

Diagnostics Functions for TOYOTA / LEXUS / SCION

Perform diagnostics for TOYOTA/LEXUS/SCION vehicles.

Vehicle Connect

It is necessary to select the diagnostics system (the system within the vehicle) when diagnosing the vehicle. The procedure for Vehicle Connect is as follows.

Automatic Vehicle Selection

Vehicle information is automatically displayed for the selected vehicle in the Vehicle Connection Wizard Dialog box. If the vehicle cannot be determined by Division, Model, Model Year, and Engine alone, Option(s) may need to be selected. In addition, the items that can be selected differ by vehicle. Aside from Option(s), the displayed information is based on data received from the vehicle. However, if the displayed vehicle information is inaccurate, the correct information can be selected from the drop down menus. The VIN is acquired from the vehicle. In cases when the VIN cannot be acquired, it will not be displayed. The Next button only responds when all of the required vehicle information is specified.

Manual Vehicle Selection

From the Menu bar, select Function – Connect to Vehicle – Manual Vehicle Select, OR press the Manual button on the Vehicle Connection Wizard Dialog to select vehicle type.

For Manual Vehicle Selection, the user enters the Division, Model, Model Year, Engine and vehicle Option(s) to determine the vehicle.

The Next button only responds when all of the required vehicle information is specified.

Vehicle Connection Wizard Dialog (For North America)

The screenshot shows the 'Vehicle Connection Wizard(S301-04)' dialog box. It has a title bar and a main area with the following elements:

- Title Bar:** Vehicle Connection Wizard(S301-04)
- Instruction:** Confirm the information and press Next
- Required Information:**
 - 1 Division: TOYOTA
 - 2 Model: Camry HV
 - 3 ModelYear: 2007
 - 4 Engine: 2AZ-FXE
 - 5 Option: (empty)
- Optional Information:**
 - 6 VIN: JT8BF32K1Y2000011
 - 7 Memo: (empty text area)
- Buttons:**
 - 8 Manual
 - 9 Help
 - 10 <Back
 - 11 Next>
 - 12 Cancel

Vehicle Connection Wizard Dialog

- 1 Division
Displays the automatically selected Division.

The user can change selected content. The items displayed are the vehicle information for the corresponding Division. If the Division is changed, the Model, Model Year and Engine items will be redisplayed based on the vehicle information.



Model

Displays the automatically selected Model.

The user can change selected content. Only the Division, Model Year, and Engine items may be selected.



Model Year:

Displays the automatically selected Model Year.

The user can change selected content. Only the Division, Model, and Engine items may be selected.



Engine

Displays the automatically selected Engine.

The user can change selected content. Only the Division, Model, and Model Year items may be selected.



Option

Designates an Option to determine the ECU installed in the vehicle.

If it is necessary to designate an Option, "Select Option" will be displayed.



VIN

Displays VIN information acquired from the vehicle.

The user can enter VIN information manually if it cannot be acquired from the vehicle.



Memo

The user can enter a memo in the provided box.



Manual button

Switches to a manual connection.



Help button

Displays help content.



Back button

Cannot be used in this screen.



Next button

Transitions to the System Select screen based on the selected information.













Cancel button

Cancels the Vehicle Connection Wizard, and returns to the Main Menu.

Vehicle Connection Wizard Dialog (For Other Regions)

Vehicle Connection Wizard Dialog

-  * Model Code
 Displays the Model Code acquired through automatic search.
-  * Vehicle Spec
 Displays the Vehicle Spec acquired through automatic search.
-  * Option
 Designates an Option to determine the ECU installed in the vehicle.
 If it is necessary to designate an Option, "Select Option" will be displayed.
-  * VIN
 Displays VIN information acquired from the vehicle.
 The user can enter VIN information manually if it cannot be acquired from the vehicle.
-  * Memo
 The user can enter a memo in the provided box.
-  * Manual button
 Switches to a manual connection.
-  * Help button
 Displays help content.
-  * Back button
 Cannot be used in this screen.
-  * Next button
 Transitions to the System Select screen based on the selected information.
-  * Cancel button
 Cancels the Vehicle Connection Wizard, and returns to the Main Menu.


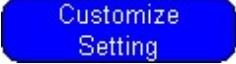

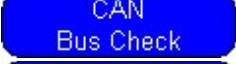

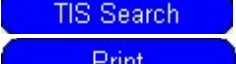


System Select

The System Select screen displays the ECU's installed on the vehicle. Select the ECU to be diagnosed. When the Live Data Button is pushed, the Live Data Tab is displayed. The user may return to the System Select Tab and open another Live Data Tab.

ECU's with an asterisk indicate that the Techstream was not able to communicate with the particular ECU, and the ECU could not be verified as being installed on the vehicle. If the ECU is connected via the DLC1 or DLC2 cable, an asterisk will not be displayed, regardless of whether or not the ECU is installed on the vehicle.



Diagnosis Screen (System Selection Menu)

	Starts the Health Check function.
	Starts the Customize function.
	Starts the ECU Reprogramming function.
	Starts the CAN Bus Check function.
	Displays the service information site link screen.
	Service Information Search button
	Starts the Print function.
	Returns the screen to the Main Menu Screen.



System Selection Menu
Select the ECU to be diagnosed.



System Menu Description
Displays an explanation of the selected ECU.



All ECUs Tab
Displays a list of all ECU's that have been verified as installed on the vehicle



Powertrain Tab
Displays a list of the powertrain system ECU's.



Chassis Tab
Displays a list of the Chassis system ECU's.



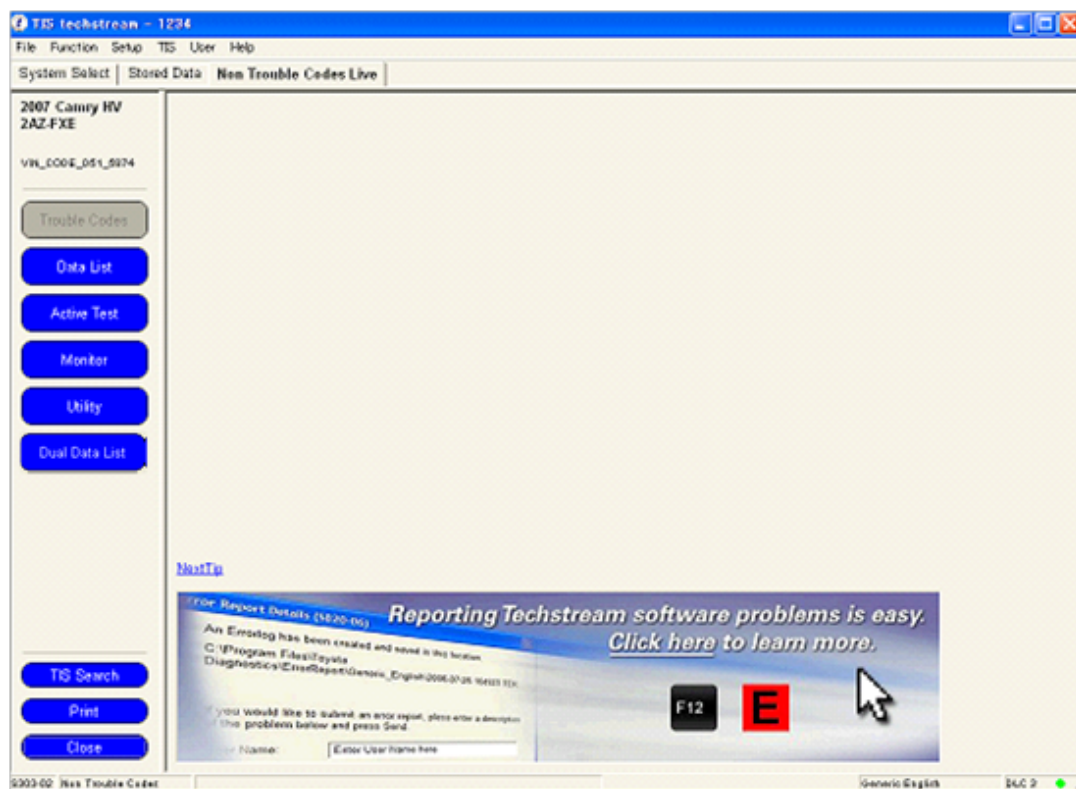
Body Tab
Displays a list of the body system ECU's.



Live Data button
When the Live Data Button is pressed, the ECU Live Data Tab is displayed. This button cannot be used if an ECU is not selected.

Live Data Tab

A Live Data Tab is created for each ECU. Each function is performed by pressing the menu button on the Live Data Tab.



Diagnosis Screen (Live Data Tab)

	Starts the Trouble Codes function.
	Starts the Data List function.
	Starts the Active Test function.
	Starts the Monitor function.
	Starts the Utility function.
	Starts the Dual Data List function.
	Service Information Search button
	Starts the Print function.
	Closes the active tab. Returns to the Main Menu Screen from the System Select Tab.

Note

A yellow menu button indicates a function under execution. A gray menu button cannot be used.

	The Data List function is being executed.
	The Data List function cannot be used for this ECU.

Trouble Codes

DTC Data is data stored in the vehicle computer (ECU) internal memory when problems occur. Checking DTC data can aid in specifying the cause of the trouble.

DTC Data Display

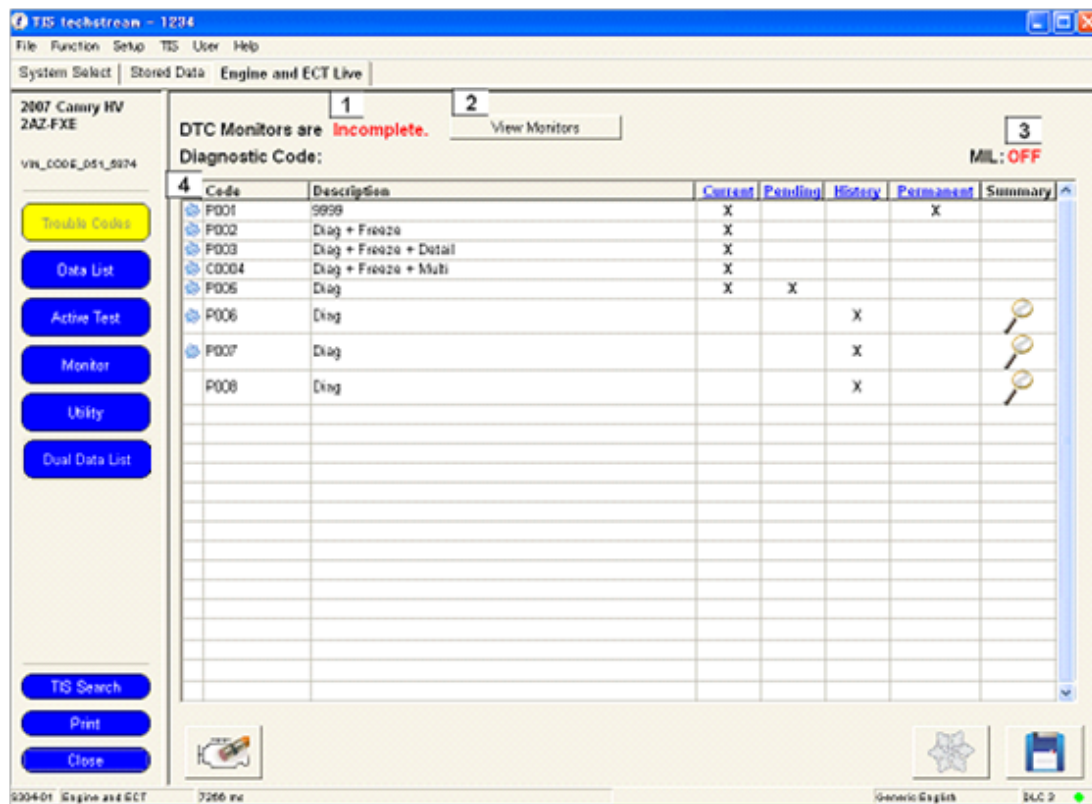
Displays the DTC data for the system selected on the system selection screen. The procedure for displaying the DTC data is as follows.

1. Push [Trouble Codes] button.
2. The DTC data is displayed on the Diagnostic Code List.

There are three types of DTC data display screens.

When ECU is supported, the data is displayed with Type 2 or Type 3.

When ECU is not supported, the data is displayed with Type 1.



Diagnosis Screen (Trouble Codes_Type1)

1 Monitor Status

Displays a summary of the monitor status. When monitoring is complete, the display will change.



View Monitors button

Transitions to the Monitor function.



MIL Status

Displays the MIL status.



Diagnostic code list

Displays the current, tentative, pending, and past DTC codes, along with a general summary for the DTC. If either single-frame or multi-frame, freeze frame data are contained in the DTC, the "Snow Flake" icon will be displayed in the left column of the list. If Pending FFD is available when DTC is not, the record and the FFD

icon will be displayed. When the selected system does not support both the FFD and Pending FFD functions, the FFD column on the left side will not be displayed.



