

DATA LIST / ACTIVE TEST

1. DATA LIST

HINT:

By reading the DATA LIST displayed on a intelligent tester, you can check values, including those of the switches, sensors, and actuators, without removing any parts. Reading the DATA LIST as the first step of troubleshooting is one method of shortening diagnostic time.

NOTICE:

In the table below, the values listed under Normal Conditions are for reference only. Do not depend solely on these values when determining whether or not a part is faulty.

- (a) Warm up the engine.
- (b) Turn the ignition switch to OFF
- (c) Connect a intelligent tester to the DLC3.
- (d) Turn the ignition switch to ON.
- (e) Turn the tester ON.
- (f) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / DATA LIST.
- (g) Check the values by referring to the table below.

Intelligent Tester Display	Measurement Item: Range (Display)	Normal Condition *	Diagnostic Note
INJECTOR	Injection period of No. 1 cylinder: Min.: 0 ms, Max.: 32.64 ms	1.8 to 3.8 ms: Idling	-
IGN ADVANCE	Ignition timing advance for No. 1 cylinder: Min.: -64 deg., Max.: 63.5 deg.	BTDC 4 to 17°: Idling	-
CALC LOAD	Calculated load by ECM: Min.: 0 %, Max.: 100 %	<ul style="list-style-type: none"> • 11 to 26 %: Idling • 12 to 27 %: Running without load (2,500 rpm) 	-
VEHICLE LOAD	Vehicle load: Min.: 0 %, Max.: 25700 %	Actual vehicle load	-
MAF	Air flow rate from MAF meter: Min.: 0 g/sec, Max.: 655.35 g/sec	2.0 to 4.5 g/sec: Idling	If value approximately 0.0 g/sec: <ul style="list-style-type: none"> • Mass air flow meter power source circuit open • VG circuit open or short If value 160.0 g/sec or more: <ul style="list-style-type: none"> • E2G circuit open
ENGINE SPD	Engine speed: Min.: 0 rpm, Max.: 16,383.75 rpm	650 +- 50 rpm: Idling	-
VEHICLE SPD	Vehicle speed: Min.: 0 km/h, Max.: 255 km/h	Actual vehicle speed	Speed indicated on speedometer
COOLANT TEMP	Engine coolant temperature: Min.: -40°C, Max.: 140°C	80 to 100°C (176 to 212°F): After warming up	<ul style="list-style-type: none"> • If value -40°C (-40°F): sensor circuit open • If value 140°C (284°F): sensor circuit shorted
INTAKE AIR	Intake air temperature: Min.: -40°C, Max.: 140°C	Equivalent to ambient air temperature	<ul style="list-style-type: none"> • If value -40°C (-40°F): sensor circuit open • If value 140°C (284°F): sensor circuit shorted
SECONDARY AIR	Secondary air injection system status: ON or OFF	ON: Secondary air system operation	-
AIR-FUEL RATIO	Air-fuel ratio: Min.: 0, Max.: 1.999	0.8 to 1.2: Idling	-

