ISTA Fault Memory & Test Plan (Directed Diagnosis)
View Module Info, Live Data, Trigger/Activate Components

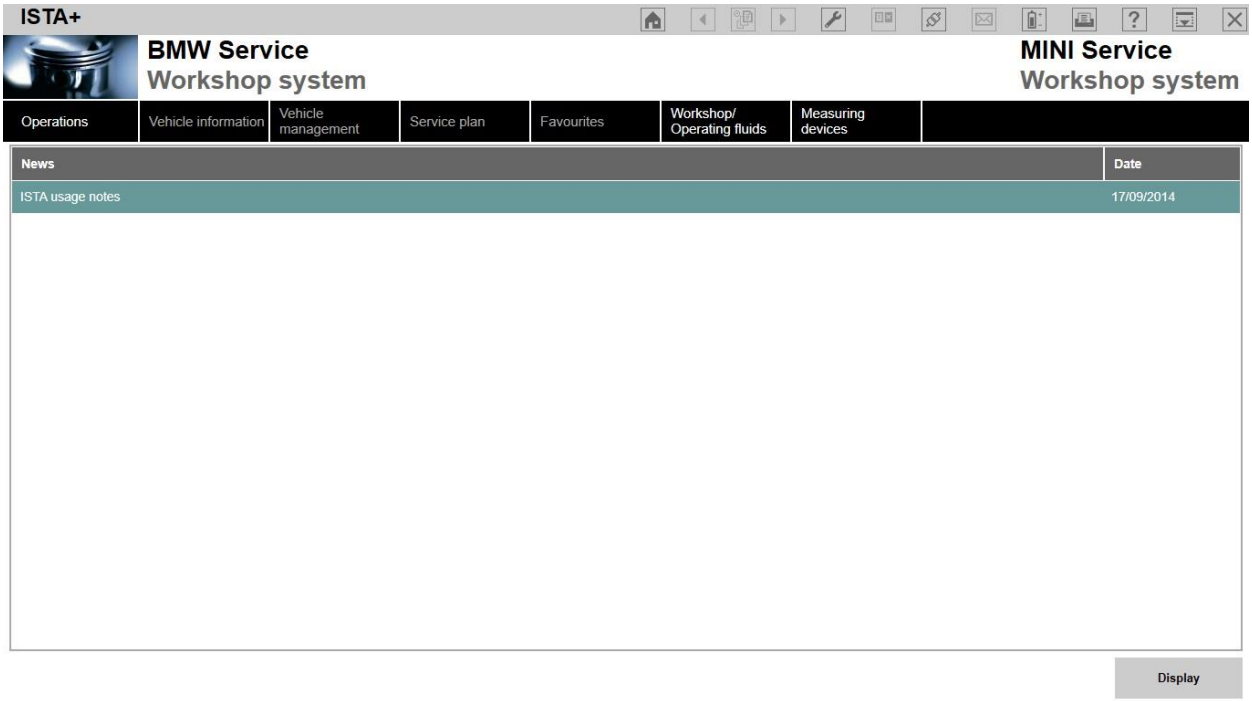
Scope of Tutorial; How to use ISTA+ to:

1) Connect ISTA to your Vehicle; View Status of ALL Modules/Bus Sys. (Control Unit Tree);
2) Display Control Unit LIST, showing Module Status, Full Name & System/Function;
3) Read Fault Codes in ALL Modules in your vehicle;
4) Read "Fault Description" of Selected Fault Code;
5) Read "Fault Details" and Freeze Frame Data/System Conditions at moment Fault Code saved;
6) Use "Calculate Test Plan" and follow Flow Chart "Directed Diagnosis";
7) Connect to a Module: a) View ID/Info re Module; b) View "Live Data"/Diagnosis Scan of Inputs to Module; c) Trigger or Activate Motors, Solenoids, Lights connected to Module;
8) SAVE ScreenPrints of ISTA Screens to "Attach" to Forum Posts.

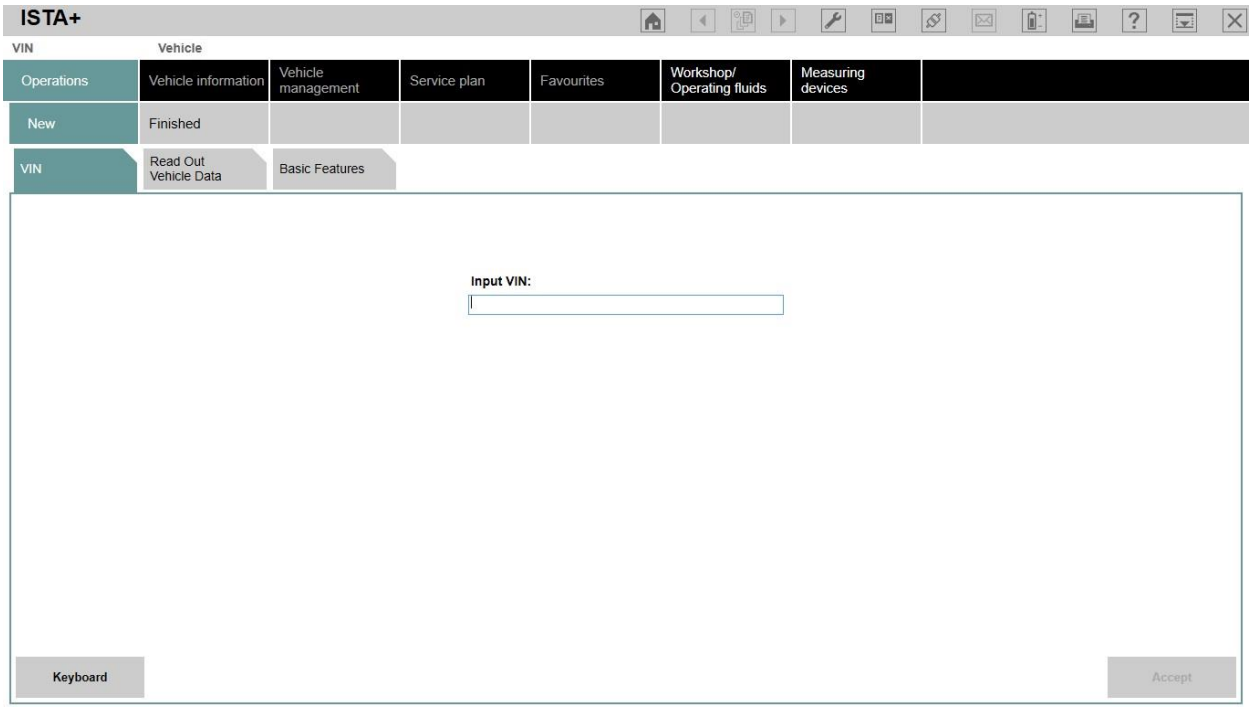
I. Connect ISTA to Vehicle & View Control Unit Tree:

1) Connect K+DCAN Cable to USB Port of Laptop: Ensure Com Port# = "COM1" & Latency = 1 msec, in Windows Device Manager, Ports (COM & LPT); Ports setting ONLY appears if you have the cable plugged into USB port of Laptop; strange things occur if "Windows Updates" changed those settings; then connect cable to OBD II Socket of Vehicle. If NO vehicle connection, check 'Administration > VCI Config > Interface type: Ediabas default settings' per section IX at end of this pdf.