Clear DTCs button

Deletes DTC, freeze frame, monitor status, monitor results information and the information code.



FF Data button

Displays freeze frame data when the cursor is placed on a DTC that contains freeze frame data. If the system supports neither the FFD nor the FFD Pending function, this button will be hidden.



Store button

Saves DTC, freeze frame (including Pending FFD), monitor status, monitor results information and the information code.

2015 NX200t
8AR-FTS

1234A672DF:~99999

Trouble Codes
Data List
Active Test
Monitor
Utility
Dual Data List

TIS Search
Print
Close

DTC Monitors are **Incomplete.** View Monitors

Diagnostic Code: **1**

Enhanced | Generic

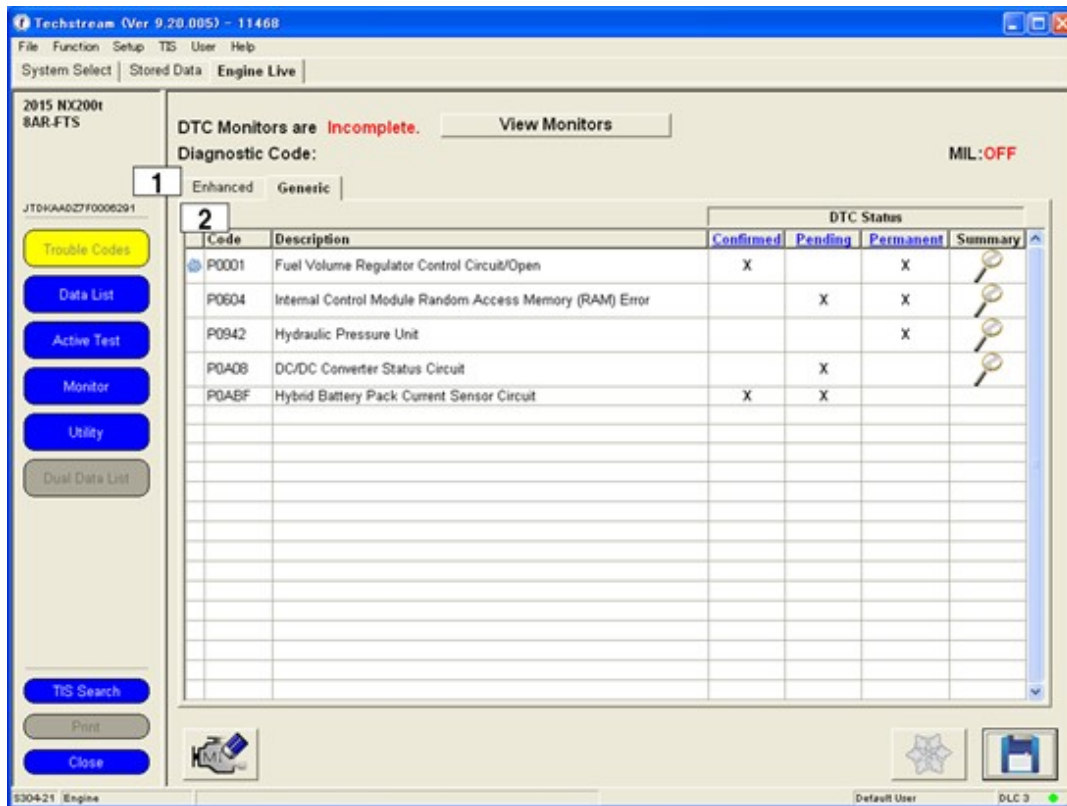
2	Description	DTC Status				Freeze Frame Data	
		Confirmed	Pending	TestFailed	Summary	Confirmed	Pending
P001400	Camshaft Position "B" - Timing Over-Advanced or System Performance Bank 1	X					
P003012	HO2S Heater Control Bank 1 Sensor 1 Circuit Short to Battery		X	X			
P010012	Mass or Volume Air Flow Sensor "A" Circuit Short to Battery						
P011511	Engine Coolant Temperature Sensor 1 Circuit Short to Ground		X				
P013A00	O2 Sensor Slow Response - Rich to Lean Bank 1 Sensor 2	X	X				
P157800	Brake System	X	X	X			
C0FFFFFF	???			X			
B279986	Engine Immobiliser System Signal (Some Circuit Quantity, Reported via Serial Data) Invalid			X			
B3AAAAAA	???	X	X	X			
U012287	Lost Communication with Vehicle Dynamics Control Module Missing Message			X			

PERMANENT: YES
MIL: ON

3

S304-21 Engine 3532 ms Default User DLC 3

Diagnosis Screen (Trouble Codes_Type2)



Diagnosis Screen (Trouble Codes_Type3)

1 Diagnostic Code Tab

Enhanced/Generic display can be switched by selecting the tab.

When the system does not support the legal DTC check function, the legal diagnostic trouble code check tab is not displayed.



Diagnostic code list

- Enhanced tab

Confirmed, pending, or latest result DTC, and type and presence of freeze frame data are displayed. When there is freeze frame data for the DTC, the "Snow Flake" icon is displayed in the corresponding freeze frame data category column.

- Generic tab

Confirmed, pending, or permanent DTC, and presence of freeze frame data are displayed. When there is freeze frame data for the DTC, the "Snow Flake" icon is displayed at the left end of the line in the list.



Permanent DTC Status

When a permanent DTC is detected, "YES" is displayed; when none is detected, "NO" is displayed.

This item is shown only when Enhanced tab screen is displayed.



Clear DTCs button

Clears the DTC, freeze frame data, monitor status, monitor result information, and detailed information.

Pressing the button on either the DTC check or Legal DTC check tab clears the information on both tabs.



FF Data button

When there is freeze frame data for the DTC at the cursor position on the list, that freeze frame data is displayed.



Store button

Stores the DTC, freeze frame data (including pending freeze frame data), monitor status, monitor result information, and detailed information.

Information of both Enhanced tab and Generic tab is saved regardless of which tab is selected.

Trouble Codes Clear

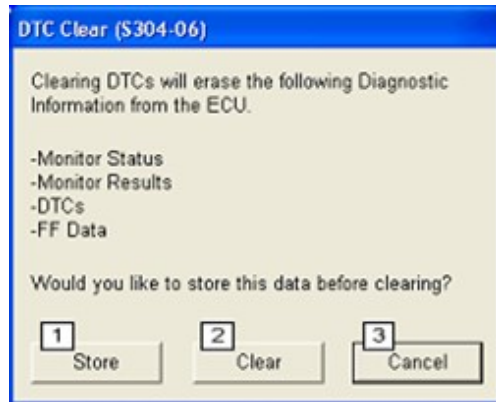
The procedure for clearing the DTC data is as follows.

1. Push Clear DTCs button on the DTC data display screen. The DTC data clear dialog box is displayed.
2. On the DTC clear dialog, push the Store or Clear button.

There are two types of Clear DTCs dialogs.

When ECU is supported, the dialog is displayed with Type 2.

When ECU is not supported, the dialog is displayed with Type 1.



DTC Clear Dialog_Type1



DTC Clear Dialog_Type2



Store button

Stores DTCs after saving DTC, freeze frame, monitor status, monitor results information and the Information Code.



Clear button

Clears DTC, freeze frame, monitor status, monitor results information and the Information Code.



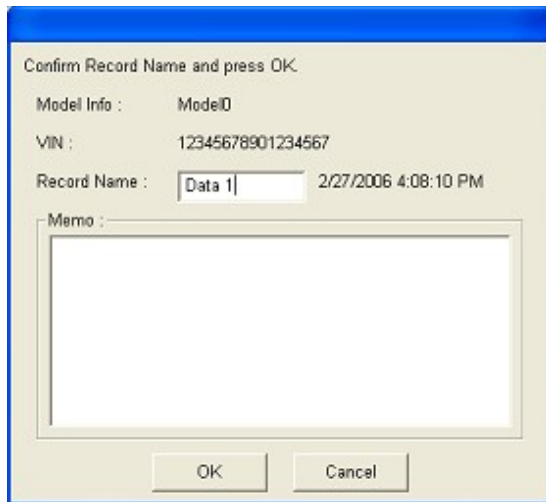
Cancel button

Cancel the DTC clear and closes the dialog box.

Trouble Codes Data Store

The Record Name input dialog box is displayed when performing DTC Data Store. When the OK button is pressed, a DTC/Monitor sub-file under the given name will appear in the Stored Data Tab under a pre-determined, or newly created Service Event File(.tse file). At this time, the TSE file is saved to the hard disk. Service Event File content can be verified from the Stored Data Tab Event File Tree.

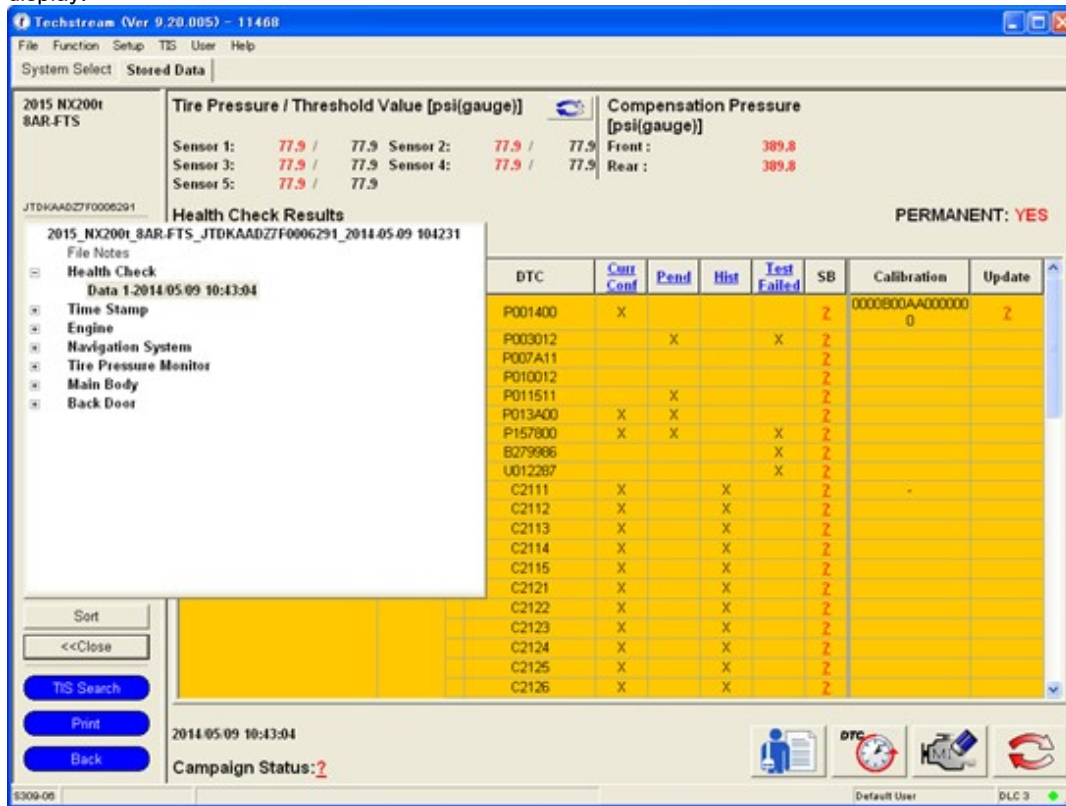
If the Cancel button is pressed, DTC Data will not be saved.



DTC Save Dialog

Event File Tree in Stored Data Tab

Press the Expand button to display the entire Event File Tree. Press the Close button to return to the original display.



