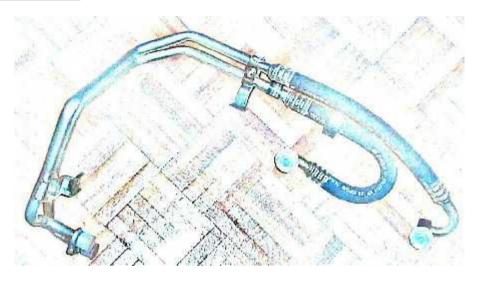
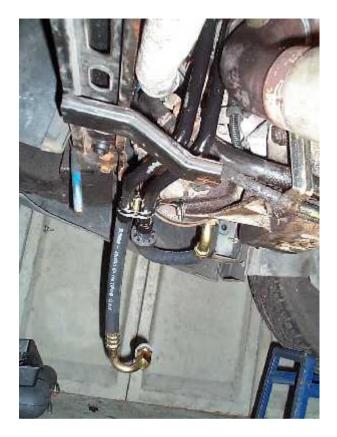
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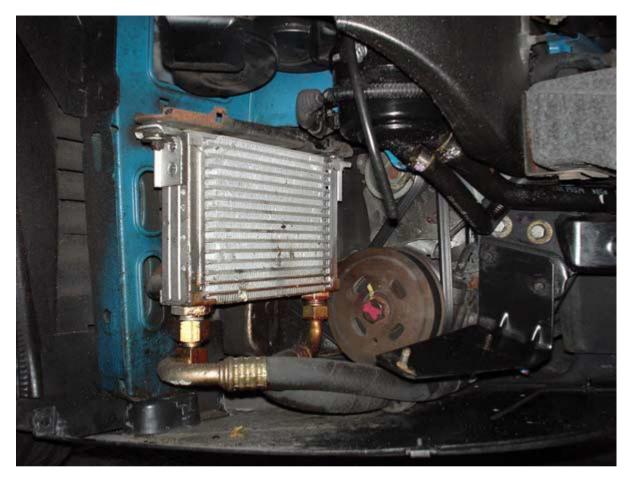
Oil cooler and cooler pipes replacement 20valve Turbo.



New pipes as they come (some problem with image) note exposed metal pipes on the left.



This shows the new pipes in place but disconnected from the oil cooler. Note the exposed metal has been painted black to prevent corrosion from re-occuring. It's just this lower exposed section that corrodes through.



This photo taken with the front bumper removed and the oil cooler air vent removed. You can clearly see where the rubber part of the pipes rest on the undertray. The new pipes come with a protective rubber ring which must be postioned correctly to stop the pipes chafing. I've protected the joins from corrosion with a spray on corrosion inhibitor. This cooler has been fitted for less than a year and already you can see the impact damage from stones and insects!



To remove the oil pipes you'll also need to remove the exhaust manifold heat shield as it gets in the way. Remove the coolant hose on the left and drain the system, you can also remove the one on the right to improve access.



This shows the manifold cover from above with the right hand coolant hose disconnected.



Next, remove the radiator fans to allow enough room to manoeuvre the cover out. The fans are held on with 4 self tapping screws, one of which is accessed from underneath. Disconnect the wiring loom and move it out of the way.



Now, you need to disconnect the second coolant hose and remove the oxygen sensor (lambda probe). To do this you'll need a special 22mm socket which has a cutout in the side for the wiring to pass through. Simply unclip the wiring loom and unscrew the sensor.



With all that gubbins out of the way simply remove the 2 bolts and one nut holding on the heat shield and take it off.



In this photo you can see the oil cooler pipes to the left of the oxygen sensor hole. You can also see a small bracket held on by a 10mm bolt, remove this bolt and bracket first to ease the pipes removal.

The blue item is the oil filter, the oil pipes go in just next to the filter and are held in by 2 10mm nuts which you'll also need to remove (best done from underneath).



Next, undo the lower support bracket which can be seen in this photo just where the rubber meets the metal pipes.

With this support undone, release the oil cooler which is just forward of the drivers wheel and bolted in place with 2 10mm nuts (watch out for the washers and bushes that'll also drop out).

With all this done you'll be able to jiggle the pipes out from engine, it's quite a tight fit but there is just enough room to pull them out.

Once removed you have the unhappy task of separating the pipes from the cooler. As the cooler is made from aluminium and the pipes from steel, they corrode nicely together forming an oil tight and human tight bond!



I failed miserably despite the use of releasing oil and a blowtorch, still managed to split the cooler trying to undo the pipes. Above is the new cooler - these are at times impossible to get hold of and I suggest you make sure new ones are available before you get started! It's also worth checking the tightness of the cooler hoses against the cooler after a few weeks.

Cost - Pipes £85 inc vat, Oil cooler £145 inc vat, oil and coolant.

Time - approx 3 hours careful work on a set of ramps.

