



NEW HOLLAND

TG210

TG230

TG255

TG285

Electronic Service Tool User's Manual



Electronic Service Tool - TG210, TG230, TG255, TG285

Electronic Service Tool - TG210, TG230, TG255, TG285

General Information	2
Connecting the Electronic Service Tool	3
Electronic Service Tool Computer Port Identification	4
Electronic Service Tool Cable Connections	5
Selecting the Vehicle Application	9
Controller Status Screen	11
Application Title	13
Tool Bar (Screen Function) Identification Icon	13
Screen Function Identification	14
Minimize, Restore, Maximize, and Close Buttons	15
Controller Identification Window	15
Function Buttons (Dark = Active; Gray = Inactive)	16
Comm Link Status (Communication Status)	16
Pull Down Menus	17
Using Pull Down Menus	18
File	18
Tool	19
View	20
Communication	21
Window	21
Help	22
Controller Status	23
Controller Version Information — One Controller	24
Controller Version Information — All Controllers	26
User Entry Labels	28
Save Information to Disk	29
Open File From Disk	30
Retrieve Controller Faults Screen	34
View Faults — One Controller	35
View Controller Faults — All Controllers	37
User Entry Labels and Save Information to Disk	39
Open File From Disk	41
Troubleshoot Problem	43
View Current Faults	45
Monitor Screen	49
Save File	55
Open File	57
Parameter Update Rate	59
Metric and English Display Settings	60
Troubleshooting with the Electronic Service Tool Monitor Screen	60
NOT UPDATED	62
Monitor Signals From Different Sources	63
NOT UPDATED	65
Monitoring Data Bus Communication	65
Programming Screen	67

Set Up Controllers For Downloading	69
Select a File For Downloading	71
Download File Information.	73
Download File	74
Download Status	77
Additional Tools	79
Starting the Engine Diagnostic Tool	80
Starting the Engine Diagnostic Tool Help	81
Starting the Engine Calibration Download Tool.	82
Configuration	84
Configure Selected Item	85
Troubleshoot Problem	89
Troubleshoot Problem Screen Tools (Screen Function) Icons	91
Viewing Fault Information	92
Linked Troubleshooting Information	96
Back Button.	98
Components Information.	101
Schematics Information.	105
Location Information	109
Help On Item.	113
User Help	116
Contents Tab.	117
Index Tab	117
Find Tab	118
Print Button	118
Exit	118
Shutting Down the Electronic Service Tool.	119

Electronic Service Tool User's Manual

1

Electronic Service Tool - TG210, TG230,
TG255, TG285

Electronic Service Tool - TG210, TG230, TG255, TG285

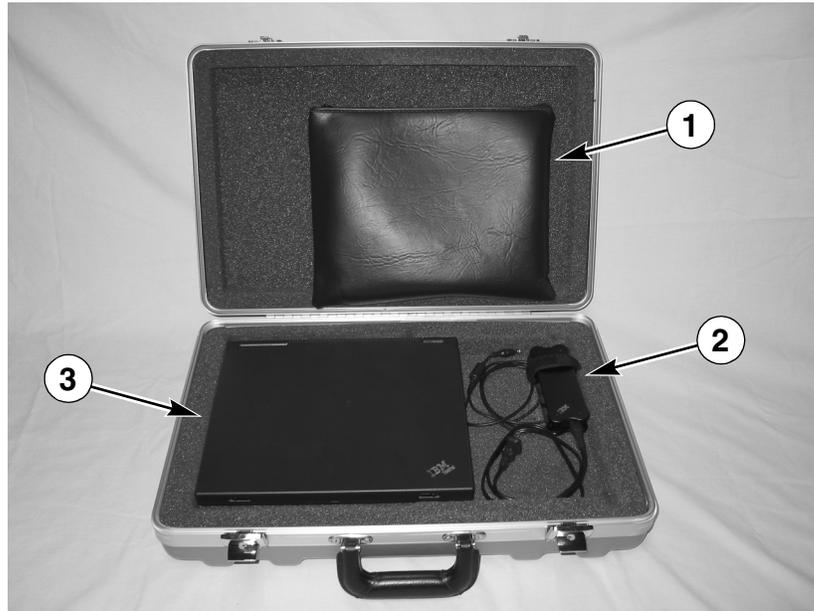
Section 1: General Information

The Electronic Service Tool is a laptop computer based service and diagnostic tool that communicates with the vehicle (tractor, combine, implement, etc.) data bus. The Electronic Service Tool will:

- Display the controller software version information.
- Retrieve fault codes stored within controllers.
- Monitor switch and sensor parameter information.
- Download software to controllers.
- Provide a Windows based link to the Engine Diagnostic Tool, Engine Diagnostic Tool Help, and Engine Calibration Download Tool.
- Configure vehicle features relating to the specific model.
- Provide troubleshooting and diagnostic information.

