Installation Tips for your RS-150 + PLJX (for GM Passlock 2 vehicles) V1.1 revised 2/12/2014

Thank you for purchasing your remote start from MyPushcart.com - an industry leader in providing remote starts to do-it-yourself installers since 1999. We've put this tip sheet together to help you with your installation.   The purpose of this sheet is to help you organize your installation - not to replace your installation manual. You will still need to refer to that.

If you provided us with your vehicle model/year at the time of purchase, you will have a wiring chart for your particular vehicle.   We're going to refer to that a lot.   If you do not have the wiring chart, email us at sales@mypushcart.com so we can send you a copy.   Be sure to include the model/year of your vehicle, your name and your sales order number.

Two very important things before you get started:
- Read the <u>entire</u> installation manual. There are several safety tips in there that you need to know before you start
- Avoid using a test light to probe wires. Test lights can set off air bags and damage ECU's if you probe the wrong wire.   Your vehicle wiring chart will identify the correct wires that you'll be tapping on to in your car.   If you must probe, use a digital multi-meter. They're inexpensive and won't set off air bags or burn circuit boards.

Overview

There are 4 basic steps to this remote start installation. We're going to address each of these:
1. Make your wiring connections for the remote start
2. Install the bypass
3. Test the system
4. Button it up!

❷ Need to know where all the components go? See Installer's Tip #1 on page 5

Step 1 – Wiring your remote start

When you open up your remote start, you're going to see a whole bunch of wires.   You're not going to use all of them. The remote starts are designed with wiring options for a variety of cars and no car is going to use all of them.   We're going to break the wiring down into three parts – your main power connections, what we'll call your 'secondary' connections for your remote start, and connections for the bypass module (if you're using one).
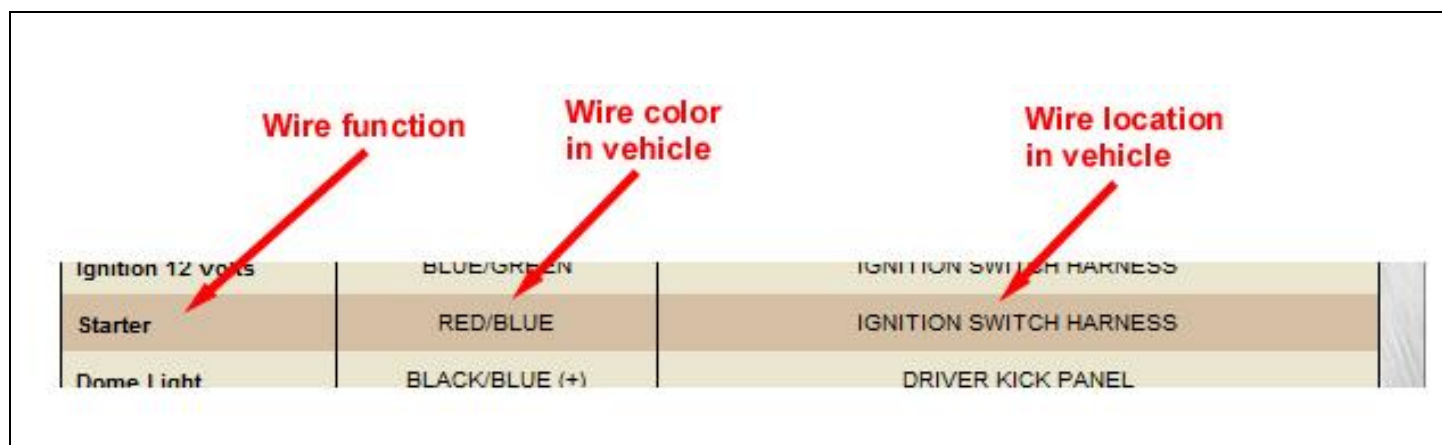
Here's where the vehicle wiring chart comes into play.   The wiring chart will help you locate the wires in your car that you're going to use.   Don't be intimidated by all the different wires listed on the chart – you're only going to be using a few of them. Your supplied wiring chart will come from Omega.

Reading your wiring chart:

Each line of the wiring chart contains 3 pieces of information that you will need:

- The "Circuit" or "Wire/Function"
- The color of the wire in the car
- The location of the wire in the car

The illustrations below will show you where to find that information on your chart.

Wire function	Wire color in vehicle	Wire location in vehicle
Ignition 12 volts	BLUE/GREEN	IGNITION SWITCH HARNESS
Starter	RED/BLUE	IGNITION SWITCH HARNESS
Dome Light	BLACK/BLUE (+)	DRIVER KICK PANEL

Making your wiring connections

The table on the next page shows you where to connect the wires from your remote start into the car. Any wires on your remote start that are NOT listed in the table are NOT USED.

