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Section N - Cooling System

N.B. Cooling System part numbers begin with (K)

contents

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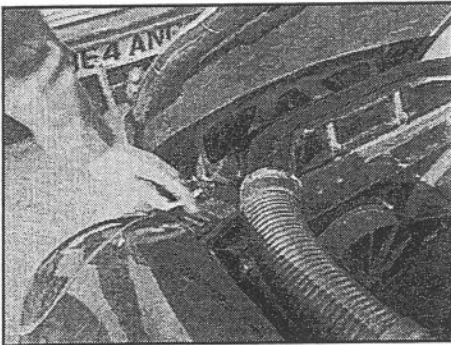
Radiator

Service/Workshop Manual - Radiator
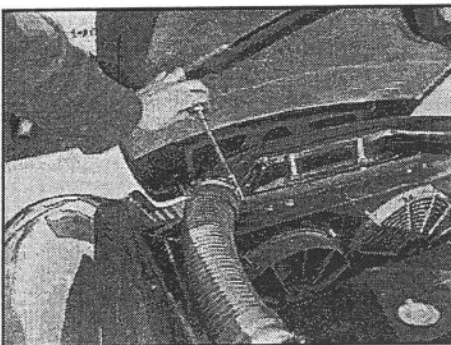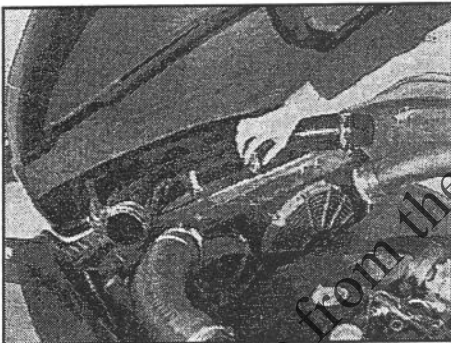
Remove the air flow sensor plug which is situated on the N/S of the car.

1

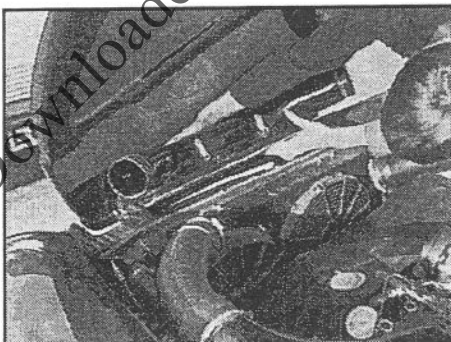*Service/Workshop Manual - Radiator*

Remove the inlet ducts from the air filter box by loosening the Jubilee clips.

2

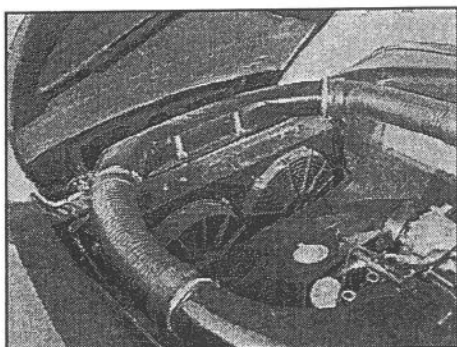*Service/Workshop Manual - Radiator*

Next remove the split pins on the two securing clips on the front of the box and undo the clips.

3

Service/Workshop Manual - Radiator

The filter housing should now come free.
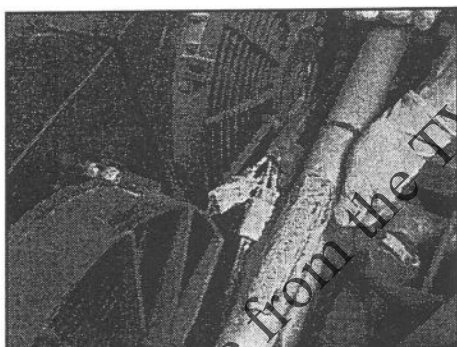
4

