AiM Infotech

Subaru Legacy 1999-2011 ECU

Release 1.00



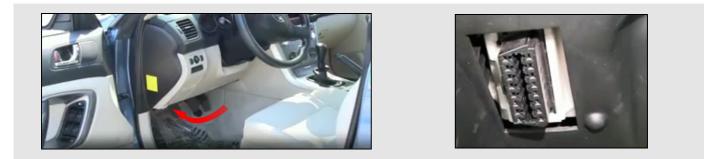




This tutorial explains how to connect AiM devices to Subaru Legacy 1999-2011.

1 Wiring connection

Subaru Legacy is equipped with an OBDII plug placed on the car driver side left of the steering column as shown here below.



The ECU communicates using the CAN Bus on the OBDII connector. Connector pinout as well as connection table are shown here below.

	CAN+ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 CAN-	/
OBDII connector pin	Pin function	AiM cable
6	CAN High	CAN+
14	CAN Low	CAN-

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2 AiM Logger configuration

Once the ECU connected to the logger, set up the logger as follows:

Run Race Studio 2 software and follow this path:

- Device Configuration -> Select the device you are using;
- select the configuration or press "New" to create a new one;
- select ECU manufacturer "Subaru" and according to the year of your Legacy ECU Model:
 - o "SSM 1999/2007" or
 - o "SSM 2008/2011"
- transmit the configuration to the device pressing "Transmit".



3 Available channels

AiM loggers support two Subaru protocols according to the year of production of your car:

- "SSM 1999/2007" for cars produced between 1999 and 2007
- "SSM 2008/2011" for cars produced between 2008 and 2011

3.1 "SSM 1999/2007" protocol

Channels received by AiM loggers connected to Subaru Legacy from 1999 to 2007 are:

ID	CHANNEL NAME	FUNCTION
ECU_1	RPM	RPM
ECU_2	SPEED	Vehicle Speed
ECU_3	TPS	Throttle Position Sensor
ECU_4	ECT	Engine cooling temperature
ECU_5	TURBO_PRESS	Turbo pressure
ECU_6	IN_VVT_R	Right bank inlet timing
ECU_7	IN_VVT_L	Left bank inlet timing
ECU_8	IGN_ADV	Ignition advance
ECU_9	KNOCK_CORR	Advances correction depending on detonation sensor
ECU_10	FUEL_LEV	Fuel level
ECU_11	NEUTRAL	Neutral sensor
ECU_12	CLUTCH	Clutch disengaged signal
ECU_13	BRAKE	Brake switch
ECU_14	ENG_LOAD	Instant engine load
ECU_15	AIR_FLOW	Air flow in the air pipes

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3.1 "SSM 2008/2011" protocol

Channels received by AiM loggers connected to Subaru Legacy from 2008 to 2011 are:

ECU_1SSM_RPMRPMECU_2SSM_SPEEDVehicle SpeedECU_3SSM_TPSThrottle Position SensorECU_4SSM_ECTEngine cooling temperatureECU_5SSM_TURBO_PRESTurbo pressureECU_6SSM_IN_VVT_RRight bank inlet timingECU_7SSM_IN_VVT_LLeft bank inlet timingECU_9SSM_KNOCK_CORRAdvances correction depending on detonation sensorECU_10SSM_FUEL_LEVFuel levelECU_11SSM_CLUTCHClutch disengaged signalECU_12SSM_ENACK_CORRAirt engine loadECU_13SSM_BRAKEBrake switchECU_14SSM_ENG_LOADInstant engine loadECU_15SSM_AIR_FLOWAirt flow in the air pipesECU_16SSM_EX_VVT_RRight bank exhaust timingECU_17SSM_EX_VVT_LLeft bank exhaust timingECU_18SSM_EX_VVT_LSelected MapECU_19SSM_GEAREngaged gear	ID	CHANNEL NAME	FUNCTION
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ECU_5SSM_TURBO_PRESTurbo pressureECU_6SSM_IN_VVT_RRight bank inlet timingECU_7SSM_IN_VVT_LLeft bank inlet timingECU_8SSM_IGN_ADVIgnition advanceECU_9SSM_KNOCK_CORRAdvances correction depending on detonation sensorECU_10SSM_FUEL_LEVFuel levelECU_11SSM_NEUTRALNeutral sensorECU_12SSM_CLUTCHClutch disengaged signalECU_13SSM_ERAKEBrake switchECU_14SSM_ENG_LOADInstant engine loadECU_15SSM_EX_VVT_RRight bank exhaust timingECU_16SSM_EX_VVT_LLeft bank exhaust timingECU_17SSM_EX_VVT_LSelected Map	ECU_3	SSM_TPS	Throttle Position Sensor
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ECU_10SSM_FUEL_LEVFuel levelECU_11SSM_NEUTRALNeutral sensorECU_12SSM_CLUTCHClutch disengaged signalECU_13SSM_BRAKEBrake switchECU_14SSM_ENG_LOADInstant engine loadECU_15SSM_AIR_FLOWAir flow in the air pipesECU_16SSM_EX_VVT_RRight bank exhaust timingECU_17SSM_EX_VVT_LLeft bank exhaust timingECU_18SSM_SEL_MAPSelected Map	ECU_8	SSM_IGN_ADV	Ignition advance
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ECU_12SSM_CLUTCHClutch disengaged signalECU_13SSM_BRAKEBrake switchECU_14SSM_ENG_LOADInstant engine loadECU_15SSM_AIR_FLOWAir flow in the air pipesECU_16SSM_EX_VVT_RRight bank exhaust timingECU_17SSM_EX_VVT_LLeft bank exhaust timingECU_18SSM_SEL_MAPSelected Map	ECU_10	SSM_FUEL_LEV	Fuel level
ECU_13SSM_BRAKEBrake switchECU_14SSM_ENG_LOADInstant engine loadECU_15SSM_AIR_FLOWAir flow in the air pipesECU_16SSM_EX_VVT_RRight bank exhaust timingECU_17SSM_EX_VVT_LLeft bank exhaust timingECU_18SSM_SEL_MAPSelected Map	ECU_11	SSM_NEUTRAL	Neutral sensor
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ECU_17SSM_EX_VVT_LLeft bank exhaust timingECU_18SSM_SEL_MAPSelected Map	ECU_15	SSM_AIR_FLOW	Air flow in the air pipes
ECU_18 SSM_SEL_MAP Selected Map	ECU_16	SSM_EX_VVT_R	Right bank exhaust timing
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ECU_19 SSM_GEAR Engaged gear	ECU_18	SSM_SEL_MAP	Selected Map
	ECU_19	SSM_GEAR	Engaged gear