Diagnosis Screen (Stored Data Tab)

Freeze Frame Data Display

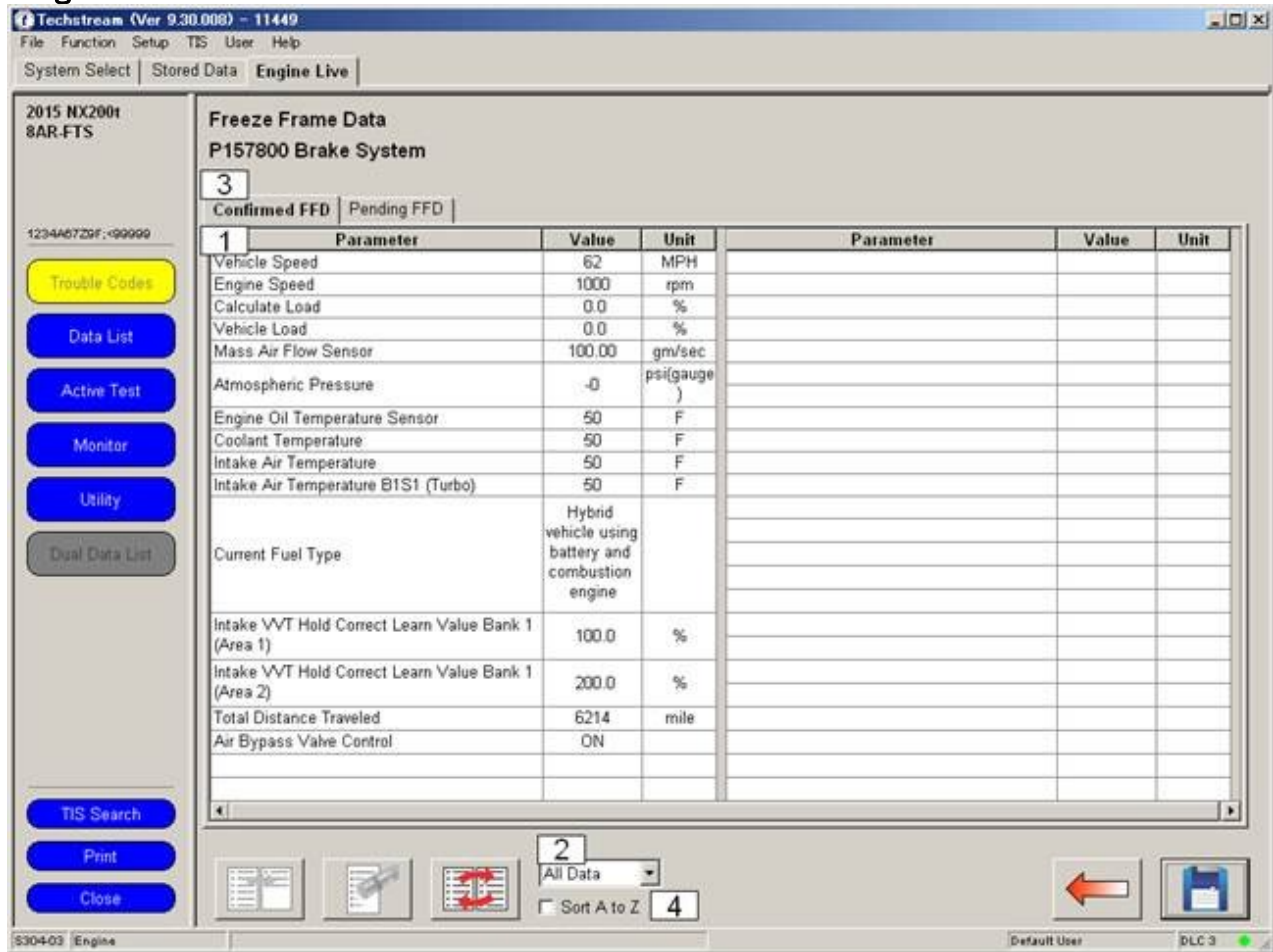
Displays freeze frame data related to the DTC data.

There are two types of freeze frame data:

- Single freeze frame data : ECU data recorded when the DTC data is generated
- Multi freeze frame data : ECU data recorded before, after, and when the DTC data is generated.

The procedure for displaying freeze frame data is as follows.
 On the Diagnostic Code List, select the DTC data with “Snow Flake” icon.
 Push the FF Data button.

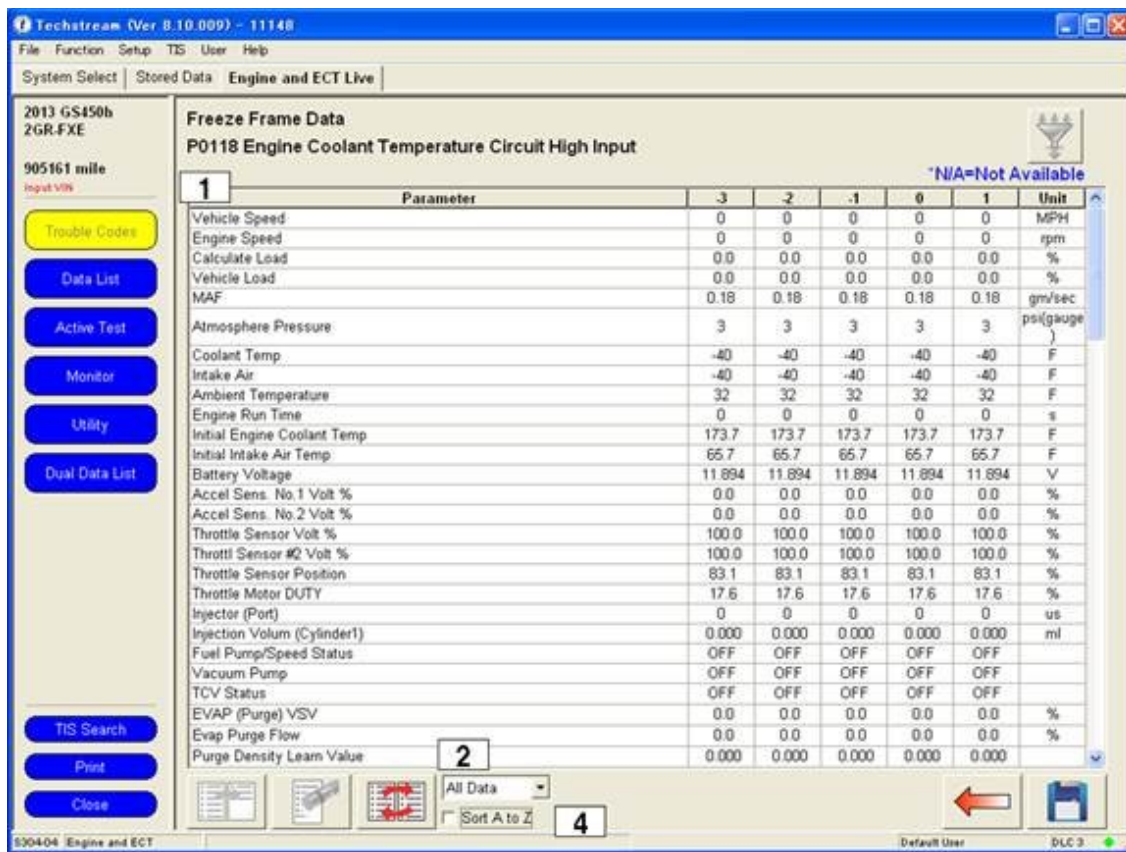
Single Freeze Frame Data




Diagnosis Screen (Single Freeze Frame Data)


Multi Freeze Frame Data


There are two types of multi freeze data display screens.
 When ECU is supported, the data is displayed with Type 2.
 When ECU is not supported, the data is displayed with Type 1.





Diagnosis Screen (Multi Freeze Frame Data_Type1)


- 


Freeze Frame data list
Displays DTC freeze frame data selected from the Diagnostic Code list. If the information code parameters are available, they will be displayed after the FFD parameters. The information code parameters are displayed in the format "Info Code #-Parameter Name". Information Code values are only displayed in the 0 column in the Multi Freeze Frame Data display.
- 


Parameter Group list
Select predetermined parameter groups. By selecting optional parameter groups, only specific parameters are displayed.
- 


FFD tab
Current FFD, Confirmed FFD and Pending FFD displays can be switched by selecting the tab. Leftmost tab is selected by default if more than one FFD is available. Tab for unavailable FFD is grayed out. If the system does not support each FFD, the FFD tab is hidden.
- 

Sort A to Z Check Box
Sorts the currently displayed FFD parameters in alphabetical order.
- 

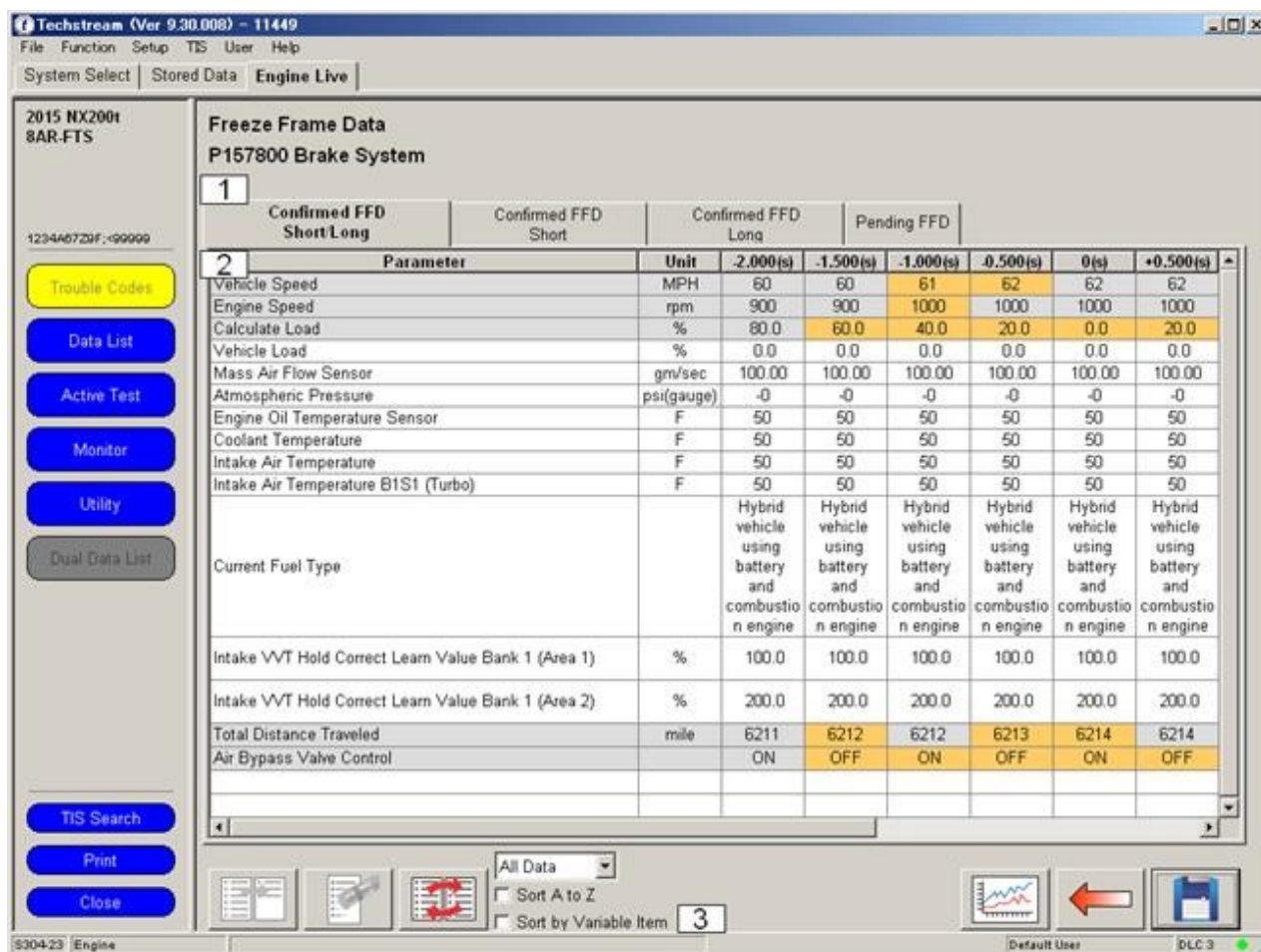
New List button
Displays a list of only those parameters selected by the user.
- 

Remove button
Displays a list of parameters other than those selected by the user.
- 


Data Manager button
Displays the Data Manager.
- 

Back button
Returns the screen to the previous screen from the Freeze Frame Data list.
- 

Store button
Saves DTC, freeze-frame, monitor status, monitor results information and the Information Code.



Diagnosis Screen (Multi Freeze Frame Data_Type2)

- 1 FFD tab
Confirmed FFD Short/Long, Confirmed FFD Short, Confirmed FFD Long and Pending FFD displays can be switched by selecting the tab. Tab for unavailable FFD is grayed out. If the system does not support FFD, the FFD tab is hidden.
- 2 Freeze Frame data list
The values of items that have changed since the last frame are colored yellowish brown and the entire line for items that have changed is colored light gray.
- 3 Sort by Variable Item Check Box
Sorts the parameters for freeze frame data in the display in the order of their having been changed.
-  Graph button
Switches freeze frame data display to a graph.
This is grayed out if the time information is displayed only for the “detection point” column.

Data List

Vehicle computer (ECU) data can also be monitored numerically or in graph form.

Data List Display

Displays the ECU data for the system selected on the system selection screen.



The procedure for displaying the ECU data is as follows.

1. Push [Data List] button.
2. The ECU data is displayed on the Parameter List.

The following screen is displayed when Type 1 is selected with Snapshot settings.