Section 2: Connecting the Electronic Service Tool

The Electronic Service Tool consists of the following:

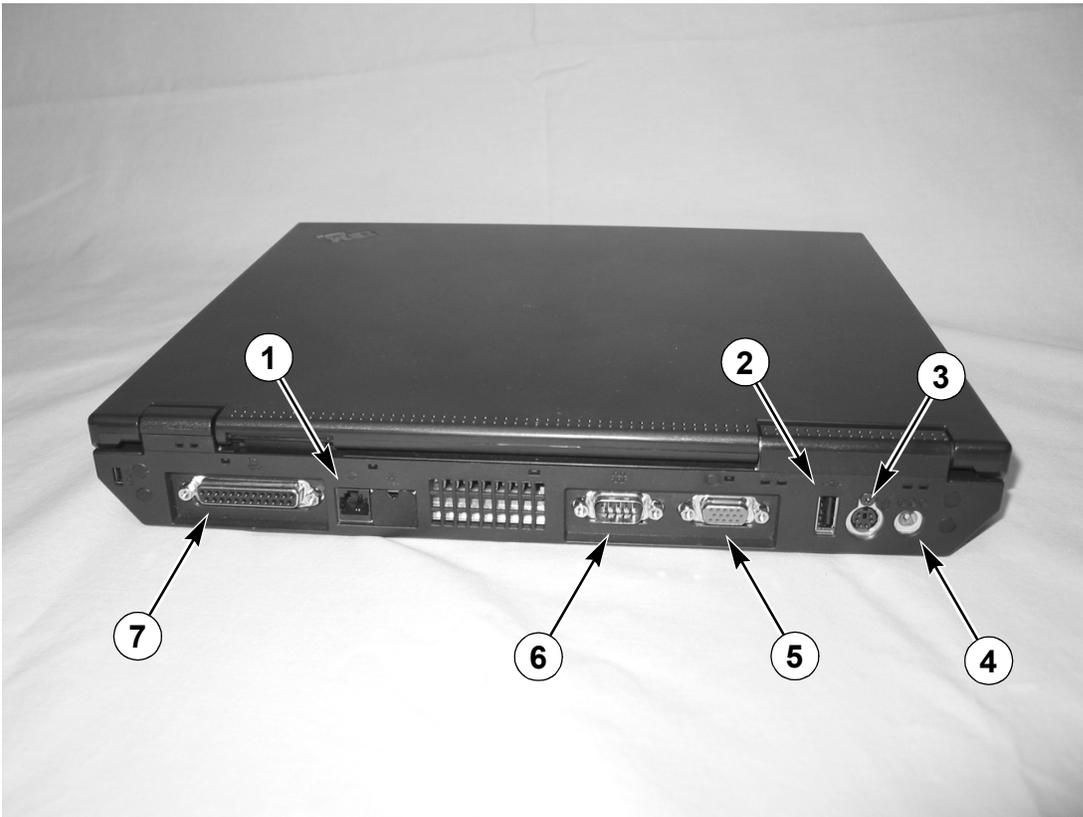


EST522-11

Item Number	Description
Identification Guide - Locations and appearance of some components may vary.	
1	CAS40048 Pouch - Used to store various adapters.
2	Laptop Computer AC Power Cord
3	Electronic Service Tool Laptop Computer

Electronic Service Tool Computer Port Identification

Remove the Electronic Service Tool laptop computer from the carrying case. The back of the computer is equipped with ports to connect the computer to the vehicle..



EST522-10

Item Number	Description
Identification Guide - Locations and appearance of some components may vary.	
1	Modem
2	USB Port (Universal Serial Bus) - Used for a variety of peripheral devices (scanners, printers, etc.)
3	PS2 Port - Used for external mouse or keyboard (not supplied).
4	AC Power Socket
5	Video Port - Used for external monitor
6	Serial Port - Used as a connection point for the Electronic Service Tool interface harness cable (CAS2580 gray RS232 cable).
7	Parallel Port

Electronic Service Tool Cable Connections

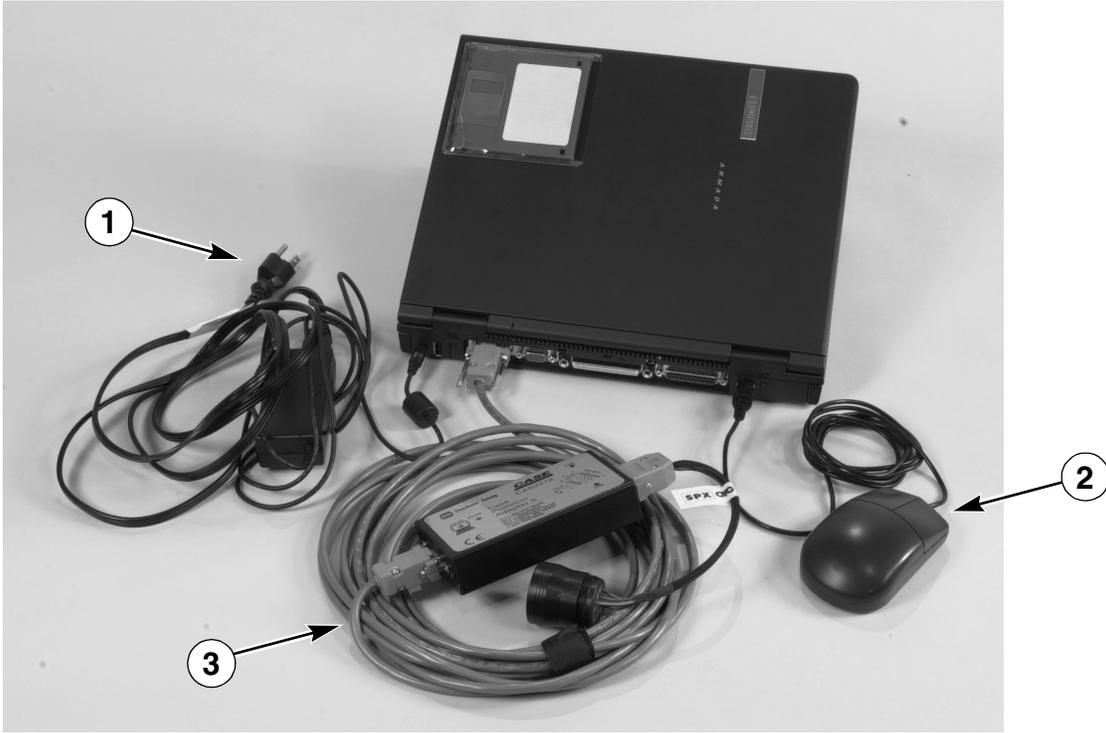
When the external (communication and power) harnesses are connected, the Electronic Service Tool will look as shown.



