

1997-2001 Jeep Cherokee Power Window Repair Kit

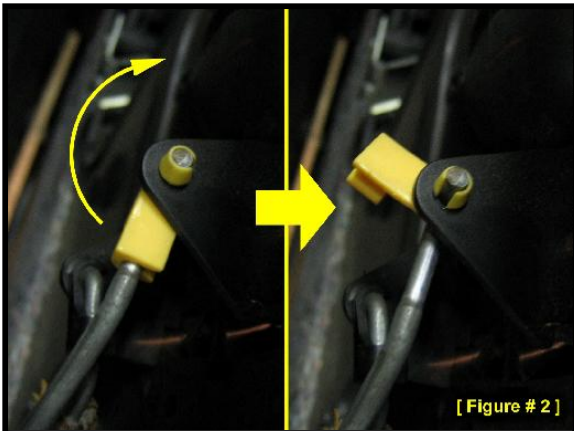
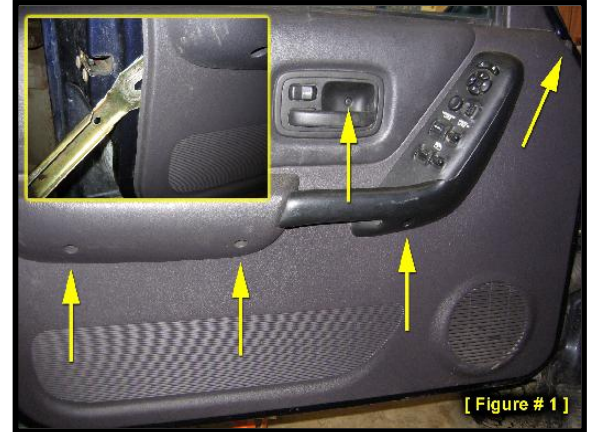
Thanks very much for purchasing this Steiger Performance window regulator repair kit! In addition to the repair bracket and this installation guide, you should have received one 1/4-28 bolt with 2 flat washers, 1 lock washer and a nut as well as two #3-48 machine screws with two flat washers, one lock washer and one nut each. (You actually only need one of the smaller machine screws, but I include two because those parts are small and easy to lose.)

If you encounter problems or have any questions or comments, please feel free to contact me via e-mail at jon@steigerperformance.com. A copy of this installation guide is available in Adobe PDF format on the Steiger Performance web site at <http://www.steigerperformance.com>

Tools required: 10mm hex socket or wrench, two 7/16" hex sockets/wrenches, 3/16" hex socket or wrench (or small pliers), small screwdriver, medium and large Phillips screwdrivers, drill/angle grinder/chisel (to remove a small rivet), utility knife

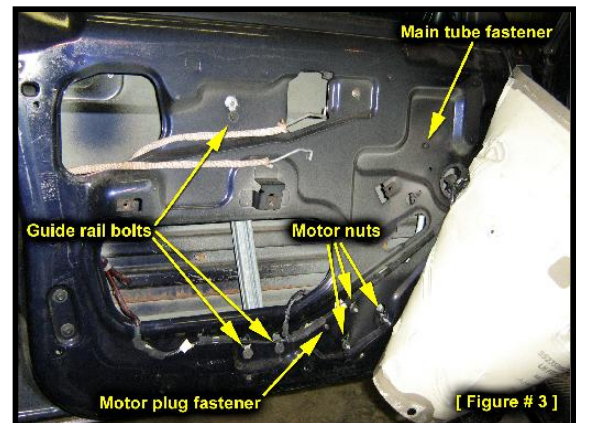
(Note: For a diagram showing the window regulator parts referred to in this document, please see Figure #12 on the last page.)

Before removing the door panel, turn the key on and hold the window switch in the "down" position for a few seconds, then turn the key off. (This can help to prevent the "Stuck Cable" situation described on the second page.) There are three large Phillips head screws under the armrest, a Phillips head screw behind the door handle and another at the top corner of the panel, near the door jamb. (see Figure #1) Remove these screws, then go around the left, bottom, and right sides of the panel and pry it away from the door. You can use a special tool designed for this purpose (see inset of Figure #1), or a flat blade screwdriver (be careful not to scratch the paint). If you manage to break any of the plastic fasteners, you can get replacements at the dealership or an auto parts store (though one or two missing clips won't make a big difference). Pull the bottom of the panel away from the door, then lift up to release it from the top of the door. (Just keep pulling the bottom of the panel away from the door until you are able to lift the top of the panel out of the window slot.)

