Installation Tips for your Remote Start system (for RS4LX>GMBP for GM vehicles)

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 manuals. You will still need to refer to those.

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 entire 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.
- Test, and re-test all the wires you are connecting to in your vehicle before you connect them. Sometimes wire color may change or be slightly different than what is shown on the chart. Don't assume the chart is correct.

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. Program installation options on the remote start
3. Wire & program the bypass
4. Button it up!

❓ Need to know where all the components go? See Installer's Tip #1 on page 4

Step 1 – Wiring the Remote Start

When you open up your remote start, you're going to see a whole bunch of wires.   Don't worry - you're not going to use a lot of them.   Remote starts are designed with wiring options for a variety of cars and no car is going to use them all. 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.

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.

Reading your wiring chart

Each line of the wiring chart contains 3 pieces of information that you will need (continued on next page):

- The "Circuit" tells you what the wire function is
- The "Wire Color" tells you the color of the wire in the car
- The "Location" tells you the physical location of the wire in the car

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

Circuit	Wire Color	Location
Constant 12 volts	RED OR RED/WHITE	IGNITION SWITCH HARNESS
Ignition 12 volts	PINK	IGNITION SWITCH HARNESS
Starter	YELLOW	IGNITION SWITCH HARNESS

Making your wiring connections

The tables on the next two pages show you which wires from your remote start should be connected into the car. Any wires on your remote start that are NOT listed in the table are NOT USED. Vehicles with an "Accessory" circuit that must be powered will require an outboard relay. The relay is included with the kit and wiring instructions for the relay are in the wiring chart on the following page.

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.

There is a relay harness already connected to the wiring harness for your remote start. The purpose of that relay is to provide an Accessory output for vehicles that require it. If the wiring chart for your vehicle shows a wire for "Accessory", use the relay. If there is no wire shown for 'Accessory', the relay is not needed.

Helpful Hint: The wiring charts for some GM vehicles show THREE ignition wires and one Accessory. The most common colors are white, orange, pink and brown. Powering the brown wire is not required for remote starting. If the chart for your car shows all four of those wires, use pink wire in the vehicle for Ignition #1, white for Ignition #2 and Orange for Accessory.

For the RS-4LX Remote Start

Remote Start Wire		Connect to the wire for the circuit on the vehicle chart labeled:
Red (direct plug-in to RS4LX)	+	Constant 12 Volts
White (direct plug-in to RS4LX)	+	Parking light output
Green (direct plug-in to RS4LX)	+	Starter
Blue (direct plug-in to RS4LX)	+	Ignition
Yellow (direct plug-in to RS4LX)	+	Ignition 2
Black (direct plug-in to RS4LX	-	Ground
Violet (10-pin harness)	+	To foot brake (rests at ground, switches to 12v+ when pedal is pushed)
Green (10-pin harness)	-	To hood pin safety switch (SEE NOTE 1)
Orange (10-pin harness)	AC	To Tach wire in the vehicle (SEE NOTE 2)
Pink (10-pin harness)	-	Activation Trigger (to "Motor Lock" wire)
Gray (10-pin harness)		Glow plug wire (for diesel equipped vehicles only)
White (10-pin harness)	-	Connect to white wire on relay harness
Brown (10-pin harness)	-	OEM Alarm Disarm (not present in all cars)
RED 3-Pin Port		
Blue (3 pin harness)	-	To brown wire on the IB-GMBP
Relay harness wiring		
Red	N/C	Not used.
White	-	Connects to white wire on RS-4LX 10 pin harness
Black	+	Connects to the T-TAP on the Red wire on the RS-4LX
Blue	+	Connects to the T-TAP on the Red wire on the RS4-LX
Yellow	+	Connects to Accessory wire in the vehicle ignition harness (if present)

- **NOTE 1** The Green 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. Use it! Also make sure to test this wire and make sure it is not grounded when the hood is shut.
- **NOTE 2** 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 change Installer Programming Option # 1 to the 'tach connection required' setting (*see page 25 in the installer's manual*)
- Your RS-4LX also has a programming button. The button is located on the side of the module along with the Programming LED.

