

Elise Parts Low Coolant level sensor kit – S1 Elise

Rev 2 : 01/03/10

Fitting Instructions

Tools Required:

Spanners (2 x 10mm)

Flat bladed screwdriver

6.5mm or 7mm drill

Cable ties

Top-up coolant (check whether you need the old style glycerol based or OAT – the two are NOT compatible and must not be mixed)

Estimated time to install:

Between 1 and 1.5hrs depending on whether the standard air filter housing is still fitted (this needs to be removed to allow easy access to all the connections).

Installation instructions

1. Remove air filter housing (both top and bottom sections) or induction kit (this is to allow access to all the electrical connections and to make removing/replacing the coolant header tank easier). *Note: Instructions for removing the air filter housing are in Appendix A.*



2. Undo and remove the 2 nuts and bolts (10mm heads) at the rear of the header tank



Undo and disconnect the small hose on the right of the tank. Then carefully pull the tank upwards, taking care to avoid spilling coolant through the right hand tank connection, until the tank is in a position to allow the bottom hose to be released (*Note: The bottom hose will be cable-tied to part of the wiring loom near to the underside of the tank – remove these to allow the hose & tank to come up to a level where it can be disconnected easily*).



3. Undo and release the bottom hose, keep the end of the hose above the level of the engine (to avoid coolant loss) and take away the old tank. Reconnect the replacement tank from the kit to the bottom hose and re-fit it to the mount, reconnecting the small hose. Add coolant to the correct level.



4. Electrical connections.

The electronics part of the kit consists of 3 separate connectors. One goes to the sensor on the bottom of the new coolant header tank, one is a bridge connection that links into the gearbox reverse switch loom and the final connector fits to an existing but unused connector (that Lotus obviously intended for this use as it illuminates the orange coolant/overheat warning light on the Stack).

i) Connector with wire spring clip, connects to the sensor at the bottom of the new coolant tank. Note you'll need to remove the wire clip and refit it after the connector is located - take care not to drop it!

ii) Locate the wires running to the reverse light switch on the top of the gearbox:-



Pull the connection apart (bullet type connectors) on the **Yellow/Green** wire and re-connect with the connections from the low level kit (which has a corresponding green/yellow colour scheme):-



iii) The final connector is located on the far side of the multi function relay unit (MFRU), close to where the loom for the rear clam lights enters the bootbox (on post 1998 cars) – a torch will be needed to locate it:-



Connect the final connector from the kit to it:-



5. Mounting the electronic control unit.

On later S1's with a bootbox, the best location for the control unit is on the bootbox bulkhead, above the ecu but towards the nearside of the car:-



To mount drill either a 6.5 or 7mm diameter hole in approximately the following position:-



Bolt the unit to the bulkhead:-



Finally, find a sensible routing for the wires and secure with cable ties, before refitting the air filter housing or induction kit:-



Testing

To test the functioning of the unit, turn on the ignition (no need to start the engine), remove the coolant tank cap (provided the engine hasn't been running!) and use a long thin screwdriver or similar to push the white circular 'float' ring to the bottom of the tank and hold it there for more than 15 seconds. After approximately 15 seconds you will hear the relay click and the orange coolant warning light on the stack will illuminate:-



Note: This will stay illuminated for approximately 15 seconds after the circular 'float' ring is released (and thus returns to the top of the coolant in the tank).

Appendix A

Removing the standard Air filter housing

1. Remove the throttle air intake hose



Note: The clip at the throttle body end may not be a jubilee clip. If it is as shown below, a flat bladed screwdriver is required to spring it apart.



2. Release the 4 spring clip fasteners that hold the air filter housing top to the lower half:-



To release a fastener lift the lower part of the spring clip up towards you, releasing the fastener tension and allowing the lid to become free. Note that the clips nearest the rear of the car are difficult to get at, and the use of a screwdriver to release the left-hand one maybe necessary.

3. Remove the air filter housing upper lid and filter:-



4. Removing the lower half of the air filter housing

Looking into the empty housing you can see the location of the housing mounts, one being a nut inset into the wall of the housing (flush with the inside), the other a plastic fastener.



Unscrew the housing retaining bolt from the nut (left picture above) using the 10mm spanner. You probably won't be able to remove the bolt completely (due to an obstruction in the way), so leave it loosely in place.

Release the plastic fastener (right picture above) from the air filter housing using the long-nose pliers (pinch the plastic tabs together and push the fastener outwards).

5. Remove the air intake hose from the lower housing:-



To make access easier, pull the lower air filter housing up and away from its mounts. The air intake hose is held on by a cable tie so cut this to remove.

6. Refitting

Reverse removal steps. The most difficult part about refitting the lower housing is starting the bolt that screws into the captive nut in the side of the housing, due to its difficult location. If this proves to be a major problem, removal of the nearside wheel arch liner will allow direct access.