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)

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)

Button	Description
Health Check	Starts the Health Check function.
Customize Setting	Starts the Customize function.
ECU Reprogramming	Starts the ECU Reprogramming function.
CAN Bus Check	Starts the CAN Bus Check function.
TIS Function	Displays the service information site link screen.
TIS Search	Service Information Search button
Print	Starts the Print function.
Main Menu	Returns the screen to the Main Menu Screen.
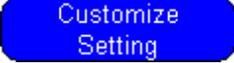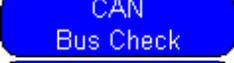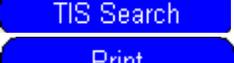
  System Selection Menu
Select the ECU to be diagnosed.

  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.
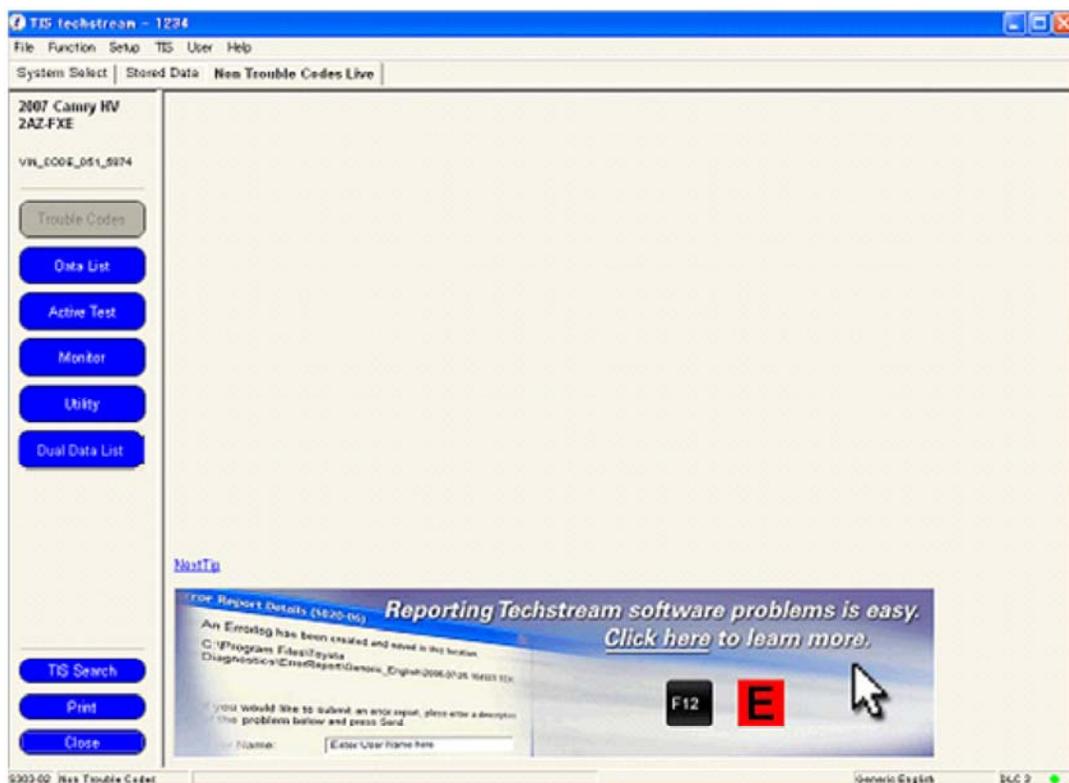
Diagnosis Screen (Live Data Tab)

Trouble Codes	Starts the Trouble Codes function.
Data List	Starts the Data List function.
Active Test	Starts the Active Test function.
Monitor	Starts the Monitor function.
Utility	Starts the Utility function.
☒	Starts the Dual Data List function.
TIS Search	Service Information Search button
Print	Starts the Print function.
Close	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.	
Data List	The Data List function is being executed.
Data List	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.
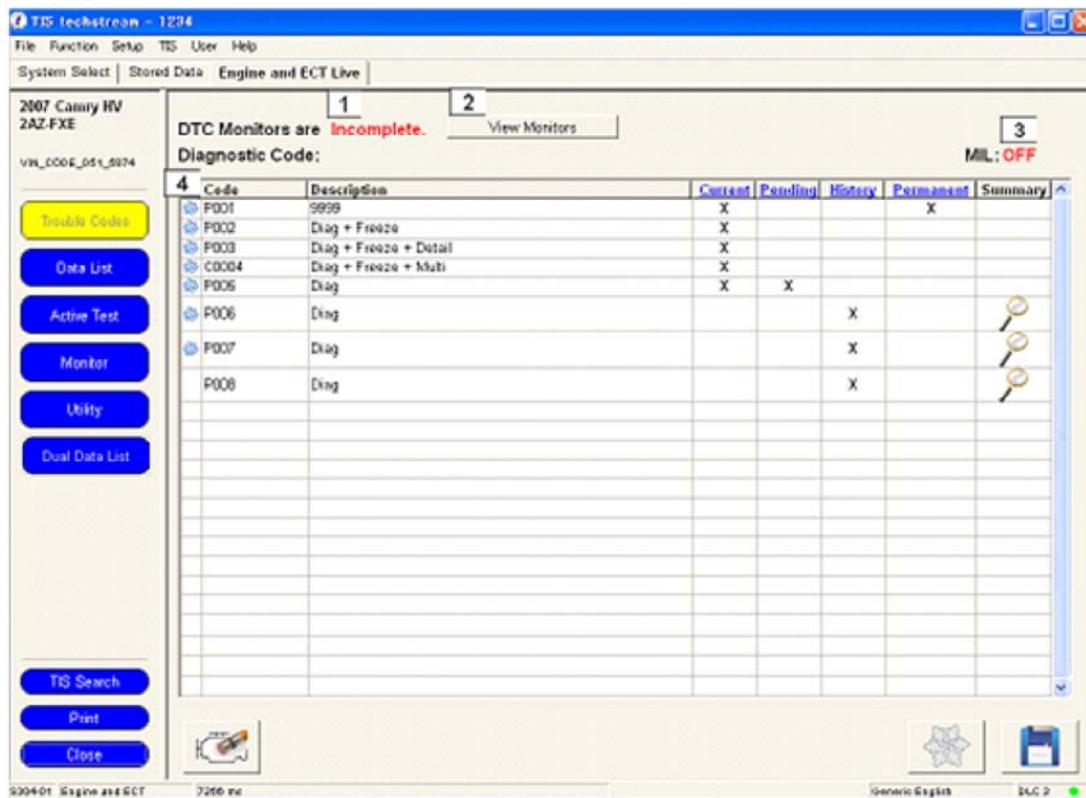
Diagnosis Screen (Trouble Codes_Type1)

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.

