Thermostat Replacement
(Also covers draining coolant and removing inlet manifold)

The purpose of this guide is to describe thermostat replacement. If your car's temperature does not rise significantly and does not remain fixed at 85ºC then it is high time you had the thermostat replaced.

It is an easy job for the DIY home mechanic and you will need the following.

- Thermostat (AR Part No : 60557407 - THERMOSTAT)
- air intake manifold upper gaskets (AR Part No : 60524717 - GASKET)
- 17 mm socket for draining engine coolant
- flat screwdrivers
- container for collecting coolant
- new coolant (8 litres) if you plan to replace it
- lifting jack and support stands

This is the set of gaskets for the air intake manifold :

... and this is the new thermostat :

As you can see, it is of the barrel type which means replacing it as a complete assembly

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This is the trouble :

This hydraulic jack will surely help you a lot instead of the manual one that the car has :

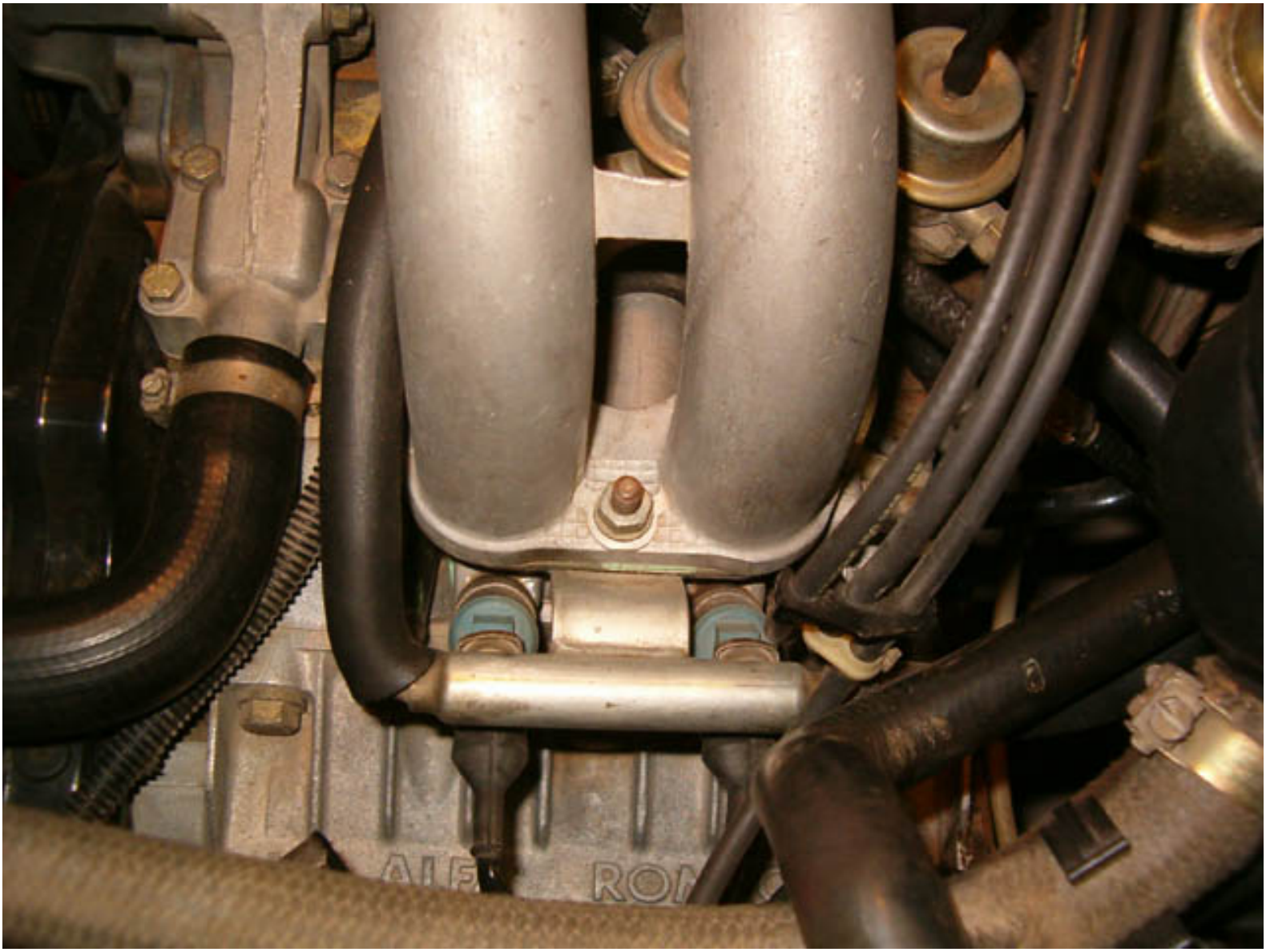
Lift the car using the front cross-member :

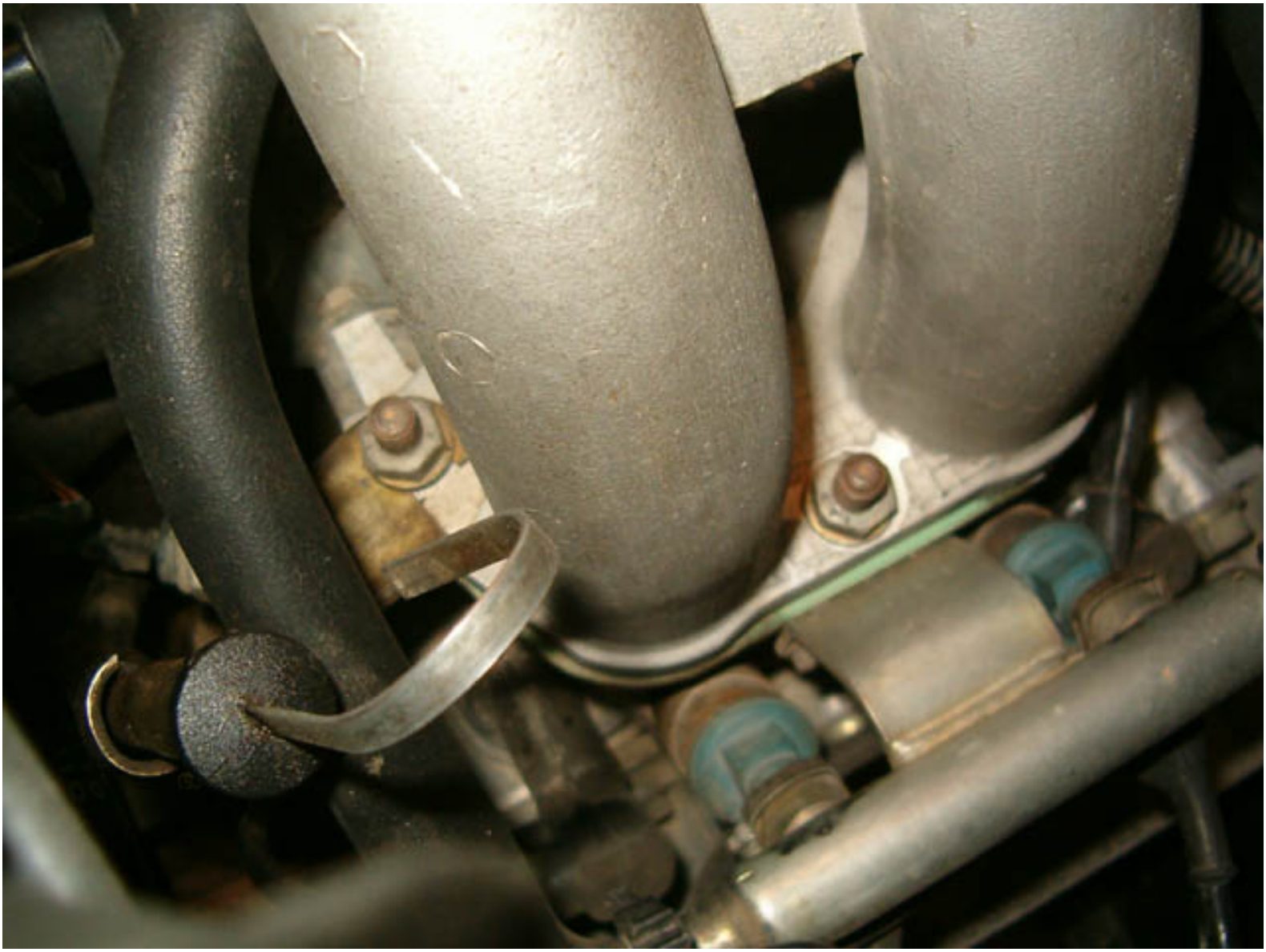
Place the container under the coolant drain plugs and use the 17 mm socket to undo them :

The coolant starts escaping ...