EST522-9

Item Number	Description
Identification Guide - Locations and appearance of some components may vary.	
1	Electronic Service Tool Laptop Computer
2	AC Power Cord
3	CAS2580 Electronic Service Tool Interface Harness Cable (RS232 Gray Cable) - Used to connect vehicle communication adapters to Electronic Service Tool serial port.

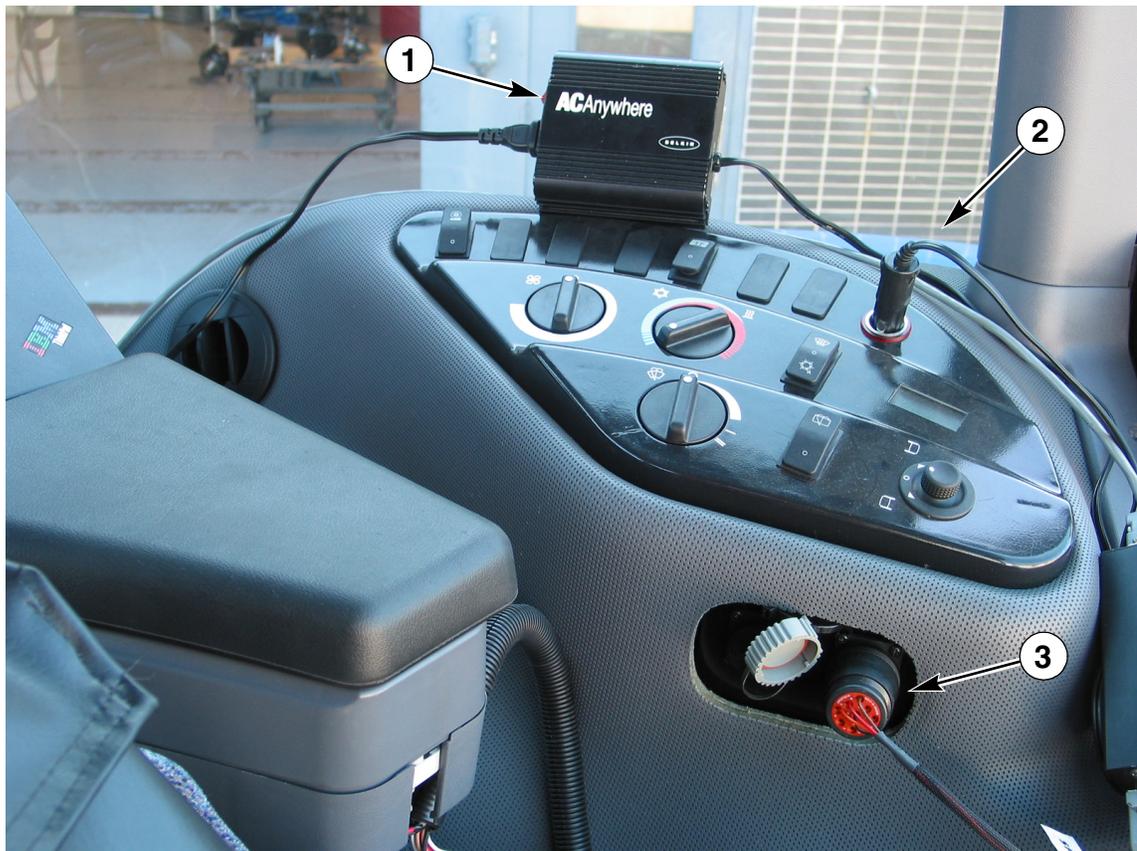
When the external (vehicle and user) harnesses are connected, the Electronic Service Tool will look as shown.



RR00J035

Item Number	Description
Identification Guide - Locations and appearance of some components may vary.	
1	AC Power Cord
2	External Mouse (not supplied)
3	Protocol Adapter (Dearborn CAS2578) Electronic Service Tool Interface Harnesses (CAS2579) Gray Computer Cable (CAS2580)

Install the interface harness and protocol adapter (Dearborn interface box) to the vehicle diagnostic connector. Connect the DC to AC power convertor to the vehicle cigar lighter as shown.