Intelligent Tester Display	Measurement Item: Range (Display)	Normal Condition *	Diagnostic Note
PURGE DENSITY	Learning value of purge density: Min.: -50, Max.: 350	-40 to 0 %: Idling	Service data
PURGE FLOW	Purge flow: Min.: 0 %, Max.: 102.4 %	0 to 100 %: Idling	-
EVAP PURGE VSV	EVAP (Purge) VSV control duty: Min.: 0 %, Max.: 100 %	0 to 100 %: During idling	Order signal from ECM
VAPOR PRESS	Vapor pressure: Min.: 33.853 kPa, Max.: 125.596 kPa	Approximately 100 kPa: Ignition switch ON	EVAP system pressure monitored by canister pressure sensor
VAPOR PRESS CALC	Calculated EVAP system pressure: Min.: -5.632 kPa, Max.: 715.264 kPa	Approximately 100 kPa: Ignition switch ON	-
KNOCK CRRT VAL	Correction learning value of knocking: Min.: -64 °CA, Max.: 1,984 °CA	0 to 19 °CA: Driving, 44 mph (70 km/h)	Service data
KNOCK FB VAL	Feedback value of knocking: Min.: -64 °CA, Max.: 1,984 °CA	-19 to 0 °CA Driving, 44 mph (70 km/h)	Service data
EVAP VAPOR PRES	EVAP vapor pressure: Min.: 0 kPa, Max.: 327.675 kPa	Approximately 100 kPa: Ignition switch ON	-
ACCEL POS #1	Absolute No. 1 Accelerator Pedal Position (APP): Min.: 0 %, Max.: 100 %	10 to 22 %: Accelerator pedal released 54 to 86 %: Accelerator pedal fully depressed	-
ACCEL POS #2	Absolute No. 2 APP: Min.: 0 %, Max.: 100 %	12 to 42 %: Accelerator pedal released 66 to 98 %: Accelerator pedal fully depressed	-
ACCEL POS #1	No. 1 APP sensor voltage: Min.: 0 V, Max.: 4.98 V	-	ETCS freeze data
ACCEL POS #2	No. 2 APP sensor voltage: Min.: 0 V, Max.: 4.98 V	-	ETCS freeze data
ACCEL POS #1	No. 1 APP sensor voltage: Min.: 0 V, Max.: 5 V	0.5 to 1.1 V: accelerator pedal released 2.6 to 4.5 V: or pedal fully depressed	-
ACCEL POS #2	No. 2 APP sensor voltage: Min.: 0 V, Max.: 5 V	1.2 to 2.0 V: accelerator pedal released 3.4 to 5.3 V: accelerator pedal fully depressed.	-
ACCEL IDL POS	Whether or not accelerator pedal position sensor detecting idle: ON or OFF	ON: Idling	-
THRTL LEARN VAL	Throttle valve fully closed (learned value): Min.: 0 V, Max.: 5 V	0.4 to 0.8 V	-
ACCEL SSR #1 AD	No.1 Accelerator fully closed value (AD): Min.: 0 V, Max.: 4.9804 V	-	ETCS service data
ACCEL LRN VAL#1	No.1 Accelerator fully closed learning value: Min.: 0, Max.: 124.512	-	ETCS service data
ACCEL LRN VAL#2	No.2 Accelerator fully closed learning value: Min.: 0, Max.: 124.512	-	ETCS service data
FAIL #1	Whether or not fail safe function executed: ON or OFF	ON: ETCS has failed	-
FAIL #2	Whether or not fail safe function executed: ON or OFF	ON: ETCS has failed	-
ST1	Starter signal: ON or OFF	ON: Cranking	-

