

(Early) Power Windows
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By Rev. Mike Ernst

Those two words bring different responses from different individuals - responses that can generally be assigned to one of two categories: 1) "Hey, that's a neat option – they only made xxx in 1961 and yyyy cars in 1962 with powerwindows, so that's rare and desirable!"; 2) "Powerwindows? Sure, they go along with power-tops and automatic transmissions, and that's what's wrong with this world! Real Corvettes have Fuel Injection and four speed and Positraction and brake packages, not power assists!!"

While I would tend to align myself with the second category (I own two fuel-injected 1962's, including a heavy-duty brakes car that was raced by Gulf Oil at Sebring, Daytona, Watkins Glen, Elkhart Lake, et. al.), I think it's neat to watch somebody push a button and see that window come up out of the door on it's own little mission and in it's own little plane.

Because I purchased and repaired a set of 1962 powerwindow doors, and because a number of phone calls I receive for technical assistance deal with proper components as well as repair procedures, I find it opportune to share some of my "wealth" of information (measured in sense rather than dollars) about power assisted windows.

I'll begin with an assumption, based on the following information: 1) It is quite difficult to service the regulator and motor on a power-window door set-up. Access holes are very small and angles are very difficult. 2) GM did things as simple as possible to speed cars down the assembly line rather than to facilitate repair 20 years later. 3) On a visit to a nearby junkyard I discovered the remains of a 1961 power-window door with the outer skin 90% torn off from an accident. On the inner panel of the door, on the side of that panel AWAY from the door panel (in other words, not visible unless the door skin was removed) were the letters "EW" in green grease pencil. That leads me to this assumption: Doors were assembled with all window equipment, including power-windows, BEFORE the door skin was bonded to the door. That made it easy for GM - and a whole lot tougher for you and me!!

Given that assumption, I'd like to point out the difference between a power-window door and a manual window door, and then offer some hints for servicing of the powerwindow type.

Obviously, power-window doors have different door panels, because they are operated by a switch rather than a crank handle. The drivers' side has a double switch assembly to operate either window, while the passenger side has a single switch (see photo #1).

Single switches and bezels are relatively easy to locate - driver side components are considerably more difficult. Although many other body styles in the General Motors line used powerwindows in the early 1960's, none had only a two window application. All others had a four-window set-up, so the driver's panel had four switches, while passenger side front seat and both rear seats had the proper single switches. Only the 1955-57 Nomads had a similar twowindow set-up. More recent vehicles - Camaros and Firebirds of the 1970's have had two-window set-ups, but the switches and bezels are not identical. The long and the short of that is - if you find a power-window set-up "Complete, just missing drivers side switch"- beware – that switch may be nearly as valuable as the rest of the components combined.

Power-window doors also had different regulators, motors instead of cranks, and modification to route electricity to the motors. Note if you will, that the holes for mounting the power-window regulator (4) are located in a slightly different location than the holes for the manual regulator. [See photo #2 (power) and photo #3 (manual)]

(Check 1962 AIM for that information). As the face of the door was modified for wiring to pass through the cowl area, via a conduit into the door, the door was modified to accept that. Note picture #4 - (power-window door on left, manual on right).

Note the crude manner of opening that area up - it appears as if at assembly they drilled four holes and used a small saw to cut from hole to hole. You'll notice also in that photograph the inner reinforcement that is present on all doors, whether power-window or not.

Notice if you will, the difference between pictures 2 and 3. The opening for the crank handle on a non-power door is different than a power-window door. The piece that is opened up (drilled for that hole) is a tapered thin piece of fiberglass. It was bonded to the inside of the door inner panel to provide the proper angle for the regulator and other components to be located. The piece for a powerwindow door, as pictured in photo #3 has only a slot, and that's for the location of a tang that is part of the regulator. I have been unable to determine whether or not GM used two different pieces, or whether the same piece was used and was opened up by a hole saw for the non-power doors. They are identical in every other respect.

Now that we have identified some basic differences between the two doors, we'll talk about service and maintenance of the same.

We start by removal of the door panel. If you've not done that before, there are a couple of tricks. Small horseshoe clips retain both the small lock knob and the crank handle on a manual-window car. Those clips are different sizes, but both are removed by a special tool you can purchase at any parts store or tool supply house. A bent thin screwdriver will also work, but could more easily scar the door panel vinyl. Removal of the door opener ball and arm rest are easy, as well as the removal of screws holding the panel to the door. The power-window control switches are easily but carefully pried out of their place in the door panel, and must be disconnected from the wiring so the door panel can be fully removed.

