

DATA LIST / ACTIVE TEST

1. DATA LIST

HINT:

Using the intelligent tester's DATA LIST allows switch, sensor, actuator and other item values to be read without removing any parts. Reading the DATA LIST early in troubleshooting is one way to save time.

NOTICE:

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

- (a) Warm up the engine.
- (b) Turn the ignition switch OFF.
- (c) Connect the intelligent tester to the DLC3.
- (d) Turn the ignition switch ON.
- (e) Turn the intelligent tester ON.
- (f) Enter the following menus: DIAGNOSIS / ENHANCED OBD II / DATA LIST.
- (g) According to the display on the tester, use the DATA LIST.

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
INJECTOR	Injection period of the No. 1 cylinder: Min.: 0 ms, Max.: 32.64 ms	2.3 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 21 %: Idling • 12 to 22 %: Running without load (2,500 rpm) 	-
VEHICLE LOAD	Vehicle load: Min.: 0%, Max.: 25700 %	Actual vehicle load	-
MAF	Air flow rate from Mass air flow (MAF) meter: Min.: 0 g/sec., Max.: 655 g/sec.	2.0 to 3.9 g/sec.: Idling	If the 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 the value 160.0 g/sec. or more: • E2G circuit open
ENGINE SPD	Engine speed: Min.: 0 rpm, Max.: 16,383 rpm	550 to 650 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	If the value -40°C (-40°F): sensor circuit open If the value 140°C (284°F): sensor circuit shorted
INTAKE AIR	Intake air temperature: Min.: -40°C, Max.: 140°C	Equivalent to ambient air temperature	If the value -40°C (-40°F): sensor circuit open If the value 140°C (284°F): sensor circuit shorted
SECONDARY AIR	Second air system status: ON or OFF	ON: Second air system operation	-
AIR-FUEL RATIO	Air fuel ratio: Min.: 0, Max.: 1.999	0.8 to 1.2: During idling	-
PURGE DENSITY	Learning value of purge density: Min.: -50, Max.: 350	Idling: -40 to 0 %	Service data
PURGE FLOW	Purge flow: Min.: 0 %, Max.: 102.4 %	0 to 100 %: Idling	-

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
EVAP PURGE VSV	Purge VSV control duty: Min.: 0 %, Max.: 100 %	0 to 100 %: During idling	Order signal from ECM
VAPOR PRESS	Vapor pressure: Min.: -4.125 kPa, Max.: 2.125 kPa	0 kPa: Fuel tank cap removed	Pressure inside fuel tank monitored by vapor pressure sensor
KNOCK CRRT VAL	Correction learning value of knocking: Min.: -64 CA, Max.: 1984 CA	0 to 22° CA: Driving, 70 km/h (44 mph)	Service data
KNOCK FB VAL	Feedback value of knocking: Min.: -64 CA, Max.: 1984 CA	-22 to 0° CA: Driving, 70 km/h (44 mph)	Service data
EVAP VAPOR PRES	EVAP vapor pressure: Min.: -8192 Pa, Max.: 8191 Pa	0 Pa: Fuel tank cap removed	-
ACCEL POS #1	Absolute Accelerator Pedal Position (APP) No. 1: Min.: 0%, Max.: 100 %	10 to 22 %: accelerator pedal is released 54 to 86 %: accelerator pedal is fully depressed	-
ACCEL POS #2	Absolute APP No. 2: Min.: 0 %, Max.: 100 %	12 to 42 %: accelerator pedal is released 66 to 98 %: accelerator pedal is fully depressed	-
ACCEL POS #1	APP sensor No. 1 voltage: Min.: 0 V, Max.: 4.98 V	-	ETCS freeze data
ACCEL POS #2	APP sensor No. 2 voltage: Min.: 0 V, Max.: 4.98 V	-	ETCS freeze data
ACCEL POS #1	APP sensor No. 1 voltage: Min.: 0 V, Max.: 5 V	0.5 to 1.1 V: accelerator pedal is released 2.6 to 4.5 V: or pedal is fully depressed	-
ACCEL POS #2	APP sensor No. 2 voltage: Min.: 0 V, Max.: 5 V	1.2 to 2.0 V: accelerator pedal is released 3.4 to 5.3 V: accelerator pedal is 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)	0.4 to 0.8 V	-
ACCEL SSR #1 AD	Accelerator fully closed value No. 1 (AD): Min.: 0, Max.: 4.98 V	-	ETCS service data
ACCEL LRN VAL#1	Accelerator fully closed learning value No. 1: Min.: 0, Max.: 124.512	-	ETCS service data
ACCEL LRN VAL#2	Accelerator fully closed learning value No. 2: 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	Stater signal: ON or OFF	ON: Cranking	-
SYS GUARD 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 the value with intrusive operation (Active Test)

