

Installing a Remote Key Control to a DeLorean **SME-12**

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Disclaimer

This installation method worked for me, so I'm sharing how I did it. However, this method may not work for you and could damage something on your car. Whatever you do, it is at your own risk. If you don't feel 100% comfortable making these kinds of changes to your car, don't be cheap like me and just pay the very helpful people at one of the DeLorean stores for their upgraded modules.

Safety

Be sure to disconnect your battery when you are connecting/disconnecting the Door Lock Module or any other electrical modules. The Door Lock Module is not on switched power which means that it has power even if the key is not in the ignition. Disconnect the battery while you're working on the electrics to be sure you don't get any accidental shorts.

Background

I bought my DeLorean at the start of 2012 and immediately had to do a number of maintenance items on the doors. The window regulator on the passenger side worked pretty infrequently and the driver's side window was having death clicks. I figured that while I was inside the doors I would do a whole series of maintenance/fixes to make the car more usable. As part of this work I also did the Elvis upgrade to the Door Lock Module.

[Elvis Door Lock Module Upgrade](#)

Elvis' update aims to reduce the standby power requirements of the door lock module. I also replaced the solenoids in the doors (activating the door locks) with the modern actuators available from DeLorean Parts Northwest (Toby's).

[Wings-A-Loft™ Door Lock Upgrade DLCU System](#)

While I was working on the module, the actuator upgrade, and the internal door lock and latch mechanisms, I got more familiar with how the system works.

I really wanted the convenience of remote door locks but I was not keen on the price of the units available from DeLorean. So, I bought a 2 door wireless door lock unit from eBay for \$10, of course shipped from Hong Kong. There was barely any explanation of how it worked or how to wire it up, but at \$10 I figured there was little risk. Other units listed on eBay run \$20-\$30 per unit. I might have just got lucky with my \$10 unit, but you may need to spend more.

Door Locking Mechanism

When you turn the key in the door it moves a rod that in turn throws a switch. Locking throws the switch one way and closes the 'lock sense' circuit; unlocking throws it in the opposite direction which closes the 'unlock sense' circuit. The door lock module detects the closed switch and activates the actuator on the other door to mimic the status. If one door locks, the other door will lock, and likewise if one door unlocks, the other door unlocks. The door lock module activates a relay that transfers power to the solenoid in the door. The solenoid pulls or pushes on the door lock rod to force that door to lock or unlock respectively. When it is working correctly both doors will lock or unlock if the key is turned to lock or unlock, or a person inside the car manually activates the lock/unlock button (or more accurately toggle).

The DeLorean uses a system called negative trigger. This means that the solenoids activate by connecting the lock or unlock wires to ground. The switch inside the door connects either the lock wire to ground or the unlock wire to ground.

Wireless Key Unit

The wireless key unit arrived about 2 weeks after ordering on eBay. This provided my first chance to get a look at the installation manual. The manual was pretty minimalist at about the size of a postcard. There was a picture of a car on the front, one page of operation instruction, a diagram of the wires coming from the unit, and three wiring diagrams on the final page. The three wiring diagrams showed how to wire the unit into a 1) negative trigger, 2) positive trigger, and 3) positive and negative trigger door lock system.

The unit needs connected to 12v protected (but not switched) battery and the car ground. Batteries power the wireless key fobs. Pressing the lock or unlock buttons on the key fob sends a signal that the wireless unit detects. The wireless unit pulses output wires to tell the car's Door Lock Module to lock or unlock the doors. Which wires get pulsed to lock and unlock the car depends on whether the units is wired to support negative, positive, or positive & negative trigger systems.

Here are the specifications for the unit...

