

**TOYOTA**



**Lexus**



## **Toyota Enhanced OBD II User Guide**

## Warnings

The exclamation point within the triangle is a warning sign alerting you of important instructions accompanying the product. Please observe all warnings.



**Do not operate the vehicle indoors.** A running engine produces lethal carbon monoxide exhaust fumes that can seriously harm or kill you if inhaled. Only run the vehicle motor outdoors with proper ventilation. Many scan tool operations do not require a running motor.



**Do not attempt to operate or observe the scan tool while driving a vehicle.** Driving requires the full attention of the driver. Operating or observing the scan tool will cause driver distraction and could cause a fatal accident.



**Ensure the PC, cable, and OBD II adapter do not interfere with the vehicle controls.** A cable dangling in front of the foot pedals, gear shifter, or steering wheel can interfere with vehicle operation and cause a fatal accident. Always ensure the PC, cable, and OBD II adapter are securely fastened out of the way. If the scan tool and PC cannot be safely attached as to not interfere with the vehicle controls, then do not drive the vehicle with the OBD II adapter connected to the vehicle.

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# Table of Contents

<b>Table of Contents</b>	<b>i</b>
<b>Preface</b>	<b>1</b>
Supported Subsystems	1
<b>Requirements</b>	<b>4</b>
<b>Installation</b>	<b>6</b>
<b>Using Toyota Enhanced Software</b>	<b>8</b>
Connecting to Vehicle	8
General Information	9
Trouble Codes	10
Clearing Trouble Codes	11
Live Data	11
<b>Supported Parameters</b>	<b>12</b>
Live Data Sensors (CAN Bus)	12
Engine EFI, Radar Cruise, Laser Cruise, CCS	12
ECT	17
HV ECU / CCS	17
HV Battery	23
EFI	24
ECT	25
HV	26
HV Battery	27
Bit Encoded Values (CAN Bus)	28
Engine EFI / CCS	28
ECT	33
HV ECU / CCS	33
HV Battery	34

State Encoded Values (CAN Bus)	36
EFI (state)	36
ECT	36
HV	36
Live Data Sensors (non-CAN bus)	36
Engine EFI	36
ABS	37
TPWS	37
AC	38
EFI	39
CCS / Immobiliser	39
CCS / Immobiliser	40
Stop and Go	41
Sequential MT	41
T/M Control	43
ABS	43
TPWS (Tire Pressure)	45
EHPS / EMPS	46
VGRS	47
AIRSUS & AHC	47
BODY	48
BODY No2	48
Steering Pad	49
SRS	49
OCC (occupant detect)	49
Meter	49
AFS	49
P-Seat	50
D-Door	50
P-Door	50
Tilt and Telescope	50
MIRROR, MIRROR-R	52

Combination Switch	52
SMART KEY	52
Immobiliser	52
MIRROR-L	52
Bitmap Encoded Values (non-CAN Bus)	52
Engine EFI	52
CCS	54
Stop and Go	54
Sequential MT	57
T/M Control	58
ABS	59
AIRSUS & AHC	62
BODY	63
Steering Pad	66
BODY No3	66
BODY No4	66
FRC (Body No 5)	67
METER	67
Clearance Sonar	67
AFS	67
P-Door	67
P-Seat	67
RR-SEAT	68
RL-SEAT	68
R-SEAT-SW	68
D-Door	69
P-Door	69
RR-DOOR	70
Tilt and Telescopic	71
D-Seat	72
SLIDE ROOF	73
MIRROR, MIRROR-R	73

RAIN SENSOR	74
Combination Switch	74
SMART KEY	75
BACK DOOR	76
Steering Lock	77
MIRROR-L	78
TDS	78
PWR SOURCE CONTROL	78
Master Switch	79
State Encoded Values (non-CAN Bus)	80
Immobiliser	80
Sequential MT	80
ABS	80
TPWS (Tire Pressure)	80
EMPS / EHPS	80
VGRS	80
BODY	81
SRS	81
OCC (occupant detect)	81
METER	82
Clearance Sonar	82
P-Seat	82
AC	82
D-Door	82
P-Door	82
RR-DOOR	82
RL-DOOR	82
D-Seat	83
MIRROR, MIRROR-R	83
SMART KEY	83
BACK DOOR	83
Immobiliser / Steering Lock	83

MIRROR-L	83
PWR SOURCE CONTROL	83

Congratulations on your purchase of an Auterra's Toyota Enhanced OBD II software package. Please take time to read through these operating instructions and become familiar with the operating procedure.

The Toyota Enhanced OBD II software is included with the Dyno-Scan™ for Windows software. A unique Toyota Enhanced Product Key is purchased to unlock the features. The upgrade works on all 1996 and newer Toyota, Lexus and Scion vehicles. The enhanced software allows you to:

- Read enhanced diagnostic trouble codes (DTCs) from systems like ABS and airbag
- Display enhanced DTC definitions from Body and Chassis systems
- Turn off the ABS and airbag light
- View and record enhanced parameters/sensors
- View vehicle state encoded and bit values

### ***Supported Subsystems***

The Toyota Enhanced package supports these vehicle subsystems:

- Engine / Climate Control System / Immobiliser
- Engine Stop And Go
- Hybrid Vehicle
- Transmission
- 4WD (4-Wheel Drive)
- T/M Control
- ABS (Antilock Brake System)
- TPWS (Tire Pressure Warning System)
- EMPS / EHPS (Electric Motor Assisted Power Steering)
- VRGS (Variable Gear Ratio Steering)
- EMS (Electromagnetic Suspension) / AHC (Active Height Control)
- KDSS

- Body / Gateway
- Body No 2
- Steering Pad
- Body No 3
- Body No 4
- Body No 5
- AVC-LAN Adopter
- Airbag / SRS (Supplemental Restraint System)
- OCC (Occupant Detect)
- Pre-Crash Safety
- Meter
- Clearance Sonar
- AFS (Adaptive Front Lighting System)
- Passenger Seat
- Rear Right Seat
- Rear Left Seat
- Right Rear Seat Switch
- Air-Conditioning
- Driver Door
- Passenger Door
- Rear Right Door
- Rear Left Door
- Tilt And Telescoping Steering Wheel
- Driver Seat
- Side Sunroof
- Mirror / Mirror Right
- Rain Sensor
- Combination Switch
- Smart Key
- Back Door
- Retractable Hardtop

- Immobiliser / Steering Lock
- Battery
- Wiper
- Mirror Left
- TDS (Theft Detection System)
- Power Source Control
- Master Switch
- Engine EFI / CSS (Cruise Control)
- ECT (Electronically Controlled Transmission)
- Hybrid Vehicle / CCS (Cruise Control)
- Hybrid Vehicle Battery

## Requirements

To use the S-200 Toyota Enhanced OBD II software package you must have one of these scan tool kits:

- A-302 Dyno-Scan for Windows CAN USB
- A-301 Dyno-Scan for Windows CAN
- A-500 DashDyno SPD
- A-501 DashDyno SPD ProPack

The following Auterra software is required:

- Dyno-Scan for Windows 8.0.0 or higher
- OBD II adapter firmware 3.06 or higher

Check the Dyno-Scan for Windows version in the Help > About Dyno-Scan...



If you have an older version of the Auterra Dyno-Scan for Windows software, just download the latest software from our web site Downloads page.

[www.auterraweb.com/downloads.html](http://www.auterraweb.com/downloads.html)

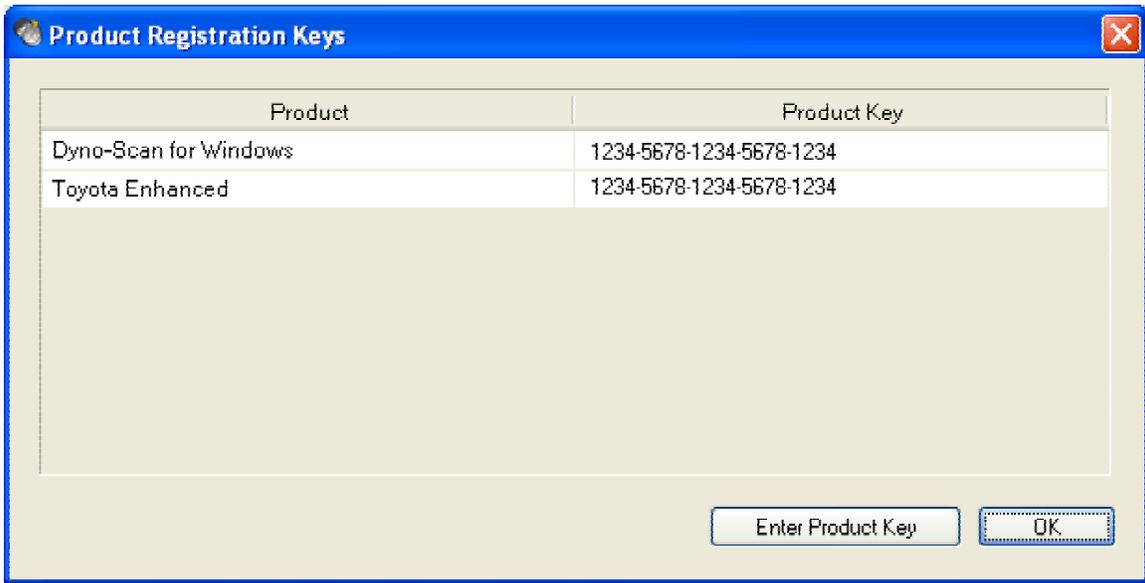
On Windows, you can check the OBD II adapter version using the Dyno-Scan software. After connecting to a vehicle, select Help > About Hardware. If the Hardware Adapter Version is 3.05 or earlier, please contact Auterra for an adapter software and/or hardware upgrade.

On DashDyno, the opening splash screen shows the "Ver B". If this is 3.05 or earlier, please contact Auterra for a DashDyno software upgrade.

## Installation

The Toyota Enhanced OBD II software is already part of the version 8.0.0 or higher Dyno-Scan for Windows software. There is no CD ROM to be shipped – only a Product Key to unlock the features within the software.

- 1 Purchase the S-200 Toyota Enhanced OBD II software from the Auterra web site. You will also need to purchase any Dyno-Scan for Windows or DashDyno scan tool kit unless you already own one.
- 2 Email the following information to Auterra at: [support@auterraweb.com](mailto:support@auterraweb.com)
  - Your 4-digit order number used to purchase the S-200 Toyota Enhanced software. The order number is emailed to you after placing an order on our web site.
  - Your existing Dyno-Scan for Windows Product Key.
  - Your complete name and mailing address.
- 3 Auterra Support will respond to your email with a Toyota Enhanced Product Key. **Please keep this key in a safe place and do not lose it.**
- 4 Start the Dyno-Scan for Windows software.
- 5 Go to the Help > Product Registration Keys... menu option.
- 6 Press the Enter Product Key button and enter the Toyota Enhanced Product Key.



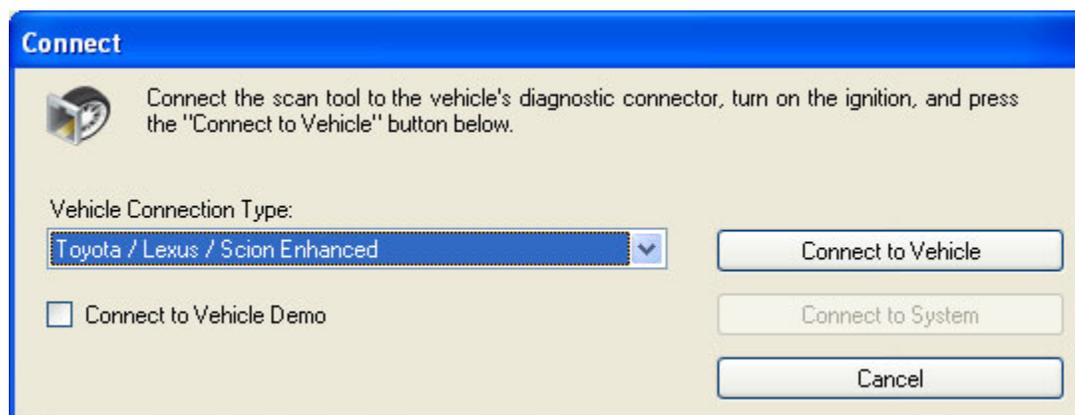
7 Congratulations! Your Toyota Enhanced software is now ready for use.

## Using Toyota Enhanced Software

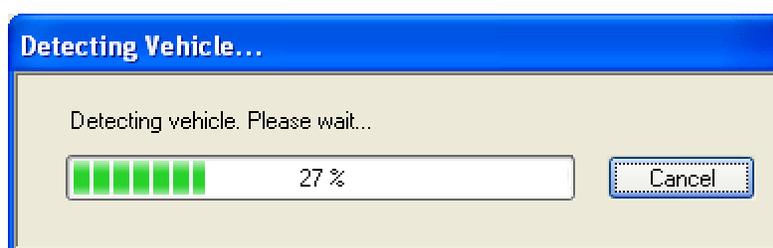
Using your Toyota Enhanced OBD II software is easy, and this section shows you how.

### **Connecting to Vehicle**

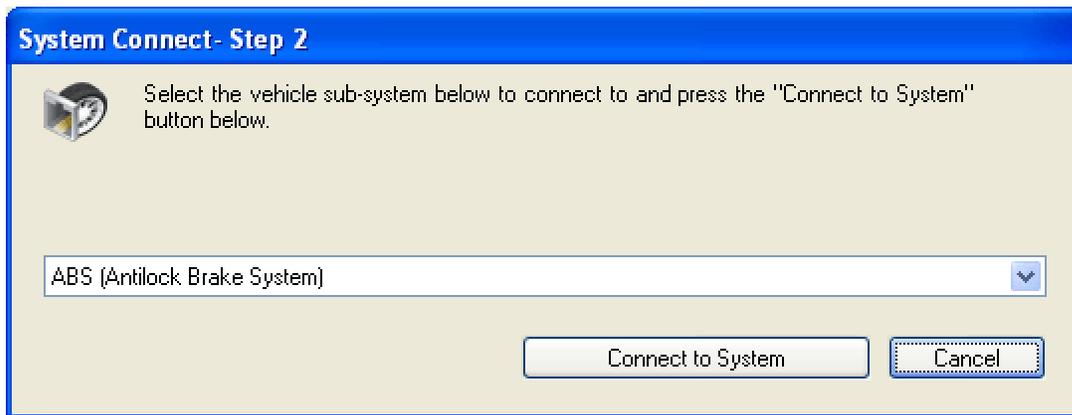
When connecting to a vehicle, the Connect dialog's Vehicle Connection Type dropdown will show a "Toyota / Lexus / Scion Enhanced" menu option. Select this option and press the "Connect to Vehicle" button.



The software will now detect the systems available on the vehicle.



After the vehicle is detected, select the system to connect to and press the "Connect to System" button.