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
THROTTLE IDL POS	Whether or not throttle position sensor detecting idle: ON or OFF	ON: Idling	-
THROTTLE 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 %	10 to 18 %: 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	Throttle position sensor No. 1 output voltage: Min.: 0 V, Max.: 4.9 V	-	ETCS freeze data
THROTTLE POS #2	Throttle position sensor No. 2 output voltage: Min.: 0 V, Max.: 4.9 V	-	ETCS freeze data
THROTTLE POS #1	Throttle position No. 1: 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 open 	-
THROTTLE POS #2	Throttle position No. 2: 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 the value with intrusive operation (Active Test)
THRTL COMND VAL	Throttle position command value: Min.: 0 V, Max.: 4.98 V	0.5 to 4.8 V	ETCS service data
THROTTLE SSR #1	Throttle sensor opener position No. 1: Min.: 0 V, Max.: 4.98 V	0.6 to 0.9 V	ETCS service data
THROTTLE SSR #2	Throttle sensor opener position No. 2: Min.: 0 V, Max.: 4.98 V	2.2 to 2.6 V	ETCS service data
THRTL SSR #1 AD	Throttle sensor opener position No. 1 (AD): Min.: 0 V, Max.: 4.98 V	0.6 to 0.9 V	ETCS service data
THROTTLE MOT	Whether or not throttle actuator control permitted: ON or OFF	ON: Idling	Read the value with the ignition switch ON (Do not start engine)
THROTTLE MOT	Throttle actuator current: Min.: 0 A, Max.: 80 A	0 to 3.0 A: Idling	-
THROTTLE MOT	Throttle actuator: Min.: 0 %, Max.: 100 %	0.5 to 40 %: Idling	-
THROTTLE MOT	Throttle actuator current: Min.: 0 A, Max.: 19.92 A	0 to 3.0 A: Idling	-
THROTL OPN DUTY	Throttle actuator opening duty ratio: Min.: 0 %, Max.: 100 %	0 to 40 %: During idling	When accelerator pedal depressed, duty ratio increased
THROTL CLS DUTY	Throttle actuator closed duty ratio: Min.: 0 %, Max.: 100 %	0 to 40 %: During idling	When accelerator pedal released quickly, duty ratio increased
THRTL MOT (OPN)	Throttle actuator duty ratio (open): Min.: 0 %, Max.: 100 %	-	ETCS service data
THRTL MOT (CLS)	Throttle actuator duty ratio (close): Min.: 0 %, Max.: 100 %	-	ETCS service data
O2S B1 S2	Heated oxygen sensor output voltage for bank 1 sensor 2: Min.: 0 V, Max.: 1.275 V	0.1 to 0.9 V: Driving 44 mph (70 km/h)	Performing the INJ VOL or A/F CONTROL function of the ACTIVE TEST enables the technician to check voltage output of the sensor
O2S B2 S2	Heated oxygen sensor output voltage for bank 2 sensor 2: Min.: 0 V, Max.: 1.275 V	0.1 to 0.9 V: Driving 44 mph (70 km/h)	Performing the INJ VOL or A/F CONTROL function of the ACTIVE TEST enables the technician to check voltage output of the sensor
AFS B1 S1	Air fuel ratio sensor output voltage for bank 1 sensor 1: Min.: 0 V, Max.: 7.999 V	2.8 to 3.8 V: Idling	Performing the INJ VOL or A/F CONTROL function of the ACTIVE TEST enables the technician to check voltage output of the sensor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
AFS B2 S1	Air fuel ratio sensor output voltage for bank 2 sensor 1: Min.: 0 V, Max.: 7.999 V	2.8 to 3.8 V: Idling	Performing the INJ VOL or A/F CONTROL function of the ACTIVE TEST enables the technician to check voltage output of the sensor
TOTAL FT #1	Total fuel trim of bank 1 Average value for fuel trim system of bank 1: Min.: -0.5 V, Max.: 1496 V	-0.2 to 0.2: idling	-
TOTAL FT #2	Total fuel trim of bank 2 Average value for fuel trim system of bank 2: Min.: -0.5 V, Max.: 1496 V	-0.2 to 0.2: idling	-
SHORT FT #1	Short-term fuel trim of bank 1: Min.: -100 %, Max.: 99.2 %	-20 to +20 %	This item refers to the short-term fuel compensation used to maintain the air fuel ratio at stoichiometric air-fuel ratio
SHORT FT #2	Short-term fuel trim of bank 2: Min.: -100 %, Max.: 99.2 %	-20 to +20 %	This item refers to the short-term fuel compensation used to maintain the air fuel ratio at stoichiometric air-fuel ratio
LONG FT #1	Long-term fuel trim of bank 1: Min.: -100 %, Max.: 99.2 %	-20 to +20 %	This item refers to the overall fuel compensation carried out in long-term to compensate a continual deviation of the short-term fuel trim from the central value
LONG FT #2	Long-term fuel trim of bank 2: Min.: -100 %, Max.: 99.2 %	-20 to +20 %	This item refers to the overall fuel compensation carried out in long-term to compensate a continual deviation of the short-term fuel trim from the central value
FUEL SYS #1	Fuel system status (bank 1): OL, CL, OL DRIVE, 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
FUEL SYS #2	Fuel system status (bank 2): OL, CL, OL DRIVE, 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
O2 FT B1 S2	Short-term fuel trim associated with the bank 1 sensor 2: Min.: -100 %, Max.: 99.2 %	-20 to +20 %	Same as SHORT FT #1

