2015-2016 City Express mode \$06 data definitions

Test Value and Test Limit

The following is the information specified in Service \$06 of SAE J1979/ISO 15031-5. The test value is a parameter used to determine whether a system/circuit diagnostic test is OK or NG while being monitored by the ECM during self-diagnosis. The test limit is a reference value which is specified as the maximum or minimum value and is compared with the test value being monitored. These data (test value and test limit) are specified by On Board Monitor ID (OBDMID), Test ID (TID), Unit and Scaling ID and can be displayed on the GST screen. The items of the test value and test limit will be displayed with GST screen which items are provided by the ECM. (e.g., if bank 2 is not applied on this vehicle, only the items of bank 1 are displayed)

Item	OBDMID	Self-diagnostic test item	DTC	Test value and Test Limi		
		Ĵ		TID	Scaling ID	
						Minimum sensor output voltage for test
			P0131	83H	OBH	cycle
			D0121	0.411	OBH	Maximum sensor output voltage for tes
			P0131	84H	UDH	cycle
			P0130	85H	0BH	Minimum sensor output voltage for tes
		-				cycle Maximum sensor output voltage for tes
			P0130	86H	0BH	cycle
			P0133	87H	04H	Response rate: Response ratio (lean to
			F0133	0711	0411	rich)
			P0133	88H	04H	Response rate: Response ratio (rich to
		-				lean) The amount of shift in air fuel ratio (too
			P2A00 or P2096	89H	84H	lean)
			P2A00 or P2097	8AH	84H	The amount of shift in air fuel ratio (too
						rich)
		–	P0130	8BH	0BH	Difference in sensor output voltage
		Air fuel ratio (A/F) sensor 1	P0133	8CH	83H	Response gain at the limited frequency O2 sensor slow response - Rich to lean
	01H	(Bank 1)	P014C	8DH	04H	bank 1 sensor 1
			P014C	8EH	04H	O2 sensor slow response - Rich to lean
			P014C	οεπ	04⊓	bank 1 sensor 1
			P014D	8FH	84H	O2 sensor slow response - Lean to rich
		-				bank 1 sensor 1 O2 sensor slow response - Lean to rich
			P014D	90H	84H	bank 1 sensor 1
			P015A	91H	01H	O2 sensor delayed response - Rich to le
			TOTSA	7111	0111	bank 1 sensor 1
			P015A	92H	01H	O2 sensor delayed response - Rich to le bank 1 sensor 1
						O2 sensor delayed response - Lean to ri
			P015B	93H	01H	bank 1 sensor 1
			P015B	94H	01H	O2 sensor delayed response - Lean to ri
			10130	7411	0111	bank 1 sensor 1
			P0133	95H	04H	Response rate: Response ratio (lean to rich)
						Response rate: Response ratio (rich to
			P0133	96H	84H	lean)
			P0138	07H	0CH	Minimum sensor output voltage for tes
			FU130	υ/Π	UUT	cycle
	02H	Heated oxygen sensor 2 (Bank	P0137	08H	0CH	Maximum sensor output voltage for tes
	U2H	1)	P0138	80H	0CH	cycle Sensor output voltage
			P0139	81H	0CH	Difference in sensor output voltage
			P0139	82H	11H	Rear O2 sensor delay response diagnosi
			P0143	07H	0CH	Minimum sensor output voltage for tes
			10113	0/11		cycle
	03H	Heated oxygen sensor 3 (Bank 1)	P0144	08H	0CH	Maximum sensor output voltage for tes
			P0146	80H	0CH	cycle Sensor output voltage
		F	P0145	81H	0CH	Difference in sensor output voltage
HO2S			P0151	83H	0BH	Minimum sensor output voltage for tes
			FUIJI	030	VDI	cycle
			P0151	84H	0BH	Maximum sensor output voltage for tes
		-				cycle Minimum sensor output voltage for tes
	1		P0150	85H	0BH	cycle

		[P0150	86H	OBH	Maximum sensor output voltage for test cycle
			P0153	87H	04H	Response rate: Response ratio (lean to rich)
			P0153	88H	04H	Response rate: Response ratio (rich to lean)
			P2A03 or P2098	89H	84H	The amount of shift in air fuel ratio (too lean)
			P2A03 or P2099	8AH	84H	The amount of shift in air fuel ratio (too rich)
		-	P0150	8BH	OBH	Difference in sensor output voltage
	05H	Air fuel ratio (A/F) sensor 1 (Bank 2)	P0153	8CH	83H	Response gain at the limited frequency
			P014E	8DH	04H	O2 sensor slow response - Rich to lean bank 2 sensor 1
			P014E	8EH	04H	O2 sensor slow response - Rich to lean bank 2 sensor 1
