

# RV8 Fan Timer Delay Installation

## Introduction

The installation of the fan timer delay unit is a (relatively) simple job that will take around ¾ hour. It requires:

- Disconnecting the battery – this is a safety precaution as some of the connections are always live and there is a possibility of a short causing damage to the wiring.
- Removing the existing fan timer relay and replacing it with the new one.
- Securing the box containing the electronics to the cross rail underneath the dash
- Connecting the earth strap on the electronics box to the bolt fastening the dash onto the cross rail
- Reconnecting the battery
- Testing the circuit

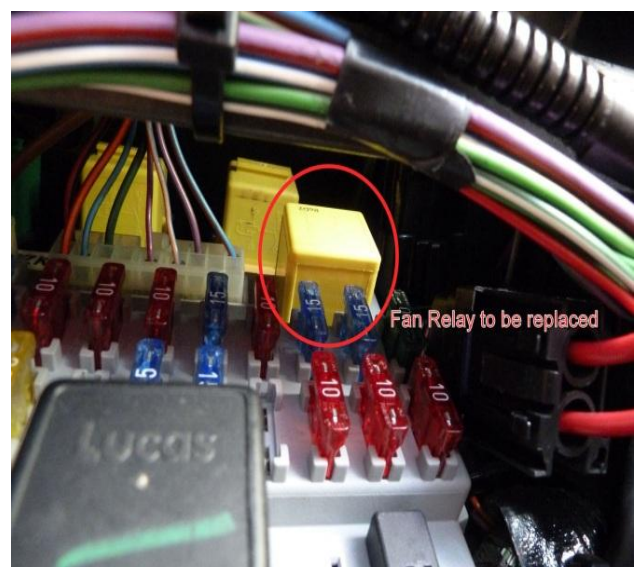
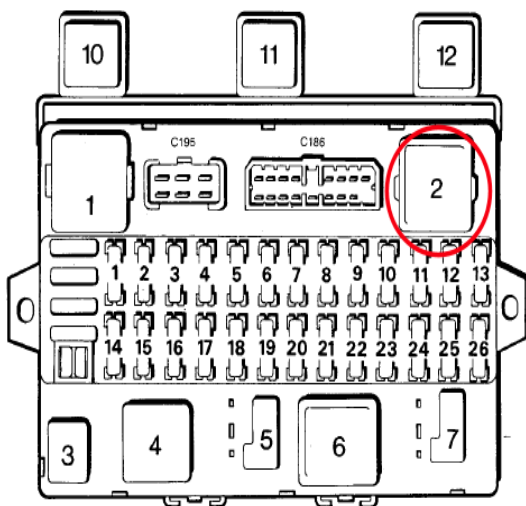
## Disconnecting the Battery

On the RV8 the battery is situated underneath a cover that can be found behind the driver's seat. It is more easily accessed with the hood down.