ES

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
O2 FT B2 S2	Short-term fuel trim associated with the bank 2 sensor 2: Min.: -100 %, Max.: 99.2 %	-20 to +20 %	Same as SHORT FT #1
AF FT B1 S1	Short-term fuel trim associated with the 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 	-
AF FT B2 S1	Short-term fuel trim associated with the bank 2 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°C, Max.: 6,513.5°C	-	-
CAT TEMP B2S1	Catalyst temperature (bank 2, sensor 1): Min.: -40°C, Max.: 6,513.5°C	-	-
CAT TEMP B1S2	Catalyst temperature (bank 1, sensor 2): Min.: -40, Max.: 6,513.5°C	-	-
CAT TEMP B2S2	Catalyst temperature (bank 2, sensor 2): Min.: -40, Max.: 6,513.5°C	-	-
INI COOL TEMP	Initial engine coolant temperature: Min.: -40°C, Max.: 140°C	Close to ambient air temperature	Service data
INI INTAKE TEMP	Initial intake air temperature: Min.: -40°C, Max.: 140°C	Close to ambient air temperature	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
STARTER SIG	Starter signal: ON or OFF	ON: Cranking	-
AIR PMP PRS (A)	Air pump pressure (absolute): Min.: 0 kPa, Max.: 320 kPa	-	Air pump pressure (absolute)
ACC RELAY	Acc Relay status: ON or OFF	ON: Cranking	-
STARTER RELAY	Starter relay status: ON or OFF	ON: Cranking	-
STARTER CONTROL	Starter switch status: ON or OFF	ON: Cranking	-
CTP SW	Closed throttle position switch: ON or OFF	<ul style="list-style-type: none"> ON: Throttle fully closed OFF: Throttle open 	-
A/C SIGNAL	A/C signal: ON or OFF	ON: A/C ON	-
ELECT LOAD SIG	Electrical load signal: ON or OFF	ON: Headlights or defogger is turned ON	-
STOP LIGHT SW	Stop light switch: ON or OFF	ON: Brake pedal is depressed.	-
+BM	Whether or not electric throttle control system power inputted: 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)	-

