remove brush assembly and disconnect steering column pigtail.

Installation – Install brush assembly and steering wheel. Insert 2 screws from back of steering wheel into switch assembly. Insert electrical connector. To complete installation, reverse removal procedure.

Removal (Ford Motor Co. Escort & Lynx) – Remove steering wheel hub cover by lifting up on outside edges. Remove and discard steering wheel attaching nut. Using a puller (T67L-3600-A), remove steering wheel. Remove 6 screws securing back cover to steering wheel. Separate control switch connector from terminal on back cover. Remove speed control switch.

Installation – To install, reverse removal procedures, making sure control switch harness is positioned properly in lower steering wheel spoke. Use a new steering wheel attaching nut.

Removal (General Motors) – **1)** Disconnect battery ground cable. Remove lower trim panel and disconnect switch harness connector. Connect 24" follower wire to end of switch harness connector.

2) Pull turn signal lever (speed control lever) straight out of column. Remove lever and harness by pulling from column.

NOTE – *Leave follower wire in column to guide new wire harness back into column.*

Installation – Connect new harness to follower wire. Pull harness into column. Align key on turn signal lever with slot in turn signal switch. Push lever in until seated in snap lock. To complete installation, reverse removal procedure.

LOCK CYLINDER

NOTE – *If lock cylinder retaining tab is not visible through hole (slot) clean flashing away to gain access to lock retaining tab.*

Removal (American Motors) – Place key in "LOCK" position. Insert a thin tool (screwdriver or knife blade) into slot next to upper right switch mounting screw boss. Depress lock cylinder retaining tab and at same time pull lock cylinder from housing.

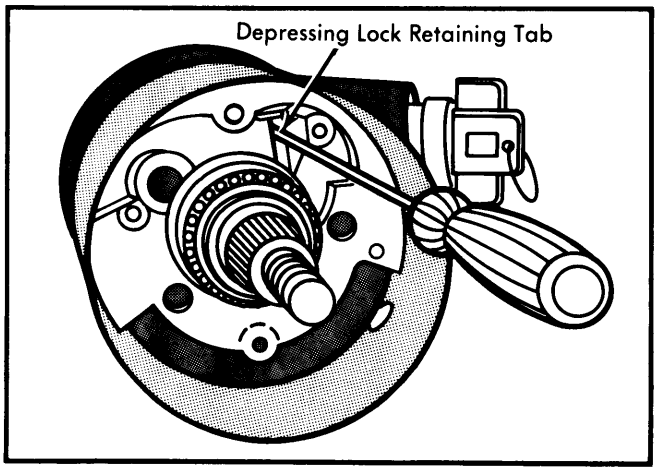

Fig. 3 Depressing Lock Cylinder Retaining Tab on American Motors Vehicles

ALL MODELS (Cont.)

Installation – **1)** Hold lock cylinder sleeve and rotate cylinder clockwise against stop. Insert cylinder into housing with key on cylinder sleeve aligned with keyway in housing.

2) Lightly push cylinder against sector, rotate cylinder counterclockwise until cylinder mates with sector. Push in until cylinder retainer tab snaps into place and cylinder is secured.

Removal (Chrysler Corp. Omni & Horizon) – Remove steering wheel, both column covers and turn signal switch. Use a hack saw blade and cut the upper ¼" from the key cylinder retainer pin boss. Using a drift punch, drive roll pin from housing and remove key cylinder.

Installation – Insert cylinder into housing making sure that it engages lug on ignition switch driver. Install the roll pin.

Removal (Chrysler Corp. All Others) – Place cylinder in "LOCK" position. Insert a small screwdriver or similar tool into slot next to switch mounting screw boss (right hand slot). Depress spring latch at bottom of slot and pull lock cylinder out of housing bore.

Installation – Turn key to "LOCK" position and remove key. Insert cylinder into housing far enough to contact switch actuator. Press inward and move switch actuator rod up and down to align parts. When parts align, the cylinder will move inward and a spring loaded retainer will snap into place locking the cylinder into the housing.