See Installer's Tip # 2 on Page 5 for tips on how to make your wiring connections

Step 2 – Activation and Options Programming

We've devoted a special section to this, because it's the part of the installation generates the most tech support calls. In the remote start 10-pin harness is a pink wire, called the "Trigger Wire".   This wire connects to the "Motor Lock" wire in the vehicle (more on that later) and enables the remote start to work with your factory remote fobs.

When the Trigger Wire senses a connection to ground, it engages the remote starter.   There are two important things to know about this:

1. The activation wire is normally connected to the "Motor Lock" wire in the car.   This refers to the wire that goes directly to the motor in the door – NOT the "Lock" control wire which goes to the lock/unlock switch on the door.   Make sure you use the wire identified on your chart as "Motor Lock".   There is another wire on the chart labeled "Lock". Do not use that.   Sometimes both the "Lock" and "Motor Lock" are found at the door lock switch (your wiring chart will give you that information).   You will only use the wire identified in your wiring chart as "Motor Lock".
2. The RS4LX must be programmed for 'double pulse activation'. This means that the starter won't engage unless it receives TWO consecutive ground signals, which is what happens when you press Lock>Unlock>Lock on your factory remote fob. The default setting on the RS4LX is for 'single pulse activation'.   It is vital that you change the programming to 'double pulse' – otherwise the car will start every time you lock the doors.   Refer to page 24 in the RS4LX manual.   It's option # 8 that you'll want to change to 'double pulse'.

Really important tip
Before you start to program the RS4LX, you must unplug the wire going to the Satellite Relay Port (red socket).   The RS4LX will not go in to programming mode if anything is plugged in to that port.   After you change programming option #8 to 'double pulse', review the other programming options to see if you want to make any other changes.   In most cases, you'll want to leave the rest of the settings in the default mode. One exception is option #6 for gas/diesel.   If you have a diesel, you'll want to change to diesel mode.

Using a Relay on the Trigger Wire

In most installations, the pink activation wire can be connected directly to the vehicle "Motor Lock" wire and everything will function correctly.   Some customers have reported interference on that wire causes the car to start on the first 'Lock' press, even after programming option #8 has been changed to 'double pulse activation".   If you experience this problem, adding a relay to the trigger wire will resolve this issue.

RS4LX kits shipped after 12/22 have an extra relay included for this purpose. Most vehicles will not need it, but there's no harm in using it even if yours does not.   You can choose to install the relay with the rest of the system, or you can install it only if it turns out you need it – it's up to you.

If you install the relay on the activation input, connect it as follows:

- Relay harness black & yellow wires – tie together and connect to ground
- Relay harness white – connect to "Motor Lock" wire in vehicle
- Relay harness blue – connect to pink activation wire from remote start
- Relay harness red – not used.   Cut & tape off.

You can mount the relay in the same area as the remote start module.

If you purchased a kit prior to 12/22 and need the relay, we will send it to you at no charge.   Please call our customer service line at (520) 572-2220 or email support@mypushcart.com

Step 3 – Installing Your Bypass

The IB-GMBP bypass requires only 4 connections.
- The brown wire gets connected to the remote start. Plug it in to the "Sat Relay Port" (red receptacle) on the side of the remote start module.
- The Orange wire gets connected to a constant +12v power source. (+12v is present whether the key is on or off)
- The Black wire goes to ground
- The Violet wire connects to the OBDII plug, pin 2.   The OBDII plug is located on the lower left part of the dash. The GMBP instructions have a drawing of the plug that will help you identify it.

Instructions for programming your bypass are at the bottom of page 1 in the IB-GMBP installation manual. Make sure you have one of your keys and your remote fob handy, as the programming actions MUST be done within only a few seconds, as detailed in the instructions. ***Read through the instructions first*** before actually doing the programming! It will help enable you to complete the steps within the specified time.

Step 4 – Close it up!

Once the bypass has been programmed, give the system one final test.

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.

Wire Tie   Electrical Tape

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