Service/Workshop Manual - Radiator

To gain access to the radiator remove the F1 panel.
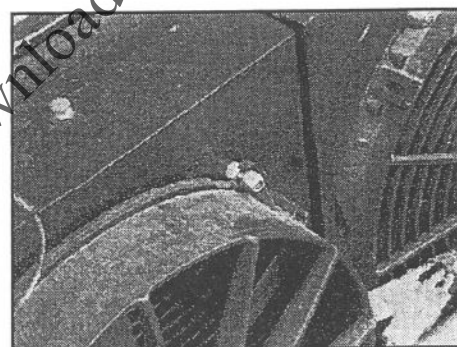
5

Service/Workshop Manual - Radiator

Remove the top and bottom radiator hoses. Starting with the bottom - to allow fluid to drain out.
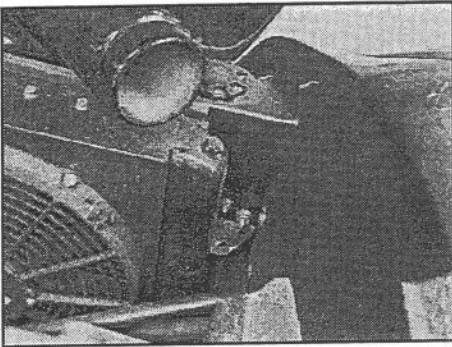
6

Service/Workshop Manual - Radiator

If A/Con disconnect both fan wires.
N.B. Noting which wires went to which connector.
If standard disconnect single fan wiring.
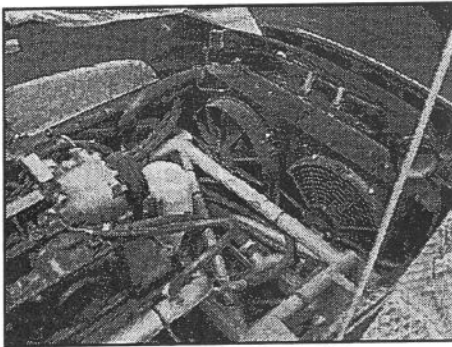
7

Service/Workshop Manual - Radiator

If A/Con remove the largest fan by unbolting the 4 x M6 nyloc nuts.
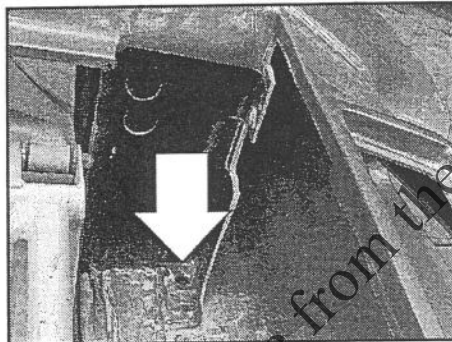
8

Service/Workshop Manual - Radiator

9

Remove the 2 securing M8 nut on each side of the radiator and then lift out of the car.

Service/Workshop Manual - Radiator

10

When replacing the radiator the cooling system will have to be bled.- as described in its relevant sub-section.

Service/Workshop Manual - Radiator

11

Locate the radiator Mtg. pins in the two locational holes and then replace nuts. Ensure that the mtg. pins have the rubber spacers in place.
Coolant Specification 3 parts water to 1 anti-freeze. Capacity 15 litres.