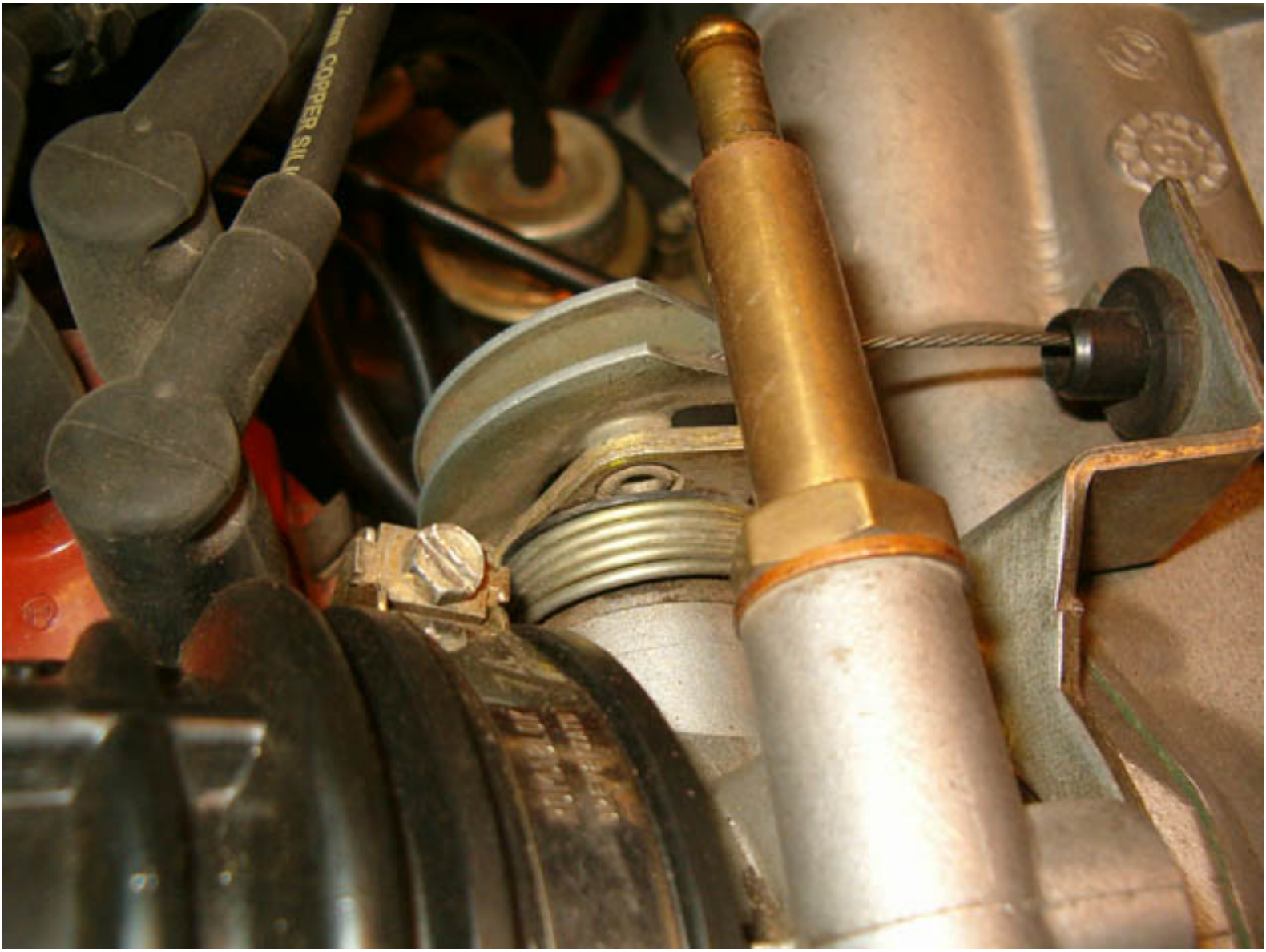
Collect it in the container.

The next step is to remove the Intake Manifold. 6 nuts keep it in place (3 each side)





Free the accelerator cable by rotating the throttle

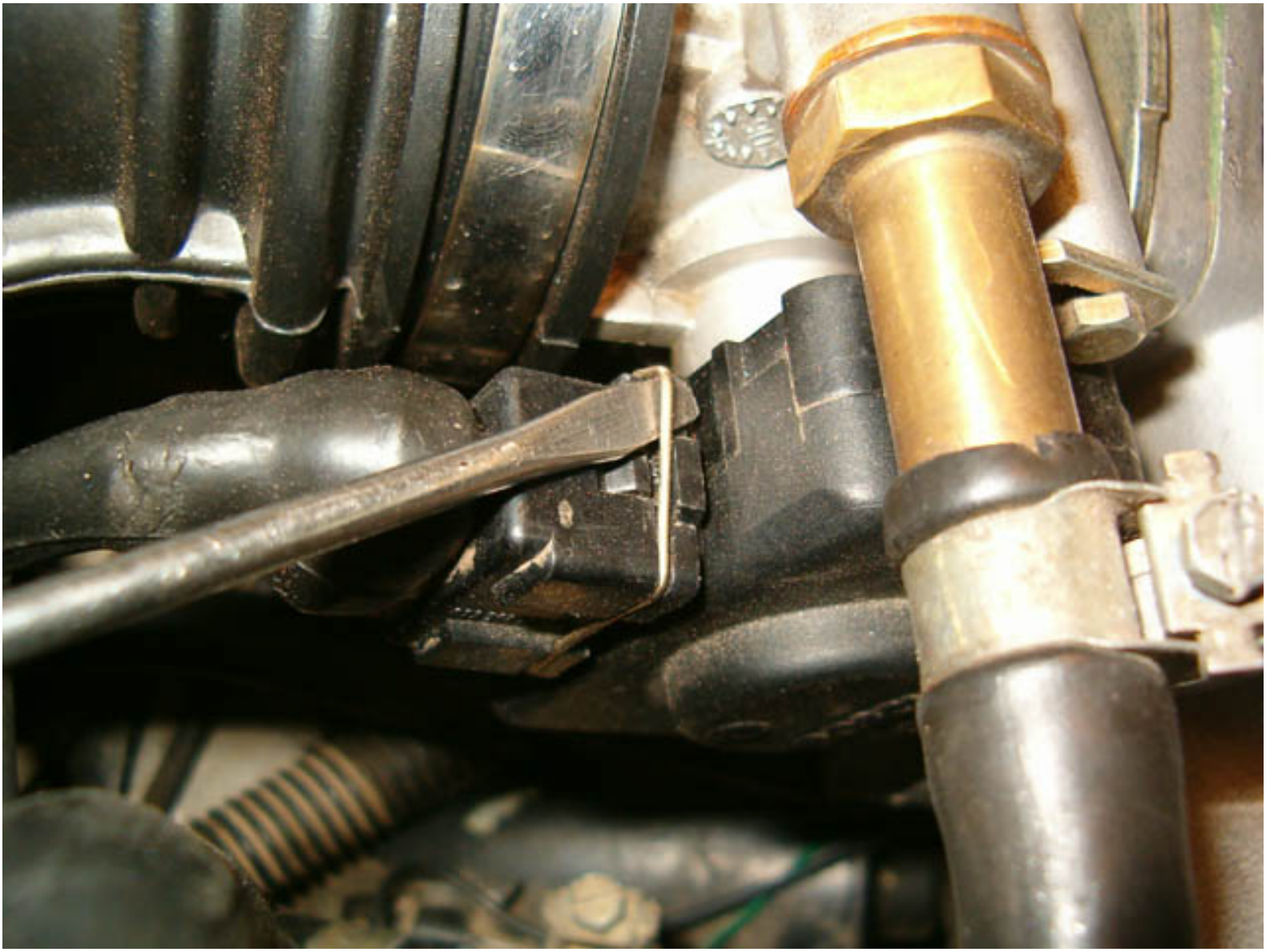


Undo the clamps in order to remove (left to right) extra air supply and oil breather tube :