Intelligent Tester Display	Measurement Item: Range (Display)	Normal Condition *	Diagnostic Note
SYSGUARD JUDGE	System guard: ON or OFF	-	ETCS service data
OPN MALFUNCTION	Open side malfunction: ON or OFF	-	ETCS service data
THROTTLE POS	Absolute throttle position sensor: Min.: 0 %, Max.: 100 %	<ul style="list-style-type: none"> 10 to 24 %: Throttle fully closed 64 to 96 %: Throttle fully open 	Read value with intrusive operation (active test)
THROTTL IDL POS	Whether or not throttle position sensor detecting idle: ON or OFF	ON: Idling	-
THRTL REQ POS	Throttle requirement position: Min.: 0 V, Max.: 5 V	0.5 to 1.0 V: Idling	-
THROTTLE POS	Throttle sensor positioning: Min.: 0 % Max.: 100 %	0 to 10 %: Idling	Calculated value based on VTA1
THROTTLE POS #2	Throttle sensor positioning #2: Min.: 0 %, Max.: 100 %	-	Calculated value based on VTA2
THROTTLE POS #1	No. 1 Throttle position sensor output voltage: Min.: 0 V, Max.: 4.9 V	-	ETCS freeze data
THROTTLE POS #2	No.2 Throttle position sensor output voltage: Min.: 0 V, Max.: 4.9 V	-	ETCS freeze data
THROTTLE POS #1	No. 1 Throttle position: Min.: 0 V, Max.: 5 V	<ul style="list-style-type: none"> 0.5 to 1.2 V: Throttle fully closed 3.2 to 4.8 V: Throttle fully opened 	-
THROTTLE POS #2	No. 2 Throttle position: Min.: 0 V, Max.: 5 V	<ul style="list-style-type: none"> 2.0 to 2.9 V: Throttle fully closed 4.6 to 5.5 V: Throttle fully open 	Read value with intrusive operation (active test)
THRTL COMND VAL	Throttle position command value: Min.: 0 V, Max.: 4.9804 V	0.5 to 4.8 V	ETCS service data
THROTTLE SSR #1	No. 1 Throttle sensor opener position: Min.: 0 V, Max.: 4.9804 V	0.6 to 1.0 V	ETCS service data
THROTTLE SSR #2	No. 2 Throttle sensor opener position: Min.: 0 V, Max.: 4.9804 V	2.0 to 2.6 V	ETCS service data
THRTL SSR #1 AD	No.1 Throttle sensor opener position (AD): Min.: 0 V, Max.: 4.9804 V	0.6 to 0.9 V	ETCS service data
THROTTLE MOT	Whether or not throttle motor control permitted: ON or OFF	ON: Idling	Read value with ignition switch ON (Do not start engine)
THROTTLE MOT	Throttle motor current: Min.: 0 A, Max.: 80 A	0 to 3.0 A: Idling	-
THROTTLE MOT	Throttle motor: Min.: 0 % Max.: 100 %	0.5 to 40 %: Idling	-
THROTTLE MOT	Throttle motor current: Min.: 0 A, Max.: 19.92 A	0 to 3.0 A: Idling	-
THROTL OPN DUTY	Throttle motor opening duty ratio: Min.: 0 %, Max.: 100 %	0 to 40 %: Idling	When accelerator pedal depressed, duty ratio increased
THROTL CLS DUTY	Throttle motor closed duty ratio: Min.: 0 %, Max.: 100 %	0 to 40 %: Idling	When accelerator pedal released quickly, duty ratio increased
THRTL MOT (OPN)	Throttle motor duty ratio (open): Min.: 0 %, Max.: 100 %	-	ETCS service data
THRTL MOT (CLS)	Throttle motor duty ratio (close): Min.: 0 %, Max.: 100 %	-	ETCS service data

