

T5 Conversion Installation Notes

by Jordan Pagano

Required Items:

Red DI Cassette

T5 ECM (Any '94-99 SAAB Turbo) c900 programming recommended (101K10325)

Crank Signal Trigger w/ sensor kit (eEuro Trionic Flywheel kit 101K10039)

4x Bosch Red Top (431) Injectors (OE # 9132449)

Coolant Temp Sensor (OE# 9357021)

Air Temp Sensor (OE# 8859886)

Intercooler Pipe modified for Air Temp Sensor mount (Sensor 10x1.25 Thread)

Throttle Position Sensor (OE# 8857195)

2.1 900 or 9000 Throttle Body or TPS adapter bracket

Throttle Body O-rings (OE #7506264 and 7521875)

3.0bar Fuel Pressure Regulator (From 2.1L Bosch #028016706 or 7486921 with adapter hose)

MAP Sensor (OE# 9132374)

Vacuum Line (Part# VCH or 3.5mm line of your choosing)

T7 Boost Control Valve (OE#55557331)

Air Idle Control Valve (2 pin 89+ turbo Bosch #0280140516)

Oxygen Sensor (Stock 3-wire)

4x NGK BCPR7ES Spark Plugs Gapped .039-.041"

Distributor Oil Plug (OE# 9135211)

AMM Replacement Pipe (optional)

eEuro C900 Harness Kit (101E00010 or DIY Kit 101E00021)

Remove LH Injection:

First step is to remove the old LH Injection harness from the car. No wires need to be cut although there are zip ties that should be snipped and connectors disconnected. There are also 4 diagnostic wires that run under the door sill plate that run to the diagnostic port. You can cut these to avoid pulling the passenger compartment apart, but they can be disconnected whole as well, it just takes a little more time.

- Disconnect battery

- (Optional but easier access) Remove the knee bolster from the car . There are two bolts accessible through the engine compartment and one through the ashtray. Unscrew center console screws under gaiter and move console out of the way.

- Remove side and rocker metal trim holding down the passenger side carpeting

- Pull back the carpeting on the passenger side footwell to gain access to the ECU and

relays

- Remove 2 (8mm) nuts holding ECU to the firewall through the inner fender well under the ABS relays and power steering pump reservoir. You may have to move the relay box out of the way if your car is ABS equipped.

- Remove torx screws from the bottom of the ECU holder from inside the passenger footwell. This should enable you to drop the bracket down and remove the rest of the screws to the relays and ECU. Put the bracket aside, The Trionic computer will bolt to this same bracket.

- Drain and remove the power steering reservoir in order to have more space to pull out and feed wires through.

- Unplug the LH components and clip zip ties on the fuel rail and cylinder head. Don't forget to remove ground wires located near the Idle control valve.

- Pull harness through power steering reservoir hole

- Unplug two grey 6-pin connectors that usually hide under the fresh air intake

- O2 sensor wire and preheater plug are disconnected under the power distribution block

- Remove power terminals from power distribution block

- From inside the car, disconnect and wires going under the dash and unplug the ECU.

You also may have a test socket going towards the rear of the car under the back seat. Remove that as well.

- Wrestle the connector with grommet out of the the car. Pull the grommet off to reuse on the T5 Harness

Swap Components:

Next up to to install the sensors and key components of Trionic.

- Remove coil , spark plugs, wires and distributor

- Install distributor oil seal (a little black RTV around the edge keeps this from leaking)

- Replace spark plugs (re-gap if required) and mount DI cassette

- Replace fuel injectors , FPR, Idle valve (if required), throttle body/sensor/adaptor

- Replace intercooler elbow with one with air temp sensor

- Replace coolant temp sensor

- Install crank position sensor and trigger wheel (flywheel, crank trigger etc)

- Remove APC components

- Replace o2 sensor if necessary

- **Unplug/Remove ignition amplifier (your car will not start if this is plugged in)**

Install T5 Harness

Run main connector pigtail ends through the power steering reservoir opening, being careful to fish the ends under the fresh air vent.

Using the firewall grommet from the removed LH harness run the large 70-pin connector and

relay pack through the firewall and into the passenger side footwell. The relays need to be taken out of the relay holder.

The 12v power terminal gets run to the battery distribution block. Make sure 25A fuses are present.

The fuel pump and ignition wires are part of one of the 6 pin grey connectors you unplugged earlier. You need to remove the connector housing off the old harness and put the wires on the new harness. The green is ignition the red is fuel pump power.

Attach the appropriate connectors to each component on the front end of the harness according to the harness map. The injector connections are not interchangeable and should be numbered based upon cylinder number. The main shrinkwrap of the injector bundle should fall roughly mid-way between the middle of the fuel rail. Secure with zip ties. Attach the ground wire terminal to the cylinder head at old ground location. Make sure area is clean and treat with copper anti-seize if available.

Attach ECU and relay mount to original bracket. Insert relays and reinstall. Relays can be secured to the bracket with zip ties or strong double-sided tape.

At this point you can see where you can mount the MAP sensor. Usually it is mounted under the drip rail under the hood with through bolts or clipped on to the A/C condenser housing or Compressor. Location is not critical but a good vacuum signal is. Run a vacuum line into the vacuum port of the sensor and use a somewhat rigid, shortest run you can manage tapped from the intake manifold. Try to avoid multiple "T"s to get the cleanest signal possible.

Mount the BPC Valve. The recommended location is using the bracket the coil used to be mounted on. Either zip tie or mount with screws with bracket provided. Original BPC hose set should reach and BPC port locations are labeled the same as the original APC valve. "C" - compressor housing, "R" - low pressure air intake, "W" - turbo wastegate. You may need to swap hoses around to get the best fitment, but make sure the ports go to the right location.

Component Checklist:

DI Cassette

4 Injectors

AIC valve

TPS

Coolant Temp Sensor

Air Temp Sensor

Ground to cylinder head

Crank position Sensor

BPC Valve

O2 Sensor/Heater
Battery 12v from Distribution Block
ECU
MAP Sensor w/ Pressure line
Chassis 6-pin connector

At this point, after you have verified all connections have been made and nothing interferes with belts or fans, reconnect battery.

Turn ignition to on and listen for the fuel pump to prime for 3 seconds. If you don't hear any noise, something didn't get hooked up! Check list again. Note, if you miss this the first time it will not prime again for 10 minutes unless the battery is disconnected/reconnected.

If you heard the pump, hook up power steering reservoir, fill with fluid and crank the motor! If all is well a few extra cranks will be necessary to pressurize the fuel system the first time.

If all is well, congratulations, button up interior and enjoy the benefits of T5!