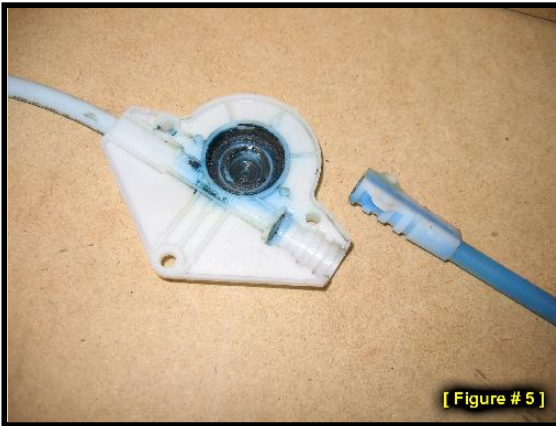
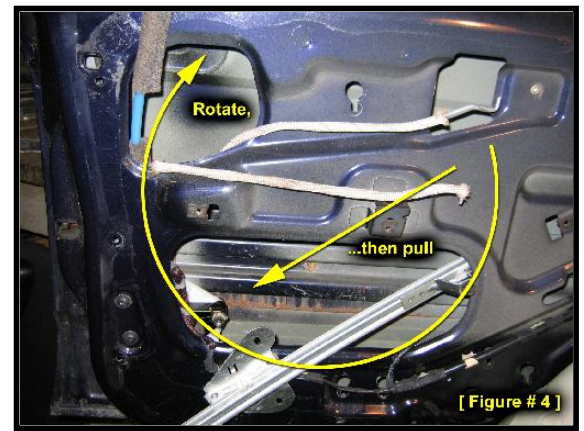


To disconnect the door latch and lock levers, just unclip and rotate the plastic locks. The metal rod can then be pulled out of the hole. (see Figure #2) Once you do that and unplug the two electrical connectors from the door switch module, you can set the panel aside. You will notice that there is a moisture barrier behind the panel, glued to the door. Carefully peel back this barrier. You don't need to remove it completely, you can leave the part closest to the door jamb attached, just peel it back enough to gain access to the door innards. Remove the two 10mm bolts which connect the glass to the window bracket. Be sure to support the window while you are doing this so that it won't crash down into the door. If you wish, you can remove the window glass from the door at this point. (If you want to do that, pull the inner and outer seals out of the window slot, then rotate the front of the

window down and lift it out through the slot, back side first). Instead of removing the window, what I prefer to do is to simply slide it all the way up to the closed position and hold it in place by running a few strips of painter's/masking tape from the inside of the glass over the top of the door frame to the outside of the glass. (Not only is this method faster and easier, I feel that it also decreases the odds of breaking the glass.) Down near the lower front portion of the door, you will find three 10mm nuts along with a plastic fastener that is holding the power window motor plug in place inside the door. (see Figure #3) Reach inside, pull the plug away from the door and then disconnect it. (You will need to slide the red lock on the top of the socket to the side and then squeeze the locking tab at the top rear of the connector while pulling the plug and socket apart.) Loosen the three window motor nuts as well as the two bolts at the bottom of the guide rail. You do not need to completely remove these fasteners, just back them out several turns. However, I do like to remove the single bolt at the top of the guide rail – this will create some additional clearance in that area, making the regulator easier to remove from the door. Slide the motor up enough for the nuts to pass through the holes at the top of their slots and then let it rest at the bottom of the door for now. There is another plastic fastener (similar to the one on the motor plug) that anchors the main tube to the door; disconnect this also.