Car Remote Control Central Lock Locking

Distance: 50 - 100 meters

Main functions:

Remotely lock and unlock your car

Remote car location

Remotely release the boot/trunk

LED indicator

Working voltage: DC 12V

Locking time: 0.5S 3.5S

Come with all accessories, including control box, remote, wires, adhesive tape and user manual

Control box size: about 9.2 x 7.9 x 3 cm

Remote size: about 5.2 x 4 x 1.3 cm

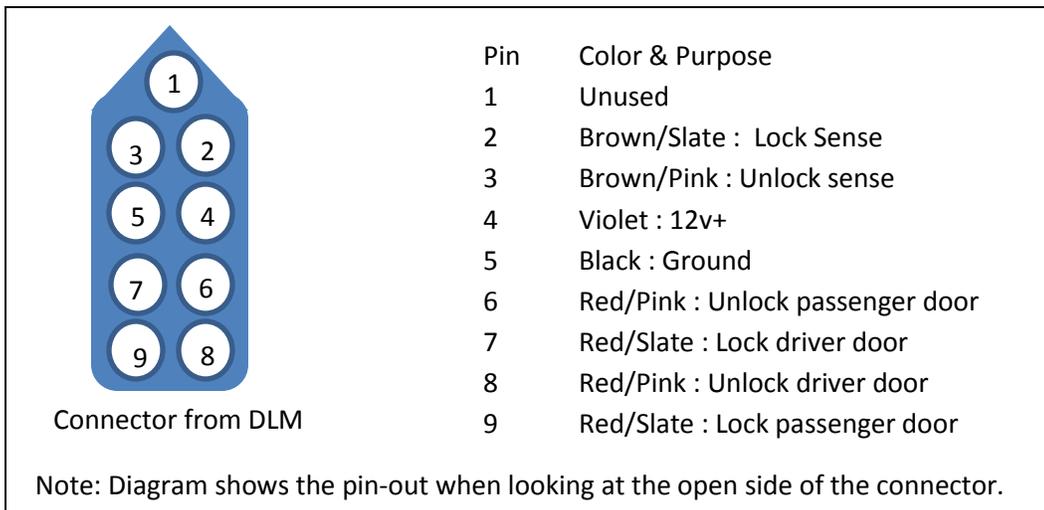


++ Package included ++ 1 X Control box
 2 X Remote 1 X Wire
 1 X Adhesive tape 1 X User guide

Connections on the Door Lock Module

The output to the DeLorean’s door lock module connects to the wiring harness that runs to the door locks through a ‘church window style connector’ (found near the fuse box). There are nine pins in the connector, however only eight pins are used in the DeLorean. The pins transfer power to the door locks, sense the status of the lock/unlock switches, and sends pulses to the solenoids/actuators to lock/unlock the passenger and driver’s doors.

If you have switched to the Toby (DMCNW) actuators instead of solenoids in the doors you will have another harness that connects between the door lock module output and the stock wiring harness that runs to the doors. For the purposes of fitting the wireless key unit, the Toby unit can stay as it and does not need modification or uninstalled.



Connecting in the Wireless Key Unit

I wanted to be able to wire in the Wireless Key unit in a way that could very easily be uninstalled leaving the original unit essentially untouched. I decided to connect the wireless key unit between the output connector from the door lock module and the input to either the stock wiring harness (or if fitted Toby’s harness for the actuators). This would allow the wireless key unit to be de-installed simply by unplugging the unit and reconnecting the door lock module to the original harness.

I bought a church window connector set (male and female connector with sets of female and male pins) from DeLorean Performance Industries ([DPI](#)). This was more expensive than the wireless key unit, however it was worth it for the clean implementation. Additionally I needed wire for the harness to

transfer signals/power between the male and female church connectors. Lastly electrical tape wraps the harness to protect from wires coming loose or snagging.

You connect to the Remote Key Unit through a wiring harness. The unit I fitted had additional wires for window control and lights. I just focused on wiring in the door locks and did not attempt to control the windows or the lights. The Remote Key unit wiring harness also needs power so it connects to an unswitched, but protected 12v power the same way the Door Lock Module does (the Red wire running from the DLM). It also needs a Ground connection; however, one is available in the DLM connector, so I used that one.