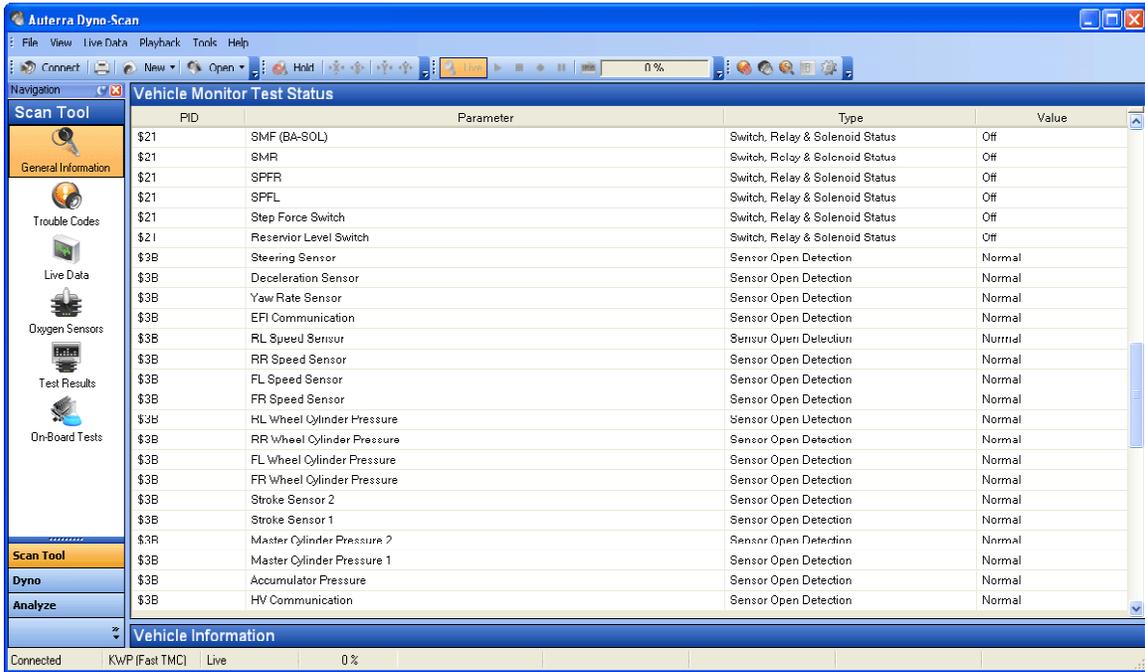
You are now connected to the selected Toyota Enhanced system.

Once connected to the vehicle, you can switch systems quickly.

- 1 Select File > Connect.
- 2 On the Connect dialog, select the "Toyota / Lexus / Scion Enhanced" menu option.
- 3 Press the "Connect to System" button. This button is only available after the vehicle has been successfully detected.
- 4 On the "System Connect – Step 2" dialog, select the system and press "Connect to System".

### ***General Information***

The Vehicle Monitor Test Status on the General Information screen will show bit and state encoded values from the enhanced system.



## Trouble Codes

The Stored Diagnostic Trouble Codes pane will show any DTCs stored on the enhanced system.



## Clearing Trouble Codes

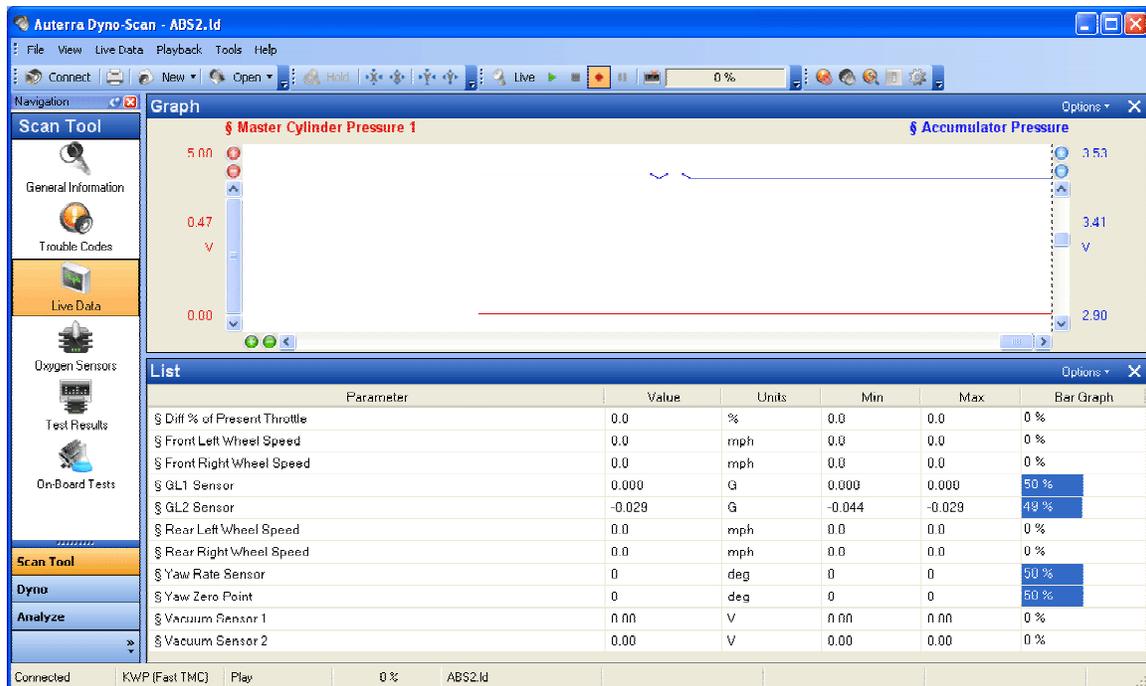
Select the Tools > Clear DTCs menu option to clear codes and turn off any dashboard light (e.g. ABS or airbag). Clear DTCs will only clear codes for the currently connected enhanced system.

Please note the following when clearing DTCs:

- 1 Some vehicles require the ignition key to be turned off then on again before the code is cleared.
- 2 Some codes cannot be cleared while the vehicle is running.
- 3 The dashboard light and diagnostic trouble code may not be clearable until the system repair has been completed.

## Live Data

The Live Data screen shows sensor values for the enhanced system currently connected. Each enhanced parameter is marked with a \$ symbol (e.g. \$ Knock Retard). Some systems do not have live data parameters.



## Supported Parameters

### *Live Data Sensors (CAN Bus)*

#### *Engine EFI, Radar Cruise, Laser Cruise, CCS*

Knock Correction Learn  
Knock Feedback  
Misfire RPM  
Misfire Load  
Cylinder 1 Misfire Rate  
Cylinder 2 Misfire Rate  
Cylinder 3 Misfire Rate  
Cylinder 4 Misfire Rate  
Cylinder 5 Misfire Rate  
Cylinder 6 Misfire Rate  
Cylinder 7 Misfire Rate  
Cylinder 8 Misfire Rate  
All Cylinders Misfire Rate  
Ignition  
Multiple Cylinder Misfire Rate  
Misfire Margin  
Short Term Fuel Trim B1  
Short Term Fuel Trim B3  
Long Term Fuel Trim B1  
Long Term Fuel Trim B3  
Short Term Fuel Trim B2  
Short Term Fuel Trim B4  
Long Term Fuel Trim B2  
Long Term Fuel Trim B4  
O2 Sensor B1-S1  
Short Fuel Trim B1-S1  
O2 Sensor B1-S2  
Short Fuel Trim B1-S2  
O2 Sensor B1-S3  
Short Fuel Trim B1-S3  
O2 Sensor B1-S4  
Short Fuel Trim B1-S4  
O2 Sensor B2-S1

Short Fuel Trim B2-S1  
O2 Sensor B2-S2  
Short Fuel Trim B2-S2  
O2 Sensor B2-S3  
Short Fuel Trim B2-S3  
O2 Sensor B2-S4  
Short Fuel Trim B2-S4  
Equivalence Ratio B1-S1  
O2 B1-S1 Wide Range V  
Equivalence Ratio B1-S2  
O2 B1-S2 Wide Range V  
Equivalence Ratio B1-S3  
O2 B1-S3 Wide Range V  
Equivalence Ratio B1-S4  
O2 B1-S4 Wide Range V  
Equivalence Ratio B2-S1  
O2 B2-S1 Wide Range V  
Equivalence Ratio B2-S2  
O2 B2-S2 Wide Range V  
Equivalence Ratio B2-S3  
O2 B2-S3 Wide Range V  
Equivalence Ratio B2-S4  
O2 B2-S4 Wide Range V  
Equivalence Ratio B1-S2 2  
O2 B1-S1 Wide Range mA  
Equivalence Ratio B1-S2 2  
O2 B1-S2 Wide Range mA  
Equivalence Ratio B1-S3 2  
O2 B1-S3 Wide Range mA  
Equivalence Ratio B1-S4 2  
O2 B1-S4 Wide Range mA  
Equivalence Ratio B2-S1 2  
O2 B2-S1 Wide Range mA  
Equivalence Ratio B2-S2 2  
O2 B2-S2 Wide Range mA  
Equivalence Ratio B2-S3 2  
O2 B2-S3 Wide Range mA  
Equivalence Ratio B2-S4 2  
O2 B2-S4 Wide Range mA  
Pilot 1 Injection  
Pilot 2 Injection  
Main Injection  
After Injection  
Pilot 1 Injection  
Pilot 2 Injection  
Main Injection

After Injection  
Injection Feedback Value  
Injection Feedback Value #1  
Injection Feedback Value #2  
Injection Feedback Value #3  
Injection Feedback Value #4  
Injection Feedback Value #5  
Injection Feedback Value #6  
Injection Feedback Value #7  
Injection Feedback Value #8  
Injection Volume  
Purge Density Learning Value  
Purge Flow  
Engine Speed From EFI  
Intake Air Temperature From EFI  
Coolant Temperature From EFI  
Throttle Position From EFI  
Accelerator Position From EFI  
Shift Position From ECT  
A/T Oil Temperature From ECT  
SPD (NO)  
SPD (NT)  
Requested Engine Torque  
HV Target Engine Speed  
Actual Engine Torque  
Estimated Engine Torque  
Engine Run Time  
Request Engine Run Time  
Judgement Time for Ignition of Engine  
Judgement Time for Engine Output  
Estimated Intake Port Temperature  
Tank Outlet Water Temperature  
Water Flow Valve  
ISC Learning Value  
Cruise Control Vehicle Speed  
Cruise Control Memory Vehicle Speed  
Cruise Throttle Opening Angle  
Cruise Request Torque  
Throttle Position No. 1  
Throttle Position No. 2  
Accelerator Position No. 1  
Accelerator Position No. 2  
Clutch Current  
Throttle Motor Current  
Throttle Motor Opening Duty Ratio  
Throttle Motor Closing Duty Ratio

Throttle Sensor Opener Position No. 1  
Throttle Sensor Opener Position No. 2  
Accelerator Fully Closed Learning Value No. 1  
Accelerator Fully Closed Learning Value No. 2  
Throttle Position Command Value  
Throttle Sensor Opener Position No. 1 (AD)  
Accelerator Fully Closed Value No. 1 (AD)  
Accelerator Position No. 1  
Accelerator Position No. 2  
Throttle Position No. 1  
Throttle Position No. 2  
Throttle Requirement Position  
Throttle Motor Duty Ratio (Open)  
Throttle Motor Duty Ratio (Close)  
Throttle Step Position  
Throttle Aim Position  
Throttle Fully Closed Learning Value  
Throttle Motor Current  
Electromagnetic Clutch Current  
+BM Voltage  
SPD (NT)  
SPD (NC)  
SPD (NC0)  
SPD (NC2)  
SPD (SP2)  
A/T Oil Temperature 1  
A/T Oil Temperature 2  
A/T Oil Temperature 3  
NT Sensor Voltage  
NC Sensor Voltage  
NC0 Sensor Voltage  
NC2 Sensor Voltage  
SP2 Sensor Voltage  
SPD (NIN)  
NIN Sensor Voltage  
SPD (NOUT)  
NOUT Sensor Voltage  
A/T Oil Pressure  
G Sensor  
Fuel Temp  
Accelerator Position  
Throttle Position  
Diesel Throttle Angle  
VNT Command  
Pump VCM Angle  
IDL Stable Control

Common Rail Pressure  
Turbine Speed  
Accelerator Position 1  
Accelerator Position 2  
Alternate Duty Ratio  
Throttle Value Fully Closed  
Target Common Rail Pressure  
VNT Max Angle  
VNT Min Angle  
Ex Fuel Addition Feedback  
Injection Pressure Feedback Value  
DPNR A/F  
Differential Pressure Feedback  
EGR Learn Value  
EGR Step Position  
EGR Position  
EGR Gas Temperature  
EGR Close Learning Value  
VVT Aim Angle (Bank 1)  
VVT Change Angle (Bank 1)  
VVT OCV Operation Duty (Bank 1)  
VVT Aim Angle (Bank 2)  
VVT Change Angle (Bank 2)  
VVT OCV Operation Duty (Bank 2)  
VVT Exhaust Hold Duty Ratio Learning Value (Bank 1)  
VVT Exhaust Change Angle (Bank 1)  
VVT Exhaust OCV Duty (Bank 1)  
VVT Exhaust Hold Duty Ratio Learning Value (Bank 2)  
VVT Exhaust Change Angle (Bank 2)  
VVT Exhaust OCV Duty (Bank 2)  
Injection Timing (D4)  
SCV Status (D4)  
SCV Angle (D4)  
SCV Angle Sensor (D4)  
Fuel Pump Duty  
Injection Time (D4)  
SCV Duty Ratio  
ACM  
Power Steering Pressure Sensor  
DPNR Differential Pressure Sensor  
Air Pump Pressure (Absolute)  
Air Pump Pulsation Pressure  
Initial Engine Coolant Temperature  
Initial Intake Air Temperature  
Initial Exhaust Temperature (IN)  
Initial Exhaust Temperature (OUT)

Engine Coolant Temperature (IN)  
Intake Air Temperature (Turbo)  
Injection Volume (Cylinder 1)  
Injector  
Total Fuel Trim 1  
Total Fuel Trim 2  
Vapor Pressure  
Vapor Pressure  
Vapor Pressure (Calculated)  
O2 Lean-Rich Bank 1 Sensor 1  
O2 Lean-Rich Bank 2 Sensor 1  
O2 Rich-Lean Bank 1 Sensor 1  
O2 Rich-Lean Bank 2 Sensor 1

### ***ECT***

Engine Speed From EFI  
Intake Air Temperature From EFI  
Coolant Temperature From EFI  
Throttle Position From EFI  
Accelerator Position From EFI  
SPD (NT)  
SPD (SP2)  
A/T Oil Temperature 1

