

# CRX Power Window, Lock & Mirror Conversion

## Mark Olson

Rev. 0.1

### Objectives

My son decided he wanted to convert his 88 CRX-HF to power windows, locks and mirrors as a part of his resto-mod project.

He managed to acquire a set of EDM window switches to control the windows. He used parts from an 88-91 four door Civic to convert his CRX regulators to power regulators.

He used aftermarket door lock actuators in conjunction with his car alarm only. He did not put a lock switch in the car.

He used power mirrors from a 90-93 two door Integra to convert his CRX mirrors to power mirrors

Finally, used the wiring harnesses from the doors of the 88-91 four door Civic LX to wire it all together. Note: There may be connector differences between the different years of four door Civic LXs, and we can't remember the years of the junkyard donor cars we used, so your harnesses may vary a bit. The wire colors should be the same.

### Prerequisites

For the power mirror conversion, you will need a set of power mirrors from an 90-93 two door Integra.

For the power window conversion, you will need a pair of switches to control the windows. There are many different switches that you can use, so search the internet if you don't want to acquire EDM switches as we did for this project. If the EDM switches don't come with pigtailed as ours did not, you can use pigtailed from a two door 90-93 Integra with power windows as we did. You will also need a set of power window regulators from the front doors of an 88-91 four door Civic so that they can be converted to work in your CRX using parts from your CRX regulators.

For the power lock conversion, you will need a pair of aftermarket power lock actuators. I believe it is possible to use a set of Civic power lock actuators, but I think the aftermarket units are cheaper and easier to install.

Finally, to tie it all together, you will need the door wiring harnesses from an 88-91 four door Civic. Be sure to take enough of the main wiring harness so that you have the pigtailed you will need to do the in-car wiring to make all of this work. I am pretty sure there are differences between the connectors between the 88-89 4 door Civic LXs and the 90-91 4 door Civic LXs, so make sure that you take the door harness and part of the main wiring harness from the same donor car for each door. I think we got our wiring from an earlier donor car for one side and a later donor car for the other side. The wire colors should be consistent across all four years, but the connectors may vary slightly.

### Power Mirror Conversion

We tried to use Loserkidwac's CRX Power Mirror Write-Up (Using 4 Dr Civic Mirrors) found here: <http://www.honda-tech.com/showthread.php?t=1692942&highlight=power+mirrors>. It is a good writeup on how to make power mirrors that will work and not leak water after you have installed them.

Things we learned in the process that are different from Loserkidwac's writeup are:

1. It is really hard to get the mirror glass out of the Civic units without breaking the glass and/or messing up the plastic bezel around the glass.
2. Use one link from a small chain to extend the spring, rather than trying to find a longer spring or drill new holes as Loserkidwac suggests.
3. De-pin the connector rather than cutting and re-soldering it. That makes it easy to get the wire out of the unit and back in to the converted unit.

Because it was so hard to convert the Civic mirror, we decided to try using black 90-93 Integra DA coupe mirrors instead. All we had to do to get them to work was to slot the mounting holes in the door so the mounting screws will work.

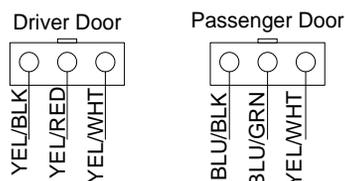
Before we discuss how we refreshed the Integra power mirrors, you might enjoy seeing what we found in the CRX-HF passenger side mirror:



The Integra mirror body is plastic and the mounting base is painted metal. The ones we got from the junkyard were sun faded and in need of some TLC. In order to clean it up we decided to take the mirror body off the base. There are three screws and a strain reliever that hold the plastic mirror and its wire to the base.



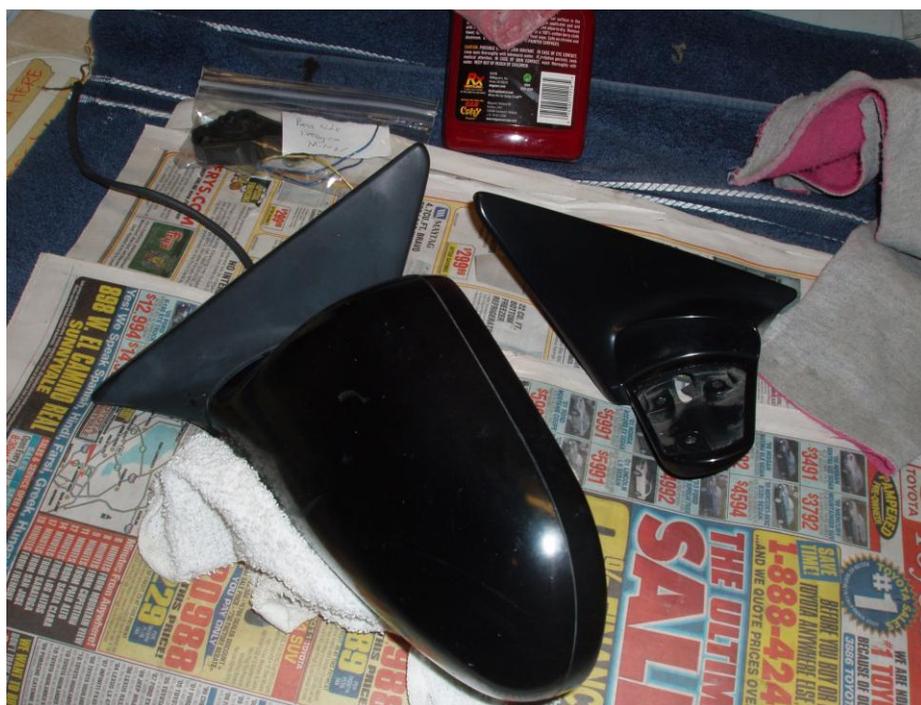
Make a drawing of the connector pinout (you will need to put it back the same way) and then de-pin the connector, and remove the 4 screws. Here are my mirror side connector pinouts from the pin side of the mirror connector:



Here you can see the base removed from the mirror body.



