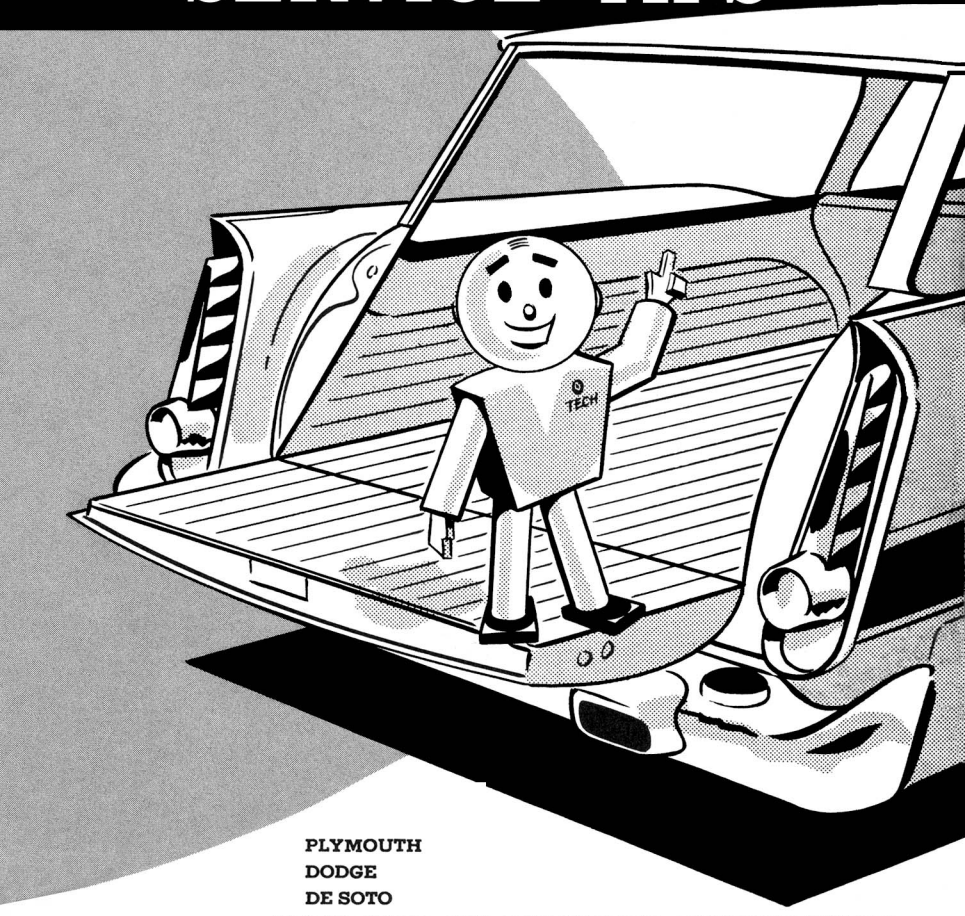
SERVICE REFERENCE BOOK 116

SUBURBAN BODY SERVICE TIPS



PLYMOUTH
DODGE
DE SOTO

PREPARED BY CHRYSLER CORPORATION

CHRYSLER
IMPERIAL

Our suburbans are selling like hot cakes! More and more owners order them every day. Apparently, everybody goes for the award-winning style of these models—and that gives all Master Technicians a special opportunity to be of service.

You see . . . good body service on our part will go a long way toward keeping our suburbans high in owner popularity. And, there's a lot we can do to maintain good appearance and performance. Some of the things we should know about these bodies are covered in this reference book.

You'll find this useful service information on the following pages:

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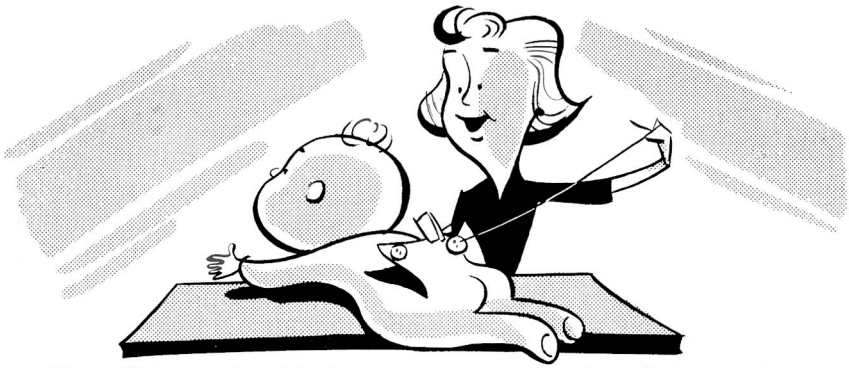
TAILGATE SERVICE

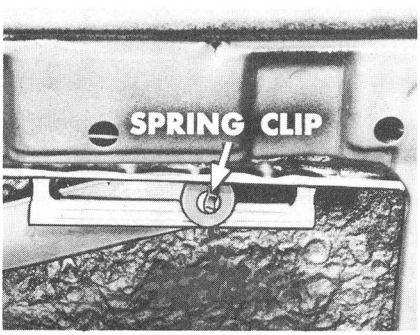
WINDOW CLOSED

Suppose an owner of a suburban reports that the tailgate is closed, the window appears to be jammed, and the handle won't lower the glass. Result—the owner can't open the tailgate.

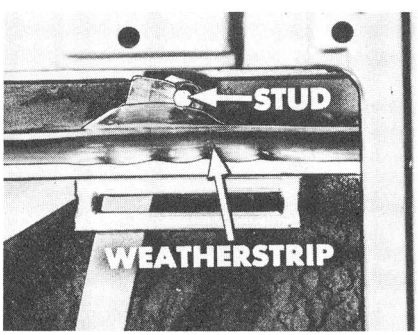
In a case like this, the first thing to do is to remove the two access hole covers from the trim panel and disconnect the regulator arms.



Use a little wooden block to push the spring clips off the regulator arms. Then, push the arms back until they disengage from the glass frame, so you can lower the glass. Now, if you get the clips off and the arms free from the frame, and the glass is still stuck, don't give up. Just use a fiber wedge or a small stick to push down on the glass frame to get it started. Don't use a screwdriver, because that would damage the rubber weatherstrip.



Another point . . . if the weatherstrip hangs up on the regulator arm studs when the glass starts down, use a fiber wedge to work it past the studs. And, once you get the weatherstrip past those studs, you can pull the glass down the rest of the way. But take it easy! If you're not careful, those studs can scratch the glass.