NOTE – *Before attempting removal of lock cylinder, place shift lever in "PARK" position on automatic transmission models, or any gear position on manual transmission models, and place ignition switch in "ON" position.*

Removal (Ford Motor Co.) – Disconnect battery ground cable. Remove trim shroud, remove electrical connector from key warning switch. Turn lock cylinder to "ON" position. Insert ⅛" diameter pin into hole located at 4 o'clock position and 1¼" from outer edge of lock cylinder housing. Depress retaining pin, pull out lock cylinder.

Installation – With lock cylinder in "ON" position, insert lock cylinder into housing bore in column and turn key to "OFF" position. The action will extend lock cylinder retaining pin into flange. Insert key in lock and cycle cylinder to insure correct operation in all positions.

Removal (General Motors) – Turn ignition switch to "RUN" position, remove key warning buzzer switch and screw securing lock cylinder, remove lock cylinder.

Installation – Align cylinder key with keyway in housing. Push lock all the way in. Install screw and buzzer switch. To complete installation, reverse removal procedure.

IGNITION SWITCH

Removal (American Motors) – Place key lock in "OFF LOCK" position and remove switch mounting screws. Disconnect switch from remote rod, remove harness connector and remove switch.

Installation (Standard Column) – With actuator rod disconnected, position switch lever actuator rod and steering column. Move slider toward steering wheel placing switch in "ACCESSORY" position. Position actuator rod in slider hole and fasten switch to column being careful not to move slider out of detent.

Installation (Tilt Column) – With actuator rod disconnected, position switch over rod and steering column. Move switch slider downward from steering wheel placing switch in "ACCESSORY" position. Position actuator rod in slider hole, place switch on column and lightly push switch down column to remove lash in rod, do not move slider out of detent; then tighten switch screws.

CAUTION – *When tightening screws, do not move switch from detent position.*

Removal (Chrysler Corp. Omni & Horizon) – Remove connector from ignition switch and place cylinder in "LOCK" position, and remove key. Remove mounting screws from switch; switch and push rod will drop below jacket. Rotate switch 90° to permit removal of switch from push rod.

Installation – Position switch in "LOCK" (second detent from top). Place switch at right angles to column and insert push rod. Align switch on bracket and tighten screws. Reinstall connector and connect battery cable. Check switch for proper operation.

Removal (Chrysler Corp. All Others) – On standard columns, remove 2 screws from ignition switch, rotate switch 90° and slide off actuating rod. On tilt wheel models, turn ignition switch to "ACC" position and remove mounting screws and switch.

Installation – **1)** On standard columns, place ignition switch on ignition rod and rotate 90° to lock rod into place. Install 2 screws and tighten to specifications.

2) On tilt steering columns, place ignition in "ACC" position by holding switch in left hand and actuator rod in right hand. Move slider to extreme left ("ACC" position).

3) Fit actuator rod into slider and mount switch to column using 2 retaining screws. Push down lightly to remove lash in actuator rod, then tighten mounting screws to specifications.

Removal (Ford Motor Co.) – Disconnect battery ground cable. On tilt columns, remove upper extension shroud. Remove 5 screws and remove upper and lower trim shrouds. Disconnect electrical connector. On Escort and Lynx, remove 2 bolts and nuts securing column to bracket assembly and lower column to seat. Drill out break-off head bolts connecting switch to lock cylinder with a ⅛" drill bit. Remove bolts and disengage switch from actuator pin.

Installation – **1)** Insert a 1/16" drill bit through ignition switch and carrier and align carrier and switch to housing adjustment holes. Rotate lock cylinder to "LOCK" position. Install switch on actuator pin. Install new break-off head bolts and tighten.

2) Move switch up on the column until all travel in screw slots is used. Hold switch in position and tighten bolts until heads break off. On Escort and Lynx, align holes in outer tube assembly with bolts in column mounting bracket and hand start bolts.