Intelligent Tester Display	Measurement Item: Range (Display)	Normal Condition *	Diagnostic Note
O2S B1 S2	Heated oxygen sensor output voltage for bank 1 sensor 2: Min.: 0 V, Max.: 1.275 V	0 to 0.9 V: Driving 44 mph (70 km/h)	Performing INJ VOL or A/F CONTROL function of ACTIVE TEST enables technician to check voltage output of sensor
AFS B1 S1	A/F sensor output voltage for bank 1 sensor 1: Min.: 0 V, Max.: 7.999 V	2.8 to 3.8 V: Idling	Performing INJ VOL or A/F CONTROL function of ACTIVE TEST enables technician to check voltage output of sensor
TOTAL FT #1	Total fuel trim of bank 1 Average value for fuel trim system of bank 1: Min.: -0.5, Max.: 0.496	-0.2 to 0.2: Idling	-
SHORT FT #1	Short-term fuel trim of bank 1: Min.: -100 %, Max.: 99.2%	0 +- 20 %	Short-term fuel compensation used to maintain air-fuel ratio at stoichiometric air-fuel ratio
LONG FT #1	Long-term fuel trim of bank 1: Min.: -100 %, Max.: 99.2 %	0 +- 20 %	Overall fuel compensation carried out in long-term to compensate continual deviation of short-term fuel trim from central value
FUEL SYS #1	Fuel system status (Bank1): OL or CL or OL DRIVE or OL FAULT or CL FAULT	CL: Idling after warming up	<ul style="list-style-type: none"> • OL (Open Loop): Has not yet satisfied conditions to go closed loop • CL (Closed Loop): Using heated oxygen sensor as feedback for fuel control • OL DRIVE: Open loop due to driving conditions (fuel enrichment) • OL FAULT: Open loop due to detected system fault • CL FAULT: Closed loop but heated oxygen sensor, which used for fuel control malfunctioning
O2FT B1 S2	Short-term fuel trim associated with bank 1 sensor 2: Min.: -100 %, Max.: 99.2 %	-	-
AF FT B1 S1	Short-term fuel trim associated with bank 1 sensor 1: Min.: 0, Max.: 1.999	<ul style="list-style-type: none"> • Value less than 1 (0.000 to 0.999) = Lean • Stoichiometric air-fuel ratio=1 • Value greater than 1 (1.001 to 1.999) = Rich 	-
CAT TEMP B1S1	Catalyst temperature (Bank 1, Sensor 1): Min.: -40, Max.: 6,513.5°C	-	-
CAT TEMP B1S2	Catalyst temperature (Bank 1, Sensor 2): Min.: -40, Max.: 6,513.5°C	-	-
INI COOL TEMP	Initial engine coolant temperature: Min.: -40°C, Max.: 140°C	Engine coolant temperature when engine started	Service data
INI INTAKE TEMP	Initial intake air temperature: Min.: -40°C, Max.: 140°C	Intake air temperature when engine started	Service data
INJ VOL	Injection volume (cylinder 1): Min.: 0 ml, Max.: 2.048 ml	0 to 0.5 ml	Quantity of fuel injection volume for 10 times
AIR PMP PRS(A)	Air pump pressure (absolute): Min.: 0 kPa, Max.: 320 kPa	Atmospheric pressure +2.5 kPa or more: Air pump ON, Air switching valve open Close to atmospheric pressure: Air pump OFF, Air switching valve close	(See page ES-354)

Intelligent Tester Display	Measurement Item: Range (Display)	Normal Condition *	Diagnostic Note
AIR PMP PLS PRS	Air pump pulsation pressure: Min.: 0 kPa, Max.: 639.9 kPa	-	Cumulative pulsation pressure calculated by ECM (See page ES-354)
STARTER SIG	Starter signal: ON or OFF	ON: Cranking	-
PS SW	Power steering signal: ON or OFF	ON: Power steering operation	-
PS SIGNAL	Power steering signal: ON or OFF	ON: When steering wheel first turned after battery terminals connected	This signal status usually ON until battery terminals disconnected
CTP SW	Closed throttle position switch: ON or OFF	<ul style="list-style-type: none"> • ON: Throttle fully closed • OFF: Throttle open 	-
A/C SIG	A/C signal: ON or OFF	ON: A/C ON	-
ELECT LOAD SIG	Electrical load signal: ON or OFF	ON: Headlights or defogger turned ON	-
STOP LIGHT SW	Stop light switch: ON or OFF	ON: Brake pedal depressed.	-
+BM	Whether or not electronic throttle control system power input: ON or OFF	ON: Idling	-
+BM VOLTAGE	+BM voltage: Min.: 0, Max.: 19.92	10 to 15 V: Idling	ETCS service data
BATTERY VOLTAGE	Battery voltage: Min.: 0 V, Max.: 65.535 V	9 to 14 V: Idling	-
ACTUATOR POWER	Actuator power supply: ON or OFF	ON: Idling	ETCS service data
ATM PRESSURE	Atmospheric pressure: Min.: 0 kPa, Max.: 150 kPa	Equivalent to atmospheric pressure (absolute pressure)	-
SECOND AIR VSV	Secondary air injection system status	ON: Secondary air injection system operation	-
ACT VSV	A/C cut status for Active Test: ON or OFF	-	Active Test support data
EVAP (Purge) VSV	VSV status for EVAP control: ON or OFF	-	Active Test support data
FUEL PUMP / SPD	Fuel pump/speed status: ON or OFF	-	Active Test support data
VVT CTRL B1	VVT control status: ON or OFF	-	Active Test support data
VACUUM PUMP	Key-off EVAP system pump status: ON or OFF	-	Active Test support data
EVAP VENT VAL	Key-off EVAP system vent valve status: ON or OFF	-	Active Test support data
TC/TE1	TC and TE1 terminals of DLC3: ON or OFF	-	-
AI STATUS	Secondary air injection system operation prohibition: OK or NG	-	(See page ES-354)
VVTL AIM ANGL #1	VVT aim angle (bank 1): Min.: 0 %, Max.: 100 %	0 %: Idling	VVT duty signal value during intrusive operation
VVT CHNG ANGL #1	VVT change angle: Min.: 0°FR, Max.: 60°FR	0 to 5 °FR: Idling	Displacement angle during intrusive operation
VVT OCV DUTY B1	VVT OCV operation duty: Min.: 0 %, Max.: 100 %	0 %: Idling	Requested duty value for intrusive operation
FC IDL	Fuel cut idle: ON or OFF	ON: Fuel cut operation	FC IDL = "ON" when throttle valve fully closed and engine speed over 2,800 rpm