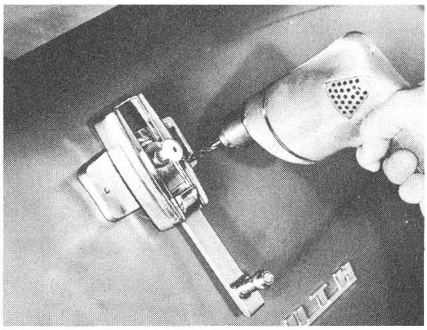
As soon as you get the glass down you can open the tailgate.

The next step is to determine what caused the trouble. The handle itself may have failed; maybe the lower and upper run channels were not lined up, and the ends of the glass frame dug into the felt channels until the material bunched up and caused a bind. Or, perhaps a combination of conditions caused the trouble.

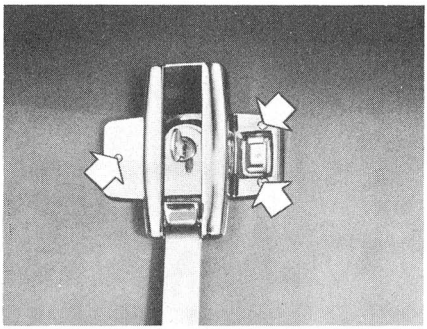
In either event, when you get the tailgate open you can remove the trim panel. Then you will be able to inspect the parts and determine the cause.

Remove the Handle. If the glass got stuck so you couldn't reach in to release the regulator arm clips, and the handle broke so you couldn't move the glass either up or down, you'd have to get the handle off. There are two different ways to do this.

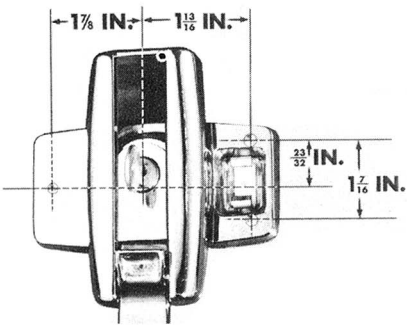
One way to remove the tailgate handle is to drill through the handle escutcheon and the three attaching studs. This will let you remove the handle and expose the regulator shaft. Then you can turn the shaft and crank the glass down.



Some handles have three countersunk spots which mark the exact centers of the attaching studs, so you know just where to drill.

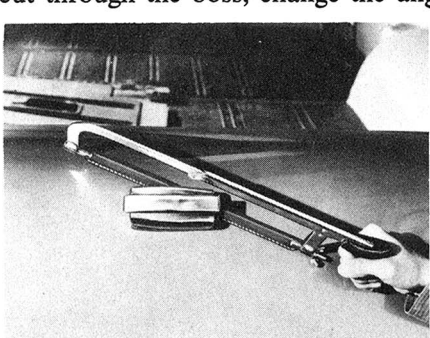


If the studs on the model you're working on aren't marked, use a late model handle as reference to make a paper template to locate the stud centers. In case you don't have a late-production handle available, refer to the stud location diagram. Center-punch the stud locations. Then use a ¼" or larger drill and you're in business. The reason you may need to use a fairly large drill is that the studs are hard metal, and a small drill may tend to kick off as you do your drilling.



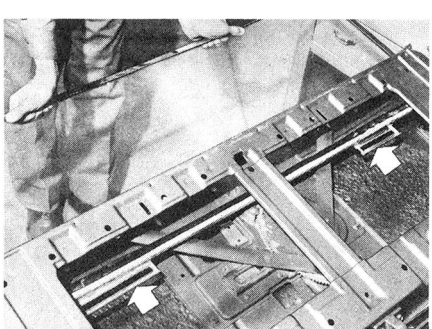
Another way to remove the tailgate handle is to cut it off with a hacksaw. Take it easy, and don't let the saw frame or handle scratch the tailgate finish.

Turn the saw blade 90° in the holder, and insert the blade between the handle and escutcheon. Start sawing at the top. As soon as you cut through the boss, change the angle and saw around the sides. Be careful not to saw through the lock cylinder which extends into the boss. Also, before you saw through the right side, open the handle so that you don't saw through it. Once you saw about two-thirds of the way around, break off the boss and remove the handle.

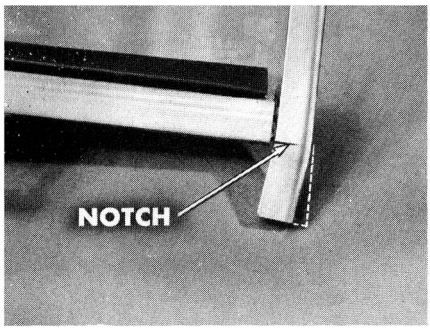


Remove the Glass. Let's assume that you have the trim panel removed, and the regulator arms disconnected from the glass. Remove the garnish molding, and the handle. Next, remove the three regulator handle attaching nuts, and remove the regulator handle assembly.

That will then make it possible for you to pull the glass out of the gate. As you work the glass out, though, be careful not to bend the frame sections that attach to the regulator arms.

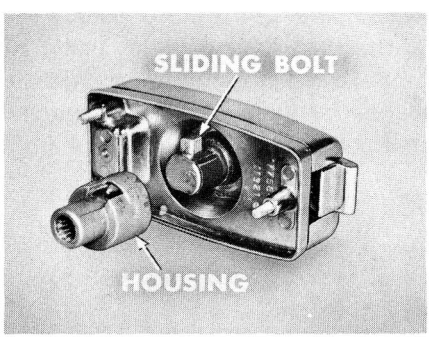


Inspect the glass frame. Take a close look at the lower ends of the frame especially. If those ends are sharp, they'll gouge and bind in the run channels. You can correct sharp ends very easily. Just make a saw cut or notch in the side channel right below the lower window frame member. Then you can bend the channel inward without dis-

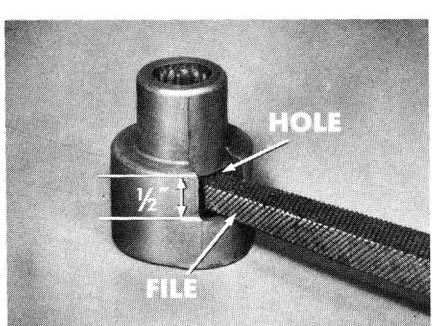


torting, or flaring, the sides of the frame. You can also use heavy pliers to pinch the sides slightly. Then, file down the edges so there will be no burrs or sharp corners. On current models, the lower ends of the frame have been revamped to avoid any interference in the channels.

If the lower channels are badly damaged due to poor alignment, be sure to replace them with new channels. If you don't, the glass will continue to stick and the owner will have handle trouble again.

