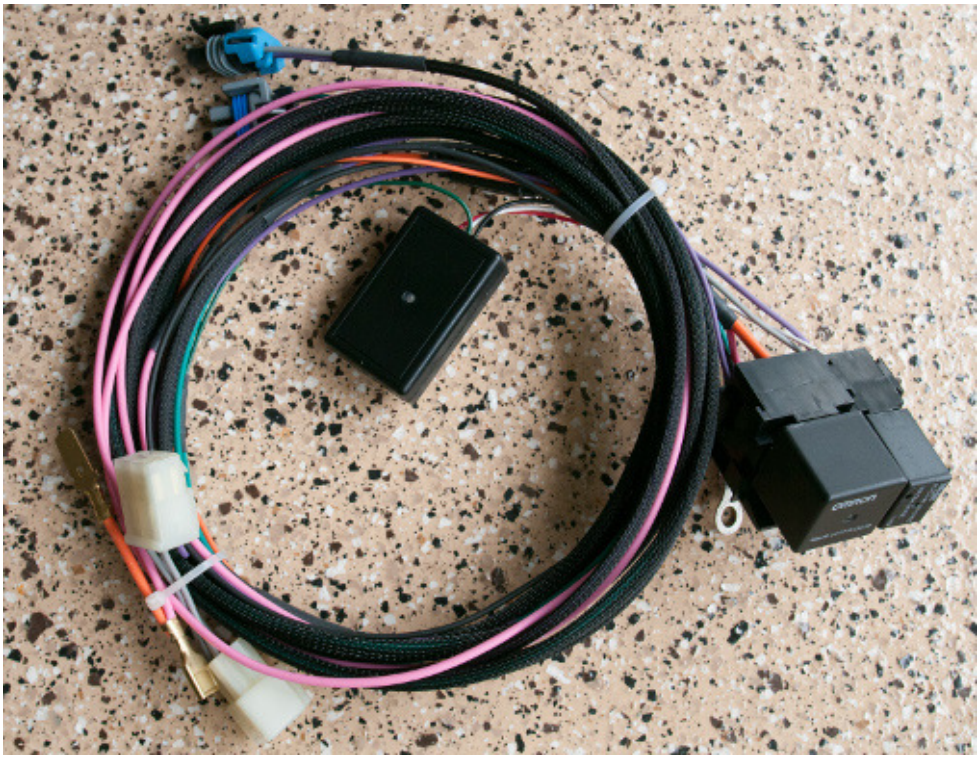
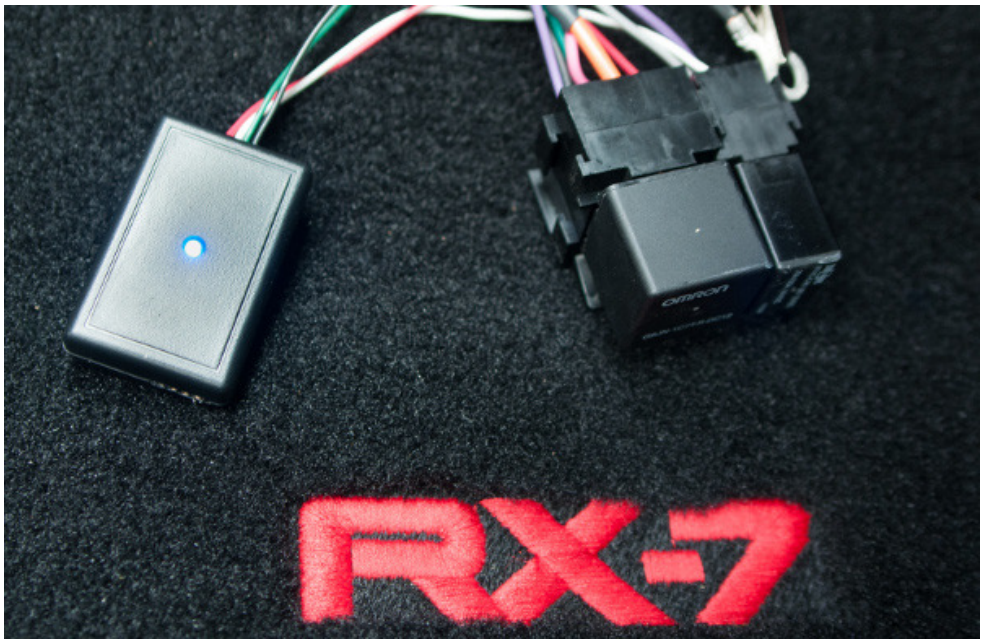