After the door panel has been removed, the two inspection plates/covers must also be removed, and once that is done, access has been gained to the "goodies" inside. As you look inside, you'll find that the window rides up and down in a rear track that is attached to the door with two large Phillips-head screws that are above and below the door latch mechanism. Those screws, incidentally, are to remain unpainted, as they, along with that track, were installed after the door was painted. That track had a felt liner from the factory, and it often has weathered to the point where it is non-existent; allowing the window to rattle back and forth, and failing to give the window proper support and alignment. So the bottom line is - buy a replacement felt liner and install that for starters (on right in photo #13).

As you look further, you'll find a curved (open "C") type of channel attached to the center of the inner door panel by two other Phillips-head screws which are often covered with sealer. That channel helps the window to tilt at the proper degree as it ascends and descends (in center in photo #13). You'll probably want to remove that channel, clean the 20-25 year-old dried-out Lubriplate, and lay a bit of new white lithium grease (Lubriplate) back in the channel.

There's a third channel that attaches to the main vertical door reinforcement and also to the doorpost. It's within this channel that the front edge of the window raises and lowers. That channel also is generally badly weathered and worn, and replacement demands that the doorpost be removed, the channel cut from the door, and the new channel screwed and riveted to that channel. Reproduction sources also have the screw and rivet kit.

A fourth window track bolts to the metal door reinforcement near the doorpost. The front window roller moves up and down in that track (on left in photo #13).

Removal of the doorpost is fairly straightforward (once the felt covers are removed from the small access holes) except for one hidden bolt facing the front of the door (see picture #6). The factory "hid" this bolt with putty and a light covering of resin prior to painting, so the resin and putty must be removed before the last bolt is accessible. Occasionally the resin "patch" will pop right out – other times it will take some careful trimming of the area to accomplish removal of the patch and putty. If you do take the doorpost out of the car, check on the lower portion for a stamped date in blue ink. Don't panic if the date is later than the date you had calculated the car was built – dates on these and on windshield frames often post-date the car. Don't ask me why!!

There is one additional track - this one is attached to the bottom of the window. One regulator roller moves back and forth in this track (channel) (see picture #5). This one also will likely need to be cleaned and re-lubricated. This channel is fastened to the bottom of the window by four Phillips-head countersunk screws. Once those are removed, the track can be removed from the window hardware, then tilted and slipped off the regulator. At this point it's tempting to remove the window, but unless you have to, I'd recommend against it. Inner and outer reveal moldings have been removed already, of course, in order to facilitate removal of the doorpost, but the opening at the top of the door is still rather tight. That was no bother 20 years ago when the rubber gasket at the bottom of the window was alive and pliable, but the years have dried out the rubber and resists being brought through the upper opening of the door without tearing.

The next step along the way is to unhook the wiring harness where it plugs onto the motor (picture #7). After that's done, then the four screws which attach the motor to the door can be removed. This then, allows the motor and regulator to "float" inside the door. Yet movement and room is extremely limited. So read and proceed carefully. If the only problem has been with the motor, you may very carefully remove the motor from the regulator (use caution as it's springloaded). As you do that, on the back side of the motor (see photos #8 & #9) is the plastic drive gear which, when activated by the motor, moves the regulator up or down. If the motor is the only problem, **LEAVE THE GEAR ON THE REGULATOR**. This will maintain proper alignment on the regulator and not allow the spring tension on the regulator to release. You can then work the motor out the inspection hole, and determine the problem with the motor. Often, the only problem is that contacts between the wiring harness and the motor are corroded and need to be cleaned up. Because there are no limit switches on the motor, once the problem is rectified, the motor can be installed back on the plastic gear and regulator without concern for perfect alignment compared with removal.

If the problem is with the regulator, then obviously, you have to remove the regulator from the door. As you attempt to do this, comfort yourself with the reminder that this was installed before the door skin was added at the factory, so you, likely, are the very first to ever

accomplish, or attempt to accomplish this on your car!! It's a simple matter of push-pull, tilt, tug, grunt, and grimace in order to work it past the main door support and get it out that suddenly-tiny and poorly-located inspection hole.

