

DISCLAIMER: Install this product properly! I assume no liability for damage or malfunction caused by improper installation. If there are problems discovered with the product and fixes or updates are made, I will ship you a new micro-chip to plug into your unit with the updates for free for at least 1 year from the purchase date. If you are uncomfortable installing the chip yourself, you can ship the unit to me and I will update it and ship it back. If it does not operate as intended on your vehicle (given proper installation), you may return it to me for a refund.

For support and contact information, goto: <http://products.mikeyd.net>

Installation Overview *(brief description of what you're about to do)*

Sedan

Tools: phillips screw driver, T20 screw driver, wire cutters/strippers, soldering gun (recommended), flat screw driver or small prying tool, wire/cable ties

- Remove map light / switch overhead console
- Remove sunroof module, connect 2 wires inside, re-install
- Connect remaining 9 wires in same location
- Tuck module away
- Re-install map light / switch console

Wagon

Tools: phillips screw driver, wire cutters/strippers, soldering gun (recommended), flat screw driver or small prying tool, 10mm socket, wire/cable ties

- Partially remove/lower headliner to access sunroof module at rear
- Remove sunroof module, connect 2 wires inside, re-install
- Connect other 6 wires at modules harness
- Run remaining 2 wires from module to relay box (driver foot area) and connect
- Tuck module away
- Re-install headliner

Installation

Sedan

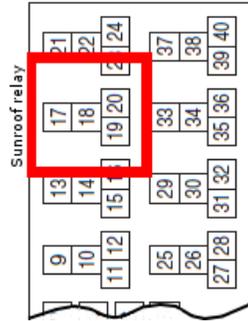
1. Carefully pop out map light lenses/covers and remove 2 philips screws, depress front tabs on map light / sunroof switch overhead console and lower it from roof. Unplug sunroof switch and map light wire harnesses and set the console aside.
2. Follow instructions below for "Both"
3. Make the rest of the connections at the module harness following the diagram below looking up your vehicles wire color in the vehicle wire colors chart
4. Plug in the 2pin connector (from the motor) and the 2 connectors into the SLM1 unit ensuring that the **white marked sides of the connectors face each other**.
5. Test the new functionality of the SLM1. The unit can be mounted snugly to the left of the motor assembly above the driver side sun visor. Use wire/cable ties to further secure the unit.
6. Re-install the overhead console
Refer to the Programmable user options section to change options if desired

Wagon

1. Remove components on ceiling starting at rear of front seats including handles, lights and vertical pillars that are holding the headliner up. Partially drop the headliner starting by carefully popping the 3 clips at the rear of the vehicle. The sunroof module in the wagon is located at the rear of sunroof track.
2. Follow instructions below for "Both"
3. Make the rest of the connections shown in the wiring diagram at the module harness leaving "Ignition car side" and "Ignition module side" not connected and connecting red 12v+ to dome/map light as shown in the wagon section of the wiring diagram. NOTE: as shown in the diagram, no need to cut open switch (*5) and close switch (*4) wires nor connect the white and green wires.

- Run the 2 IGN wires from above (using included lengthy pair of wires) from the module, along the roof toward the drivers left side (run neatly following and attaching to other wire paths)
- Continue running the wires down to the fuse/relay panel in driver foot area tucking it behind any panels along the way
- Connect these wires to the back of the sunroof relay as shown in the main wiring diagram and the diagram below (pin 19 should be it, refer to the chart for wire color):