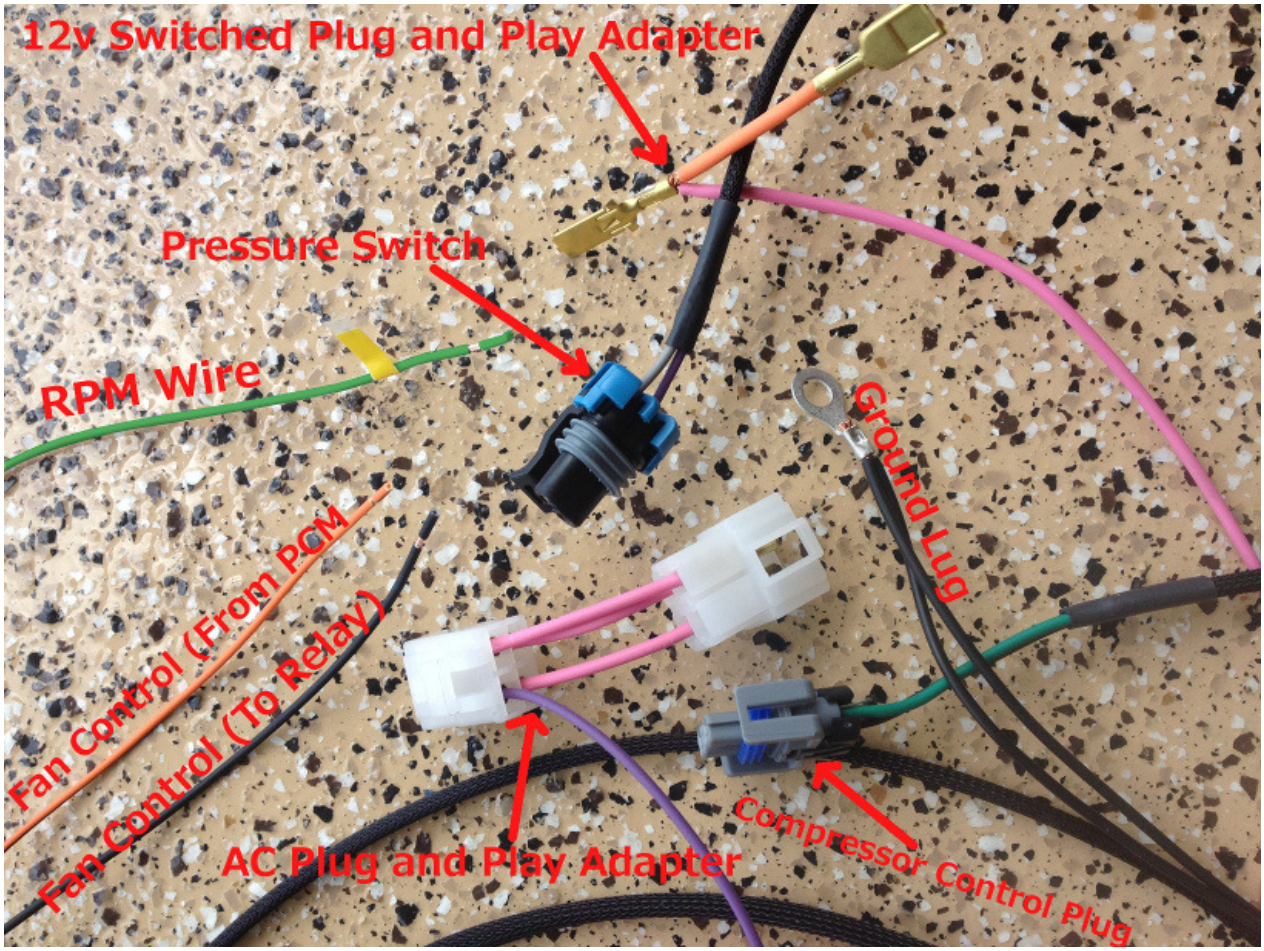
# HalfSpec's LS2 Control / Wiring Kit Install rev.2