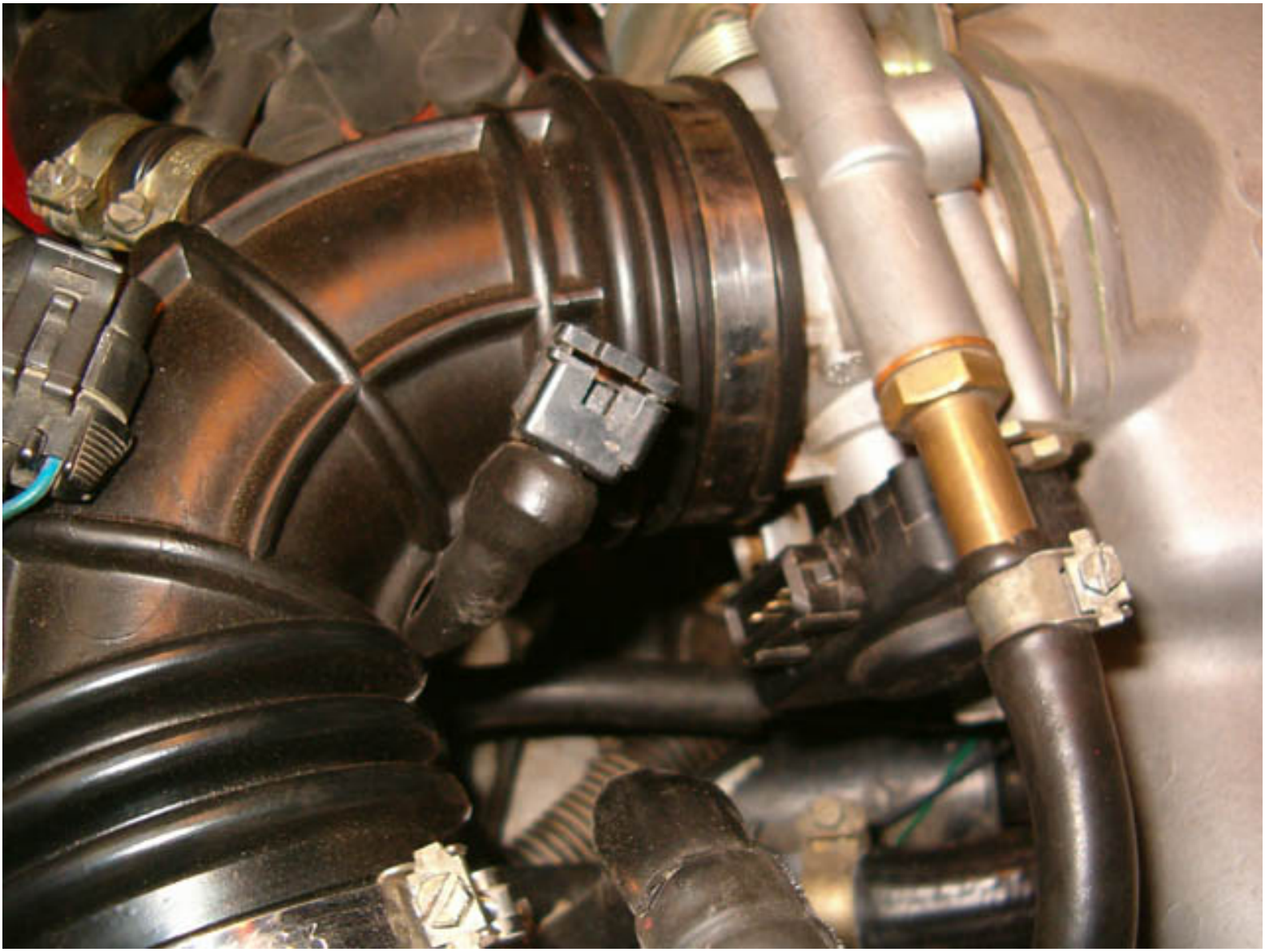
Just a note for the clamps you see above. These are the original ROMABLOK clamps that Alfa has been using for decades in all vehicles until 1993 including the SPICA injection models. These are NLA (no longer available) items but you may be lucky enough to track them in www.mtcarmelspares.com. These guys have a large stock of these clamps at a reasonable price considering the scarcity of such items.

Time to take out the corrugated sleeve; loosen the ECU and throttle clamps

Disconnect the throttle position switch connector using a flat screwdriver :



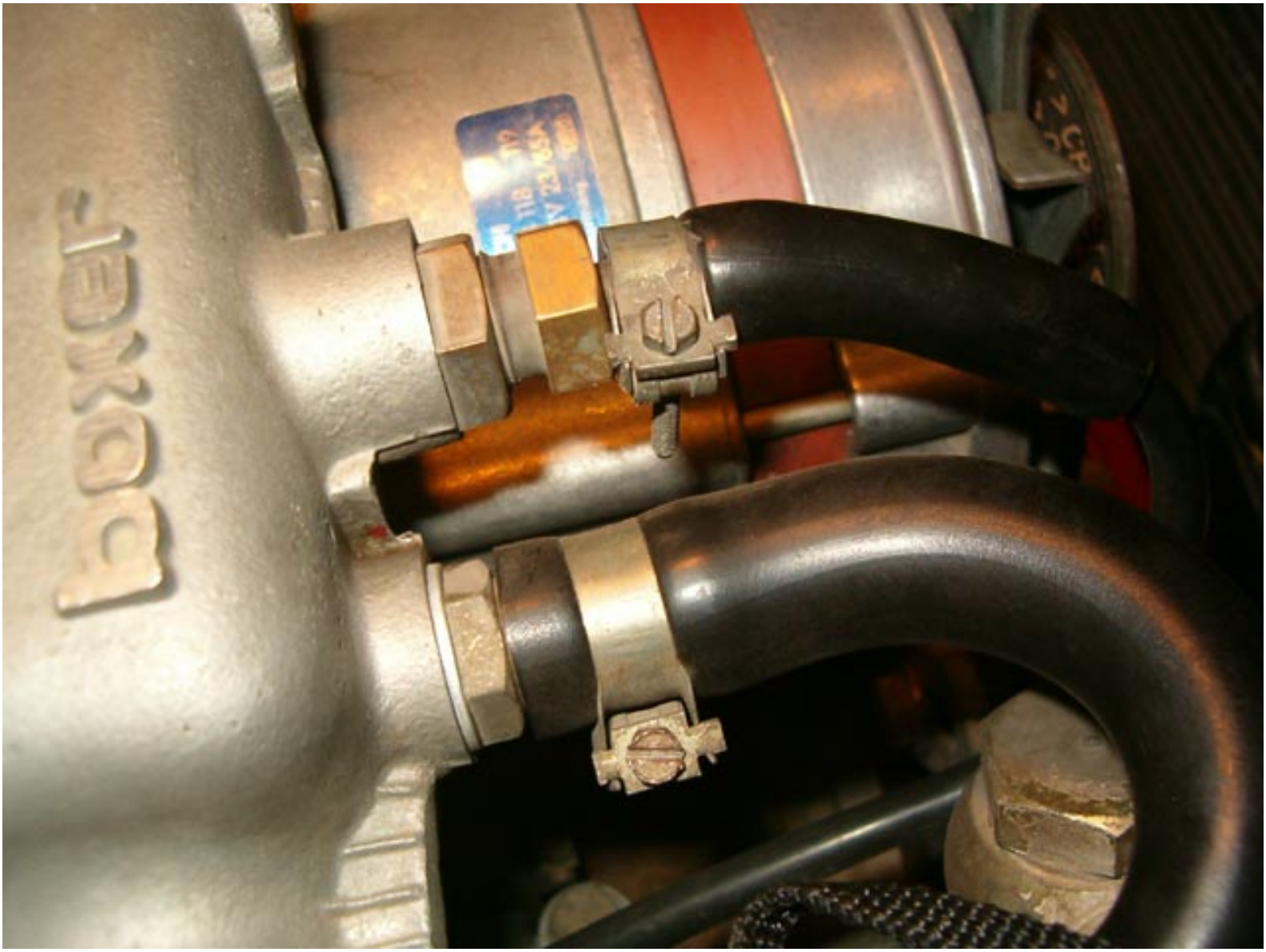
Got the connector and the corrugated sleeve out! :

