

### Section 3 – Making the Electrical Connections (simple switch or optional push/pull potentiometer) and Final Reassembly

- 1) Terminate the black wire from the EGR valve to ground. There is a good ground on the windshield wiper motor connector that is suitable (black wire). Use a crimp wire tap (included in the kit)

#### **SIMPLE SWITCH INSTALLATION-** (switched potentiometer instruction below):

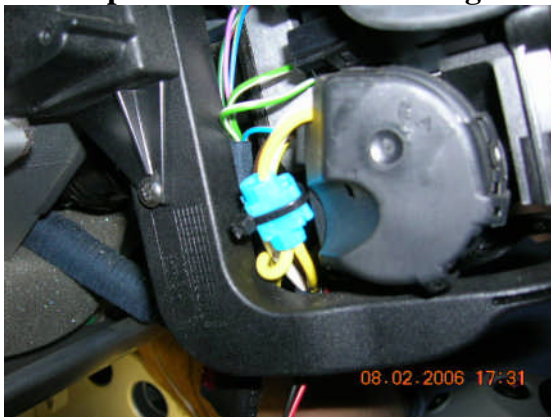
- 1) Find a suitable location in the cockpit for the switch. If you use this same location, make sure the switch is more towards the driver than the firewall to avoid the aluminum frame section behind the panel. I used a dremel tool and razor knife to make the appropriate opening.



- 2) Back to the wiper motor area....find the wiring harness rubber grommet where the harness goes into the cockpit (red arrow) and push the remaining wire through the grommet (you may have to punch a hole in the grommet) into the cockpit area. Be careful not to damage the harness. I went through beside the harness in the fold of the grommet. The grommet will be easy to find if you have the wiper motor cover removed (the cover is in place in this picture).



- 3) Once you've pushed the wire into the cockpit, go into the car and pull the wire through (pull all slack). Now, if you feel under the front of the dash, past the curved part to the edge, you will find a ledge (faces front of car). You want to run the wire along the top of ledge using the self-adhesive wire guides to keep it up and out of the way. Terminate the wire to one side of the switch.
- 4) Wire the remaining switch terminal to a switched 12VDC source using a three amp fuse in line for protection (crimp-on fuse holder in the kit). I found a good source for a switched wire with easy access inside the steering column. Just remove the Phillips screws in the plastic to remove the lower half of the steering column cover (I think there are 6, remember where they came from). There are two yellow wires that go to the ignition switch. I tapped into one of these using a wire tap (in the kit). Secure all wires with tie wraps. Reassemble the steering column cover.



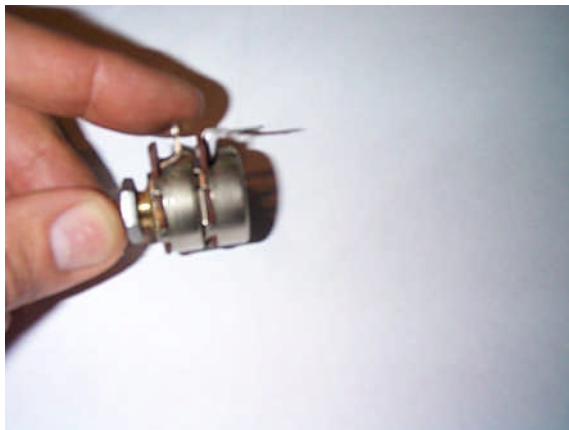
- 5) Reinstall the wiper motor cover using the two Phillips screws and a tie wrap.
- 6) Replace the grill and two cowling covers on the front of the car.
- 7) Check around for remaining parts and reinstall as required.....

**End of Simple Switch Installation, move on to refilling and bleeding the cooling system section.**

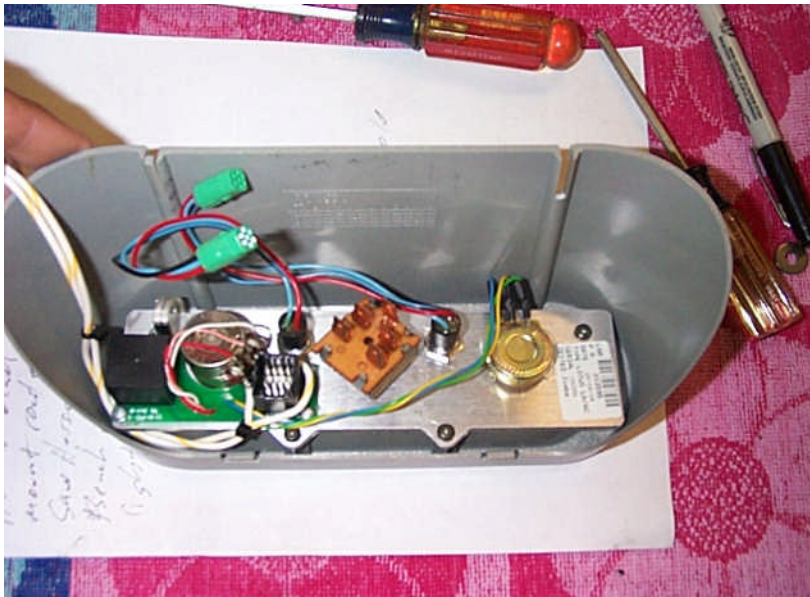
## Optional Push/pull Potentiometer Installation

This option replaces the OEM temp control with a similar potentiometer that also contains a push-pull switch.

