05J2V–01

FREEZE FRAME DATA

DESCRIPTION

The freeze frame data records the engine condition (fuel system, calculated load, engine coolant temperature, fuel trim, engine speed, vehicle speed, etc.) when malfunction is detected. When troubleshooting, it can help determine if the vehicle was running or stopped, the engine was warmed up or not, the air–fuel ratio was LEAN or RICH and other data. at the time of the malfunction occurred.

HINT:

If it is impossible to replicate the problem even though a DTC is detected, confirm the freeze frame data.

LIST OF FREEZE FRAME DATA

LABEL (Hand–Held–Tester Display)	Measure Item/Range	Diagnostic Note
CALC LOAD	Calculate load	Calculated load by ECM
COOLANT TEMP	Engine coolant temperature	If the value is –40°C, sensor circuit is open If the value is 140°C, sensor circuit is shorted
SHORT FT #1	Short–term fuel trim	Short–term fuel compensation used to maintain the air–fuel ratio at stoichiometric air–fuel ratio
LONG FT #1	Long–term fuel trim	Overall fuel compensation carried out in long–term to compensate a continual deviation of the short–term fuel trim from the central valve
ENGINE SPD	Engine speed	—
VEHICLE SPD	Vehicle speed	Speed indicated on speedometer
IGN ADVANCE	Ignition advance	—
INTAKE AIR	Intake air temperature	If the value is –40°C, sensor circuit is open If the value is 140°C, sensor circuit is shorted
MAF	Mass air flow volume	If the value is approximately 0.0 g/s: • Mass air flow meter power source circuit • VG circuit open or short If the value is 160.0 g/s or more: • E2G circuit open
THROTTLE POS	Throttle position	Read the value with power switch ON (Do not start engine)
O2S B1 S2	Heated oxygen sensor output	Performing the INJ VOL or A/F CONTROL function of the ACTIVE TEST enables the technician to check voltage output of the sensor
O2FT B1 S2	Fuel trim at heated oxygen sensor	Same as SHORT FT #1
ENG RUN TIME	Accumulated engine running time	—
AF FT B1 S1	Fuel trim at A/F sensor	—
AFS B1 S1	A/F sensor output	Performing the INJ VOL or A/F CONTROL function of the ACTIVE TEST enables the technician to check voltage output of the sensor
EVAP PURGE VSV	EVAP purge VSV duty ratio	—
WU CYC DTC CLEAR	Warm–up cycle after DTC cleared	—
DIST DTC CLEAR	Accumulated distance from DTC cleared	—
EVAP VAPOR PRES	EVAP vapor pressure	—
CAT TEMP B1 S1	Catalyst temperature	—
CAT TEMP B1 S2	Catalyst temperature	—
BATTERY VOLTAGE	Battery voltage	—
AIR–FUEL RATIO	Air–fuel ratio	—
THROTTLE POS	Throttle sensor positioning	Read the value with the power switch ON (Do not start engine)
AMBIENT TEMP	Ambient air temperature	If the value is –40°C, sensor circuit is open If the value is 140°C, sensor circuit is shorted
THROTTLE POS #2	Throttle sensor positioning #2	—

LABEL (Hand–Held–Tester Display)	Measure Item/Range	Diagnostic Note
THROTTLE MOT	Throttle motor	—
TIME DTC CLEAR	Cumulative time after DTC cleared	—
KNOCK CRRT VAL	Correction learning value of knocking	—
KNOCK FB VAL	Feedback value of knocking	—
PURGE DENSITY	Learning value of purge density	—
PURGE FLOW	Purge flow	—
FC IDL	Idle fuel cut	ON: when throttle valve fully closed and engine speed is over 1,500 rpm
FC TAU	FC TAU	The fuel cut is being performed under very light load to prevent the engine combustion from becoming incomplete
VVTL AIM ANGL #1	VVT aim angle	—
VVT CHNG ANGL #1	VVT change angle	—
VVT OCV DUTY B1	VVT OCV operation duty	—
EVAP VSV	EVAP purge VSV	VSV for EVAP is controlled by the ECM (ground side duty control)
FUEL PUMP / SPD	Fuel pump speed status	—
VVT CTRL B1	VVT control status	—
FAN MOTOR	Electric fan motor	—
TANK BYPASS VSV	Tank bypass VSV	VSV for purge flow controlled by ECM (ground side control)
CAN CTRL VSV	Canister control VSV	VSV for canister close is controlled by ECM (ground side control)
INI COOL TEMP	Initial engine coolant temperature	—
INI INTAKE TEMP	Initial intake air temperature	—
INJ VOL	Injection volume	—
INJECTOR	Injector	—
TOTAL FT #1	Total fuel trim	—
MISFIRE RPM	Misfire RPM	—
MISFIRE LOAD	Misfire load	—
CYL #1	Cylinder #1 misfire rate	Displayed in only idling
CYL #2	Cylinder #2 misfire rate	Displayed in only idling
CYL #3	Cylinder #3 misfire rate	Displayed in only idling
CYL #4	Cylinder #4 misfire rate	Displayed in only idling
CYL ALL	All cylinder misfire rate	Displayed in only idling
IGNITION	Ignition	—
MISFIRE MARGIN	MIsfire monitoring	—
VAPOR PRESS	Vapor pressure	Pressure inside of fuel tank as read by the vapor pressure sensor
ENG OIL PRES SW	Engine oil pressure switch signal	Always ON while engine is running