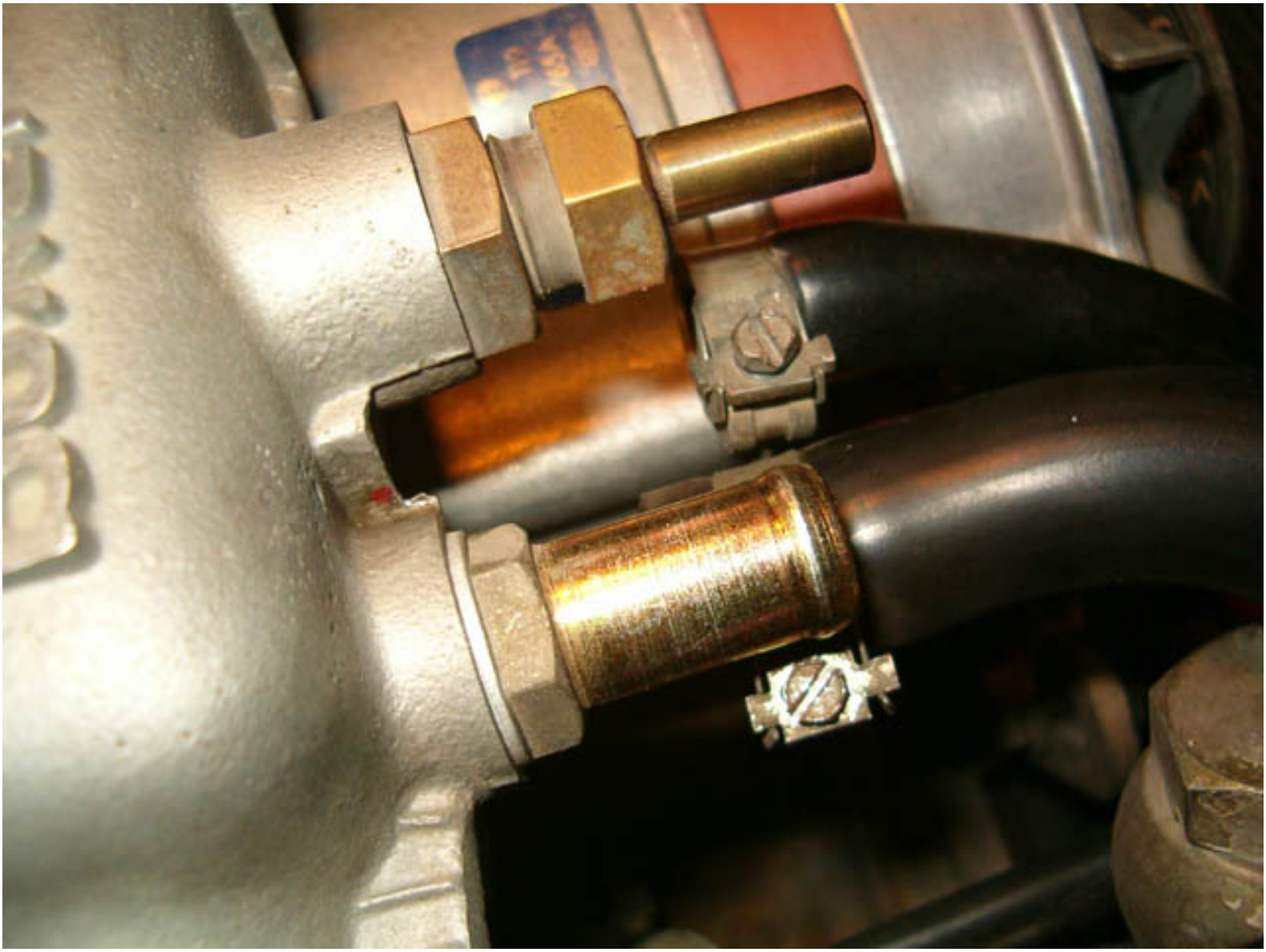


Be sure to disconnect the distributor vacuum pipe under the throttle body

... and the hoses for the pressure regulator and fuel vapor canister (catalyst cars only)

Don't forget the idle hose and extra air hose connections :





The manifold is out :

and at last plenty of room to work!

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be sure to place wrapped paper tissue in all four intakes. It is VERY easy for something to fall inside ...

Now we will begin disconnecting the cooling hoses around the thermostat. First remove the hose connecting thermostat to left head.Then disconnect hose from thermostat to water pump

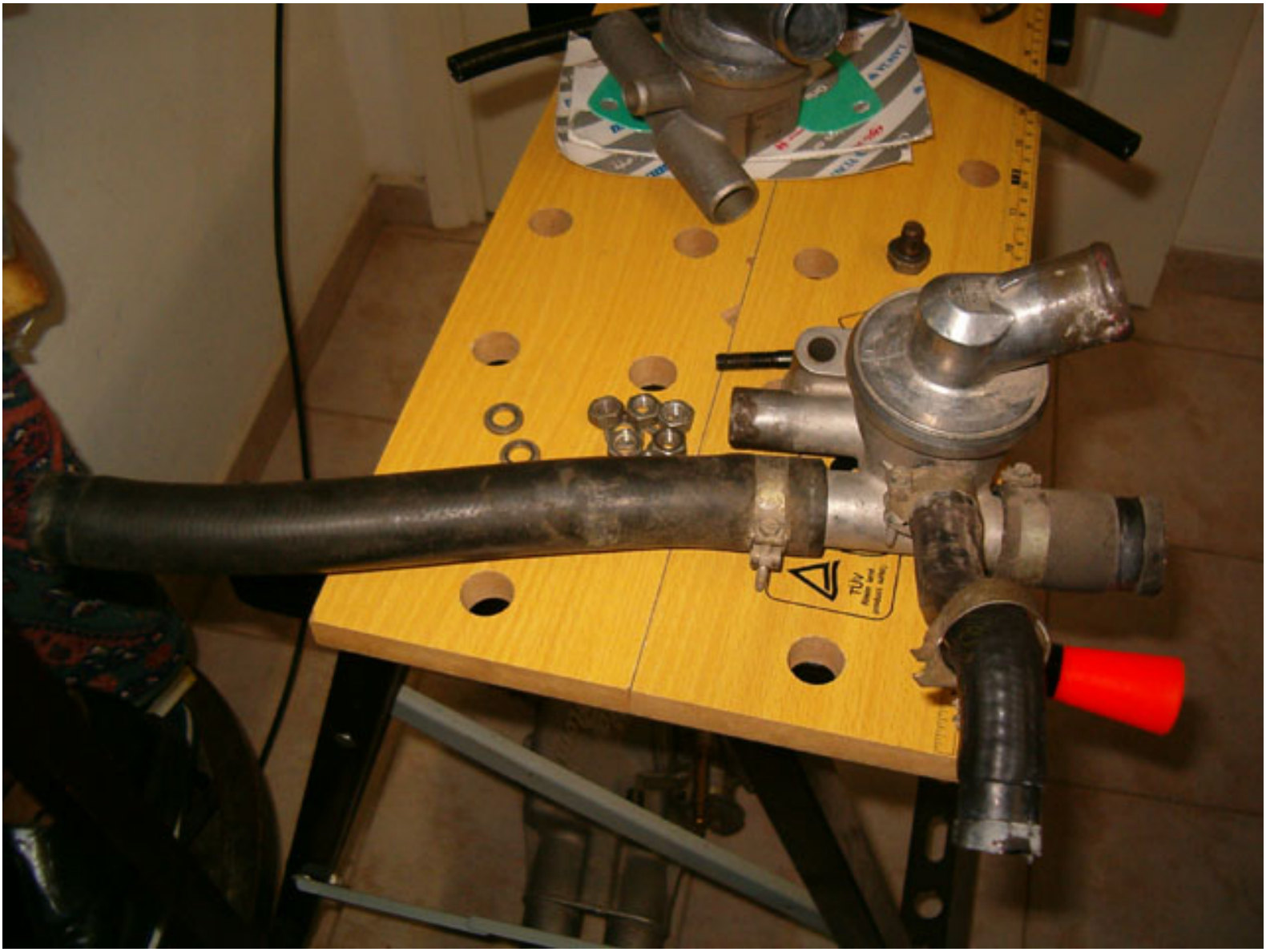
and finally thermostat to heater matrix :

Notice the smaller vertical hose; it will be replaced by new one intended for cooling system as this is a high pressure fuel line.