Parameter	Value	Unit	Parameter	Value	Unit
Vehicle Speed	158	MPH	Throttle Motor Duty (Close)	0	%
Engine Speed	16383	rpm	Throttle Fully Close Learn	0.000	V
Calculate Load	100.0	%	Injector (Port)	0	us
Vehicle Load	25700.0	%	Injection Volum (Cylinder1)	0.000	ml
MAF	655.35	gm/sec	Fuel Pump/Speed Status	OFF	
Atmosphere Pressure	22	psi(gauge)	Vacuum Pump	OFF	
Coolant Temp	419	F	TCV Status	OFF	
Intake Air	419	F	EVAP (Purge) VSV	0.0	%
Ambient Temperature	419	F	Evap Purge Flow	0.0	%
Engine Run Time	65535	s	Purge Density Learn Value	-200.000	
Initial Engine Coolant Temp	-40.0	F	Vapor Pressure Pump	0.000	mmHg(abs)
Initial Intake Air Temp	-40.0	F	Vapor Pressure (Calculated)	-5407.441	mmHg(abs)
Battery Voltage	65.535	V	EVAP System Vent Valve	OFF	
Accelerator Position	0.0	%	EVAP Purge VSV	OFF	
Accel Sens. No 1 Volt %	100.0	%	Purge Cut VSV Duty	0.0	%
Accel Sens. No 2 Volt %	100.0	%	Target Air-Fuel Ratio	0.000	
Throttle Sensor Volt %	100.0	%	AF Lambda B1S1	0.000	
Throttl Sensor #2 Volt %	100.0	%	AFS Voltage B1S1	0.000	V
Throttle Idle Position	OFF		AFS Current B1S1	-128.00	mA
Throttle Require Position	0.000	V	A/F Heater Duty #1	0.0	%
Throttle Sensor Position	100.0	%	O2S B1S2	0.000	V
Throttle Position No.1	0.000	V	O2S Impedance B1S2	0.00	ohm
Throttle Position No.2	0.000	V	O2 Heater B1S2	Not Act	
Throttle Position Command	0.000	V	O2 Heater Curr Val B1S2	0.000	A
Throttle Sens Open Pos #1	0.000	V	Short FT #1	-100.000	%
Throttle Sens Open Pos #2	0.000	V	Long FT #1	-100.000	%
Throttle Motor Current	0.0	A	Total FT #1	-0.500	
Throttle Motor DUTY	100.0	%	Fuel System Status #1	Unused	
Throttle Motor Duty (Open)	0	%			

Diagnosis Screen (Data List Type1)

- 1 Parameter List
Displays ECU parameters.
If "Copy Data List to Clipboard" is selected from the menu or "Ctrl + C" is pressed on the keyboard, the notepad opens with following information pasted.
 - : Vehicle Information (Same as that in the upper left corner of the tab pages)
 - : Time and Date (The format is taken from the OS)
 - : System Name ("[System Name Live] System" when viewing live data; "[System Name Stored] System" when viewing stored data)
 - : Data List header names (Parameter, Value, Unit)
 - : Copied Parameter names, values, units
 Selected parameters are copied. If no parameters are selected, all parameters are copied.
- 2 Scroll bar
Data can be displayed on separate pages using a scroll function when the Parameter List cannot be displayed on a single page.
- 3 Parameter Group list
Data required for diagnosing a specific breakdown can be grouped.
The ECU data belonging to a Parameter Group can be displayed by selecting that group.
If the selected Parameter Group is modified using a function such as New List, or if the OK button is pressed on the Data List Manager screen, a new parameter group called "Custom List" will be displayed., Due to this, a "Custom List" is saved for each ECU, and is displayed the next time the data list function is launched. If a list is edited while "Custom List" is available, the current "Custom List" will be overwritten with the edited list.
 -  Sort A to Z Check Box
Sort the currently displayed Custom List items in alphabetical order.
 -  New List button
Enables the user to create a list with fewer parameters. Parameters may be clicked and highlighted to be carried over to a new list with only these parameters. A list with fewer parameters may substantially increase the refresh rate of the values displayed.

**Remove Button**

Deletes the selected row from the current Parameter List.

**Data Manager Button**

Displays the Data List Manager.

**Graph button**

Displays the Data List Manager.

**Record button**

Starts Recording the Data List (Unplanned Recording). The Record button can be pressed even when Live data is being displayed. Live data can be recorded by pushing the Record button when in Manual Mode. When recording using the Record button, the settings are as follows.

Trigger Classification: Manual

Max. Recording Time: 30 sec.

Trigger Position: 50 %

Snapshot can be started by pressing the space key.

The space key is set as default, but it can be changed by setting up a hotkey.

**Fuel Consumption button**

Launches the Fuel Consumption function.

This button only displays on the Engine tab.

The following screen is displayed when Type 2 is selected with Snapshot settings.

Parameter	Value	Unit	Parameter	Value	Unit
Vehicle Speed	158	MPH	Throttle Motor Duty (Close)	0	%
Engine Speed	16383	rpm	Throttle Fully Close Learn	0.000	V
Calculate Load	100.0	%	Injector (Port)	0	us
Vehicle Load	25700.0	%	Injection Volum (Cylinder1)	0.000	ml
MAF	655.35	gm/sec	Fuel Pump/Speed Status	OFF	
Atmosphere Pressure	22	psi(gauge)	Vacuum Pump	OFF	
Coolant Temp	419	F	TCV Status	OFF	
Intake Air	419	F	EVAP (Purge) VSV	0.0	%
Ambient Temperature	419	F	Evap Purge Flow	0.0	%
Engine Run Time	65535	s	Purge Density Learn Value	-200.000	
Initial Engine Coolant Temp	-40.0	F	Vapor Pressure Pump	0.000	mmHg(abs)
Initial Intake Air Temp	-40.0	F	Vapor Pressure (Calculated)	-5407.441	mmHg(abs)
Battery Voltage	65.535	V	EVAP System Vent Valve	OFF	
Accelerator Position	0.0	%	EVAP Purge VSV	OFF	
Accel Sens. No.1 Volt %	100.0	%	Purge Cut VSV Duty	0.0	%
Accel Sens. No.2 Volt %	100.0	%	Target Air-Fuel Ratio	0.000	
Throttle Sensor Volt %	100.0	%	AF Lambda B1S1	0.000	
Throttli Sensor #2 Volt %	100.0	%	AFS Voltage B1S1	0.000	V
Throttle Idle Position	OFF		AFS Current B1S1	-128.00	mA
Throttle Require Position	0.000	V	A/F Heater Duty #1	0.0	%
Throttle Sensor Position	100.0	%	O2S B1S2	0.000	V
Throttle Position No.1	0.000	V	O2S Impedance B1S2	0.00	ohm
Throttle Position No.2	0.000	V	O2 Heater B1S2	Not Act	
Throttle Position Command	0.000	V	O2 Heater Curr Val B1S2	0.000	A
Throttle Sens Open Pos #1	0.000	V	Short FT #1	-100.000	%
Throttle Sens Open Pos #2	0.000	V	Long FT #1	-100.000	%
Throttle Motor Current	0.0	A	Total FT #1	-0.500	
Throttle Motor DUTY	100.0	%	Fuel System Status #1	Unused	
Throttle Motor Duty (Open)	0	%			

Diagnosis Screen (Data List Type2)

The functions of this screen are the same as for Type 1 other than functions listed below.

1 Status

Displays Snapshot status.

Frame: Total number of recorded data frames.

Time: Recording time

Flag Count: Total number of flags

**Save button**

If pressed, saves data stored in the buffer

Dual Data List

Displays 2 ECU data lists at the same time.

Dual Data List Screen

The ECU data of the selected two systems are displayed on the new tab that is added to the GTS screen. The functionality of this screen is the same as the regular Data List screen unless otherwise specified.

The following is the procedure to display the Dual Data List.

1. Press the Dual Data List button.
2. Select the ECU from the pop-up dialog box and press the OK button.
3. A new tab is added and the ECU data of the two systems are displayed on the parameter list.

The following functions are not supported.

- Copy Data List to Clipboard function
- Send Data List to Server function
- Drive Recorder


The following screen is displayed when Type 1 is selected with Snapshot settings.

The screenshot shows the Techstream (Ver 8.10.009) - 11148 interface. The main window is titled 'Dual Data List Live 1'. On the left, there is a system selection list with '2013 GS450h 2GR-FXE' and '905161 mile Input VIN' selected. The main area displays two tables of data. The first table is for 'Engine and ECT' and the second is for 'Main Body'. Both tables have columns for Parameter, Value, and Unit. The 'Engine and ECT' table includes parameters like Vehicle Speed (158 MPH), Engine Speed (16383 rpm), and MAF (655.35 gm/sec). The 'Main Body' table includes parameters like ACC SW (ON), IG SW (ON), and Door Key SW (OFF). The bottom toolbar contains buttons for TIS Search, Print, Close, and Sort A to Z. A 'Primary' dropdown menu is also visible.

Diagnosis Screen (Dual Data List Type1)

- 1 System Names
Displays the system names. The parameters for the system selected first are displayed at the top and those for the system selected second are displayed at the bottom.
The cursor is placed on the selected system. The cursor moves to the other system if its header or list is clicked.
- 2 Parameter List
Displays ECU parameters.
- 3 Parameter Group list
Data required for diagnosing a specific breakdown can be grouped.
The ECU data belonging to a Parameter Group can be displayed by selecting that group.
If the selected Parameter Group is modified using a function such as New List, or if the OK button is pressed on the Data List Manager screen, a new parameter group called "Custom List" will be displayed. In this way,, a

“Custom List” is saved for each ECU, and is displayed the next time the data list function is launched. If a list is edited while “Custom List” is available, the current “Custom List” is overwritten with the edited list. This is effective for the system under the cursor.

 4 Sort A to Z Check Box

Sort the currently displayed Custom List items in alphabetical order.



New List button

Enables the user to create a list with fewer parameters. Parameters may be clicked and highlighted to be carried over to a new list that has only these parameters. A list with fewer parameters may substantially increase the refresh rate of the values displayed.

This is effective for the system with the cursor placed.



Remove Button

Deletes the selected row from the current Parameter List.

This is effective for the system under the cursor.



Data Manager Button

Displays the Data List Manager.

This is effective for the system under the cursor.



Graph button

Switches the ECU data monitor display to a graph form.



Record button

Starts Recording the Data List (Unplanned Recording). The Record button can be pressed even when Live data is being displayed. Live data can be recorded by pushing the Record button when in Manual Mode. When recording using the Record button, the settings are as follows.

Trigger Classification: Manual

Max. Recording Time: 30 sec.

Trigger Position: 50 %

The snapshot trigger functionalities are as follows.

Manual Trigger: Same as the regular data list

DTC Trigger : Start recording when a DTC sets in either of the systems

Parameter Trigger : A trigger parameter can be selected from either of the systems.

Snapshot can be started by pressing the space key.

The space key is set as default, but it can be changed by setting up a hotkey.

The following screen is displayed when Type 2 is selected with Snapshot settings.



Diagnosis Screen (Dual Data List Type2)

The functions of this screen are the same as for Type 1 other than functions listed below.

 1 Status

Displays Snapshot status.

Frame: Total number of recorded data frames.

Time: Recording time

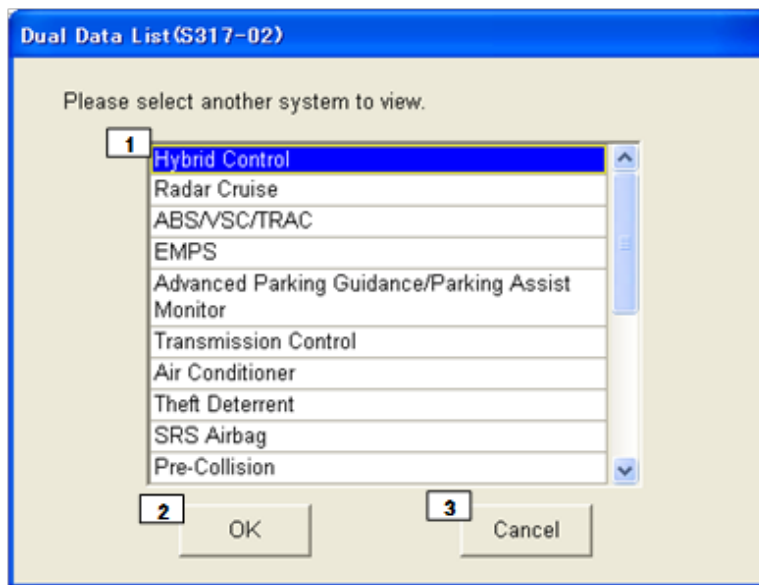
Flag Count: Total number of flags

Save button

If pressed, saves data stored in the buffer.

Selecting ECUs to be displayed on the Dual Data List

Selects other ECUs to be displayed on the Dual Data List. The ECUs that support the Dual Data List and whose connection is confirmed are displayed.