- 1) **Remove the switch panel that contains the temp control, AC and recirc switches.** You can remove it by loosening the two Phillips screws underneath the dash, pressing down on the top of the panel (there are two tangs that engage the dash) and sliding the unit straight toward the back of the car. Be gentle with this panel as the plastic seems especially brittle. The screws can be removed, which makes it easier to get the panel out, but it is difficult to re-align the holes when you reassemble the section later.
- 2) Make a good diagram of the wiring of the switch panel and then remove the cables and wiring freeing the panel.
- 3) Remove the radio. There are plenty of instructions around on how to do this and it varies a bit from radio to radio. You can either buy the removal tool at a parts store, or use some stiff wire. I have an early car, which means Blaupunkt Los Angeles radio. Remove the detachable face of the radio. Use the stiff wire or tools to push into the two small holes on each end of the section where the faceplate was removed. When the tool or wire is pushed in, it releases the clamps and allows the stereo unit to slide out forward. It took a bit of tugging, back and forth to get it out. Diagram the cables (probably not required as they are all keyed) and remove the stereo.
- 4) Remove the temp control knob from the switch panel using a hex wrench.
- 5) Make a diagram of the three wires soldered to the temp potentiometer and then un-solder them from the pot.
- 6) Remove the locknut holding the temperature potentiometer in place and remove the pot.
- 7) Use some needle nose pliers to reform the switch terminals for better access to the solder points (already done in the kit pots) and then solder a 3ft section of wire to each switch terminal on the new pot. My finger is on the switch terminal section of the pot.



- 8) Insert the new pot into the switch panel (it will be tight and may require filing a bit), orient the swing of adjustment to match the markings on the switch panel as best you can and tighten the locknut securely (but don't strip it) to hold the pot in place.
- 9) Re-solder the three wires removed in Step 6 above back to their respective positions on the potentiometer (it's the one with three terminals, the two terminal one is the push/pull switch (check the picture below). **UPDATE – you can just tap into the hot wire that feeds the fan switch. Use the included piggyback connector (be sure to use your fuse between the fan switch and the POT. No need to push both wires through grommet in next step.**



- 10) Either cut a slot or punch through the cable grommet above the switch panel area. Using a stiff wire, fish the **remaining** switch wire thorough the grommet into the radio area and run them across to come out behind the dash.





- 11) Reconnect the cables to the switch panel and then reinstall the switch panel in the car by sliding it back into position until the tangs engage and then tighten the two screws under the dash.
- 12) Reinstall the radio.
- 13) Back to the wiper motor area of the car....find the wiring harness rubber grommet where the harness goes into the cockpit (red arrow) and push the remaining wire through the grommet (you may have to punch a hole in the grommet, then push the wire through) into the cockpit area. Be careful not to damage the harness. I went through beside the harness in the fold of the

**grommet. To see a picture of the grommet area, check the picture under Step 2 of the simple switch section above.**

- 14) Once you've pushed the wire into the cockpit, go into the car and pull the wire through (pull through all slack). Now, if you feel under the front of the dash, past the curved part to the edge, you will find a ledge (faces front of car). You want to run the wire along the top of ledge using the self-adhesive wire guides to keep it up and out of the way. Join the wire with the remaining wire from the pot switch using a crimp on butt connector or solder. Secure with tie wraps as required.
- 15) Reinstall the wiper motor cover using the two Phillips screws and a tie wrap.
- 16) Replace the grill and two cowling covers on the front of the car.
- 17) Check around for remaining parts and reinstall as required.....

### **Refilling and bleeding the cooling system**

- 1) Refill the cooling system with appropriate coolant (**adding the Water Wetter if purchased**), start the engine and carefully check for leaks. Use the switch to make sure the bypass valve is actuating when the switch is on. Check for leaks in both positions. Note: the valve only operates with the engine running (requires engine vacuum).
- 2) Bleed the cooling system per Lotus instruction (there are multiple bleed points):

To refill the system:

- 1 Refit the hoses to the feed and return pipes (if removed) and close the cylinder block drain tap.
2. Remove the right hand front wheelarch liner and open the air bleed plug on the radiator outlet hose. From within the engine bay, open the air bleed plug in the heater return hose at the left hand rear of the engine bay.
3. Fill with the recommended coolant mix via the header tank and close the bleed plugs when a steady stream of coolant is expelled.
4. Start the engine and allow to idle, and periodically open the bleed plugs to allow any trapped air to be expunged. Top up the header tank when necessary, and fit the pressure cap when required to prevent overflow. When the cooling fans have cut in and then out, stop the engine and allow to cool. Recheck coolant level when fully cold.
- 3) With engine running loosen inlet heater hose enough to allow fluid to trickle out a bit to make sure no bubble is at the valve (be careful of heat and use rag to catch fluid). Retighten. Open the two bleed screws one last time and allow fluid to trickle out.
- 4) Loosen the bleed screw on the coolant overflow tank for a few seconds and retighten.
- 5) Check again carefully for leaks.
- 6) Refit the wiper motor cover, fuse box, grill and cowls
- 7) Test Drive

**I sincerely hope this works as well for you as it does for me. While my AC is not frigid, it was great improvement. Now I can at least drive the car in the summer without sweating.**