		-	P014F	8FH	84H	O2 sensor slow response - Lean to rich bank 2 sensor 1
		-	P014F	90H	84H	O2 sensor slow response - Lean to rich bank 2 sensor 1
			P015C	91H	01H	O2 sensor delayed response - Rich to lean bank 2 sensor 1
			P015C	92H	01H	O2 sensor delayed response - Rich to lean bank 2 sensor 1
			P015D	93H	01H	O2 sensor delayed response - Lean to rich bank 2 sensor 1
			P015D	94H	01H	O2 sensor delayed response - Lean to rich bank 2 sensor 1
			P0153	95H	04H	Response rate: Response ratio (lean to rich)
			P0153	96H	84H	Response rate: Response ratio (rich to lean)
			P0158	07H	0CH	Minimum sensor output voltage for test cycle
	06H	Heated oxygen sensor 2	P0157	08H	0CH	Maximum sensor output voltage for test cycle
		(Bank 2)	P0158	80H	0CH	Sensor output voltage
			P0159	81H	0CH	Difference in sensor output voltage
			P0159	82H	11H	Rear O2 sensor delay response diagnosis
			P0163	07H	0CH	Minimum sensor output voltage for test cycle
	07H	Heated oxygen sensor 3 (Bank2)	P0164	08H	0CH	Maximum sensor output voltage for test cycle
			P0166	80H	OCH	Sensor output voltage
			P0165	81H	0CH	Difference in sensor output voltage
			P0420	80H	01H	O2 storage index
	21H	Three way catalyst function	P0420	82H	01H	Switching time lag engine exhaust index value
	21H	(Bank1)	50.400			Difference in 3rd O2 sensor output voltage
			P2423	83H	OCH	Difference in Sid Oz sensor output voltage
		-				
CATALYST		-	P2423 P2423 P0430	83H 84H 80H	0CH 84H 01H	O2 storage index in HC trap catalyst O2 storage index
CATALYST	22H	Three way catalyst function	P2423	84H	84H	O2 storage index in HC trap catalyst O2 storage index Switching time lag engine exhaust index
CATALYST	22H	Three way catalyst function (Bank2)	P2423 P0430	84H 80H	84H 01H	O2 storage index in HC trap catalyst O2 storage index Switching time lag engine exhaust index value
CATALYST	22H	· · ·	P2423 P0430 P0430 P2424	84H 80H 82H 83H	84H 01H 01H 0CH	O2 storage index in HC trap catalyst O2 storage index Switching time lag engine exhaust index value Difference in 3rd O2 sensor output voltage
CATALYST	22H	· · ·	P2423 P0430 P0430 P2424 P2424	84H 80H 82H 83H 84H	84H 01H 01H 0CH 84H	O2 storage index in HC trap catalyst O2 storage index Switching time lag engine exhaust index value Difference in 3rd O2 sensor output voltage O2 storage index in HC trap catalyst Low flow faults: EGR temp change rate
CATALYST	22H	· · ·	P2423 P0430 P0430 P2424	84H 80H 82H 83H	84H 01H 01H 0CH	O2 storage index in HC trap catalyst O2 storage index Switching time lag engine exhaust index value Difference in 3rd O2 sensor output voltage O2 storage index in HC trap catalyst Low flow faults: EGR temp change rate (short term) Low flow faults: EGR temp change rate
		(Bank2)	P2423 P0430 P0430 P2424 P2424 P2424 P0400	84H 80H 82H 83H 84H 80H	84H 01H 01H 0CH 84H 96H	O2 storage index in HC trap catalyst O2 storage index Switching time lag engine exhaust index value Difference in 3rd O2 sensor output voltage O2 storage index in HC trap catalyst Low flow faults: EGR temp change rate (short term) Low flow faults: EGR temp change rate (long term) Low flow faults: Difference between max EGR temp and EGR temp under idling
	22H 31H	· · ·	P2423 P0430 P0430 P2424 P2424 P2424 P0400 P0400 P0400	84H 80H 82H 83H 84H 80H 81H 82H	84H 01H 01H 0CH 84H 96H 96H	O2 storage index in HC trap catalyst O2 storage index Switching time lag engine exhaust index value Difference in 3rd O2 sensor output voltage O2 storage index in HC trap catalyst Use Difference in 3rd O2 sensor output voltage O2 storage index in HC trap catalyst Low flow faults: EGR temp change rate (short term) Low flow faults: EGR temp change rate (long term) Low flow faults: Difference between max EGR temp and EGR temp under idling condition
