

K - SENSOR RANGE CHARTS

1992 Subaru SVX

1992 ENGINE PERFORMANCE
Subaru Sensor Operating Range Charts

Justy, Legacy, Loyale, SVX

INTRODUCTION

Sensor operating range information can help determine if a sensor is out of calibration. An out-of-calibration sensor may not set a trouble code, but it may cause driveability problems.

NOTE: Unless stated otherwise in test procedure, perform all voltage tests using a Digital Volt-Ohmmeter (DVOM) with a minimum 10-megohm input impedance.

AIRFLOW SENSOR VOLTAGE TABLE

Application	(1) Volts
Justy	(2)
Legacy	
ECU Pin No. 8 & Ground (3)	
Engine Off	0-13
At Idle	13-14
ECU Pin No. 9 & Ground (3)	
Engine Off	0.0-0.3
At Idle	0.8-1.2
ECU Pin No. 10 & Ground (3)	
Engine Off	Zero
At Idle	Zero
Loyale	
White Wire & Black Wire Terminals (3)1-.5
SVX	(4)

(1) - Voltage should be greater when blowing air through inlet side of airflow meter.

(2) - Justy is not equipped with airflow sensor.

(3) - Connect voltmeter between these 2 terminals of airflow sensor connector.

(4) - Information is not available from manufacturer. See G - TESTS W/ CODES article in the ENGINE PERFORMANCE Section.

AIRFLOW SENSOR RESISTANCE TABLE (LEGACY) (1)

Terminal	Specification
Red Wire & Ground	1 Megohm (Min.)
White Wire & Ground	1 Megohm (Min.)
Black Wire & Ground	1 Megohm (Min.)
Black/Red Wire & Ground	Zero Ohms

(1) - Measure resistance between indicated terminal of airflow sensor connector and ground.

AIR TEMPERATURE SENSOR RESISTANCE TABLE (JUSTY CARBURETED) (1)

Temperature	Ohms
68°F (20°C)	2000-3000
176°F (80°C)	270-370

(1) - Measure resistance between air temperature sensor connector terminals.

Atmospheric Pressure Sensor

See G - TESTS W/ CODES article in the ENGINE PERFORMANCE Section for testing information.

CAM ANGLE SENSOR VOLTAGE TABLE (LEGACY & SVX)

Wire Colors	(1) Volts
Black & White	0.1 (Minimum)

(1) - Turn ignition on. Voltage will vary with each engine revolution.

COOLANT TEMPERATURE SENSOR RESISTANCE TABLE

Application (1)	Temperature	Ohms
Justy PFI, Legacy & SVX ...	68°F (20°C)	2000-3000
Legacy & SVX	176°F (80°C)	300-400
Loyale	14°F (-10°C)	7000-11,500
All Others	68°F (20°C)	2000-3000
All Others	122°F (50°C)	700-1000

(1) - Information is not available for Justy carbureted.

CRANK ANGLE SENSOR VOLTAGE TABLE (1)

Application	Wire Colors	Volts
Legacy	Black & White1 (Minimum)
SVX	Black & Yellow1 (Minimum)

(1) - Turn ignition on. Voltage will vary with each engine revolution. For testing information on other models, see G - TESTS W/ CODES article in the ENGINE PERFORMANCE Section.

CYLINDER DISTINCTION (TDC) SENSOR VOLTAGE TABLE (JUSTY PFI)

Distributor Terminals	(1) Volts
Black Wire & Green Wire	0-.5

(1) - Measure voltage between distributor terminal (sensor side) while cranking engine. Voltage should vary while cranking engine.

CYLINDER DISTINCTION (TDC) SENSOR RESISTANCE TABLE (JUSTY PFI)

ECU/Distributor Terminals	(1) Ohms
No. 5 & Black Wire	1 Or Less
No. 6 & Green Wire	1 Or Less
No. 5 & Ground	Infinity
No. 6 & Ground	Infinity

(1) - Measure resistance between ECU pin and distributor terminal (sensor side).

DETONATION (KNOCK) SENSOR RESISTANCE TABLE (1)

Application	Ohms
All Models	532,000-588,000

(1) - Measure resistance between ground and connector terminal.

EGR Temperature Sensor (Loyale & SVX)

For testing information, see G - TESTS W/ CODES article in the ENGINE PERFORMANCE Section.

