

Pie Performance 3.2 engine management kit

Installation instructions



Kit contents:

- Specialist Components Delta 400 ECU
- Bespoke wiring harness adapter
- Carbon fibre inlet tube
- ITG air filter with fitted inlet air temp sensor
- 6 x Genuine Bosch 480cc fuel injectors
- Under-seat ECU mounting plate
- TPS Adapter
- TPS
- Pie Performance crank sensor and mount inc distributor bung
- Pie Performance crank pulley with integrated trigger wheel
- Ignition coil and bespoke ignition leads
- Ignition coil wiring adapter
- Pie Performance coil mounting bracket inc spacers
- CAN USB interface
- IAT and TPS wiring adapter
- Carbon tube support bracket and P-clip

Removing the old hardware

BE SURE TO DISCONNECT THE CARS BATTERY/S BEFORE CARRYING OUT THIS INSTALL.

The old airbox and inlet system will need to be removed from the car.

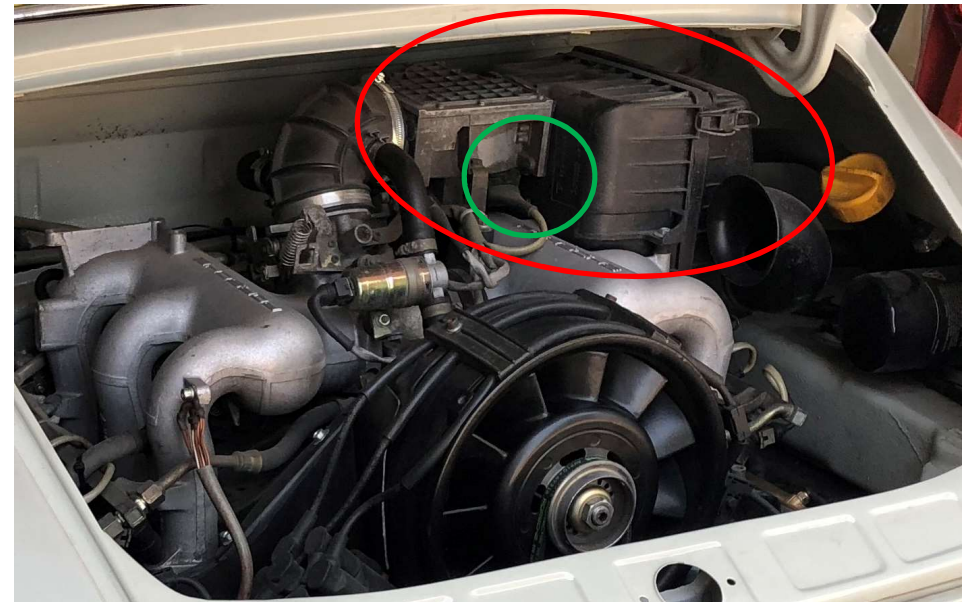
The airbox needs to be removed in sections, first unclip the front 2 clips, and lever open the airbox. You will now be able to release the rear clip and remove the first half of the airbox.

The second half is held in with 4 bolts. The Mass Air Flow meter which joins the airbox to the throttle body can also be removed by removing its jubilee clip and mounting bolts.

The 5-way connector circled in green will be used for the air temperature sensor and TPS.

If your car is fitted with an electric fan heater, this will need to be temporarily removed to allow the swapping of the fuel injectors.

Remove the OEM throttle position sensor from the throttle body so allow for the new adapter and sensor to be mounted.



Removing the old hardware

After the removal of air box and MAF, the fuel rails can be lifted and the old injectors replaced with the new supplied Bosch injectors. Note that there is likely to be fuel in the rails so ensure you have means of catching/cleaning if need be.

Remove the standard ignition leads, distributor and coil pack. Leads 4, 5 and 6 may require the clamps being removed that run over the top of the cooling fan.

The idle control valve becomes redundant with this kit and can therefore be removed.