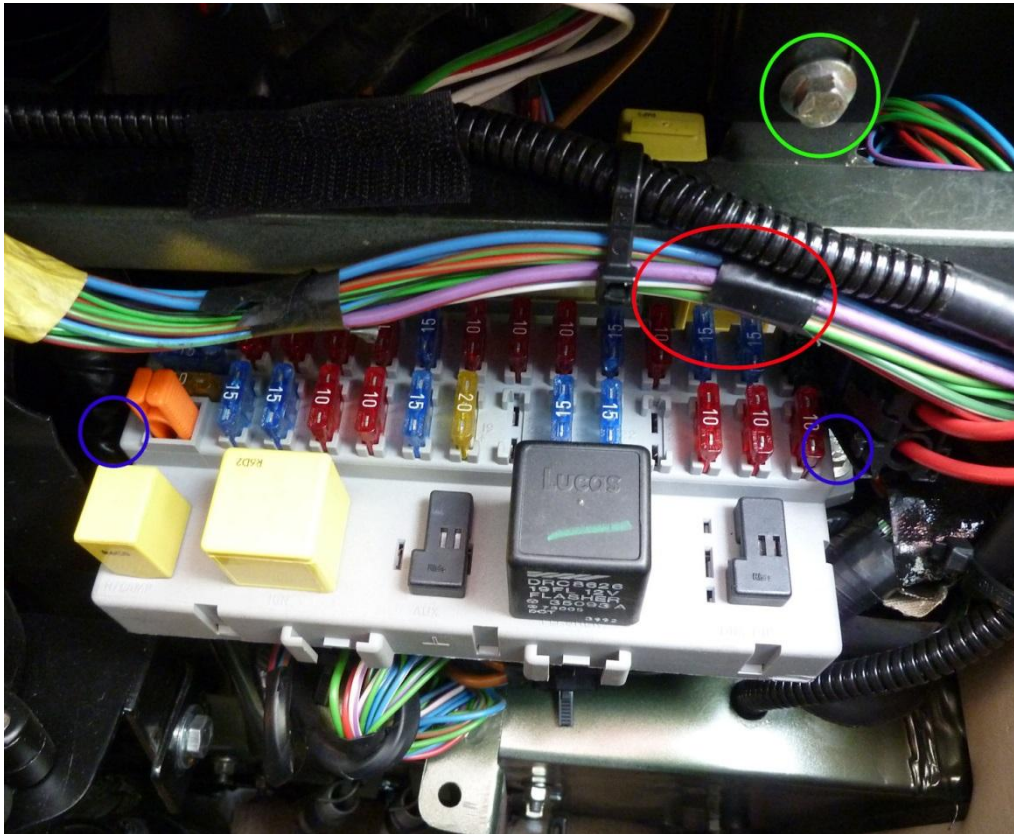
- Lift the carpet behind the driver's seat
- Turn each of the large screws on the cover plate by ¼ turn anti clockwise – **note: do not force them as they may not be fastened properly.**
- Removing the cover plate will reveal the battery, remove one terminal and ensure it is clear of the battery.

## Replace the existing Fan Relay

This is the most difficult part of fitting the Timer Delay for the simple reason it is difficult to access the fan relay which located on the fuse board situated on the driver's side of the car underneath the dash.



In practice, when you look underneath the dash, this is what you will probably see:

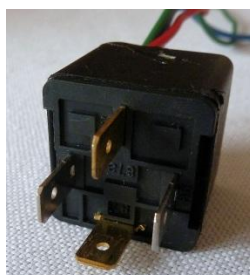


It is possible to replace the relay (circled in red) without removing the fuse board. But this can be fiddly. Alternatively, you can undo the two screws (circled in blue) and pull down the fuse board to gain better access. **Note: If you do remove these screws, be careful when replacing the board not to dislodge any of the relays at the top of the board.**

On this picture, you can also see the bolt fastening the dash to the cross member (circled in green). This is where the earth strap is fastened.

To replace the relay:

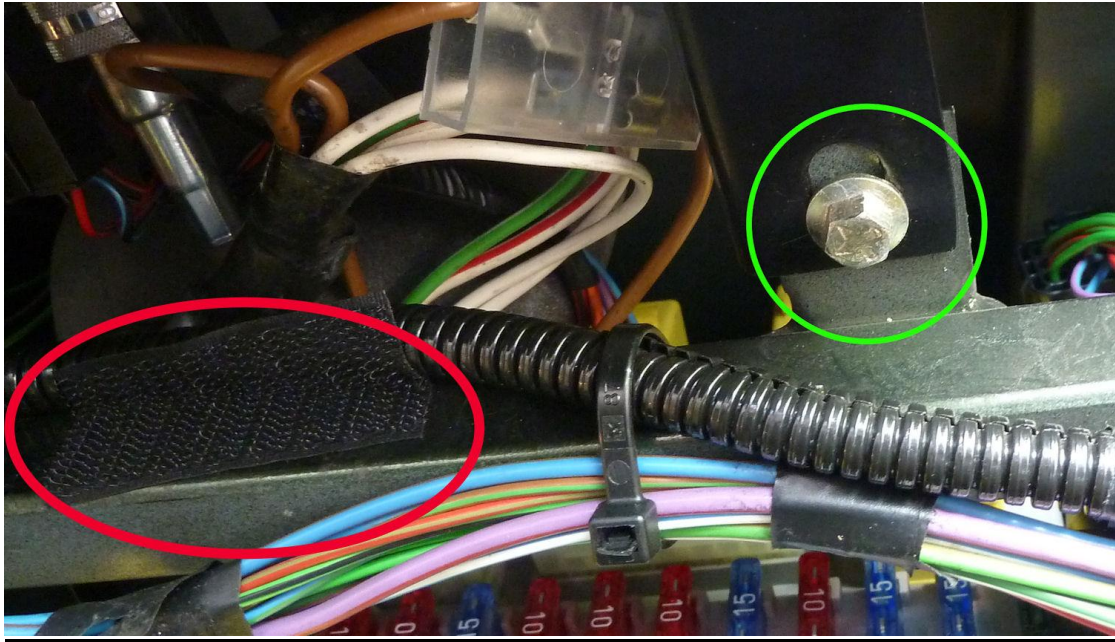
- Remove the old relay. If this is a little stiff, rock it from side to side and top to bottom while pulling gently.
- Pass the new relay over the top of the cross member (the wires between the box containing the electronics and relay pass over the top of the cross member)
- The correct orientation of the relay is as shown in the picture, below. It is easiest if you firstly locate the top vertical pin into the socket and then push the relay fully home. The main difficulty with the fuse board in place is to see the socket in the fuse board. A good light is very helpful.



