

## MY01-05 WRX AVCS Wiring Conversion

This document describes the wiring changes required to use a STi Type UK ECU and AVCS heads on a UK WRX vehicle.

The conversion is based on standard UK WRX chassis/ECU wiring harness, with the additional parts:

1. MY01-05 STi (or JDM WRX) heads.
2. STi Type UK engine harness.
3. 5 off small female ECU plug pins.
4. 4 off male engine harness connector pins.\*
5. 2 off 2m shielded twisted pair wire.\*

\* 4 and 5 can be obtained by removing the cam and crank sensor wiring from another ECU harness.

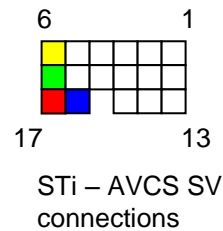
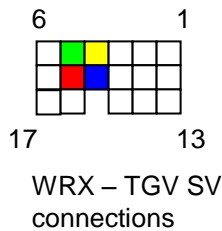
All wiring changes are made to the chassis/ECU harness to adapt it to the STi engine harness, these changes can be split into 2 parts:

- A. Reconfiguration of TGS VSV wiring to drive AVCS VSV.
- B. Installation of additional cables for AVCS Cam Position Sensors.

## A. TGV to AVCS Solenoid Valve Conversion

The WRX harness already contains wiring and connections to drive the Tumble Generator Solenoid Valves, this wiring can be adapted to drive the AVCS Solenoid valves by simply moving the relevant pins in both the ECU and multi-way engine connectors.

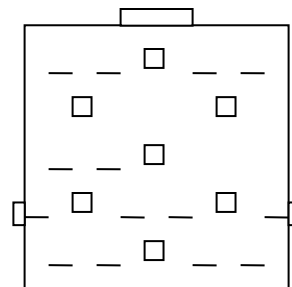
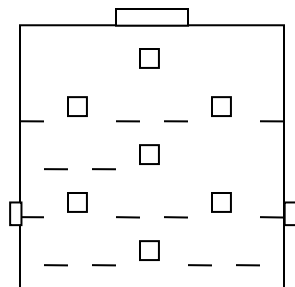
1. ECU connector B84 (smallest plug – 17way) contains TGV SV pins on a WRX and the AVCS SV pins on a STi, the difference can be seen by comparing the plugs:



The conversion is achieved by moving the following pins on the B84 connector:

- Pin 4 – Pin 6
- Pin 5 – Pin 12
- Pin 10 – Pin 16
- Pin 11 – Pin 17

2. The square 20 way black multiplug contains the TGV SV pins on a WRX and the AVCS SV pins on a STi, the difference can be seen by comparing the plugs:

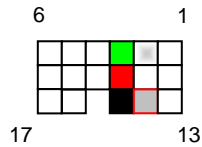


The conversion is accomplished by moving the 4 pins in the second row of the WRX ECU harness up to the top row in order to match the STi engine harness (these are the same 4 wires moved in step 1).

## B. Installation of additional cables for AVCS Cam Position Sensors

Unlike the Solenoid Valve wiring there is no suitably shielded wiring available in the WRX ECU harness to connect the ECU to the rear cam position sensors found on AVCS heads. 2 new shielded twisted pair cables need to be run from the ECU to the grey square 10way Cam/Crank connector found on the offside strut tower below the lambda sensor connector.

1. ECU connector B84 (smallest plug – 17way) contains the AVCS cam sensor pins on a STi, the relevant pins are shown below:

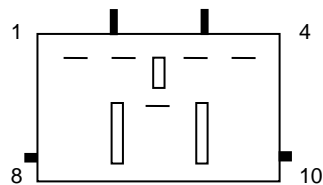


STi – AVCS Cam  
Sensor Pins

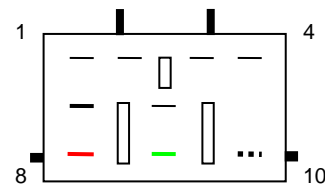
The AVCS Cam Sensors are connected to the following pins on the B84 connector:

- Pin 2 – RH Cam Sensor +ve
- Pin 3 – RH Cam Sensor -ve
- Pin 9 – LH Cam Sensor +ve
- Pin 15 – LH Cam Sensor -ve
- Pin 14 – Cam Sensor Shield (s)

3. The square 10 way grey multiplug contains the Cam/Crank Sensor Pins on both WRX and STi and additionally the AVCS Rear Cam Sensor pins on a STi:



WRX Cam/Crank  
Sensor Connector



STi Cam/Crank/AVCS  
Sensor Connector

- Pin 5 – LH Cam Sensor -ve
- Pin 8 – LH Cam Sensor +ve
- Pin 9 – RH Cam Sensor -ve
- Pin 10 – RH Cam Sensor +ve

4 new pins need to be inserted into the WRX ECU harness side of this connector to match the new connections added to the ECU. The cable shields are terminated at the ECU end only.