### ***HV ECU / CCS***

Motor (MG2) Revolution  
Motor (MG2) Torque  
Regenerative Brake Torque  
Request Regenerative Brake Torque  
Generator (MG1) Revolution  
Generator (MG2) Torque  
Request Power  
Target Engine Revolution  
Engine SPD  
Master Cylinder Control Torque  
Status Of Charge  
Wout Control Power  
Win Control Power  
Discharge Request To Adjust SOC  
Drive Condition ID  
Inverter Temperature (MG1)  
Inverter Temperature (MG2)  
Motor Temperature 2  
Motor Temperature 1

Power Resource VB  
Power Resource IB  
Shift Sensor Main  
Shift Sensor Sub  
Shift Sensor Select Main  
Shift Sensor Select Sub  
Vehicle SPD (Resolver)  
Difference Degree Of An Accelerator  
VL-Voltage Before Raising Pressure  
VH-Voltage After Raising Pressure  
Converter Temperature  
Crank Position  
Motor (MG2) Torque Execute Value  
Generator (MG1) Torque Execute Value  
Short Circuit Wave Highest Value  
Raising Pressure Ratio  
Air-Conditioner Consumption Power  
Generator (MG1) Revolution  
Motor (MG2) Revolution  
Generator (MG1) Torque  
Motor (MG2) Torque  
Request Power  
Engine SPD  
Master Cylinder Control Torque  
State Of Charge  
Wout Control Power  
Win Control Power  
Drive Condition ID  
Inverter Temperature (MG1)  
Inverter Temperature (MG2)  
Motor Temperature MG2 (No2)  
Motor Temperature MG2 (No1)  
Power Resource VB  
Power Resource IB  
Shift Sensor Shift Position  
Accel Sensor Main  
Auxillary Battery Voltage  
Exclusive Information 1  
Exclusive Information 2  
Exclusive Information 3  
Exclusive Information 4  
Exclusive Information 5  
Exclusive Information 6  
Exclusive Information 7  
Occurence Order  
Information N

Converter Temperature  
VL-Voltage Before Raising Pressure  
VH-Voltage After Raising Pressure  
The Time Of Ignition ON  
Inverter Temperature (MG1) After IG-ON  
Inverter Temperature (MG2) After IG-ON  
Motor Temperature (MG2) After IG-ON  
Converter Temperature After IG-ON  
Status Of Charger After IG-ON  
Inverter Temperature (MG1) Max  
Inverter Temperature (MG2) Max  
Motor Temperature (MG2) Max  
Converter Temperature Max  
Status Of Charge Max  
Status Of Charge Min  
vehicle Speed Max  
Air-Conditioner Consumption Power  
Generator (MG1) Revolution  
Motor (MG2) Revolution  
Generator (MG1) Torque  
Motor (MG2) Torque  
Request Power  
Engine SPD  
Master Cylinder Control Torque  
State Of Charge  
Wout Control Power  
Win Control Power  
Drive Condition ID  
Inverter Temperature (MG1)  
Inverter Temperature (MG2)  
Motor Temperature MG2 (No2)  
Motor Temperature MG2 (No1)  
Power Resource VB  
Power Resource IB  
Shift Sensor Shift Position  
Accel Sensor Main  
Auxillary Battery Voltage  
Exclusive Information 1  
Exclusive Information 2  
Exclusive Information 3  
Exclusive Information 4  
Exclusive Information 5  
Exclusive Information 6  
Exclusive Information 7  
Occurence Order  
Information N

Converter Temperature  
VL-Voltage Before Raising Pressure  
VH-Voltage After Raising Pressure  
The Time Of Ignition ON  
Inverter Temperature (MG1) After IG-ON  
Inverter Temperature (MG2) After IG-ON  
Motor Temperature (MG2) After IG-ON  
Converter Temperature After IG-ON  
Status Of Charger After IG-ON  
Inverter Temperature (MG1) Max  
Inverter Temperature (MG2) Max  
Motor Temperature (MG2) Max  
Converter Temperature Max  
Status Of Charge Max  
Status Of Charge Min  
vehicle Speed Max  
Air-Conditioner Consumption Power  
Generator (MG1) Revolution  
Motor (MG2) Revolution  
Generator (MG1) Torque  
Motor (MG2) Torque  
Request Power  
Engine SPD  
Master Cylinder Control Torque  
State Of Charge  
Wout Control Power  
Win Control Power  
Drive Condition ID  
Inverter Temperature (MG1)  
Inverter Temperature (MG2)  
Motor Temperature MG2 (No2)  
Motor Temperature MG2 (No1)  
Power Resource VB  
Power Resource IB  
Shift Sensor Shift Position  
Accel Sensor Main  
Auxillary Battery Voltage  
Exclusive Information 1  
Exclusive Information 2  
Exclusive Information 3  
Exclusive Information 4  
Exclusive Information 5  
Exclusive Information 6  
Exclusive Information 7  
Occurence Order  
Information N

Converter Temperature  
VL-Voltage Before Raising Pressure  
VH-Voltage After Raising Pressure  
The Time Of Ignition ON  
Inverter Temperature (MG1) After IG-ON  
Inverter Temperature (MG2) After IG-ON  
Motor Temperature (MG2) After IG-ON  
Converter Temperature After IG-ON  
Status Of Charger After IG-ON  
Inverter Temperature (MG1) Max  
Inverter Temperature (MG2) Max  
Motor Temperature (MG2) Max  
Converter Temperature Max  
Status Of Charge Max  
Status Of Charge Min  
vehicle Speed Max  
Air-Conditioner Consumption Power  
Generator (MG1) Revolution  
Motor (MG2) Revolution  
Generator (MG1) Torque  
Motor (MG2) Torque  
Request Power  
Engine SPD  
Master Cylinder Control Torque  
State Of Charge  
Wout Control Power  
Win Control Power  
Drive Condition ID  
Inverter Temperature (MG1)  
Inverter Temperature (MG2)  
Motor Temperature MG2 (No2)  
Motor Temperature MG2 (No1)  
Power Resource VB  
Power Resource IB  
Shift Sensor Shift Position  
Accel Sensor Main  
Auxillary Battery Voltage  
Exclusive Information 1  
Exclusive Information 2  
Exclusive Information 3  
Exclusive Information 4  
Exclusive Information 5  
Exclusive Information 6  
Exclusive Information 7  
Occurence Order  
Information N

Converter Temperature  
VL-Voltage Before Raising Pressure  
VH-Voltage After Raising Pressure  
The Time Of Ignition ON  
Inverter Temperature (MG1) After IG-ON  
Inverter Temperature (MG2) After IG-ON  
Motor Temperature (MG2) After IG-ON  
Converter Temperature After IG-ON  
Status Of Charger After IG-ON  
Inverter Temperature (MG1) Max  
Inverter Temperature (MG2) Max  
Motor Temperature (MG2) Max  
Converter Temperature Max  
Status Of Charge Max  
Status Of Charge Min  
vehicle Speed Max  
Air-Conditioner Consumption Power  
Generator (MG1) Revolution  
Motor (MG2) Revolution  
Generator (MG1) Torque  
Motor (MG2) Torque  
Request Power  
Engine SPD  
Master Cylinder Control Torque  
State Of Charge  
Wout Control Power  
Win Control Power  
Drive Condition ID  
Inverter Temperature (MG1)  
Inverter Temperature (MG2)  
Motor Temperature MG2 (No2)  
Motor Temperature MG2 (No1)  
Power Resource VB  
Power Resource IB  
Shift Sensor Shift Position  
Accel Sensor Main  
Auxillary Battery Voltage  
Exclusive Information 1  
Exclusive Information 2  
Exclusive Information 3  
Exclusive Information 4  
Exclusive Information 5  
Exclusive Information 6  
Exclusive Information 7  
Occurence Order  
Information N

Converter Temperature  
VL-Voltage Before Raising Pressure  
VH-Voltage After Raising Pressure  
The Time Of Ignition ON  
Inverter Temperature (MG1) After IG-ON  
Inverter Temperature (MG2) After IG-ON  
Motor Temperature (MG2) After IG-ON  
Converter Temperature After IG-ON  
Status Of Charger After IG-ON  
Inverter Temperature (MG1) Max  
Inverter Temperature (MG2) Max  
Motor Temperature (MG2) Max  
Converter Temperature Max  
Status Of Charge Max  
Status Of Charge Min  
vehicle Speed Max  
Air-Conditioner Consumption Power  
Cruise Control Vehicle Speed  
Cruise Control Memory Vehicle Speed  
Cruise Throttle Opening Angle", "" },  
Cruise Request Torque

### ***HV Battery***

Battery State Of Charge  
Current Value Of Battery Pack  
Battery Block Voltage - V01  
Battery Block Voltage - V02  
Battery Block Voltage - V03  
Battery Block Voltage - V04  
Battery Block Voltage - V05  
Battery Block Voltage - V06  
Battery Block Voltage - V07  
Battery Block Voltage - V08  
Battery Block Voltage - V09  
Battery Block Voltage - V10  
Battery Block Voltage - V11  
Battery Block Voltage - V12  
Battery Block Voltage - V13  
Battery Block Voltage - V14  
Inhalation-Of-Air Temp Into A Battery Pack  
VMF Fan Motor Voltage  
Auxillary Battery Voltage  
Charge Control Value To HV-ECU From Batt-ECU  
Discharge Control Value To HV-ECU From Batt-ECU  
Delta SOC  
Cooling Fan Mode

Temperature Of Battery TB1  
Temperature Of Battery TB2  
Temperature Of Battery TB3  
Number Of Battery Block  
Accumulated Time Of Battery Low  
Accumulated Time Of DC Inhibit  
Accumulated Time Of Battery Too High  
Accumulated Time Of Hot Temperature  
Battery Block Minimum Voltage  
Minimum Battery Block No  
Battery Block Max Voltage  
Max Battery Block No  
Internal Resistance R01  
Internal Resistance R02  
Internal Resistance R03  
Internal Resistance R04  
Internal Resistance R05  
Internal Resistance R06  
Internal Resistance R07  
Internal Resistance R08  
Internal Resistance R09  
Internal Resistance R10  
Internal Resistance R11  
Internal Resistance R12  
Internal Resistance R13  
Internal Resistance R14

### ***EFI***

Calculated Load  
Engine Coolant Temp  
Fuel Rail Pressure (gauge)  
Intake Manifold Pressure  
Engine RPM  
Vehicle Speed  
Ignition Timing Advance  
Intake Air Temperature  
Air Flow Rate From MAF  
Absolute Throttle Position  
Time Since Engine Start  
Distance Traveled MIL On  
Fuel Rail Press Rel Manifold  
Fuel Rail Pressure  
Commanded EGR  
EGR Error  
Commanded Evap Purge  
Fuel Level Input

Warm-ups Since DTCs Clrd  
Distance Since DTCs Clrd  
Evap System Vapor Press  
Barometric Pressure  
Catalyst Temp B1-S1  
Catalyst Temp B2-S1  
Catalyst Temp B1-S2  
Catalyst Temp B2-S2  
Control Module Voltage  
Absolute Load Value  
Commanded Equival Ratio  
Relative Throttle Position  
Ambient Air Temperature  
Absolute Throttle Pos B  
Absolute Throttle Pos C  
Accelerator Pedal Pos D  
Accelerator Pedal Pos E  
Accelerator Pedal Pos F  
Command Throttle Actuator  
Minutes Run with MIL On  
Time Since DTCs Cleared  
Alcohol Fuel Percentage  
Absolute Evap Vapor Pres  
Evap System Vapor Pres

### ***ECT***

Calculated Load  
Engine Coolant Temp  
Fuel Rail Pressure (gauge)  
Intake Manifold Pressure  
Engine RPM  
Vehicle Speed  
Ignition Timing Advance  
Intake Air Temperature  
Air Flow Rate From MAF  
Absolute Throttle Position  
Time Since Engine Start  
Distance Traveled MIL On  
Fuel Rail Press Rel Manifold  
Fuel Rail Pressure  
Commanded EGR  
EGR Error  
Commanded Evap Purge  
Fuel Level Input  
Warm-ups Since DTCs Clrd  
Distance Since DTCs Clrd

Evap System Vapor Press  
Barometric Pressure  
Catalyst Temp B1-S1  
Catalyst Temp B2-S1  
Catalyst Temp B1-S2  
Catalyst Temp B2-S2  
Control Module Voltage  
Absolute Load Value  
Commanded Equival Ratio  
Relative Throttle Position  
Ambient Air Temperature  
Absolute Throttle Pos B  
Absolute Throttle Pos C  
Accelerator Pedal Pos D  
Accelerator Pedal Pos E  
Accelerator Pedal Pos F  
Command Throttle Actuator  
Minutes Run with MIL On  
Time Since DTCs Cleared  
Alcohol Fuel Percentage  
Absolute Evap Vapor Pres  
Evap System Vapor Pres

## ***HV***

Calculated Load  
Engine Coolant Temp  
Fuel Rail Pressure (gauge)  
Intake Manifold Pressure  
Engine RPM  
Vehicle Speed  
Ignition Timing Advance  
Intake Air Temperature  
Air Flow Rate From MAF  
Absolute Throttle Position  
Time Since Engine Start  
Distance Traveled MIL On  
Fuel Rail Press Rel Manifold  
Fuel Rail Pressure  
Commanded EGR  
EGR Error  
Commanded Evap Purge  
Fuel Level Input  
Warm-ups Since DTCs Clrd  
Distance Since DTCs Clrd  
Evap System Vapor Press  
Barometric Pressure

Catalyst Temp B1-S1  
Catalyst Temp B2-S1  
Catalyst Temp B1-S2  
Catalyst Temp B2-S2  
Control Module Voltage  
Absolute Load Value  
Commanded Equival Ratio  
Relative Throttle Position  
Ambient Air Temperature  
Absolute Throttle Pos B  
Absolute Throttle Pos C  
Accelerator Pedal Pos D  
Accelerator Pedal Pos E  
Accelerator Pedal Pos F  
Command Throttle Actuator  
Minutes Run with MIL On  
Time Since DTCs Cleared  
Alcohol Fuel Percentage  
Absolute Evap Vapor Pres  
Evap System Vapor Pres

### ***HV Battery***

Calculated Load  
Engine Coolant Temp  
Fuel Rail Pressure (gauge)  
Intake Manifold Pressure  
Engine RPM  
Vehicle Speed  
Ignition Timing Advance  
Intake Air Temperature  
Air Flow Rate From MAF  
Absolute Throttle Position  
Time Since Engine Start  
Distance Traveled MIL On  
Fuel Rail Press Rel Manifold  
Fuel Rail Pressure  
Commanded EGR  
EGR Error  
Commanded Evap Purge  
Fuel Level Input  
Warm-ups Since DTCs Clrd  
Distance Since DTCs Clrd  
Evap System Vapor Press  
Barometric Pressure  
Catalyst Temp B1-S1  
Catalyst Temp B2-S1

Catalyst Temp B1-S2  
Catalyst Temp B2-S2  
Control Module Voltage  
Absolute Load Value  
Commanded Equival Ratio  
Relative Throttle Position  
Ambient Air Temperature  
Absolute Throttle Pos B  
Absolute Throttle Pos C  
Accelerator Pedal Pos D  
Accelerator Pedal Pos E  
Accelerator Pedal Pos F  
Command Throttle Actuator  
Minutes Run with MIL On  
Time Since DTCs Cleared  
Alcohol Fuel Percentage  
Absolute Evap Vapor Pres  
Evap System Vapor Pres

### ***Bit Encoded Values (CAN Bus)***

Bit encoded values are single bit values translated as On or Off, Complete or Not Complete, etc...