Lift the guide rail out of its slots, just as you did with the motor. The window regulator assembly is now free and can be removed from the door. To do so, rotate the entire assembly such that the window motor moves along the bottom of the door, towards the rear edge. (You will be rotating clockwise for the driver's side door and counterclockwise for the passenger side.) The tail piece will begin to move up. Feed it out through the square-ish opening at the top rear corner of the door so that it doesn't hit the top of the door and thus stop the assembly from rotating. Rotate the regulator assembly until the motor is sitting at the bottom rear corner of the door, then pull the guide rail out of the large opening in the bottom of the door, followed by the rest of the assembly. (see *Figure #4*)



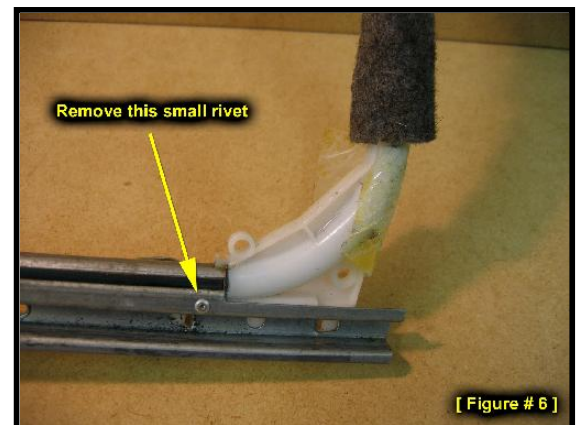
Now that the regulator has been removed from the vehicle, you can unbolt the motor. To do so, just remove the three nuts from the "plastic" side of the motor housing. The nuts that are on the "metal/motor" side of the regulator are actually the nuts that hold the motor to the door, and loosening them any further is not necessary. Once the proper nuts are removed, you can slip the bolts out and the motor will separate from the regulator. Be careful not to lose the gear that is attached to the output shaft. Now you should be able to pull the spiral cable out of the regulator and you can also slip the tail piece out of the plastic motor housing. (see *Figure #5*) If you are unable to move the cable even after removing the motor from the regulator, please read the "Stuck Cable?" sidebar below, otherwise you can skip down to *Figure #6*.

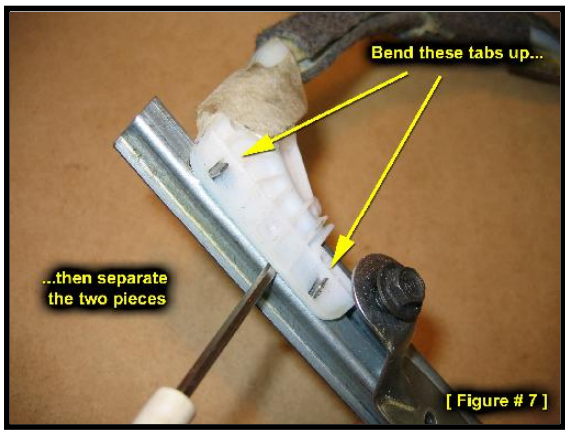
Stuck Cable?

Due to the manner in which the window bracket typically fails, a piece of plastic will sometimes remain around the end of the spiral cable, and if you have held the window switch in the "up" position, it is possible for that piece of plastic to enter the main tube and become royally jammed. If such is the case with your regulator, here is the technique which I have found to work the best in this situation:

- 1) Use a pair of vise grips or pliers to grab the part of the cable which is sticking out of the end of the tail piece. (If there is not enough cable sticking out to grab onto, you can carefully remove the tail piece. It will be difficult with the cable still inside, but it is definitely doable, just go slowly and be careful not to break anything.)
- 2) While holding the main tube stationary, use the vise grips/pliers to spin the end of the cable in a counterclockwise direction (from the perspective of looking at the end of the tail piece). It may not want to move at first, but it should eventually break free and start to spin. What you are doing is un-screwing the other end of the cable from the broken piece of plastic which is jammed in the main tube. Keep turning it and you will notice that the cable is slowly backing out of the tube. Every so often, give the cable a gentle tug to see if it has completely unscrewed or not. After you have unscrewed it far enough (an inch or so), you will find that the cable now moves freely back and forth in the tube.
- 3) Remove the vise grips/pliers from the cable and then use the cable itself like a pipe cleaner to push the broken plastic piece out of the tube.