3) On all models, connect electrical connector to switch. Install

Latest Changes & Corrections

NOTE — The latest changes and corrections represent a collection of last minute 1981 information which arrived too late to be incorporated into the regular data pages. In addition, we have included information on prior year models which we have received since the publication of last year's edition.

FOR 1981 AND PREVIOUS YEARS

WHEEL ALIGNMENT

GENERAL MOTORS

[1] ► *1980-81 GENERAL MOTORS "X" BODY VEHICLES: CAMBER SPECIFICATION CHANGE* — On Chevrolet Citation, Oldsmobile Omega, Pontiac Phoenix and Buick Skylark models, the correct specifications for camber adjustment should be +1.0° ± .50°.

BRAKES & STEERING

AMERICAN MOTORS

[1] ► *ALL AMC MODELS WITH BENDIX SINGLE PISTON DISC BRAKES: CORRECT INSTALLATION OF ANTI-RATTLE SPRING* — When installing brake linings on these models, the anti-rattle spring must be installed with the looped section of spring away from rotor and tab section in slot of inner shoe. Anti-rattle spring must not be installed on the outer shoe.

[2] ► *1980 AMC SPIRIT, AMX, CONCORD & EAGLE MODELS WITH FLOOR SHIFT: SQUEAL NOISE FROM STEERING COLUMN* — Some models with floor shift may develop a squeal from steering column. To correct, locate access window in steering column jacket. Lubricate foam dust seal and steering shaft by spraying lubrication through access window. Turn steering wheel from stop to stop to distribute lubricant.

[3] ► *1980 AMC SPIRIT, AMX, CONCORD & EAGLE MODELS WITH FLOOR SHIFT: SQUEAL NOISE FROM STEERING COLUMN* — Some models with floor shift may develop a squeal from steering column. To correct, locate access window in steering column jacket. Lubricate foam dust seal and steering shaft by spraying lubrication through access window. Turn steering wheel from stop to stop to distribute lubricant.

[4] ► *1980 AMC SPIRIT & CONCORD MODELS: POWER STEERING PUMP BELT ALIGNMENT* — Some models with 4 cylinder engines may have a misaligned power steering pump drive belt due to misaligned power steering pump. To correct, straighten mounting bracket if needed. Install proper amount of flat washers on stud mounting bolts of power steering pump (as required) to align pump.

FORD MOTOR CO.

[5] ► *1981 FORD ESCORT AND MERCURY LYNX: REAR BRAKE BACKING PLATE TORQUE CHANGE* — The torque specification for the rear brake braking plate spindle bolts has been changed from 29-47 ft. lbs. to 45-60 ft. lbs.

[6] ► *1977-81 FORD PINTO, MUSTANG, FAIRMONT AND MERCURY BOBCAT, CAPRI AND ZEPHYR WITH TRW POWER STEERING GEAR: REVISED CONTROL VALVE REMOVAL* — A revised procedure for removing the control valve assembly from the housing without damaging the spiral lock ring on the input shaft has been developed. Instead of tapping with a plastic mallet, the following procedure should be used.

1) After removing the valve and housing assembly from the gear, place the valve and housing assembly in a vise.

2) Grip the protruding pinion seal with a pair of interlocking pliers and rotate the seal in one direction only. Rotating the seal in one direction causes the seal to twist out of the valve housing. This allows the valve assembly to be easily removed. DO NOT impact the input shaft.

[7] ► *1978-81 FORD AND MERCURY VEHICLES WITH MODULAR 1 STEERING COLUMNS: TURN SIGNAL CANCELLING CAM REPLACEMENT* — A turn signal that does not cancel can be caused by a broken cancel cam in the steering column. It used to be necessary to replace the entire upper steering column shaft assembly to service this condition. A separate turn signal cancelling cam repair kit is now available and should be replaced as follows.

1) Remove the steering wheel and upper steering shaft bearing as described in the *Ford Steering Column article in the Steering section.*

2) Place the replacement cancelling cam repair sleeve (part number E1AZ-13B368-A) over the cracked cancelling cam and press until the sleeve bottoms on the cam tabs.