This installation tutorial is divided up into 3 parts. Part 1 covers the RX7 mandatory electronics side of the install. Part 2 covers optional connections. Part 3 covers the initial power up and testing.

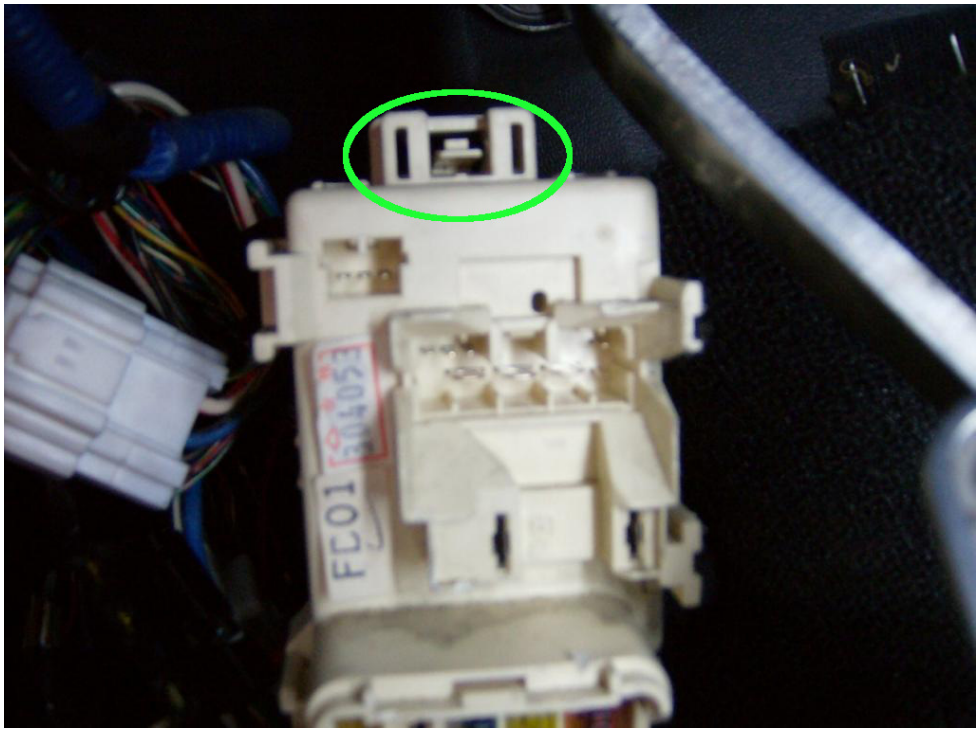
## Part 1 – RX7 and chassis wiring



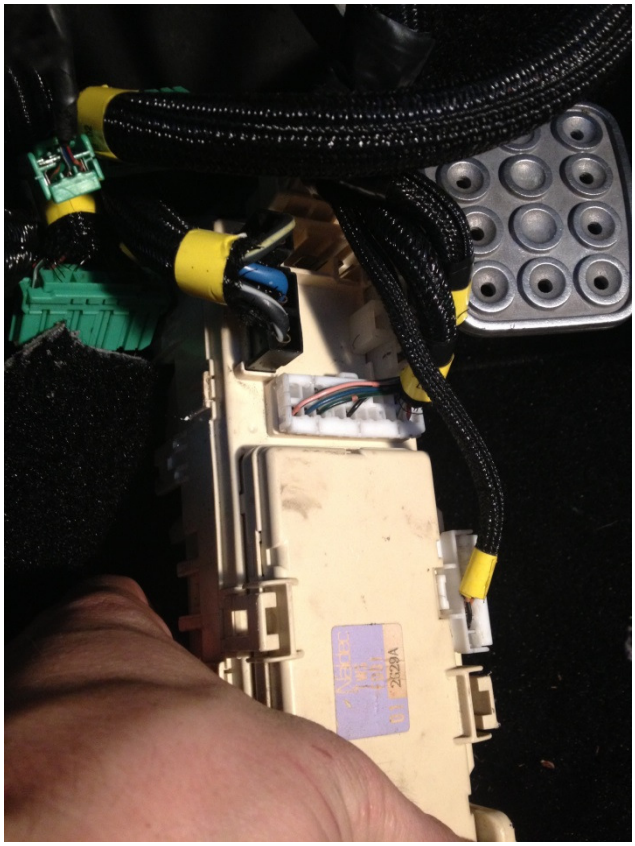

1. This kit is made to be mounted in the passenger side kickpanel area, so that's where it will be easiest to locate everything.
2. Prepare one of the 3 or 4 studs in that area to be used as a ground location. This means to remove any paint down to the bare metal and any dirt away from the base of the stud.
3. Using the 6mm lock nut included in your kit, bolt the ground terminal to this prepared stud. See the pic below:

Note – This stud has NOT been prepared properly. Please make sure the ground terminal makes good contact with bare metal at the base of the stud.