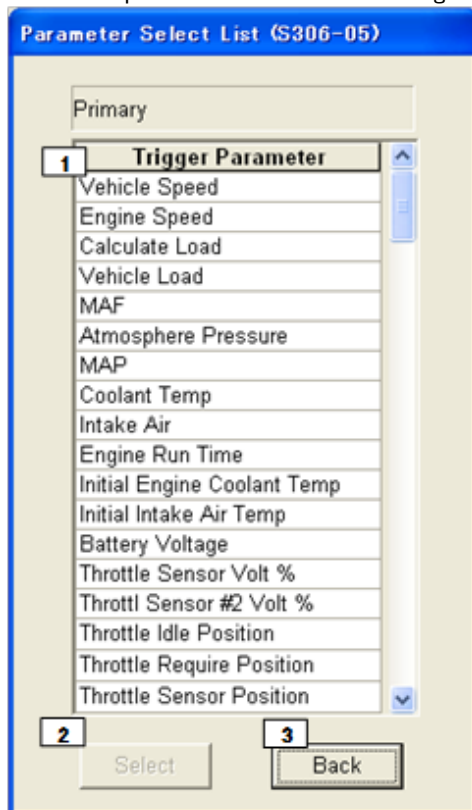


Dual Data List Target ECU Select Dialog

- 1 ECU List
Possible to select the ECU to be used as Dual Data List.
- 2 OK button
Sets the selected ECU as Dual Data List Target. After setting is complete, the screen is closed.
- 3 Cancel button
Cancels the ECU selection and closes the screen.

Parameter Select List

Select the parameters when determining the trigger parameters.



Parameter Select List Dialog

- 1 Trigger Parameter

Selects the desired parameter to be used as a trigger.

2 SELECT button

Sets the selected parameter as a trigger for the called out screen. Closes the screen after the settings are performed.

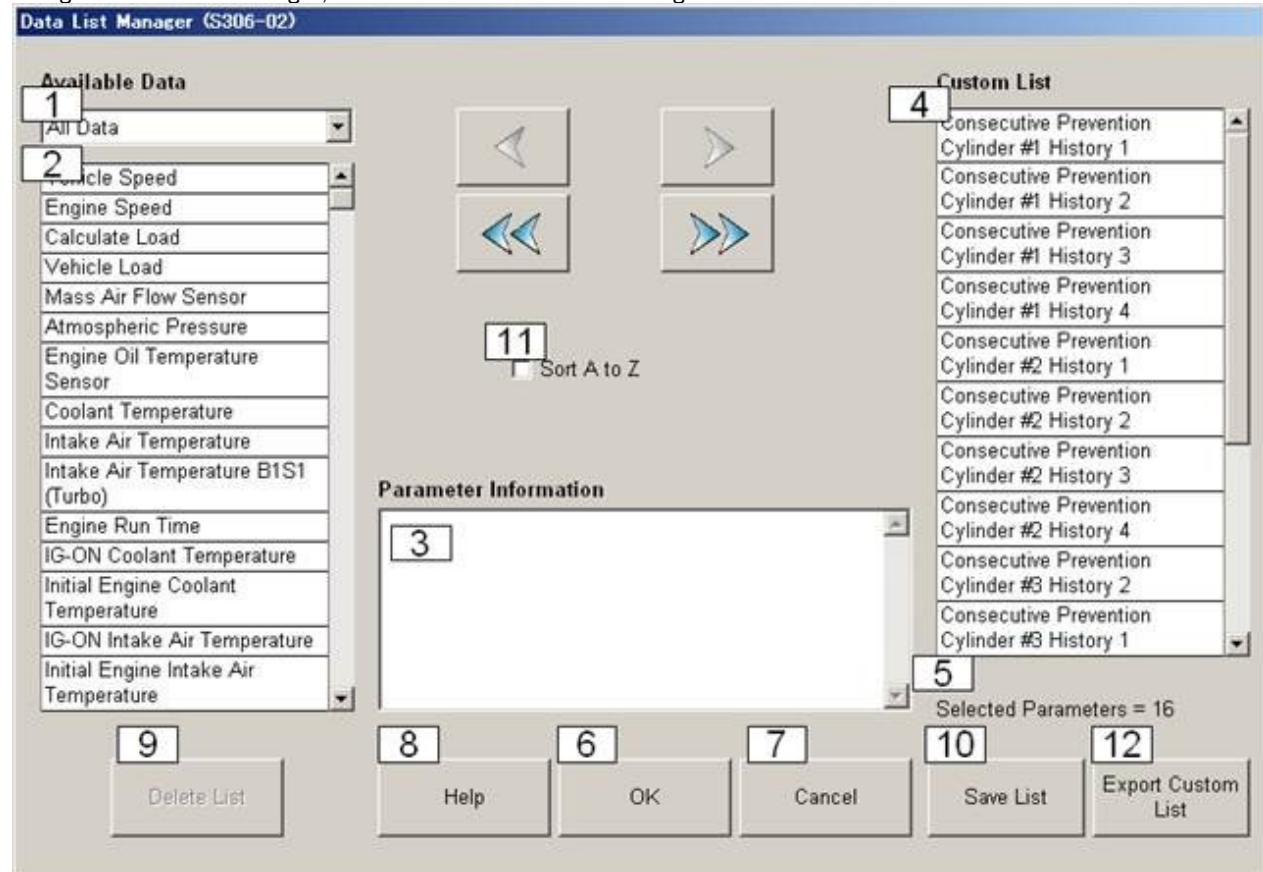
3 Back button

Cancels parameter selection and closes the screen.

Data List Manager

If you press the Data Manager button on the Data List and the Dual Data List display, the Data List Manager Dialog will appear.

Using the Data List Manager, the Parameter list can be changed.



Data List Manager Dialog

1 Available Group list

The predetermined parameter group can be selected.

Only the specific parameters can be displayed by selecting a parameter group.

2 Available Data list

Displays the group parameters selected from the available group list. It is possible to select multiple rows in the displayed parameters.

3 Parameter Information

Displays detailed information on the most recently selected parameter from within the Available Data List and Custom List.

4 Custom list

Lists parameters from the Data List that are being used.

5 Select Parameter Count

Displays the number of parameters currently in the Custom List.

6 OK button


Displays a data list of the parameters set in the Custom List when exiting the Data List Manager.

7 Cancel button

Cancels the settings in the Custom List and returns to the Data List.

 Help Button

Displays help content.

 Delete List button

Deletes a Custom List created by the user.



Save List button

Creates a Custom List using parameters selected by the user.



Sort A to Z Check Box

When the check box is checked, the items of Available Data List and Custom List are sorted in alphabetical order.

When the check box is unchecked, the items are displayed in the default order.



Export Custom List

Moves on to the process for outputting a file that is used for importing a custom list into the other PC.



Adds only the data selected in the Available Data List to the Custom List.



Adds all the data in the Available Data List to the Custom List.



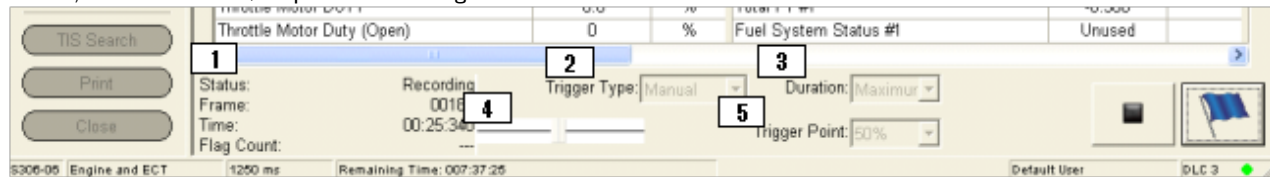
Deletes only the data selected in the Custom List.



Deletes all the data in the Custom List.

Recording

The Recording screen displays Planned Recording and Unplanned Recording currently in progress. Verify recording status, and cancel and/or pause recording from this screen.



Diagnosis Screen (Data List Recording)

 Print

Performs printing.

 Close

Closes the Record screen.

 Status

Displays the Recording status.

Status : Status display (Ready/Recording/Saving)


Frame : Frame count

Time : Recording time


Flag Count : Set flag count

 Trigger Type pull down list


In addition, displays the set Snapshot trigger classification.

 Duration pull down list

Displays the set recording time for the Snapshot.

 Trigger Point Gauge

Displays the status of the recording buffer. The pre-trigger buffer is displayed in green and the post-trigger buffer is displayed in blue. This is for display only and cannot be changed.

 Trigger Point pull down list

Displays the trigger position in relation to overall data recording.



Stop button

Displays a dialog box when it is judged that recording has been cancelled and data is to be saved.



Flag button

Sets a flag at the current position of information recording.

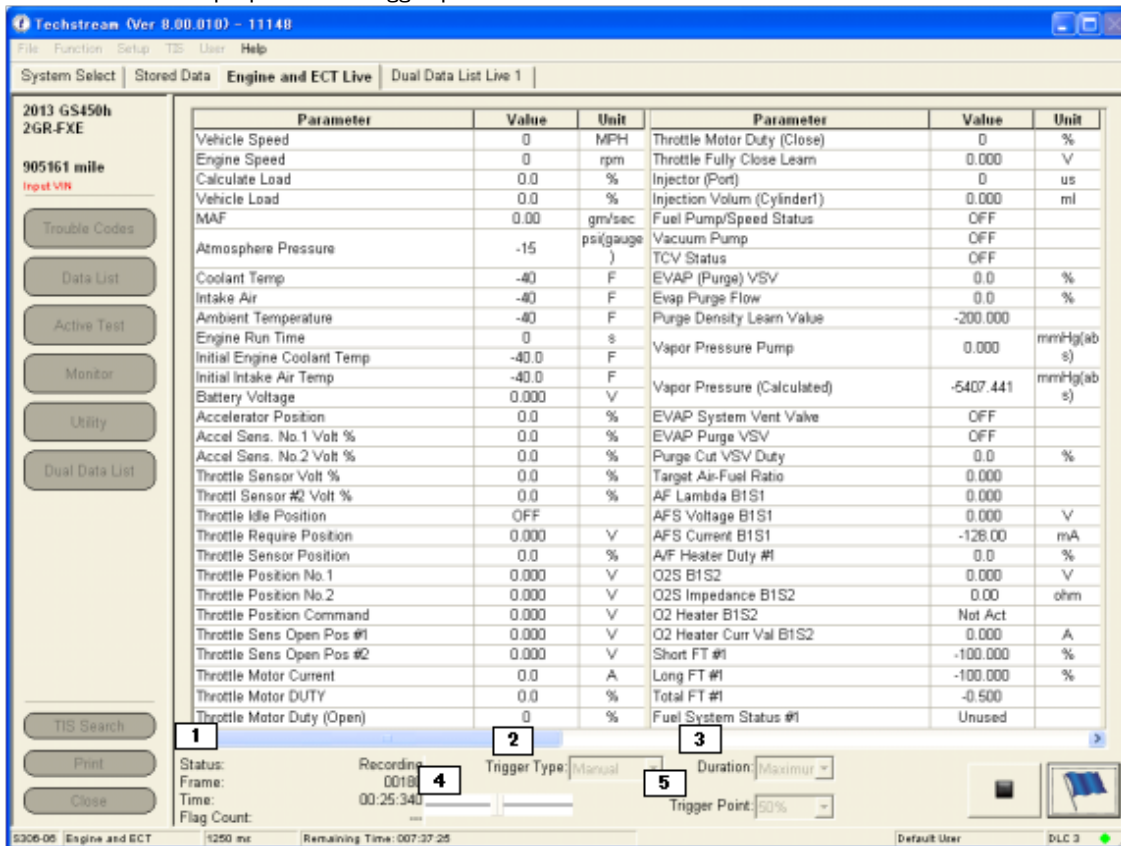
A flag can be added by pressing the space key.

The space key is set as default, but it can be changed by setting up a hotkey.

Snapshot

To display Snapshot Configure, select it from the Function menu on the Data List and the Dual Data List display, when Type1 is selected on the Snapshot Type Selection.

From the Snapshot screen, the Snapshot trigger classification can be selected. In addition, the length of recording data as well as the proportion of trigger position in relation to overall recorded data can be selected.



Diagnosis Screen (Snapshot)



Service Information Search button



Performs printing.



Closes the Snapshot screen.

1 Status

Displays the Snapshot status.

Status : Status display (Ready/Recording/Saving)

Frame : Frame count

Time : Recording time

Flag Count : Set flag count


2 Trigger Type pull down list

Set the Snapshot trigger classification. Performs Parameter Trigger Configuration when a parameter is set for

the trigger.

Sets the type of trigger. The types of triggers are as follows.

- Manual : The trigger is applied manually by touching the data list display section.
- DTC : The trigger is applied when a diagnostic code is detected.
- DTC-Check Mode : The trigger is applied when a diagnostic code is detected in Check Mode.
- Parameter : The trigger is applied at the set parameter value.

 Duration pull down list

Sets the recording time.

Select from 5 s / 15 s / 30 s / 60 s / 90 s / 3 min / 5 min / 10 min / 20 min / 60 min / Maximum.

 Trigger Point Gauge

Displays the status of the recording buffer. The pre-trigger buffer is displayed in green and the post-trigger buffer is displayed in blue. This is for display only and cannot be changed.

 Trigger Point pull down list

Sets the percentage of the recording time saved as data before the trigger is pressed.

Select from Begin / 10 % / 20 % / 30 % / 40 % / 50 % / 60 % / 70 % / 80 % / 90 % / End.