I washed the mirror body and used Meguiar's Dash & Trim Restorer on it. It came out nicely. The mirror base paint was starting to oxidize a bit, so I used Meguiar's Finish Restorer first, followed by their paint cleaner, and finally with a coat of their wax. Here is a picture of the passenger mirror base after cleanup next to the driver mirror base as it came from the junkyard:



Reinstall the mirror body to the base using the three screws. I noticed that they had some kind of thread-locker on them, so I reinstalled ours with blue Loctite. Reinstall the strain reliever on the wire. We reused the CRX mirror gasket. If you stretch it a bit, it will fit. I used some shrink tubing to seal the wire sheath to the mirror gasket, rather than the black tape that Honda used:



Here is the mirror ready to be installed in the CRX:



The other mirror was cleaned the same way this one was.

We put the mounting screws into the mirror base, put some white grease on the screws and then pushed the mirror into place so the grease marked the spots we needed to grind to move the mounting holes to where they work with the Integra mirrors:



It took a lot of grinding to get slot the holes far enough to mount the mirrors to the doors. Also, it took longer screws. It turns out that sunvisor screws work perfectly. Here is the mirror installed on the CRX:



The Integra mirror leading edge has a slight curve to it vs. a straight line on the door frame, but it is barely noticeable. When you test fit everything, you will see how far you need to extend the mirror wires to reach the connector on the door harness. Extend the wire, re-pin the connector and plug in the extended wires and you are done. We will be making interior mirror lever block-off plates later to finish the internal trim.

## Power Window Regulator Conversion

The following is the window regulator part of the old Geocities power window article entitled "How 2 put Power Windows in your CRX". It was found at [http://www.geocities.com/speed\\_phreak\\_88hf/how2pwrwndw.htm](http://www.geocities.com/speed_phreak_88hf/how2pwrwndw.htm), but it is no longer there.

### Parts needed:

- (2) 88-91 Civic EX/LX power window actuators -- \$50-100 bucks (mine were \$70)
- (4) 4' lengths of wire
- (2) 2' length of wire
- (2) Center momentary window switch -- \$14 from Auto-zone
- (1) 30 Amp in-line fuse holder w/ fuse -- \$2 from Wal-Mart

I went to the junk yard and removed the power window assemblies out of a 91 LX. \$70 for them. Total up the rest of the parts and I may have spent \$110 total on the conversion.

### DO ONE SIDE AT A TIME

1: Remove door trim panel

2: Cut away the plastic liner, afterwards you may want to replace this.

3: Starting with drivers side remove the window. There is 1.5' hole at the lower front of the door. Crank the window down until you can see the 10mm bolt through the hole. Remove the front and rear bolts at this time.

5: To remove the manual window actuator there are (4)10 mm bolts around where the crank. Plus 2 more 10mm bolts, back by the where the arm-rest was on the door panel. Remove all of these bolts and let the assembly collapse down onto itself, slide it out the large hole towards the back of the door.

5: Now laying both the manual and power assemblies side-by-side you will notice some differences in them. The first being that the tracks are different lengths. Also the power actuator has a different set of mounting points than the manual one.

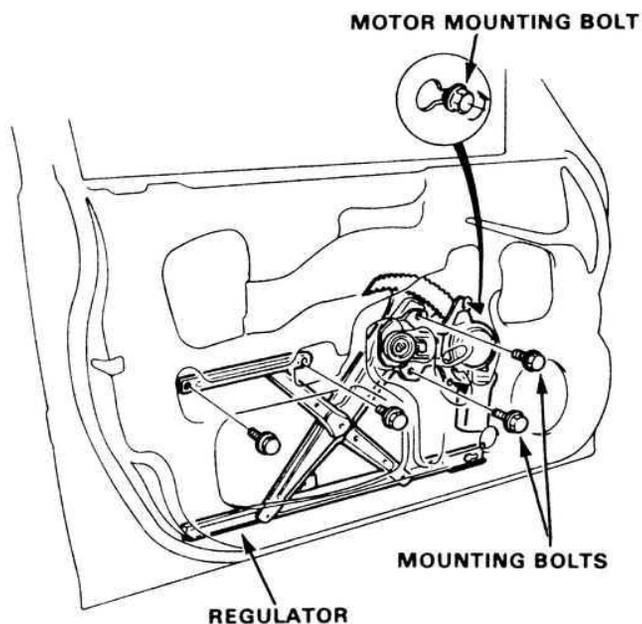
6: Since the tracks are different they will need to be swapped over. Just take a drill and go to work on those dents that keep the wheel from sliding out of the track. A 1/4" drill bit works well to drill out the "bump-stops". Swap the tracks over from your CRX onto the power assemblies. Make sure you put the lower track on right side up.

\*\* Note: The Window "tab" up and at the rear of the door.

While you have all the shit out of the door, it would be beneficial to grease all the rails. This will keep the window operation nice and smooth. When I removed the manual assembly from my CRX I found out why the drivers window kept coming out of track. It was due to the fact the the tracks and been with out grease for so long that the little rollers had begun to degrade.

At this point, we also ran both of the drive gears off the ends of the regulators to take the tension off of the counterbalance springs. We used the crank handle for the manual regulator and a 12V car battery for the power regulator to run them off. We then swapped the counterbalance springs and ran the power regulator drive gear back onto the regulator with the 12V battery. The stronger counterbalance spring from the CRX regulator is now on the power regulator. This helps the power regulator to more easily raise the larger, heavier CRX glass, extending the life of the regulator motor. We also greased the rest of the regulator moving parts with a spray lithium grease.

