

How To Repair Your Warn Winch Controller, without spending \$50 on a new one....

Doc Elliott, 2007

I have a winch on my truck that doesn't belong to me. I have been using a friend's winch for some time now while he is in a forever-rebuilding-mode on his rig. One day I was using the winch and damaged the controller cable to the point where it wouldn't work any more. So I had to fix it, but the only fix seemed to be replacement for \$50 or so, plus shipping or tax. There's gotta be a better way, right?

Right. The only thing that was damaged on mine was the cable itself. So after some digging around on the controller connectors, I figured out how to disassemble them.

The hard problem is disassembling the connector on the winch end. Its not really meant to be taken apart. But after a while I discovered that I could run a #8 woodscrew into the center hole of the plug inside the connector shroud and, like a small "puller", the screw would pull the plug right out of the shell.



Figure 1 - The homemade "puller"

The wood screw goes through a piece of metal which acts as a fulcrum. Simply turn the screw slowly, maybe tap on the piece of metal and it will gradually pull the center plug right out of the connector. In Fig 1 you can see the plug coming out, the metal conductors are already past the end of the shell. In Figure 2, you can see the whole plug separated from the connector shell, but still attached to the cable and the screw.

At this point, note in figure 2 the lousy strain relief thing crimped onto the cable. Measure and record the approximate distance between this strain relief and the base of the plug; you will need this later. Remove the screw from the plug, you are done with the "puller".

I was unable to find the exact same wire as the original. I did find, at



Figure 2 - the plug removed from the shell

Home Depot, a similar wire, but its slightly larger in diameter, and has reinforcing fibers which should make it stronger than the original. Its also rubber coated, so it looks and feels just like the original. Note the difference in diameter in the Fig 3. The replacement cable was 18/3 which means its 3 conductors (just like the original) and 18 gauge. I think the original was probably 22 gauge, so this is stronger wire as well as the whole cable being much stouter. Also this cable has included strain fibers between the conductors which should give it a lot more tensile strength.



Figure 3 - new cable versus the original

I did not need to make any changes or repairs to the electrical connectors themselves in the plug. These little devils can be very difficult to get out of the plug without damaging them. Each one has 3 small metal tabs that hold the conductor pin in place in the plug once you insert it back into the plug. Before you do anything else, make sure your fit the new cable through the connector shell. Since my new cable was a bit bigger than the original, I had to drill the hole out slightly to make it fit. Snug fit is better, as it will keep water and stuff out of the connector shell.

I snipped off the wires about 1 inch from the conductors, stripped the insulation back, did the same on the corresponding wires of the new cable, twisted the connections together, and then soldered them. ***Make sure you get the 3 conductors connected correctly so you don't have to take it all back apart and redo it!*** Once cooled, I snipped off the excess, and wrapped them with some electrical

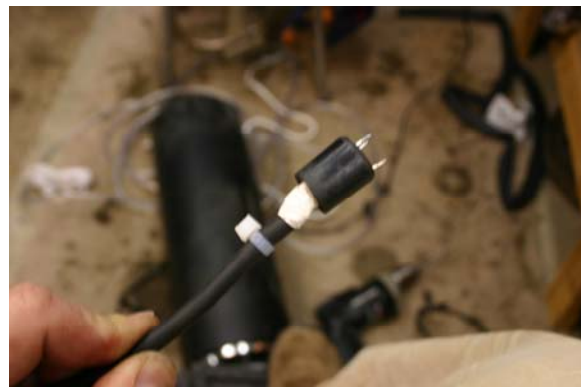


Figure 4 - the finished plug

tape. Figure 4 shows the finished connection of new cable to old plug.

Note the zip-tie in place as a strain relief. This should be placed at the approximate distance you measured and noted earlier. Pull the zip tie tight as you can, and cut off the excess.

Now carefully pull the cable back through the shell until the plug is snug in the connector shell. Then place the connector shell somewhere solid, place a small flat-end punch onto the face of the plug between the connectors. Be SURE that the notch in the plug aligns with the tab in the shell, and gently tap the plug back into the shell with a small hammer. This is *not* a suitable opportunity to use that new 3lb mini-sledge you just bought – be gentle, and the plug should seat back into its original position.

Now for the actual controller end...it's a big rubber handle with a switch mounted



Figure 5 - removing the switch assembly from the handle

on a round plastic disc that fits tightly into the handle. Take a screwdriver, and carefully work around the plastic disc and gently pry the disc out. See figure 5. Be very careful prying on the sides where the rubber "ears" are, and those will tear easily. Work the plastic disc loose at top and bottom. I put the handle in a vise and

clamped it tight, its rubber, and the vice aint gonna

hurt it. Be careful with the switch disc, it is just plastic.

Once the disc is loose, it should pull out and the cable will feed through the back of the handle. The switch connection is a simple set of 3 female spade connectors. Cut the old cable, and **record the colors of the wires so you can reconnect them correctly**. Note the distance from the base of the switch housing to the strain relief, as in the other end. Remove the spade connectors.

Insert the new cable through the old handle. You may have to enlarge the cable hole slightly, and maybe even use some WD40 to get it to slip through the hole in the handle. Figure 6 shows the new cable connected to the switch housing, ready to be placed back into the handle. Note the zip tie in place as a strain relief.

Gently pull the cable back through the handle until the switch housing is snug in the handle. Make sure you align the tab on the switch housing with the slot in the handle so that the switch operates in the correct direction. Getting the switch housing back into the handle is sort of a wrestling match. Lay the handle down so you can apply pressure to the face of the switch plate. Don't press on the switch itself, you can break it easily.



Figure 6 - the switch housing ready to go back into the handle

Gently work the switch housing back into the handle by pressing around the edges of the switchplate and working it back in a little at a time.

At this point you're done. You should have a new looking winch controller with a much stronger cable!