Stop button

Stops recording. Cannot be used when not recording.



Flag button

Highlights the display when a flag exists for the frame position.

If a flag does not exist for the frame position, clicking the Flag Button will add a flag for the current frame position.

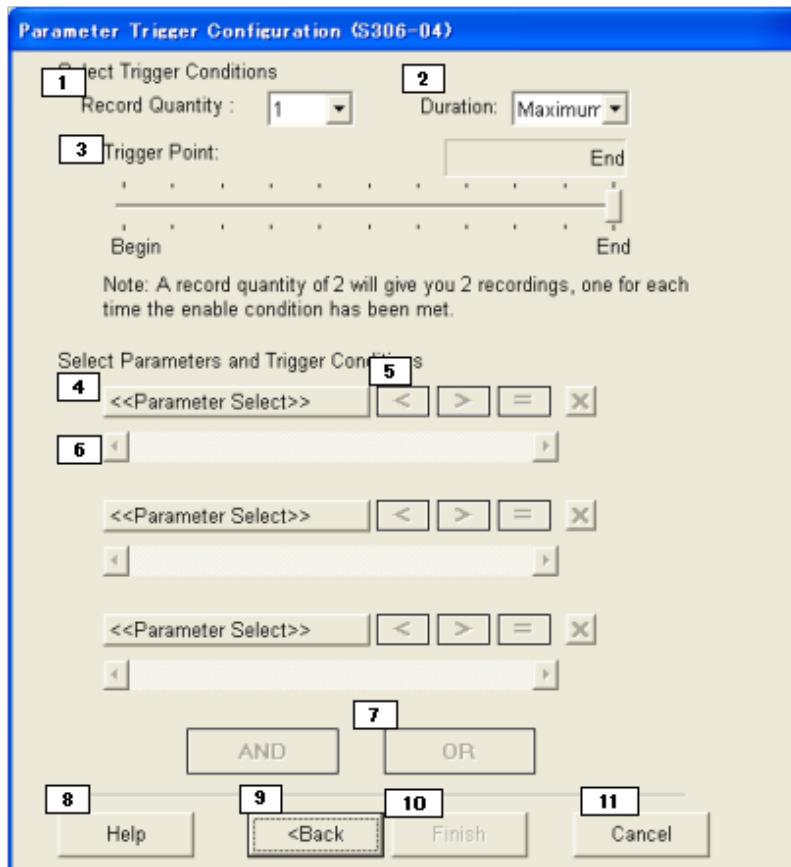
A flag can be added by pressing the space key.

The space key is set as default, but it can be changed by setting up a hotkey.

Trigger Setting

The Parameter Trigger Configuration Dialog will be displayed when Function – Snapshot Configure from the Menu bar and the Parameter from the Trigger Type are selected.

The Trigger Setting screen performs detailed parameter settings for a Snapshot trigger. Condition settings can be performed for each parameter. Snapshot trigger settings can be performed for up to three parameters.



Parameter Trigger Configuration Dialog

1 Record Quantity

Designate the number of recordings for a parameter trigger. The number of recordings can be set from 1-10.



Duration pull down list

Set the Snapshot recording time. Recording time can be selected from the following.
(5 s, 15 s, 30 s, 60 s, 90 s, 3 min, 5 min, 10 min, 20 min, 60 min, Maximum)



Trigger Point gauge

Use the slide bar to display trigger position in relation to overall data recording. Trigger position can be selected from the following.
(Begin, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%,End)

4 Parameter Select button

Displays a Parameter Select List dialog box. Once a parameter name is selected, the name is displayed on the button.

5 Condition-type

Selects the condition type for each trigger condition value.



Applies the trigger when the ECU data becomes less than the set value.



Applies the trigger when the ECU data becomes greater than the set value.



Applies the trigger when the ECU data equals the set value.



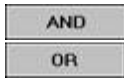
Deletes the trigger condition.

6 Parameter value gauge

Sets the trigger level.

7 Parameter Condition

Selects the AND or OR condition in relation to each set parameter for a specific trigger condition.



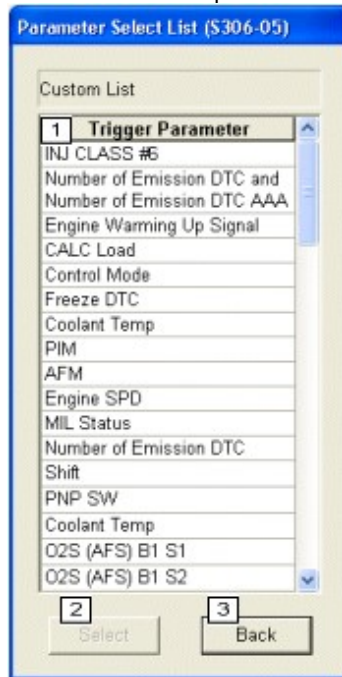
Applies the trigger when all set conditions are satisfied.

Applies the trigger when any of the set conditions are satisfied.

- 8** Help button
Displays help content.
- 9** Back button
Returns the screen to the Snapshot screen.
- 10** Finish button
Sets the trigger condition and returns the screen to the Snapshot screen.
- 11** Cancel button
Cancels the settings and returns the screen to the Snapshot screen.

Parameter Select List

Press the <<Parameter Select>> on the Parameter Trigger Configuration Dialog. Select the desired parameters when determining the trigger parameters.



Parameter Select List Dialog



Trigger Parameter

Select the desired parameter to be used as a trigger.



SELECT button

Sets the selected parameter as a trigger for the called out screen. Closes the screen after settings are performed.



Back button

Cancels parameter selection and closes the screen.

Saving

This dialog box is displayed when recording is completed and a specific time has elapsed or, when the Stop button has been pressed. By pressing Yes button, recorded data will be stored in the Stored Data Tab and will be saved to an TSE file, then TechStream returns to the Data List screen. If the No button is pressed, the screen transitions to the Data List without saving the recorded data. The same data saving procedure should be applied to similar functions such as the Active Test function.

The following screen is displayed when Type 1 is selected with Snapshot settings.

DTC Clear (S305-06)

Confirm Record Name and press OK

1 Model Info : ModelID

2 VIN : 12345678901234567

3 Record Name : Data 2

4 2/27/2006 1:37:08 PM

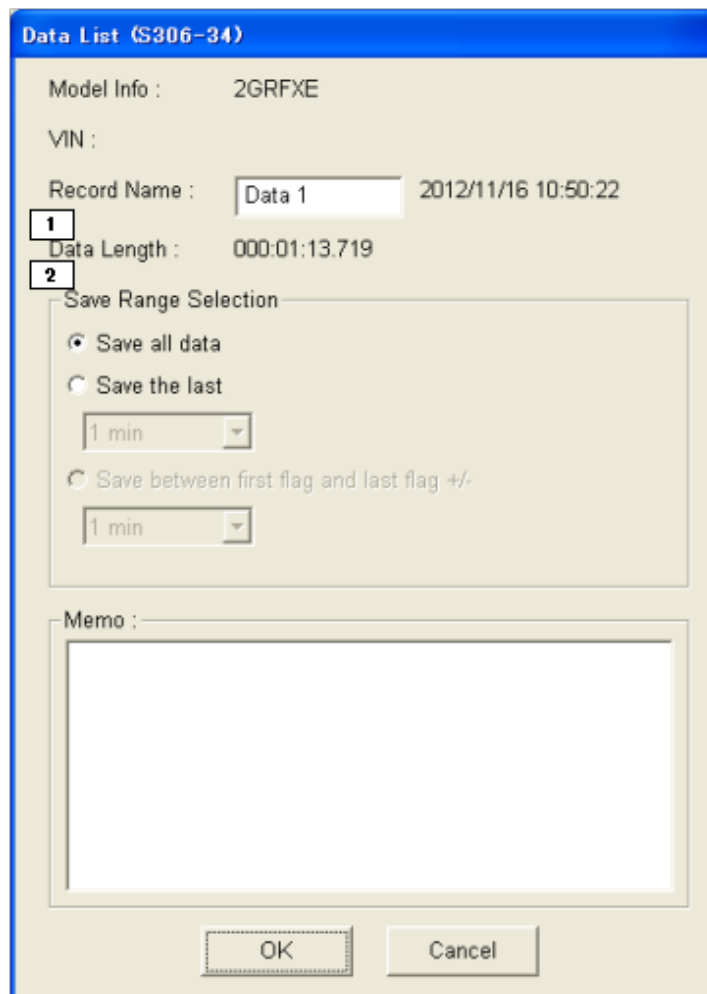
5 Memo :

OK Cancel

Saving Dialog Type1

- 1 Model Info
Displays information about the vehicle model.
- 2 VIN
Displays the vehicle VIN (Vehicle Identification Number).
- 3 Record Name
Set a name for the Snapshot to be recorded.
- 4 Date & Time
Displays the date and time for the recorded data.
- 5 Memo
Attach a memo to describe the recorded data.

The following screen is displayed when Type 2 is selected with Snapshot settings.



Saving Dialog Type2

The functions of this screen are the same as for Type 1 other than functions listed below.

- 1 Data Length
 - Shows length of the data stored in the buffer.
 - The length displays in the format “hhh:mm:ss:sss”. (hhh = hour, mm = min, SS = sec, sss = msec)
- 2 Save Range Selection
 - Save all data: All data in the buffer will be saved.
 - Save the last: The last “selected minutes” will be saved.
Minutes can be selected from 1min, 2min, 5min, 10min, 15min, 20min, 30min, 45min, 60min
 - Save between first flag and last flag +/-: Data between first flag and last flag +/- “selected minutes” will be saved.
Minutes can be selected from 1min, 2min, 5min, 7min, 10min, 15min

Graph Function (data monitor)

The Graph function displays a graph when a parameter graph from the Parameter Data List is dragged and dropped in the Graphing Area, or when a parameter in the parameter list is double clicked.

A maximum of eight graphs can be displayed. Text for a parameter being displayed as a graph is displayed in the same color as the line for the graph. Selected parameters are sorted in order from the top.

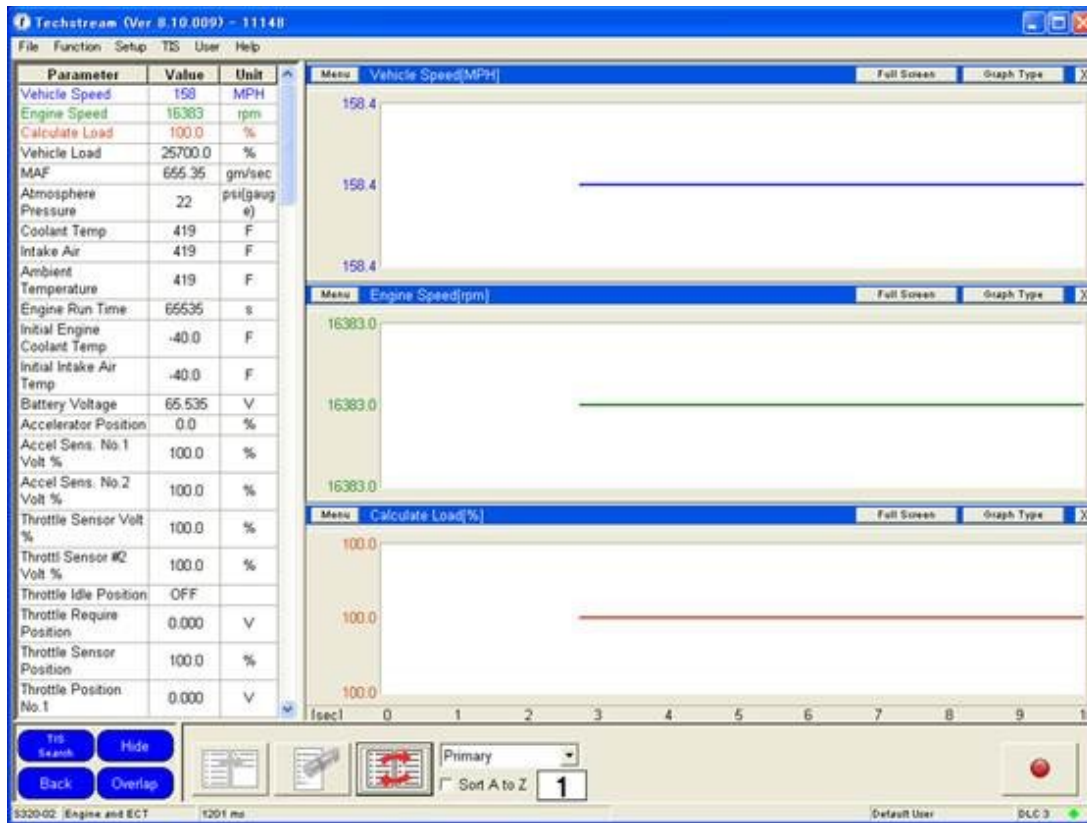
The values displayed in the Parameter Data List differ in the Live Data and Stored Data view.