RR00J048

Item Number	Description
Identification Guide - Locations and appearance of some components may vary.	
1	DC to AC Power Convertor
2	Cigar Lighter Socket
3	CAN Programming/Diagnostic Connector - Connect to the Electronic Service Tool using: <ul style="list-style-type: none"> • CAS2580 RS232 adapter cable • CAS2578 protocol adapter • CAS2579 adapter cable

Place the Electronic Service Tool in a safe location near the power supply. Protect the cords to prevent damage to the Electronic Service Tool during use.



RY02T002

Item Number	Description
Identification Guide - Locations and appearance of some components may vary.	
1	Battery and Floppy Drive Indicators
2	DC to AC Power Converter
3	Protocol Adapter
4	CAN Programming/Diagnostic Connector - Connect to the Electronic Service Tool using: <ul style="list-style-type: none"> • CAS2580 RS232 adapter cable • CAS2578 protocol adapter • CAS2579 adapter cable
5	Right Mouse Button and Left Mouse Button
6	Electronic Service Tool Laptop Computer

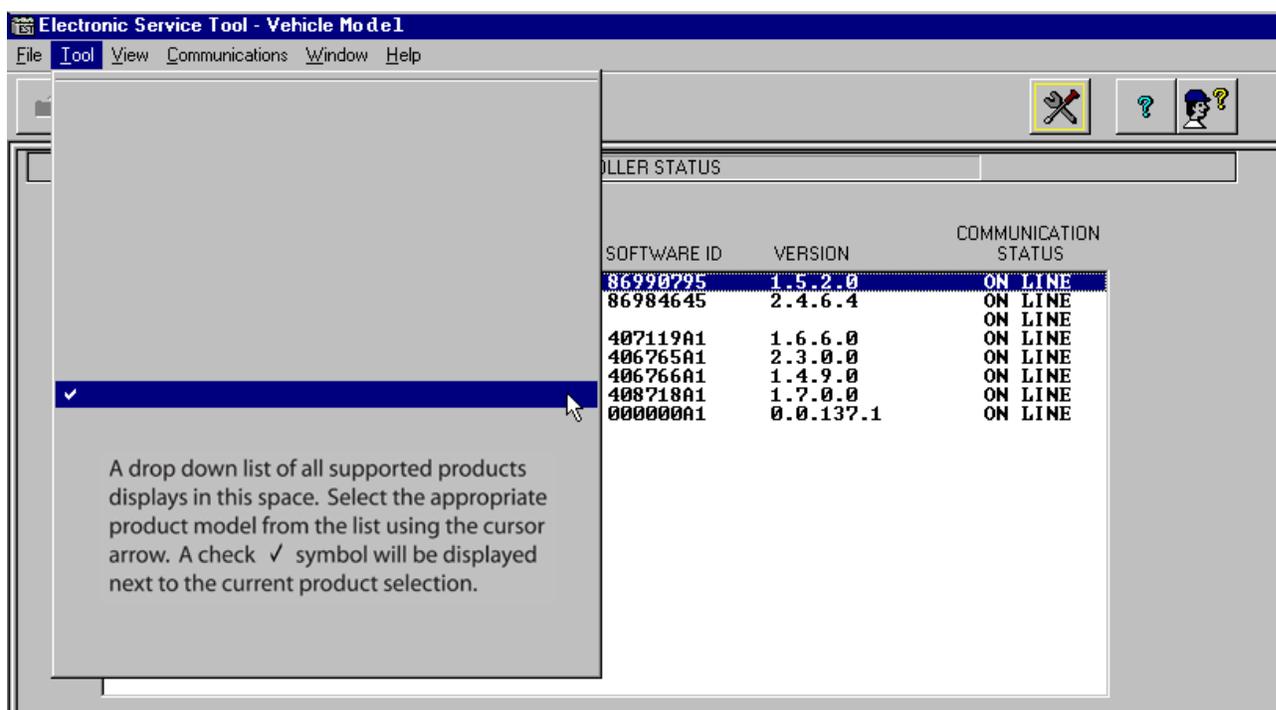
Section 3: Selecting the Vehicle Application

If the Electronic Service Tool is not opened to the appropriate vehicle application (and the appropriate Serial Number), it can be selected using the Tool pull down menu and the appropriate vehicle model (tractor, combine, or other) selection.

Left Click Mouse On: Tool > Appropriate Vehicle Model

Anytime the Electronic Service Tool is started, the CONTROLLER STATUS screen will be displayed. Any of the available Electronic Service Tool applications can be selected from the Tool pull down menu.

To select an application, use the left button of the mouse to click on the Tool pull down menu and select the desired application.



RZ02T001

An Electronic Service Tool screen displays. Using the left button of the mouse, click the OK  button.