NOTE — *The service sleeve has 3 retention dimples. Be sure and position the sleeve so that none of the dimples are in the crack after it is pressed on the cam.*

3) Reinstall the upper steering shaft bearing and steering wheel.

FOR 1981 AND PREVIOUS YEARS

BRAKES & STEERING (Cont.)

GENERAL MOTORS

8 ► *1980 GENERAL MOTORS OMEGA: REAR BRAKE DRUMS* — 1980 Omega models were recently changed in production from a non-finned drum to a finned drum. If replacement is necessary, a finned and non-finned drum should not be used together.

9 ► *1980 GENERAL MOTORS OMEGA: BRAKE PROPORTIONING VALVE* — Steel proportioning valve Part. No. 18005689 and 18005690 will no longer be used as service parts. If a steel proportioning valve is replaced, then both proportioning valves must be replaced. Use aluminum valve Part No. 18006626 and 18006627. Under no circumstances should both type valves be used together.

10 ► *1980 GENERAL MOTORS PHOENIX: BRAKE "CLUNK" NOISE* — If a clunk noise is heard on 1980 Phoenix vehicles, be advised that this clunk is from the proportioning valve mounted on master cylinder. This noise is normal and does not indicate a brake malfunction. New design proportioning valves, Part No. 18005689 & 18005690, have been introduced to remedy this problem.

SUSPENSION

FORD MOTOR CO.

1 ► *1978-79 FORD MOTOR CO. FAIRMONT, ZEPHYR, CAPRI AND MUSTANG: UNEVEN FRONT TIRE WEAR* — Some vehicles subjected to an unusual amount of cornering may experience uneven front tire wear. This condition will be indicated by too much wear on the outer edges of both front tires. To correct, make sure tire pressure is correct and reset toe-in to 1/8" and rotate tires.

2 ► *1980 THUNDERBIRD & COUGAR: FRONT STABILIZER BAR SQUEAK* — A squeaking noise emanating from the front of vehicle may be in front stabilizer bar plastic sleeve and insulator area. Move vehicle up and down to locate noise. To correct, disconnect "U" bracket, slip insulator and sleeve onto radius of stabilizer bar to expose contact area. Apply grease to stabilizer bar at insulator sleeve contact area. Reposition plastic sleeve, insulator and "U" bracket.

GENERAL MOTORS

3 ► *1980 GENERAL MOTORS OMEGA: FRONT SUSPENSION NOISE* — Some 1980 Omega vehicles may exhibit a crunching noise coming from the front suspension in full right turn or left turns in conjunction with front suspension jounce. The steering knuckle rubbing against the lower control arm steering stops produces this noise. To correct, install steering stops Part No. 14026941 (Left Hand) and 14026942 (Right Hand).

4 ► *1980 GENERAL MOTORS PHOENIX: FRONT WHEEL BEARING PROTECTION* — If the axle shaft of a 1980 Phoenix is removed and the vehicle must be moved from the hoist prior to reassembly, it is important that the axle shaft be installed and retorqued in the wheel bearing prior to moving the vehicle. Failure to follow this procedure will result in damage to the wheel bearing.

ALL MODELS (Cont.)

shrouds. Tighten column mounting bolts on Escort and Lynx. Connect battery ground cable and check operation of switch.

Removal (General Motors) – 1) Steering column must be lowered or removed (tilt or telescope columns) or turn signal switch removed (standard column).

NOTE – *On tilt or telescope columns, steering wheel removal is not required.*

2) Position switch in "ACC" on tilt or telescope columns, or "OFF" on standard columns. If lock cylinder has already been removed, the actuating rod should be pulled up until it stops.

3) On standard columns, push actuating rod down one detent ("OFF" position). Remove switch screws and lift switch from actuating rod and column.

Installation – 1) With lock cylinder in "OFF-UNLOCK" position (tilt or telescope columns) or "OFF" position (standard column), insert a small screwdriver into hole in switch and move slide portion of switch to top position.

2) On Standard column models, move slider part of switch back one detent ("OFF" position). Fit actuator rod into slider hole and loosely assemble switch on steering column. On Standard column, tighten retaining screws to 35 INCH lbs.