### Secure the box containing the electronics

This is secured to the cross member using the Velcro.

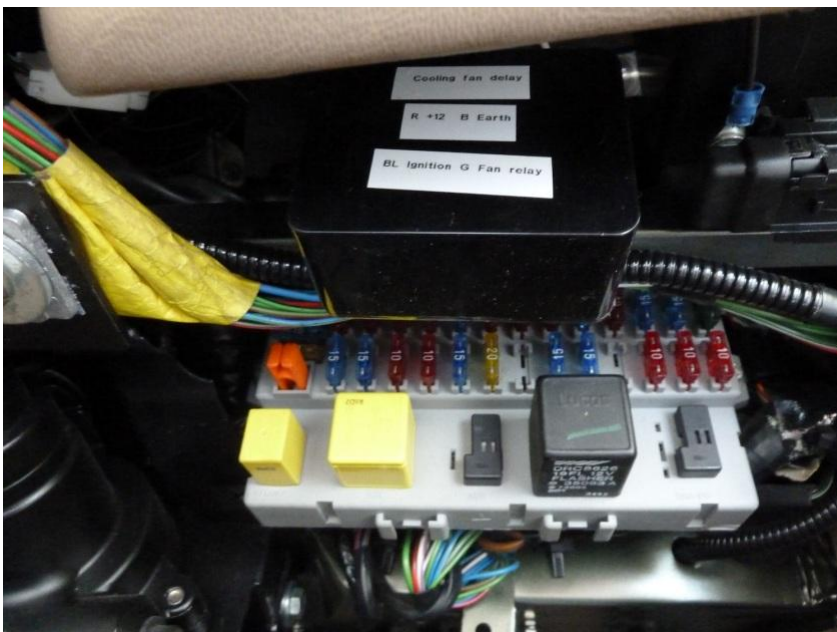
- Remove one side of the Velcro fastening from the electronics box
- Remove the backing tape and attach the strap to the cross member
- The electronics box can now be pushed into place on the Velcro



### Connect the earth strap

- Remove the (bolt circled in green)
- Attach the black earth strap from the electronics box
- Refit and tighten the bolt

The fan timer is now fully fitted and you can reconnect the battery. It is recommended you keep the old relay in the car to use in the unlikely event of a failure of the fan timer.