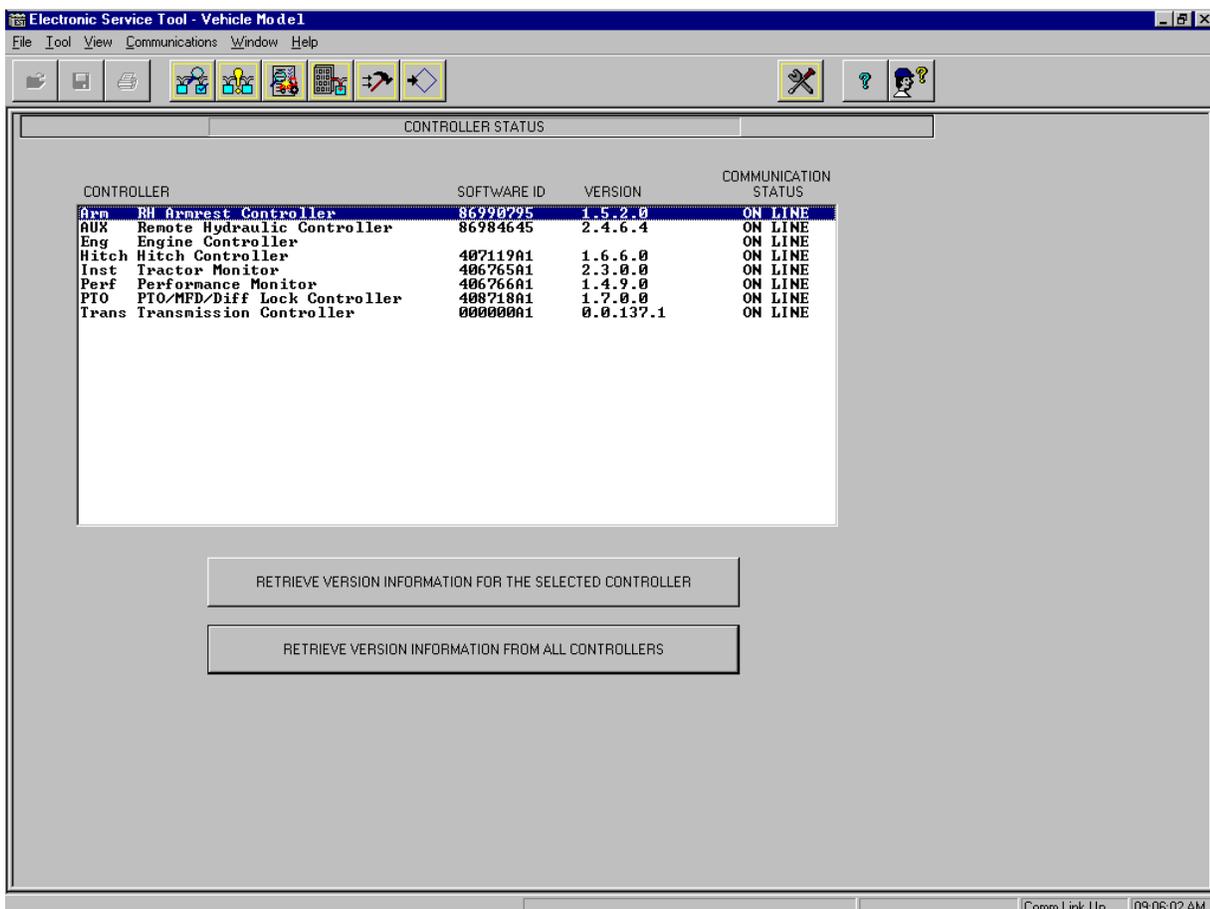
Left Click Mouse On:OK



RZ01G001

The Electronic Service Tool will reconfigure to the application selected. The vehicle application CONTROLLER STATUS screen displays.

Note: *After the Electronic Service Tool has been reconfigured, it can be used in the application selected.*