**Relay Block in driver foot area
(front view)**

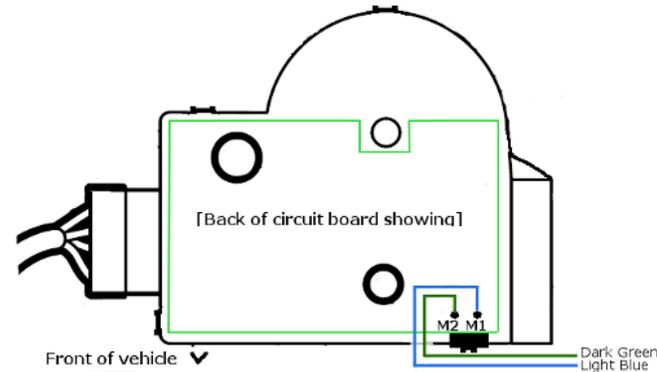
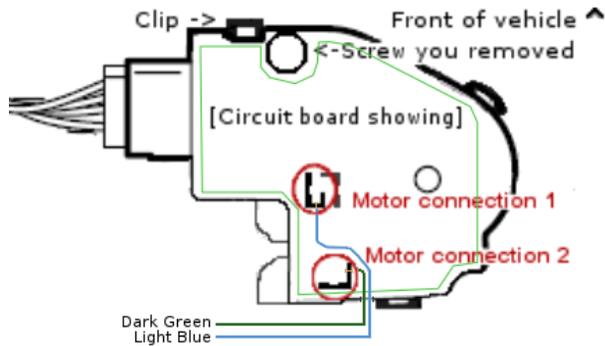


- Plug in the 2pin connector (from the motor) and the 2 connectors into the SLM1 unit ensuring that the **white marked sides of the connectors face each other**.
 - Test the new functionality of the SLM1. The unit should be mounted as far to the rear as possible to avoid contact with the sunroof shade
 - Re-install the headliner and other components
- Refer to the Programmable user options section to change options if desired

Both

The Black unit now clearly visible is the sunroof control module which is directly attached to the motor

- Disconnect the wire harness from the module and for sedan remove 1 of the 3 torx screws holding it to motor assembly (screw closest to front of vehicle)
- Carefully pry away 3 clips/tabs (wagons tabs are very small and fragile) on outer edges holding module to motor assembly and remove module. In the wagon you are first removing a lower plastic cover and then removing the circuit board separately which is held with a clip in the front passenger corner of the motor module. Inside you'll find a circuit board with 3 protruding prongs/contacts for sedan or 2 contact points on the bottom labeled M1 and M2 for wagons.
- Connect 2 wire harness (light blue and green) as shown in diagram with blue wire connected to the prong (M1 pin on wagon) toward the front of vehicle (motor conn. 1). Wire should be tied to the post in such a way that it does not interfere with the boards connection to the motor (sedan). It is important that these connections are soldered so they do not come loose.



- Make a small notch in the side of plastic housing (perhaps with a pair wire cutters) so that these 2 wires can come out of module without being pinched after re-installing module
- Re-install the module to motor assembly ensuring all tabs are completely seated and wire is not pinched. **THE HARD PART IS COMPLETE.**

Vehicle wire colors

These wire colors are taken from the Subaru Factory Service Manual and are provided only for your convenience. You should verify each connection is correct before its made. If your year/model has blanks, try referring to the year before or after to determine which more completely matches your vehicle and test each wire. If nothing appears to match, use the guide following this chart and wiring diagram above to determine the proper connections and contact me with your findings and/or support. In the chart for example white/blue means a white wire with a blue stripe.

In Diagram	2005 - 2006*		2007*		2008 - 2009		Purpose / SLM1 Color
	sedan	wagon	sedan	wagon	sedan	wagon	
(1)	white/blue	blue/red**	white/blue	blue/red**	white/blue	blue/red**	12v(+) / Red
(2)	black	black	black	green/red	black	green/red	Ground / Black
(3)	green/yellow	green/black***	green/yellow	green/black***	green/yellow	green/black***	Ignition / Yellow - Orange
(4)	red	white	red	black/red	red	black/red	Close switch / White - Gray
(5)	blue	blk/yel	blue	black/green	blue	black/green	Open switch / Green - Blue
(6)	white	n/a	white	n/a	white	n/a	Tilt down switch / - Purple

* - colors were not verified by factory service manual diagrams, may be different and should be tested