Live Data View : Current value

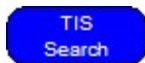
Stored Data View : Value during playback.

Graph settings are stored automatically in such a way that the graphs will look the same when they are viewed the next time. The order of graphs can be changed by dragging and dropping.

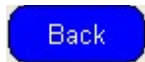
The height of the graph area relative to the adjacent graph area can be changed by dragging the up & down arrow sign. If a parameter to graph is added or removed, graph parameters are displayed with the default height.



Diagnosis Screen (Data List Graph Function)



Service Information Search button



Returns to Data List.



Shows or hides the parameter list. When the Show parameter list button is pressed, the Parameter Data List is displayed. When the Hide parameter list button is pressed, the Parameter Data List is hidden.



Switches between graph overlap and graph split. When the Overlap line graph button is pressed, a line graph is added to the display. When the Split line graph button is pressed, a line graph is displayed separately.



Sort A to Z Check Box

Sorts the currently displayed Custom List items in alphabetical order.



Record button

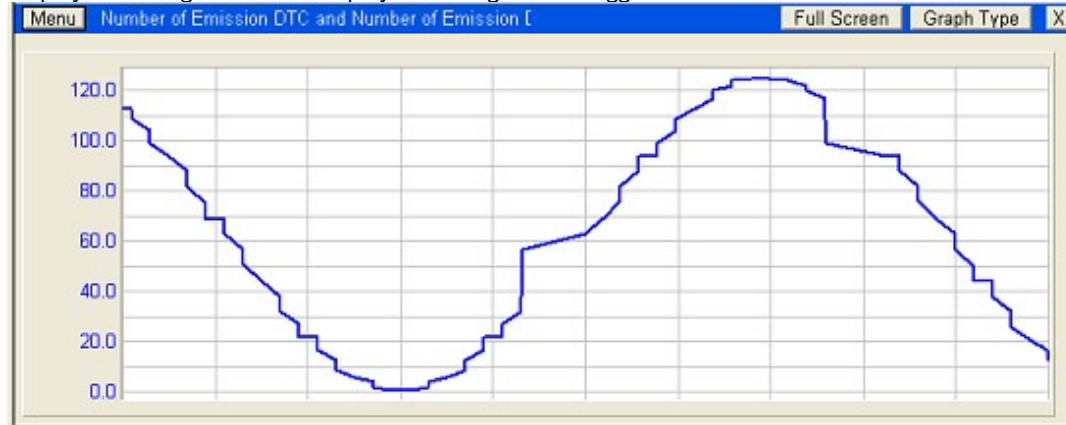
Records a snapshot.

Snapshot can be started by pressing the space key.

The space key is set as default, but it can be changed by setting up a hotkey.

Display Switching

Display switching allows the displayed settings to be toggled.



Data List Graph Function

Menu Displays the Menu for the Line Graph.

GRAPH TYPE1

Graph Type 1 plots a graph with no grid. A minimum, maximum and current values are displayed for the Y-axis. In Auto range, the displayed maximum and minimum values for the Y-axis are measured values. In manual range, the displayed maximum and minimum values for the Y-axis are the values set in the GRAPH SETUP dialog box.

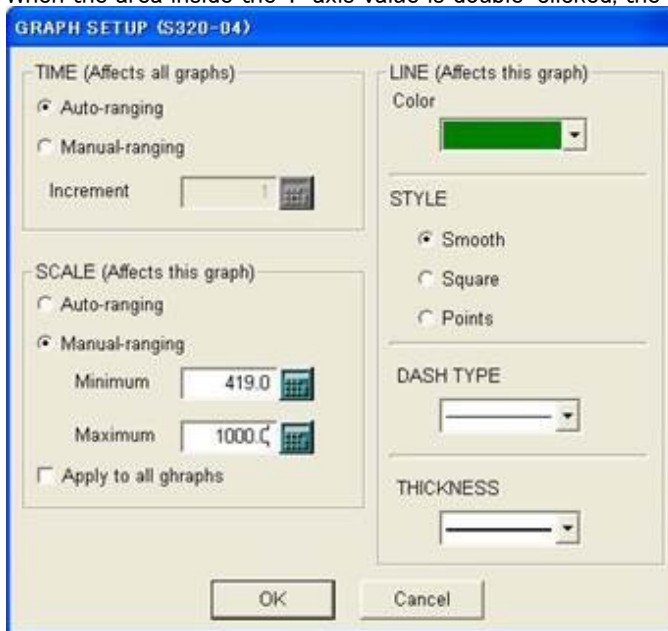
GRAPH TYPE2

Graph Type 2 plots a graph with a grid. A minimum, maximum and current values are displayed for the Y-axis. In Auto range, the displayed maximum and minimum values for the Y-axis are measured values. In manual range, the displayed maximum and minimum values for the Y-axis are the values set in the GRAPH SETUP dialog box.

ENTER GRAPH SETUP

When ENTER GRAPH SETUP is selected, a GRAPH SETUP dialog box is displayed.

When the area inside the Y-axis value is double-clicked, the GRAPH SETUP dialog box is displayed.



Graph Setup Dialog

TIME SETUP

AUTO

The horizontal axis is automatically set.

MANUAL

The horizontal axis is manually set. When the icon is clicked, the screen to enter the value is displayed.

SCALE SETUP

AUTO

The vertical axis is automatically set.

MANUAL

The vertical axis is manually set. To set, enter the MAXIMUM and MINIMUM values.

When the icon is clicked, the SCALE screen is displayed. Apply to all graphs.

MAXIMUM and MINIMUM values set at "Manual-ranging" will be applied to all the displayed line graphs.

LINE SETUP

COLOR SET UP

User can change the line color by selecting the color from the COLOR pull-down list.

STYLE SETUP

User can select the style of the graph.

LINE TYPE

User can select the line type between the drawing points.

THICKNESS SETUP

User can change line thickness by selecting the thickness from the THICKNESS pull-down list.

MIN/MAX BEEP

When MIN/MAX BEEP is selected, a beeping noise will notify the user when either the minimum or maximum value is changed.

Full Screen Switches between parallel display and expanded display. Pressing the Back button will return the display to the parallel type.

Graph Type Selects between Line, Bar, Meter and LED display formats.

Line

- Line Graph displays the data.
- The maximum and minimum values are displayed.
- The current values of the data are displayed.
 - The graph line can be grabbed and moved around by right clicking (hold) on the graphing area and dragging, only when regenerating saved data.



Data List Graph Function (Line)

Bar

- This function displays the data as a bar graph.



Data List Graph Function (Bar)

Meter

- This function displays the data as enlarged numbers.
- The maximum and minimum values are displayed.



Data List Graph Function (Meter)

LED

– This function displays the data as LED.



Data List Graph Function (LED)

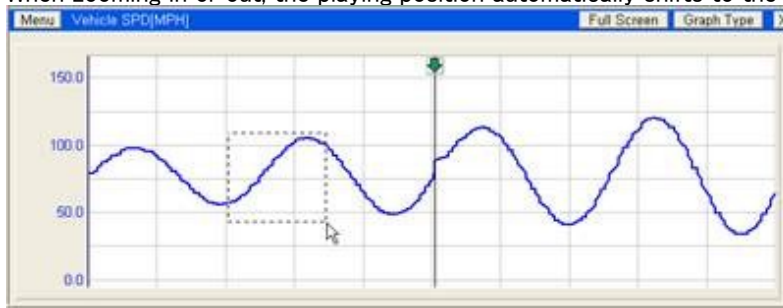


Closes the display.

Zoom In / Out

Zoom in by dragging the mouse over the line graph to designate a region. Zoom out and return to the previous size by double clicking on the selected region.

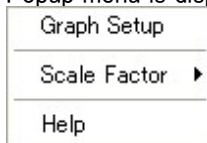
When zooming in or out, the playing position automatically shifts to the center of the graph.



Data List Graph Function (Line)

Popup Menu

Popup menu is displayed when the graphing area is right-clicked.



Popup Menu

Graph Setup

GRAPH SETUP screen is displayed when this item is clicked.

Scale Factor

The Graph scale is changed by selecting a scale value in the popup menu.

Help

Displays the help screen.

Playback Control

The Playback control is used to play and fast forward data. It is also possible to designate a region from the recorded data to be displayed as a graph.



Playback Control

1

Playback Speed Control

When using the Stored Data function, sets the playback speed in increments from 1 – 5.

2

Pause Button

When using the Stored Data function, pauses the recorded data being replayed.

3

Play Button

When using the Stored Data function, plays the recorded data.

- 4 Previous Button
When using the Stored Data function, moves the frame position from the current to previous critical frame (beginning, end, or flag).
- 5 Previous Frame Step Button
When using the Stored Data function, moves the recorded data back one sample.
- 6 Advance Frame Step Button
When using the Stored Data function, moves the recorded data forward one sample.
- 7 Advance Button
When using the Stored Data function, moves the frame position from the current to next critical frame (beginning, end, or flag).
- 8 Time Scroll Bar
The Time Scroll Bar performs the following functions.
 - Width adjustment knob

By dragging either end of the knob to the left or right with the mouse and expanding it, the graph display can be compressed. Conversely, compressing the knob will expand the graph view.

-Scroll Bar

Scroll the graph to the left or right by moving the scroll bar. The width of the scroll bar represents the display width of the graph.

-Scroll Domain

The scroll domain width represents the width of all data.

-Trigger Position

Represents the position mark of the trigger (Vertical purple line).

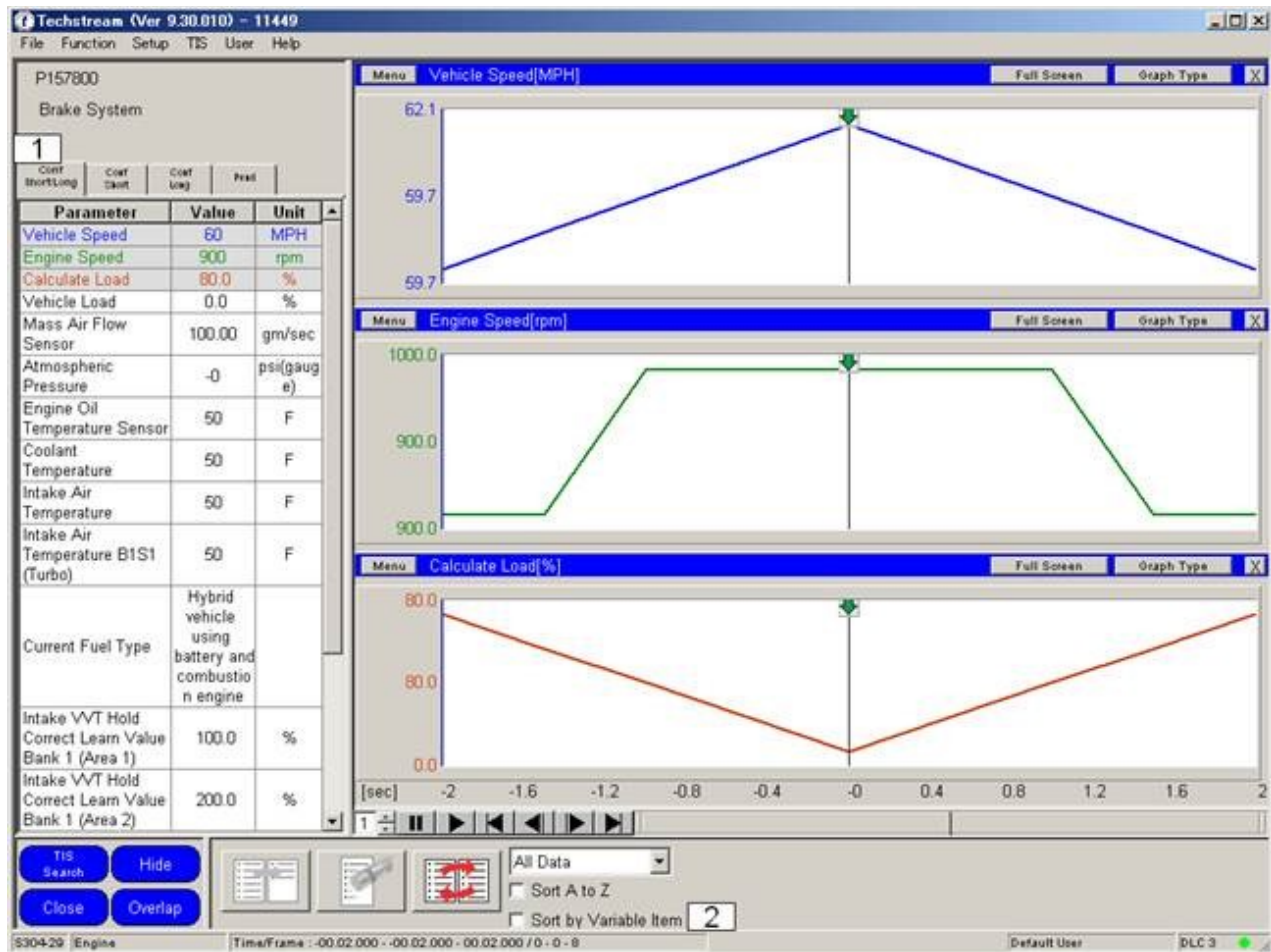
-Marker Position

Represents the position mark of the flag (Vertical red line).