**7: Slide the whole mess into the door. And bolts it up as shown in the picture. The motor will be facing relatively down.**



**8: Side the glass back in door and hook it up. It may be best to use a 12V power source to get the lower tack into he same position as when you removed the window. Make sure you get to window in the middle of the rubber vertical tracks, this is kind of tricky with just one person. An extra set of hands helps with this part.**

## Power Lock Actuator Install

My son decided to use aftermarket lock actuators (model #DLYEL) made by Micro Alarm Systems, Inc.  
<http://www.microalarm.com/alarmaccess.html>

Here is a picture of the actuator mounted inside the rear of the door, just under the lock rod:



And the other door:



Test the actuators with a 12V car battery.

## Driver Door Wiring Harness Conversion

The door wiring harnesses will need to be modified to make it all work. Since the front doors of a four door Civic are smaller than the front doors of the CRX, the mounting tabs will need to be moved to get it to fit properly in the door.

I put the Civic door harness connector into the hole in the front of the door and then marked where the mounting tab holes are on the wiring harness using a drop of white-out. Here is a picture of how the harness runs inside of the door:



Here is the harness installed with the connector in the door.



Hold the harness against the wire harness clip holes and mark the harness so you will know where to mount the clips. I used White-out to mark the harness.



And again:



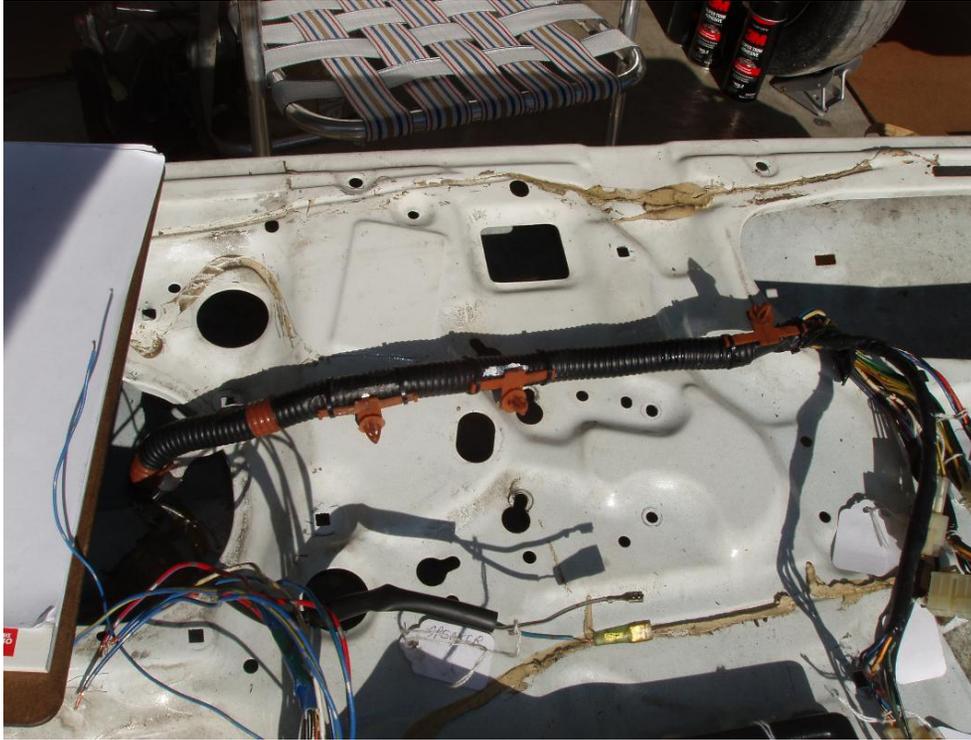
And again:



Move the mounting tabs to the marks you made. I used zip ties rather than tape:



All three tabs in place:

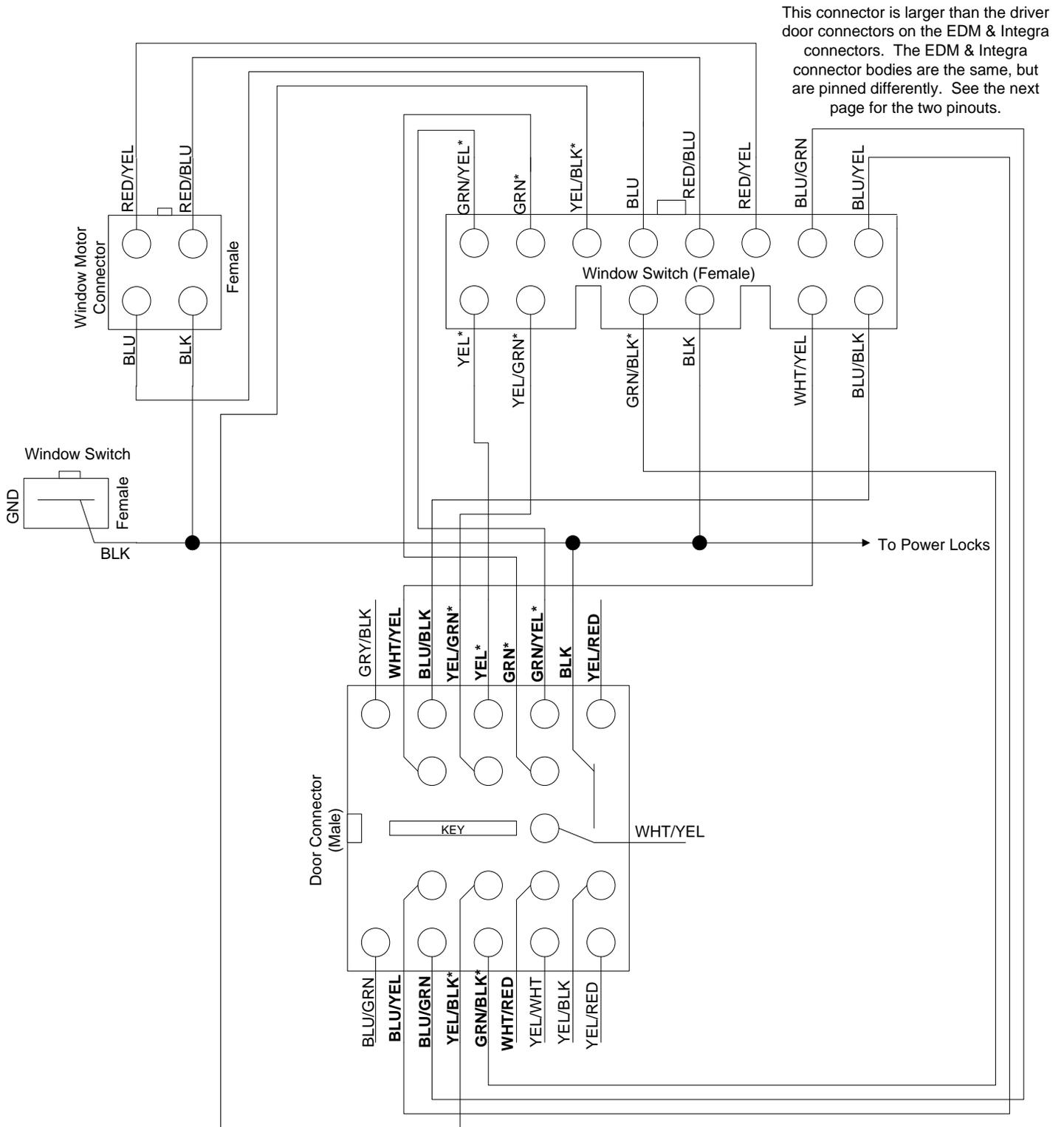


The wiring harness must be modified in order to get it to work. The window switch connector needs to be de-pinned and taken off the door harness, and the pigtail from the EDM window switch needs to be spliced to the front door wires from that connector. A USDM 90-93 Integra 2-door driver's side window switch connector can be used, but the connector will need to be re-pinned to get it to work. The re-pinning details are described later. The rear door window switch wires can be shrink wrapped together and then left in place for other door wiring that may be needed in the future, such as locks, 89+ seat belts, nitrous switches, etc. The window motor connector will plug directly into the mating window motor connector of the power window regulator. The mirror control part of this harness does not need modification, but the wiring on the mirror itself must be lengthened to reach this connector. Here is a picture of the wiring in place:



The following pages show the stock wiring of the 4 door Civic Window followed by the modified wiring. The speaker wiring needs no modification, nor does the mirror wiring other than extending the wire from the mirror.

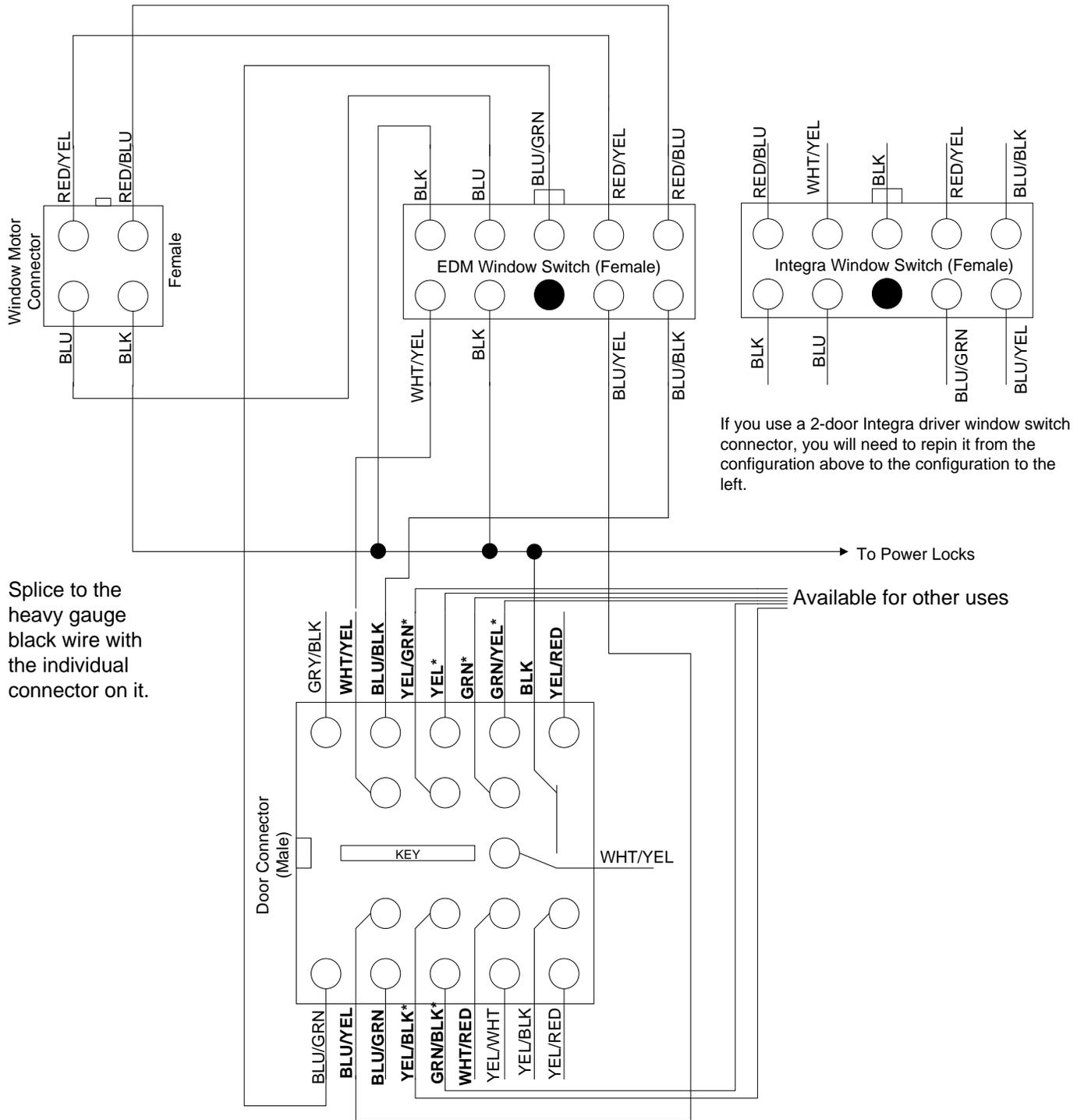
# How to convert a 4 door Civic Door Harness for a CRX Driver Door Wiring (Pin side of connectors) Power Windows Stock Harness



