

13. REMOVAL OF STOCK INTERCOOLER

Remove the jubilee clips securing the inlet and outlet hoses to the intercooler.
 Remove the four 10mm bolts holding the top cover in place, and the one 10mm bolt holding the small power steering pipe in place (left side rear).
 Remove the top cover.
 Remove the four 14mm bolts holding the intercooler frame to the car.
 Remove the gearbox breather by unclipping it, on right hand side (from front) of the intercooler - its a pipe shaped like the top of a walking stick.
 Remove the actuator piping from the same side as the gearbox breather, one small 6mm pipe underneath, and one 6mm pipe above.
 Unclip the throttle cable.
 Remove the intercooler from the car.
 Plug the plenum (inlet) with a rag to stop debris from going inside.
 Remove from the intercooler frame the metal pipe used to connect the actuator piping together, and reconnect it to the pipes. **IT IS VERY IMPORTANT THAT THIS IS DONE OTHERWISE YOU WILL RUN EXCESSIVE AMOUNTS OF BOOST AND RISK DAMAGING YOUR ENGINE.**

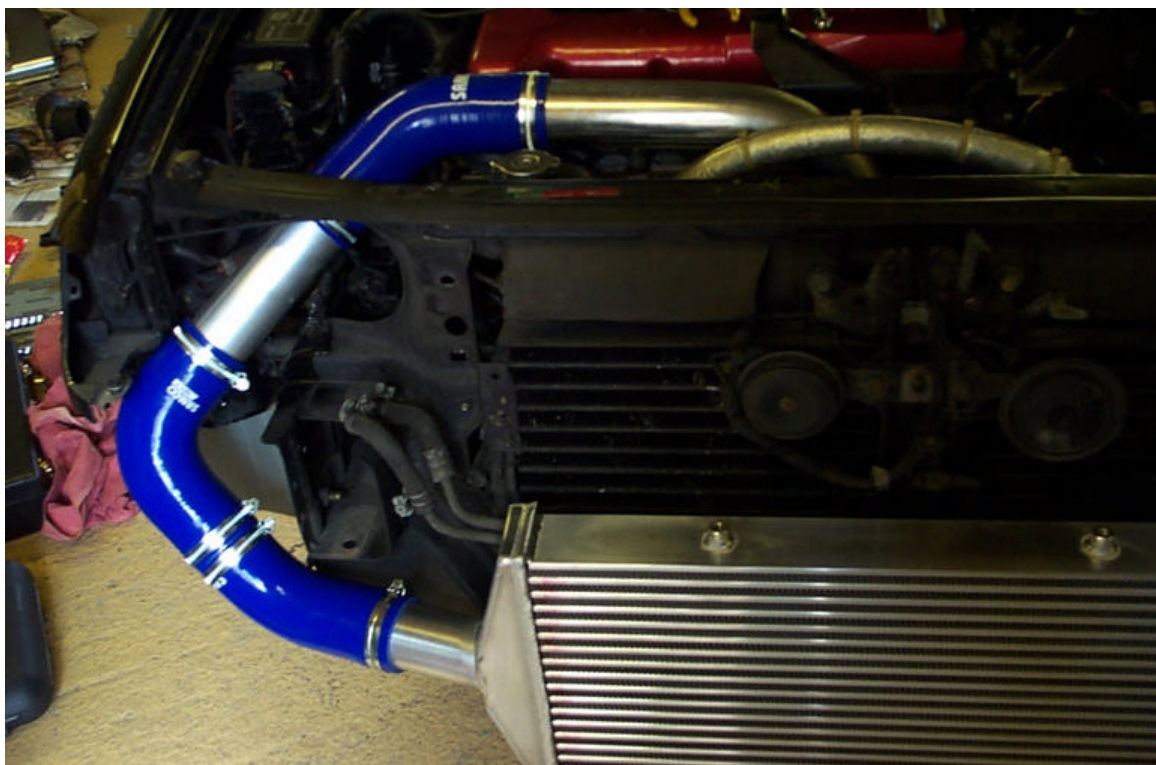
Next we must remove the turbo outlet, having soaked the three 10 mm bolts in WD40 earlier. Undo the 10mm bolt holding the water pipe to the turbo outlet near the bottom, and move the metal bracket along the pipe a little way to get it out of the way, and allow some flexibility in the pipe. Undo the three 10mm bolts holding the outlet to the turbo. The rear bolt is very awkward, and can only be reached with a small socket set, and a universal joint. It is possible to move the metal water pipe a small amount to gain access, but be careful not to break it. Retain the triangular gasket upon removal. Plug the hole in the turbo to stop any debris going inside.