2) Click ISTA Icon in TaskBar to Open ISTA: Following Opening Screen appears:

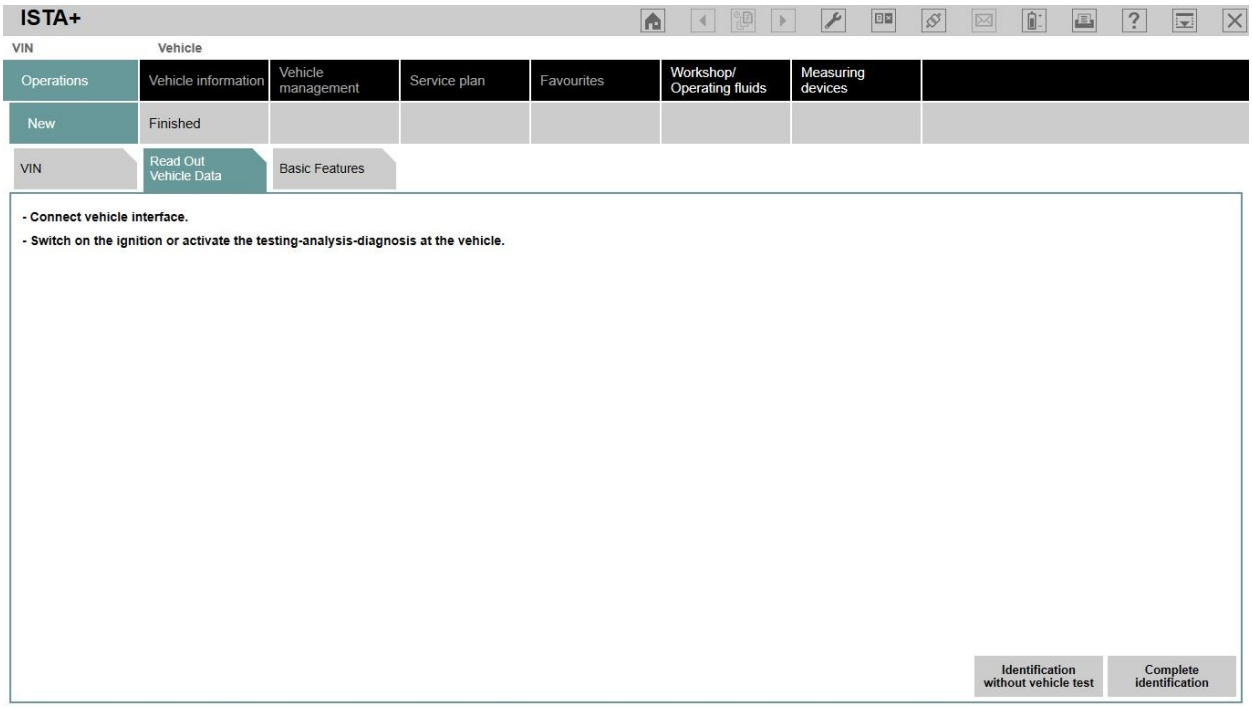


3) Click "Operations" Button: on Left of Menu, and Following Screen appears:

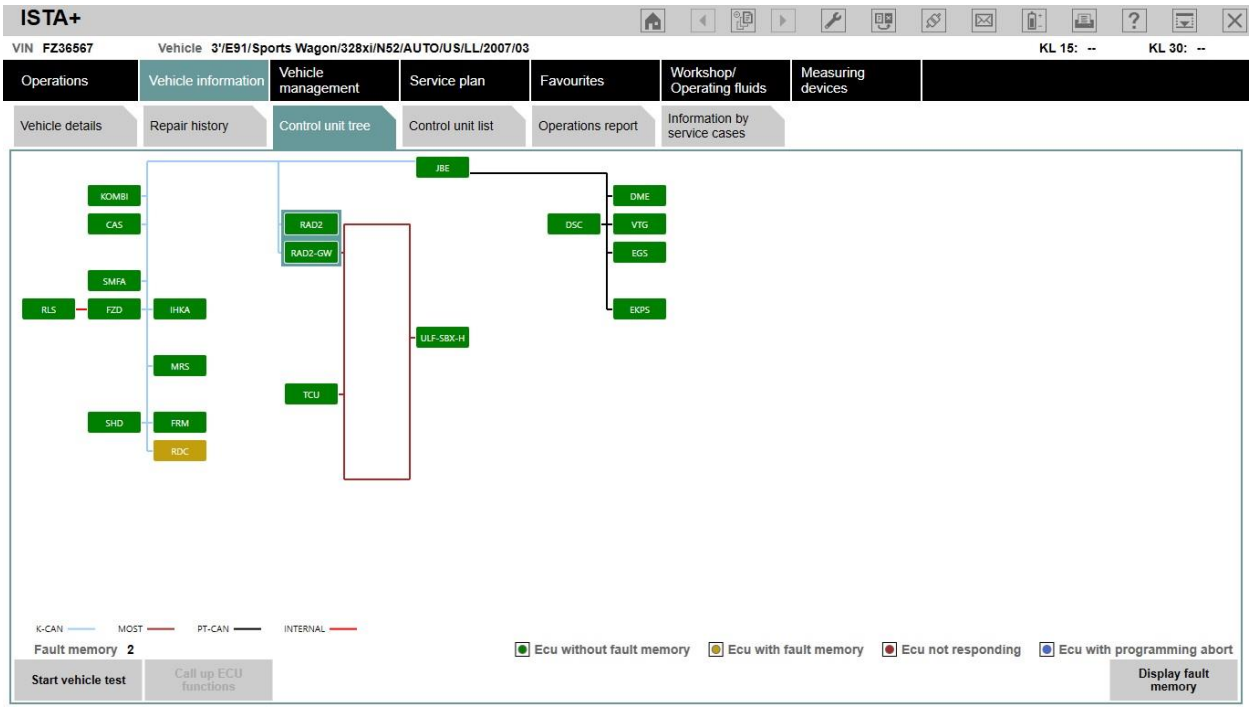


The “Navigation Area” consists of Main Menu line, beginning with “Operations”, Submenu line beginning with “New”, and Tab line beginning with “VIN”.