Here is the trouble :

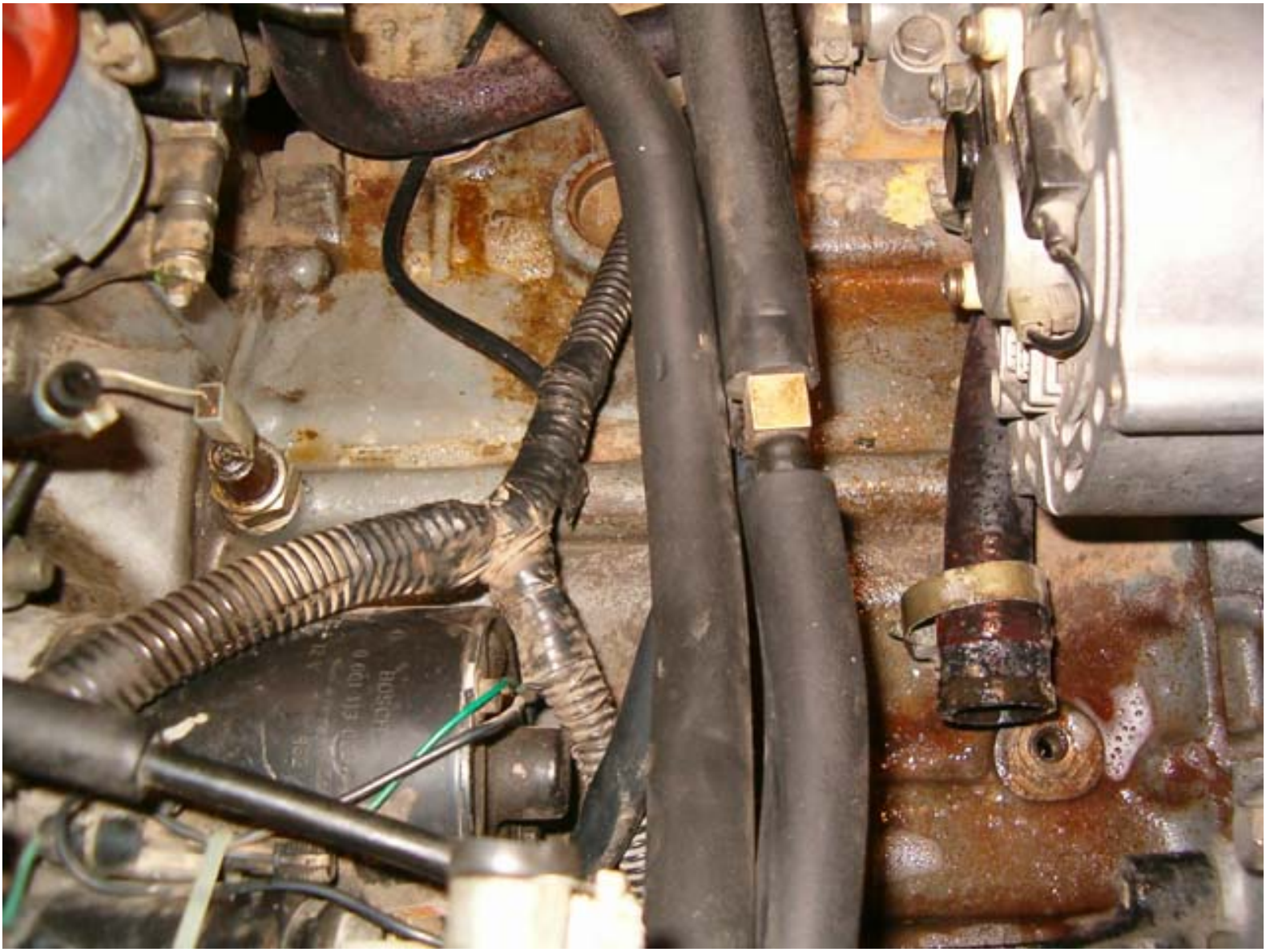
Here you can see the two thermostats. Notice the distances of the vertical rod between the two - the old one (bottom) sits higher than the new (top) resulting in letting less warm coolant enter engine and thus not maintaining constant temperature.

Here I've removed the thermostat along with hoses. After cleaning everything out, the hoses will be attached to the new thermostat waiting in the background.

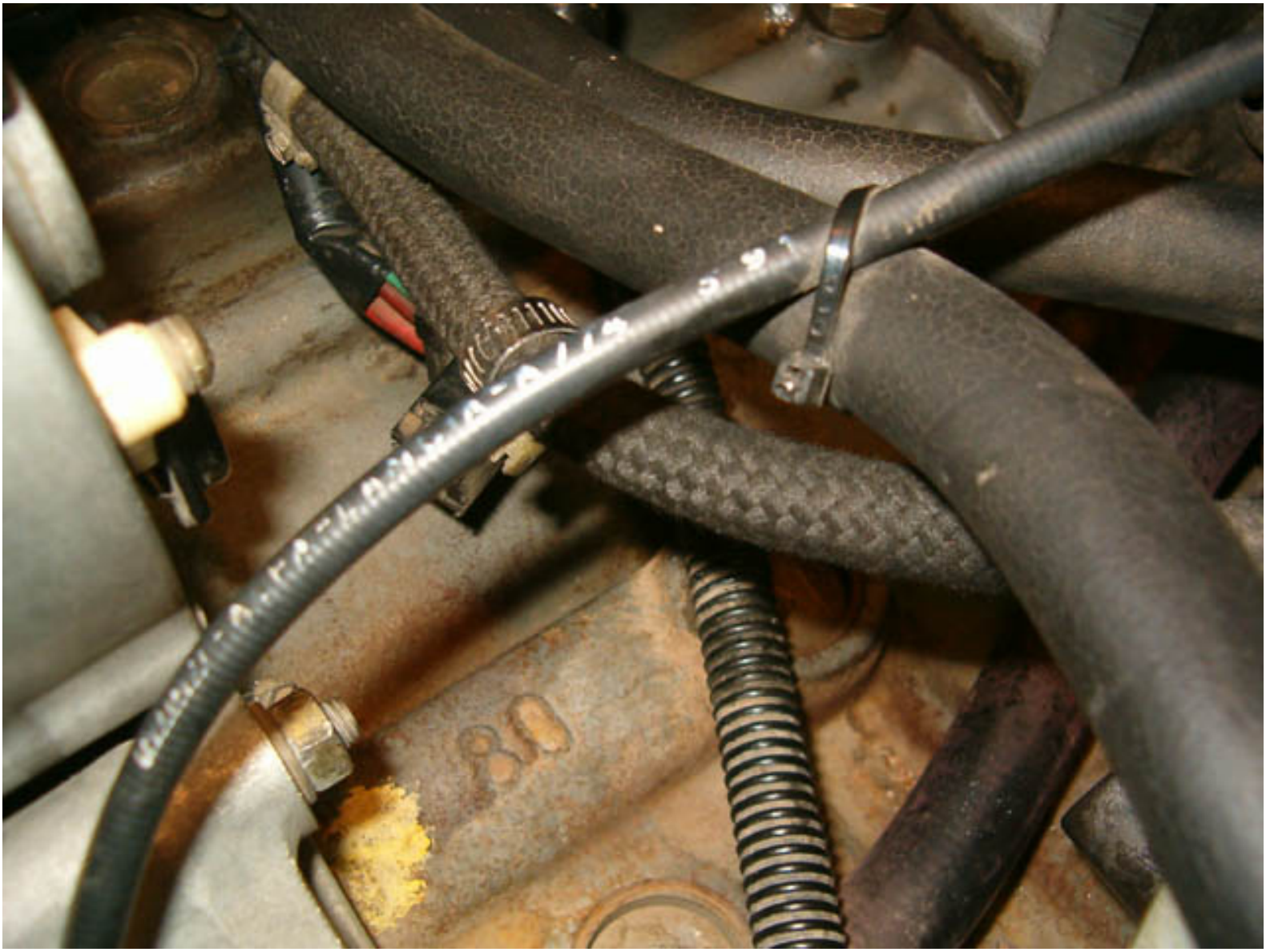


These are your two strong assistants. Engine Clean from Turtle Wax cleans out any oil dirt from the engine block and the yellow one is a regular glass cleaner. The last one is good at places where you don't want strong solvents ruin items such as rubber hoses or cable harness.