4. **<u>Remove the 25A fuse from the 12V switched wire.</u>**
5. After removing the fuse, route the 12V Switched plug from the passenger side to the driver's kick panel. I find that routing along the firewall and over the transmission tunnel to be the most direct / clean route.
6. Unplug, unbolt, and unclip the driver's side fuse box. Tip #1 – Remove your kickpanel and dead pedal. Tip #2 the fuse box has one bolt towards the floor board and one VERY hard to reach clip at the top (See pic below). Please be careful not to break this clip. It is possible to see the clip with some finagling, but it IS difficult and probably one of the more frustrating parts of the job.

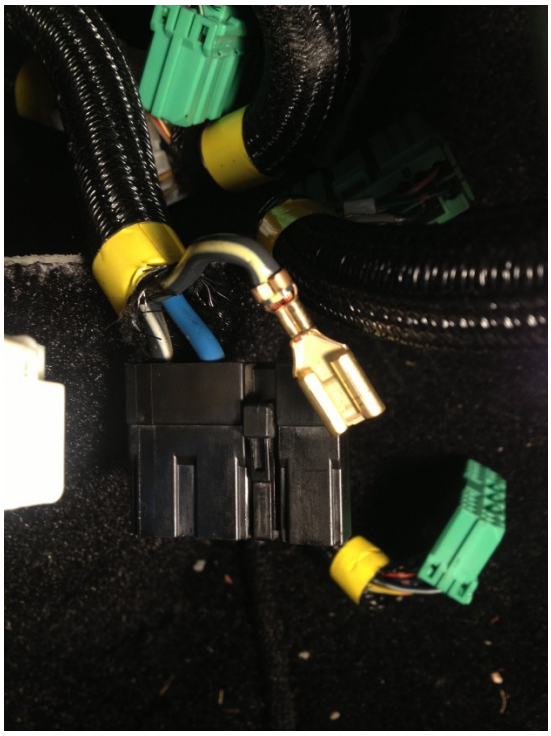



7. Flip the fuse box over and look for 3 position black connector with three large wires colored Blue, Black/White, and Black/Yellow.