CATALYST EGR SYSTEM		(Bank2)	P2423 P0430 P0430 P2424 P2424 P2424 P0400 P0400	84H 80H 82H 83H 84H 80H 81H	84H 01H 01H 0CH 84H 96H 96H	O2 storage index in HC trap catalyst O2 storage index Switching time lag engine exhaust index value Difference in 3rd O2 sensor output voltage O2 storage index in HC trap catalyst Low flow faults: EGR temp change rate (short term) Low flow faults: EGR temp change rate (long term) Low flow faults: Difference between max EGR temp and EGR temp under idling

			P0401	86H	37H	EGR differential pressure low flow
			P2457	87H	96H	EGR temperature
			P0011	80H	9DH	VTC intake function diagnosis (VTC alignment check diagnosis)
						VTC exhaust function diagnosis (VTC
			P0014	81H	9DH	alignment check diagnosis)
			P0011	82H	9DH	VTC intake function diagnosis (VTC
			PUUTI	02П	9DH	drive failure diagnosis)
			P0014	83H	9DH	VTC exhaust function diagnosis (VTC
	35H	VVT Monitor (Bank1)				drive failure diagnosis)
	3011		P100A P1090	84H 85H	10H 10H	VEL slow response diagnosis VEL servo system diagnosis
			P1090	00П		VTC intake intermediate lock function
			P0011	86H	9DH	diagnosis (VTC intermediate position
						alignment check diagnosis)
			Advanced: P052A			VTC intake intermediate lock system
			Retarded: P052A	87H	9DH	diagnosis (VTC intermediate lock positio
VT SYSTEM			Retarded: F052D			check diagnosis)
VIOIDILINI			P0021	80H	9DH	VTC intake function diagnosis (VTC
			10021	0011	, , , , ,	alignment check diagnosis)
			P0024	81H	9DH	VTC exhaust function diagnosis (VTC
						alignment check diagnosis) VTC intake function diagnosis (VTC
			P0021	82H	9DH	drive failure diagnosis)
			Dooo :		0.5.1	VTC exhaust function diagnosis (VTC
	2711	VVT Monitor (Bank2)	P0024	83H	9DH	drive failure diagnosis)
	36H		P100B	84H	10H	VEL slow response diagnosis
			P1093	85H	10H	VEL servo system diagnosis
				86H	9DH	VTC intake intermediate lock function
			P0021			diagnosis (VTC intermediate position
				87H	9DH	alignment check diagnosis)
			Advanced: P052C			VTC intake intermediate lock system diagnosis (VTC intermediate lock positio
			Retarded: P052D	0/11	7011	check diagnosis)
	39H	EVAP control system leak	P0455	80H	0CH	Difference in pressure sensor output
	0711	(Cap Off)	10100	0011	0011	voltage before and after pull down
	3BH	EVAP control system leak	P0442	80H	05H	Leak area index (for more than 0.04 inch
		(Small leak)				
			P0456	80H	05H	Leak area index (for more than 0.02 inch
AD SVSTENA		EVAP control system leak				Maximum internal pressure of EVAP
VAP SYSTEM		EVAP control system leak				
VAP STSTEIVI	3CH	-	P0456	81H	FDH	
TAP STSTEIN	3CH	(Very small leak)				system during monitoring
AP STSTEIVI	3CH	-	P0456 P0456	81H 82H	FDH FDH	system during monitoring
AP STSTEIVI	3CH	-				system during monitoring Internal pressure of EVAP system at the end of monitoring
AF STSTEIVI	3CH 3DH	-				system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output
AF STSTEIVI		(Very small leak)	P0456	82H	FDH	system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output
AP STSTEIVI		(Very small leak)	P0456	82H	FDH	system during monitoringInternal pressure of EVAP system at the end of monitoringDifference in pressure sensor output voltage before and after vent control va
		(Very small leak)	P0456 P0441	82H 83H	FDH OCH	system during monitoringInternal pressure of EVAP system at the end of monitoringDifference in pressure sensor output voltage before and after vent control va close
D2 SENSOR		(Very small leak)	P0456	82H	FDH	system during monitoringInternal pressure of EVAP system at the end of monitoringDifference in pressure sensor output voltage before and after vent control va close
	3DH	(Very small leak) Purge flow system	P0456 P0441 Low Input: P0031 High Input: P0032	82H 83H 81H	FDH OCH OBH	system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric curre to voltage
02 SENSOR	3DH	(Very small leak) Purge flow system	P0456 P0441 Low Input: P0031	82H 83H	FDH OCH	system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric curre