Intelligent Tester Display	Measurement Item: Range (Display)	Normal Condition *	Diagnostic Note
FC TAU	Fuel cut TAU: Fuel cut during very light load: ON or OFF	ON: Fuel cut operation	Fuel cut being performed under very light load to prevent engine combustion from becoming incomplete
IGNITION	Ignition counter: Min.: 0, Max.: 400	0 to 400	-
CYL #1, #2, #3, #4	Misfire ratio of cylinder 1 to 4: Min.: 0, Max.: 255	0 %	This item displayed in only idling
CYL ALL	All cylinders misfire rate: Min.: 0, Max.: 255	0 to 35	-
MISFIRE RPM	Engine RPM for first misfire range: Min.: 0 rpm, Max.: 6,375 rpm	0 rpm: Misfire 0	-
MISFIRE LOAD	Engine load for first misfire range: Min.: 0 g/rev, Max.: 3.98 g/rev	0 g/rev: Misfire 0	-
MISFIRE MARGIN	Misfire monitoring: Min.: -100 %, Max.: 99.22 %	-100 to 99.2 %	Misfire detecting margin
#CODES	#Codes: Min.: 0, Max.: 255	-	Number of detected DTCs
CHECK MODE	Check mode: ON or OFF	ON: Check mode ON	(See page ES-43)
SPD TEST	Check mode result for vehicle speed sensor: COMPL or INCOMPL	-	-
AS TEST	Check mode result for secondary air injection system: COMPL or INCOMPL	-	-
MISFIRE TEST	Check mode result for misfire monitor: COMPL or INCOMPL	-	-
OXS1 TEST	Check mode result for HO2 sensor : COMPL or INCOMPL	-	-
A/F SSR TEST B1	Check mode result for air-fuel ratio sensor : COMPL or INCOMPL	-	-
MIL	MIL status: ON or OFF	ON: MIL ON	-
MIL ON RUN DIST	MIL ON Run Distance: Min.: 0 second, Max.: 65,535 seconds	Distance after DTC detected	-
MIL ON RUN TIME	Running time from MIL ON: Min.: 0 minute, Max.: 65,535 minutes	Equivalent to running time after MIL ON	-
ENG RUN TIME	Engine run time: Min.: 0 second, Max.: 65,535 seconds	Time after engine start	Service data
TIME DTC CLEAR	Time after DTC cleared: Min.: 0 minute, Max.: 65,535 minutes	Equivalent to time after DTCs erased	-
DIST DTC CLEAR	Distance after DTC cleared: Min.: 0 km/h, Max.: 65535 km/h	Equivalent to drive distance after DTCs erased	-
WU CYC DTC CLEAR	Warm-up cycle after DTC cleared: Min.: 0, Max.: 255	-	Number of warm-up cycles after DTC cleared
MODEL CODE	Model code:	-	Identifying model code: TRN2###
ENGINE TYPE	Engine type:	-	Identifying engine type: 2TR
CYLINDER NUMBER	Cylinder number: Min.: 0, Max.: 255	-	Identifying cylinder number: 4 or 6
TRANSMISSION	Transmission type:	-	Identifying transmission type: MT, ECT(5AT) or ECT(4AT)