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 (S304-06)

Clearing DTCs will erase the following Diagnostic
Information from the ECU.

-Monitor Status
-Monitor Results
-DTCs
-FF Data

Would you like to store this data before clearing?

| 1 | 2 | 3 |
| Store | Clear | Cancel |
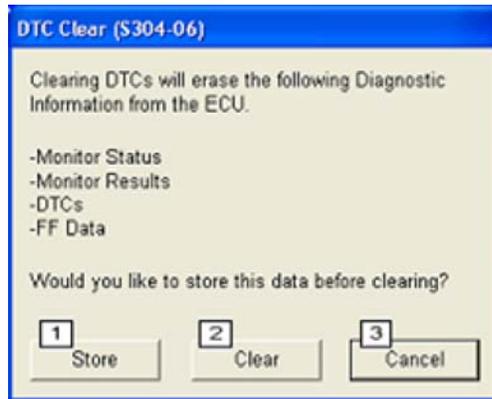
DTC Clear Dialog_Type1

[x]

DTC Clear Dialog_Type2

[x] Store button
Stores DTCs after saving DTC, freeze frame, monitor status, monitor results information and the Information
Code.

[x] Clear button
Clears DTC, freeze frame, monitor status, monitor results information and the Information Code.

[x] Cancel button
Cancels 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.
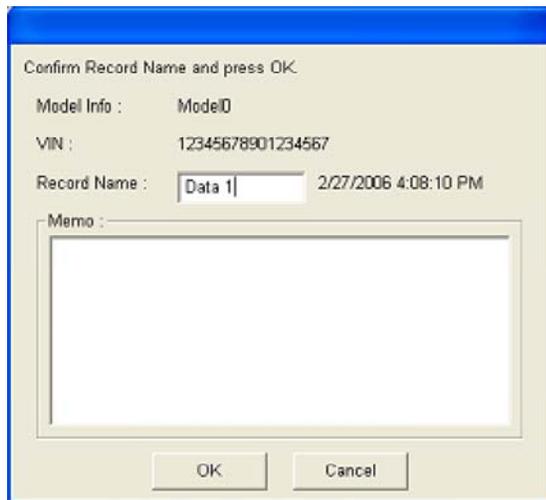
DTC Save Dialog

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.
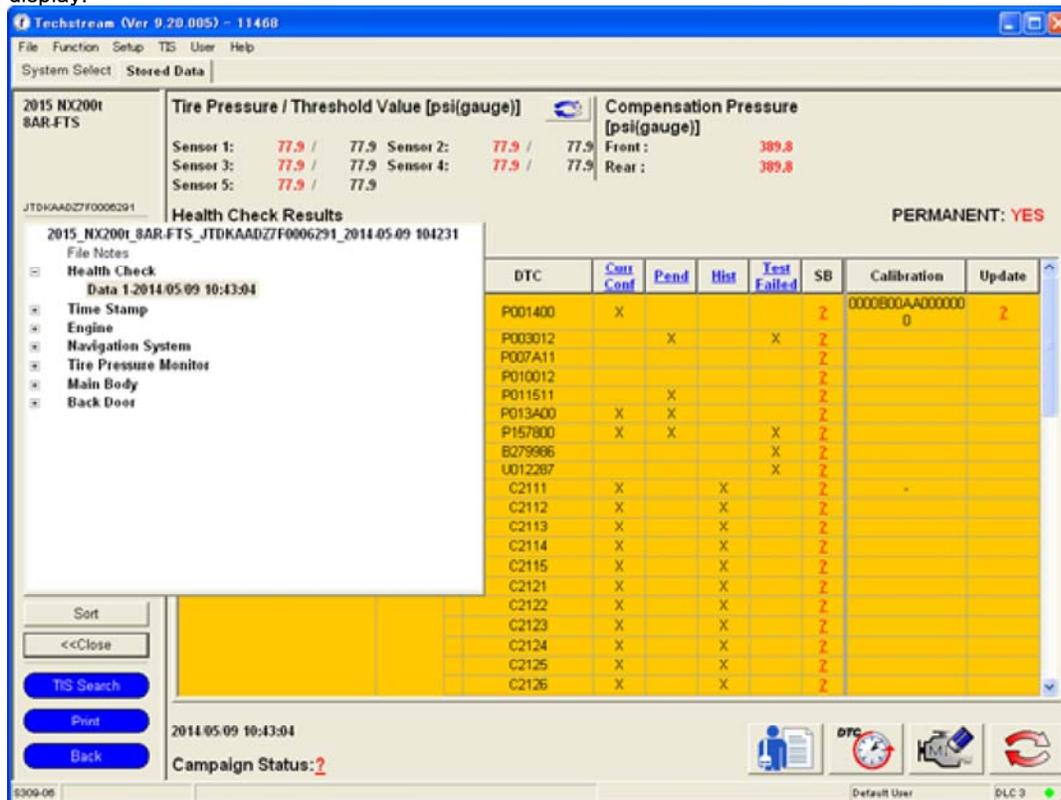
Diagnosis Screen (Stored Data Tab)