02 SENSOR	3DH	(Very small leak) Purge flow system	P0456 P0441 Low Input: P0031 High Input: P0032 P0030	82H 83H 81H	FDH OCH OBH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric curre to voltage A/F sensor heater circuit malfunction
D2 SENSOR	3DH 41H	(Very small leak) Purge flow system	P0456 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037	82H 83H 81H	FDH OCH OBH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current current control value of heater electric current cur
D2 SENSOR	3DH	(Very small leak) Purge flow system A/F sensor 1 heater (Bank 1)	P0456 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038	82H 83H 81H 83H	FDH OCH OBH OBH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current to voltage
D2 SENSOR	3DH 41H	(Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2	P0456 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037	82H 83H 81H 83H	FDH OCH OBH OBH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current current control value of heater electric current cur
02 SENSOR	3DH 41H 42H	(Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2 heater (Bank 1)	P0456 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038 P0141	82H 83H 81H 83H 80H 81H	FDH OCH OBH OBH OCH 14H	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current to voltage Rear O2 sensor internal impedance
02 SENSOR	3DH 41H	(Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2	P0456 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038	82H 83H 81H 83H 80H	FDH OCH OBH OBH OCH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control valcose Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current to voltage Rear O2 sensor internal impedance
02 SENSOR	3DH 41H 42H	(Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2 heater (Bank 1) Heated oxygen sensor 3	P0456 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038 P0141	82H 83H 81H 83H 80H 81H	FDH OCH OBH OBH OCH 14H	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current to voltage Rear O2 sensor internal impedance Converted value of heater electric current
D2 SENSOR HEATER	3DH 41H 42H	(Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2 heater (Bank 1) Heated oxygen sensor 3	P0456 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038 P0141	82H 83H 81H 83H 80H 81H 80H	FDH OCH OBH OBH OCH 14H OCH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric curre to voltage A/F sensor heater circuit malfunction Converted value of heater electric curre to voltage Rear O2 sensor internal impedance Converted value of heater electric curre to voltage
02 SENSOR HEATER	3DH 41H 42H	(Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2 heater (Bank 1) Heated oxygen sensor 3	P0456 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038 P0141 P0043	82H 83H 81H 83H 80H 81H	FDH OCH OBH OBH OCH 14H	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control value of after vent control value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current to voltage Rear O2 sensor internal impedance Converted value of heater electric current to voltage
02 SENSOR HEATER	3DH 41H 42H 43H	(Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2 heater (Bank 1) Heated oxygen sensor 3 heater (Bank 1)	P0456 P0441 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038 P0141 P0043 Low Input: P0051 High Input: P0052	82H 83H 81H 83H 80H 81H 80H	FDH OCH OBH OBH OCH 14H OCH OBH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control valcose Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current to voltage Rear O2 sensor internal impedance Converted value of heater electric current to voltage