This connector is larger than the driver door connectors on the EDM & Integra connectors. The EDM & Integra connector bodies are the same, but are pinned differently. See the next page for the two pinouts.

**BOLD**=Heavy gauge wire  
\*Rear Doors:  
Not used

# How to convert a 4 door Civic Door Harness for a CRX Driver Door Wiring (Pin side of connectors) Power Windows Modified Harness with EDM/2-door Integra Connector



**BOLD**=Heavy gauge wire

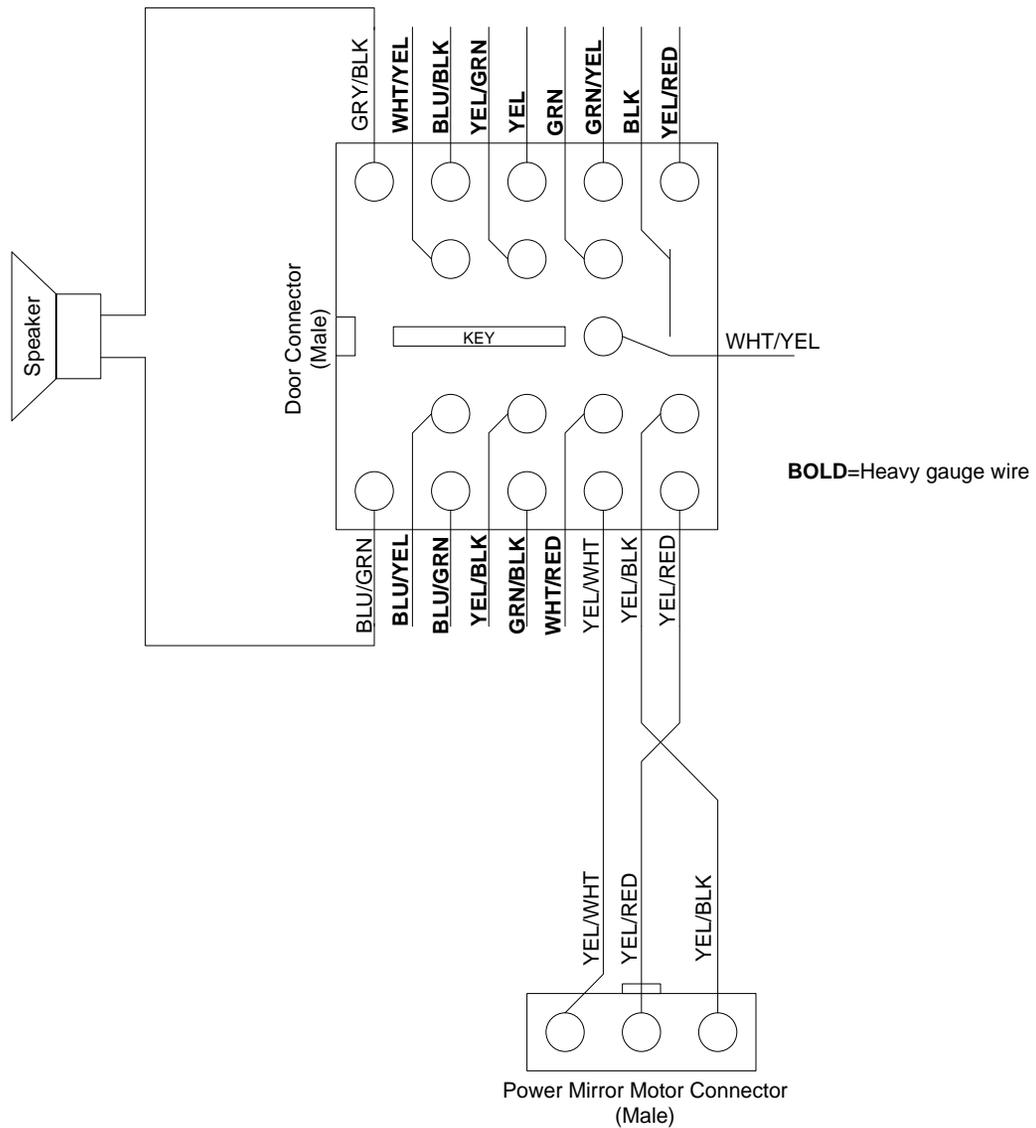
\*Rear Doors:  
Available for  
other uses