### ***Engine EFI / CCS***

Malfunction Indicator Lamp (MIL)  
Misfire Monitoring  
Fuel System Monitoring  
Comprehensive Component  
Compression Ignition  
Misfire Monitoring Ready  
Fuel System Monitoring Ready  
Comprehensive Component Ready  
Catalyst Monitoring  
Heated Catalyst Monitoring  
Evaporative System Monitoring  
Secondary Air System Monitoring  
Oxygen Sensor Monitoring  
Oxygen Sensor Heater Monitoring  
EGR and/or VVT System Monitoring  
NMHC Catalyst Monitoring  
NOx Aftertreatment Monitoring  
Boost Pressure System Monitoring  
Exhaust Gas Sensor Monitoring  
PM Filter Monitoring

EGR and/or VVT System Monitoring  
Catalyst Monitoring Ready  
Heated Catalyst Monitoring Ready  
Evaporative System Monitoring Ready  
Secondary Air System Monitoring Ready  
Oxygen Sensor Monitoring Ready  
Oxygen Sensor Heater Monitoring Ready  
EGR and/or VVT System Monitoring Ready  
NMHC Monitoring Ready  
NOx Aftertreatment Monitoring Ready  
Boost Pressure System Monitoring Ready  
Exhaust Gas Sensor Monitoring Ready  
PM Filter Monitoring Ready  
EGR and/or VVT System Monitoring Ready  
Misfire Monitoring Enabled  
Fuel System Monitoring Enabled  
Comprehensive Component Monitoring Enabled  
Compression Ignition Monitoring Supported  
Misfire Monitoring Ready  
Fuel System Monitoring Ready  
Comprehensive Component Monitoring Ready  
Catalyst Monitoring Enabled  
Heated Catalyst Monitoring Enabled  
Evaporative System Monitoring Enabled  
Secondary Air System Monitoring Enabled  
Oxygen Sensor Monitoring Enabled  
Oxygen Sensor Heater Monitoring Enabled  
EGR and/or VVT System Monitoring Enabled  
NMHC Catalyst Monitoring Enabled  
NOx Aftertreatment Monitoring Enabled  
Boost Pressure System Monitoring Enabled  
Exhaust Gas Sensor Monitoring Enabled  
PM Filter Monitoring Enabled  
EGR and/or VVT System Monitoring Enabled  
Catalyst Monitoring Ready  
Heated Catalyst Monitoring Ready  
Evaporative System Monitoring Ready  
Secondary Air System Monitoring Ready  
Oxygen Sensor Monitoring Ready  
Oxygen Sensor Heater Monitoring Ready  
EGR and/or VVT System Monitoring Ready  
NMHC Monitoring Ready  
NOx Aftertreatment Monitoring Ready  
Boost Pressure System Monitoring Ready  
Exhaust Gas Sensor Monitoring Ready  
PM Filter Monitoring Ready

EGR and/or VVT System Monitoring Ready  
ECT Lockup  
Engine Independently Control Operation  
Request Warm-Up  
Racing Operation  
Engine Independently Operation  
Fuel Cut for Engine Stop Request  
ISC Learning  
Fuel Level  
Cruise Control Main Switch (Main CPU)  
Cruise Control Main Switch-Ready (Main CPU)  
Cruise Control Main Switch-Indication (Main CPU)  
Cruise Control  
Shift D Position  
Stop Light Switch-1 (Sub CPU)  
Stop Light Switch-2 (Sub CPU)  
Stop Light Switch (Main CPU)  
RES/ACC Switch  
SET/COAST Switch  
Cancel Switch  
System Guard  
Open Side Malfunction  
Actuator Power Supply  
ST1  
Throttle Motor  
Electromagnetic Clutch  
ETCS Actuator Power  
Accelerator IDL POS  
Throttle IDL POS  
Fail Safe Drive  
Fail Safe Drive (Main CPU)  
Shift Switch Status (L Range)  
Shift Switch Status (2 Range)  
Shift Switch Status (R Range)  
Pattern Switch Status  
Overdrive Cut Switch No. 2 Status  
Kick Down Switch Status  
Shift Switch Status (P Range)  
Overdrive Cut Switch No. 1 Status  
Shift Switch Status (3 Range)  
Shift Switch Status (4 or D Range)  
Shift Switch Status (D Range)  
Snow Switch Status  
Sports Mode Selection Switch  
Sports Shift Down Switch  
Sports Shift Up Switch

Shift Switch Status (N Range)  
Shift Switch Status (B Range)  
SD Switch  
TPS 1 Switch  
TPS 2 Switch  
TPS 3 Switch  
Lock Up Solenoid Status  
ST Solenoid Status  
Lockup  
Solenoid (DSU)  
SLN Solenoid Status  
SLU Solenoid Status  
SLT Solenoid Status  
Solenoid (SLC)  
Solenoid (SLS)  
Solenoid (DS1)  
Solenoid (DS2)  
AT Fluid  
G Sensor Calibration  
OXS1 Test  
OXS2 Test  
Misfire Test  
AS Test  
NSW Test  
SPD Test  
Check Mode  
A/F Sensor Test Results (Bank 1)  
A/F Sensor Test Results (Bank 2)  
O2 Sensor After HC Adsorber & Catalyst (Bank 1)  
O2 Sensor After HC Adsorber & Catalyst (Bank 2)  
Starter Control  
Power Steering Switch  
Stop Light Switch  
Electrical Load Switch  
Neutral Position Switch Signal  
A/C Signal  
Closed Throttle Position Switch  
Starter Signal  
FC TAU  
Idle Fuel Cut  
AI Operation Prohibit  
Power Steering Signal  
Diesel Throttle Learning Status  
EGR Learning Status  
Engine Oil Pressure Switch  
Throttle Open Switch

Fuel Lid Switch  
Fuel Lid  
Brake Switch  
Brake Switch Status  
Starter Relay  
Accessory Relay  
VVTL OCV Operation Duty  
VVTL Oil Pressure Switch  
VVTL  
OXS1 Test  
OXS2 Test  
Misfire Test  
AS Test  
NSW Test  
SPD Test  
Check Mode  
ACT VSV  
VSV Status For Variable Intake Control  
VSV Status For Fuel Pressure Up  
EGR  
ACIS VSV  
Fuel Pump Speed Control Status  
VSV Status For Secondary Air Control  
VSV Status For Swirl Control Valve  
Fuel Pump / Speed Status  
A/C Magnetic Clutch Relay  
EVAP Purge VSV  
VVT Control Status (Bank 2)  
Intake Air control VSV  
VVT Control Status (Bank 1)  
VSV Status For Intake Air Control  
Canister Control VSV  
Tank Bypass VSV  
VVTL System (Bank 1)  
VVTL System (Bank 2)  
AICV VSV  
Electric Fan Motor  
EVAP System Vent Valve  
Vacuum Pump  
TC and TE1  
ACM Inhibit  
Fuel Shutoff Value For Delivery Pipe  
Regulator Shut Valve

## **ECT**

Shift Switch Status (R Range)  
Pattern Switch Status  
Shift Switch Status (D Range)  
Snow Switch Status  
Sports Mode Selection Switch  
Sports Shift Down Switch  
Sports Shift UP Switch  
Lock Up Solenoid Status  
SLU Solenoid Status  
SLT Solenoid Status  
SPD Test  
Check Mode  
Stop Light Switch

## **HVECU / CCS**

Loading Condition  
Engine Warming Up Request  
Air-Conditioning Request  
HCAC OBD Request  
Main Battery Charging Request  
Engine Idling Request  
Engine Stop Request  
System Main RElay Status - Cont3  
System Main RElay Status - Cont2  
System Main RElay Status - Cont1  
Converter Carrier Frequency  
Smart Key Status  
Air-Conditioning Gate Status  
Converter Gate Status  
MG2 Gate Status  
MG1 Gate Status  
Cruise Control  
Stop Switch  
Engine Warming Up Request  
Main Battery Charging Request  
Engine Fuel Cut  
Engine Idling Request  
Engine Stop Request  
Cruise Control  
Stop Switch  
Engine Warming Up Request  
Main Battery Charging Request  
Engine Fuel Cut  
Engine Idling Request

Engine Stop Request  
Cruise Control  
Stop Switch  
Engine Warming Up Request  
Main Battery Charging Request  
Engine Fuel Cut  
Engine Idling Request  
Engine Stop Request  
Cruise Control  
Stop Switch  
Engine Warming Up Request  
Main Battery Charging Request  
Engine Fuel Cut  
Engine Idling Request  
Engine Stop Request  
Cruise Control  
Stop Switch  
Engine Warming Up Request  
Main Battery Charging Request  
Engine Fuel Cut  
Engine Idling Request  
Engine Stop Request  
Cruise Control Main Switch (Main CPU)  
Cruise Control Main Switch-Ready (Main CPU)  
Cruise Control Main Switch-Indication (Main CPU)  
Cruise Control  
Shift D Position  
Stop Light Switch-1 (Sub CPU)  
Stop Light Switch-2 (Sub CPU)  
Stop Light Switch (Main CPU)  
RES/ACC Switch  
SET/COAST Switch  
Cancel Switch

### ***HV Battery***

Malfunction Indicator Lamp (MIL)  
Misfire Monitoring  
Fuel System Monitoring  
Comprehensive Component  
Compression Ignition  
Misfire Monitoring Ready  
Fuel System Monitoring Ready  
Comprehensive Component Ready  
Catalyst Monitoring  
Heated Catalyst Monitoring  
Evaporative System Monitoring

Secondary Air System Monitoring  
Oxygen Sensor Monitoring  
Oxygen Sensor Heater Monitoring  
EGR and/or VVT System Monitoring  
NMHC Catalyst Monitoring  
NOx Aftertreatment Monitoring  
Boost Pressure System Monitoring  
Exhaust Gas Sensor Monitoring  
PM Filter Monitoring  
EGR and/or VVT System Monitoring  
Catalyst Monitoring Ready  
Heated Catalyst Monitoring Ready  
Evaporative System Monitoring Ready  
Secondary Air System Monitoring Ready  
Oxygen Sensor Monitoring Ready  
Oxygen Sensor Heater Monitoring Ready  
EGR and/or VVT System Monitoring Ready  
NMHC Monitoring Ready  
NOx Aftertreatment Monitoring Ready  
Boost Pressure System Monitoring Ready  
Exhaust Gas Sensor Monitoring Ready  
PM Filter Monitoring Ready  
EGR and/or VVT System Monitoring Ready  
Misfire Monitoring Enabled  
Fuel System Monitoring Enabled  
Comprehensive Component Monitoring Enabled  
Compression Ignition Monitoring Supported  
Misfire Monitoring Ready  
Fuel System Monitoring Ready  
Comprehensive Component Monitoring Ready  
Catalyst Monitoring Enabled  
Heated Catalyst Monitoring Enabled  
Evaporative System Monitoring Enabled  
Secondary Air System Monitoring Enabled  
Oxygen Sensor Monitoring Enabled  
Oxygen Sensor Heater Monitoring Enabled  
EGR and/or VVT System Monitoring Enabled  
NMHC Catalyst Monitoring Enabled  
NOx Aftertreatment Monitoring Enabled  
Boost Pressure System Monitoring Enabled  
Exhaust Gas Sensor Monitoring Enabled  
PM Filter Monitoring Enabled  
EGR and/or VVT System Monitoring Enabled  
Catalyst Monitoring Ready  
Heated Catalyst Monitoring Ready  
Evaporative System Monitoring Ready

Secondary Air System Monitoring Ready  
Oxygen Sensor Monitoring Ready  
Oxygen Sensor Heater Monitoring Ready  
EGR and/or VVT System Monitoring Ready  
NMHC Monitoring Ready  
NOx Aftertreatment Monitoring Ready  
Boost Pressure System Monitoring Ready  
Exhaust Gas Sensor Monitoring Ready  
PM Filter Monitoring Ready  
EGR and/or VVT System Monitoring Ready  
Cooling Fan Stop Control Request  
Equal Transaction Charge Permit Signal  
Equal Charge Out Relay Signal  
Charge Control Signal

### ***State Encoded Values (CAN Bus)***

#### ***EFI (state)***

Received MIL From ECT  
Transmission Type  
System Identification  
Shift Status  
VNT Type  
DPNR Status (S)  
Combustion Status (D4)

#### ***ECT***

Transmission Type  
System Identification  
Shift Status

#### ***HV***

MG2 Carrier Frequency  
MG2 Control Mode  
MG1 Carrier Frequency  
MG1 Control Mode  
ECU Control Mode

### ***Live Data Sensors (non-CAN bus)***

#### ***Engine EFI***

Calculated Load  
Engine Coolant Temp  
Fuel Rail Pressure (gauge)

Intake Manifold Pressure  
Engine RPM  
Vehicle Speed  
Ignition Timing Advance  
Intake Air Temperature  
Air Flow Rate From MAF  
Absolute Throttle Position  
Time Since Engine Start  
Distance Traveled MIL On  
Fuel Rail Press Rel Manifold  
Fuel Rail Pressure  
Battery  
Injector  
Revised Injection Volume  
Fuel FB Coef  
A/F Learn  
Purge Learn  
KCS Feedback  
KCS Feedback  
Fuel Pressure  
Injector  
IAC Step Position  
IAC Duty Ratio  
EGRT Gas  
E-ABV Step Position  
Engine Run Time  
EGR Valve Position  
SPD (SP2)  
SPD (NC0)  
SPD (NC2)  
SPD (NC)

### ***ABS***

Throttle Sensor  
Sub Throttle Sensor  
Engine RPM  
Vehicle Speed  
Steering Angle  
Master Pressure Sensor  
Stroke Sensor  
Vehicle Speed (for EMPS)