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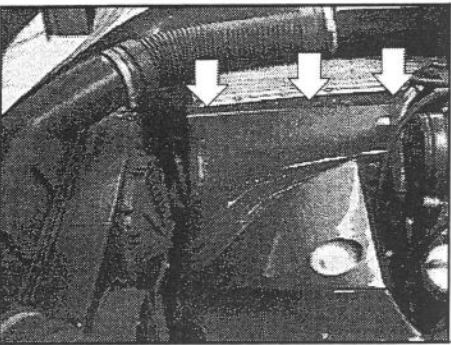ECU Temperature Sensor
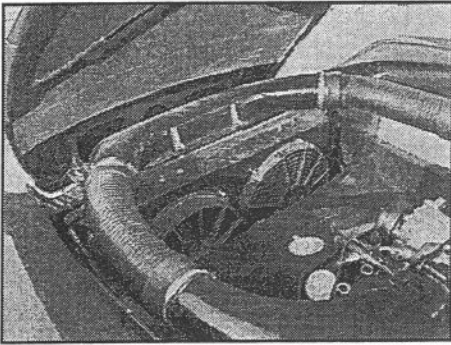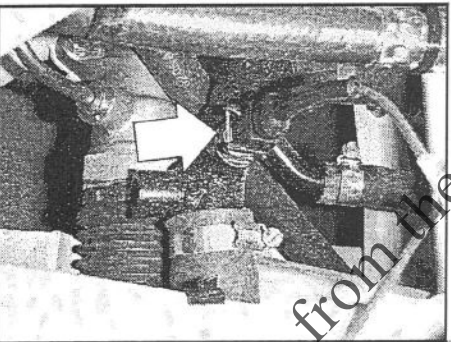
Service/Workshop Manual - Temp Sensor

The temperature sensor for the cooling system is located in the engine bay under the F1 panel.

1

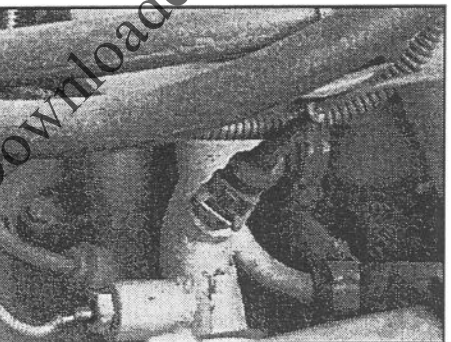
Service/Workshop Manual - Temp Sensor

Remove the 6 x M8 allen bolts which secures the F1 panel.

2

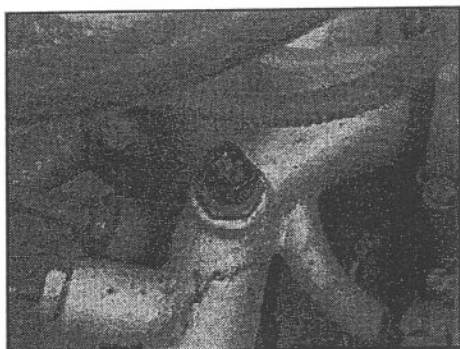*Service/Workshop Manual - Temp Sensor*

The sensor is located on the top of the outlet cooling pipes - as shown.
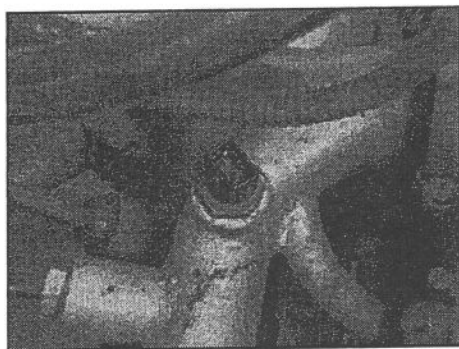
3

Service/Workshop Manual - Temp Sensor

To remove unclip the sensor connector.

4

Service/Workshop Manual - Temp Sensor

5

Unscrew the sensor from the coolant piping. The sensor is connected directly to the ECU which determines when the fans come on.
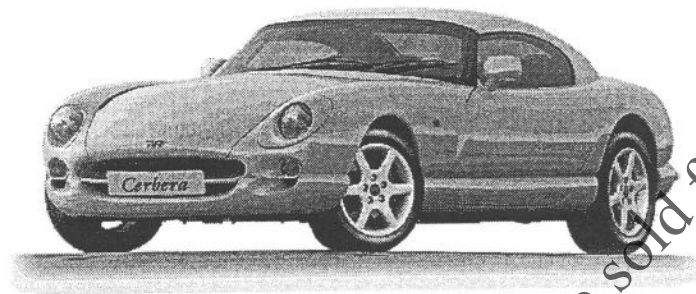

Service/Workshop Manual - Temp Sensor

6

To replace reverse the outlined procedure. Ensure to bleed system on reassembly.