Engine Clean in action !



Here you see a close ups of fuel lines. It is a good chance to replace these as cracks in the edges of the hoses have been developing.



New hoses have been cut to the same size of the old ones :

New hoses are unleaded fuel suitable, so hopefully, no cracks in the future

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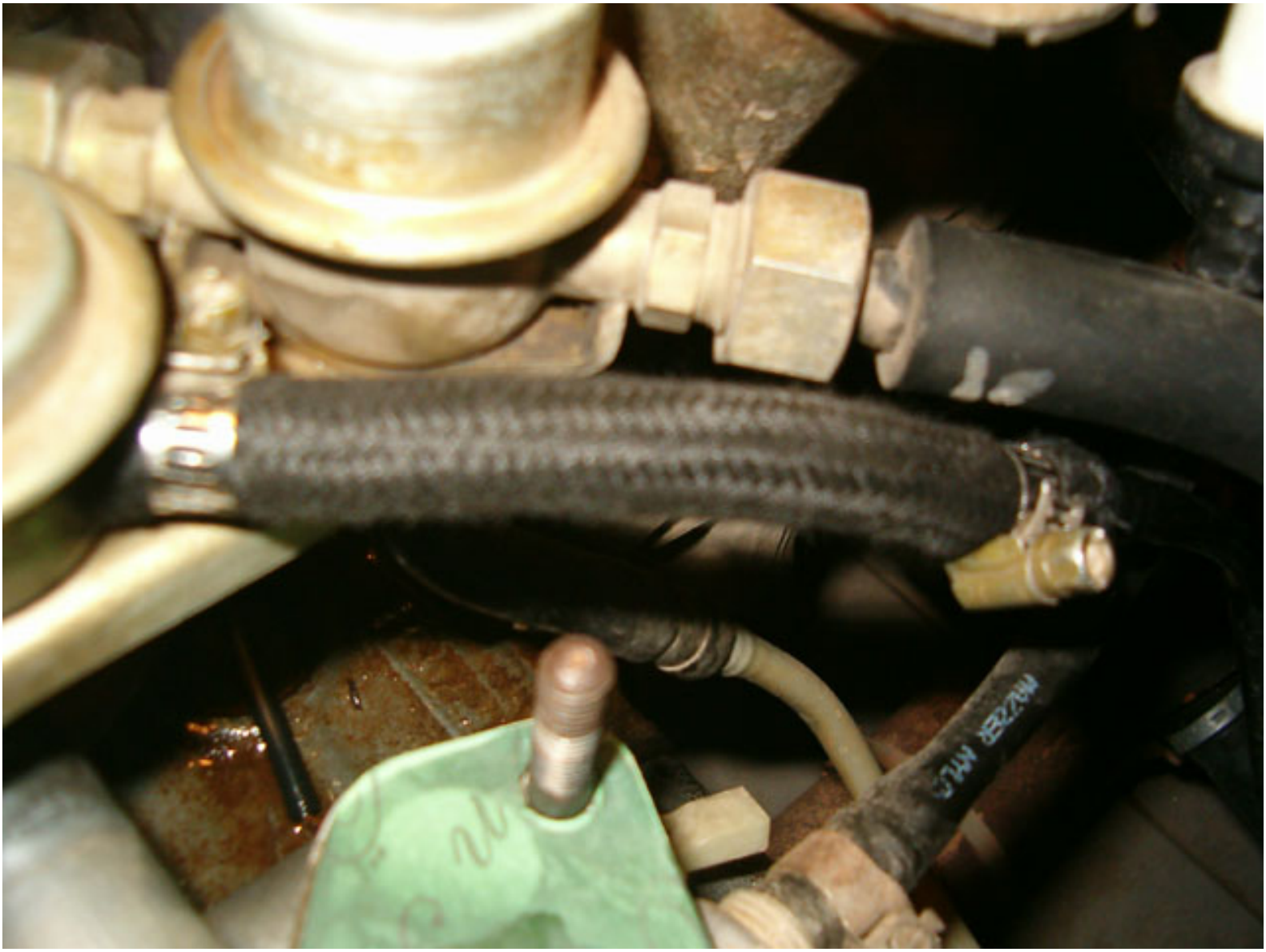
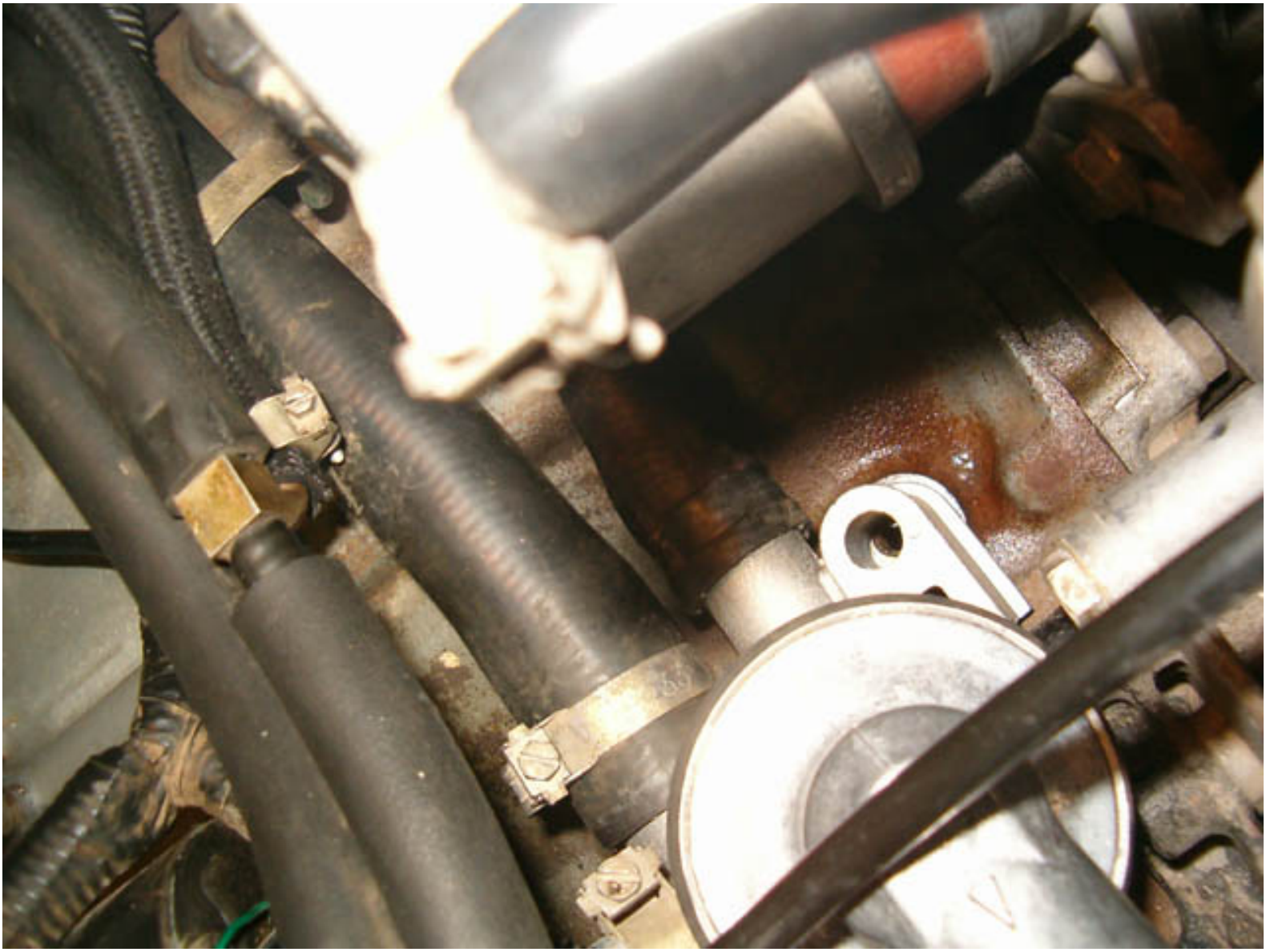
New hose connecting fuel tank line to pulsation damper installed :