8. Unplug the black connector and use a small flat head screw driver to de-pin the Black/Yellow wire.

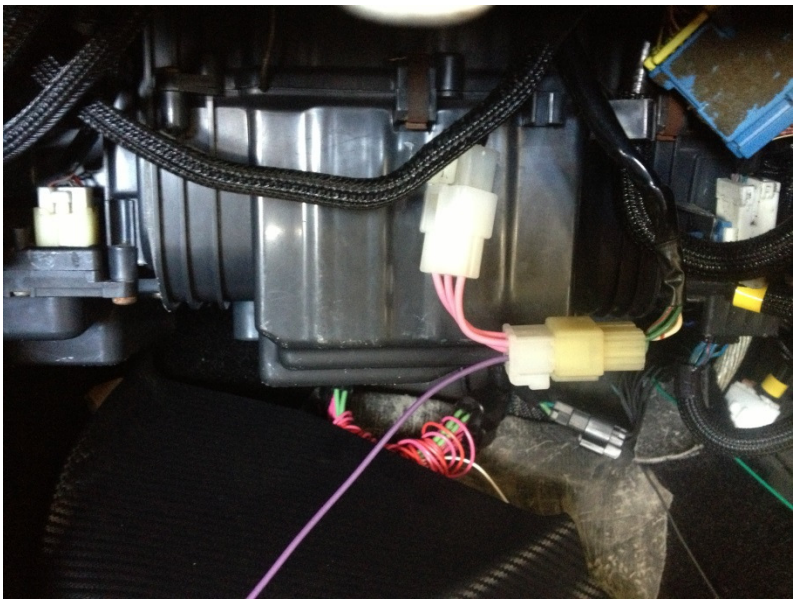
9. The pin should come out looking like this:



10. Slide the included heatshrink up and over the female terminal above.

11. Install the Male side of the 12V Switched Plug onto the original Female terminal above, then heat the shrinkwrap over the connection (not shown).
12. Plug the Female side of the 12V switched Plug into the black connector like this:

13. Push the connector into the black connector until it clicks.
14. Reassemble your fuse box and replace any panels you removed to access it.
15. From the passenger kick panel, plug the A/C Signal Plug and Play adapter between the Evaporator's Dash Wiring and its Thermoswitch:



16. Take the green RPM wire and tap into the RPM coming from your PCM and leading to your RPM gauge. It is recommended that this connection be soldered and heatshrinked or crimped and heatshrinked.
17. From the passenger kick panel, route the compressor control plug and the pressure sensor plug to the compressor and drier respectively. I have tailored the wire length of each connection to be able to go out of the airbag harness grommet and up and over the inside of the fender to right in front of the wheel where it can easily make its way to the compressor and drier. Kind of like the picture above but on the passenger side:

18. The method above does require the temporary removal of your fender.
19. Another method would be to route through the engine harness grommet or drill a new hole and install a new grommet to pass through.
20. Plug in the compressor control plug and pressure sensor plug.

# Part 2 – Optional Connections

1. This kit includes the ability to provide a GROUND to a fan relay coil when the A/C switch is pressed as well as provide a path for PCM control of that fan without interfering with the PCM. The idea being that the fan will provide additional cooling for the condenser when the car has the A/C running in stop and go traffic.

2. Most fan setups involve the PCM to provide primary control of the fans.

3. In the setup mentioned in the above step the PCM has two wires that lead to 2 or 3 relays to control high and low speeds.

4. The PCM grounds the low speed wire to enable low speed operation and also grounds the high speed wire to enable high speed operation.

5. The way the fan function works in my kit is that it passes commands from the PCM through its wiring, but also has the ability to override these commands and turn the fan on by itself when the A/C button is installed.

6. <u>To install this feature:</u>

    a. Severe / Cut the low speed wire connection between the PCM and the Low speed relay.