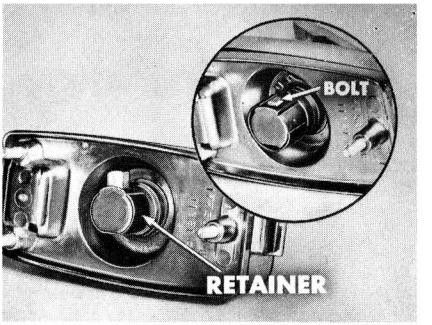


Repair the Handle. Once you remove a handle, disassemble it to find out what may have caused the difficulty. You may find the sliding bolt doesn't engage the housing. In other words, the handle may have just been "free-wheeling" when the owner tried to crank down the tailgate glass.

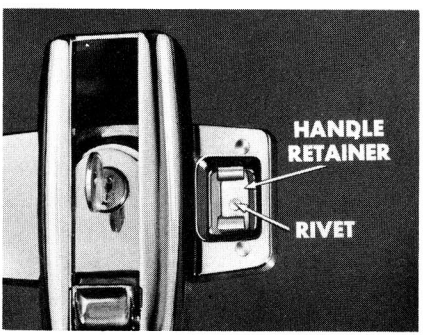


If you do run across a case like this, it's fairly easy to repair. Just turn the lock to its locked position and remove the housing from the handle assembly. Use a small file to elongate the bolt slot until it is about ½" long.

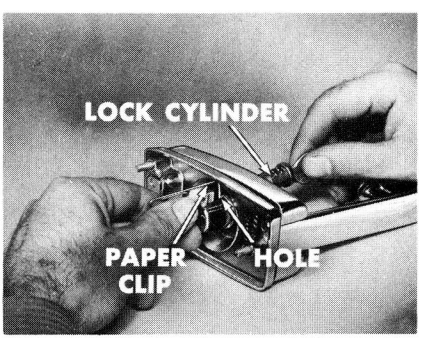
Another thing to do is to make sure that the bolt spring retainer is properly positioned. In some cases, it may rotate and bind on the bolt, preventing the bolt spring from pushing it into engagement with the housing slot.



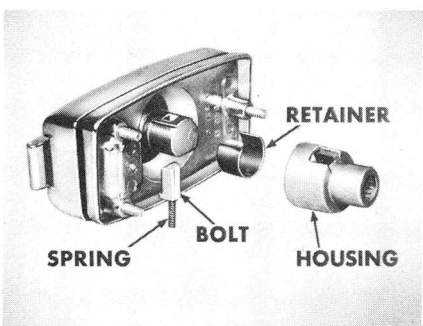
Every now and then, you'll find nothing wrong with the handle. Or, in some instances, you'll find that it has a minor condition that you can fix without removing it from the tailgate. For example, if the handle retainer was loose or broken, just center-punch the retaining rivet, and drill it out. Then, attach a new retainer using a self-tapping metal screw.



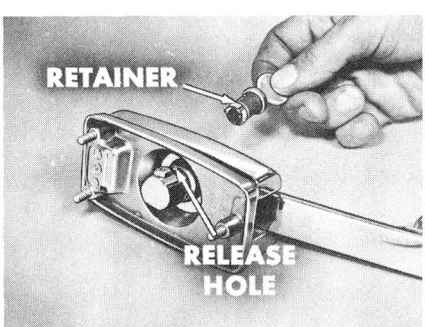
Remove and Install Lock Cylinder. Now, here's something else. If you ever have to remove a lock cylinder, turn the key a quarter turn, so it is horizontally positioned in the cylinder. Then push a paper clip into the small hole you'll find behind the bolt. That will push down on the retaining washer, so you can pull the lock cylinder out of the handle. When you install a new handle, always remove the old lock cylinder and install it in the new handle. Then the owner won't have to carry an extra key.



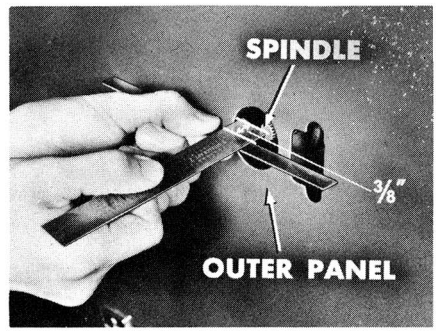
You'll find it easy to install the lock cylinder if you keep these tips in mind. First, install the bolt, spring, spring retainer and housing *before* you install the lock cylinder. If you installed the lock first, the operating pin on the end of the cylinder will position itself below the end of the bolt. In that position it prevents the cylinder from retracting the bolt. Next thing you know, you won't be able to assemble the housing to the handle. In other words, the operating pin should be positioned *above* the operating shoulder on the bolt.



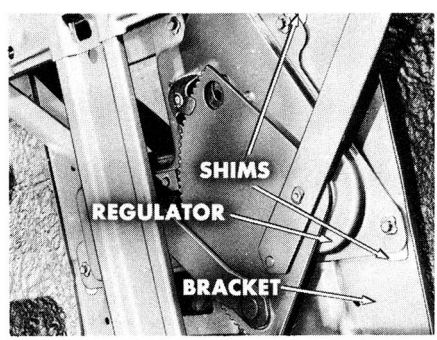
Another good thing to keep in mind is that when you start the lock cylinder into the handle, be sure to line up the retainer with the release hole. If you don't do that, the lock won't work properly. You see, you can install the lock cylinder upside down. It'll go in all right. But it will lock in place. The result? You won't be able to get it out at all.



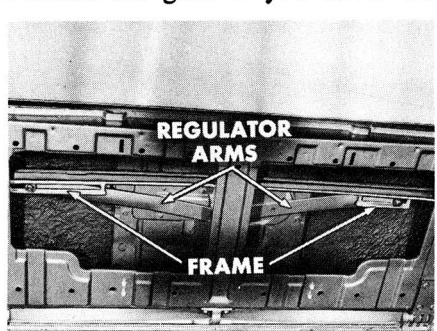
Install the Handle. Now, when you're ready to install the handle, be sure the regulator is positioned so there is 3/8" from the tailgate outer panel to the end of the regulator spindle. If there is less than 3/8" at this point there will be too much pressure on the end of the spindle when the handle is installed and the attaching screws are tightened. That pressure will lead to binding, and early failure in the regulator.



If you should find there's less than 3/8" operating clearance, all you have to do is install shims between the regulator and its mounting bracket at each attaching screw.