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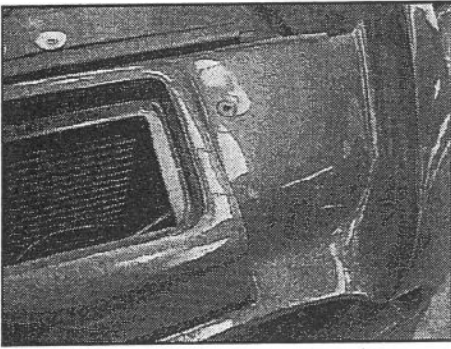
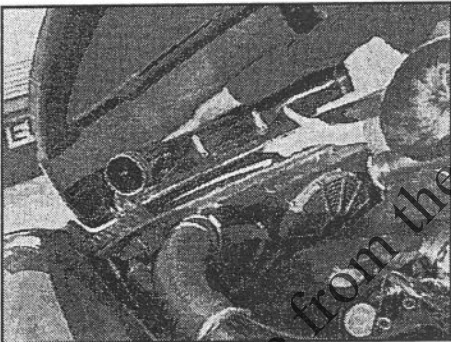Service / Workshop Manual

Oil Cooler

To remove the oil coolant matrix firstly remove the M8 counter sunk allen bolt which secures it to the body of the car. This is located at the N/S nose of the car under the bonnet. (same position as the V.I.N. but on the opposite side of the body).
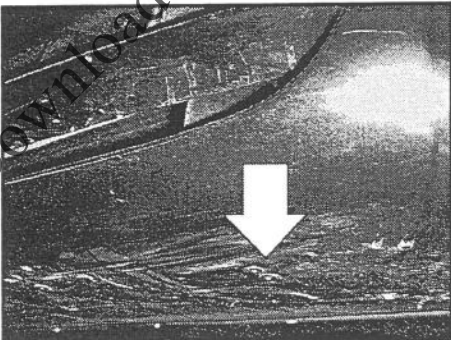
1
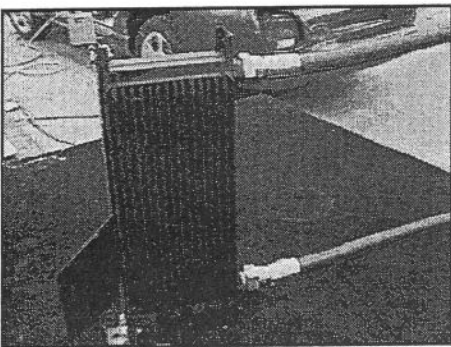
Undo the oil coolant piping from the oil cooler matrix. access can be gained via the access panel in the front of the front N/S wheel arch. The picture is of an oil cooler and piping out of the car.
N.B. - The oil in the system will drain out so be sure to have a container for the fliud to drain into.
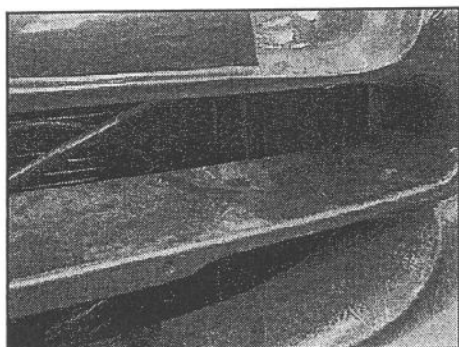
2

Then remove the air filter box - as described in its relevant section.
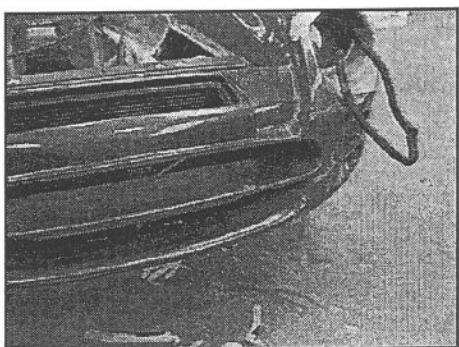
3

Remove the 2 X M8 allen bolts from underneath the front grill area.

4

Service/Workshop Manual - Oil Cooler

5

The oil cooler will then be able to slide to the left.