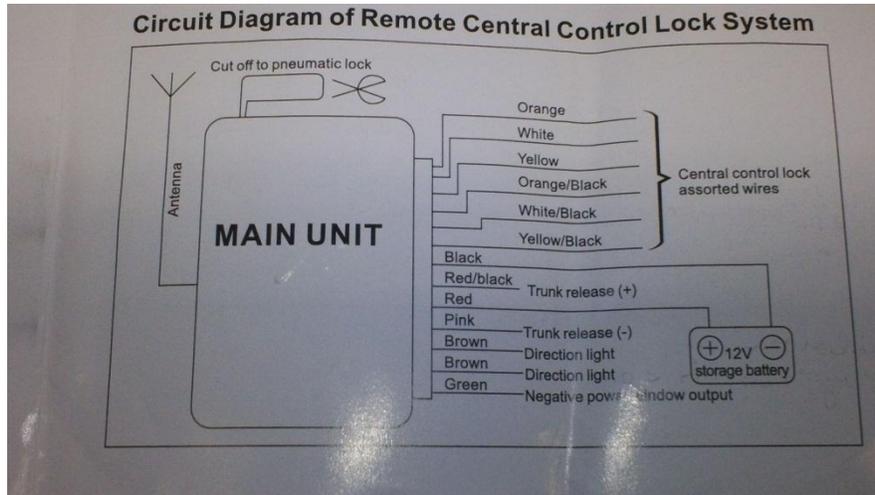


Figure 1 - Wiring Harness for the Remote Key Unit

So, to wire the Remote Key Unit into the DeLorean's power, I connected the Red wire from the Remote Key Unit to the Red wire running from the Door Lock Module. I connected the Black wire from the Remote Key Unit to Pin 5 on the Church Window Connector.

There are six wires from the Remote Key Unit related to controlling the door locks (Figure 1) labeled as "Central control lock assorted wires". How you connect these wires to your car depends on the trigger method used, i.e. negative, positive or positive & negative (Figure 2). The DeLorean uses negative trigger, which means that the lock/unlock sense wires are grounded to signal the Door Lock Module to lock/unlock the doors.

In the diagram in Figure 2, the wires for the negative trigger are labeled incorrectly. This took a little extra time to figure out, but looking at the other diagrams helped. Wire 2 (White) is the Lock signal, Wire 3 and 6 (Yellow and Yellow/Black) need to be connected to Ground. Wire 5 (White/Black) is the Unlock signal.

