

# ON BOARD DIAGNOSTICS II INFO

**System D**

*1 Applicable Compo./Sys. #	13
<b>Monitored component</b>	
misfire	
fuel system	
front oxygen sensor	
rear oxygen sensor	
evaporative emission control sys.	
thermostat	
crankshaft position sensor	x
engine coolant temperature sensor	x
manifold absolute pressure sensor	x
intake air temperature sensor	
atmospheric pressure sensor	
vehicle speed sensor	
starter switch	
idle air control	x
fuel tank pressure sensor	
fuel temperature sensor	
fuel level sensor	
EVAP canister purge valve	
fuel tank pressure control valve	
EVAP canister vent valve	
fan control relay	
CAN system	
Mass air flow sensor	x*2
TAC(throttle actuator control valve)	x
active valve control system	x
engine oil temperature sensor	
direct variable valve lift	
Pressure control valve	

\*1: number is corresponded to component/system on the summary sheet

\*2: except applicable system within each component

**SYSTEM E**

*1 Applicable Compo./Sys. #	1	2	3	4	5	6	7	8	11	12	13	14	14'	18	19	23	40	49	49'	50	51	52	52'	53	60	62	72	80	82	83	84	95	96	99		
<b>Monitored component</b>																																				
misfire			x	x	x	x	x					x				x											x									
fuel system		x	x	x														x	x																	
front oxygen sensor	x	x	x	x	x *2	x	x	x								x		x			x															
rear oxygen sensor	x			x			x *2	x *2																												
evaporative emission control sys.		x	x	x	x																x			x												
thermostat																																				
crankshaft position sensor		x							x *2	x	x																	x								
camshaft position sensor		x							x *2	x																		x								
engine coolant temperature sensor	x	x	x	x	x		x				x	x *2	x			x	x	x				x				x										
manifold absolute pressure sensor	x	x	x	x	x		x				x					x	x	x				x	x			x *2	x	x								
intake air temperature sensor	x	x	x	x	x		x											x				x	x			x										
atmospheric pressure sensor	x	x	x													x		x			x						x *2									
vehicle speed sensor	x			x	x							x			x	x	x	x			x		x				x	x								
neutral switch		x														x																				
starter switch		x							x						x																					
idle air control valve											x					x *2																				
fuel tank pressure sensor																	x				x *2		x													
fuel temperature sensor																					x	x *2														
fuel level sensor	x	x	x	x	x											x		x			x	x	x *2					x								
mass air flow sensor	x	x	x	x	x		x				x											x						x								
exhaust temperature sensor																																				
EVAP canister purge valve		x	x	x	x													x	x	x																
fuel tank pressure control valve																		x	x																	
EVAP canister vent valve																		x	x					x												
fan control relay		x															x																			
solenoid valve for tank pressure sensor																																				
VVT cam position sensor																																				
oil control valve		x																																		
control area network (CAN)														x									x													

\*1: number is corresponded to component/system on the summary sheet  
 \*2: except applicable system within each component

# Subaru On Board Diagnostic Ii Info

Full download: <http://manualplace.com/download/subaru-on-board-diagnostic-ii-info/>

System E  
FORESTER 2.5L Turbo  
IMPREZA 2.5L Turbo  
LEGACY & OUTBACK 2.5L Turbo

Map 2 Enable condition for catalyst monitoring

FORESTER 2.5L Turbo & IMPREZA 2.5L Turbo

(AT)	Intake-manifold pressure (KPa)	0.0	33.3	40.0	53.3	66.7	80.0	93.3	106.7	133.3	160.0	186.7	213.3
	PM2SMP (deg C)	0	200	150	80	50	50	50	30	-200	-400	-600	-800

(MT)	Intake-manifold pressure (KPa)	0.0	26.7	40.0	53.3	66.7	80.0	93.3	106.7	133.3	160.0	186.7	213.3
	PM2SMP (deg C)	0	200	150	80	50	50	50	30	-200	-400	-600	-800

LEGACY & OUTBACK 2.5L Turbo

(AT)	Intake-manifold pressure (KPa)	0.0	26.7	40.0	53.3	66.7	80.0	93.3	106.7	133.3	160.0	186.7	213.3
	PM2SMP (deg C)	0	200	150	100	50	50	50	0	-200	-400	-600	-800

(MT)	Intake-manifold pressure (KPa)	0.0	26.7	33.3	53.3	66.7	80.0	93.3	106.7	133.3	160.0	186.7	213.3
	PM2SMP (deg C)	0	50	220	150	80	60	50	0	-200	-400	-600	-800

Estimated temperature in the catalyst (catt<sub>n</sub>) is defined as below

Calculations : every 512ms

$$catt_n = ((pmsm + PM2SMP) - catt_{n-1}) * CATNAMASI + catt_{n-1} \text{ [deg C]}$$

pmsm : Intake-manifold pressure(mmHg)

PM2SMP is shown in the tables above.

CATNAMASI : 0.04(AT) 0.015(MT) (FORESTER 2.5L Turbo & IMPREZA 2.5L Turbo)

CATNAMASI : 0.04(AT) 0.02(MT) (LEGACY & OUTBACK 2.5L Turbo)

Map 3-1 Enable condition for misfire monitoring

FORESTER 2.5L Turbo & IMPREZA 2.5L Turbo

rpm	700	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	6700
AT	26.264	24.665	23.598	26.664	27.331	26.131	29.531	31.331	32.731	34.13	38.197	43.996	49.529	53.329
MT(V. Speed>= 40 mph)	25.065	24.798	25.598	38.263	39.33	38.93	38.53	37.597	39.73	44.263	44.263	44.263	46.996	51.062
MT (V. Speed< 40 mph)	25.065	24.798	23.331	24.665	23.998	25.598	28.798	29.997	31.597	32.531	37.064	41.863	46.929	51.062

(KPa)

LEGACY & OUTBACK 2.5L Turbo

rpm	700	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	6700
AT	29.33	26.66	26.66	26.66	27.33	28.00	29.53	31.33	32.73	34.13	38.20	44.00	49.53	53.33
MT(V. Speed>= 40 mph)	25.06	24.80	25.60	40.00	40.80	42.13	44.00	44.53	47.33	54.66	54.66	54.66	46.93	51.06
MT (V. Speed< 40 mph)	27.33	23.33	23.60	23.33	24.00	24.40	28.80	30.00	31.60	32.53	37.06	41.86	54.66	54.66

(KPa)

Map 5-1 Enable condition for intake air

FORESTER 2.5L Turbo & IMPREZA 2.5L Turbo & LEGACY & OUTBACK 2.5L Turbo

Engine speed (rpm)	idle	800	1200	1600	2000	2400	2800	3200	3600	4000	4400
MAP Value (g/rev)	Na	0.228	0.22	0.22	0.22	0.228	0.23	0.234	0.242	0.25	0.25