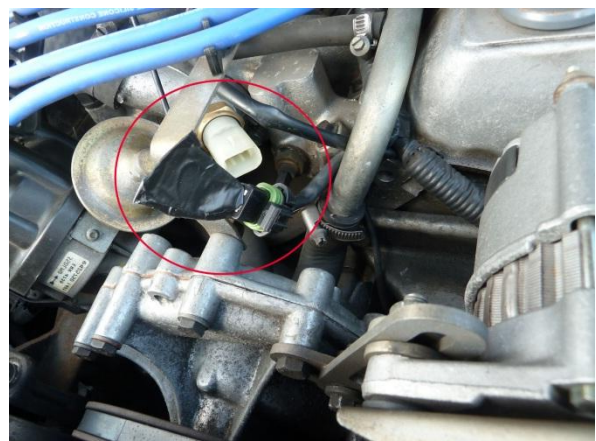
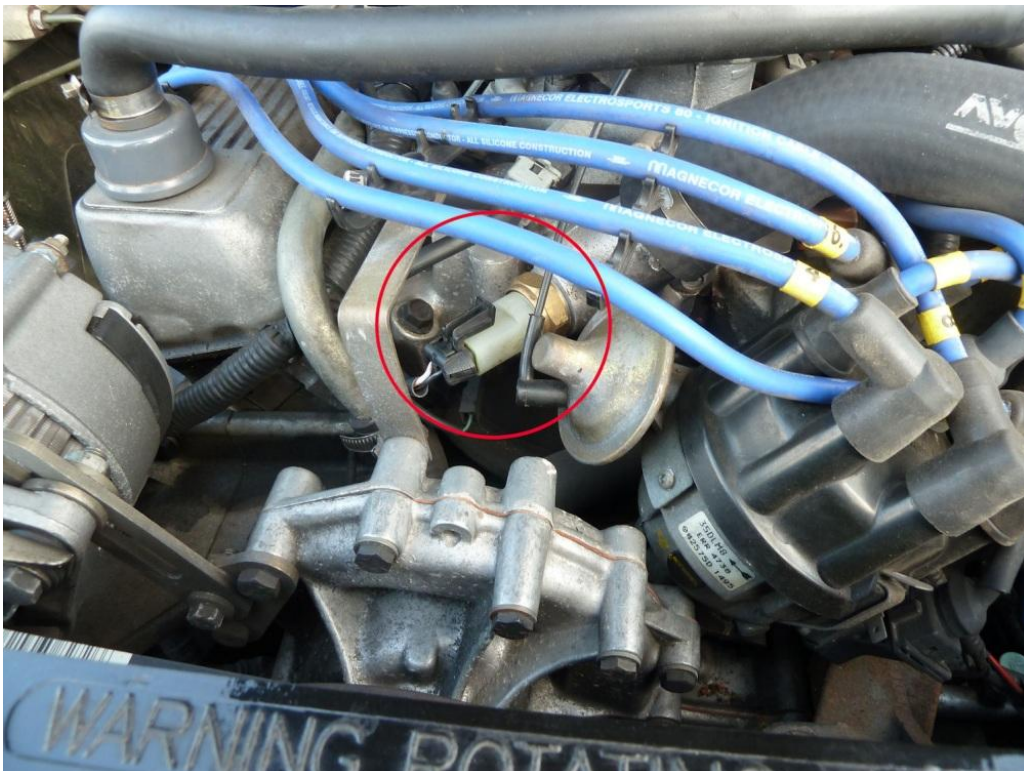




## Testing the circuit

It is recommended you test the circuit operates correctly.

- Bend a paperclip into a U shape with the legs about ½" apart and wrap the top part of the U in either insulating tape, masking tape or cello tape (see picture)
- Under the engine bay, remove the plug on the cooling fan thermostat, see picture (**note: you will need to lift the locking catch**).
- Short the plug with the paperclip, **ensuring the bare connections do not touch any part of the engine**.
- Switch the ignition on and the fan should start running. Because of the way the ignition switch on the RV8 works, switching on the ignition triggers the timer. Under normal operating conditions this is not a problem but can give false results when testing.
- Leave the ignition on for about 5 minutes before switching off.
- The fan should keep running for between 3 and 4 minutes before switching off. This shows the timer delay is working correctly.
- Remove the paperclip and refit the plug onto the engine thermostat.



## Operation

Whenever the fan timer unit is triggered, it provides a supply to the radiator cooling fan for between 3 ½ and 4 minutes. **NOTE: this does not mean the fan will run.** After the time delay, even if the fan is running and the engine is still hot, the delay unit will switch off to prevent a drain on the battery. Under normal operation this delay provides sufficient time to prevent fluid loss from the header tank.

It is possible to increase the delay provided by the unit by changing a resistor. However, this is a specialist operation.

The radiator cooling fan is also controlled by the thermostat on the engine. This only allows the fan to start if the engine is hot. As a result, the fan may continue running when you switch off the ignition or possibly start after you have switched off the ignition as the engine temperature increases due to heat soak or not run on at all.

Once the fan timer has triggered it will not re-trigger until the time delay of 3 ½ to 4 minutes has passed. It is advisable when you stop the car, you do not restart for a few minutes and then stop it again. After you stop the engine for the second time, if this is before the timer delay has passed, the cooling fan will only run for the remainder of that time delay.