OXYGEN SENSOR VOLTAGE TABLE

Application	Volts
Loyale (California)	
Black/White Wire & Ground	10 Or Less
White Wire & Ground05 Or More
All Others	(1) .1-.9

(1) - With engine running, measure voltage between oxygen sensor connector terminal and ground.

3-CYLINDER THROTTLE POSITION SWITCH RESISTANCE (PFI) (LEGACY)

Application	Ohms
Terminals No. 2 & 3	
Throttle Fully Closed	Less Than One
Throttle Fully Open	Infinite

4-CYLINDER THROTTLE POSITION SENSOR RESISTANCE (LEGACY)

Application	Ohms
Legacy	
Terminals No. 2 & 3	12,000
Terminals No. 2 & 4	
Throttle Fully Closed	10,000-12,000
Throttle Fully Open	3000-5000

THROTTLE POSITION SENSOR (TPS) RESISTANCE TABLE

Application (1)	(2) TPS Connector Terminals	Ohms
Total Resistance		
Loyale	Black Wire & Red Wire	3500-6500

SVX Black Wire & Red Wire 5000

Variable Resistance

Loyale

Throttle Closed Black Wire & Green Wire ... 1000 Or Less
Throttle Open Black Wire & Red Wire 2400 Or More

SVX

Throttle Closed Black Wire & White Wire .. 10,000-12,000
Throttle Open Black Wire & White Wire 3000-5000

- (1) - Justy is not equipped with TPS.
- (2) - Disconnect TPS connector. At component side of connector, connect ohmmeter between the indicated terminals.

THROTTLE SWITCH (IDLE SWITCH) CONTINUITY TABLE

Application (1)	(2) Terminals
Justy 1.2L PFI	(3) Blue/White Wire & Black/Red Wire
Legacy	Brown Wire & Black Wire
Loyale	Light Green Wire & Black Wire

- (1) - Justy carbureted models do not have throttle switch.
- (2) - Disconnect TPS connector. Check continuity between indicated terminals of connector. There should be continuity with throttle closed and no continuity with throttle open.
- (3) - In addition to idle switch function, throttle switch also contains wide open throttle switch function. To test wide open throttle switch function, check continuity between Green/Red wire and Black/Red wire terminals of throttle switch connector. There should be continuity with throttle fully open (at least 50 degrees) and no continuity with throttle closed.

TURBOCHARGER PRESSURE SENSOR VOLTAGE TABLE (LEGACY) (1)

Terminals	Voltage
Sensor Connector	
Red Wire & Black Wire	(2) 3.1
Red Wire & Black Wire	(3) 2.6
Red Wire & Black Wire	(4) 2.1

- (1) - Apply 5 volts across terminals No. 1 (White wire) and 2 (Red wire), then connect terminal No. 1 to positive voltage and terminal No. 2 to negative voltage. Install vacuum pump to pressure sensor hose fitting. Measure voltage across indicated terminals when pressure is applied to pressure sensor.
- (2) - With 7.87 in. Hg applied to pressure sensor.
- (3) - With Zero in. Hg applied to pressure sensor.
- (4) - With -7.87 in. Hg applied to pressure sensor.

TURBOCHARGER PRESSURE SENSOR RESISTANCE TABLE (LEGACY)

ECU Connector (1)	Sensor Connector	Ohms
Pin No. 3	White Wire	0
Pin No. 4	Black Wire	0
Pin No. 5	Red Wire	0

(1) - Disconnect ECU and pressure sensor connectors. Measure resistance between indicated pins and terminals of connectors.

Vacuum/Pressure Sensor (Justy Carbureted)

See HIGH ALTITUDE COMPENSATOR under EMISSION SYSTEMS & SUB-SYSTEMS in I - SYS/COMP TESTS article in the ENGINE PERFORMANCE Section. Also check for possible trouble codes. See G - TESTS W/ CODES article in the ENGINE PERFORMANCE Section.

VEHICLE SPEED SENSOR VOLTAGE TABLE (1)

Application	ECU Connector Pin No.	Wire Color
Justy Carbureted	6 (22-Pin)	LT GRN/BLK
Justy PFI	4 (22-Pin)	LT GRN/BLK
Legacy	11 (12-Pin)	GRN/BLK
Loyale	22 (24-Pin)	YEL/GRN
SVX	11 (12-Pin)	YEL/RED

(1) - Turn ignition on. Connect voltmeter between indicated terminal and ground. Slowly rotate drive wheels. Voltage should fluctuate between zero and about 5 volts (Legacy) or 2 volts (except Legacy).