# How to convert a 4 door Civic Door Harness for a CRX

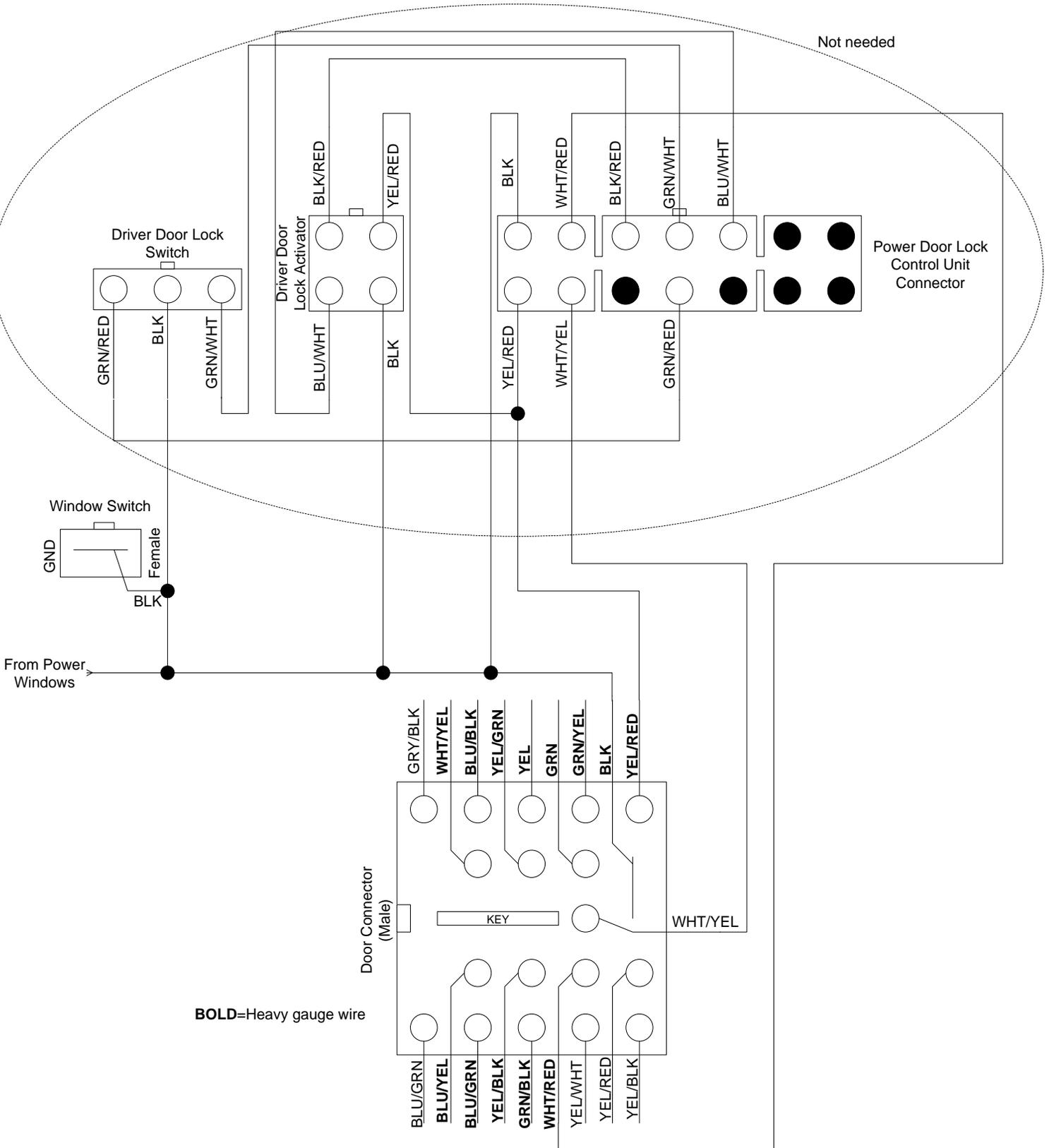
## Driver Door Wiring

(Pin side of connectors)