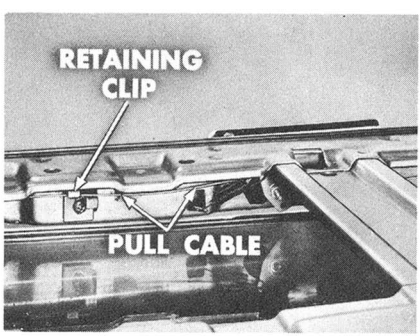


You'll find it a lot easier to install the glass if you lower the regulator arms about half way. Also, leave the run channels *loose* so they can shift freely to align themselves as you push the glass in. If the channel screws are tightened before the glass is installed there's a good chance you'll gouge the channels when you try to install the glass.



Don't install the handle until after you install the glass. If you install the glass first it may be positioned so the handle will not fold into its retainer when the glass is fully raised. When you install the handle, leave the attaching nuts finger-tight temporarily. Then, if you have to reposition the regulator to adjust the glass, the handle will shift with the regulator spindle.

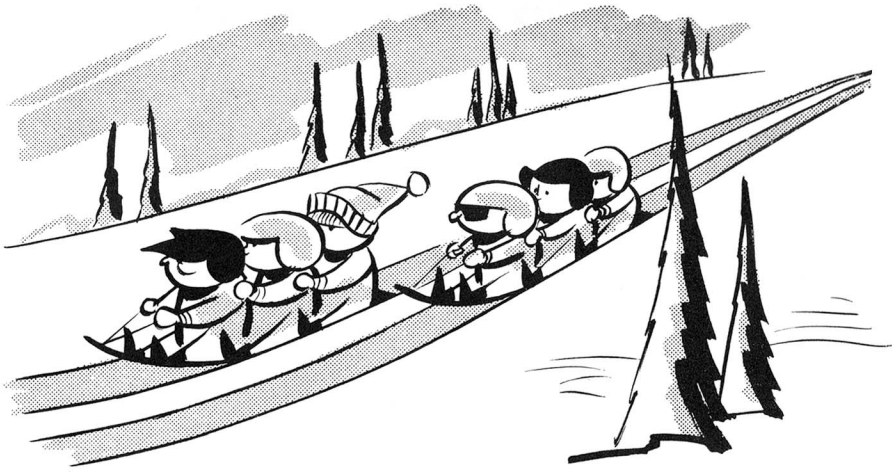
For easy glass operation, spray some natural silicone on the new lower run channels. Lower the glass and apply natural silicone to the upper run channels, too.



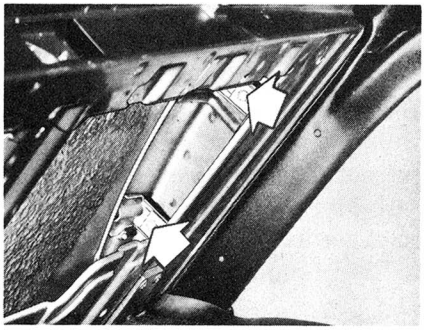
Next, install the garnish molding and the latch operating handle. See that the latch pull cables or rods run through the retaining clips just under the molding. That will keep those cables tucked out of the way so they won't snag themselves on the regulator arms.

In addition, be sure you connect the spring that holds the latch handle in its closed position. It's easy to overlook and this is the best time to button up that part of your installation.

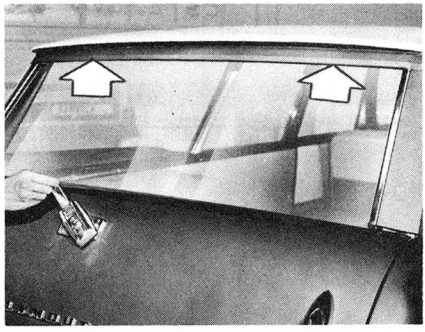
Realign the Run Channels. You're now ready to line up the run channels and the tailgate regulator. However, you'll be smart to check the tailgate striker adjustment and readjust it if necessary. You see, if you changed the striker adjustment after lining up the run channels, the tailgate channels might not line up with the upper body channels.



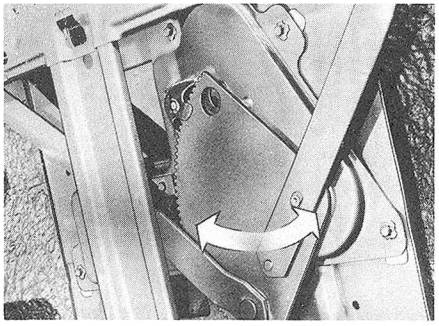
Now, check the channel alignment. Loosen the channel attaching bolts. Then, close the tailgate and raise the glass all the way. Tighten the top bolts of both lower channels. Next, lower the glass part way, then tighten the bottom bolts. In other words, let the channels move themselves into alignment.



Check glass operation once more. Run the glass up and down to see how easily it works. Be extra sure that the top edge of the glass enters the weatherstrip evenly as you crank it up into fully closed position. If you find that the glass rises evenly, and without any binding, you're all done. So tighten the regulator handle nuts and that will finish the job.



Level the Glass. If the glass doesn't rise evenly, notice which side lags as you crank it up. Lower the glass, open the gate, and crank out the glass so you can reach the regulator attaching screws.



Scribe the lower edge of the regulator base and loosen the attaching screws. Rotate, or shift the regulator to even up the glass, and tighten the screws. Recheck the glass travel again and see if you've evened it up properly.