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
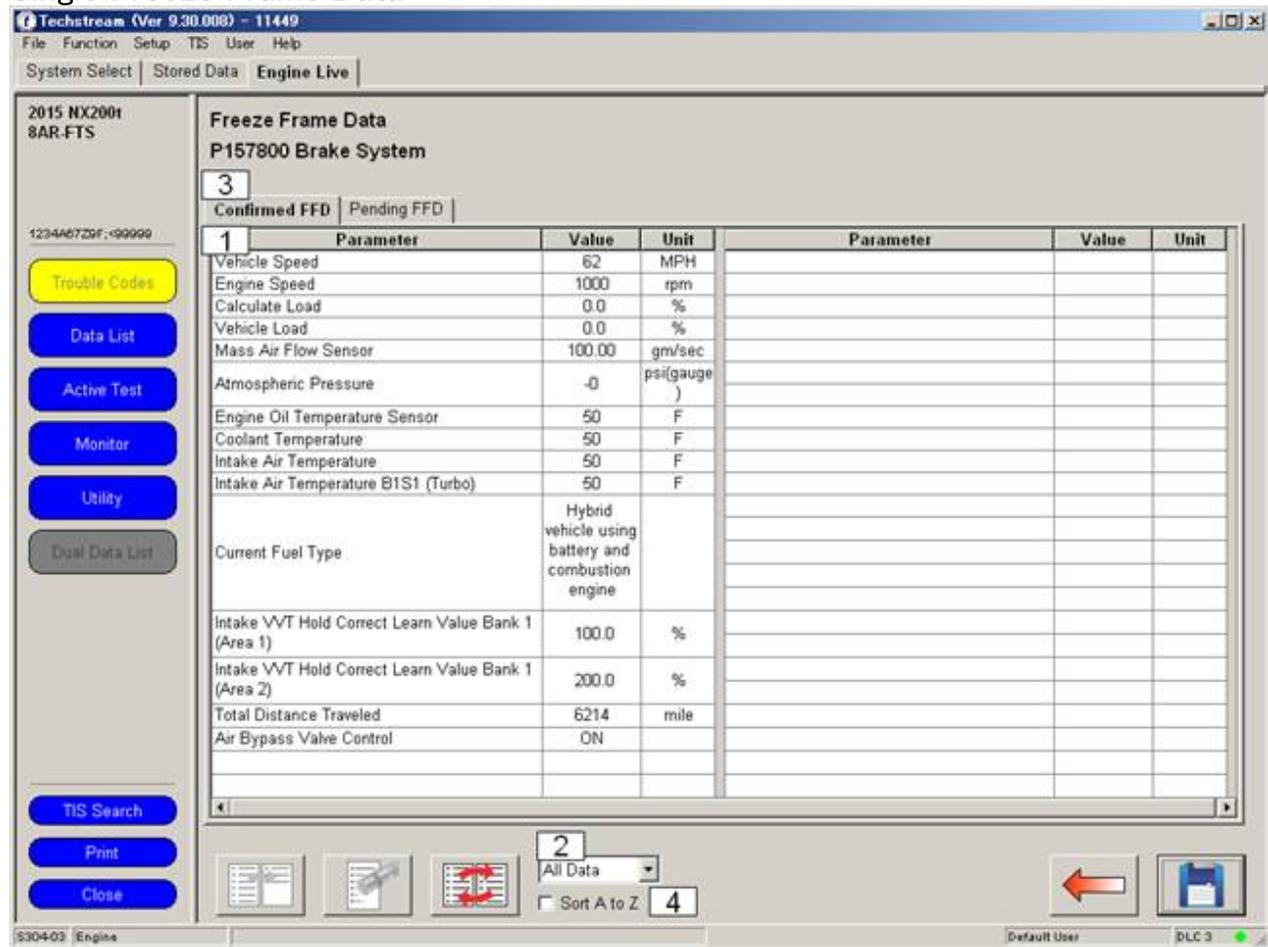
Diagnosis Screen (Single Freeze Frame Data)

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)

1 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.

3 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.

4 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.
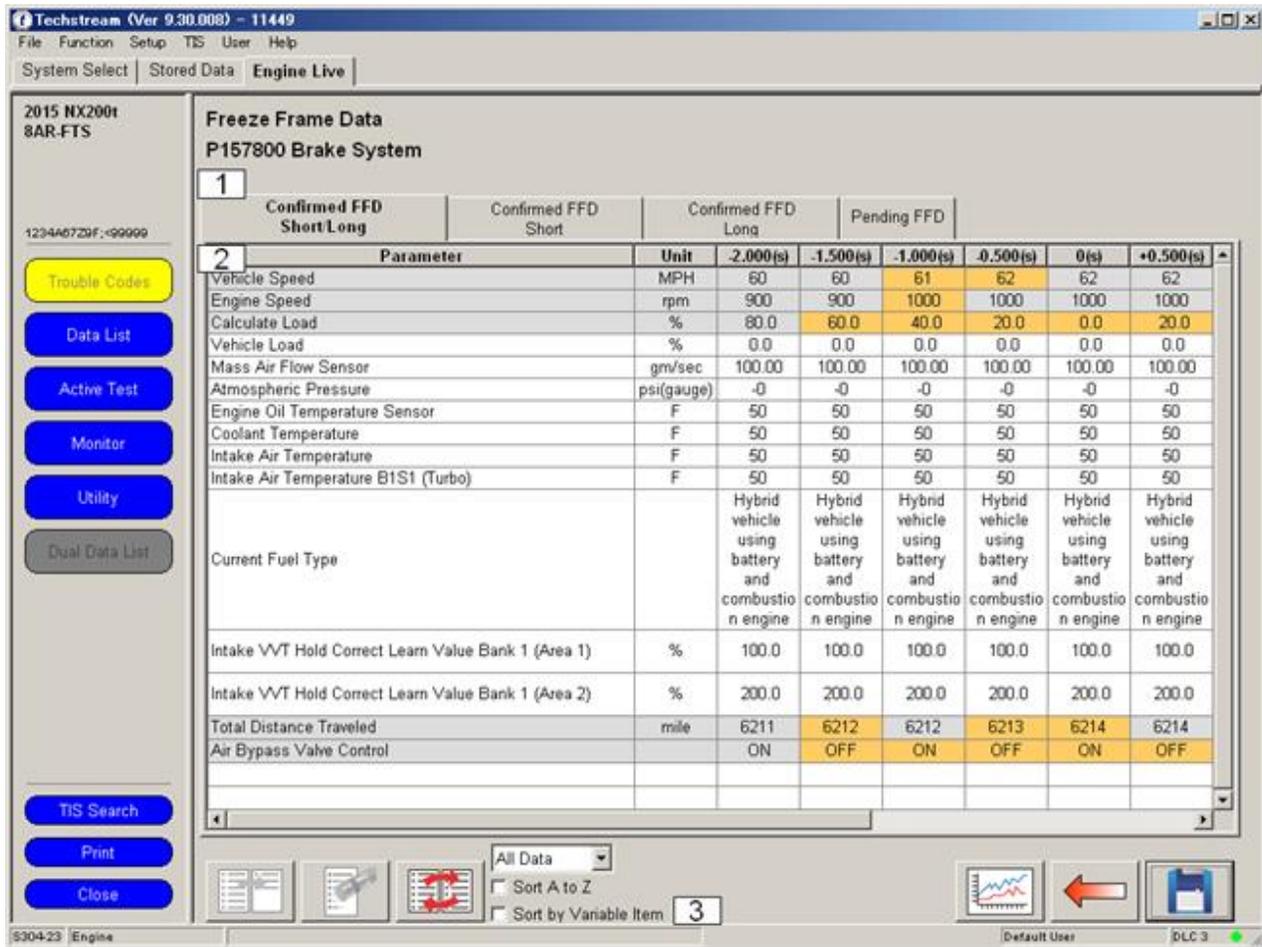
Diagnosis Screen (Multi Freeze Frame Data_Type2)

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.