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
SECOND AIR VSV	Secondary air injection system status	ON: Secondary air injection system operation	-
FUEL PMP SP CTL	F/PMP relay status: ON or OFF	-	Active test support data
ACIS VSV	VSV status for ACIS control: ON or OFF	-	Active test support data
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	Variable valve timing (VVT) control status (bank 1): ON or OFF	-	Active Test support data
VVT CTRL B2	VVT control status (bank 2): 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 terminal of DLC3: ON or OFF	-	-
AI STATUS	AI operation prohibit: OK or NG	OK	-
VVTL AIM ANGL #1	VVT aim angle (bank 1): Min.: 0 %, Max.: 100 %	0 %: Idling	VVT duty signal value during intrusive operation
VVTL AIM ANGL #2	VVT aim angle (bank 2): Min.: 0 %, Max.: 100 %	0 %: Idling	VVT duty signal value during intrusive operation
VVTL CHAG ANGL #1	VVT change angle (bank 1): Min.: 0° FR , Max.: 60° FR	0 to 5° FR: Idling	Displacement angle during intrusive operation
VVT CHNG ANGL #2	VVT change angle (bank 2): Min.: 0° FR , Max.: 60° FR	0 to 5° FR: Idling	Displacement angle during intrusive operation
VVT OCV DUTY B1	VVT OCV operation duty (bank 1): Min.: 0 %, Max.: 100 %	0 %: Idling	Requested duty value for intrusive operation
VVT OCV DUTY B2	VVT OCV operation duty (bank 2): 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 2800 rpm
FC TAU	Fuel cut TAU: Fuel cut during very light load: ON or OFF	ON: Fuel cut operation	The fuel cut being performed under very light load to prevent the engine combustion from becoming incomplete
IGNITION	Ignition counter: Min.: 0, Max.: 800	0 to 800	-
CYL #1, #2, #3, #4, #5, #6, #7, #8	Misfire ratio of the cylinder 1 to 8: Min.: 0, Max.: 255	0 %	This item displayed only when idling engine
CYL ALL	All cylinders misfire rate: Min.: 0, Max.: 255	0 to 35	-
CYLS	Multiple Cylinder Misfire rate: Min.: 0 Max.:65,535	0 to 65,535	-
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

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
#CODES	#Codes: Min.: 0, Max.: 255	-	Number of detected DTCs
CHECK MODE	Check mode: 0: ON, 1: OFF	ON: Check mode ON	See page ES-36
SPD TEST	Check mode result for vehicle speed sensor: 0: COMPL, 1: INCOMPL	-	-
AS TEST	Check mode result for secondary air injection system: 0: COMPL, 1: INCOMPL	-	-
MISFIRE TEST	Check mode result for misfire monitor: 0: COMPL, 1: INCOMPL	-	-
OXS1 TEST	Check mode result for heated oxygen sensor (bank 1): 0: COMPL, 1: INCOMPL	-	-
OXS2 TEST	Check mode result for heated oxygen sensor (bank 2): 0: COMPL, 1: INCOMPL	-	-
A/F SSR TEST B1	Check mode result for air fuel ratio sensor (bank 1): 0: COMPL, 1: INCOMPL	-	-
A/F SSR TEST B2	Check mode result for air fuel ratio sensor (bank 2): 0: COMPL, 1: INCOMPL	-	-
MIL	MIL status: ON or OFF	ON: MIL ON	-
MIL ON RUN DIST	MIL ON run distance: Min.: 0 km, Max.: 65,535 km	Distance after DTC detected	-
MIL ON RUN TIME	Running time from MIL ON: Min.: 0 minutes, Max.: 65,535 minutes	Equivalent to running time after MIL was ON	-
ENG RUN TIME	Engine run time: Min.: 0 seconds, Max.: 65,535 seconds	Time after engine start	Service data
TIME DTC CLEAR	Time after DTC cleared: Min.: 0 minutes, Max.: 65,535 minutes	Equivalent to time after DTCs were erased	-
DIST DTC CLEAR	Distance after DTC cleared: Min.: 0 km, Max.: 65,535 km	Equivalent to drive distance after DTCs were 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 the model code: UCK30 (2WD), UCK40 (4WD)
ENGINE TYPE	Engine type	-	Identifying the engine type: 2UZFE
CYLINDER NUMBER	Cylinder number: Min.: 0, Max.: 255	-	Identifying the cylinder number: 8
TRANSMISSION	Transmission type	-	Identifying the transmission type: ECT (5AT)
DESTINATION	Destination	-	Identifying the destination: A (America)
MODEL YEAR	Model year: Min.: 0, Max.: 255	-	Identifying the model year: 200#
SYSTEM	System identification	-	Identifying the engine system: GASLIN (gasoline engine)

HINT:

Normal Condition: If no conditions are specifically stated for "idling", the shift lever is in the N or P position, and the A/C switch is OFF and all accessory switches are OFF.