RZ02T002

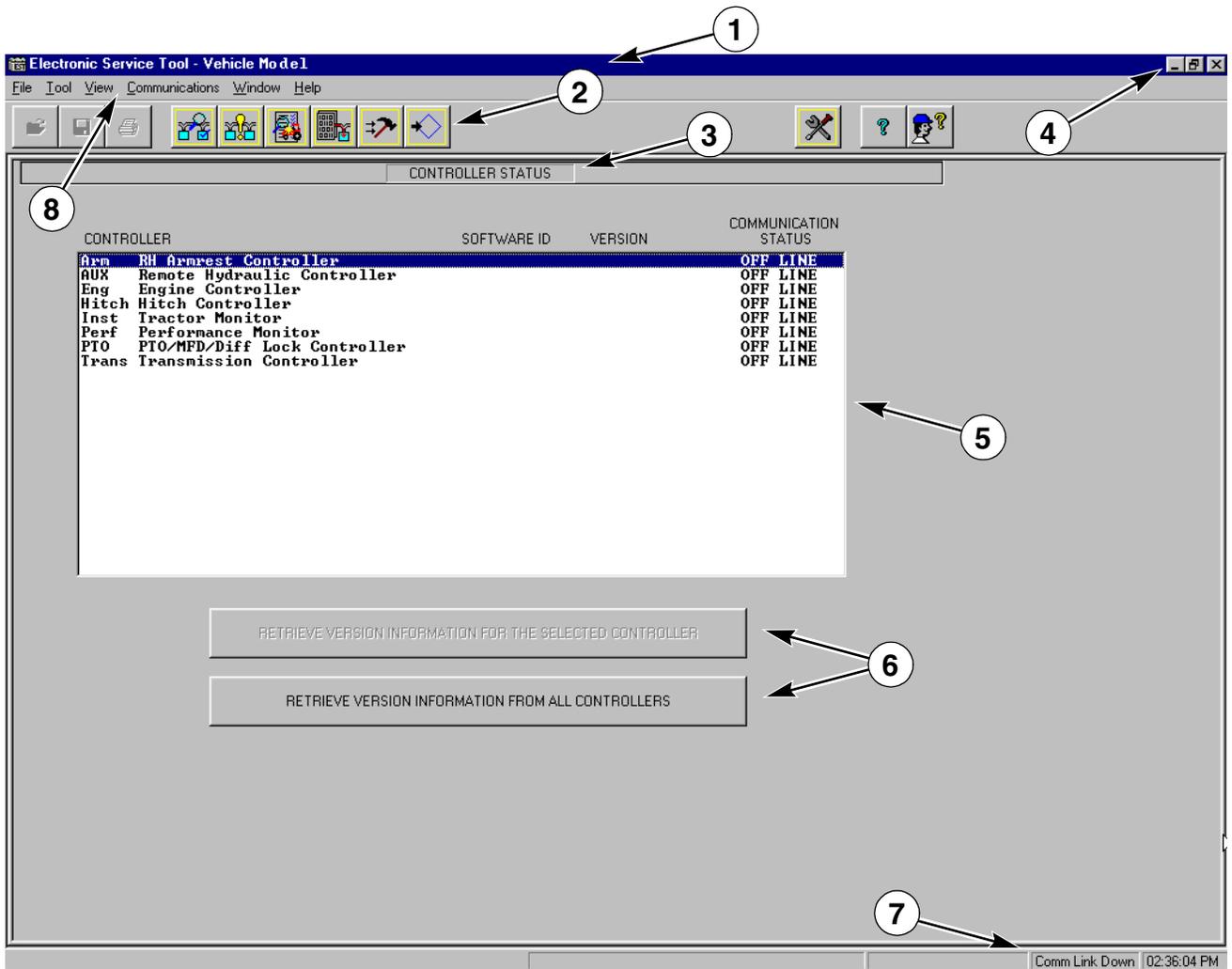
Section 4: Controller Status Screen

As the Electronic Service Tool is started or reconfigured to the vehicle (tractor, combine, other) application, the CONTROLLER STATUS screen will display. The following controllers could be accessed from the CONTROLLER STATUS screen:

- ARM RH Armrest Controller
- AUX Remote Hydraulic Controller
- ENG Engine Controller
- HITCH Hitch Controller
- INST Tractor Monitor
- PERF Performance Monitor
- PTO PTO/MFD/Diff Lock Controller
- TRANS Transmission Controller

CONTROLLER STATUS				
CONTROLLER		SOFTWARE ID	VERSION	COMMUNICATION STATUS
Arm	RH Armrest Controller	86990795	1.5.2.0	ON LINE
AUX	Remote Hydraulic Controller	86984645	2.4.6.4	ON LINE
Eng	Engine Controller			ON LINE
Hitch	Hitch Controller	407119A1	1.6.6.0	ON LINE
Inst	Tractor Monitor	406765A1	2.3.0.0	ON LINE
Perf	Performance Monitor	406766A1	1.4.9.0	ON LINE
PTO	PTO/MFD/Diff Lock Controller	408718A1	1.7.0.0	ON LINE
Trans	Transmission Controller	000000A1	0.0.137.1	ON LINE

RZ02T004



RZ02T111

Item Number	Description
1	Application Title (Electronic Service Tool - Vehicle Model)
2	Tool Bar (Screen Function) Icons
3	Screen Function Identification
4	Minimize, Restore, Maximize, and Close Buttons
5	Controller Identification Window
6	Function Buttons (Dark = Active; Gray = Inactive)
7	Status Bar Comm Link Status (Communication Status)
8	Pull Down Menus

Application Title

The application title is located in the upper left corner of the screen. It identifies what vehicle can be communicated with from this screen.

Important: *Be aware of:*

- The vehicle PIN number
- The engine serial number
- The engine control module part number



RZ01L003

Tool Bar (Screen Function) Identification Icon



RZ01C006

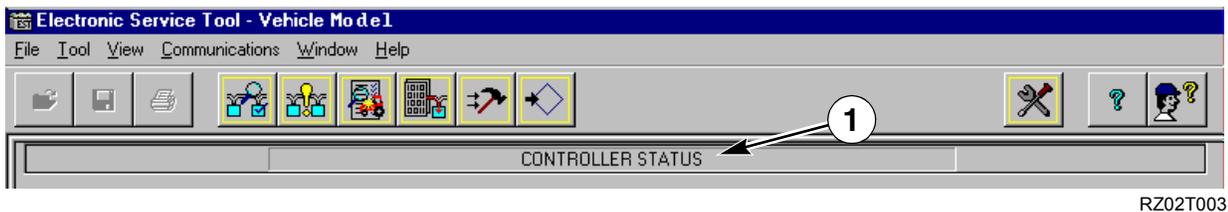
These icons are located in the Tool Bar area of the screen. Each vehicle application has individual functions that can be performed. To move to another function of the Electronic Service Tool, place the cursor arrow over the desired Tool Bar screen function icon. Using the left button of the mouse, click on the icon to transfer to the desired function. Specific purpose for each icon will be discussed with the individual vehicle information in this manual.