Intelligent Tester Display	Measurement Item: Range (Display)	Normal Condition *	Diagnostic Note
DESTINATION	Destination	-	Identifying destination: A (America)
MODEL YEAR	Model year: Min.: 0, Max.: 255	-	Identifying model year: 200#
SYSTEM	System identification	-	Identifying engine system: GASLIN (gasoline engine)

*1: If no idling conditions are specified, transmission gear selector lever should be in the N or P position, and the A/C switch and all accessory switches should be OFF.

2. ACTIVE TEST

HINT:

Performing an ACTIVE TEST enables components including the relays, VSV (Vacuum Switching Valve), and actuators, to be operated without removing any parts. The ACTIVE TEST can be performed with a intelligent tester. Performing an ACTIVE TEST as the first step of troubleshooting is one method of shortening diagnostic time.

DATA LIST can be displayed during ACTIVE TESTS.

- (a) Connect a intelligent tester to the DLC3.
- (b) Turn the ignition switch to ON.
- (c) Turn the tester ON.
- (d) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / ACTIVE TEST.
- (e) Perform the ACTIVE TEST by referring to the table below.

Intelligent Tester Displays	Test Details	Control Ranges	Diagnostic Notes
INJ VOL	Change injection volume	Between -12 % and 25 %	<ul style="list-style-type: none"> • All injectors tested at same time • Perform test at less than 3,000 rpm • Injection volume can be changed in 1 % graduations within control range
A/F CONTROL	Change injection volume	Lower by 12.5 % or increase by 25 %	<ul style="list-style-type: none"> • Perform test at less than 3,000 rpm • A/F CONTROL enables checking and graphing of A/F (Air Fuel Ratio) sensor and Heated Oxygen (HO2) sensor voltage outputs • To conduct test, select following menu items: ACTIVE TEST / A/F CONTROL / USER DATA / AFS B1S1 and O2S B1S2, and press YES and ENTER followed by F4
EVAP VSV (ALONE)	Activate EVAP VSV control	ON/OFF	-
VVT CTRL B1	Turn on and off OCV (Oil Control Valve)	ON/OFF	<ul style="list-style-type: none"> • Engine stalls or idles roughly when OCV turned ON • Normal engine running or idling when OCV off
A/C CUT SIG	Control A/C cut signal	ON/OFF	-
FUEL PUMP/SPD	Activate fuel pump (C/OPN Relay)	ON/OFF	-