2. ACTIVE TEST**HINT:**

Performing the intelligent tester's ACTIVE TEST allows relay, Vacuum Switching Valve (VSV), actuator and other items to be operated without removing any parts.

Performing the ACTIVE TEST early in troubleshooting is one way to save time. The DATA LIST can be displayed during the ACTIVE TEST.

- (a) Warm up the engine.
- (b) Turn the ignition switch OFF.
- (c) Connect the intelligent tester to the DLC3.
- (d) Turn the ignition switch ON.
- (e) Turn the intelligent tester ON.
- (f) Enter the following menus: DIAGNOSIS / ENHANCED OBD II / ACTIVE TEST.
- (g) According to the display on the tester, perform the ACTIVE TEST.

Tester Display	Test Part	Control Range	Diagnostic Note
INJ VOL	Change injection volume	Between -12 % and 25 %	<ul style="list-style-type: none"> • All injectors tested at the 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 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 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
FUEL PMP SP CTL	Fuel pump speed control	ON (low speed) / OFF (high speed)	Test possible when following conditions met: <ul style="list-style-type: none"> • Engine switch On (IG) • Engine is stopped
INTAKE CTL VSV1	Activate VSV for ACIS	ON/OFF	-
EVAP VSV (ALONE)	Activate purge VSV control	ON/OFF	-
VVT CTRL B1	Turn on and off Oil Control Valve (OCV)	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
VVT CTRL B2	Turn on and off Oil Control Valve (OCV)	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
AC CUT SIG	Control A/C cut signal	ON/OFF	-
FUEL PUMP / SPD	Activate fuel pump (C/OPN Relay)	ON/OFF	-

Tester Display	Test Part	Control Range	Diagnostic Note
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	-
STARTER	Active Starter relay	ON/OFF	-
ACC CUT	Active ACC cut relay	ON/OFF	Test possible when following conditions met: <ul style="list-style-type: none"> Engine switch On (IG) Engine is stopped
ETCS OPEN SLOW	Throttle actuator	ON: throttle valve opens slowly	This test is possible when the following conditions are 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
VVT B1	Control VVT (bank 1)	Between -128 and 127 %	<ul style="list-style-type: none"> Engine stall or rough idle when VVT actuator operated by 100% Test possible during engine idling
VVT B2	Control VVT (bank 2)	Between -128 and 127 %	<ul style="list-style-type: none"> Engine stall or rough idle when VVT actuator operated by 100% Test possible during engine idling
FUEL CUT #1	Cylinder #1 injector fuel cut	ON/OFF	This test is possible when the vehicle is stopped and the engine is 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
FUEL CUT #5	Cylinder #5 injector fuel cut	ON/OFF	Same as above
FUEL CUT #6	Cylinder #6 injector fuel cut	ON/OFF	Same as above
FUEL CUT #7	Cylinder #7 injector fuel cut	ON/OFF	Same as above
FUEL CUT #8	Cylinder #8 injector fuel cut	ON/OFF	Same as above
VENT VALVE (ALONE)	Activate vent valve (built into canister pump module)	ON/OFF	-
VACUUM PUMP	Activate vacuum 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 are set, and can detect potential malfunctions in the system. The SYSTEM CHECK can be performed with the intelligent tester.

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch ON.
- (c) Turn the tester ON.
- (d) Enter the following menus: DIAGNOSIS / ENHANCED OBD II / SYSTEM CHECK.

(e) Perform the SYSTEM CHECK by referring to the table below.

Tester Display	Test Part	Control Range	Diagnostic Note
EVAP SYS CHECK (AUTOMATIC)	Perform 5 steps in order to operate EVAP key-off monitor automatically	35°C (95°F) or less	<ul style="list-style-type: none"> If no DTCs in PENDING CODES menu after performing this test, system functioning normally Refer to EVAP Inspection Procedure (See page ES-423)
EVAP SYS CHECK (MANUAL)	Perform 5 steps in order to operate EVAP key-off monitor manually	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-423)
AIR INJ CHECK (AUTOMATIC)	Perform 6 steps in order to operate air injection system automatically	-	If no DTCs in PENDING CODES menu after performing this test, system functioning normally
AIR INJ CHECK (MANUAL)	Perform 8 operations in order to operate air injection system monitor manually	-	Used to detect malfunctioning parts