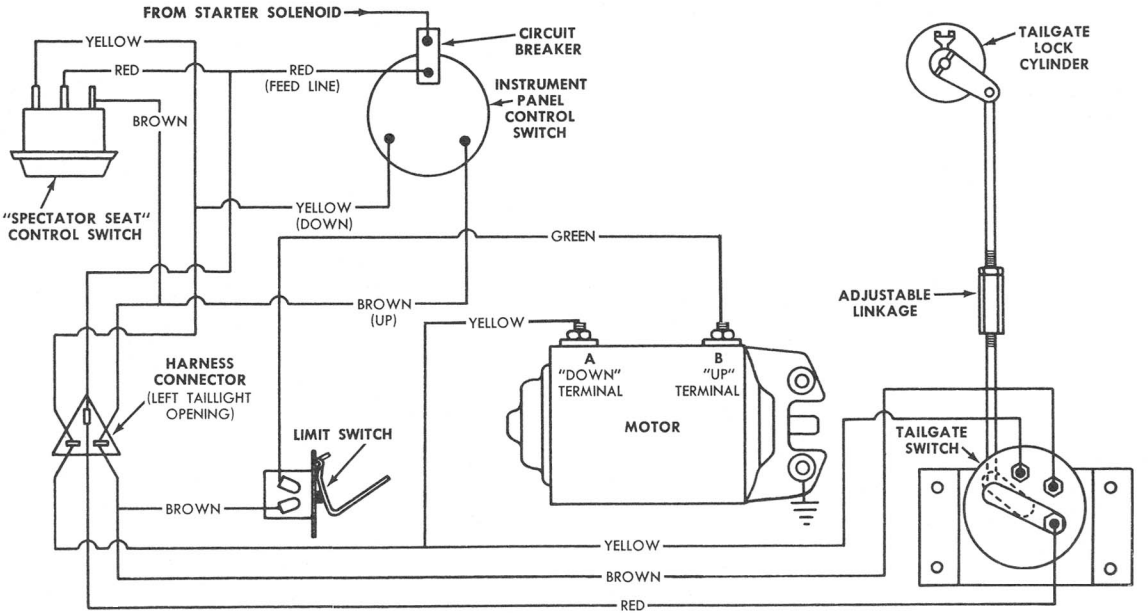
It may pay to recheck the run channels as you recheck the fit at the top. If the bottom of the lower channel needs adjustment, move it in or out to maintain good alignment. Each time you move the bottom of the channel, you will move the upper end of the channel slightly—but not as much. Stop the glass at the first sign of a bind, if any. Push forward and then pull rearward on the glass to see if the frame binds on the forward or rear face of the upper run channel. Adjust the lower run channel to correct any bind you detect.

TAILGATE WITH ELECTRIC WINDOW LIFT

Run-channel and regulator adjustments are made the same way on a tailgate equipped with an electric window lift. Run-channel alignment is perhaps more important as the high gear ratio of the motor drive will operate the glass even if there is a bind. A condition like this, of course, could lead to damage of the motor, drive pinion, or sector gear, as well as to the run channels themselves.

Wiring Circuit. An understanding of the wiring circuit given here will help you locate and correct troubles.

WINDOW LIFT CIRCUIT DIAGRAM



Instrument Panel Control Switch. The instrument panel control switch is not wired through the ammeter like other accessories. As you can see, power comes from the starter solenoid. This switch has its own circuit breaker for protection against shorts and overloads.

NOTE: Plymouth, Dodge, and Chrysler use the Instrument Panel Control Switch. De Soto does not. On De Soto models a circuit breaker behind the left side cowl trim pad provides circuit protection.

When trouble-shooting, keep these colors in mind:

RED WIRE—The hot wire providing current to the Spectator Seat switch and key-operated tailgate switch. It's always hot.
BROWN WIRE—This is the "up" circuit which raises the glass.
YELLOW WIRE—The "down" circuit that lowers the glass.
GREEN WIRE—Continuation of the *BROWN* wire completing the "up" circuit from the limit switch to the motor.

Spectator Seat Switch. Used on Plymouth, Dodge, De Soto, and Chrysler nine-passenger models. This switch is a three-wire, two-way switch that plugs into a receptacle in the header above the tailgate opening. (See circuit diagram.)

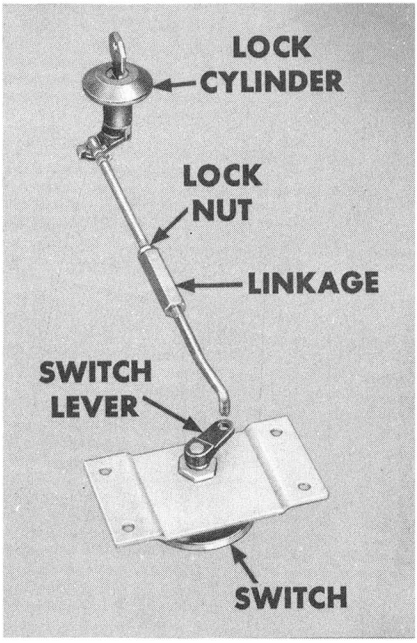
Tailgate Switch. This key-operated switch, used on all electric lift equipped models, lets the owner raise or lower the glass from outside. Located inside the tailgate, this switch is operated by an adjustable linkage connected to the key-operated lock cylinder. Good linkage adjustment is vital. If linkage is too long or too short, the glass will work in only one direction: raise, but not lower; lower, but not raise.

Linkage Adjustment. Always be sure the linkage is adjusted *before* the regulator assembly is installed. It can't be adjusted when the regulator's in place.

An improperly adjusted linkage can cause the switch to complete the circuit to the "up" terminal of the motor even when the tailgate key is removed. If this happens, the motor will try to raise the fully closed glass. This will cause a built-in thermal switch in the motor to open until the motor cools off and the thermal switch closes the circuit again. As a result, the battery will be discharged if the car is

parked overnight. Or, the motor may eventually be damaged if the car is being driven enough to keep the battery in a state of full charge.

To make this adjustment, remove the key from the lock cylinder. That leaves the cylinder lever in neutral position. Unhook the linkage from the operating lever on the tailgate switch. As this switch lever is spring-loaded, it will automatically move into the neutral position.



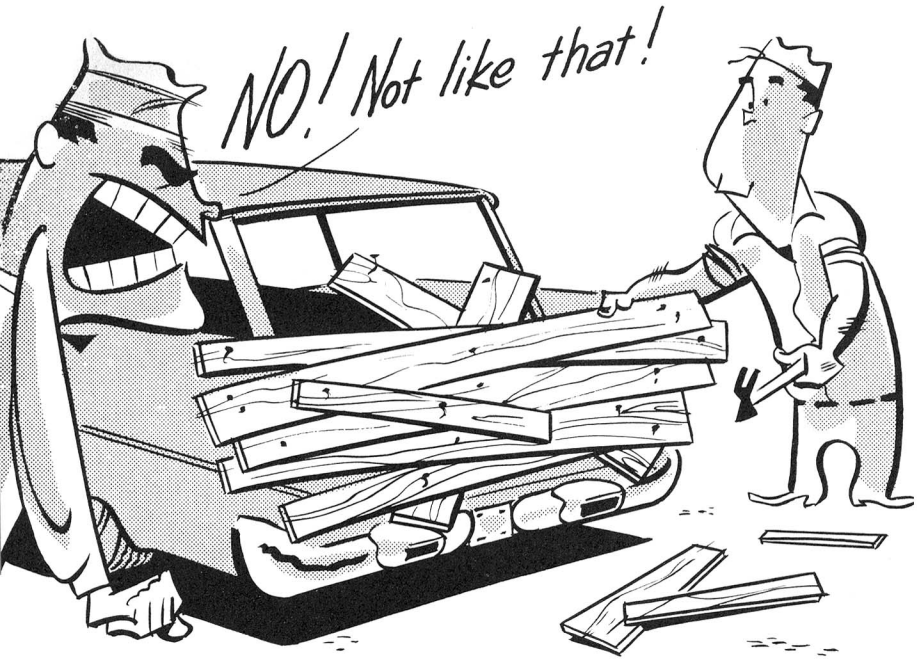
Adjust the linkage so it will slip into the switch lever hole without moving the lever or cylinder. Tighten the lock nut to hold this adjustment, and connect the linkage to the switch lever. Lock it in place with the retaining clip. Put the key in the cylinder and check operation for two-way travel. If okay, install the regulator assembly.