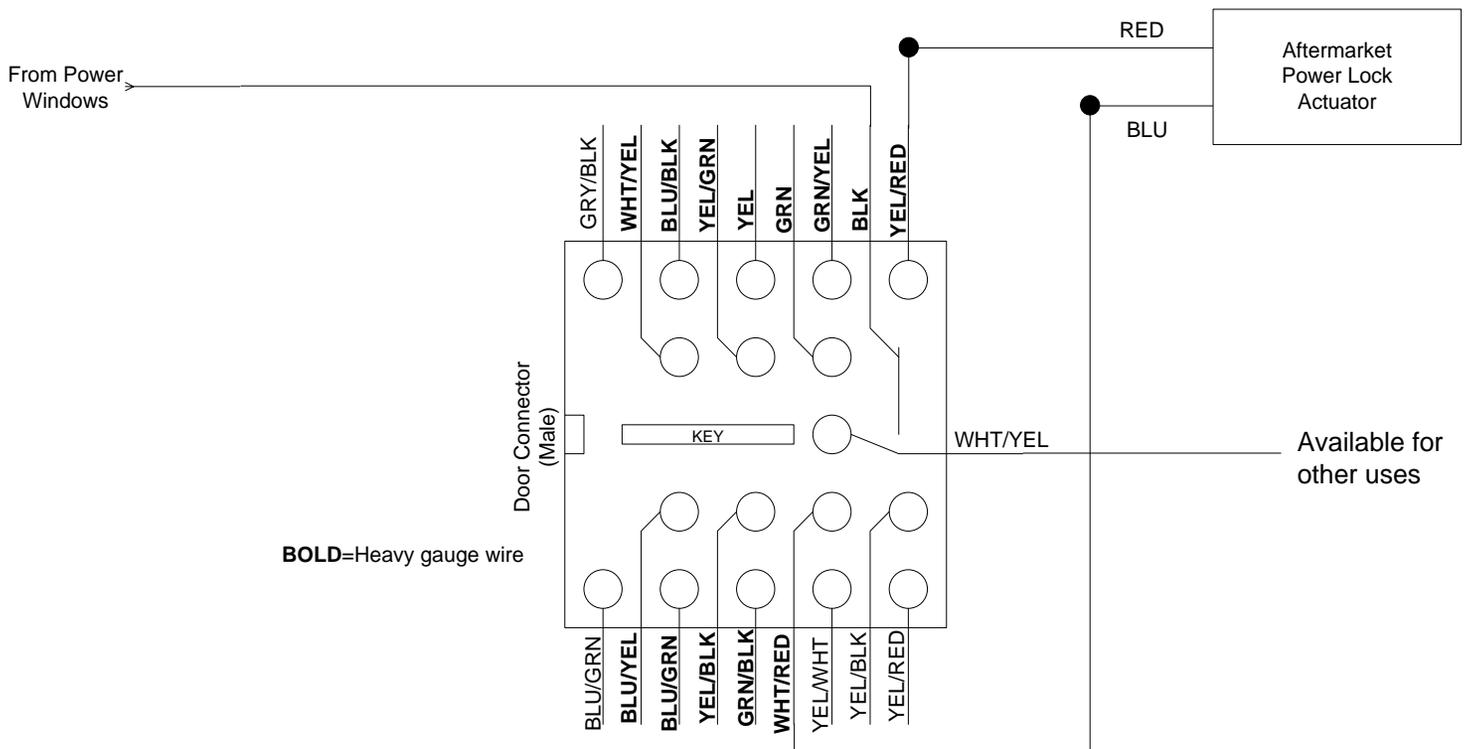
### Power Mirror & Speaker



# How to convert a 4 door Civic Door Harness for a CRX Driver Door Wiring (Pin side of connectors) Power Lock, Stock Configuration



# How to convert a 4 door Civic Door Harness for a CRX Driver Door Wiring (Pin side of connectors) Power Lock, Modified Configuration



## Passenger Door Wiring Modification

The passenger door wiring modifications are much easier than the driver door wiring. The plastic mounting tabs on this harness need to be moved a little bit to make it easier for the harness to reach the holes they attach to.

The power window motor connector will just reach the mating connector, so it needs no modification. The window control switch connector needs to be extended by a few inches to reach the switch, but no other modification is required. The EDM or 2-door Integra passenger switch connectors need no modification to work.

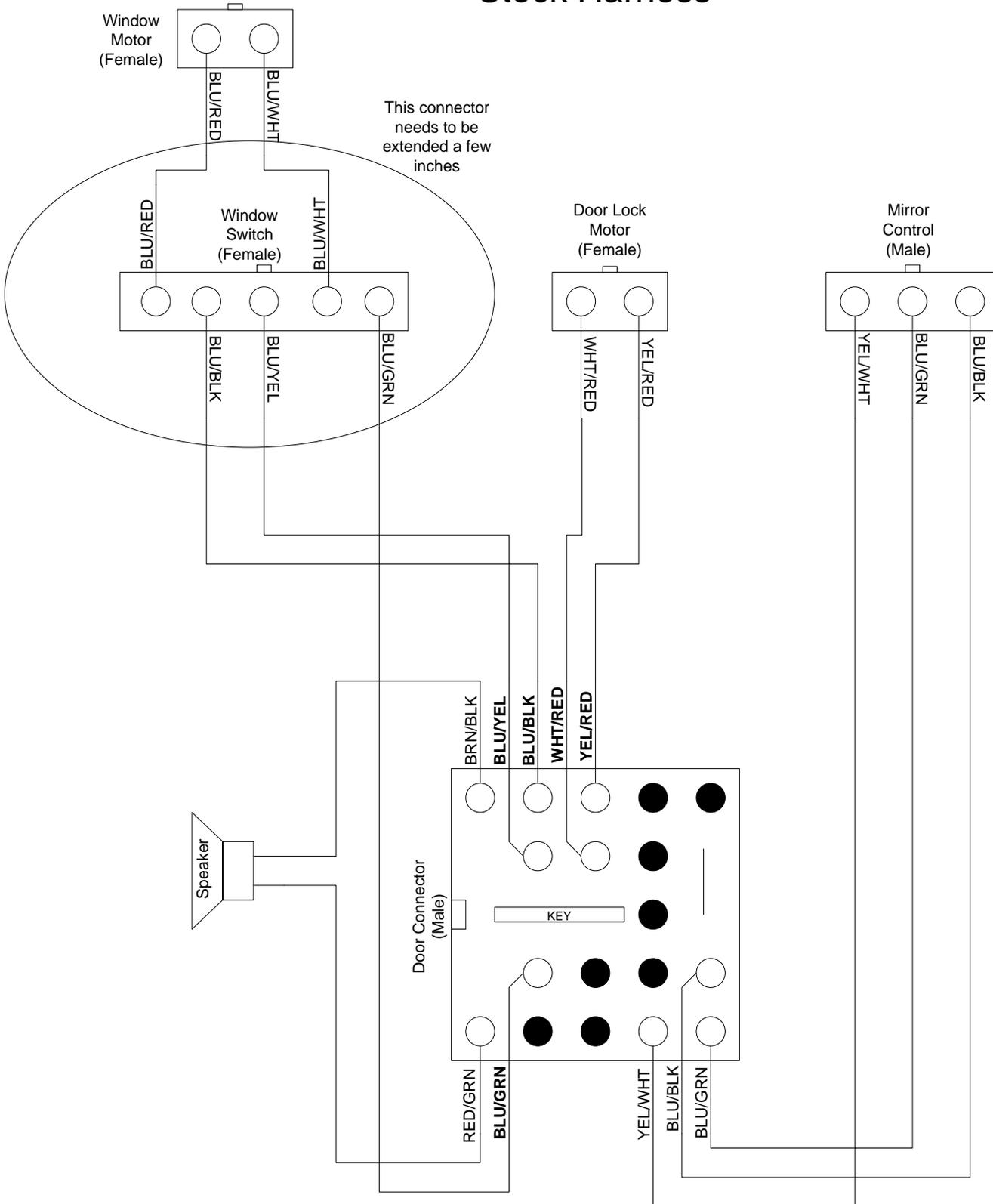
The power lock connector needs to be removed and wires must be added to run to the bullet connectors on the aftermarket door lock actuators.