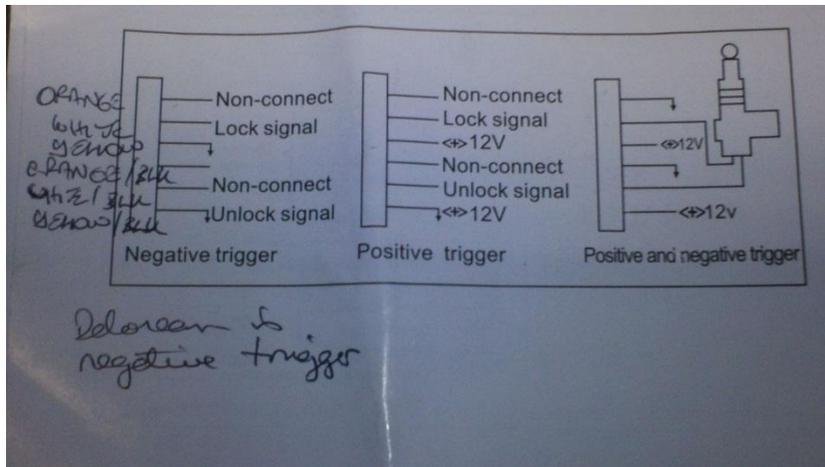
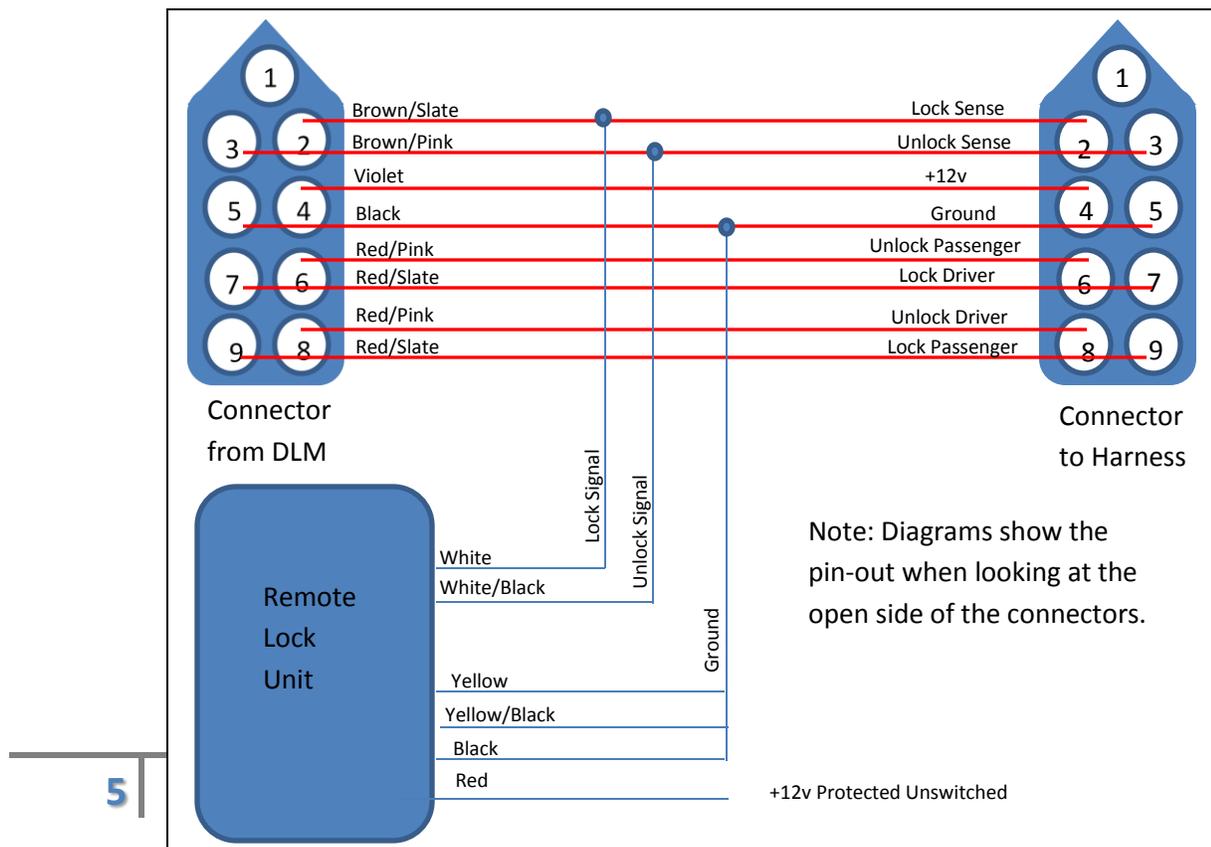


Figure 2 - Remote Key Unit wiring Options

To build the in-line wiring between the stock Door Lock Module and wiring harness to the doors, I made eight short wires to run between the male and female church connectors. All eight wires had a male connector on one side and a female one on the other end. All but three of the wires are simple straight through connections between the church window style connectors, i.e. pins 4, 6, 7, 8, and 9. The other pins are for ground, lock sense, and unlock sense.

I spliced (using a butt connector) three wires from the Remote key unit into the Pin 5 ground wire. These were the ground (Black) wire from the Remote Key Unit, and the two ground wires from the remote key unit harness (wire 3 & 6, yellow and yellow/black).



As far as I can figure, when the Remote Lock Unit detects that the Lock button has been pressed on the key fob, it connects the Lock Signal to Ground. This essentially does the same thing as the switch located in the door. Likewise, when the key fob unlock button is pressed the Unlock Signal wire is connected to Ground. The Delorean's Door Lock Module obliges and sends lock and unlock signals to both doors. In my car key fob presses result in a solid and definitive locking/unlocking motion and sound – CLUNK!

Figure 3 shows the test installation wiring in my Delorean. Pins 8 and 9 are not wired as I've got the DMCNW actuator units fitted and they do not use pins 8 and 9. In the final wiring I will include wires to pins 8 and 9 so that it will continue to work fine with the stock units. In Figure 3 you can see at [A] the church window connector coming from the DLM. The green wires are the connection between the DLM and the [B] wiring harness running to the doors. Arrow [C] points to the butt connectors that are used to connect wires from the Remote Key Unit. You can just see the Black, White, and White/Black wires coming from the butt connectors. The red wire that is running just under the A arrow is the +12v wire running to the Remote Key Unit which is just off the bottom of the picture.