Limit Switch. In the BROWN wire circuit, this series switch opens the circuit when the gate is opened, preventing accidental raising of the glass.

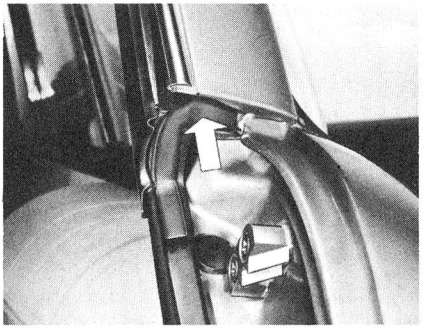
Harness Connector. The wiring harness is made in two sections. A connector, located behind the left taillight assembly, lets you remove and service the tailgate without disconnecting the entire harness.

Motor. GREEN wire from the Limit Switch connects to the "B" (up) terminal. YELLOW wire connects to the "A" (down) terminal. A built-in thermal switch protects the motor when a control switch is accidentally held in "up" or "down" position longer than necessary. The thermal switch opens to prevent overheating of the motor.

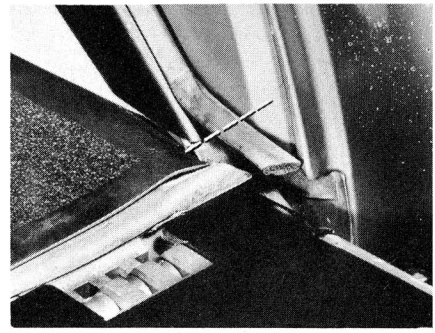
SEALING AT THE TAILGATE

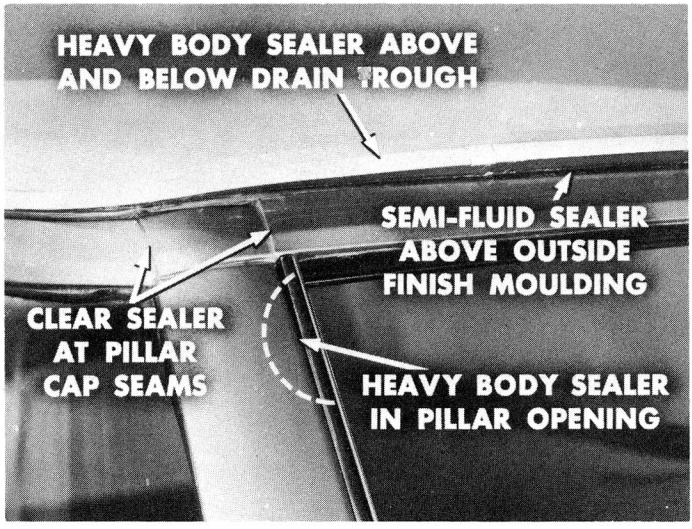


Weatherstrip. Sealing against water and dust is every technician's business. So always check the tailgate weatherstrip. The large club end at the top should fit into the opening at the lower end of the body pillar. It should be positioned to extend about ¼ inch below the lower end of the pillar. It seals against dust and exhaust fumes funneling up into the car through the pillar opening.



If the weatherstrip has been stretched, and has been recemented so it doesn't fit properly for good sealing, cut it at the lower corner. Recement it in place, starting at the upper end. When you come to the lower corner, cut off the extra length in order to make a good joint and a watertight seal at the corner.





Drain Trough. A seam between the drain trough and roof rail at the rear of the roof panel may have small pin holes. Water getting through will come out under upper garnish moldings or rear body pillar garnish moldings. If you suspect this type of leakage, lay a bead of rope-type body sealer along the lip of the drain trough. Use a clothes-pin to press it firmly under the lip of the drain trough. Remove excess sealer for neat appearance.

A seam under the lower lip of the trough may also need sealing. So apply body sealer along this seam to be sure.

Upper Finish Molding. Water getting by the upper edge of this molding can look like a leaking drain trough seam. So run a continuous bead of semi-fluid sealer along the top edge of the outside finish molding.

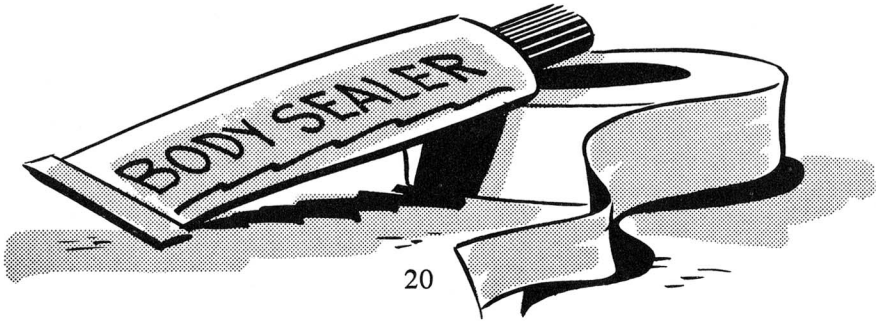
Body Pillar Cap. Two vertical seams in the finish cap at the top end of each of the rear body pillars may be leak possibilities. A small amount of clear sealer will prevent them from admitting any water.

Body Pillar Opening. Near the upper end of the pillars in which the upper glass run channels fit are half-moon cutouts. Suction inside the car can draw water in past these cutouts during a hard rain. So seal these openings with heavy body sealer. Wipe off any excess for a neat appearance.

Tire Well Dust Leaks. Dust streaks at open seams point to sealing requirements. So check the seam that extends around the bottom edge of the tire well floor. If there are dust streaks, seal the seam with heavy body sealer.