Techstream (Ver 8.10.009) – 11148

File   Function   Setup   TIS   User   Help

System Select | Stored Data | **Engine and ECT Live**

2013 GS450h
2GR-FXE

905161 mile
Input VIN

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	
			TCV Status	OFF	
Coolant Temp	419	F	EVAP (Purge) VSV	0.0	%
Intake Air	419	F	Evap Purge Flow	0.0	%
Ambient Temperature	419	F	Purge Density Learn Value	-200.000	
Engine Run Time	65535	s	Vapor Pressure Pump	0.000	mmHg(abs)
Initial Engine Coolant Temp	-40.0	F			
Initial Intake Air Temp	-40.0	F	Vapor Pressure (Calculated)	-5407.441	mmHg(abs)
Battery Voltage	65.535	V			
Accelerator Position	0.0	%	EVAP System Vent Valve	OFF	
Accel Sens. No.1 Volt %	100.0	%	EVAP Purge VSV	OFF	
Accel Sens. No.2 Volt %	100.0	%	Purge Cut VSV Duty	0.0	%
Throttle Sensor Volt %	100.0	%	Target Air-Fuel Ratio	0.000	
Throttl Sensor #2 Volt %	100.0	%	AF Lambda B1S1	0.000	
Throttle Idle Position	OFF		AFS Voltage B1S1	0.000	V
Throttle Require Position	0.000	V	AFS Current B1S1	-128.00	mA
Throttle Sensor Position	100.0	%	A/F Heater Duty #1	0.0	%
Throttle Position No.1	0.000	V	O2S B1S2	0.000	V
Throttle Position No.2	0.000	V	O2S Impedance B1S2	0.00	ohm
Throttle Position Command	0.000	V	O2 Heater B1S2	Not Act	
Throttle Sens Open Pos #1	0.000	V	O2 Heater Curr Val B1S2	0.000	A
Throttle Sens Open Pos #2	0.000	V	Short FT #1	-100.000	%
Throttle Motor Current	0.0	A	Long FT #1	-100.000	%
Throttle Motor DUTY	100.0	%	Total FT #1	-0.500	
Throttle Motor Duty (Open)	0	%	Fuel System Status #1	Unused	

Trouble Codes
Data List
Active Test
Monitor
Utility
Dual Data List

TIS Search
Print
Close

Primary ▼   ☐ Sort A to Z

S306-01 Engine and ECT   1240 ms   Default User   DLC 3 ●

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.

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.

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 (S317-02)

Please select another system to view.

1	Hybrid Control
	Radar Cruise
	ABS/VSC/TRAC
	EMPS
	Advanced Parking Guidance/Parking Assist Monitor
	Transmission Control
	Air Conditioner
	Theft Deterrent
	SRS Airbag
	Pre-Collision

2 OK   **3** Cancel
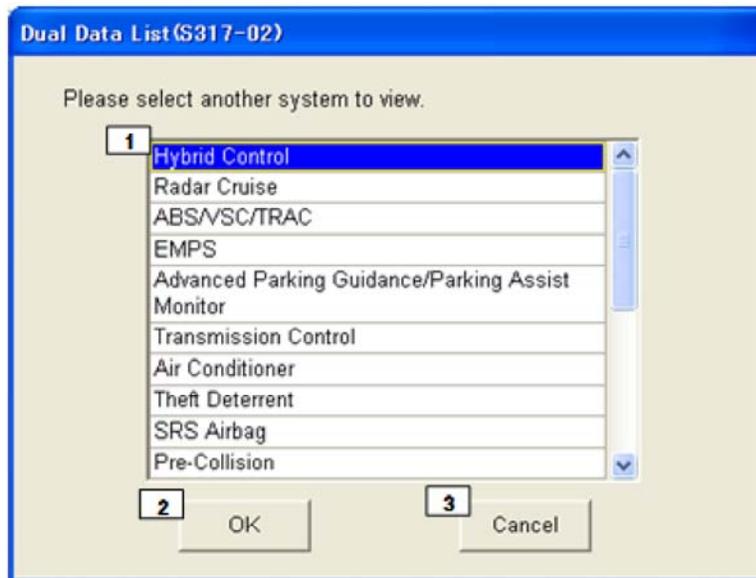
Dual Data List Target ECU Select Dialog

1 ECU List
   Possible to selects 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 (S306-05)

Primary

1 **Trigger Parameter**
Vehicle Speed
Engine Speed
Calculate Load
Vehicle Load
MAF
Atmosphere Pressure
MAP
Coolant Temp
Intake Air
Engine Run Time
Initial Engine Coolant Temp
Initial Intake Air Temp
Battery Voltage
Throttle Sensor Volt %
Throttl Sensor #2 Volt %
Throttle Idle Position
Throttle Require Position
Throttle Sensor Position