Once you wish to reinstall the regulator, you should "pre-load it" before reinstalling it. This consists of placing it in a vise, working it until the main arm is at a 90-degree angle from the portion that mounts to the door, and then using a screw through the lower mount-to-door hole to force the arm to remain in position (see photos #10 & #11). You then must again push-pull, tilt, tug, grunt and grimace until it is back in the proper area. Then put the motor back onto the regulator, work it around until you can remove the bolt you installed to insure alignment, and then fasten it (motor and regulator) to the door, with the tab in the regulator indexing in the notch in the door for proper position. Reinstallation of the channels, etc. can then be done. A certain amount of trial and error adjustment must be made until the window again moves smoothly up and down.

Adjustment of the window then can be made with the stops that attach to the very top of the door (see photo #12). Back off the nut that locks the adjustment screw, and then adjust the front and rear one so that you attain proper adjustment. If you have a two-top car, Chevrolet suggests that you adjust the window to the ardtop, and then adjust the soft-top to fit the window. If you have only one top, make whatever adjustments you need in the same manner.

A couple of additional notes regarding doors, windows, etc. Parts books have always listed 56-58 regulators with one part number, while 59-62 regulators had another part number. Yet certain dealers have advertised "56-62 window regulators". I've been confused. But after placing an original 56-58 next to an original 59-62 regulator, I realize that although they are slightly different, they shall interchange. The basic difference is that the 56-58 regulator, on the main arm, has less radical bends that are farther apart than the more radical bends that are closer together on the 59-62. The net result is that there is very little difference in the position of the roller on the end of that main arm, and therefore there should be no difference in performance. The same holds true for power-window regulators of the same vintages. Although part numbers differ, the parts themselves should interchange and work properly.

Regarding power-window motors, the earlier cars used a rounder motor, while the later cars used a motor that was longer and rectangular. They seem to interchange except for electrical connectors, and will work in any 1956-62 Corvette. The 1956-58 motors were the round, while 1961- 62 were rectangular - I'm not sure what is proper for 1959-60.

Photo #1

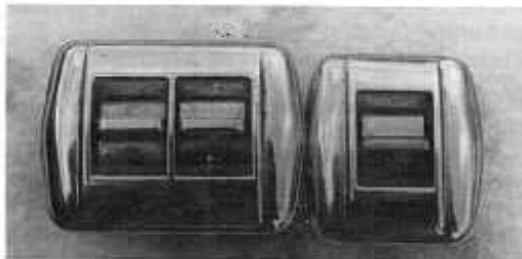


Photo #2

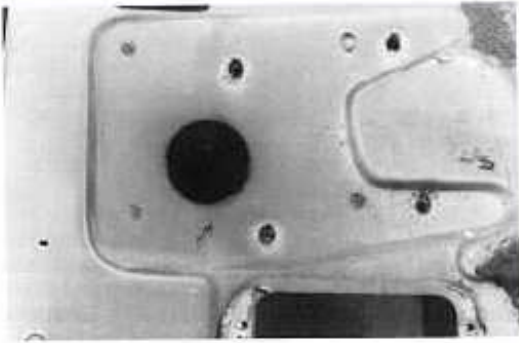


Photo #3

Photo #4



Photo #5

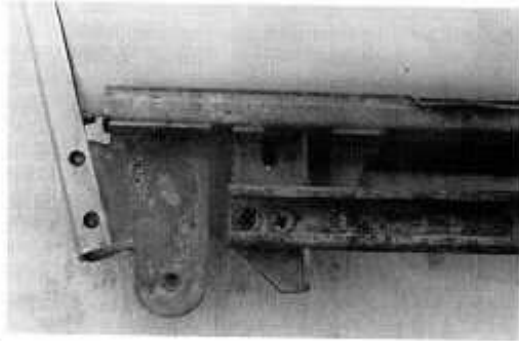


Photo #6



Photo #7



Photo #8





Photo #8



Photo #9



Photo #10



Photo #11

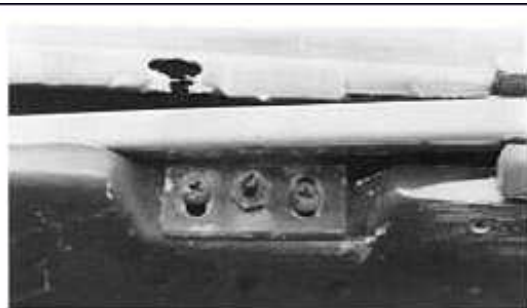


Photo #12



Photo #13