4) Click “Read Out Vehicle Data” Tab: and the following Screen appears:



5) Check to see that Computer is connected to OBD II Socket and Ignition is ON. Engine may be idling or Off. If Engine is Off, preferable to have Battery Charger Connected.
Note the Buttons on the "Action Line" at bottom of Screen.
6) Click "Complete Identification" Button: on Action Line & **"Control Unit Tree" appears**. It MAY take nearly a minute to complete the scan and display the Tree:



Note: Last-7 Characters of VIN and basic vehicle features appear on "Header" line, beneath "Tool Bar" or "Symbol Bar". More Main Menu Buttons are now active; New Tabs appear; NOTE the Tab for "Control unit list" which gives alphabetical list of Modules and status of each. There are different Bus systems, color-coded, depending upon model; on my 3/2007 build 328xi: K-CAN, MOST, PT-CAN & Internal.

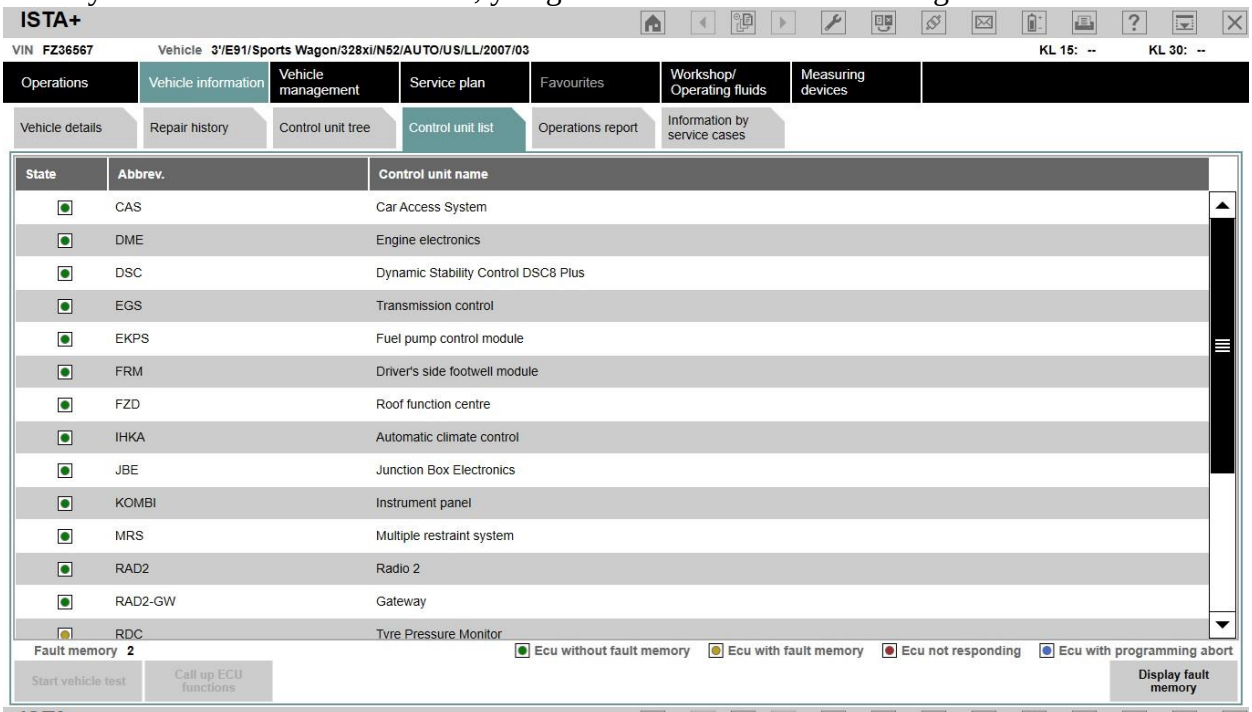
Control Units/ Modules are grouped by Bus system; my vehicle has 20 Modules; RDC Module had 2 faults at moment screen selected, and appeared in Gold (ECU with fault memory); the other 19 appeared in Green box, indicating NO Fault Codes saved in Fault Memory; Note the buttons in the Action Line, including "**Display fault memory**".

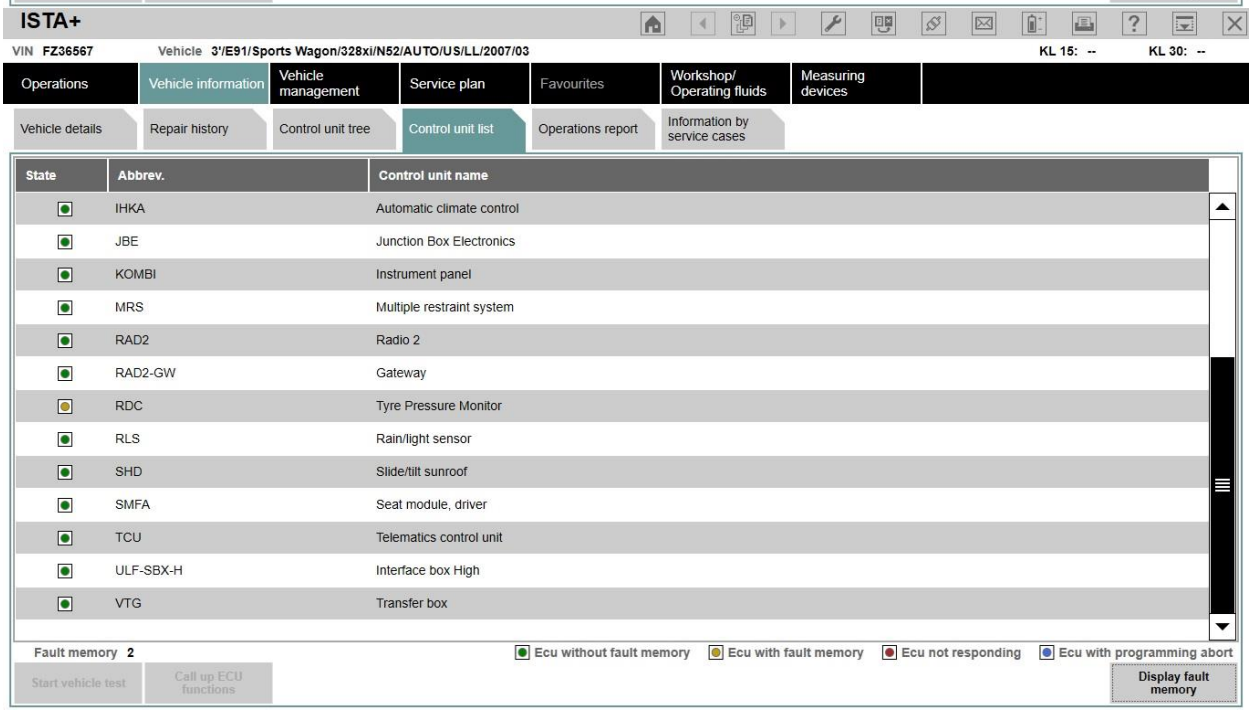
"**Call up ECU functions**" button on the "Action Line" is grayed-out in screen above. Select a Module on the Tree, or on Control Unit List shown below, by clicking it. You can NOW click that "Call up ECU functions" button, and you will see 3 Tabs related to selected Module:
A) **Identification**;
B) **Diagnosis Scan**; similar to INPA F5 Status; you can view Live Data/INPUTS to Module
C) **Component Triggering**; similar to INPA F6 Activations; send Command/Output from Module to attached Components to activate Motor/ Solenoid, Lights.