### ***TPWS***

Vehicle Speed

## AC

Room Temperature Sensor  
Ambient Temperature Sensor  
Evaporative Temperature Sensor  
Solar Sensor (D Side)  
Solar Sensor (P Side)  
Engine Coolant Temperature  
Duct Sensor (D Side)  
Duct Sensor (P Side)  
Set Temperature (D Side)  
Set Temperature (P Side)  
Air Mix Damper Position (D Side)  
Air Mix Damper Position (P Side)  
Air Outlet Damper Position  
Air Inlet Damper Position  
Cool Air Bypass Damper Position (D Side)  
Cool Air Bypass Damper Position (P Side)  
Air Mix Damper Target Position (D Side)  
Air Mix Damper Target Position (P Side)  
Air Outlet Damper Target Position  
Air Inlet Damper Target Position  
Air Mix Servo Motor Target Step (D Side)  
Air Mix Servo Motor Target Step (P Side)  
Air Outlet Servo Motor Target Step (D Side)  
Air Outlet Servo Motor Target Step (P Side)  
Blower Motor Speed Level  
Adjusted Ambient Temperature  
+B Abnormal Low Voltage Counter  
Emission Gas Sensor  
Rear Solar Sensor  
Emission Gas NOx Sensor  
Regulator Pressure Current  
Filter Flow Volume  
Regulator Control Current  
Room Temperature Sensor (Rear)  
Ambient Temperature Sensor (Rear)  
Set Temperature (Rear)  
Air Mix Damper Position (Rear)  
Air Outlet Mode Damper Position (Rear)  
Air Mix Target Position (Rear)  
Air Outlet Target Position (Rear)  
Blower Motor Speed Level (Rear)  
Humidity Sensor  
Air Mix Servo Motor Target Pulse (D Side)  
Air Mix Servo Motor Target Pulse (P Side)

Air Outlet Servo Motor Target Pulse (D Side)  
Air Inlet Damper Target Pulse  
Cool Air Bypass Pulse  
Compressor Speed  
Compressor Target Speed  
Evaporator Fin Thermistor  
Number of Trouble Codes

### ***EFI***

Cyl 1 Misfire Rate  
Cyl 2 Misfire Rate  
Cyl 3 Misfire Rate  
Cyl 4 Misfire Rate  
Cyl 5 Misfire Rate  
Cyl 6 Misfire Rate  
Cyl 7 Misfire Rate  
Cyl 8 Misfire Rate

### ***CCS / Immobiliser***

Short Term Fuel Trim B1  
Short Term Fuel Trim B3  
Long Term Fuel Trim B1  
Long Term Fuel Trim B3  
Short Term Fuel Trim B2  
Short Term Fuel Trim B4  
Long Term Fuel Trim B2  
Long Term Fuel Trim B4  
O2 Sensor B1-S1  
Short Fuel Trim B1-S1  
O2 Sensor B1-S2  
Short Fuel Trim B1-S2  
O2 Sensor B1-S3  
Short Fuel Trim B1-S3  
O2 Sensor B1-S4  
Short Fuel Trim B1-S4  
O2 Sensor B2-S1  
Short Fuel Trim B2-S1  
O2 Sensor B2-S2  
Short Fuel Trim B2-S2  
O2 Sensor B2-S3  
Short Fuel Trim B2-S3  
O2 Sensor B2-S4  
Short Fuel Trim B2-S4  
Equivalence Ratio B1-S1  
O2 B1-S1 Wide Range V

Equivalence Ratio B1-S2  
O2 B1-S2 Wide Range V  
Equivalence Ratio B1-S3  
O2 B1-S3 Wide Range V  
Equivalence Ratio B1-S4  
O2 B1-S4 Wide Range V  
Equivalence Ratio B2-S1  
O2 B2-S1 Wide Range V  
Equivalence Ratio B2-S2  
O2 B2-S2 Wide Range V  
Equivalence Ratio B2-S3  
O2 B2-S3 Wide Range V  
Equivalence Ratio B2-S4  
O2 B2-S4 Wide Range V  
IACV Position  
IACV Open Stuck  
IACV CLS Stuck  
Accelerator Pos 1  
Accelerator Pos 2  
Throttle Pos 2  
Throttle Request Pos  
Throttle Motor Opening Duty Ratio  
Throttle Motor Closing Duty Ratio  
Throttle Fully Closed Learning  
Accelerator Fully Closed Learning  
Throttle Motor Current  
Electromagnetic Clutch Current  
Fuel Tank Pressure  
Target Cam Phaser  
Cam Phaser  
OCV Duty Ratio  
Total FT 1  
Total FT 2  
O2 LR B1 S1  
O2 LR B2 S1  
O2 RL B1 S1  
O2 RL B1 S2  
O2 RL B2 S1  
O2 RL B2 S2  
Cruise Control Vehicle Speed  
Cruise Control Memory Vehicle Speed  
Cruise Control Throttle Opening Angle  
Registered Key Number

### ***CCS / Immobiliser***

Cruise Control Vehicle Speed

Cruise Control Memory Vehicle Speed  
Cruise Control Throttle Opening Angle  
Registered Key Number

### ***Stop and Go***

Starter Operation #  
Engine Speed (EFI ECU)  
Engine Speed (NE Signal)  
Vehicle Speed (EFI ECU)  
Vehicle Speed (Speed Signal)  
Battery Current  
Battery Voltage  
Brake Booster Pressure  
Vacuum For Brake  
CRC Stroke Sensor  
Coolant Temp  
Ambient Temp Sensor  
Multiple Current (1 Trip)  
Multiple Current (30 Min)  
Cranking Time  
Coolant Temp (Cranking)  
Min Voltage (Cranking)  
Learning Volt (CRC Lo)  
Learning Volt (CRC Up)

### ***Sequential MT***

Calculated Load  
Engine Coolant Temp  
Engine Revolution  
Vehicle Speed  
Intake Air Temperature  
Throttle Absolute Position  
Driving Mileage After Malfunction  
Backup Engine Speed  
Accelerator Pedal Angle  
Theoretical Engine Torque  
Driver Demand Torque  
Engine Loss Torque  
Idle Set Speed  
Requested Engine Torque  
Requested Engine Speed  
Gear Indicator Pos (except R & N)  
Gear Indicator Pos (R & N)  
Buzzer Output Status  
Clutch Position (Current)

Clutch Position (Target)  
Shift Position (Current)  
Shift Position (Target)  
Select Position (Current)  
Select Position (Target)  
Shift Pressure  
Accumulate Pressure  
Clutch Solenoid Current  
Master Solenoid Current  
Shift Solenoid Current  
Select Solenoid Current  
Wheel Speed FR  
Wheel Speed FL  
Wheel Speed RR  
Wheel Speed RL  
T/M Input Shaft Speed  
Clutch Solenoid Null Position  
Master Solenoid Null Position  
Shift Solenoid Null Position  
Select Solenoid Null Position  
Clutch Touch Position  
Clutch Clamp Position  
Clutch Coast Position  
Neutral Position (Shift Position)  
Neutral Position (Select Position)  
1st Gear Position (Shift Position)  
1st Gear Position (Select Position)  
2nd Gear Position (Shift Position)  
2nd Gear Position (Select Position)  
3rd Gear Position (Shift Position)  
3rd Gear Position (Select Position)  
4th Gear Position (Shift Position)  
4th Gear Position (Select Position)  
5th Gear Position (Shift Position)  
5th Gear Position (Select Position)  
Reverse Gear Position (Shift Position)  
Reverse Gear Position (Select Position)  
Cold Condition Judgment  
1st Drive Gear Teeth Number  
1st Driven Gear Teeth Number  
2nd Drive Gear Teeth Number  
2nd Driven Gear Teeth Number  
3rd Drive Gear Teeth Number  
3rd Driven Gear Teeth Number  
4th Drive Gear Teeth Number  
4th Driven Gear Teeth Number

5th Drive Gear Teeth Number  
5th Driven Gear Teeth Number  
Final Drive Gear Teeth Number  
Final Driven Gear Teeth Number  
Reverse Drive Gear Teeth Number  
Reverse Driven Gear Teeth Number  
6th Gear Position (Shift Position)  
6th Gear Position (Select Position)  
Trouble Codes

### ***T/M Control***

BATT Voltage  
IG (+B) Voltage Value  
U Phase Voltage Value  
V Phase Voltage Value  
W Phase Voltage Value  
Detail Information 1  
Detail Information 2  
Detail Information 3  
PSW Indicator Mode  
Number Of Trip Counter After Learning  
Fuel Rank  
Type Of ECU

### ***ABS***

Front Right Wheel Speed  
Front Left Wheel Speed  
Rear Right Wheel Speed  
Rear Left Wheel Speed  
Deceleration Sensor GL1  
Deceleration Sensor GL2  
Yaw Rate Sensor  
Yaw Zero Point  
Output Value of GL1  
Output Value of GL2  
Front Right Wheel Speed  
Front Left Wheel Speed  
Rear Right Wheel Speed  
Rear Left Wheel Speed  
VSP1 Vehicle Speed On Meter  
Front Right Wheel Speed  
Front Left Wheel Speed  
Rear Right Wheel Speed  
Rear Left Wheel Speed  
VSP1 Vehicle Speed On Meter

GL1 Sensor  
GL2 Sensor  
Vacuum Sensor 1  
Vacuum Sensor 2  
Master Cylinder Pressure 1  
Master Cylinder Pressure 2  
Master Cylinder Pressure  
Regulator Pressure  
Front Pressure  
Rear Pressure  
Regeneration Request Torque  
Regeneration Operation Torque  
ECB SLAFR Solenoid Current  
ECB SLAFL Solenoid Current  
ECB SLARR Solenoid Current  
ECB SLARL Solenoid Current  
ECB SLRFR Solenoid Current  
ECB SLRFL Solenoid Current  
ECB SLRRR Solenoid Current  
ECB SLRRL Solenoid Current  
ECB Stroke Sensor  
ECB Stroke Sensor 2  
ECB Accumulator Pressure 1  
ECB Accumulator Pressure 2  
ECB Front Right Pressure  
ECB Front Left Pressure  
ECB Rear Right Pressure  
ECB Rear Left Pressure  
Regenerative Request Torque (FR)  
Regenerative Request Torque (FL)  
Regenerative Request Torque (RR)  
Regenerative Request Torque (RL)  
Master Cylinder Pressure 1  
Master Cylinder Pressure 2  
Accumulator Pressure  
Diff Degree of Present Accelerator  
Diff % of Present Accelerator  
Real Output Torque  
Diff % of Present Throttle  
Number IG ON After Enter Inspection Mode  
Number of IG On  
Vehicle Speed  
Steering Angle  
Yaw Rate Sensor  
Master Cylinder Pressure  
Stroke Sensor

Throttle Opening Angle  
Master Cylinder Pressure Grade  
Stroke Sensor Grade  
Right and Left G  
Back and Forth G  
Vehicle Speed Grade  
Diff % of Present Accelerator  
FR Wheel Cylinder Pressure  
FL Wheel Cylinder Pressure  
RR Wheel Cylinder Pressure  
RL Wheel Cylinder Pressure  
Accumulator Pressure  
Master Cylinder Pressure 2  
Stroke Sensor 2  
MTT  
Voltage Value of IG1  
Voltage Value of IG2  
BS1  
BS2  
VM1  
VM2  
+B1  
+B2  
Elapsed Time After Ignition Switch ON  
Target Oil Pressure (FR)  
Target Oil Pressure (FL)  
Target Oil Pressure (RR)  
Target Oil Pressure (RL)  
Current of SLAFR Solenoid  
Current of SLAFL Solenoid  
Current of SLARR Solenoid  
Current of SLARL Solenoid  
Current of SLRFR Solenoid  
Current of SLRFL Solenoid  
Current of SLRRR Solenoid  
Current of SLRRL Solenoid  
Front Right Wheel Speed  
Front Left Wheel Speed  
Rear Right Wheel Speed  
Rear Left Wheel Speed  
Detailed Code for Freeze DTC  
ABS Trouble Codes

***TPWS (Tire Pressure)***

ID1 Tire Inflation Pressure  
ID2 Tire Inflation Pressure

ID3 Tire Inflation Pressure  
ID4 Tire Inflation Pressure  
ID1 Temperature In Tire  
ID2 Temperature In Tire  
ID3 Temperature In Tire  
ID4 Temperature In Tire  
ID1 Battery Voltage  
ID2 Battery Voltage  
ID3 Battery Voltage  
ID4 Battery Voltage  
ID1 Tire Inflation Pressure  
ID2 Tire Inflation Pressure  
ID3 Tire Inflation Pressure  
ID4 Tire Inflation Pressure  
ID5 Tire Inflation Pressure  
ID1 Temperature In Tire  
ID2 Temperature In Tire  
ID3 Temperature In Tire  
ID4 Temperature In Tire  
ID5 Temperature In Tire  
ID1 Initial Threshold Of Low Pressure  
ID2 Initial Threshold Of Low Pressure  
ID3 Initial Threshold Of Low Pressure  
ID4 Initial Threshold Of Low Pressure  
ID5 Initial Threshold Of Low Pressure  
TPWS Trouble Codes

### ***EHPS / EMPS***

Torque Sensor 1 Output  
Torque Sensor 2 Output  
Torque Sensor Control  
Meter Vehicle Velocity  
Wheel Speed (Right)  
Wheel Speed (Left)  
Engine Revolution  
Motor Actual Current  
Command Value Current  
Steering Wheel Angle Velocity  
Thermistor Temperature  
PIG Power Supply  
IG Power Supply  
TRQ1 Zero Point Value  
TRQ2 Zero Point Value  
TRQ3 Zero Point Value  
Motor Terminal Voltage (+)  
Motor Terminal Voltage (-)

Control Mode  
IG On/Off Times  
Motor Hi Power Record  
Number of Trouble Codes  
ROM Version (CAR)  
ROM Version (Major Version)  
ROM Version (Minor Version)  
Assist Map Select State  
Ready Status

### **VGRS**

Steering Position 1 (Parallel)  
Steering Position 2 (Serial)  
Vehicle Speed (Vsc ECU)  
Wheel Speed (Right)  
Wheel Speed (Left)  
Motor Power Source Current  
Estimated Motor Current  
Actuator Position  
Steering Angle Velocity  
Lock Motor Output Volt  
Thermistor Temperature  
PIG-Power Source Volt  
IG-Power Source Volt  
Actuator Target Angle  
Actuator Revolution Speed  
Command Value Duty  
Motor Estimated Current  
Actuator Lock Duty Value  
Terminal Voltage U  
Terminal Voltage V  
Terminal Voltage W  
Actuator Deviation Angle  
Actuator Estimate Temp

### **AIRSUS & AHC**

FR Wheel Height  
FL Wheel Height  
R Wheel Height  
Front Pressure Sensor  
Rear Pressure Sensor  
Accumulator Pressure Sensor  
Vehicle Speed  
FR Wheel Speed  
FL Wheel Speed

IG Voltage  
+B Voltage  
Steering Angle  
Steering Angle  
Engine Speed  
Oil Temperature Sensor  
Front Damper Step  
Rear Damper Step  
G (Back & Forth) Sensor  
G (Up and Down) Sensor FR  
G (Up and Down) Sensor FL  
G (Up and Down) Sensor Rear  
FR Height Control Sensor  
FL Height Control Sensor  
RR Height Control Sensor  
RL Height Control Sensor  
Damper Step FR  
Damper Step FL  
Damper Step RR  
Damper Step RL  
Wheel Speed FR  
FR Height Adjust  
FL Height Adjust  
RR Height Adjust  
RL Height Adjust  
FR After Height Adjust  
FL After Height Adjust  
RR After Height Adjust  
RL After Height Adjust  
RR Wheel Speed  
RL Wheel Speed  
AHC Trouble Codes  
Max Damper Step FR  
Max Damper Step FL  
Max Damper Step RR  
Max Damper Step RL