Helpful Hint: In most cases, the wires on the remote start are way longer than needed. Trim off excess wire when you make your connections, but leave some slack - this will allow you a little flexibility when it comes time to stow the remote start module after the installation is completed.

See Installer's Tip # 2 later in this tip sheet for tips on how to make your wiring connections
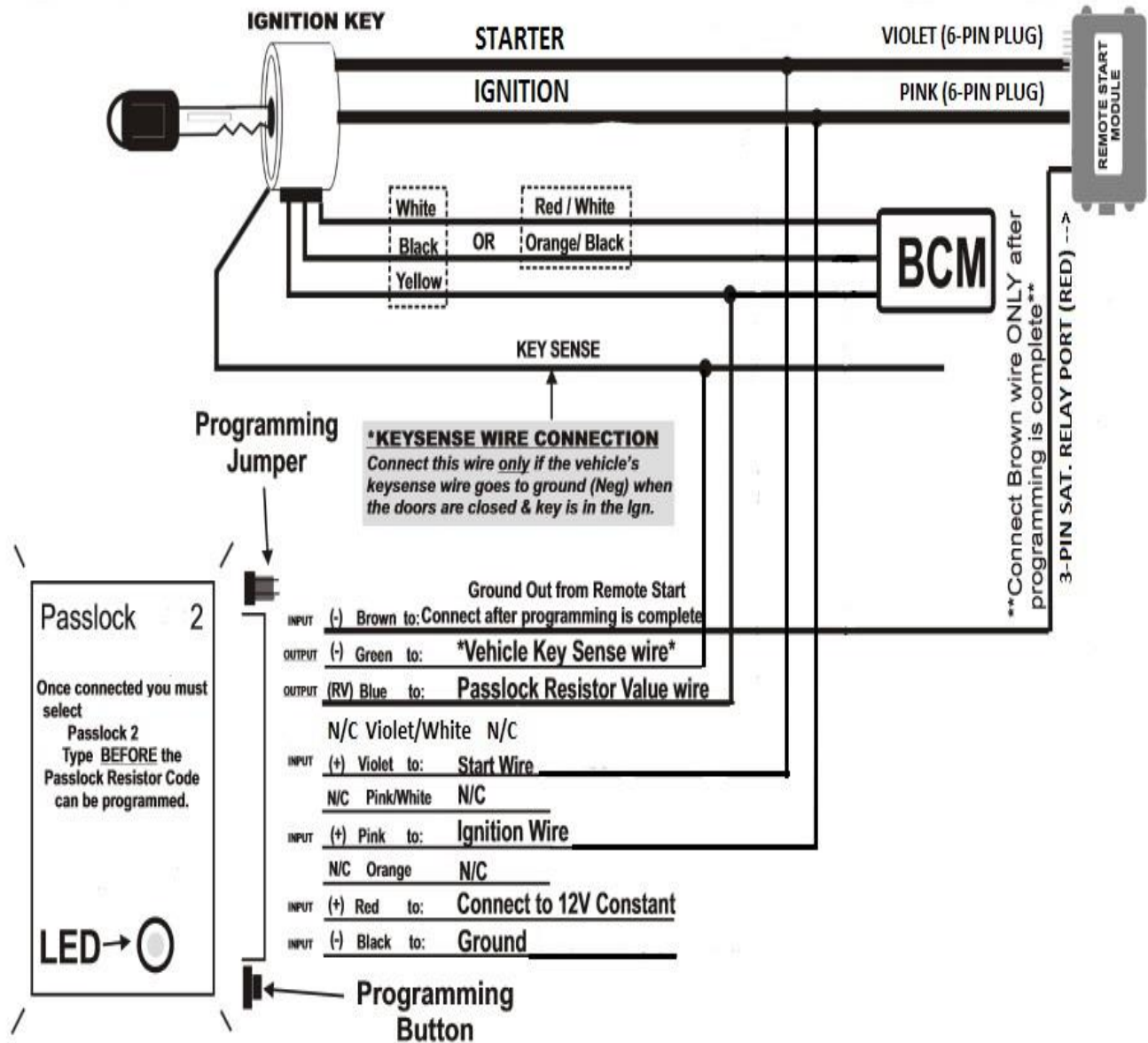
For OMEGA RS-150 Remote Starts