Service/Workshop Manual - Oil Cooler

6

Remove the oil coolant matrix from the car through the air filter box hole.
To replace reverse the outlined procedure remembering to refill and bleed the system.
- refering to the relevant sections for instructions on these procedures.

Service / Workshop Manual

Water Cooling Piping
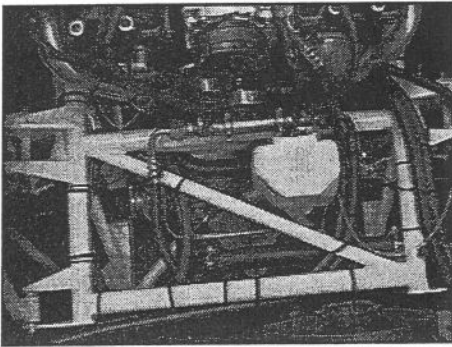
Service/Workshop Manual - Coolant Piping

The water cooling piping is made up of rubber hoses sections which are joined by jubliee clips from the radiator to 2 metal pipe sections which inturn are conected to the engines cooling rails and the fluid reservoir.
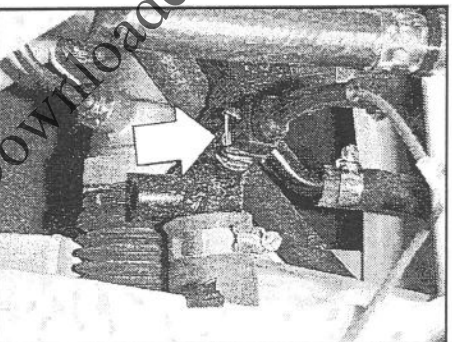
1

Service/Workshop Manual - Coolant Piping

To replace a section of the rubber piping or even a section of the metal piping, drain the system - as described in the:-
"bleeding the coolant system"

2
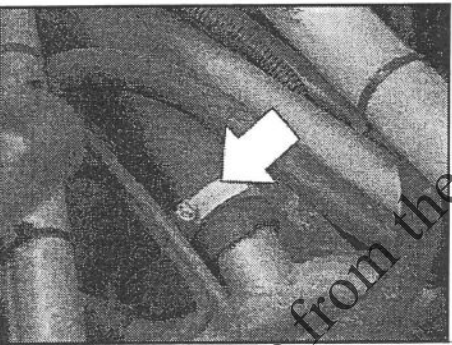
Service/Workshop Manual - Coolant Piping

Then, simply disconnect the relevant section of hose or metal tubing by undoing the relevant jubliee clips.

3

Service/Workshop Manual - Coolant Piping

Remembering to disconnect the temperature sensor or the temperature gauge when the section of tubing which houses them has to be removed.

4

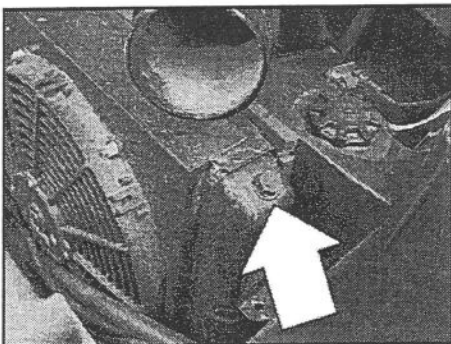## Notes

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Service / Workshop Manual

Bleeding the Coolant System

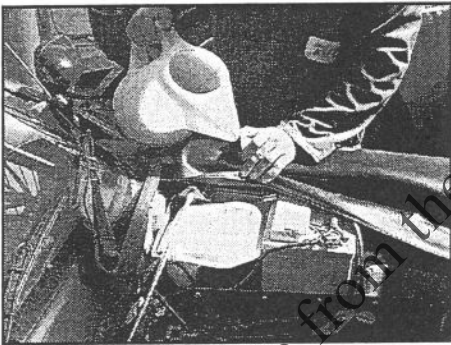*Service/Workshop Manual - Coolant Bleeding*

1
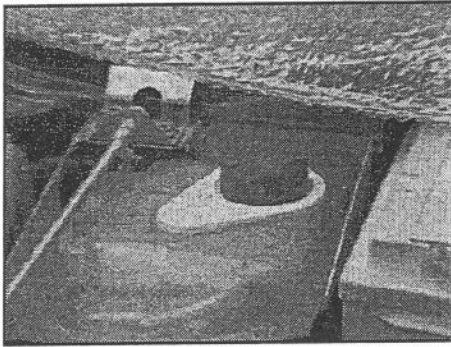
Remove the coolant reservoir cap located under the upper engine bay cover on the N/S of the car.