2 Select   **3** Back
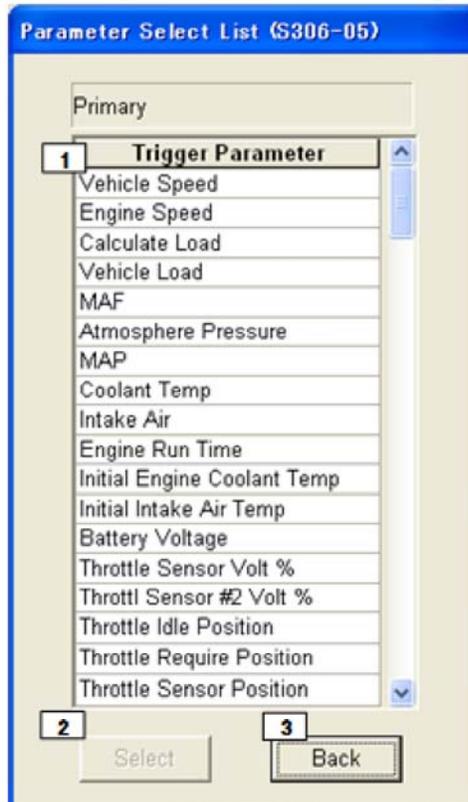
Parameter Select List Dialog

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.
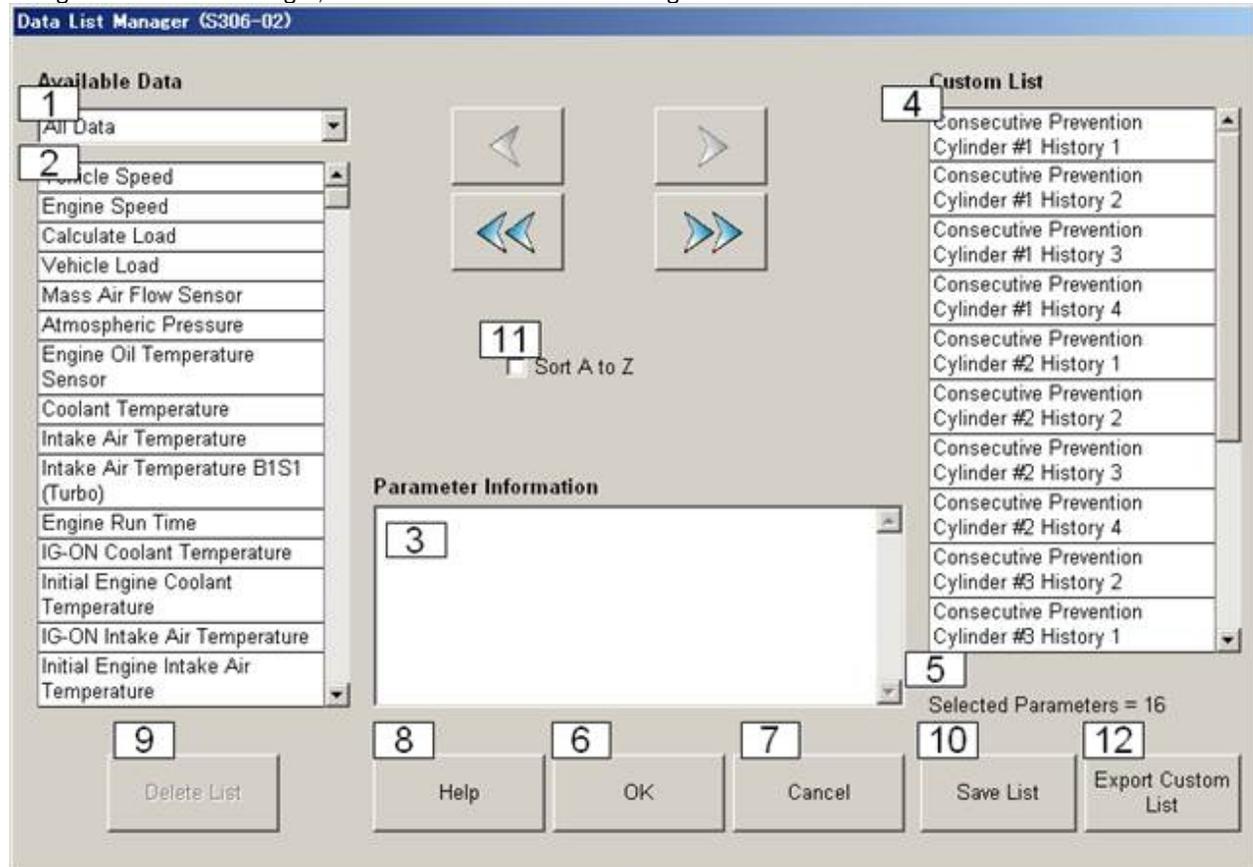
Data List Manager Dialog

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.

8 Help Button
    Displays help content.

9 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.

1 Status
    Displays the Recording status.
Status   : Status display (Ready/Recording/Saving)
Frame   : Frame count
Time   : Recording time
Flag Count   : Set flag count

2 Trigger Type pull down list
    In addition, displays the set Snapshot trigger classification.

3 Duration pull down list
    Displays the set recording time for the Snapshot.

4 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.

5 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)

TIS Search — Service Information Search button

Print — Performs printing.

Close — 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.

3 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.

4 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.

5 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.
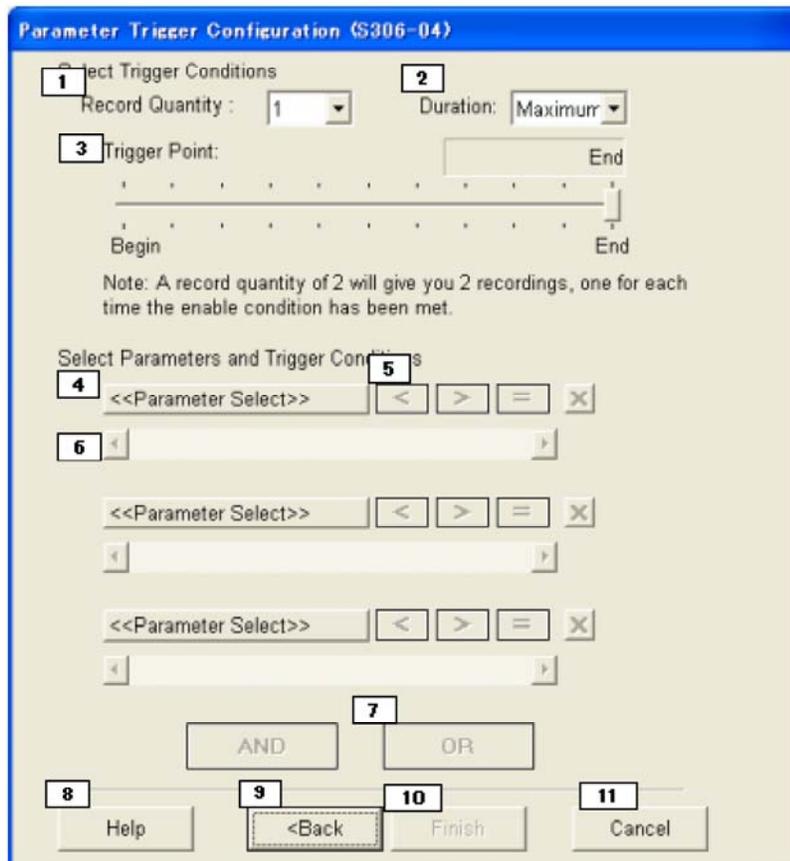
Parameter Trigger Configuration Dialog

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.
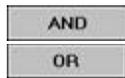
AND   Applies the trigger when all set conditions are satisfied.