The power mirror wiring does not need to be changed, but the wiring from the mirror itself needs to be extended to reach the harness connector.

Remember to test everything before you install it.

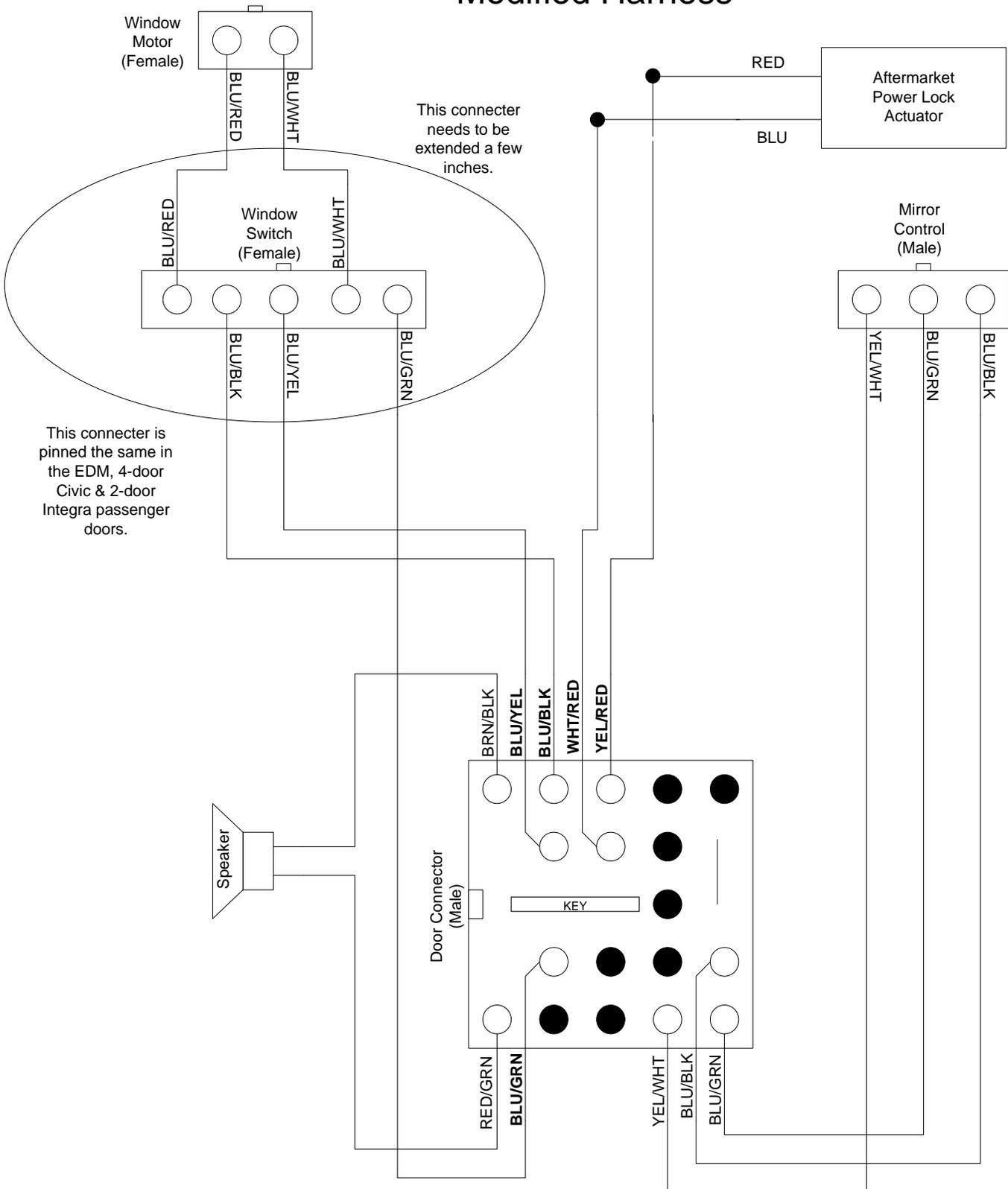
The following 2 pages document the stock and modified passenger door wiring .

# How to convert a 4 door Civic Door Harness for a CRX Passenger Door Wiring (Pin side of connectors) Power Windows Stock Harness



**BOLD=Heavy gauge wire**

# How to convert a 4 door Civic Door Harness for a CRX Passenger Door Wiring (Pin side of connectors) Power Windows Modified Harness



This connector needs to be extended a few inches.

This connector is pinned the same in the EDM, 4-door Civic & 2-door Integra passenger doors.

**BOLD**=Heavy gauge wire