D2 SENSOR HEATER	3DH 41H 42H 43H	(Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2 heater (Bank 1) Heated oxygen sensor 3 heater (Bank 1)	P0456 P0441 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038 P0141 P0043 Low Input: P0051 High Input: P0052 P0036	82H 83H 81H 83H 80H 81H 80H	FDH OCH OBH OBH OCH 14H OCH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric curre to voltage A/F sensor heater circuit malfunction Converted value of heater electric curre to voltage Rear O2 sensor internal impedance Converted value of heater electric curre to voltage Rear O2 sensor internal impedance Converted value of heater electric curre to voltage A/F sensor heater circuit malfunction
D2 SENSOR HEATER	3DH 41H 42H 43H 45H	 (Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2 heater (Bank 1) Heated oxygen sensor 3 heater (Bank 1) A/F sensor 1 heater (Bank 2) 	P0456 P0441 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038 P0141 P0043 Low Input: P0051 High Input: P0052 P0036 Low Input: P0057	82H 83H 81H 83H 80H 81H 80H	FDH OCH OBH OBH OCH 14H OCH OBH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current to voltage Rear O2 sensor internal impedance Converted value of heater electric current to voltage A/F sensor heater circuit malfunction A/F sensor internal impedance Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current to voltage A/F sensor heater circuit malfunction
D2 SENSOR HEATER	3DH 41H 42H 43H	(Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2 heater (Bank 1) Heated oxygen sensor 3 heater (Bank 1)	P0456 P0441 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038 P0141 P0043 Low Input: P0051 High Input: P0052 P0036	82H 83H 81H 83H 80H 81H 80H 81H 83H	FDH OCH OBH OBH OCH 14H OCH OCH OBH OBH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current to voltage Rear O2 sensor internal impedance Converted value of heater electric current to voltage Rear O2 sensor internal impedance Converted value of heater electric current to voltage A/F sensor heater circuit malfunction
D2 SENSOR HEATER	3DH 41H 42H 43H 45H	 (Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2 heater (Bank 1) Heated oxygen sensor 3 heater (Bank 1) A/F sensor 1 heater (Bank 2) Heated oxygen sensor 2 	P0456 P0441 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038 P0141 P0043 Low Input: P0051 High Input: P0052 P0036 Low Input: P0057	82H 83H 81H 83H 80H 81H 80H 81H 83H	FDH OCH OBH OBH OCH 14H OCH OCH OBH OBH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control val close Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current to voltage Rear O2 sensor internal impedance Converted value of heater electric current to voltage A/F sensor heater circuit malfunction A/F sensor internal impedance Converted value of heater electric current to voltage A/F sensor heater circuit malfunction Converted value of heater electric current to voltage A/F sensor heater circuit malfunction
D2 SENSOR HEATER	3DH 41H 42H 43H 45H	 (Very small leak) Purge flow system A/F sensor 1 heater (Bank 1) Heated oxygen sensor 2 heater (Bank 1) Heated oxygen sensor 3 heater (Bank 1) A/F sensor 1 heater (Bank 2) Heated oxygen sensor 2 	P0456 P0441 P0441 Low Input: P0031 High Input: P0032 P0030 Low Input: P0037 High Input: P0038 P0141 P0043 Low Input: P0051 High Input: P0052 P0036 Low Input: P0057 High Input: P0058	82H 83H 81H 80H 80H 81H 80H 81H 83H 83H	FDH OCH OBH OBH OCH 14H OCH OBH OBH OBH OBH	 system during monitoring Internal pressure of EVAP system at the end of monitoring Difference in pressure sensor output voltage before and after vent control va close Converted value of heater electric curre to voltage A/F sensor heater circuit malfunction Converted value of heater electric curre to voltage Rear O2 sensor internal impedance Converted value of heater electric curre to voltage A/F sensor heater circuit malfunction Converted value of heater electric curre to voltage A/F sensor internal impedance Converted value of heater electric curre to voltage A/F sensor heater circuit malfunction Converted value of heater electric curre to voltage A/F sensor heater circuit malfunction

			P0411	80H	01H	Secondary air injection system incorrect flow detected