Intelligent Tester Displays	Test Details	Control Ranges	Diagnostic Notes
TC/TE1	Turn on and off TC and TE1 connection	ON/OFF	<ul style="list-style-type: none"> ON: TC and TE1 connected OFF: TC and TE1 disconnected
FC IDL PROHBT	Prohibit idling fuel cut control	ON/OFF	-
ETCS OPEN SLOW	Throttle actuator	ON: throttle valve opens slowly	Test possible when following conditions met: <ul style="list-style-type: none"> Ignition switch ON Engine does not start Fully depressing accelerator pedal (APP: 58 degrees or more)
ETCS CLOSE SLOW	Throttle actuator	ON: throttle valve closes slowly	Same as above
ETCS OPEN FAST	Throttle actuator	ON: throttle valve opens fast	Same as above
ETCS CLOSE FAST	Throttle actuator	ON: throttle valve closes fast	Same as above
FUEL CUT #1	Cylinder #1 injector fuel cut	ON/OFF	Test possible during vehicle stopping and engine idling
FUEL CUT #2	Cylinder #2 injector fuel cut	ON/OFF	Same as above
FUEL CUT #3	Cylinder #3 injector fuel cut	ON/OFF	Same as above
FUEL CUT #4	Cylinder #4 injector fuel cut	ON/OFF	Same as above
VVT B1	VVT actuator	-128 to 127% OCV control duty ratio can be set to any value within this range 100%: Maximum advance -100%: Maximum retard	Engine stalls or idles roughly when VVT actuator is operated at 100 % or more. This test is possible while idling.
VENT VALVE (ALONE)	Activate vent valve (built into canister pump module)	ON/OFF	-
VCUUM PUMP	Activate leak detection pump (built into canister pump module)	ON/OFF	-

3. SYSTEM CHECK

HINT:

Performing a SYSTEM CHECK enables the system, which consists of multiple actuators, to be operated without removing any parts. In addition, it can show whether or not any DTCs (PENDING CODES) are set, and can detect potential malfunctions in the system. SYSTEM CHECK can be performed with a intelligent tester.

- (a) Connect a intelligent tester to the DLC3.
- (b) Turn the ignition switch to ON and turn the tester ON.
- (c) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / SYSTEM CHECK.
- (d) Perform the SYSTEM CHECK by referring to the table below.
- (e) Turn the ignition switch to OFF.

Intelligent Tester Displays	Test Details	Recommended Vehicle Conditions	Diagnostic Notes
EVAP SYS CHECK (AUTOMATIC OPERATION)	Perform 5 steps in order to operate EVAP key-off monitor automatically	Fuel temperature 35°C (95°F) or less	<ul style="list-style-type: none"> If no DTCs in PENDING CODE after performing this test, system functioning normally Refer to EVAP Inspection Procedure (See page ES-390)
EVAP SYS CHECK (MANUAL OPERATION)	Perform 5 steps in order to operate EVAP key-off monitor manually	Fuel temperature 35°C(95°F) or less	<ul style="list-style-type: none"> Used to detect malfunctioning parts Refer to EVAP Inspection Procedure (See page ES-390)

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Intelligent Tester Displays	Test Details	Recommended Vehicle Conditions	Diagnostic Notes
<p>AIR INJ CHECK (AUTOMATIC OPERATION)</p>	<p>Perform secondary air injection system operation automatically</p>	<p>With warm engine, ignition switch turned OFF once</p>	<ul style="list-style-type: none"> • If no DTCs in PENDING CODE after performing this test, system functioning normally • Refer to inspection procedure for secondary air injection system DTCs • When performing AIR INJ CHECK operation after battery cable has been reconnected, wait for 7 minutes with ignition switch turned to ON or engine running • Turn ignition switch to OFF when SYSTEM CHECK finished
<p>AIR INJ CHECK (MANUAL OPERATION)</p>	<p>Perform secondary air injection system operation manually Select monitor item 1, 2 or 3</p> <ol style="list-style-type: none"> 1. Air pump: ON Air switching valve: OPEN 2. Air pump: OFF Air switching valve: CLOSE 3. Air pump: ON Air switching valve: CLOSE 	<p>With warm engine, ignition switch turned OFF once</p>	<ul style="list-style-type: none"> • Used to detect malfunctioning parts • Refer to inspection procedure for secondary air injection system DTCs • When performing AIR INJ CHECK operation after battery cable has been reconnected, wait for 7 minutes with ignition switch turned to ON or engine running • Turn ignition switch to OFF when SYSTEM CHECK finishes