OR   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.
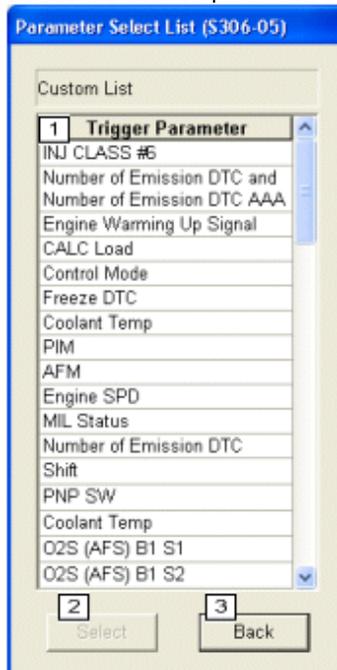
Parameter Select List Dialog

 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.

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.
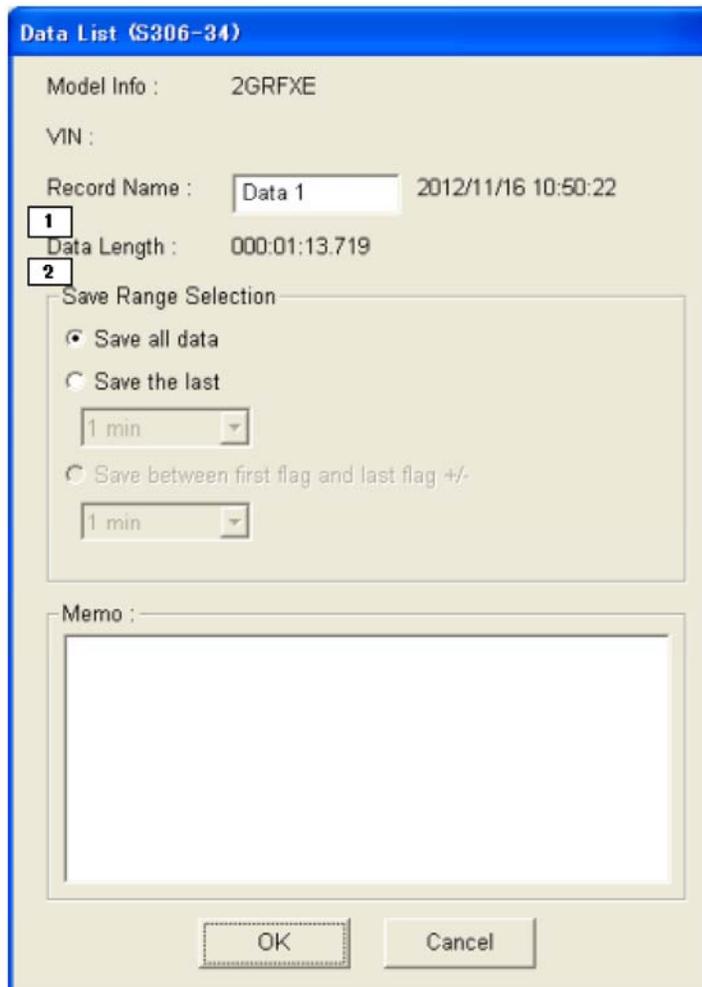
Saving Dialog Type2

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.
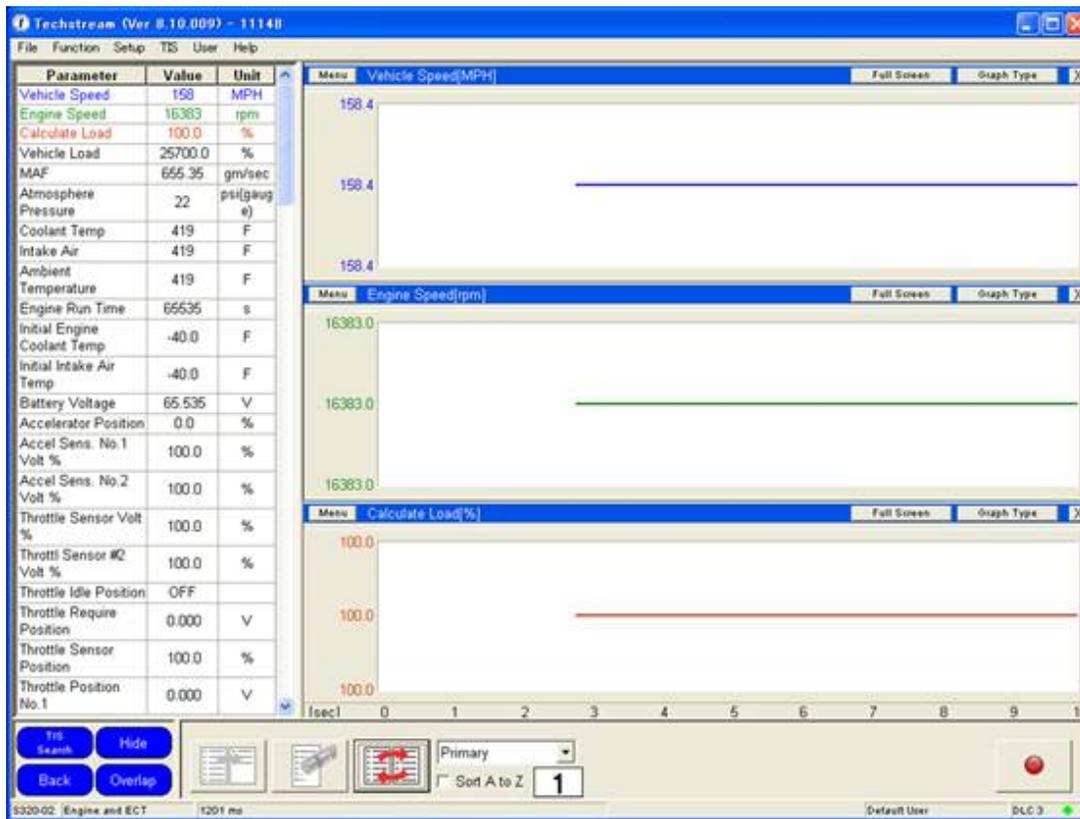
Diagnosis Screen (Data List Graph Function)

Button	Description
TIS Search	Service Information Search button
Back	Returns to Data List.
Hide ☒	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.
Overlap ☒	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.