Those very powerful functions are illustrated in "VII. Connect to a Module", later in this pdf.

II. Display Control Unit List:

1) Control Unit List: shows a) Module Status, b) Abbreviation for Module, & c) Full Control Unit Name. Like Tree, you can either (1) Display Fault Memory, or (2) Call up ECU functions. When you click on Control Unit List, you get screens similar to following:

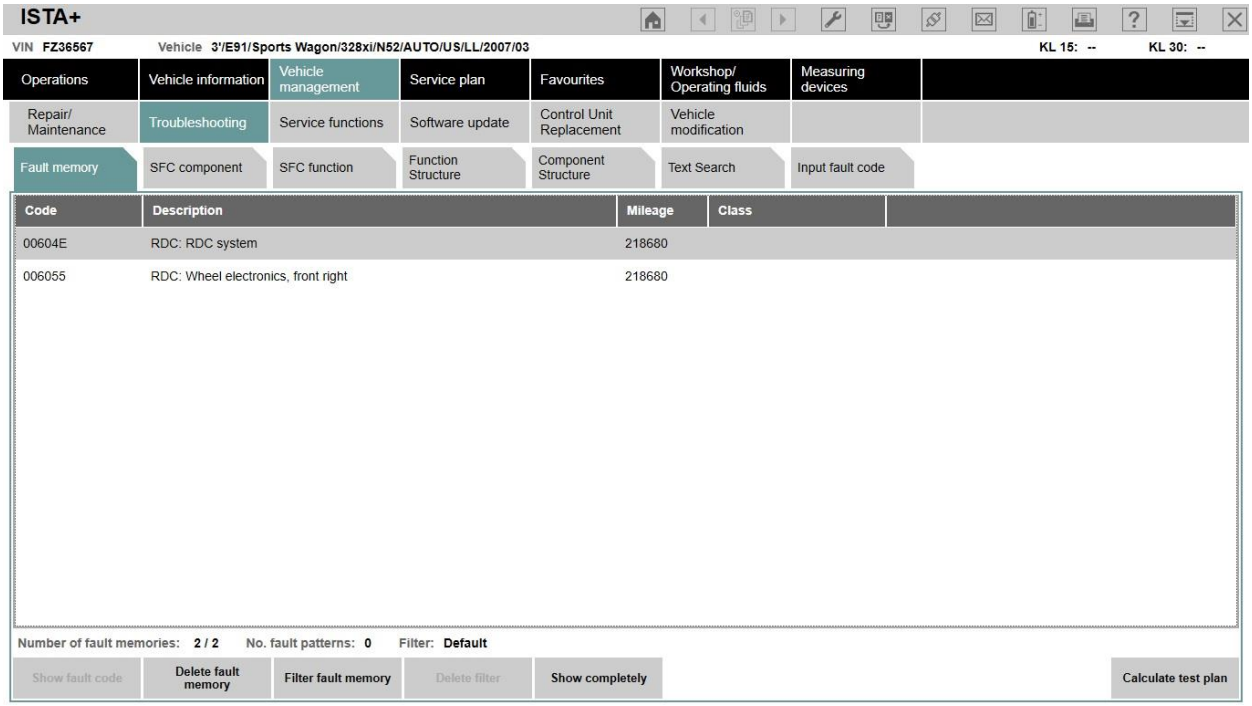




The CU (Control Unit) Tree provides some information that the CU List does NOT, but the LIST is better for beginning or occasional Diagnostics. It makes it easier to understand what the Module Abbreviations stand for and the functions of the system(s) controlled.

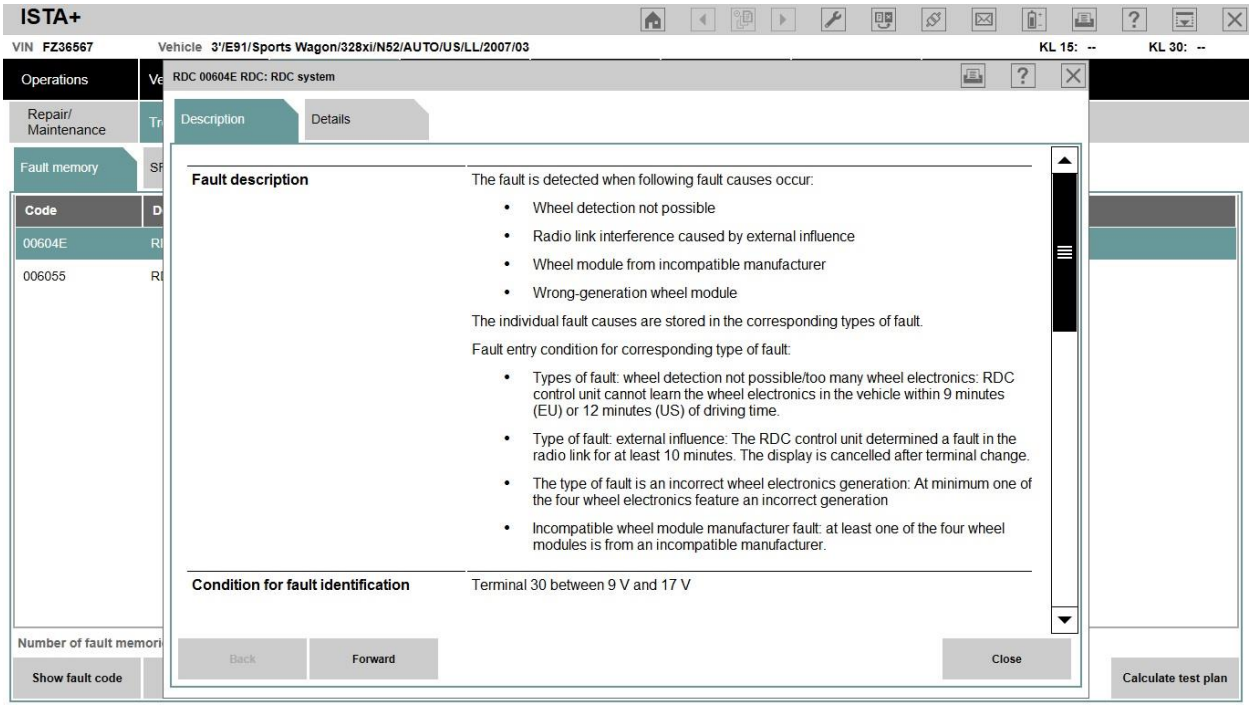
III. Display Fault Memory:

1) Click “Display fault memory” in Action Line, Bottom-Right; Fault Memory List appears:



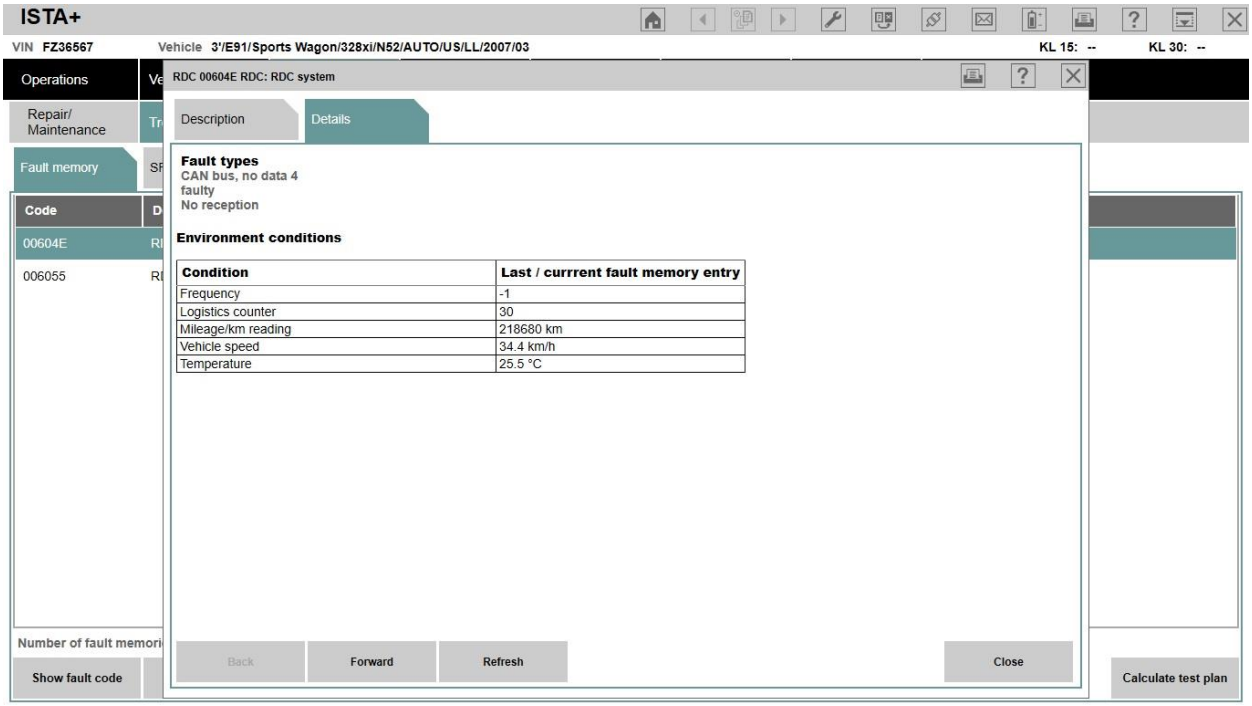
IV. Fault Description of Selected Fault Code:

1) Double-Click the first Fault entry (604E in my case) to see Description Tab for that Fault.



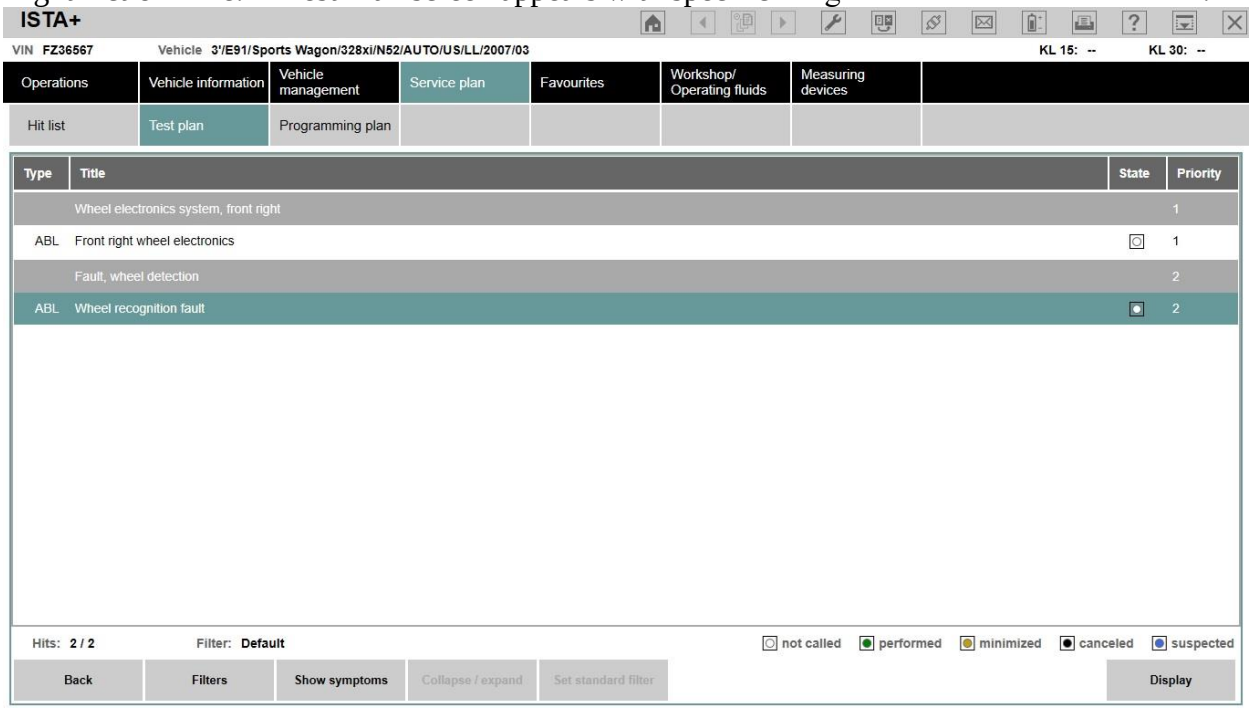
V. Fault Details/ FF Data for Selected Fault Code:

1) Click Details Tab to view Freeze Frame Data & Details:

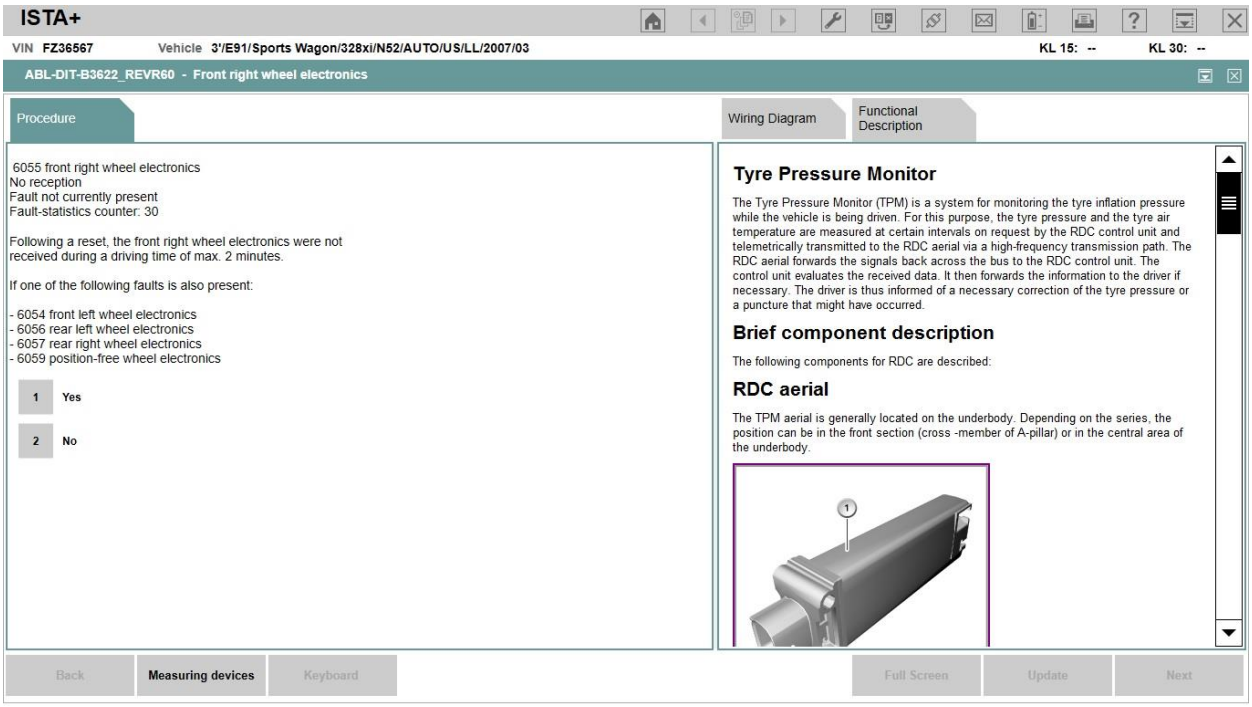


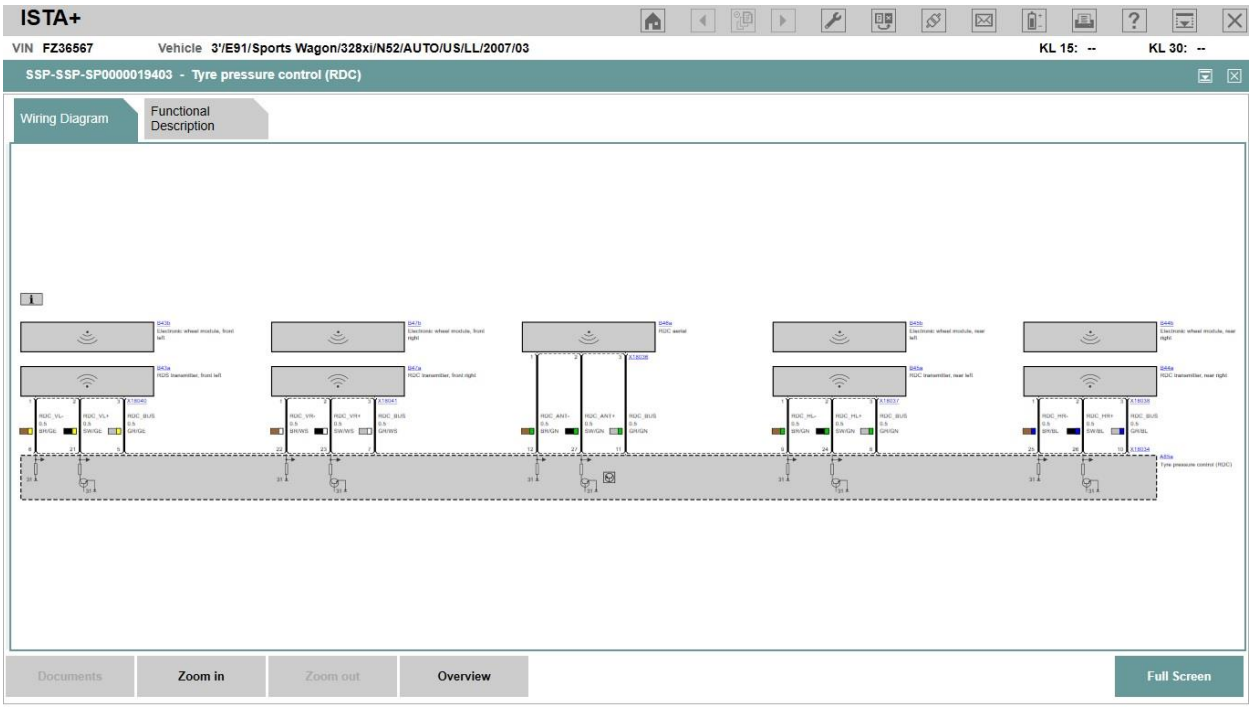
VI. Test Plan; Directed Diagnosis:

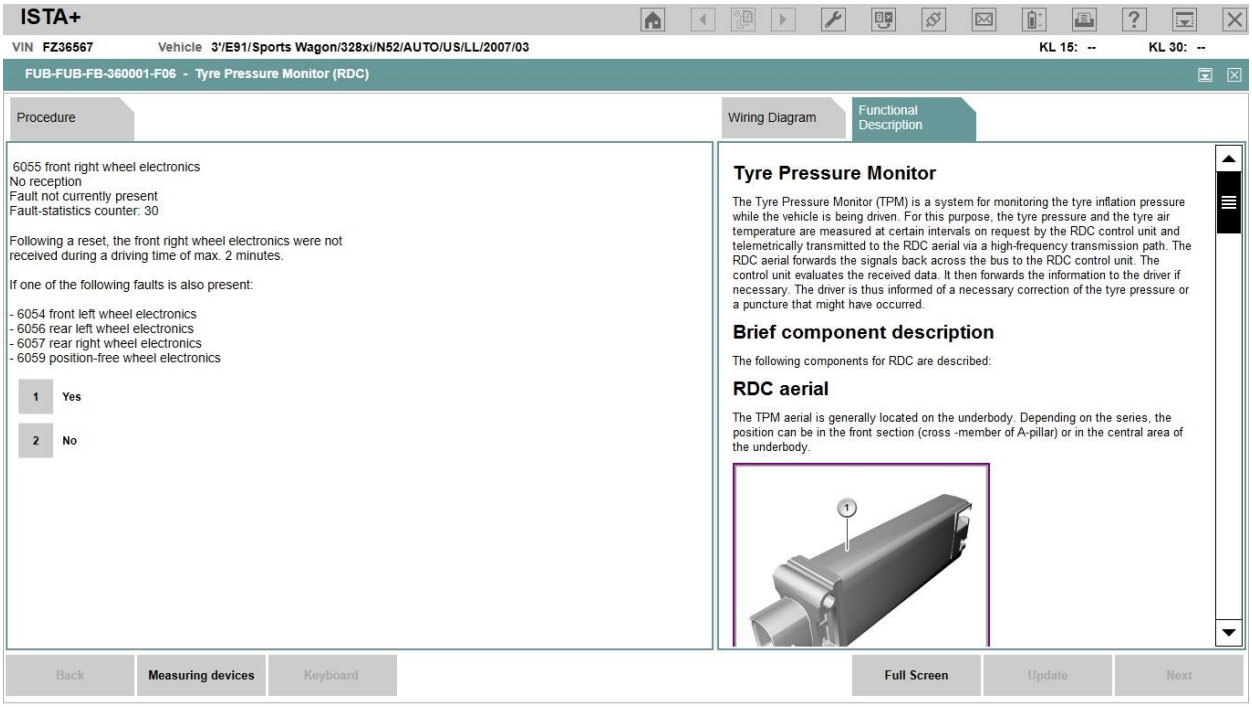
1) At Fault Memory List, Select a Fault Code & click "Calculate Test Plan" button, Bottom-Right Action Line. A Test Plan screen appears with specific Diagnostic Procedures or "ABL".



2) Click 1st ABL and Procedure appears with Reference Tabs for SSP Wiring Diagram (Full Screen shown) and FUB Functional Description of system. Each of 3 tabs shown below:



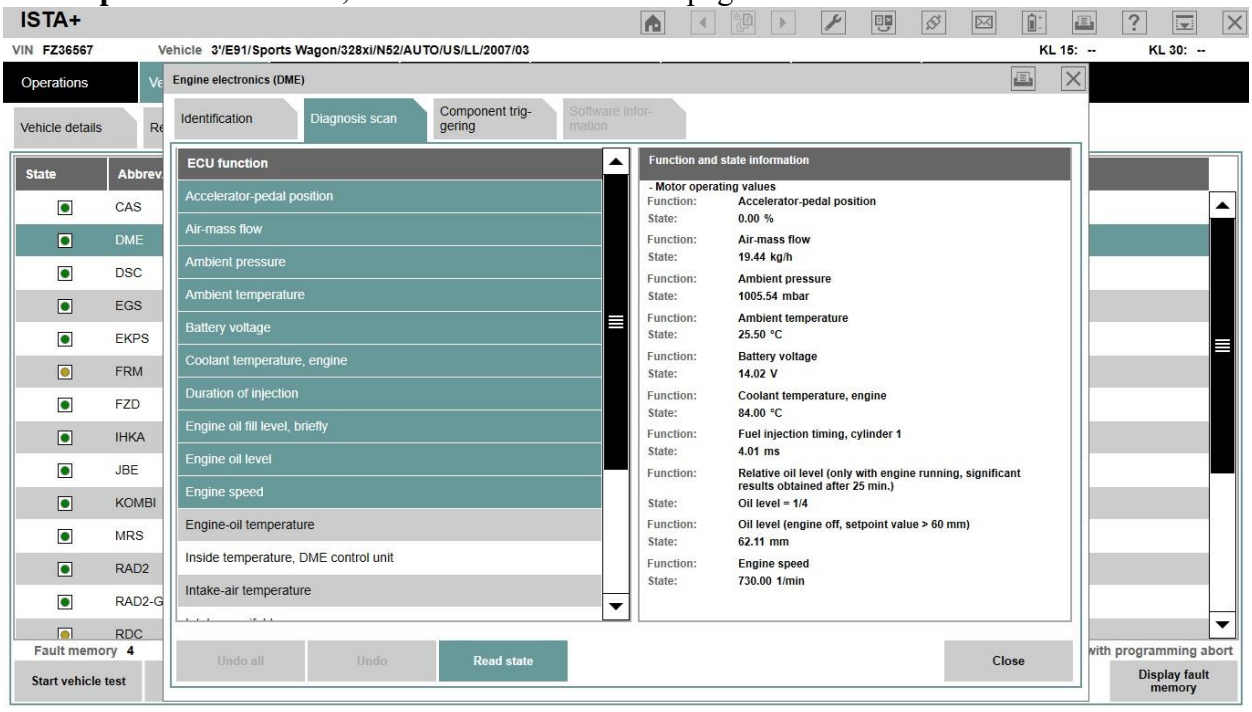


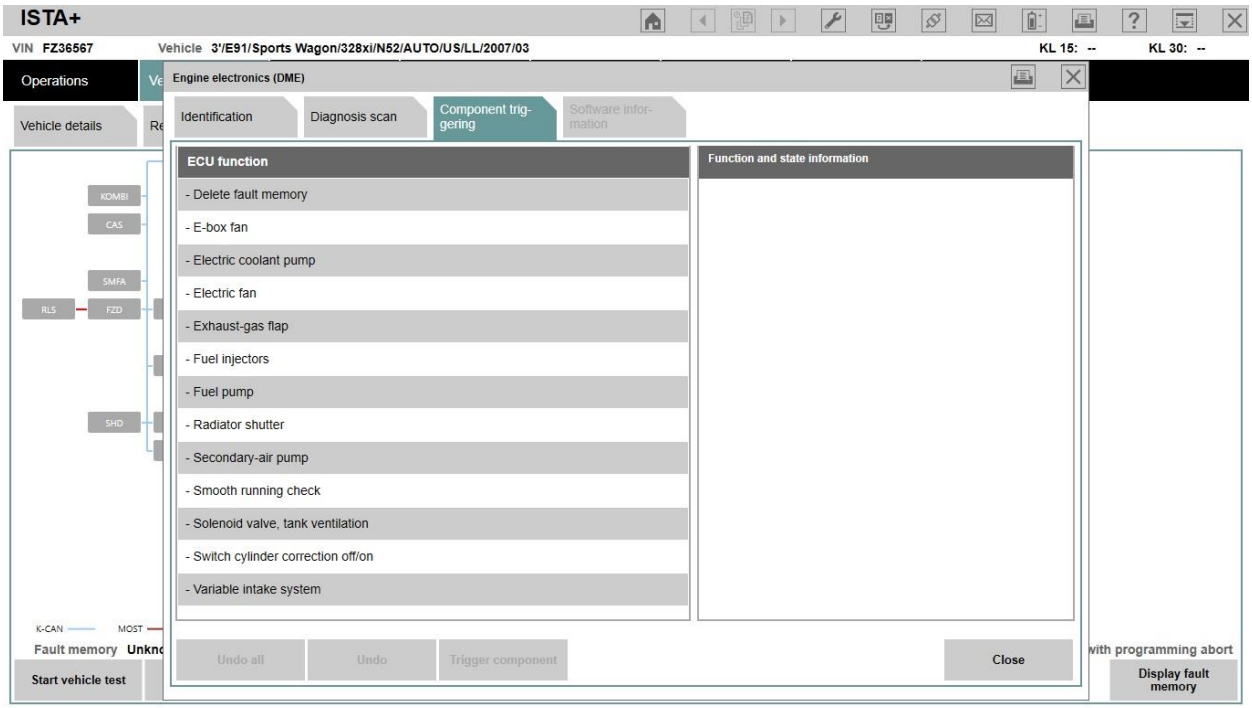


Type of information you get varies depending upon the Fault/System. You can view SSP Wiring Diagrams, FUB Functional Descriptions, & REP Repair Procedures WITHOUT being connected to a vehicle, using "Text search" Tab, "Component Structure" Tab, etc.

VII. <u>Connect to a Module: ID, Live Data, Trigger/Activate:</u>

1) Select/Click Module Rectangle/Line in Control Unit Tree or Control Unit List, and then click "**Call up ECU functions**", as described at bottom of page 3 of this Tutorial:





Diagnosis Scan Tab: select any/all of the parameters and click on "Read State" button to view Live Data for selected Parameters. Click Read State button again to exit, & Undo buttons to go to different screen.
Triggering Tab: Select component & click "Trigger component" button.
"State/Status" and "Trigger/Activation" vary by Module selected. Clearing Fault Codes/ "Delete Fault Memory" is found in the "Trigger" tab of most Modules, including the DME.

As long as you know it's there and HOW to access it, you can test the functions yourself. ONLY caveat is READ CONDITIONS for Triggering/Activation BEFORE pressing the "Trigger Component" button.

VIII. Saving/ Posting ScreenPrints:

1) Have a photo editor (such as "Paint" – Windows Accessory) open & running in background BEFORE you open ISTA;
2) Open screen to be Saved; press PrtSc to "print screen"/save it in temp memory;
3) Alt+Tab to navigate to Paint; Ctrl+V to paste screenprint to Paint;
4) SaveAs jpg file format in Folder/Subfolder of your choice, with helpful descriptive name.
5) In Paint, press Ctrl+N to clear screen to be ready for NEW "Paste & SaveAs".

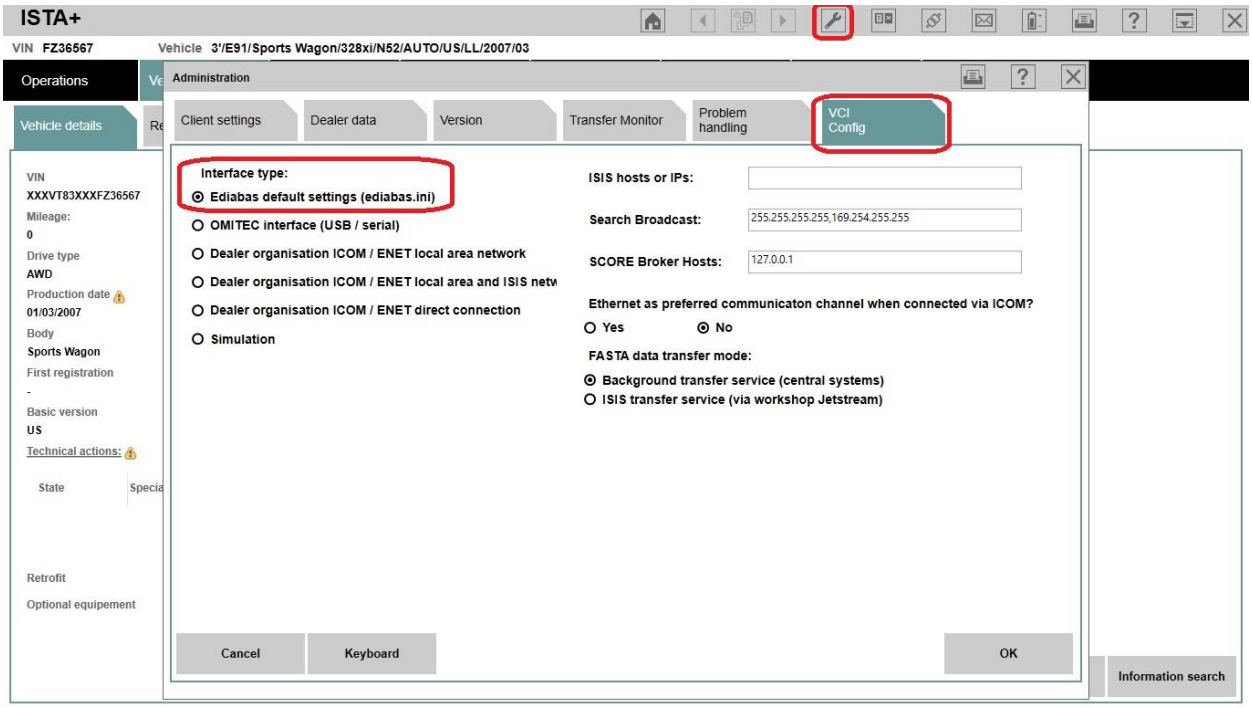
JPG Format ScreenPrints saved that way may be Attached to Forum Posts so we can ALL see what you see on your screen. Best way to get Forum Help from other ISTA users.

IX. Appendix:

A. *Administration > VCI Config > Ediabas default settings:*

If you are having trouble connecting to vehicle as described in Section I of this pdf, check the following as shown in the next ScreenPrint:

1) Click the Wrench/Spanner Icon in Symbol Bar, at top of Screen, Red Outline Below;
2) Administration Dialog box with 6 Tabs appears; Select 'VCI Config' Tab;
3) Under 'Interface type', click radio button: 'Ediabas default settings (ediabas.ini)



Please post to forum if you encounter ANY problem performing steps in this Tutorial, or in connecting to Vehicle.