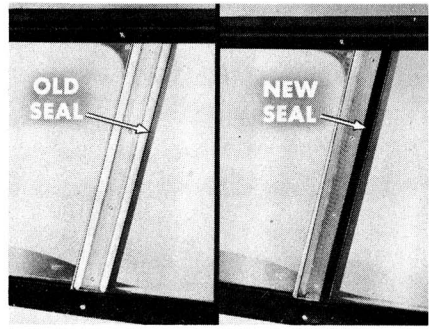
Floor Pan at Wheelhouse. Check and seal the seam between the wheelhouse reinforcement and floor pan, if necessary. You may have to loosen the lower edge of the trim cemented over the wheelhouse to do a complete sealing job here.

Access Holes. Two access holes in each of the rear corners of the tire well may also need sealing. Wide, pressure-sensitive tape, applied over a cleaned surface around these holes will keep out any dust.

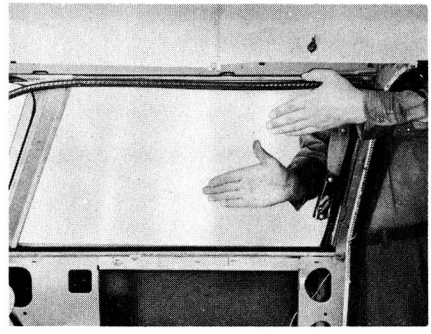


SEALING AT THE SLIDING WINDOW (2-DOOR SUBURBANS)

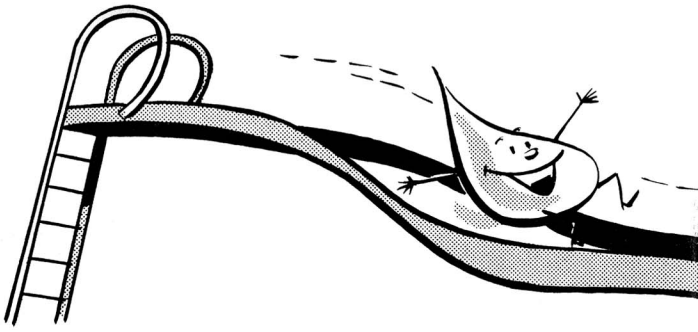
Keep a good weather eye out for sealing needs at the sliding window. There's a new, improved flocked rubber seal (Part No. 1844668 right, 1844669 left) used between the sliding glass and body pillar. It fits in the forward groove of the aluminum weatherstrip.

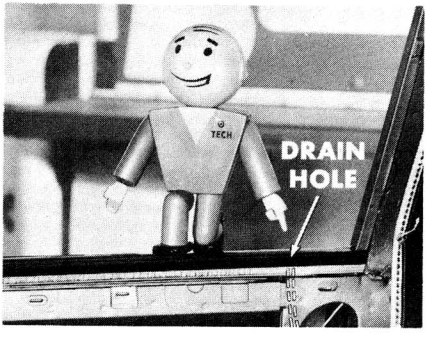


To install this seal, remove the upper, lower, and both end garnish moldings. Slide the window rearward, and remove the upper run channel attaching screws. Carefully pull the glass and upper part of the run channel away from the opening so you can remove the sliding glass. Remove the retainer and take out the cat's-whisker weatherstrip from the front groove. Put in the new type of seal, and you'll be in business.

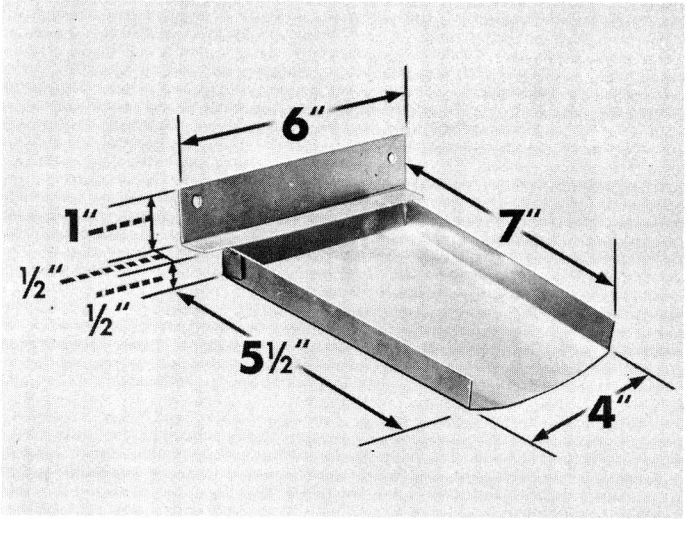


Before you reinstall the glass and the trim, there's another leak possibility that deserves your attention. Any water getting into the sliding glass lower run channel can follow back, spill out, pass under the garnish molding behind the quarter panel trim and onto the floor. Or, it might leak out the garnish screw slots and run over the trim on the inside.



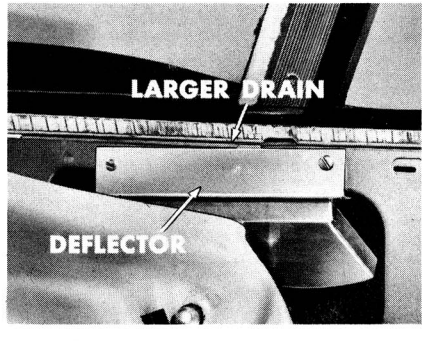


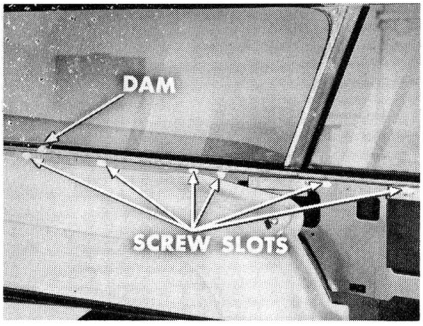
A small drain hole at the forward end helps to carry water away. But, when the suburban is on an upgrade, water will run away from this small drain. Fitting the sliding glass more tightly isn't the right answer because owners prefer an easily operating glass.



One good way to stop sliding-glass leaks is to install a deflector and drain below the center body pillar. The dimensions of the deflector are not critical as long as it is big enough to carry water away from the trim. You can form an effective deflector from sheet aluminum. Refer to the accompanying illustration for suggested shape and dimensions.

Install the deflector with metal screws as shown. To get the deflector properly positioned, cut out a portion of the inner panel just below the body pillar. Above the deflector, cut a slot about 3″ long through the run channel retainer. This can be done easily with a sharp chisel. Also use the chisel to enlarge the drain slot in the run channel at this point.