3) On other columns, lightly push switch down column to remove slack in rod, then tighten screws to 35 INCH lbs. torque. Connect wiring and check operation of switch.

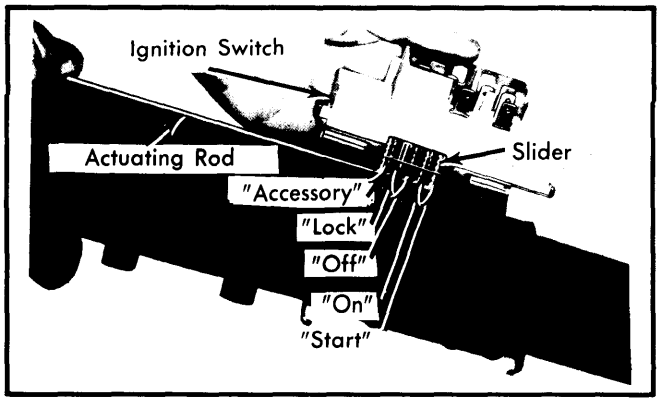

Fig. 4 Rod Actuated Ignition Switch Common to All Models

DIMMER SWITCH

Removal (Chrysler Corp.) – 1) Disconnect negative battery terminal. Remove lower steering column cover. Disconnect electrical connection from switch.

2) Remove 2 mounting screws from switch and disengage switch from push rod. Remove switch.

Installation – 1) Firmly push rod into switch. Compress switch until two .013" drill shanks can be inserted into alignment holes.

2) Reposition upper end of wash/wipe switch, this can be done by feel. With a light rearward pressure on switch, install 2 screws and remove 2 drill bits.

Removal (Ford Motor Co.) – 1) Disconnect battery ground from battery. Remove steering column trim shroud. Remove dimmer switch lever by grasping lever and use a pulling and twisting motion while pulling lever straight out from switch.

2) Peel back foam sight shield and disconnect electrical connection. Remove 2 screws from switch and remove switch.

Installation – 1) Align switch mounting holes with holes on column and install screws. Install dimmer switch lever by aligning key-way in switch with key-way in lever.

2) Push lever into switch to full engagement. Install electrical connections and trim shroud.

Removal (General Motors) – 1) Disconnect negative battery terminal. Remove lower steering column shield. Remove 2 nuts securing steering column to upper mounting bracket.

2) Lower column and remove 2 screws securing dimmer switch. Disconnect electrical connections and remove switch.

Installation – 1) Position switch on steering column and loosely install bolts. Install electrical connections. Insert 3/32" drill through locating hole securing dimmer switch to connector body.

2) Slide dimmer switch so that it firmly contacts actuator arm and tighten bolts.

WINDSHIELD WASHER/WIPER SWITCH

Removal (Chrysler Corp.) – Disconnect negative battery terminal. Remove steering wheel and lower column cover. Remove screw securing washer/wiper switch, disconnect terminal connector and remove switch.

Installation – To install, reverse removal procedure.

Removal (Ford Motor Co.) – Disconnect battery ground cable. Remove upper and lower shrouds. Disconnect electrical connector. On Escort and Lynx, peel back foam switch cover, remove 2 screws holding switch and remove switch. On all other models, remove 2 mounting screws, disconnect multiple connector at rear of switch and remove switch.

Installation – To install, reverse removal procedure.

Removal (General Motors – Citation, Omega, Phoenix & Skylark) – 1) Remove steering wheel and lock plate. Remove upper bearing preload spring and turn signal cancelling cam. Remove upper thrust washer and turn signal lever. Push hazard switch in and unscrew knob.

2) Remove turn signal switch mounting screws, wrap a piece of tape around upper part of wires and remove switch by pulling straight out. Remove ignition switch and lock cylinder. Remove dimmer switch.

3) Remove screws securing retainer. Remove pivot pins and bearing and remove switch from column housing.

Installation – To install, reverse removal procedure.