Remote Start Wire		Connect to the wire for the circuit on the vehicle chart labeled:
Red (6-pin harness)		Constant 12 Volts
Red/White (6-pin harness)		Constant 12 Volts
Violet (6-pin harness)		Starter
Pink (6-pin harness)		Ignition
Pink/white (6-pin harness)		Ignition 2 (not present on all vehicles)
Orange (6-pin harness)		Accessory
White/Blue		Remote Start Activation (connect to lock motor wire) (See NOTE 1)
Black (14-pin harness)		System Ground – connect this to a solid metal ground in the car
Black/White (14-pin harness)		Neutral Safety – if you have an automatic transmission, ground this wire
White (14-pin harness)		+ parking light output (See NOTE 2)
White/Black (14-pin harness)		- parking light output (See NOTE 2)
Grey (14-pin harness)		Hood pin switch (See NOTE 3)
Brown/Red (14-pin harness)		Brake Light (also called "Brake Switch")
(Red 3 Pin SAT. Relay Plug) Blue		brown (–) ground when running wire on the PLJX bypass module (SEE PLJX SECTION BELOW)
		The connections below MAY be needed
Green/black (12-pin harness)		OEM Alarm Disarm – *connect this if your car has a factory alarm system*
Violet/White (12-pin harness)		Tach Signal (See NOTE 4)

- **NOTE 1:** This wire goes to the LOCK MOTOR WIRE, NOT THE LOCK wire in the vehicle (usually a grey wire in GM vehicles found in the drivers kick panel, but you need to verify using the vehicle wiring information chart and testing the wire in the vehicle)— save connecting this wire for last and use it to test the system (see page 5 of this tip sheet)

- **NOTE 2:** The remote start has two parking light wires. *You will only use one of them*.   On your vehicle wiring chart, look up the wire for the parking lights.   Next to the wire color will be either a "+" or a "-".   If yours has the "+", then use the white wire. If it has a "-", use the white/black wire.

- **NOTE 3:** The Grey wire is used with a pin switch (included in your kit) to prohibit the remote start from activating while the hood is open.   This is an important safety feature!

- **NOTE 4:** Most vehicles will not require this connection.   The remote start has a 'tach sensing' circuit built in. The purpose of that circuit (or the tach wire if you need it) is to enable the remote start to detect when the engine has started so it will stop cranking the starter.   When you test your system, if the starter keeps cranking after the engine has started, you'll need to connect the tach wire. Once the wire is connected, take two additional steps: 1) Change "Installer Programming Option # 3 to the 'tach wire' setting (see page 11 in the installer's manual). 2) Program the tach circuit as shown on page 10 of the installation manual for the RS-140).

Your kit also includes a programming button. Plug the button into the remote start.   For tips on where to install the button, see Installer's Tip #1 later in this tip sheet

Step 2- Installing the PLJX bypass module:

-The PLJX requires 6-7 connections depending on your key sense type as follows:

-Make the following bypass connections:

NOTE: The immobilizer plug of vehicle is attached to the key barrel.
(make your connections near immobilizer plug or 8 inches lower on immobilizer harness)
1) Connect the brown wire with the red plug on it from the PLJX to red 3-pin SAT. relay port of the remote starter.
NOTE: The Excalibur comes with a red 3-pin plug. It will not be used, because the red plug on the brown wire of the PLJX takes its place. The brown wire in the red plug from the PLJX is in the same pin position as the blue wire in the red plug that comes with the Excalibur.
2) Connect the green wire from the PLJX to the vehicles key sense wire if required (listed on your vehicle wiring chart).
3) Connect the blue wire from the PLJX to the yellow wire in the vehicles Passlock harness

4) Connect the violet wire from the PLJX to the starter wire. You can tap on to the large VIOLET wire in the remote start 6-pin power harness.

5) Connect the pink wire from the PLJX to Ignition. You can tap on to the large PINK wire in the remote start 6-pin power harness

6) Connect the red wire from the PLJX to Constant +12v. You can tap on to one of the large RED wires in the remote start 6-pin power harness.

7) Connect the black wire from the PLJX to ground

QUICK REFERENCE CHART:

PLJX 10-pin harness		Connect to	
Brown (with red plug)		3-PIN SAT. RELAY PORT (red) Excalibur	(see note 1)
green		Key sense (listed on vehicle wiring chart)	(see note 2)
blue		Yellow wire in vehicle Passlock harness	
violet		Violet wire 6-pin harness of remote starter	(Start)
pink		Pink wire 6-pin harness of remote starter	(IGN)
red		Red wire 6-pin harness of remote starter	(12v)
black		Black wire 12-pin harness of remote starter	(Ground)

NOTE 1: Do not connect the brown wire to the remote starter until after the resistor code programming is complete

NOTE 2: Connect this wire only if the vehicle's key sense wire goes to ground (-) when the doors are closed and the key is in the ignition. The vehicle key sense wire can be found on your wire chart.