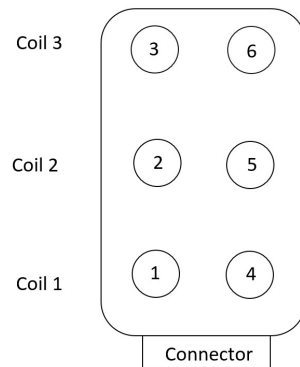
Fitting the kit

With all of the OEM hardware removed, the new parts can be installed.

The ITG air filter will already have the air temp sensor fitted so the carbon tube and air filter can be mounted using the supplied jubilee clip and old MAF jubilee clip. Using the P-clip and folded support bracket, secure the carbon tube.

The coil pack mounting bracket mounts to the 2 head studs as pictured below. Use the spacers to raise the bracket and prevent clearance issues.

The coil pack can be mounted onto the bracket and the ignition leads connected in the following order:



Fitting the kit

The under-seat wiring harness has a flying lead for the crank sensor. This needs to be fed through the grommet under the rear seat and routed under the car to come up through the gap at the front of the engine bay, see picture (White cable).

At the rear of the car, the wire can be terminated using the supplied 2-pin minitimer connector and boot. Pin 1 – Signal, Pin 2 – Ground. Please see included pin information. The crank wire must be routed clear of the coil so that there is no interference. The crank sensor can then be plugged in.

Using the supplied TPS adapter, secure this to the throttle body to allow the new TPS to be mounted. Note the direction in which to fit the TPS below.



Fitting the kit

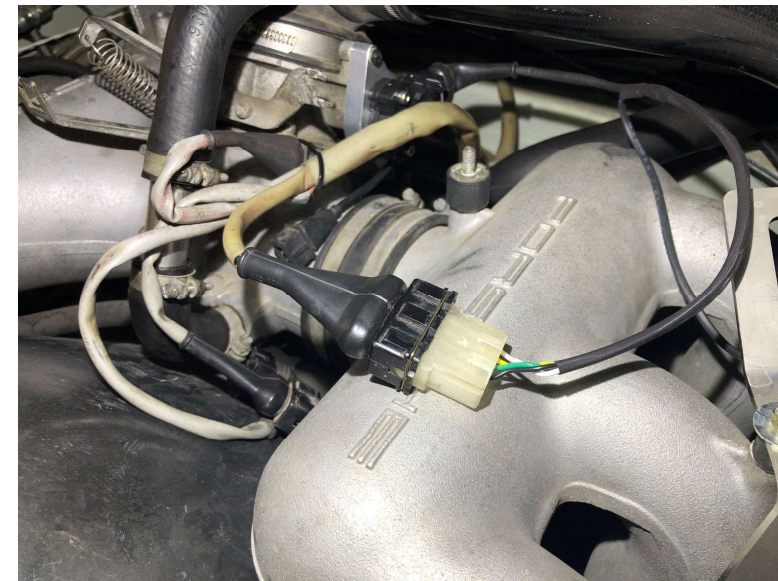
The supplied 5-way connector is for the inlet air temp sensor and new TPS. The 5-way male plug must be plugged into the 5 way female plug that came off the MAF sensor. See below picture.

The air temp sensor and TPS can then be plugged in.

The OEM crank pulley can be removed to allow for the new pulley to be fitted. The new pulley is keyed and has been set for you so do not adjust the position of the trigger wheel.

With the old pulley removed, fit the new pulley in the same way the old one came off. You may need to change the number of shims to account for the different sized pulley and belt.

Check the alignment of the crank sensor and the gap. Aim for a 0.6-0.8mm gap and use a washer or shim to adjust this if required.