ASSEMBLY OF PARTS

14. Locate the Forge turbo outlet from the kit, and using the gasket previously removed, mount it to the turbo with the three 10mm bolts – the pipe outlet should be pointing towards the offside of the car (where we made the cuts behind the headlight).
15. Locate the L shaped brackets and fit them to the car by removing the brackets for the Power steering pipes and fitting these new brackets in the same place, i.e. behind the pipe brackets.
16. Remove from the packaging two 45 degree bends and one 90 degree bend, together with the second longest piece of metal piping, and one of the several short pieces, plus a suitable amount of jubilee clips (6).
17. Remove the intercooler from its packaging (but keep the cardboard protecting the core on), plus the two short M8 bolts
18. Mount the intercooler to the car using only the bottom brackets temporarily, but bolting it with the M8 bolts from underneath. The angled outlet goes on the left side. The long side of the bracket goes against the car, the short side under the intercooler. The intercooler will move about on just these bottom bracket - be very careful.



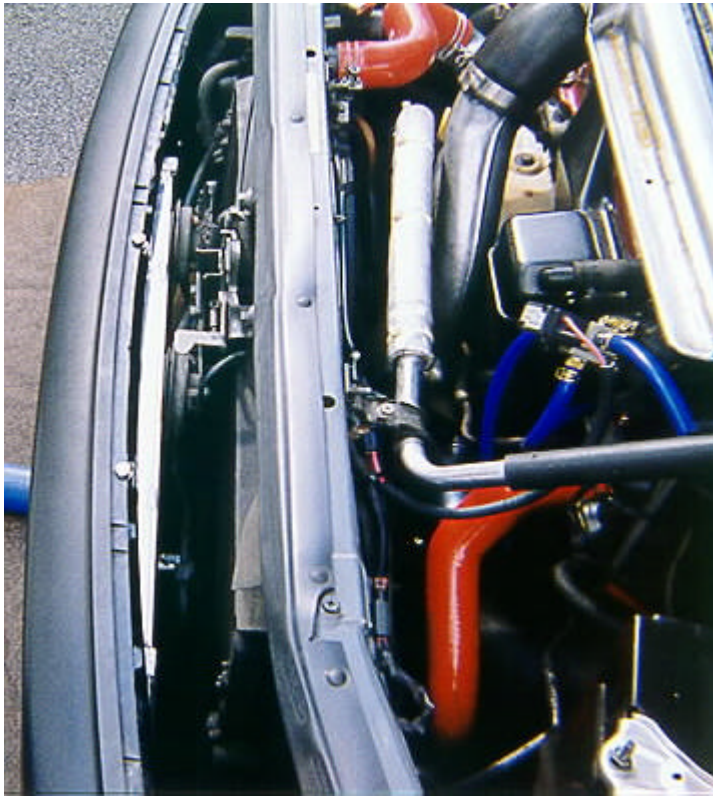
19. **Intercooler inlet run** : Fix one 45 degree bend onto the end of the turbo outlet pipe, pointing towards the headlight cutout. Insert into the second longest metal pipe, ensuring it goes into the 45 deg bend a good amount. Attach the 90 degree bend to the end of this pipe, pointing towards the intercooler. On the intercooler, attach a 45 degree pipe pointing up towards the 90 degree., and it should all go together. If not, Samco is easily cut with a SHARP stanley knife, though altering the lengths and angles should help.



Check that the headlight remounts in its orifice. The sidelight connector will be very close to the metal pipe - this is nothing to worry about.

20. Remount the bumper brace bar previously cut out in section 11, with all four 14mm bolts, taking care not to scratch the intercooler. Drill M8 holes in the brace bar to line up with the nuts on the top of the intercooler, making sure the intercooler clears the

power steering pipes at the rear. You should find that with the intercooler exactly vertical, you have around 5mm clearance.



The two bolts for the top of the intercooler should fall in the area that is lipped on the top of the bumper bar, as seen in the picture above. Tighten (dont overtighten) for a secure fit.



21. **Intercooler outlet run** : Remove the airbox c/w filter from the car, also the air flow meter (connected to the air box). Release the wiring to it by prising up the ends of the metal retainer.



You may need to remove your dump valve (depending on type). Obviously we cannot cover the removal of every type of dump valve, as there are so many on the market. Suffice to say they are all easy to remove temporarily, to help fitting of the intercooler pipes. Remove all pipes from the dump valve and block them off temporarily. Shown below is removal of the Forge Motorsport dump valve