	71H		Bank1: P0491 Bank2: P0492	81H	01H	Secondary air injection system insufficient flow
SECONDARY			P2445	82H	01H	Secondary air injection system pump stuck off
AIR		Secondary air system	P2448	83H	01H	Secondary air injection system high airflow
			Bank1: P2440 Bank2: P2442	84H	01H	Secondary air injection system switching valve stuck open
			P2440	85H	01H	Secondary air injection system switching valve stuck open
			P2444	86H	01H	Secondary air injection system pump stuck on
	81H	Fuel injection system function	P0171 or P0172	80H	2FH	Long term fuel trim
FUEL		(Bank 1)	P0171 or P0172 P117A / P219A	81H 82H	24H 03H	The number of lambda control clamped Cylinder A/F imbalance monitoring
SYSTEM		Fuel injection system function	P0174 or P0175	80H	2FH	Long term fuel trim
	82H	(Bank 2)	P0174 or P0175	81H	24H	The number of lambda control clamped
			P117B / P219B	82H	03H	Cylinder A/F imbalance monitoring
			P0301	80H	24H	Misfiring counter at 1000 revolution of the
	A1H	Multiple cylinder misfires	P0302	81H	24H	first cylinder Misfiring counter at 1000 revolution of the second cylinder
			P0303	82H	24H	Misfiring counter at 1000 revolution of the third cylinder
			P0304	83H	24H	Misfiring counter at 1000 revolution of the fourth cylinder
			P0305	84H	24H	Misfiring counter at 1000 revolution of the fifth cylinder
			P0306	85H	24H	Misfiring counter at 1000 revolution of the sixth cylinder
			P0307	86H	24H	Misfiring counter at 1000 revolution of the seventh cylinder
			P0308	87H	24H	Misfiring counter at 1000 revolution of the eighth cylinder
			P0300	88H	24H	Misfiring counter at 1000 revolution of the multiple cylinders
			P0301	89H	24H	Misfiring counter at 200 revolution of the first cylinder
			P0302	8AH	24H	Misfiring counter at 200 revolution of the second cylinder
			P0303	8BH	24H	Misfiring counter at 200 revolution of the third cylinder
			P0304	8CH	24H	Misfiring counter at 200 revolution of the fourth cylinder
			P0305	8DH	24H	Misfiring counter at 200 revolution of the fifth cylinder
			P0306	8EH	24H	Misfiring counter at 200 revolution of the sixth cylinder
			P0307	8FH	24H	Misfiring counter at 200 revolution of the seventh cylinder
			P0308	90H	24H	Misfiring counter at 200 revolution of the eighth cylinder
			P0300	91H	24H	Misfiring counter at 1000 revolution of the single cylinder
			P0300	92H	24H	Misfiring counter at 200 revolution of the single cylinder
			P0300	93H	24H	Misfiring counter at 200 revolution of the multiple cylinders
MISFIRE	A2H	No. 1 cylinder misfire	P0301	ОВН	24H	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles
			P0301	ОСН	24H	Misfire counts for last/current driving cycles

A3H	No. 2 cylinder misfire	P0302	OBH	24H	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 drivin cycles
		P0302	0CH	24H	Misfire counts for last/current driving cycles
A4H	No. 3 cylinder misfire	P0303	OBH	24H	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 drivin cycles
		P0303	ОСН	24H	Misfire counts for last/current driving cycles
A5H	No. 4 cylinder misfire	P0304	OBH	24H	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 drivin cycles
		P0304	0CH	24H	Misfire counts for last/current driving cycles
A6H	No. 5 cylinder misfire	P0305	OBH	24H	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 drivin cycles
		P0305	0CH	24H	Misfire counts for last/current driving cycles
A7H	No. 6 cylinder misfire	P0306	OBH	24H	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 drivir cycles
		P0306	OCH	24H	Misfire counts for last/current driving cycles
A8H	No. 7 cylinder misfire	P0307	OBH	24H	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 drivir cycles
		P0307	ОСН	24H	Misfire counts for last/current driving cycles
A9H	No. 8 cylinder misfire	P0308	OBH	24H	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 drivir cycles
		P0308	0CH	24H	Misfire counts for last/current driving cycles