### ***BODY***

Illumination Rate Information  
Shoulder Belt Position 1  
Shoulder Belt Position 2  
Shoulder Belt Position 3

### ***BODY No2***

Illumination Rate Information

Shoulder Belt Position 1  
Shoulder Belt Position 2  
Shoulder Belt Position 3

### ***Steering Pad***

Rheostat Signal

### ***SRS***

SRS Trouble Codes

### ***OCC (occupant detect)***

FL Sensor Voltage  
FR Sensor Voltage  
RL Sensor Voltage  
RR Sensor Voltage  
FL Sensor Weight  
FR Sensor Weight  
RL Sensor Weight  
RR Sensor Weight  
Total Sensor Weight  
OCC Trouble Codes  
OCC Past Trouble Codes

### ***Meter***

Speed Meter  
Tachometer  
Input Value Of Fuel Gauge  
Input Value Of Light Rheostat  
Tube Temperature  
Input Value Of Oil Gauge  
Output Value Of Sub Fuel Gauge

### ***AFS***

+B  
Height Sensor Power Supply  
Front Height Sensor Signal  
Rear Height Sensor Signal  
Steering Sensor Signal  
Steering Sensor Center Position  
Left Swivel Motor Position Sensor  
Right Swivel Motor Position Sensor  
AFS Trouble Codes

### ***P-Seat***

ECU IG Power Voltage  
Current Slide Position  
Current Reclining Position  
Current Front Vertical Position  
Current Lifter Position  
Current Headrest Position  
Memorized Slide Position 1  
Memorized Reclining Position 1  
Memorized Front Vertical Position 1  
Memorized Lifter Position 1  
Memorized Headrest Position 1  
Memorized Slide Position 2  
Memorized Reclining Position 2  
Memorized Front Vertical Position 2  
Memorized Lifter Position 2  
Vehicle Speed

### ***D-Door***

Mirror Position Sensor (Vertical)  
Mirror Position Sensor (Horizontal)

### ***P-Door***

Mirror Position Sensor (Vertical)  
Mirror Position Sensor (Horizontal)

### ***Tilt and Telescope***

T&T Manual Switch Data  
Power Source Voltage  
Tilt Position (Pulse)  
Telesco Position (Pulse)  
Tilt Position (Analog)  
Telesco Position (Analog)  
SB Position  
Tilt Return Position  
Telesco Return Position  
Tilt Up Limit Position  
Tilt Down Limit Position  
Telesco Short Limit Position  
Telesco Long Limit Position  
Tilt Memory Position 1  
Telesco Memory Position 1  
Tilt Memory Position 2  
Telesco Memory Position 2  
SB Memory Position 2

Tilt Return Position  
Telesco Return Position  
Tilt Up Limit Position  
Tilt Down Limit Position  
Telesco Short Limit Position  
Telesco Long Limit Position  
Tilt Memory Position 1  
Telesco Memory Position 1  
Tilt Memory Position 2  
Telesco Memory Position 2  
Mirror Manual Select  
Freeze Speed Information  
Tilt Memory Position 3  
Telesco Memory Position 3  
ECU IG Power Voltage  
Current Slide Position  
Current Reclining Position  
Current Front Vertical Position  
Current Lifter Position  
Current Headrest Position  
Memorized Slide Position 1  
Memorized Reclining Position 1  
Memorized Front Vertical Position 1  
Memorized Lifter Position 1  
Memorized Headrest Position 1  
Memorized Slide Position 2  
Memorized Reclining Position 2  
Memorized Front Vertical Position 2  
Memorized Lifter Position 2  
Memorized Headrest Position 2  
Memorized Driver Mirror Position 1  
Memorized Passenger Mirror Position 1  
Memorized Driver Mirror Position 2  
Memorized Passenger Mirror Position 2  
Vehicle Speed  
Memorized Cushion Position 1  
Memorized Cushion Position 2  
Memorized Slide Position 3  
Memorized Reclining Position 3  
Memorized Front Vertical Position 3  
Memorized Lifter Position 3  
Memorized Headrest Position 3  
Memorized Cushion Position 3  
Memorized Driver Mirror Position 3  
Memorized Driver Mirror Position 3  
Memorized Passenger Mirror Position 1

Memorized Belt Anchor Position 1  
Memorized Belt Anchor Position 2  
Memorized Belt Anchor Position 3  
Slide Front Most Position  
Headrest Down Most Position  
Current Cushion Position

### ***MIRROR, MIRROR-R***

Driver Side Mirror Position Vertical Sensor  
Driver Side Mirror Position Horizontal Sensor  
Passenger Side Mirror Position Vertical Sensor  
Passenger Side Mirror Position Horizontal Sensor  
Mirror Position Sensor Vertical  
Mirror Position Sensor Horizontal

### ***Combination Switch***

Wiper Volume Position

### ***SMART KEY***

Power Save Counter - 10 Minutes  
Power Save Counter - 5 Days  
Power Save Counter - 14 Days

### ***Immobiliser***

Registered Key Number

### ***MIRROR-L***

Mirror Position Sensor Vertical  
Mirror Position Sensor Horizontal

### ***Bitmap Encoded Values (non-CAN Bus)***

#### ***Engine EFI***

Engine Run Permission  
Engine Warm Up Signal  
Acc Racing Signal  
Engine Run Signal  
RAM Monitor  
ATF  
Throttle Motor  
Electromagnetic Clutch  
ETCS Actuator Power  
Accel Idle Pos  
Throttle Idle Pos

Fail Safe Drive  
Fail Safe Drive (Main CPU)  
Lock Up Solenoid  
Status Of EVAP Auto Test (Mode 8)  
Status Of EVAP Auto Test (Mode 8)  
Status Of EVAP Auto Test (Mode 8)  
PS Oil Pressure Switch  
Stop Light Switch  
Elect Load Signal  
PNP Switch  
A/C Signal  
CTP Switch  
Starter Signal  
FC TAO  
FC IDL  
PS Signal  
Stop Light Switch 1  
Engine Stop Signal  
A/C Cut Signal  
Variable Intake VSV  
Fuel Pressure Up VSV  
EGR System  
Intake Control VSV 1  
Fuel Pump Relay  
Second Air VSV  
SCV VSV  
A/C Idle VSV  
Fuel Pump SPD  
Purge Cut VSV  
A/C Magnetic Clutch  
EVAP VSV  
Vapor Press VSV  
VVT Ctrl B2  
Intake Ctrl VSV2  
Supercharge Control Relay  
VVT Ctrl B1  
Boost Pressure VSV  
Auto Oil Supply  
Air Bleed VSV  
Int Air Ctrl VSV  
Exh Gas Ctrl VSV  
Exh Bypass VSV  
Canister Pressure Control VSV  
Tank Pressure Bypass VSV  
VVTL Control (Bank 1)  
VVTL Control (Bank 2)

AICV  
Engine Cooling Fan  
Vent Valve  
Pump For EVAP System  
Low  
2nd  
Reverse  
Pattern Sel Switch (M)  
Overdrive Cut Switch  
Kickdown Switch  
Overdrive Cut Switch 1  
3rd  
4th/Drive  
Drive  
Snow Switch  
Sport Mode Selection Switch  
Sport Shift Down Switch  
Sport Shift Up Switch  
Solenoid (SLN)  
Solenoid (SLU)  
Solenoid (SLT)  
Solenoid (SLD)  
Solenoid (SLC)  
Solenoid (SLS)  
Solenoid (DSU)

## **CCS**

Cruise Control Main Switch (Main CPU)  
Cruise Control Main Switch-Ready (Main CPU)  
Cruise Control Main Switch-Indicator (Main CPU)  
Cruise Control  
Shift D Position  
Stop Light Switch 1 (Sub CPU)  
Stop Light Switch 2 (Sub CPU)  
Stop Light Switch 2 (Main CPU)  
RES/ACC Switch  
SET/COAST Switch  
Cancel Switch

## ***Stop and Go***

MIL Status  
Clutch Lower Switch  
Clutch Upper Switch  
Neutral Switch  
1st and 2nd Switch

Reverse  
Engine Hood Switch 1  
Engine Hood Switch 2  
D Curtsey Switch Signal  
Cancel Switch  
Stop Light Switch  
Oil Pressure Switch  
Alternator L Terminal  
TC Terminal  
Starter Signal  
A/C Signal  
Starter Control Signal  
Eco Run Mode Indicator  
Eco Run Operate Indicator  
Indicator Lamp OIL  
Charge Lamp  
Buzzer  
Eco Run (Pre Condition)  
Eco Run (Vehicle Speed)  
Eco Run (Shift Cond)  
Eco Run (Clutch Cond)  
Eco Run (Idle Cond)  
Engine Start (Battery)  
Engine Start (Vacuum)  
Engine Start (Brake)  
Engine Start (Stop Cond)  
Engine Start (Moving)  
Engine Start (Shift Cond)  
P1642 (Engine ECU)  
P1642 (S&G)  
P0335 (Open)  
P0335 (Int)  
P0355 (Engine ECU)  
P0500 (Engine ECU)  
P0500 (Open)  
P1862  
P1855  
P1857  
P1780 (Open)  
P1780 (Short)  
P1870 (Open)  
P1870 (Short)  
P1871 (Open)  
P1871 (Short)  
P1540  
P1541 (Stop Cond)

P1541 (Spd)  
P1542 (Open/Short)  
P1542 (Output)  
P1543  
P1523  
P1520 (Short)  
P1520 (Open)  
P1520 (Engine ECU)  
P1643  
P1644  
P1544  
P1545  
P1115  
P1875  
P1642 (EFI)  
P1642 (Eco)  
P0335 (Open)  
P0335 (Int)  
P0355 (Engine ECU)  
P0500 (Engine ECU)  
P0500 (Open)  
P1862  
P1855  
P1857  
P1780 (Open)  
P1780 (Short)  
P1870 (Open)  
P1870 (Short)  
P1871 (Open)  
P1871 (Short)  
P1540  
P1541 (Stp)  
P1541 (Spd)  
P1542 (Open/Short)  
P1542 (Output)  
P1543  
P1523  
P1520 (Short)  
P1520 (Open)  
P1520 (Engine ECU)  
P1643  
P1644  
P1544  
P1545  
P1115  
P1875

P1642 (EFI)  
P1642 (Eco)  
P0335 (Open)  
P0335 (Int)  
P0355 (Engine ECU)  
P0500 (Engine ECU)  
P0500 (Open)  
P1862  
P1855  
P1857  
P1780 (Open)  
P1780 (Short)  
P1870 (Open)  
P1870 (Short)  
P1871 (Open)  
P1871 (Short)  
P1540  
P1541 (Stp)  
P1541 (Spd)  
P1542 (Open/Short)  
P1542 (Output)  
P1543  
P1523  
P1520 (Short)  
P1520 (Open)  
P1520 (Engine ECU)  
P1643  
P1644  
P1544  
P1545  
P1115  
P1875  
Fail Safe (Comm Fail 1)  
Fail Safe (Comm Fail 2)  
Fail Safe (Spd Sensor)  
Fail Safe (Cancel Switch)  
Fail Safe (Shift Switch Fail)

### ***Sequential MT***

MIL Status  
Clutch Fully Engaged  
Clutch Engaging  
Clutch Fully Disengaged  
Clutch Disengaged  
Changing Gear  
Torque Reduction Request

MIL Illumination  
Cruise Control Inhibit  
Invalid Position  
Reverse  
SAS Change Up  
SAS  
SAS Change Down  
Shift Lever Switch Signal 1  
Shift Level Switch Signal 2  
Shift Lever Switch Signal 3  
Shift Level Switch Signal 4  
Shift Lever Check Signal 3  
Shift Level Check Signal 4  
Shift Lever Check Signal 3  
Shift Level Check Signal 4  
Steering Switch Signal Up  
Steering Switch Signal Down  
CAN Communication  
Door Lamp  
Ignition Signal  
T/M Reverse Switch Signal  
Motor Pump Relay Signal  
T/M Neutral Switch Signal  
STP Switch Signal  
NSW Signal  
A/C Switch Signal  
IDL Switch Signal  
NSW Switch Signal  
SPD Switch Signal  
XTEST Switch Signal

### ***T/M Control***

Initial Drive Control Completed  
Completion Of Detecting Lock Position  
Completion Of Detecting Unlock Position  
Completion Of Learning Lock Position  
Completion Of Learning Unlock Position  
P/Not P Movable Shift Range  
Power Supply Off Preparation Request Signal  
Main Relay For Motor Drive  
U Phase Current-Carrying Status  
V Phase Current-Carrying Status  
W Phase Current-Carrying Status  
Main Relay  
Signal Of Electrical Key Condition  
Vehicle Condition

ACC Condition Signal  
BATT Voltage Status  
IG (+B) Phase Voltage Status  
U Phase Voltage Status  
V Phase Voltage Status  
W Phase Voltage Status  
Shift Position Display (P)  
Shift Position Display (not P)  
Master Caution Display

### **ABS**

Solenoid Relay  
ABS Motor Relay  
TRAC Motor Relay  
Pre-Charge Pump  
Stop Light Switch  
Main Idle Switch  
Sub Idle Switch  
VSC/TRC Off Switch  
Hydro Booster High Pressure Switch  
Hydro Booster Low Pressure Switch  
Reservoir Level Switch  
FR  
FL  
RR  
RL  
SFRR  
SFRH  
SFRL  
SFLH  
SRRR (SRR)  
SRRH (SRH)  
SRLR  
SRLH  
SMFR  
SMFL  
SMR  
SPFR  
SPFL (SMV2)  
SRCF (SRC1)  
SRCR (SRC2)  
Test Mode Status  
Regeneration Cooperation Control  
1 System Brake  
SMC1  
SMC2

SS  
Solenoid Relay  
ABS Motor Relay  
H/B Motor Relay  
ECU IG Power Voltage  
Stop Light Switch  
SA1 Solenoid  
SA2 Solenoid  
Hydro Booster Low Pressure Switch  
Hydro Booster High Pressure Switch  
Test Mode Status  
SFRH  
SFRR  
SFLH  
SFLR  
SRRH (SRH)  
SRRR (SRR)  
SRLH  
SRLR  
Stop Light Switch  
Main Idle Switch  
Sub Idle Switch  
VSC/TRC Off Switch  
Hydro Booster High Pressure Switch  
Hydro Booster Low Pressure Switch  
PKB Switch  
Air Bleed Support  
Test Mode Status  
ECU Code 1  
ECU Code 2  
ECU Code 3  
ECU Code 4  
Solenoid Relay  
ABS Motor Relay  
H/B Motor Relay  
FR  
FL  
RR  
RL  
SFRH  
SFRR  
SFLH  
SFLR  
SRRH (SRH)  
SRRR (SRR)  
SRLH