The next step is to detach the plastic main tube from the top of the metal guide rail, which is held on by a small rivet and a couple of tabs. First, remove the rivet at the top of the guide rail. (see *Figure #6*) Basically what you need to do is to remove the head of the rivet and then push the body all the way through. To remove the head, you can use a drill bit about the same size as the rivet or an angle grinder / cutoff tool. Another technique that works well is to place the sharp edge of a chisel against the side of the head of the rivet and strike with a hammer. Be careful not to damage the metal guide rail. To push the body of the rivet through, you can use a small punch, a small drill bit, or one of the small machine screws included with the repair kit. The size of the rivet hole is approximately one tenth of an inch (0.1").

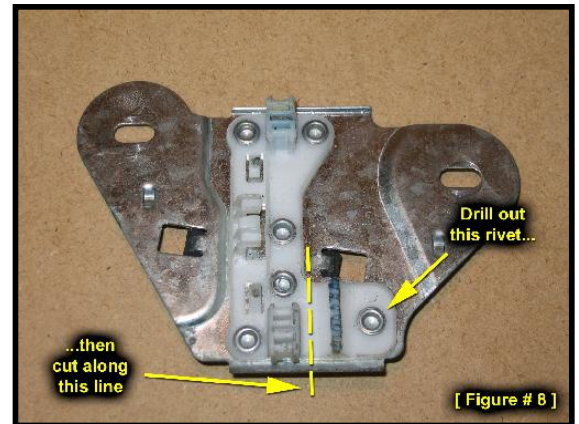




After you've removed the rivet, use a screwdriver and/or a pair of pliers to bend up the two metal tabs which are holding the main tube in place. Once they are basically straight, you should be able to separate the plastic piece from the metal guide rail. (see *Figure #7*) You may find it helpful to use a small screwdriver to pry the tube away from the guide rail, but be careful; it should come apart fairly easily, so don't force things. If it seems too hard, you may need to straighten the tabs a bit further. Don't bend the tabs back and forth excessively, as they will weaken a little bit each time you bend them.

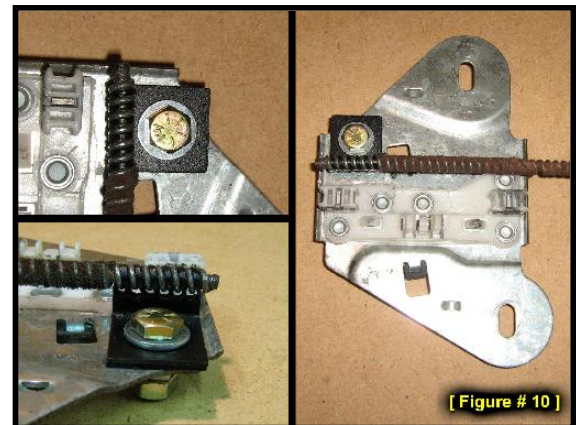
If you haven't already removed the window bracket from the guide rail, slide it off now.

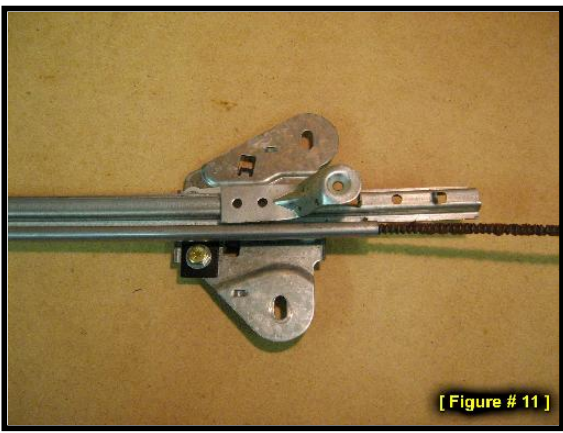
Before repairing the window bracket, the broken portion needs to be cut off and the rivet that is holding it in place also needs to be removed. (see *Figure #8*) Drill the rivet on the plastic side of the bracket using a large drill bit. If the rivet starts to spin, you may need to hold onto the head from underneath. Instead of a drill, you could also use an angle grinder or cutoff tool. It doesn't matter if you damage the plastic in the immediate vicinity of the rivet because we are throwing that part out anyway. After the rivet has been removed, cut the plastic piece along the line shown in *Figure #8*. A Dremel® tool with a cutoff wheel works great for this, but a utility knife will work too, just score a line and keep making it deeper until you cut through. If you use a power tool of some kind, be careful not to damage the metal bracket underneath.