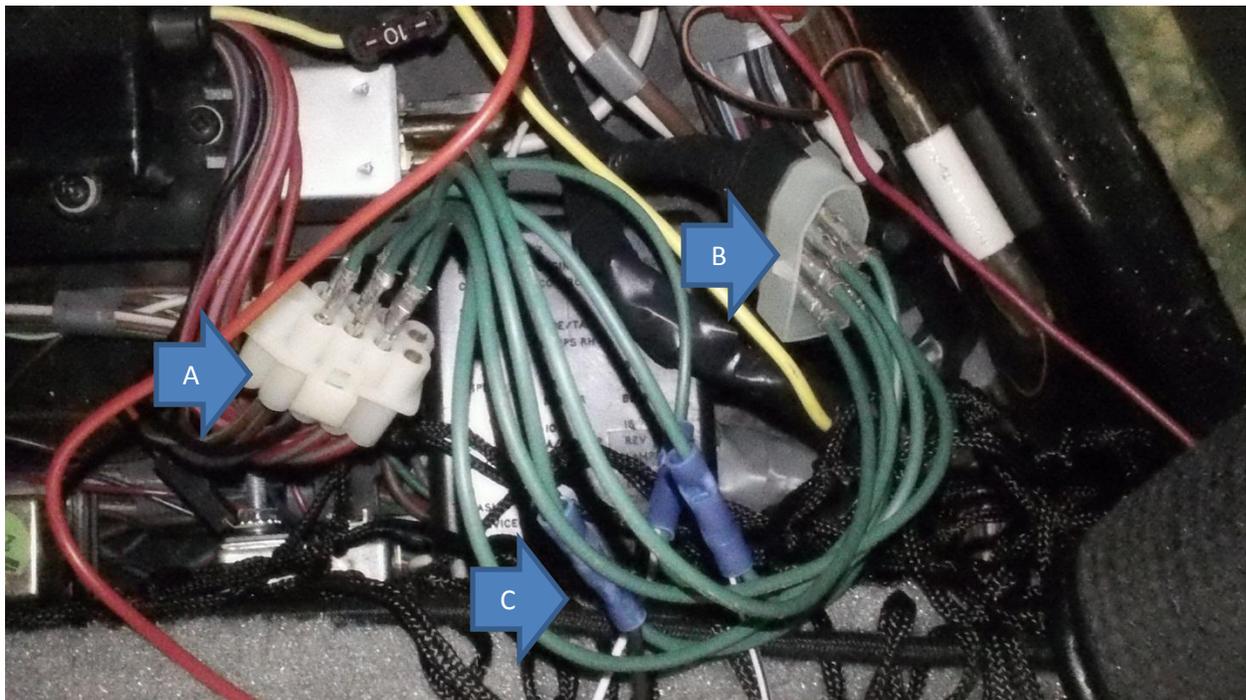


Figure 3 - Test setup for Remote Lock Unit

In Figure 4 you can see the Remote Key Unit [B] with all the unused control wires bundled to one side [D]. I am going to leave the wire bundle connected just in case I want to hook up the trunk release in the future, however it has to be made safe so that it doesn't short anything in the relay/fuse area of the Delorean. Also in Figure 4 you can see the Yellow and Yellow/Black wires [A] are connected into the Black (Ground) wire coming from the Remote Key Unit. This is what essentially makes the unit a negative trigger setup. The +12v power wire from the Remote Key Unit also came fitted with a 15amp in-line fuse [C].