Graph Function (multi freeze frame data)

This is the same type of function as the graph function (data monitor), so only the points that are different from the graph function (data monitor) are covered below.

The graph is displayed by either dragging & dropping the parameters to be displayed in the graph from the freeze frame data list to the graph area or by double clicking on parameters in the freeze frame data list.



Diagnostic screen (graph function multi freeze frame data)

**FFD Tab**

Confirmed FFD Short/Long, Confirmed FFD Short, Confirmed FFD Long and Pending FFD displays can be switched by selecting the tab. When the tab is switched, the selected parameters, the parameters displayed as graphs, and the sort type will not change. The zoomed in/out graph is restored to the default state. If the parameter which is selected in previous tab is not available in the selected tab, the parameter is not shown.

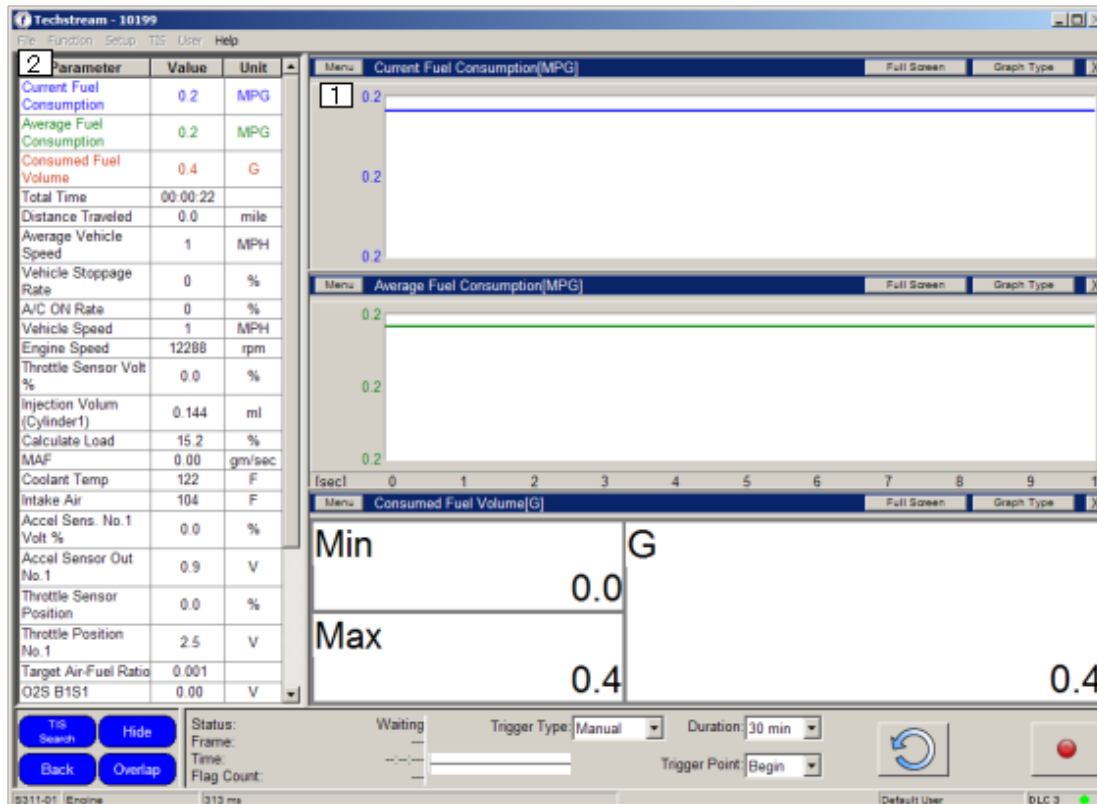
This tab is grayed out for freeze frame data for which the time information is displayed only for the “detection point” column.

2 Sort by Variable Item Check Box

Sorts the parameters for freeze frame data in the display in the order of their having been changed.

Fuel Consumption

This function displays fuel consumption meter information using a graph. The following screen is displayed when Type 1 is selected with Snapshot settings.



Diagnosis Screen (Data List Graph Function Type1)



1 Graph
Displays fuel consumption information.



Reset button
Resets calculated parameters.



2 Parameter List
Displays parameters.



Record button
Starts Recording the Data List (Unplanned Recording). The Record button can be pressed even when Live data is being displayed. Live data can be recorded by pushing the Record button when in Manual Mode. When recording using the Record button, the settings are as follows.
Trigger Classification: Manual
Max. Recording Time: 30 sec.
Trigger Position: 50 %
Snapshot can be started by pressing the space key.
The space key is set as default, but it can be changed by setting up a hotkey.

The following screen is displayed when Type 2 is selected with Snapshot settings.



Diagnosis Screen (Data List Graph Function Type2)

The functions of this screen are the same as for Type 1 other than functions listed below.



1 Status
Displays Snapshot status.
Frame: Total number of recorded data frames.
Time: Recording time
Flag Count: Total number of flags

Save button

If pressed, saves data stored in the buffer.

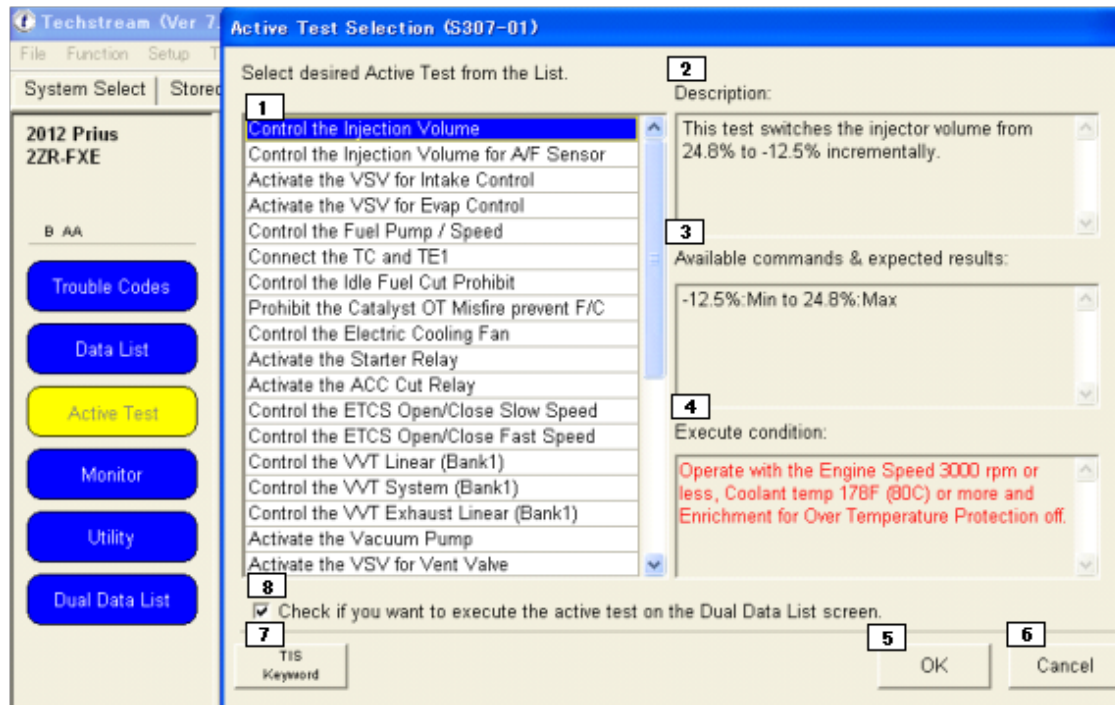
Active Test

The active test is a function to forcibly drive relays, actuators, solenoids, etc. If they are driven normally in the active test, it is possible to judge circuits as normal from the ECU to relays, actuators, solenoids, etc.



Active Test Selection

Selects the active test item

1. Press the Active Test button from the Menu Button.
2. When the Active Test Selection Dialog displays, select the Active Test items.



Diagnosis Screen and Active Test Selection Dialog

- 1 Active Test list
Display a list of possible Active Tests.
- 2 Description
Display an explanation for the Active Test item selected from the Active Test List.
- 3 Available commands & expected results
Display commands and expected results for the Active Test item selected from the Active Test List.
- 4 Execute condition
When performing an Active Test, display conditions and caution points related to the selected item from the Active Test List.
- 5 OK button
Perform the Active Test selected from the Active Test List.
- 6 Cancel button
Cancels the Active Test and returns the screen to the Data List.
-  * Service Information Keyword button
Executes the Service Information Keyword function.
-  * Dual Data List Check Box

When this is checked, the dual data list screen is used as background when the active test is executed.

This item is hidden if the system does not support the dual data list function.

This item is grayed out if there is no system mounted in the vehicle that supports multiple data monitors other than the system being displayed.

Active Test Control

The Active Test Control operates the Active Test Panel and drives actuators.

ON / OFF Type Control

This dialog box displays when the Active Test values are divided into ON/OFF.



Active Test Control (ON / OFF Type Control)

Slide Type Control

The slide type control dialog box is displayed when the Active Test input values are defined as a range.



Active Test Control (Slide Type Control)

Stepped Type Control

This dialog box is displayed when the Active Test input values are defined as stepped increments.



Active Test Control (Stepped Type Control)

Monitor

This screen displays the monitor status.

* This function can only be used with ECU's that support the monitor function.

4 Monitor Information

Cumulative Monitor - monitor status from the last DTC clear or monitor reset event.
 Current Monitor - current monitor trip information.
 Click the Cumulative/Current column header for more information.

2	3	Cumulative	Result	Details	Summary
Misfire	Available				∞
Fuel System	Available				∞
Composition Parts	Available				∞
Catalyst Efficiency	Incomplete	Pass			?
Heated Catalyst	N/A				N/A
Evaporative System	Incomplete	Pass			?
Secondary Air System	N/A				N/A
A/C System	N/A				N/A
O2 Sensor	Incomplete	Pass			?
O2 Sensor Heater	Incomplete	Pass			?
Exhaust Gas Recirculation / VVT	Incomplete	Pass			?
Thermostat					

Diagnosis Screen (Monitor)



MIL Guidance
Displays the MIL status.



* Monitor Status view
Displays monitor status and monitor results.



* Monitor type select tab
Performs switching between Cumulative Monitor and Current Monitor.



* Monitor Information
Explains the difference between Cumulative Monitor and Current Monitor.



Clear DTCs button
Deletes DTC, freeze-frame, monitor status, monitor results information and the information code.



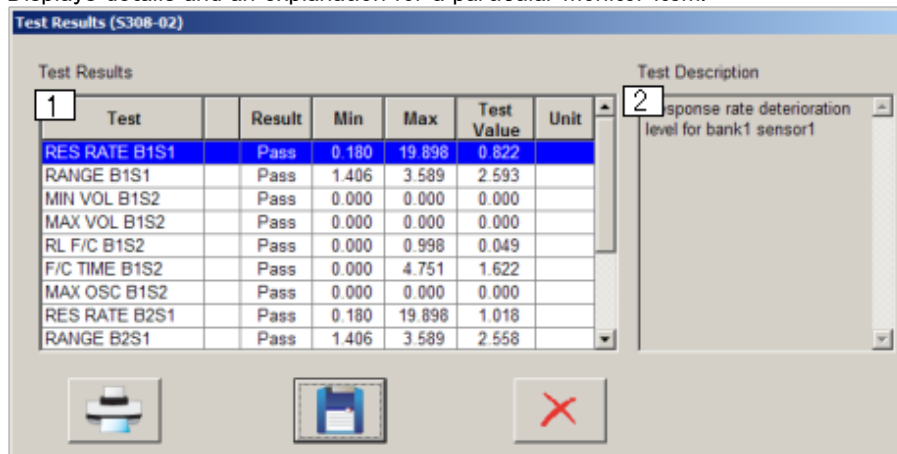
Monitor Details button
Displays a details screen for the selected monitor item.
Clicking the ... Icon in the Monitor Status View Detail column will display the same screen.



Store button
Saves the DTC, freeze-frame, monitor status, monitor results information and Information Code.
When the button is held down, processing is done in the same way as it is for "Trouble Codes".

Monitor Details

Displays details and an explanation for a particular monitor item.



Test Results Dialog



Monitor Details view
Displays details for a particular monitor item. Displays collected Test Results, Minimum Threshold Values, Maximum Threshold Values, Current Values, and Units.



Monitor Description
Displays an explanation for the selected monitor item.



Print button
Prints the screen being displayed.



Store button
Saves the DTC, freeze-frame, monitor status, and monitor results information.
When the button is held down, processing is done in the same way as it is for "Trouble Codes".



Close button
Closes the current dialog box.