** - constant 12v power for wagons can be taken from nearby dome/room light (sunroof module harness does not contain a constant 12v power source)

*** - located in driver area relay block not at sunroof module, should be relatively thin gauge

How to test/identify vehicles wiring

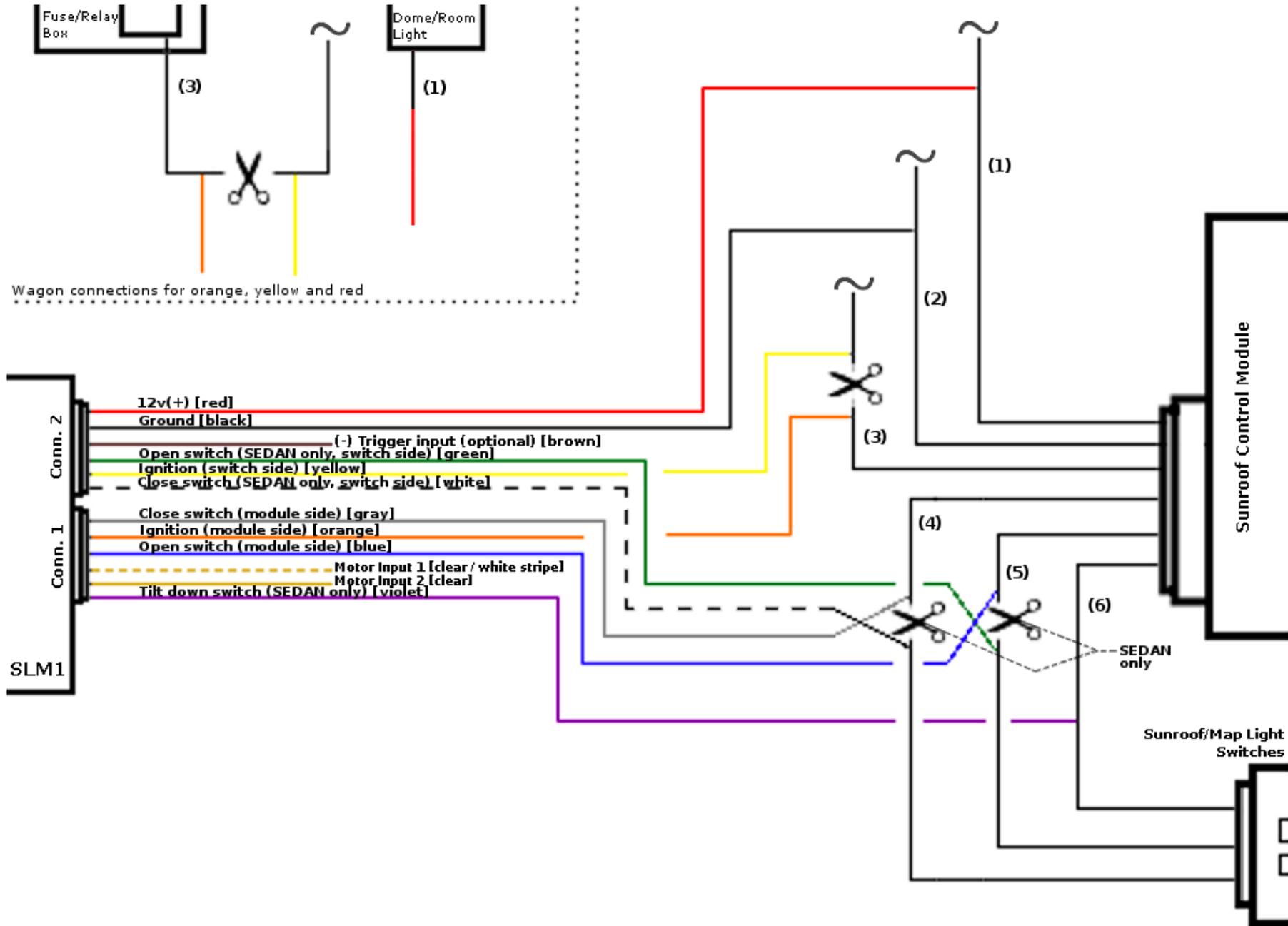
IGN - 12v(+) when key is on IGN, 0v/nothing when IGN is off