Now that the broken part has been removed, you can bolt the repair bracket to the window bracket using the hole previously occupied by the rivet that you just removed. The repair bracket gets bolted to the plastic side of the window bracket with the spiral portion facing up and closest to the plastic piece. (see *Figure #9*) Slip the bolt through (with one flat washer under the head) then install the other flat washer, split lock washer and nut underneath. The bolt would probably work either way, but putting the head on the same side of the window bracket as the plastic piece and the repair bracket will create maximum clearance between the bolt and the guide rail. Don't tighten it up yet, leave the bolt and nut loose enough for you to be able to move the bracket around.

Next, you need to thread the spiral cable into the repair bracket. Before doing so, you must remove approximately one inch of the "fuzz" from the end of the cable. (A wire wheel mounted on a bench grinder works great for this, or you can use a wire bristle brush, or if all else fails, just pick it out with a pair of tweezers or needle nose pliers.) Screw the cable all the way in such that the end of the cable is approximately 1/8" to 1/4" beyond the edge of the repair bracket. (see *Figure #10*) The end of the cable hits a rubber stop at the bottom of the guide rail when the window is all the way down, so the cable must protrude through the bracket far enough that the stop will contact the cable instead of the bracket itself. However, if you thread it through too far, you will find that your window won't go down all the way. Note: It should be relatively easy for you to screw the cable into the repair bracket by hand. If you have to force it, then something is wrong. Sometimes the factory cable has a "blob" of weld/solder at the end of the cable or the first "spiral" on the cable may be fatter than normal, and this prevents it from threading into the bracket. If this is the case, you can file or grind down the end of the cable a bit to make it fit, or try the other end of the cable. (If the other end fits better, install it that way – the cable is reversible, so it does not matter which end attaches to the bracket.) Finesse is the key here – trying to force the cable into the bracket will almost certainly damage the bracket.



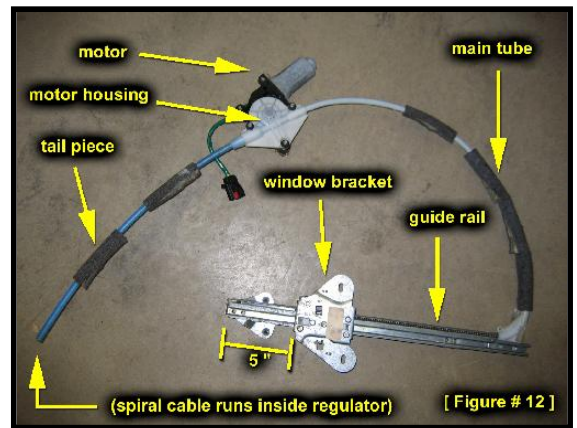


[Figure # 11]

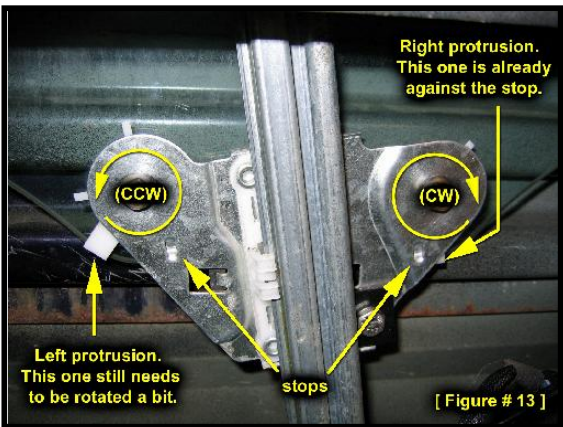
Slip the window bracket into the guide rail and then tighten the bolt on the repair bracket a bit. The reason for slipping the window bracket into the guide rail before snugging up the bolt is to make sure that the alignment is correct. Inspect the clearance; make sure that the repair bracket is sitting straight in the guide rail and that the window bracket can move back and forth without rubbing or binding. Once you are satisfied with the fitment, fully tighten the bolt. Don't horse 'er down to the point where you strip the threads, but do make sure that it is pretty tight, as we don't want the bracket to move. Check to make sure that the repair bracket didn't move while you were tightening it. Slide it back and forth to ensure that it operates without binding; adjust as necessary. Push the window bracket all the way to the bottom of the guide rail and verify that it is the cable hitting the stop rather than the repair bracket. This is a good time to clean