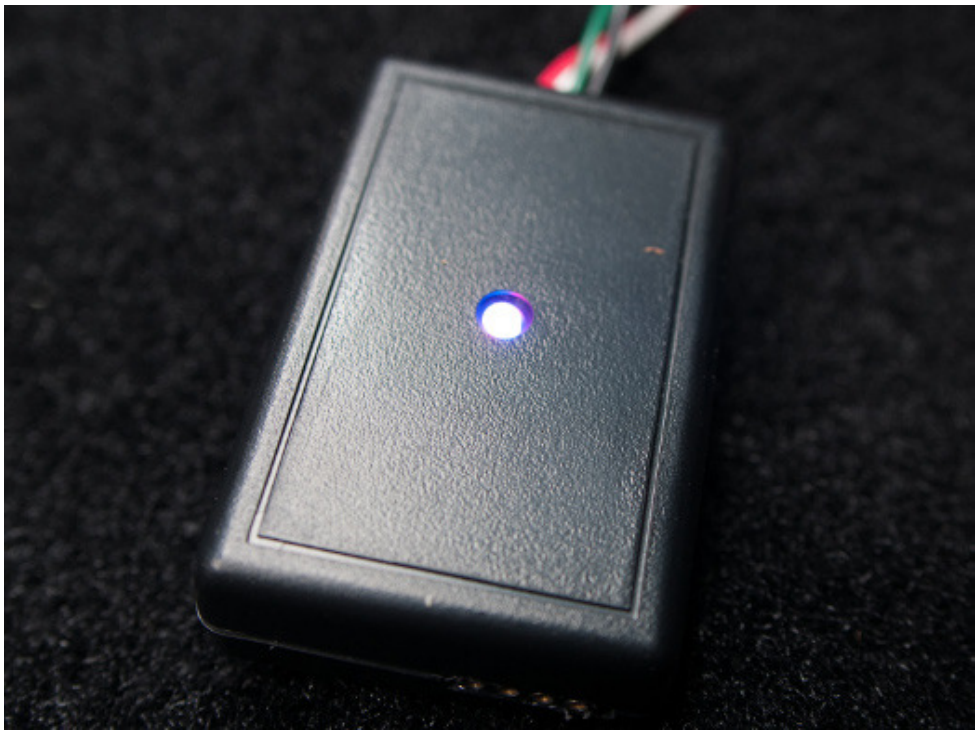
    b. Splice the A/C Controller's Orange with Black strip wire to the wire leading back to the PCM. It is recommended that this connection be soldered and heatshrinked or butt crimped and heatshrinked.

    c. Splice the A/C Controller's Black wire to the wire leading out to the low speed fan relay. It is recommended that this connection be soldered and heatshrinked or butt crimped and heatshrinked.

# Part 3 – Powering up and testing

1. Plug the 25A fuse into the 12V Switched wire's fuse holder which is near the relays in the passenger kick panel area.
2. If your system isn't charged and your pressure switch isn't installed, you'll have to jump the pressure switch connector with something line a non-insulated (bare metal) paper clip. The pressure switch used with the LS2/LS3 kit is simply a on off switch and has no polarity. It stays closed when the pressure is right in the system and passes the signal through it. It opens up when the pressure is too low or too high and breaks the signal passing through it.
   So, to test without actually having the system charged up and the pressure switch installed, you have to jump the two terminals on the pressure switch connector with something like a paper clip.
3. Turn your key to the ON position (don't start the car yet).
4. Check the RPM switch to see that its indicator LED turns solid blue then starts to pulse blue.
5. Crank your car and verify that the RPM switch's main indicator LED turns slightly purple. This indicates that the switch is accepting the RPM signal from the PCM and adds some red light to the indicator LED which signals that the switch is allowing the AC to be turned on (IE the car's RPM is within a safe range). If you turn off the

engine or rev over 4800 rpm you will see the the main LED turn back to solid blue (indicating that the RPMs are too low or too high for the AC compressor to be on).



RPM switch with purple indicator light (car on and idling)

6. With the car still on, turn on your A/C blower motor, then press the A/C button. You should hear at least one of the relay's click or at least feel it click if you touch it while toggling the A/C switch. You can also check the compressor clutch connector with a voltmeter (if you happen to have one) and you'll see 12v. Additionally, if you have hooked up the fan control wires, you should hear and see your fans turn on. If it does you're done with the exception that you may need to reconnect your compressor plug and pressure sensor plug if you unplugged them for testing.
   If not, check the unit's 25A fuse. If the fuse is intact, check your ground terminal. If needed, clean the contact point again. If that fails, move the ground to another location. If it still doesn't click when pressing the A/C switch please feel free to contact me via halfspec@gmail.com

Otherwise, you should now be able to enjoy the full benefits of having a safely controlled A/C system.

Thank you for your business

Lane