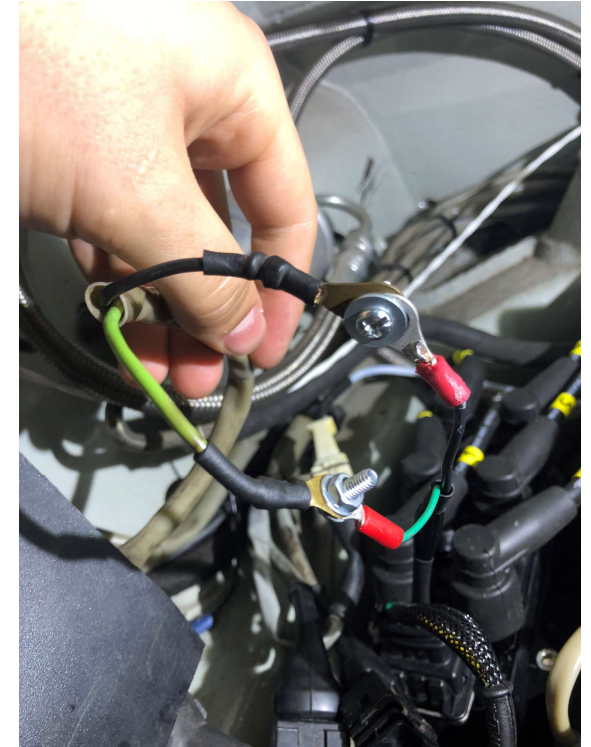
Fitting the kit

The new coil pack will use the original coils power supply. The coil wiring adapter has 2 ring terminals on that are different sizes. These need to be joined with the 2 different sized ring terminals from the standard coil as shown below. As a fail safe, the original coil wire colours should match the colours of the new adapter.

These connections can then be sealed using a cloth or insulation type tape.

The car originally has 2 sensor for the crank, one for speed and one for tooth count. One is a 3 pin connector and one is a 2 pin connector. Unplug the 3 pin connector and plug the 3 pin male connector for the new coil adapter into this plug. The other can be left or unplugged and tucked away.

Finally, fit the aluminium idle valve delete bar in place of the valve and secure.

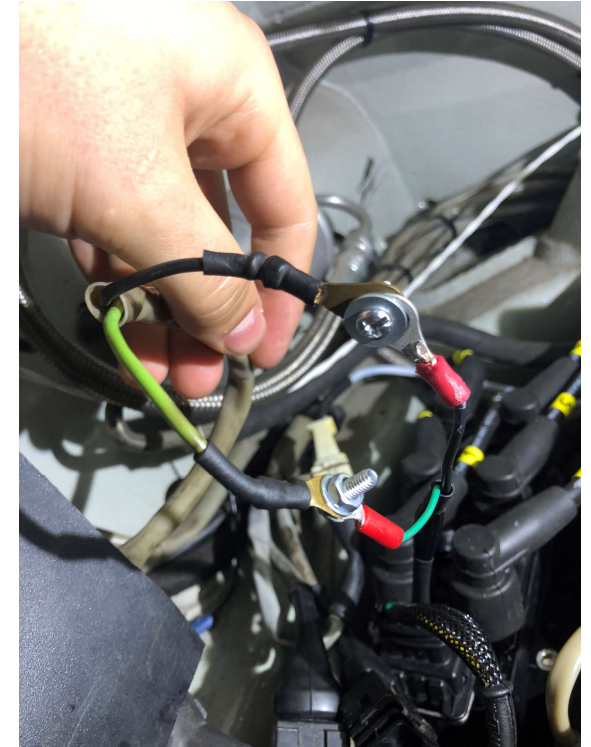


Fitting the kit

The Delta 400 ECU is pre-loaded with a base calibration to get the car up and running. This needs to be mounted on the supplied plate under the drivers seat. You may need to remove the seat to make access easier but its not essential.

Connect the ECU up and make sure you have access to the grey DB9 comms lead for tuning purposes.

The cars battery(s) can now be reconnected and the power pickup for the ECU can be attached to the battery cable at the front.



Starting the car

Please refer to the 'Downloads' page at:

<https://specialist-components.co.uk/gallery/downloads-page/>

For instructions on calibrating the TPS and first start up. You will need to have a PC running Windows software to support our free software SXTune.

Should you require any assistance after reading through the technical help documents then please email:

info@specialist-components.co.uk .