and lubricate the guide rail, if necessary. If there is sticky residue in the channels, I use brake cleaner to clean it out, but soap and water will work also as long as you dry it thoroughly afterwards. If you need to lubricate the rail, avoid "wet" lubricants such as WD-40® as these will trap dirt and create gunk. I prefer to use a graphite based product for this. Attach the tail piece to the main tube and then thread the cable through. Snap the main tube into place on the guide rail and then insert the small machine screw provided with the repair kit into the hole previously occupied by the small rivet. For clearance reasons, the head of the machine screw and one flat washer must be on the metal side of the guide rail; the other flat washer, the lock washer and nut will be on the plastic side. Bend the two metal tabs back down and then tighten the machine screw with a small screwdriver and a 3/16" wrench (or a pair of pliers). This is a very small fastener, so there is no need to break out the impact wrench. ☺ Just make it snug. Position the window bracket so that the bottom of the bracket is about five inches from the bottom of the guide rail; this will ensure that you have adequate clearance through the door opening to re-attach the window glass. (see Figure #12) Re-install the motor in the motor housing. If the gear has fallen off the output shaft, place the gear on the shaft such that the teeth are away from the motor, not right next to it. Install the motor bolts from the motor side; the nuts go on the plastic housing side. Two of the bolts are the same (usually silver) and the third is different (usually gold). The same/silver bolts go in the outside holes, the different/gold one goes in the middle hole. Thread the regulator back into the door, reversing the method you used to remove it. Slide the motor and guide rail into their respective slots and tighten those nuts and bolts. (The tail piece should run underneath the lower guide rail bracket.) Plug the motor back into the wiring harness and secure it to the door by pushing the plastic fastener attached to the plug through the hole in the door, and do the same for the fastener on the main tube. Slide the window glass down to the holes in the window bracket and start the two bolts which secure it in position. Notice that each of the plastic "washers" attached to the window have some small protrusions as well as one large one. These large protrusions should rest against the stops in the window bracket. Rotate the left one counterclockwise and the right one clockwise until these protrusions hit the stops. (see Figure #13) Now you can snug up the bolts. Mind the glass – don't over tighten! (A drop of Loctite® can be used on the threads if you are worried about the bolts loosening.) Check to make sure that both the front and the back of the glass are in the window tracks. (If you notice that the window goes up fine until the very top but then it tips forward slightly, the glass has probably come out

of the front track.) If you would like to test the operation of the window prior to buttoning everything up, you can extract the switch module from the door panel by removing three Phillips head screws. (Slip the module out of the door panel, plug it in and let it hang from the wiring harness, then reinstall it in the door panel after you are done testing.) Once you are satisfied that all is well, press the moisture barrier back into place, connect the door latch and lock rods, plug in the two electrical connectors, fit the top of the door panel into position on the window slot, line up the panel clips and snap them into place. Finally, install the five Phillips head retaining screws. (see Figure #1) Congratulations, you're done! ☺



[Figure # 12]



[Figure # 13]

Thread the regulator back into the door, reversing the method you used to remove it. Slide the motor and guide rail into their respective slots and tighten those nuts and bolts. (The tail piece should run underneath the lower guide rail bracket.) Plug the motor back into the wiring harness and secure it to the door by pushing the plastic fastener attached to the plug through the hole in the door, and do the same for the fastener on the main tube. Slide the window glass down to the holes in the window bracket and start the two bolts which secure it in position. Notice that each of the plastic "washers" attached to the window have some small protrusions as well as one large one. These large protrusions should rest against the stops in the window bracket. Rotate the left one counterclockwise and the right one clockwise until these protrusions hit the stops. (see Figure #13) Now you can snug up the bolts. Mind the glass – don't over tighten! (A drop of Loctite® can be used on the threads if you are worried about the bolts loosening.) Check to make sure that both the front and the back of the glass are in the window tracks. (If you notice that the window goes up fine until the very top but then it tips forward slightly, the glass has probably come out

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