Icon Symbol	Icon Name (Function)
	Open File - The Open File command provides a shortcut to open an existing file for the Electronic Service Tool testing and analysis. This command can be used only in Electronic Service Tool screens that provide retrieval of information. In all other screens it is disabled.
	Save File - The Save File command provides a shortcut to save the active window information (including any changes) to a new or an existing file. This command can be used only in Electronic Service Tool screens that provide saving of information to a file. In all other screens it is disabled.
	Controller Status - The Controller Status screen allows the user to identify the Software ID, Software Version, the Communication Status, and retrieve version information from all controllers.
	Retrieve Controller Faults - The Retrieve Controller Faults screen allows the user to read individual controller fault information. Faults can be retrieved from a single controller or all controllers.
	Monitor - The Monitor screen allows the user to view inputs (parameters) to each of the controllers.
	Programming - The Programming screen allows the user to view the controller software information installed in each of the controllers. It also allows the user to download updated software to each of the controllers.

Icon Symbol	Icon Name (Function)
	Additional Tools - In this application, the Additional Tool screen provides a link to: <ul style="list-style-type: none"> • Start the Engine Diagnostic Tool • Start the Engine Diagnostic Tool Help • Start the Engine Calibration Download Tool
	Configure - The Configure screen allows the user to configure: <ul style="list-style-type: none"> • Fuel Tank Size Selection • Vehicle Model Selection
	Troubleshoot Problem - The Troubleshoot Problem screen allows the user to: <ul style="list-style-type: none"> • View diagnostic fault code information for all controller faults • View vehicle component information • View vehicle schematic information • View vehicle component locations
	Help On Item - The Help On Item screens provide information concerning how to operate the Electronic Service Tool screen functions.
	User Help - The User Help screen provides help information on the Electronic Service Tool application.

Screen Function Identification

This screen area is located in the upper center part of the screen. It identifies the current screen function (CONTROLLER STATUS shown).



Item Number	Description
1	Screen Function Identification (CONTROLLER STATUS shown)

Minimize, Restore, Maximize, and Close Buttons



This area is located in the upper right corner of the screen. The buttons allow the user to:

-  Minimize the Electronic Service Tool screen. This button is used to reduce the window size. The window is open but it is represented by a button in the task bar.
-  Restore the Electronic Service Tool screen. This button is used to return a window to its previous size.
-  Maximize the Electronic Service Tool screen. This button is used to increase the window to its largest possible size.
-  Close the Electronic Service Tool application. This button is used to close the application.

Controller Identification Window

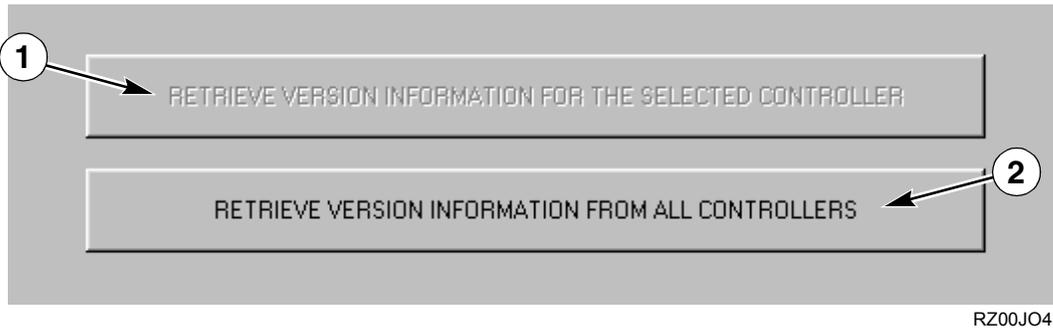
This screen area is located in the center of the screen. It identifies the controllers that can be communicated with from this application, software identification, and individual controller communication status.

CONTROLLER STATUS				
CONTROLLER		SOFTWARE ID	VERSION	COMMUNICATION STATUS
Arm	RH Armrest Controller	86990795	1.5.2.0	ON LINE
AUX	Remote Hydraulic Controller	86984645	2.4.6.4	ON LINE
Eng	Engine Controller			ON LINE
Hitch	Hitch Controller	407119A1	1.6.6.0	ON LINE
Inst	Tractor Monitor	406765A1	2.3.0.0	ON LINE
Perf	Performance Monitor	406766A1	1.4.9.0	ON LINE
PTO	PTO/MFD/Diff Lock Controller	408718A1	1.7.0.0	ON LINE
Trans	Transmission Controller	000000A1	0.0.137.1	ON LINE

RZ02T004

Function Buttons (Dark = Active; Gray = Inactive)

The function buttons can be located in various areas of the screen. They allow specific information to be gathered from the vehicle controllers. If the function button is dark, it is currently active and can be used to gather information from the controller(s). If the button is gray, it is not currently active and can not be used to gather information from the controller(s). Additional information will be discussed with the individual vehicle information in this manual.



Item Number	Description
1	Retrieve Version Information For the Selected Controller (Inactive Button) - Function buttons which appear in gray text will not operate as the left button of the mouse is used to click the function.
2	Retrieve Version Information For All Controllers (Active Button) - Function buttons which appear in dark text will operate as the left button of the mouse is used to click the function.

Comm Link Status (Communication Status)

This area is located in the lower right corner of the screen. It allows the user to identify the communication status with the vehicle.

Note: If Comm Link Down is displayed in the Comm Link Status area of the screen, ALL controllers will be OFF LINE.