1 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.
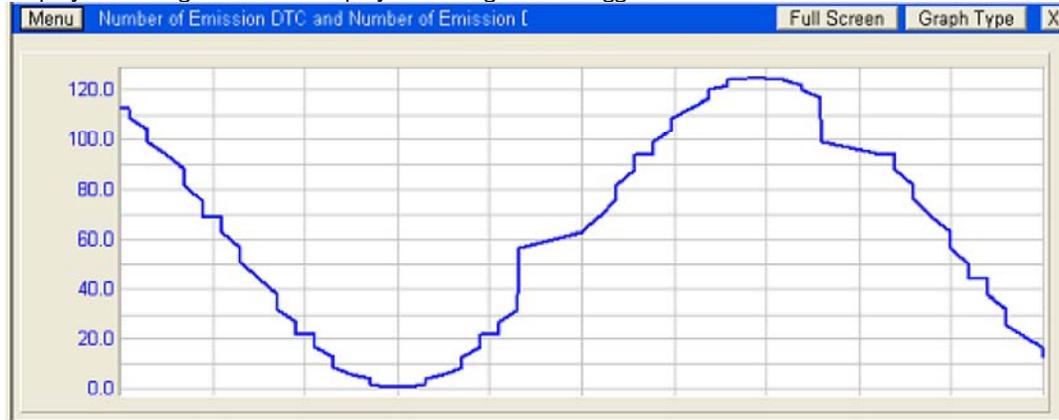
         Data List Graph Function

[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.
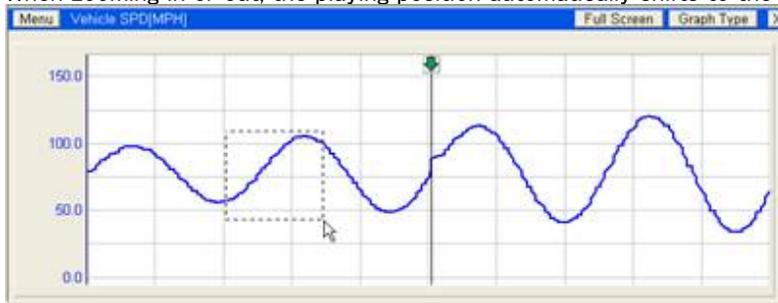
Data List Graph Function (Line)

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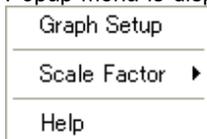
Popup Menu

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.
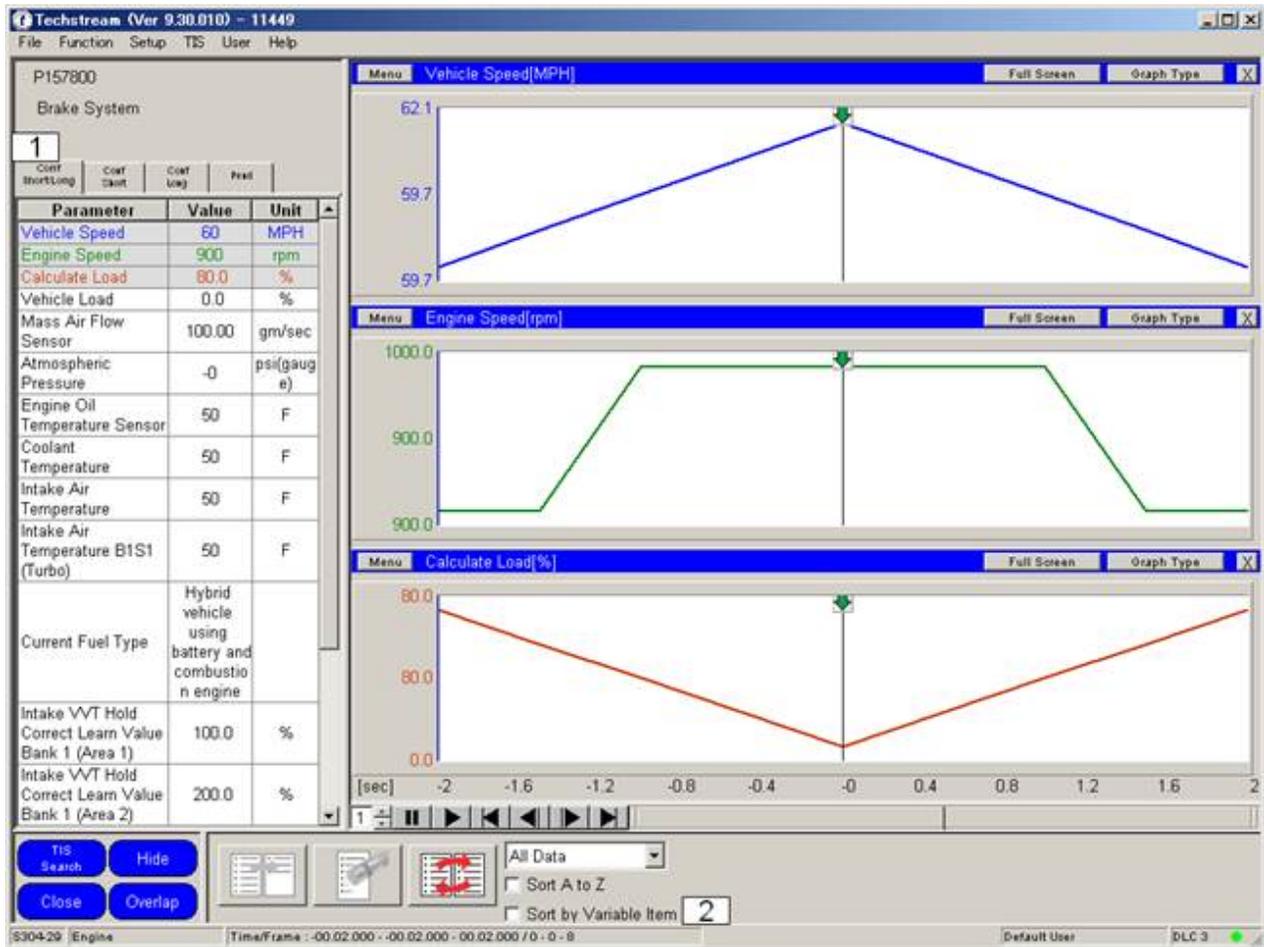
Diagnostic screen (graph function multi freeze frame data)