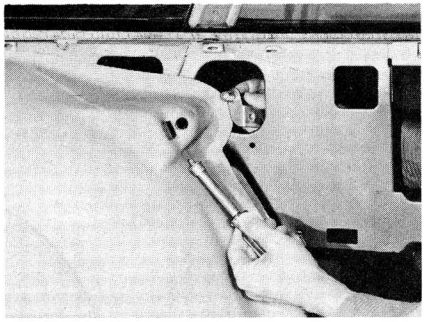


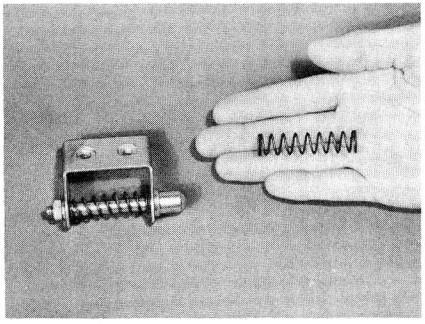


Now, once you have that construction completed, build a dam of body sealer at the rear end of the lower run channel. Also, seal the garnish molding screw slots. Then you can install the glass, the upper run channel, and the moldings.

SECOND SEAT CATCH

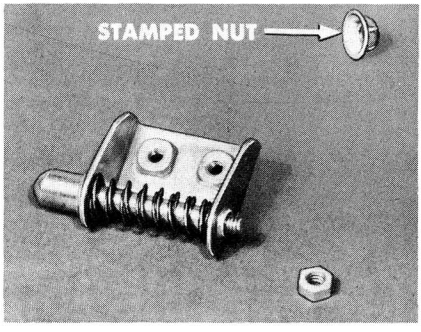
If the catch which holds the back of the second seat is too weak, the seat-back will fly forward when the suburban makes an emergency stop. If you find this condition, remove the garnish molding and the trim panel. Remove the two screws holding the latch, and reach through the access hole to remove the bolt assembly.





Once you have that assembly out, you'll notice that there's probably only one spring on the sliding bolt. So, add a second spring to increase the bolt pressure.

Here's another handy suggestion. If you replace the plain hex nut on the catch assembly with a stamped nut—or if you install three or four plain washers under the plain hex nut—you'll be able to adjust the travel of the bolt. This will give you more adjustment than that provided by the latch attaching screws. You'll be able to reach in through the access hole and turn the stamped nut while you hold the bolt in with your other hand.



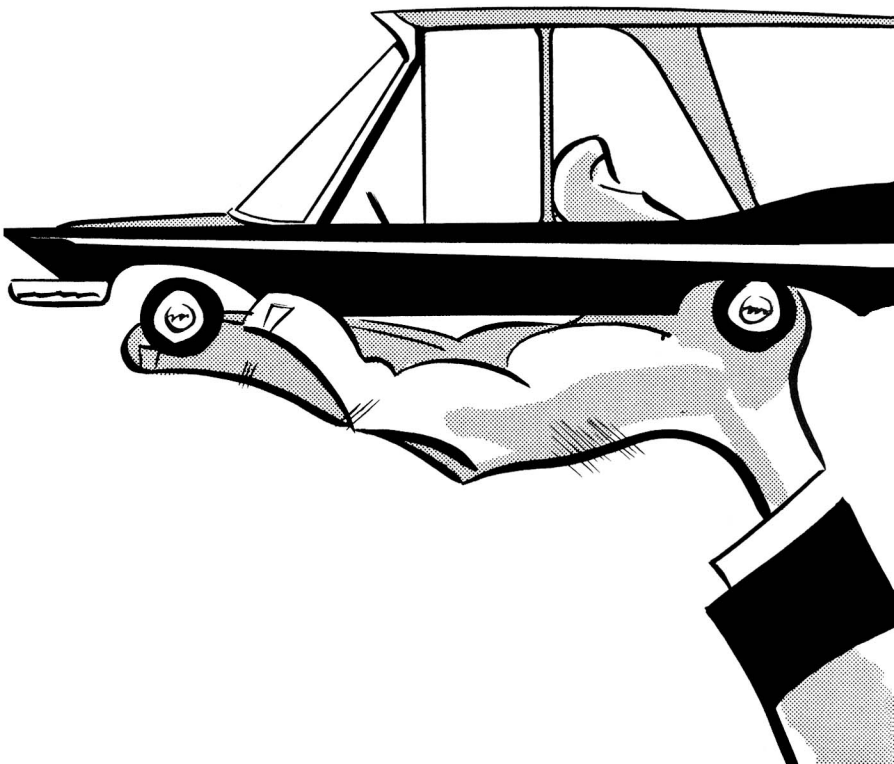
In addition to those tips, take a rat-tail file and enlarge the bolt hole in the wheelhouse. That'll make sure the bolt will enter the hole easily without hanging up. Install the catch, the trim and molding, and you're all set.

NOTE: On some models, trim covering may have been applied over the heads of the latch attaching screws. Make small cutouts in the trim so you can get at these screws when needed.

SUBURBAN SALES SUCCESS IS IN YOUR HANDS

Owners who prefer suburban models buy them because of their utility in addition to their over-all beauty. A properly operating tailgate is important to the utility and comfort of the suburban; so is the operation of all doors and windows.

Proper maintenance of these body items on your part will assure the continued sales success of our popular suburban models. Besides that, it will reflect in continued respect for the ability of Master Technicians. In short, a great service opportunity is in your hands.



RECORD YOUR ANSWERS TO THESE QUESTIONS ON QUESTIONNAIRE NO. 116

To work the tailgate glass down after the regulator arms are disconnected, use a fiber or wooden wedge to press down on the glass frame.

RIGHT 1 WRONG

If you can't disconnect the regulator arms, you can remove the handle by drilling through the attaching studs, or hacksaw through the handle boss.

RIGHT 2 WRONG

Always replace glass run channels if they're badly damaged.

RIGHT 3 WRONG

Before installing a handle, be sure there's a 3/8" clearance from the tailgate outer panel to the end of the regulator spindle.

RIGHT 4 WRONG

Be sure to install a new handle while the glass is fully raised so the handle will fold into the handle retainer properly.

RIGHT 5 WRONG

Natural silicone, sprayed into the upper and lower run channels, will help lubricate the glass frame and reduce strain on the regulator crank handle.

RIGHT 6 WRONG

Adjust the tailgate striker before you re-align the glass run channels.

RIGHT 7 WRONG

Always recheck glass run channel alignment and glass operation, making sure the glass enters the top section of weatherstrip evenly.

RIGHT 8 WRONG

If the tailgate glass rises unevenly, reposition the regulator to level the glass.

RIGHT 9 WRONG

Install a second, larger drain in the sliding glass lower run channel, plus a deflector underneath the body pillar at the rear edge of the sliding glass, to correct a water leak at the sliding window.

RIGHT 10 WRONG

Litho in U.S.A.