SRLR  
SRCF (SA1, SRC1, SBAR)  
SRCR (SA2, SRC2, SBAL)  
SRMF (SMCF, SA3, SMC1)  
SRMR (SMCR, STR, SMC2)  
SMF (BA-SOL)  
SMR  
SPFR  
SPFL  
Step Force Switch  
Reservoir Level Switch  
PPS Solenoid  
SSC  
MC1  
MC2  
SC1  
SC2  
Main Relay 1  
Main Relay 2  
A Pattern Drive Is Under Enforcement  
Two Or More Frame For Freeze Frame Data  
Existence of VSC  
Brake Type  
Motor Relay 1  
Motor Relay 2  
Steering Sensor  
Deceleration Sensor  
Yaw Rate Sensor  
EFI Communication  
RL Speed Sensor  
RR Speed Sensor  
FL Speed Sensor  
FR Speed Sensor  
RL Wheel Cylinder Pressure  
RR Wheel Cylinder Pressure  
FL Wheel Cylinder Pressure  
FR Wheel Cylinder Pressure  
Stroke Sensor 2  
Stroke Sensor 1  
Master Cylinder Pressure 2  
Master Cylinder Pressure 1  
Accumulator Pressure  
HV Communication  
Inspection Mode  
Stop Light Switch  
VSC/TRC Off Switch

Park Brake Switch  
Reservoir Level Switch  
Buzzer  
Rear Right Wheel Direction  
Rear Left Wheel Direction  
Front Right Wheel Direction  
Front Left Wheel Direction  
Main Relay 1 for ECB  
Main Relay 2 for ECB  
Motor Relay 1  
Motor Relay 2  
SMC1  
SMC2  
SCSS  
Capacitor ModeTPWS (Tire Pressure)  
Initialization Switch Status  
Select Switch Status  
ID Code of Transmission Place  
ID Code of Transmission Status  
Initialization Switch Setting Information  
Select Switch Setting Information

### ***AIRSUS & AHC***

Height Control Switch (Down)  
Height Control Switch (Up)  
Height Control Hold Switch  
Stop Light Switch  
Door Switch  
Height Switch Hold  
Height Switch Up  
Height Switch Down  
Damping Force Switch 1  
Damping Force Switch 2  
MOD2  
Height Control Switch  
TD Terminal  
Access Mode Switch  
Rear Leveling Solenoid  
Rear Gate Solenoid  
Front Leveling Solenoid  
Front Gate Solenoid  
Accumulator Solenoid  
Motor Relay  
Main Relay  
Main Relay Monitor

Rear Wheel Down  
Front Wheel Down  
Rear Wheel Up  
Front Wheel Up  
Main Relay Expectation  
Motor Relay  
Exhaust Solenoid  
FR Height Solenoid  
FL Height Solenoid  
RR Height Solenoid  
RL Height Solenoid  
Low Pressure Tank Solenoid  
Test Mode Status  
Height Control Off Switch

### **BODY**

Open Door Warning  
Down The Power Window With Transmitter  
Up The Power Window With Transmitter  
Hazard Answer Back  
Wireless Door Lock Control Function  
Car Finder Function  
Panic Function  
Light Comes ON When Unlocking The Transmitter  
Unlock With 2 Time Operation By Transmitter  
Wireless Buzzer Response  
Auto Lock Time  
Lock When IG Switch Is On, Shift D  
Unlock When IG On, Shift P and Speed 0  
Driver Door Close-Open Linked, Unlock All The Door Lock  
Unlock With 2 Times Operation By Driver Door Key  
Auto Lock  
Warning By Glass Broken Sensor  
Answer Back  
Passive Mode (Security System)  
Warning By Vehicle's Horn  
Security System  
Indicator Blinking When Armed State  
Auto Lock / Shift Not P  
Automatic Door Lock Linked Shift  
Intrusion Sensor  
Warning By Self Power Siren  
Door Key Linked Power Window Up  
Door Key Linked Power Window Down  
Power Window Operation Mode When IG Switch Is Off  
Power Window Operation When IG Switch Is Off

Outer Mirror Auto Return  
Outer Mirror Fold Function  
Rear Door Opening Warning  
Light Reminder  
Seat Belt Warning Buzzer  
Light The I/L When ACC Off  
Battery Saver  
Lounge Illumination Control  
Lounge Illumination  
Lighting Time (2 Selection)  
Light The I/L When Unlocking With Door Key  
Light Dome Lamp When Unlocking With Door Key  
Foot Lights Set Up (All Seat)  
Response Time  
R-Linked Wiper  
Auto Wiper  
Rewipe Time  
Rewipe Function  
Speed Mode  
Angle Mode  
Auto Lock / Shift Not P  
Automatic Door Lock Linked Shift  
DRL Control Function  
Luggage Courtesy Switch  
Hood Courtesy Switch  
Luggage Door Lock / Unlock Switch  
Luggage Opener Switch  
Stop Light Switch  
Parking Brake Switch  
Key Unlock Warning Switch  
Shift P Position Switch (P1)  
Mirror Position Switch (Down)  
Mirror Position Switch (Up)  
Mirror Position Switch (Left)  
Mirror Position Switch (Right)  
Mirror Selection Switch (Left)  
Mirror Selection Switch (Right)  
P Seat Buckle Switch  
D Seat Buckle Switch  
Outer Mirror Fold Switch  
Alternator L Terminal  
Fuel Lid Opener Switch  
Sport A/T Switch  
ECT Power Mode Switch  
ECT Snow Mode Switch  
Lamp Failure Signal

Brake Fluid Level Warning Switch  
Driver Door Lock Position Switch  
Passenger Lock Position Switch  
Rear Lock Position Switch  
PNP Switch  
Rear Door Courtesy Switch  
P Door Courtesy Switch  
D Door Courtesy Switch  
Wiper Angle Control Motor Terminal (PA3)  
Wiper Angle Control Motor Terminal (PA2)  
Wiper Angle Control Motor Terminal (PA1)  
Washer Switch Terminal (W)  
Wiper Switch Terminal (SM)  
Wiper Switch Terminal (+1)  
Wiper Switch Terminal (C1)  
Wiper Switch Terminal (2S)  
Head Light Switch (Tail)  
Head Light Switch (Head)  
Auto Light Switch  
Front Fog Light Switch  
Rear Fog Light Switch  
Passing Light Switch  
Dimmer Light Switch  
Trunk And Back-Door Opener Switch  
IG Switch  
ACC Switch  
Trunk Opener & Metal Top Switch  
Outer Mirror Return Switch  
Outer Mirror Fold Switch  
Tail Cancel Switch  
Brake Pad Sensor Open Switch  
Auto Mirror Switch  
PSD Operation Switch (Passenger's Side)  
PSD Operation Switch (Driver's Side)  
Back Door Operation Switch  
Memory Set Switch  
Seat Memory Switch 2  
Seat Memory Switch 1  
Lock Position Switch (Except D and Back Door)  
Driver Door Key Switch-Unlock Side  
Passenger Door Key Switch-Unlock Side  
Door Key Switch-Lock Side  
Door Lock Switch-Unlock Side  
Door Lock Switch-Lock Side  
Driver Door Key Switch-Unlock Side  
Intrusion Sensor OFF Switch

Intrusion Sensor Detection

### ***Steering Pad***

Horn Switch  
Meter Multireset Switch  
Meter Multi DSP2 Switch  
Meter Multi DSP1 Switch  
Audio Mode Switch  
Audio Volume Up Switch  
Audio Volume Down Switch  
Audio Selector Up Switch  
Audio Selector Down Switch  
Audio Volume Set Switch  
Speech Recognition Hook Switch  
ACC Switch Signal  
IG Switch Signal  
Tail Lamp Signal

### ***BODY No3***

Rear Seat Return Switch  
High Level Warning Switch  
ECT Snow Switch  
ECT Power Switch  
PIND Switch  
WIP Switch  
MPX-IG Switch  
ACC Switch  
Wiper Switch  
Illumination System With ACC Off  
Light Control  
Illumination System  
Auto Wiper Operation Mode  
Speed Mode

### ***BODY No4***

Back-up Light  
High Mount Light  
License Light  
Stop Light  
Rear Fog Light  
Tail Light  
Trunk Lid Open  
Rear Defroster  
Fuel Lid Open  
Luggage Light

### ***FRC (Body No 5)***

Washer Level Switch

### ***METER***

Tail Cancel Switch

Trip Reset Switch

Odo/Trip Switch

Light Reminder

### ***Clearance Sonar***

Clearance Sonar Main Switch

Keep Sense Status Buzzer

Rear Buzzer Specified

Front Buzzer Specified

Rear Sensor

Front Side Distance Sensor

Sensor Condition N Range

No Move Judgment Buzzer

Approach Delay Off

### ***AFS***

AFS Off Switch

Headlamp Auto Signal

Headlamp Signal

Generator Signal

Transmission Position N Signal

Transmission Position R Signal

### ***P-Door***

Slide Position Initial Flag

Reclining Position Initial Flag

### ***P-Seat***

Memory Switch 1

Memory Switch 2

Seat Memory 1

Seat Memory 2

IG Switch

Stop Light Switch

Key Unlock Switch

D-Door Warning Switch

Shift 'P' Position Switch

Memory Switch No 2  
Memory Switch No 1  
SET Switch  
Reclining Rear Switch  
Reclining Front Switch  
Front Vertical Down Switch  
Front Vertical Up Switch  
Lifter Down Switch  
Lifter Up Switch  
Slide Rear Switch  
Slide Front Switch  
Headrest Switch Down  
Headrest Switch Up  
Cushion Switch Rear  
Cushion Switch Front  
Slide Switch Rear (Wireharness)  
Slide Switch Front (Wireharness)  
Shift 'N' Position Switch  
Passenger Door Courtesy

#### ***RR-SEAT***

Refreshing ECU Stop  
Refreshing ECU Start  
Headrest Down  
Headrest Up  
Slide Rear  
Slide Front

#### ***RL-SEAT***

Refreshing ECU Stop  
Refreshing ECU Start  
Headrest Down  
Headrest Up  
Slide Rear  
Slide Front

#### ***R-SEAT-SW***

RR Seat Refreshing ECU Stop Switch  
RR Seat Refreshing ECU Start Switch  
RR Seat Headrest Down Switch  
RR Seat Headrest Up Switch  
RR Seat Slide Rear Switch  
RR Seat Slide Front Switch  
RL Seat Refreshing ECU Stop Switch  
RL Seat Refreshing ECU Start Switch

RL Seat Headrest Down Switch  
RL Seat Headrest Up Switch  
RL Seat Slide Rear Switch  
RL Seat Slide Front Switch  
IG Switch

### ***D-Door***

Lock Position Switch  
Jam Protection Limit Switch  
RL Door Remote Power Window Auto Switch  
RR Door Remote Power Window Auto Switch  
P Door Remote Power Window Auto Switch  
Door Power Window Auto Switch  
Glass Position (3/4 Open - Full Open)  
Glass Position (Fully Close - 3/4 Open)  
Glass Position (Fully Close - 2/4 Open)  
Glass Position (Fully Close - 1/4 Open)  
Door Key Linked Power Window Down  
Door Key Linked Power Window Up  
Full Switch  
Half Switch  
Pole Switch  
DBL Lock Position Switch  
Cam Position Switch 1  
Cam Position Switch 2  
Cam Position Switch 3  
Courtesy Switch  
Trigger Switch  
Trespass Sensor

### ***P-Door***

Lock Position Switch  
Jam Protection Limit Switch  
RL Door Remote Power Window Auto Switch  
RR Door Remote Power Window Auto Switch  
P Door Remote Power Window Auto Switch  
Door Power Window Auto Switch  
Glass Position (3/4 Open - Full Open)  
Glass Position (Fully Close - 3/4 Open)  
Glass Position (Fully Close - 2/4 Open)  
Glass Position (Fully Close - 1/4 Open)  
Door Key Linked Power Window Down  
Door Key Linked Power Window Up  
Full Switch  
Half Switch

Pole Switch  
DBL Lock Position Switch  
Cam Position Switch 1  
Cam Position Switch 2  
Cam Position Switch 3  
Courtesy Switch  
Trigger Switch  
Trespass Sensor

### ***RR-DOOR***

Lock Position Switch  
Jam Protection Limit Switch  
Door Power Window Auto Switch  
Glass Position (3/4 Open - Full Open)  
Glass Position (Fully Close - 3/4 Open)  
Glass Position (Fully Close - 2/4 Open)  
Glass Position (Fully Close - 1/4 Open)  
Full Switch  
Half Switch  
Pole Switch  
DBL Lock Position Switch  
Cam Position Switch 1  
Cam Position Switch 2  
Cam Position Switch 3  
Courtesy Switch  
Trigger Switch  
Rear Seat Memory Switch Memory  
Rear Seat Memory Switch Set  
Rear Seat Memory Switch Cancel  
Trespass Sensor  
PSD Switch Operation Condition  
Fuel Lid Switch  
Child Lock Switch  
B Pillar Switch  
PSD Main Switch  
Handle Switch  
Closer Position Switch  
Glass Position (3/4 Open - Full Open)  
Glass Position (Fully Close - 3/4 Open)  
Glass Position (Fully Close - 2/4 Open)  
Glass Position (Fully Close - 1/4 Open)  
RL-DOOR  
Lock Position Switch  
Jam Protection Limit Switch  
Door Power Window Auto Switch  
Glass Position (3/4 Open - Full Open)

Glass Position (Fully Close - 3/4 Open)  
Glass Position (Fully Close - 2/4 Open)  
Glass Position (Fully Close - 1/4 Open)  
Full Switch  
Half Switch  
Pole Switch  
DBL Lock Position Switch  
Cam Position Switch 1  
Cam Position Switch 2  
Cam Position Switch 3  
Courtesy Switch  
Trigger Switch  
Rear Seat Memory Switch Memory  
Rear Seat Memory Switch Set  
Rear Seat Memory Switch Cancel  
Trespass Sensor  
PSD Switch Operation Condition  
Fuel Lid Switch  
Child Lock Switch  
B Pillar Switch  
PSD Main Switch  
Handle Switch  
Closer Position Switch  
Glass Position (3/4 Open - Full Open)  
Glass Position (Fully Close - 3/4 Open)  
Glass Position (Fully Close - 2/4 Open)  
Glass Position (Fully Close - 1/4 Open)

### ***Tilt and Telescopic***

T&T Autoaway Function  
T&T Memory 3  
Tilt Up Limit Point  
Tilt Down Limit Point  
Telesco Short Limit Point  
Telesco Long Limit Point  
T&T Memory 1  
T&T Memory 2  
Belt Memory 1  
Belt Memory 2  
Tilt Up Manual Switch (MPX)  
Tilt Down Manual Switch (MPX)  
Telesco Short Manual Switch (MPX)  
Telesco Long Manual Switch (MPX)  
Key Code Confirm (MPX)  
IG Switch (MPX)  
Key Switch (MPX)