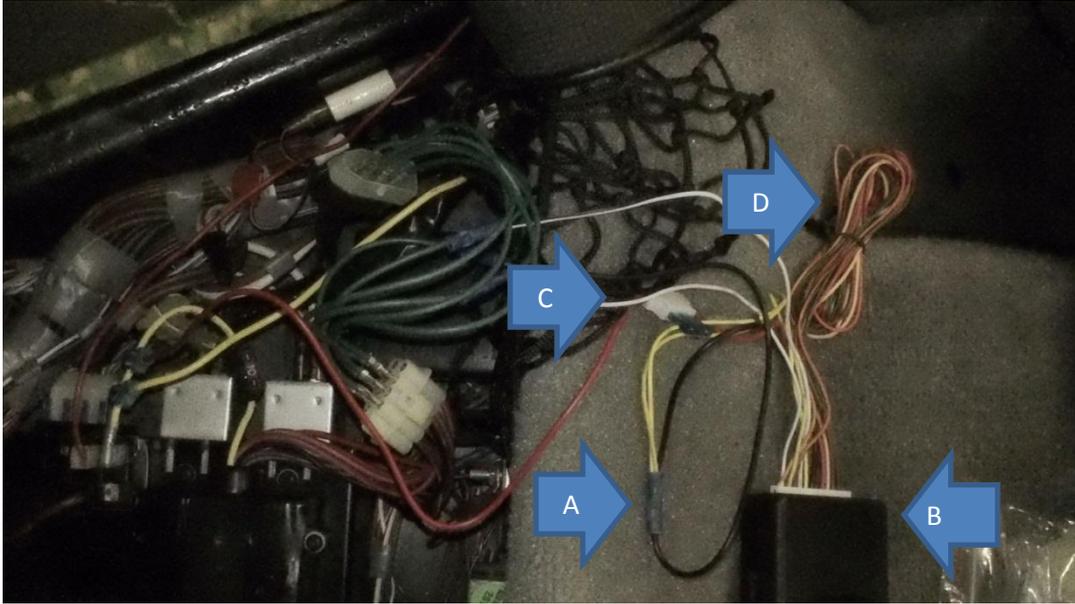


Figure 4 - Remote Key Unit test installation

Figure 5 shows the final unit put together with the in-line church window style connectors fitted [A] and everything closed up with electrical tape. The Remote Key Unit has an aerial that must be stretched out long inside the Relay/Fuse area [B]. The unit power line taps into the same +12v unswitched line as the Door Lock Module [C].

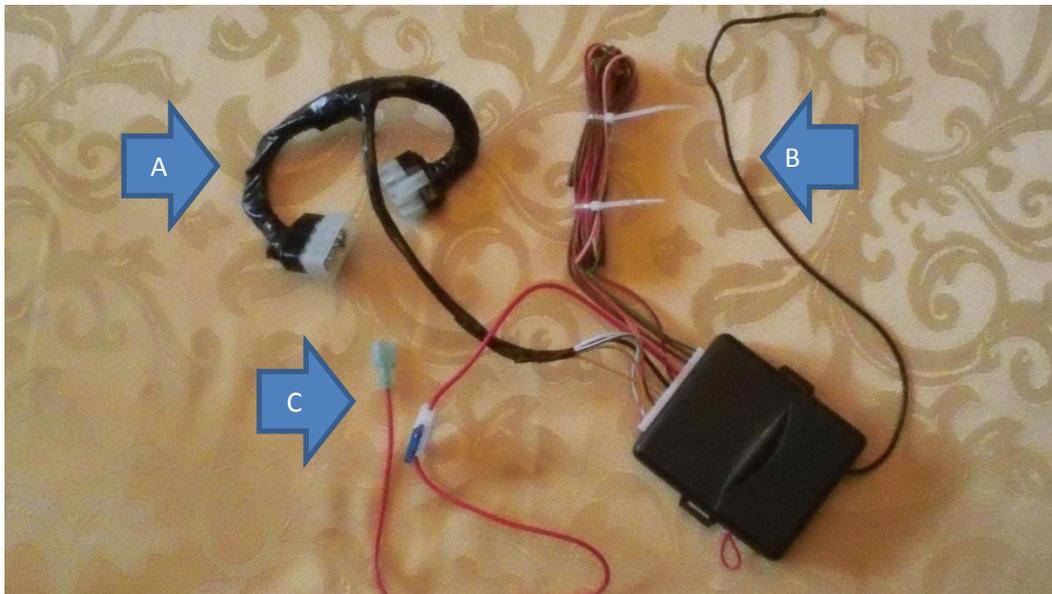


Figure 5 - Completed harness for Remote Key Unit

Adding remote key locks to the DeLorean is one of the ways that we can have a classic car but make it more usable in the modern world. Thankfully the DeLorean's door lock module was pretty capable (albeit needing the Elvis mod to reduce the standby power consumption) and thus was fairly easy to connect to a modern remote key unit.

Living the Dream

Jeff