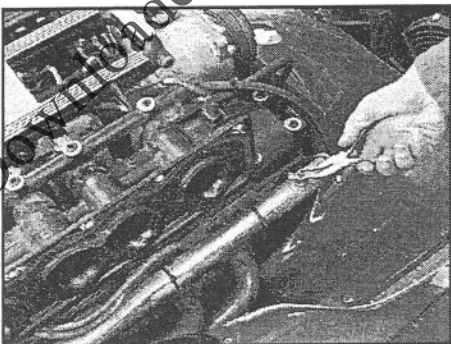*Service/Workshop Manual - Coolant Bleeding*

2

Remove the bleeding plug which is located on the O/S of the radiator.

Service/Workshop Manual - Coolant Bleeding

3

Top up the reservoir with fluid until the excess spills out of the bleed plug on the radiator.

Service/Workshop Manual - Coolant Bleeding

4

Replace the bleed plug and then bleed any air from the system using the bleed valves on the coolant rails. Once no more air is being expelled tighten the valve, check the level of coolant in the reservoir and replace the cap. Run the car and then re-check for air.

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Replacing the Coolant
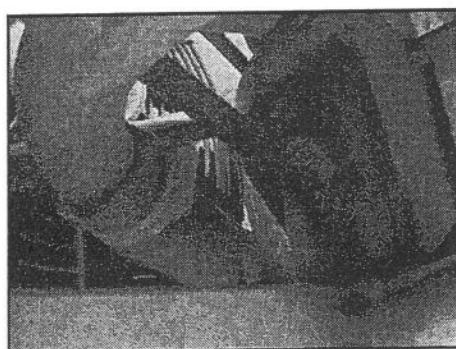
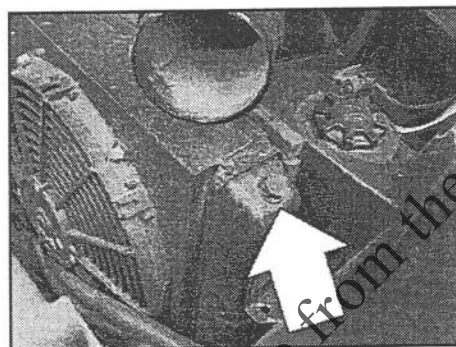*Service/Workshop Manual - Coolant replacement*

1
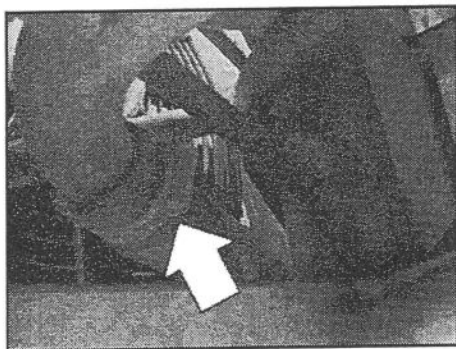
To replace the cooling system fluid, all the existing fluid has to be drained. To do this the lowest part of the system, which is the lower piping connecting to the radiator, has to be dis connected.

Service/Workshop Manual - Coolant replacement

2

Once all the exsisting fluid has been drained reconnect piping.

Service/Workshop Manual - Coolant replacement

3

Remove the bleeding plug which is located on the O/S of the radiator.

Service/Workshop Manual - Coolant replacement

4

Remove the coolant reservoir cap and refill with coolant. 15 litres - 3 parts water, 1 part anti-freeze.
Then bleed the system as descrided in the relevant section.