IG Switch  
Tilt Up Switch  
Tilt Down Switch  
Telesco Short Switch  
Telesco Long Switch  
Meter ECU Information  
Body No. 1 ECU Information  
Body No. 2 ECU Information  
Seat ECU Information  
Combi ECU Information  
Steering Lock ECU Information  
Power ECU Info

### ***D-Seat***

Memory Switch 1  
Memory Switch 2  
Seat Memory 1  
Seat Memory 2  
Driver Mirror Memory 1  
Driver Mirror Memory 2  
Passenger Mirror Memory 1  
Passenger Mirror Memory 2  
IG Switch  
Stop Light Switch  
Key Unlock Switch  
D-Door Warning Switch  
Shift 'P' Position Switch  
Memory Switch No 2  
Memory Switch No 1  
SET Switch  
Reclining Rear Switch  
Reclining Front Switch  
Front Vertical Down Switch  
Front Vertical Up Switch  
Lifter Down Switch  
Lifter Up Switch  
Slide Rear Switch  
Slide Front Switch  
Headrest Switch Down  
Headrest Switch Up  
Cushion Switch Rear  
Cushion Switch Front  
Slide Switch Rear (Wireharness)  
Slide Switch Front (Wireharness)  
Memory Switch 3

Seat Memory 3  
Driver Memory 3  
Passenger Mirror Memory 3  
Shift 'N' Position Switch  
IG 'Push' Position Switch  
Slide Position Initial Flag  
Headrest Position Initial Flag  
Reclining Position Initial Flag  
Temporary Stop Moving Flag  
Headrest Control

### ***SLIDE ROOF***

Open Switch  
Close Switch  
Tilt Up Switch  
Tilt Down Switch  
Limit Switch 1  
Limit Switch 2  
Motor Pulse  
Motor Status  
IG Switch  
IG (Bit)  
Permission Of Key Off Operating  
D-Door Warning Switch  
Door-Key Open Operation  
Door-Key Close Operation  
Wireless Open Operation  
Wireless Close Operation  
Hall IC1 Pulse  
Hall IC1 Status  
Hall IC2 Pulse  
Hall IC2 Status  
Permission Of Key Off Operating  
Slide Roof Closed Signal  
Permission Of Key Off Operating  
Open With Door-Key  
Close With Door-Key  
Open With Wireless  
Close With Wireless  
Direction Of Door-Key Operation  
Direction Of Wireless Operation

### ***MIRROR, MIRROR-R***

Mirror Position Right Switch

Mirror Position Left Switch  
Mirror Position Down Switch  
Mirror Position Up Switch  
Select Mirror Switch  
Reverse Position Switch  
ACC Switch  
IG Switch  
Mirror Memory 3  
Mirror Memory 2  
Mirror Memory 1

### ***RAIN SENSOR***

Wiper Switch Auto Signal  
Wiper Switch Hi Signal  
Wiper Switch Lo Signal  
Sensor Low Temp Condition  
Sensor High Temp Condition  
Sensor Reaction Condition  
Sensor Condition  
Key Push Switch Signal  
Key Switch Signal  
Wiper Switch Mist Signal  
Washer Switch Signal

### ***Combination Switch***

Light TAIL Switch  
Light HEAD Switch  
Light AUTO Switch  
Dimmer HI Switch  
Passing Light Switch  
Front Fog Light Switch  
Turn Right Switch  
Turn Left Switch  
Front Wiper INT Switch  
Front Wiper LO Switch  
Front Wiper HI Switch  
Front Wiper AUTO Switch  
Front Wiper MIST Switch  
Front Washer Switch  
Tilt UP Switch  
Tilt DOWN Switch  
Telesco LONG Switch  
Telesco SHORT Switch  
Horn Switch  
IG Switch

## **SMART KEY**

PR Door Trigger Switch  
DR Door Trigger Switch  
P Door Trigger Switch  
D Door Switch  
PR Door Touch Sensor Switch  
DR Door Touch Sensor Switch  
P Door Touch Sensor Switch  
D Door Touch Sensor Switch  
Trunk/Back Door Unlock Switch Switch  
Trunk/Back Door Lock Switch  
ACC Switch  
Ignition Switch  
Key Unlock Warning Switch  
Smart Cancel Switch  
Trunk Open Mode When The Key Is Left In A Trunk  
Trunk Open Mode When Vehicle Is Locked  
Warn A Key Is Taken Out By Fellow Passengers  
Warn A Key Is Taken From D-Door Without P Range  
Warn A Key Is Taken From D-Door With P Range  
Warn Starting E/G When The Key Is Out Of Range  
Warn When The Key Battery Becomes Weak  
C Code Difference  
ID Code Difference (Response)  
Key Low Battery  
Unmatched Response Code Or Format  
No Response  
Unmatched Vehicle ID  
Registered Condition Of Master Key ID #1  
Registered Condition Of Master Key ID #2  
Registered Condition Of Master Key ID #3  
Registered Condition Of Master Key ID #4  
Registered Condition Of Master Key ID #5  
Registered Condition Of Master Key ID #6  
Registered Condition Of Master Key ID #7  
Registered Condition Of Master Key ID #8  
ID Code Difference  
Difference Rolling Code  
Smart Cancel Switch  
Immobiliser  
Permit (Start)  
Response  
Frame Error  
Different Serial Number

Different Encrypt Code  
Abnormal Status  
BCC Malfunction  
Sub Key  
Master Key  
Wireless C Code  
Wireless Starter Communication ID  
Steering Lock Sleep Condition  
Steering Lock Start Condition  
Engine Start Condition  
Push Start Error  
Lock Bar Stuck Error  
Lock/Unlock Receive  
Motor Driver Open  
Motor Driver Short  
Power Supply Open  
Power Supply Short  
Sensor Value  
LG (Lin)  
IG2 Status  
IDBOX Start Condition  
IDBOX Sleep Condition  
Lock Request Receive  
Unlock Request Receive  
L Code Check  
S Code Check  
3bit Code Request  
Engine Start Request  
L Code Check (Past)  
S Code Check (Past)  
3bit Code Request (Past)  
Engine Start Request (Past)

### **BACK DOOR**

Courtesy Switch  
Wiper Turn Position Switch  
Wiper Retracting Switch  
Power Window Limited Switch  
Lock Position Switch  
Unlock Switch Linked With Key  
Lock Switch Linked With Key  
Door Key Linked Power Window Down  
Door Key Linked Power Window Up  
PBD Closer Switch  
Power Window Position  
Door Lock Status

Back Door Handle Switch  
Full Latch Switch  
Wiper Stop Position  
Half Latch Switch  
Glass Position (Fully Close - 1/4 Open)  
Glass Position (1/4 Open - 2/4 Open)  
Glass Position (2/4 Open - 3/4 Open)  
Glass Position (3/4 Open - Fully Open)  
Door Position (Fully Close - 1/4 Open)  
Door Position (1/4 Open - 2/4 Open)  
Door Position (2/4 Open - 3/4 Open)  
Door Position (3/4 Open - Fully Open)  
PBD Assist Open Operation  
PBD Assist Close Operation  
Wireless PBD One Motion Operation  
PBD Switch Operation Condition  
PBD Main Switch

### ***Steering Lock***

Push Switch  
Key Switch  
IG Switch  
Lock Position Sensor  
Unlock Position Sensor  
Unlock Sensor  
P2 Switch  
+B  
Steering Lock  
Immobiliser  
Check (Security)  
Permission To Start  
G-Code Support Status  
No Response  
Frame Error  
Unrecognized Serial No  
Unrecognized Encrypted Code  
Abnormal Status  
Abnormal BCC  
Sub Key Matching  
Master Key Matching  
Registration Error 3/EFI Reg Status  
Registration Error 2/Number Error  
Registration Error 1/Password Error  
Space For Code Registration  
Security B Code Confirmation  
Communication ID Confirmation

FCVC Status / No Resp From FCVC For 10s While IG On  
FCVC Status / FCV Failure  
FCVC Status / Codeline Failure  
FCVC Status / Factory Code Initializing  
FCVC Status / Checksum Error  
FCVC Status / Code Incorrect Status  
FCVC Status / Unlock Status  
FCVC Status / Code Learning Status

### ***MIRROR-L***

Mirror Memory 3  
Mirror Memory 2  
Mirror Memory 1

### ***TDS***

Security Horn 2  
Security Horn  
Security Indicator  
Tail Light Relay  
Headlight Relay  
Front Fog Light Relay  
Luggage Transmitter  
In Luggage Transmitter  
RR-Sheet Transmitter  
FR-Sheet Transmitter  
PR-Sheet Transmitter  
DR-Sheet Transmitter  
P-Sheet Transmitter  
D-Sheet Transmitter  
Smart Indicator  
Buzzer Response Sound  
Buzzer  
Pager

### ***PWR SOURCE CONTROL***

Shift P Signal  
Steering Unlock Switch  
Card Half-Insertion Detection Switch  
Card Full-Insertion Detection Switch  
Stop Lamp Switch 2  
Stop Lamp Switch 1  
Start Switch 2  
Start Switch 1  
Neutral Switch / Clutch Switch

Starter Requesting Signal Monitor  
Ratch Circuit  
Ignition 1 Relay Monitor (Inside)  
Ignition 2 Relay Monitor (Inside)  
ACC Relay Monitor  
Ignition 1 Relay Monitor (Outside)  
Ignition 2 Relay Monitor (Outside)  
Starter Relay Monitor  
Driving Request Of Starter  
ACC Relay Cut Signal  
Engine Condition (Only For Non HV-Car)  
Vehicle Speed Signal

### ***Master Switch***

RL Door Remote Power Window Up Switch  
RR Door Remote Power Window Up Switch  
P Door Remote Power Window Up Switch  
Door Power Window Up Switch  
RL Door Remote Power Window Auto Switch  
RR Door Remote Power Window Auto Switch  
P Door Remote Power Window Auto Switch  
D Door Power Window Auto Switch  
Power Window Lock Switch  
Manual Door Unlock Switch  
Manual Door Lock Switch  
RL Door Remote Power Window Down Switch  
RR Door Remote Power Window Down Switch  
P Door Remote Power Window Down Switch  
Door Power Window Down Switch  
Seat Memory No3  
Seat Memory No2  
Seat Memory No1  
Memory Set Switch  
Door Key Linked Unlock Switch  
Door Key Linked Lock Switch  
Lock Position Sensor  
Glass Position (3/4 Open - Full Open)  
Glass Position (Fully Close - 3/4 Open)  
Glass Position (Fully Close - 2/4 Open)  
Glass Position (Fully Close - 1/4 Open)  
Wireless Power Window Down  
Wireless Power Window Up  
Door Key Linked Power Window Down  
Door Key Linked Power Window Up

## ***State Encoded Values (non-CAN Bus)***

### ***Immobiliser***

Key Discrimination

### ***Sequential MT***

Gear Position (Current)

Gear Position (Target)

### ***ABS***

ECU IG Power Voltage

Deceleration Switch

Shift Position

### ***TPWS (Tire Pressure)***

TPWS Mode

Main Tire

2nd Tire

Registered Main Tire

Registered 2nd Tire

Paint Color of ID1 Transmitter

Paint Color of ID2 Transmitter

Paint Color of ID3 Transmitter

Paint Color of ID4 Transmitter

Registered ID

ID1 Battery Voltage

ID2 Battery Voltage

ID3 Battery Voltage

ID4 Battery Voltage

ID5 Battery Voltage

### ***EMPS / EHPS***

ECU Identification

Test Mode Status

### ***VGRS***

Steering Sensor 1

Steering Sensor 2

Steering Sensor 3

Engine Revolution (RPM)

Motor Rev Angle Sensor U

Motor Rev Angle Sensor V

Motor Rev Angle Sensor W  
Straight Angle Valid Flag  
Motor Overheat Record  
Motor Lo Power Record  
Motor Overload Record  
Record Of Wheel Speed Malfunction (Left)  
Record Of Wheel Speed Malfunction (Right)  
Test Mode Status

### **BODY**

Wireless Door Lock Buzzer Volume  
Code Selection For Trunk Lid Open Function  
Back Door Power Window Open Function Code Select  
Auto Lock Specification Of Vehicle Speed  
Slight Open  
Key Reminder Buzzer Sound  
Lighting Time (3 Selection)  
Light Auto Turn Off Delay  
Control Type  
Sensitivity  
Display Extinction Release Luminous Intensity  
Entry Delay Time  
Back Door Power Window Open Function Code Select  
Rear Sunshade Delay Time

### **SRS**

Driver Side Seat Position  
Passenger Classification  
Passenger Detection  
Driver (Left) Side Buckle Switch  
Driver (Right) Side Buckle Switch  
Display Type Information

### **OCC (occupant detect)**

IG Switch  
Passenger Side Buckle Switch  
Passenger Classification  
Sensor Range Information  
RR Sensor Range Information  
RL Sensor Range Information  
FR Sensor Range Information  
FL Sensor Range Information

### ***METER***

Key Reminder Buzzer Frequency  
Key Reminder Buzzer Volume  
Current Unit On Multi-Display

### ***Clearance Sonar***

Front And Rear Buzzer Volume  
Front And Rear Buzzer Frequency  
Non P/R Range Sensor  
Reverse Range Sensor  
Sonar Display Off Time  
Display Timeout Time  
Front Left Sensor  
Front Left Side Sensor  
Front Right Center Sensor  
Front Left Center Sensor  
Front Right Side Sensor  
Front Right Sensor  
Rear Left Center Sensor  
Rear Left Sensor  
Rear Right Sensor  
Rear Right Center Sensor

### ***P-Seat***

Status Of Motor

### ***AC***

Hands Free Telephone

### ***D-Door***

Foot Light Lighting Time  
Mirror Return Type

### ***P-Door***

Foot Light Lighting Time  
Mirror Return Type

### ***RR-DOOR***

Wireless PSD Switch Operation  
Buzzer Volume During The PSD Operation  
PSD Touch Sensor

### ***RL-DOOR***

Wireless PSD Switch Operation

Buzzer Volume During The PSD Operation  
PSD Touch Sensor

### ***D-Seat***

Status Of Motor

### ***MIRROR, MIRROR-R***

Foot Lamp Setup

### ***SMART KEY***

Interval To Send A Signal To Verify SMART Entry  
Wait Time To Permit Opening Door After Locking  
Smart Ignition Available Area  
Smart Door Unlock Mode  
Warn When The Key Is Left In The Vehicle  
Warn Locking Door When Engine Is Idling  
Setting Warning Buzzer Sound Number  
Smart Door Unlock Mode

### ***BACK DOOR***

Wireless PBD Switch Operation  
Buzzer Volume During PBD Operation

PBD Touch Sensor (Left)  
PBD Touch Sensor (Right)

### ***Immobiliser / Steering Lock***

Registered Sub Transponder Code No  
Registered Master Transponder Code No  
Key Discrimination

### ***MIRROR-L***

Foot Lamp Setup

### ***PWR SOURCE CONTROL***

Ready Signal (Only For HV-Car)  
Power Supply Condition