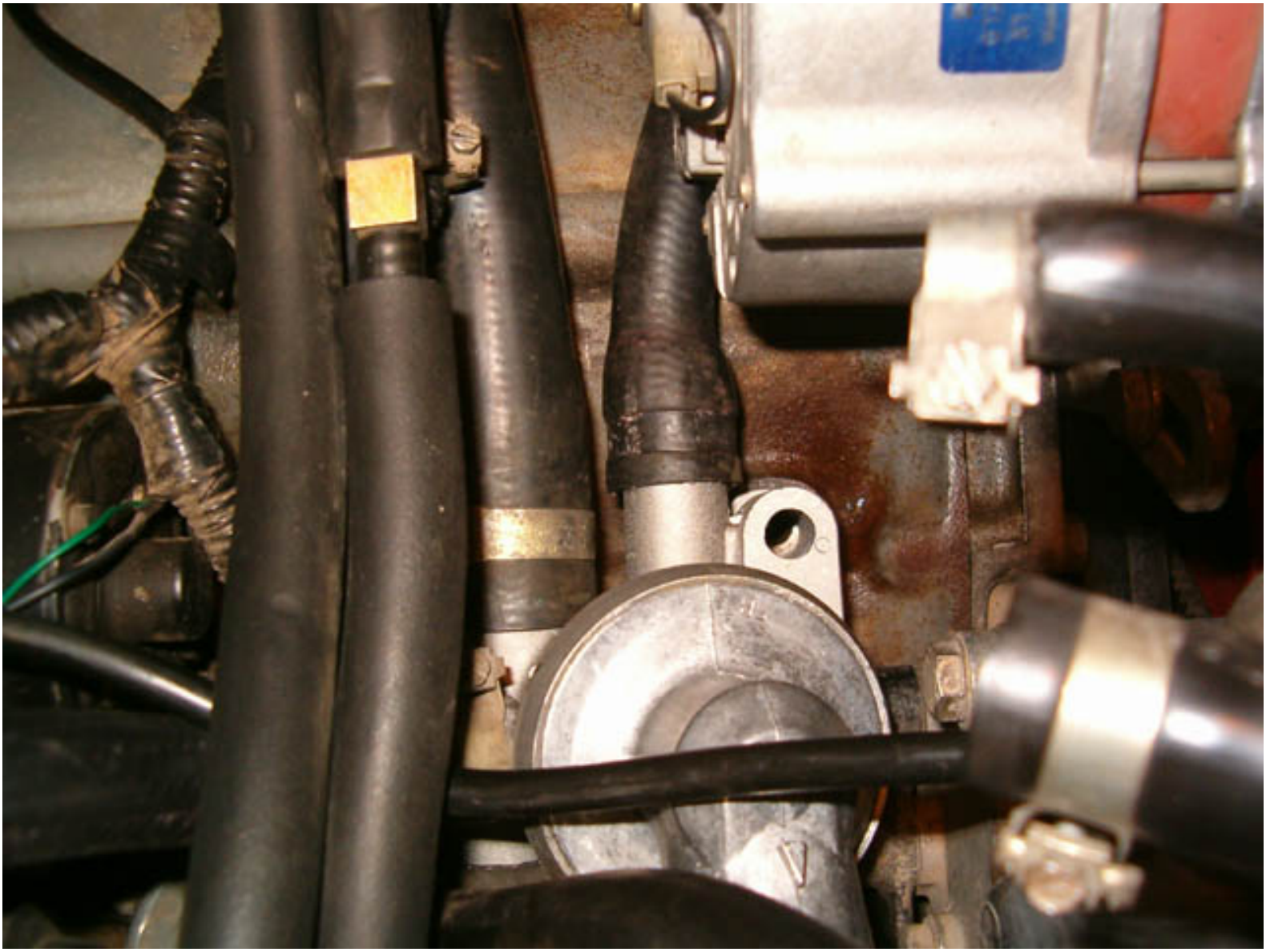
And fuel line connecting pulsation damper to fuel rail :

Cooling hoses have been attached to the new thermostat and it is ready for installation :

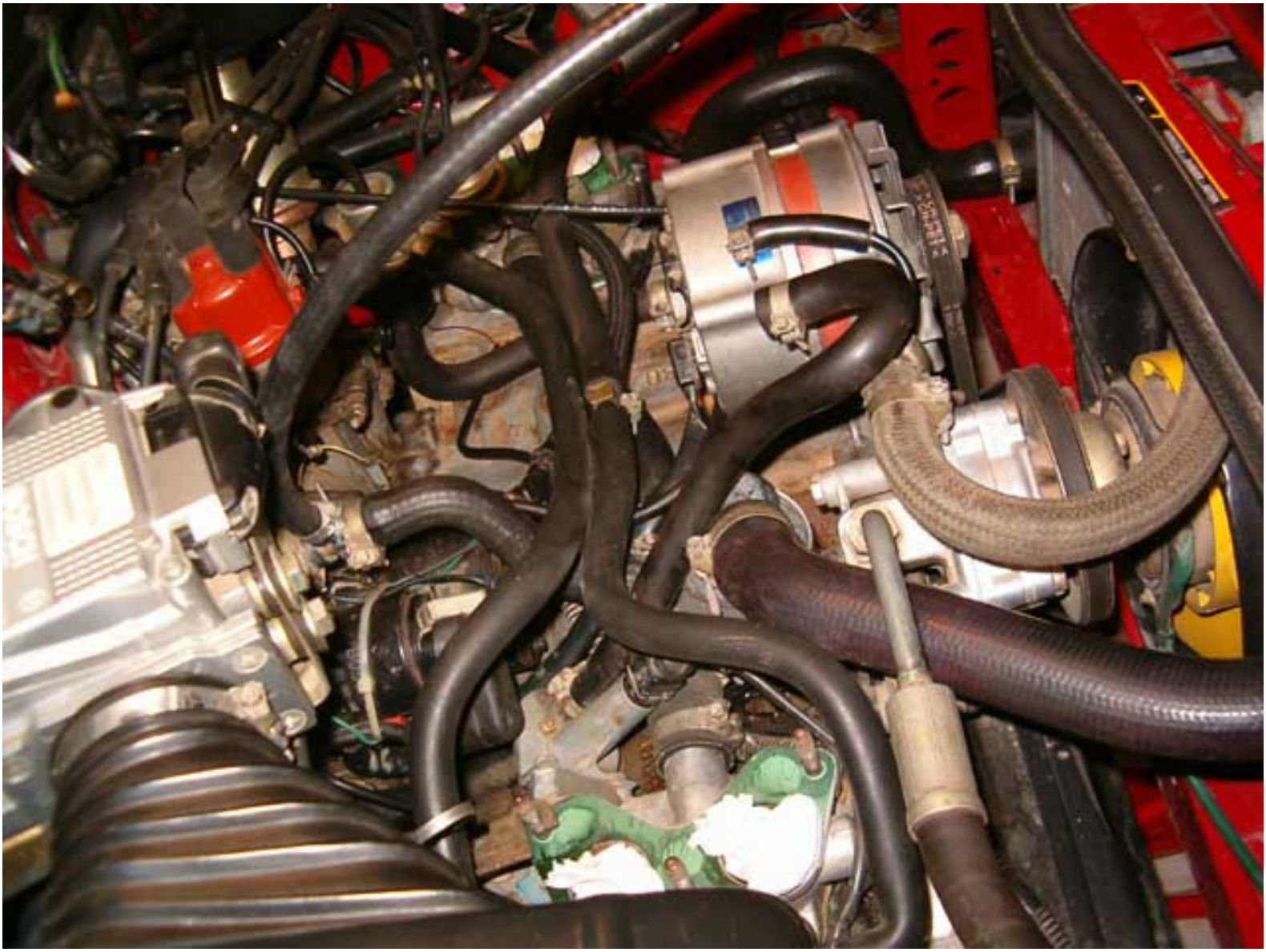
Thermostat along with hoses nearly sits in place (make sure hoses fit correctly!) :



more hoses connected ...