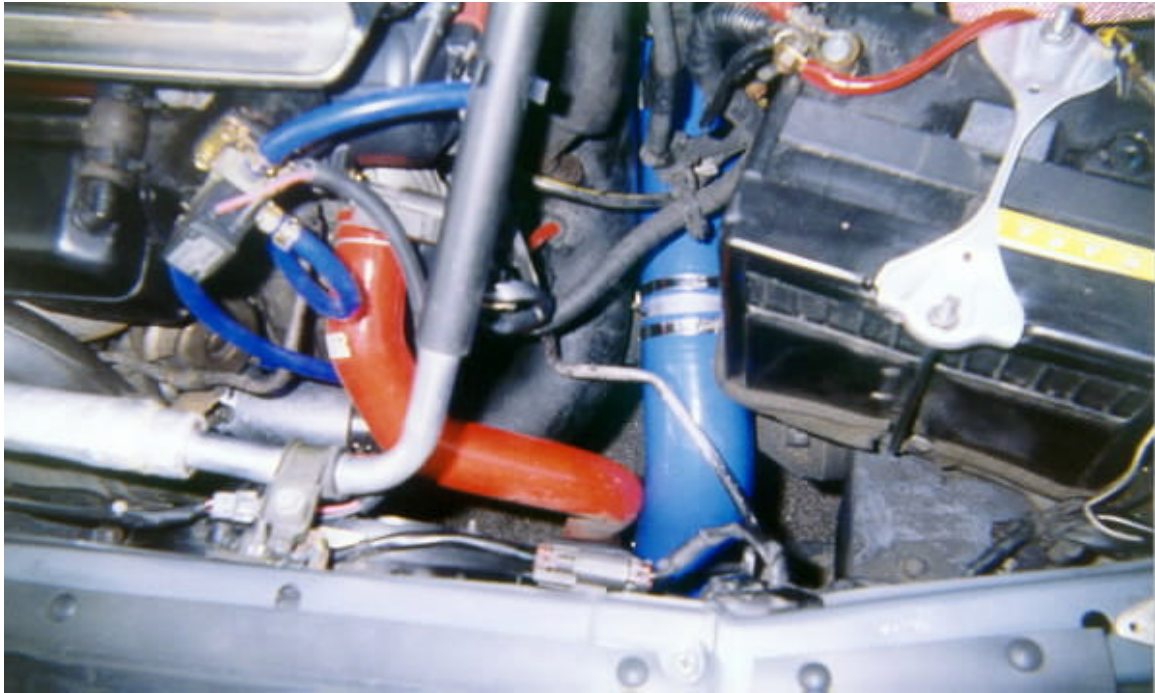
With more space to work in, attach a 90 degree bend to the plenum, angled downwards at around 45 degrees, and into this attach the longest straight metal pipe. Set the 90 degree bend on the plenum just far enough so that it avoids the ABS wiring (if fitted), and set the straight metal pipe so as it passes under the pipe to the airbox.



To the end of the metal pipe, attach a 45 degree bend. This will bring the end of the 45 degree bend nearly horizontal again. It should now be in a position between the inlet pipe (airbox to turbo) and the side of the inner wing. Attach the next longest metal pipe left, leave about 25mm of pipe showing, then attach the next 45 degree bend.



This bend needs to be placed under the small pipes for the air conditioner dual pressure switch (looks round from above, with a viewing glass on the top), and to the right of the radiator bottom pipe. This may be clearer :



You should see a gap between the front of the chassis and the stabiliser bar (looks like a scaffold pole) to the right of the radiator bottom hose - this is the gap we are aiming for (it is JUST the right size). Attach the last longest metal pipe into the bottom of the 45 (leaving two very short metal pipes).

Skipping ahead, this is where the pipes will emerge for connection to the intercooler. This clearly shows the 'scaffold pole' under the front of the engine bay, and the pipes to the intercooler going up behind the pole and to the right of the radiator bottom outlet. There is just enough room.



Another view :



The three 90 degree bends make up the final part of the run from the intercooler to the plenum. Start by connecting one 90 to the metal pipe from the 45 degree bend in the engine compartment. This first 90 degree bend needs to be as high as possible - that being that the bend needs to follow the metal section under the rad as close as possible - this is the lowest part of the pipe run, and if you get it too low, you will see it under the bumper when the kit is finished. Trim the end of the 90 degree bend with a sharp stanley knife until it sits up high enough. Angle it at about 45 degrees to dead front (see below)



Put the next 90 on the outlet of the intercooler, angled down and slightly back. Connect the third 90 to the pipe from the engine bay using one of the metal connectors and trim if necessary. Use the last metal connector to join this 90 to the 90 from the intercooler. Tighten all jubilee clips.

The intercooler pipe runs are complete (shown here with different intercooler bracket).



RELOCATION OF WATER RESEVOIR

22. The water reservoir fitted to early 90-92 cars is different to that fitted to late 92-on cars. The later cars have a taller reservoir with a fatter base and thinner sides. This creates a problem as different reservoirs will fit in different places. Hence we will offer several options :

1-turn the reservoir bracket through 90 degrees and mount the reservoir with the bottom hose nearest the wing, depending on your reservoir, there may be enough room for it to fit behind the 45 degree bend leading down to the intercooler inlet. Use the 3mm samco cut to length to join the radiator to the reservoir.

WE RECOMMEND OPTION 2 IF YOU HAVE THE FORGE MOTORSPORT RESEVOIR

2-on the passenger side of the car, in front of the battery, is an earthing point for the headlights. Just behind this there is another unused 10mm earthing point. Undo the headlight wires, and re-earth them to the unused 10 mm hole. Use the 10 mm hole you now have to mount the bracket for the reservoir. Use the 1 metre of 3mm samco to join the radiator to the reservoir.

FINAL CHECK

23. Double check all connections are tight on all pipes. Replace anything you may have removed in the engine compartment. Once you are sure everything is done, check for air leaks by starting and running the car briefly. If the car idles roughly, it is a sure sign of an air leak - check all hose connections, and dump valve connections (if you removed it). If the car does not start at all check you reconnected the air flow meter. Once you are happy, switch off.