CLOSE - 12v(+) only when close switch is pressed (sedan) with IGN on / ground(-) only when switch is pressed (wagon) with IGN on

OPEN - 12v(+) only when open switch is pressed (sedan) with IGN on / ground(-) only when switch is pressed (wagon) with IGN on

TILT-DOWN - 12v(+) only when tilt down switch is pressed with IGN on

Main Wiring diagram



Operating instructions

Your sunroof should operate as it did before with some added functionality. When pressing close, the glass should fully close. It should also now close when you turn your ignition off from an on position (unless you disable this feature). You can override this feature at any time by tapping the tilt down button (“open” button for wagons) within 3 seconds of turning off the ignition.

For sedans if your glass is tilted up and you press and hold “open” for about a second then let go, the glass should tilt down and then open. You will here a beep sound and the LED/light on the unit will flash to indicate that you have held the switch long enough (unless you disable this option).

When the glass is open and a tilted up position is desired, “tilt up” may be held for about a second (there’s a beep here as well) and when released the glass will close and then tilt up. The ignition can be turned off while this operation is in progress, no need to wait.

The (-) input trigger wire can be used to trigger either the open or close operation (programmable option). Simply put a momentary pulse of ground (-) to this wire. As an example use: A typical after-market alarm or remote start device has 1 or more output channels that can be triggered using the remote control. These wires usually output a (-) pulse when triggered. By connecting that output to this input wire you could open or close your sunroof by remote control.

Programmable user options

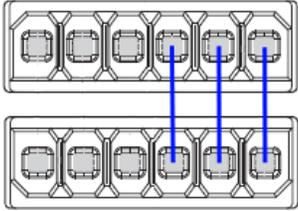
The options in the chart below may be changed following this procedure. To enter programming mode, (with the sunroof in fully closed position) turn on the ignition then press and hold “tilt down” (“close” for wagons) until a long beep is heard (LED also flashes). After the long beep stops (but within 5 seconds), tap “tilt down/close” one time to advance to the next option number. Each time you press it, you will hear an audible/visual confirmation indicating the option number you are currently at. When you have reached the correct option number, press and hold “tilt down/close” until a beep is heard and release the button to toggle the setting. You will then hear an confirmation of the new setting (1 beep for setting 1, 2 beeps for setting 2). You may then (within 5 seconds) advance to the next option or wait 5 seconds for programming mode to exit at which point you will hear 2 long beeps.

	Feature	Setting 1 (default)	Setting 2
1	<i>Vehicle Select (DON'T CHANGE THIS OPTION)</i>	<i>Sedan</i>	<i>Wagon</i>
2	Auto-close with ignition	Enabled	Disabled
3	Trigger input wire function	Open	Close
4	Audible/visual indication	Enabled	Disabled
5	Enable/Disable all operations	Enabled	Disabled

Example:
To disable the auto-close feature: Turn on ignition, press and hold tilt down/close, release with long beep, tap tilt down/close, 1 beep, tap tilt down/close again, 2 beeps, press and hold tilt down/close until beep, 2 beeps confirming the second setting (disabled). Wait 5 seconds or turn the ignition off and hear 2 long beeps... done!

Notes

- If this module is un-plugged the sunroof will not operate as normal. You can disable all operations rather than unplugging using option number 5. If unplugging is necessary, 3 wires must be jumpered in the modules wire harnesses. The connectors can be placed against each other back to back and jumper wires placed across the 3 pins as shown in the diagram below.
- Always ensure the white markings face each other when connecting the wires harnesses to the SLM1. Failure to do so could cause damage.



<-- white markings this side

<-- flipped, white markings this side