IMPORTANT: Don't use tap connectors on the data (resistor) wires! Wrap and tape or solder and tape these connections. See installer's tip #2.

Program the bypass:

1) Select jumper position:

Once all the PLJX bypass wiring is complete, you must select the Passlock 2 jumper position before proceeding

2) Program resistor code:

a) Start vehicle with key

b) Press and hold programming button. LED will come on solid. Keep pressing until LED starts blinking. When the LED starts blinking, release button and turn ignition to the OFF position.

c) Passlock resistor code is now programmed. You can now connect the brown wire to ground when running output from remote starter.

Note: for manual transmission vehicles, put shifter in neutral position and do **not press** clutch when doing step B.

Step 3 – Test the System

Once all your connections are made, and the bypass has been programmed, you should test the system before putting everything back together.

1. Use the unconnected white/blue wire (remote start activation) on the RS-140 to test your system by touching it to ground 3 times > this will tell the RS-140 to begin the remote start process.
   a) If your vehicle starts you are ok to make the connection to your lock motor wire. Once the connection is made to your lock motor wire, give the system a final test: activate your remote start by pressing lock 3 times on your factory remote.
   b) If your vehicle does not successfully start then verify that all connections and programming are correct on the remote start and bypass module and try again.
2. Once you achieve a successful remote start using your transmitter, proceed to step 4.

Step 4 – Close it up!

Now gather up all your wiring and neatly bundle it together using zip ties or electrical tape. Find a secure place to put the remote start module and use zip ties to secure it. **Make sure that the remote start wires are not near any moving parts on the steering wheel, pedals or emergency brake!**

Installer's Tips:

Tip #1 – Where Everything Goes
There are 4 parts to your system:
1. *Remote start module* – the wiring for the module is done under the dash on the driver's side, so you'll want to install the module in that general area.   Before you start wiring, look for a location where there's some open space that will fit the module. Pay attention to moving parts like the pedals, e-brake and steering column.   Be sure to route your wiring away from those areas.
2. *Bypass module* – can be stowed along with the remote start.
3. *Programming button* – Requires a ¼" hole.   Usually put in the driver's kick panel (that's the area forward of the door), the driver's side of the center console, or the underside of the dash.
4. *Hood Pin Switch* – An important safety component!   Requires a 3/8" hole.   Find a location in the engine compartment to mount the switch where the closed hood will keep the plunger in the switch depressed. This is what prevents the car from starting when the hood is open.

Tip #2 – How to make your wiring connections

It's very important that all your wiring connections be solid and secure.   All remote start connections are "tap on" connections. This means that you do not need to cut the wires in the car. You simply need to "tap on" to the wires in the car to make your connections.   Here are three different ways to do this:

Method 1 – Solder and tape

This is the method preferred by the best professional installers.   It makes for the most reliable connections, but it is also the most difficult to do. Sometimes there isn't enough room in the wiring harness to safely solder a wire without damaging adjacent wires, but if you have the soldering skills, go for it.   To make a connection, strip back a section of the insulation on the wire in the car. On heavy gauge wires, 1" is about the right amount.   On lighter gauge wires, ½" is fine. Strip 1" of insulation off the end of the remote start wire.   Tin the bare section of wire in the car. Wrap the remote start wire around the tinned section and then carefully solder it in place.   Wrap the splice tightly with electrical tape.

Method 2 – Wrap and tape

This is the most popular method and is also very reliable.   Strip back a section of the insulation on the wire in the car. On heavy gauge wires, 1" is about the right amount.   On lighter gauge wires, ½" is fine. Strip 1" of insulation off the end of the remote start wire.   Separate the strands of the wire like this:

Pass the wire from the remote through the opening as shown below

Wrap the remote start wire around both sides of the car wire, then back around itself as shown below

Use electrical tape to wrap the connection and secure the wires together.   A wire tie will help prevent the tape from unraveling in the future.

Method #3 – "T-Taps"

T-taps are plastic clips that are squeezed onto the wires in the car.   The wire from the remote start goes into the tap and the whole thing is crimped together.   T-taps come in different sizes for different size wires. Use yellow t-taps for the larger wires in your main power harness.   Red t-taps are good for the smaller wires.   Tape and wire tie the connections as shown in the "wrap and tape" section above – that will prevent the t-taps from ever opening up.

We now have a "tap kit" available for purchase for those who prefer to use this method. The kit consists of two types of connectors - The taps and insulated male spade connectors that plug into them. The taps attach to the wires in the car and the spade connectors attach to the wires on the remote start.   The spades then plug in to the taps.   A crimping tool is required.

Did you find this document helpful?   Please let us know so we can continue to improve our service to you.   Suggestions are welcomed and encouraged! Please email to sales@mypushcart.com

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