☒ 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.
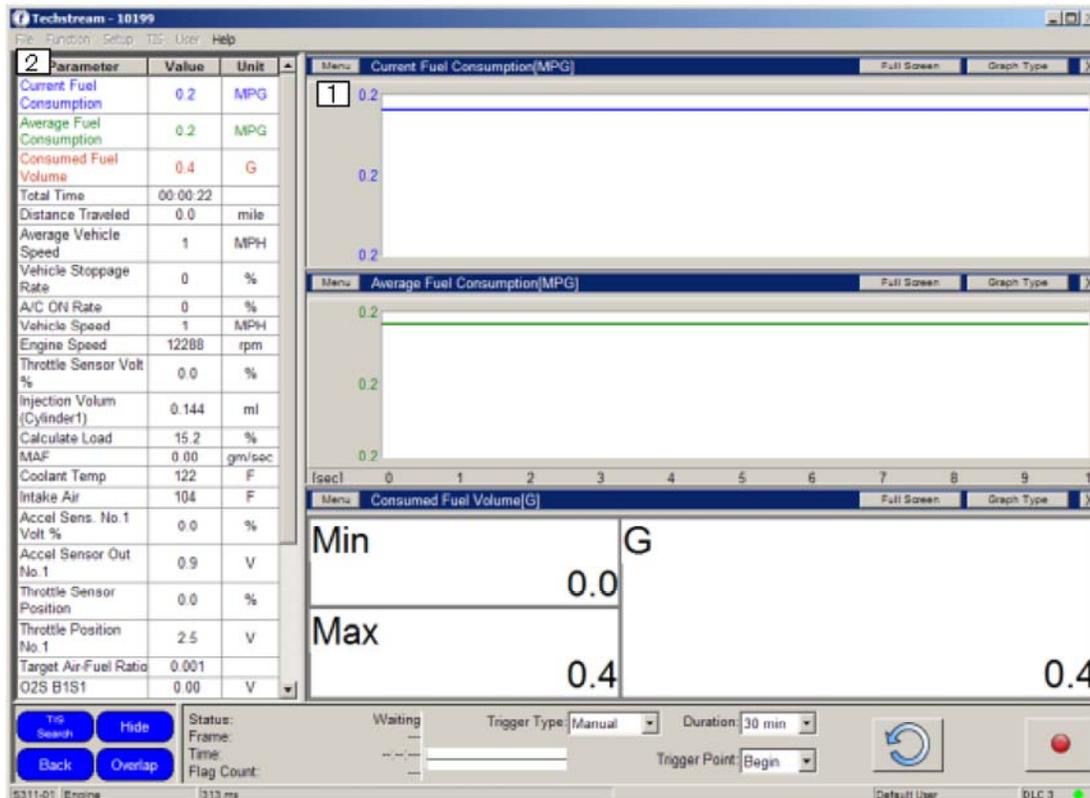
Diagnosis Screen (Data List Graph Function Type1)

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.
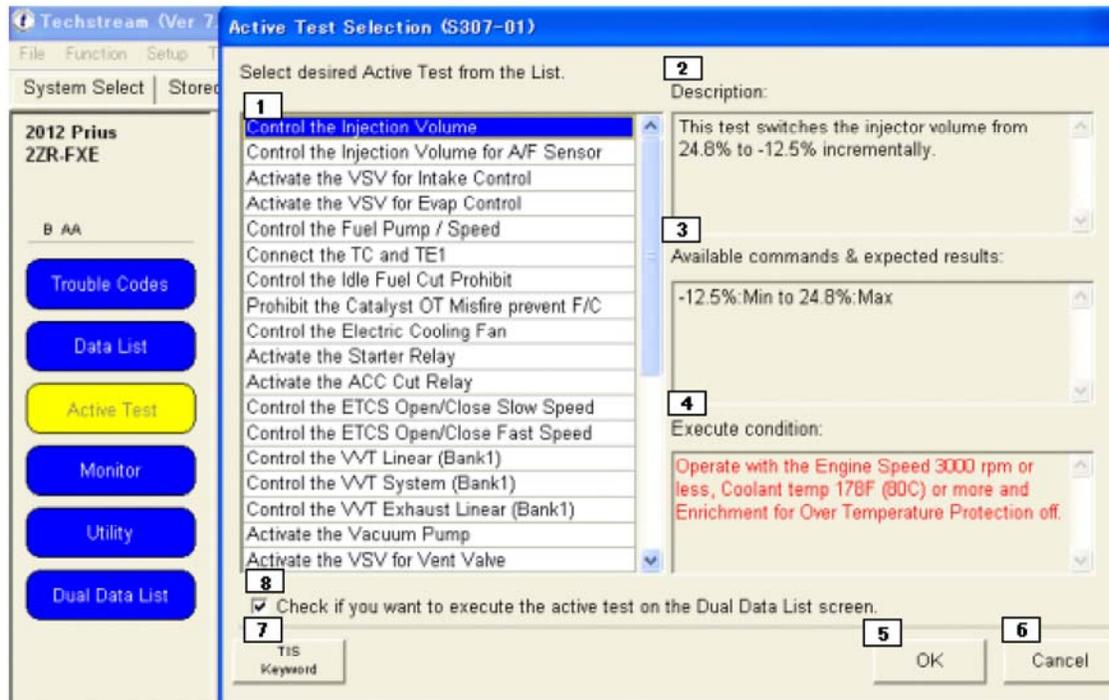
Diagnosis Screen and Active Test Selection Dialog

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.

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 (S308-02)

Test Results

Test	Result	Min	Max	Test Value	Unit
RES RATE B1S1	Pass	0.180	19.898	0.822	
RANGE B1S1	Pass	1.406	3.589	2.593	
MIN VOL B1S2	Pass	0.000	0.000	0.000	
MAX VOL B1S2	Pass	0.000	0.000	0.000	
RL F/C B1S2	Pass	0.000	0.998	0.049	
F/C TIME B1S2	Pass	0.000	4.751	1.622	
MAX OSC B1S2	Pass	0.000	0.000	0.000	
RES RATE B2S1	Pass	0.180	19.898	1.018	
RANGE B2S1	Pass	1.406	3.589	2.558	

Test Description
sponse rate deterioration level for bank1 sensor1

Test Results Dialog

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

2 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.