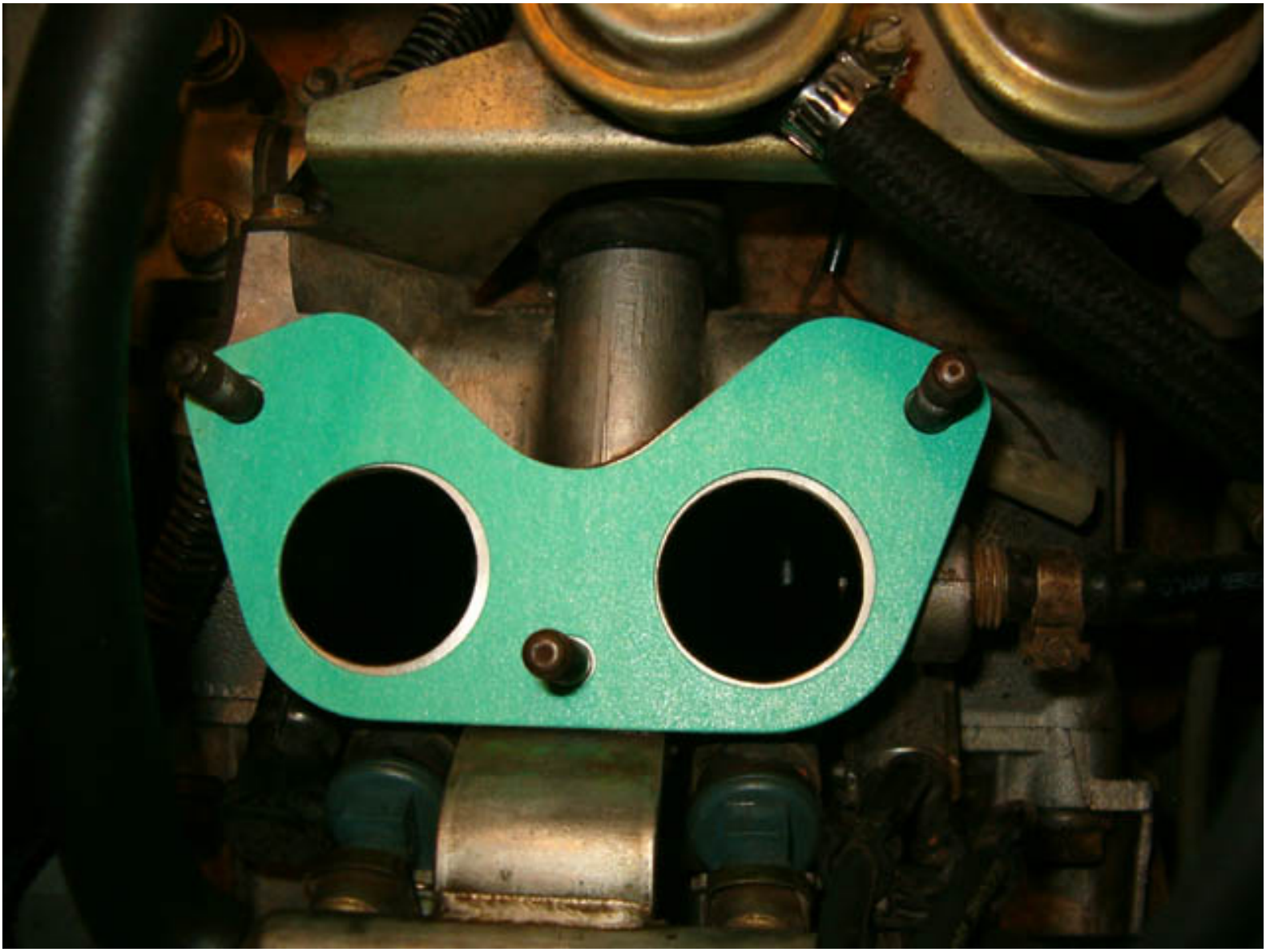


Notice the long hose from the T section towards the heater matrix; it will cut later on in order to measure precisely the length to the manifold connection :



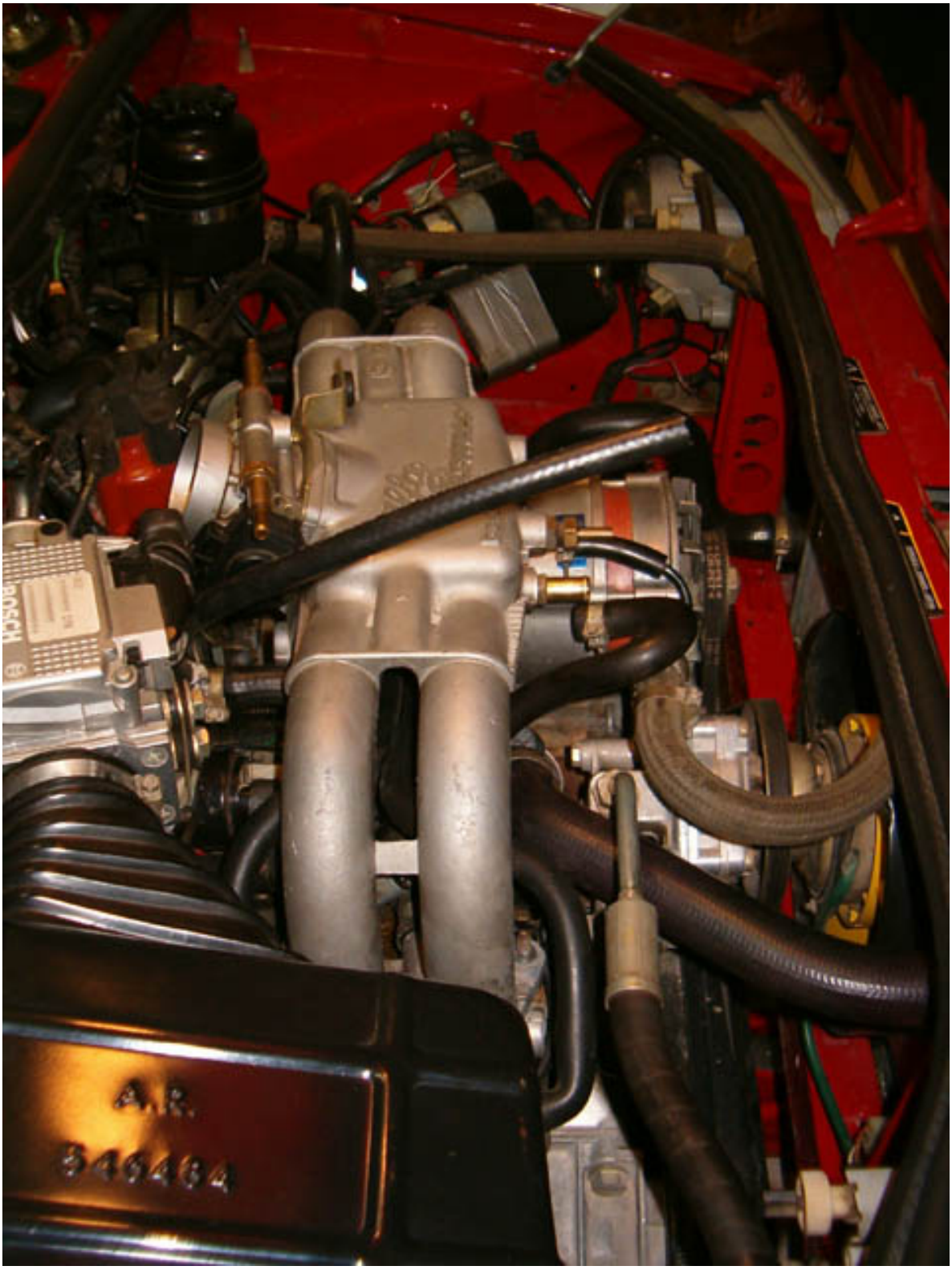
Time to clean out the manifold. Engine Clean along with wire wool to remove all dirt; surface must be clean and smooth so that gaskets fit accurately and no air leaks occur :

New gaskets are now in place :



Engine Clean will now treat the manifold manifold in its position


Turtle wax
ENGINE CLEAN



From another angle :

All connections (hoses, sleeves, vacuums) have been restored along with all nuts that keep the intake attached to engine

A more detailed view

... and everything's nice and neat ! Well done!!! Replace the coolant!!!!!

Go for a drive to enjoy your sauna heater !

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1991 Alfa 33 1.4 IE
Athens - Greece
