

## Basic Repairs to the CX Series II Fuse Box

9/26/2009

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The fuse box in the CX series II is not only a fuse box but a common place where several wiring harnesses connect together. The fuse box is very well made but over time problems can occur. The biggest problem is the damage caused by water leaking into the fuse box from either a windshield leak or leaks in the A-pillar. This article deals with removing the fuse box, cleaning it and protecting it from water. You know there is a problem when you wiggle the connectors in the fuse box and things start and stop working.

The fuse box is located under the left side of the dash. Turn the two black plastic screws  $\frac{1}{4}$  turn and the rear of the fuse box will drop down. Since we will be taking the fuse box out we need to make a drawing of where each connector, relay and fuses plugs in. It's not uncommon for someone in the past to use an incorrectly sized fuse. Refer to Table 1 and Table 2 for proper fuse and relay locations.

<b>Fuse Number</b>	<b>Amp Rating</b>	<b>Protected Circuits</b>
1	10	Backup Lights, Engine Harness
2	25	Heating, Ventilation and A/C, Instrument Panel
3	25	Front and Rear Electric window control, Windshield wiper, Brake lights, Sunroof, Height corrector control
4	30	Engine Cooling Fans
5	10	4 way flashers
6	30	Rear window motors
7	30	Interior lights, glove box light, height corrector control motor, digital display, Radio, Power door locks
8	25	Horn, Rear window defroster, Rear view mirror heaters
9	30	Front window motors

10	5	Rear Fog lamps
11	5	Rear license plate lights
12	5	Rear park lights
13	5	Side lamps, under hood light, ashtray light, cigarette lighter light, Ign key light, digital display light, Interior light timer, Front and rear fog light control
14		Not Used

Table 1: Fuse functions for CX series II fuse box

<b>Relay Label</b>	<b>Function</b>
R1	Relay for Engine Cooling Fans
R2	Relay for Rear window winder motor
Wiper	Front windshield intermittent timer
Blinker	Turn signal and hazard blinker
R3	Relay for Front window winder motor
R4	Relay for Rear window defrost (sometimes jumped with a flat piece of sheet metal)

Table 2: Relay listing for Series II CX fuse box

To remove the fuse box follow these steps:

1. Disconnect the battery under the hood.
2. Pull out the relays and fuses to gain access to the wiring connectors.
3. Carefully pull out each connector from the fuse box. Make any notes on your drawings you made earlier that might help in the re-assembling process. Sometimes a screw driver is helpful to get the connectors out. Gently place the screwdriver horizontally between the connector and fuse box and twist the screwdriver to lift the connector out.

4. There is a plastic bar at the front edge of the fuse box that holds the wiring in place. Slide this to the right and it will pop up and off.
5. Take out the Phillips head screw at the rear center between the 2 black clips you loosened to drop the fuse box.
6. With the Phillips screw out you can now drop the lower black plastic bottom cover/support by pulling it to the rear of the car to unhook the front edge.
7. Now take out the fuse box by unhooking the front edge. There is a hook holding the fuse box on both the left and right of the fuse box where it pivots. Lift the front of the fuse box up and pull back.
8. Remove the black plastic cover from the bottom of the fuse box. There are 7 tabs locking the bottom cover to the gray fuse box. Work around the fuse box by starting on one side by gently pushing the black tabs out with a screwdriver.

Take a look at the fuse box. You can see that it is a sandwich of two circuit boards attached to the plastic cover. We'll concentrate on cleaning the contacts and getting any green oxidized copper out from the middle of the fuse box. At this point it's not really possible to disassemble it any further. If water got into the fuse box you'll see green copper on the bottom surface, in between the circuit boards and even on the connectors on the top surface. This all needs to be cleaned. Sometimes the corrosion is so bad the traces on the circuit boards are eaten away. This type of damage cannot be repaired.

To get the corrosion out you can use soap and water, compressed air or a spray can of Brake Cleaner. The brake cleaner works the best. Put safety glasses on and work over a pan to catch the used brake cleaner. Spray it between the circuit boards in several areas, on the bottom surface and the top surface where the electrical connectors are. You'll see bits of green copper come out if there is water damage. Let the fuse box dry for a few minutes. If corrosion is still on the flat pin connectors then a small jewelers screwdriver can be used to scrape off the corrosion.

To protect the fuse box from water leaks there are several things to do. First is to repair the water leaks in the A-pillar. This was addressed in a prior article. After re-assembly you can put a piece of plastic bag over the fuse box and down the left side to prevent water from getting in. The water usually comes down the carpet on the left A-pillar and wicks into the fuse box. It's more rare to have the water dripping directly into the fuse box from above. Before re-assembly drill a small 1/8" hole in the front of the black plastic bottom cover to let any water out should it get in. To protect the copper of the fuse box from further corrosion you can spray white lithium grease in between the circuit boards. This will keep the copper from corroding further. It's also a good idea to put a small dab of grease on the electrical connectors before plugging them back in.

Put it back together and install the connectors, relays, fuses and re-connect the battery. The connectors to the wiring harness will fall right into place where they belong.