Pull Down Menus

The pull down menus allow the user to:

1. Exit the Electronic Service Tool Application.

Left Click Mouse On:File

2. Change Electronic Service Tool Application.

Left Click Mouse On:Tool

3. Adjust Electronic Service Tool functions.

Left Click Mouse On:View

4. Reset Electronic Service Tool communication link.

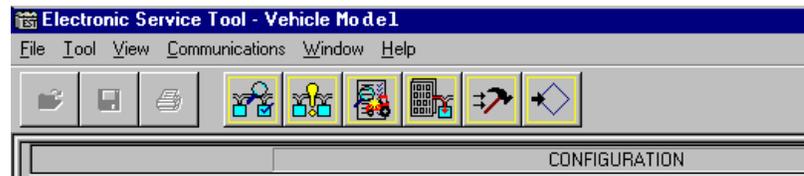
Left Click Mouse On:Communication

5. Change Electronic Service Tool screen function.

Left Click Mouse On:Window

6. Research Electronic Service Tool help information and version number.

Left Click Mouse On:Help

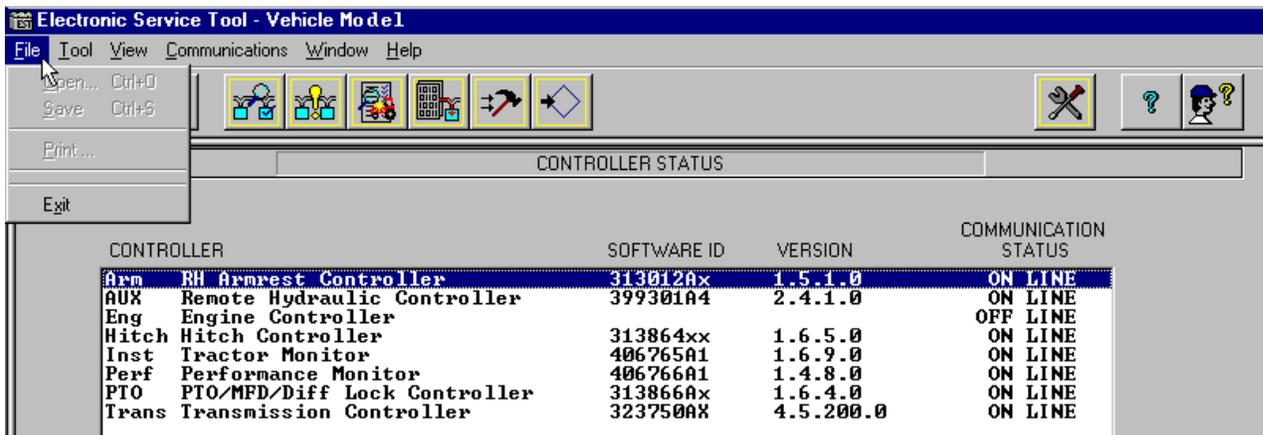


RZ02T005

To operate a pull down menu, use the left button of the mouse to click on the pull down menu name, then the selection below.

Left Click Mouse On:File > Exit

Note: *If part of the pull down menu is dark, it is currently active and can be selected from the menu. If part of the pull down menu is gray, it is currently inactive and can not be selected from the menu.*



RZ02T006

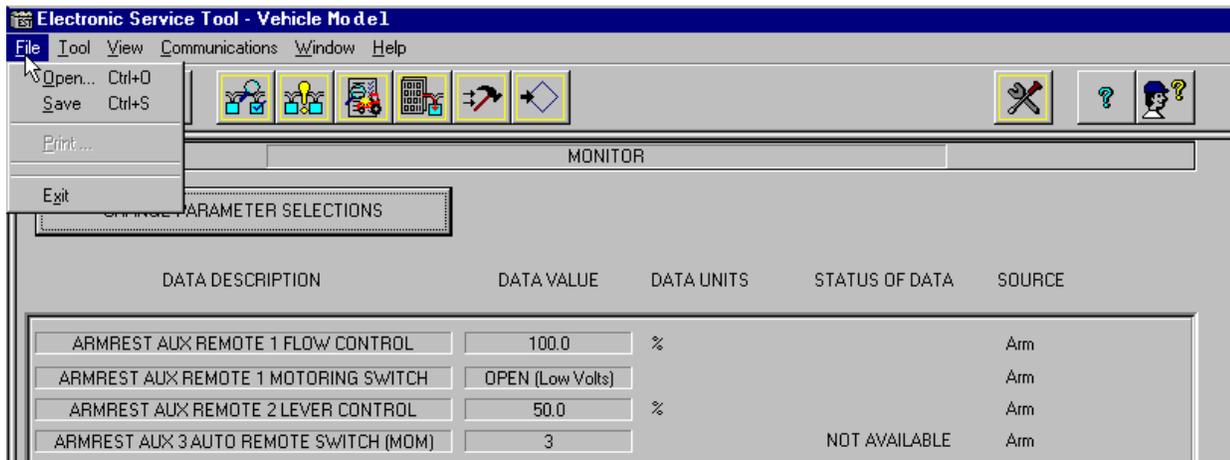
Section 5: Using Pull Down Menus

At the top of the screen below the application title are the following pull down menus:

File

The File pull down menu allows:

- Files to be opened.
Left Click Mouse On:File > Open
- Files to be saved.
Left Click Mouse On:File > Save
- Files to be printed.
Left Click Mouse On:File > Print
- The user to exit the Electronic Service Tool.
Left Click Mouse On:File > Exit



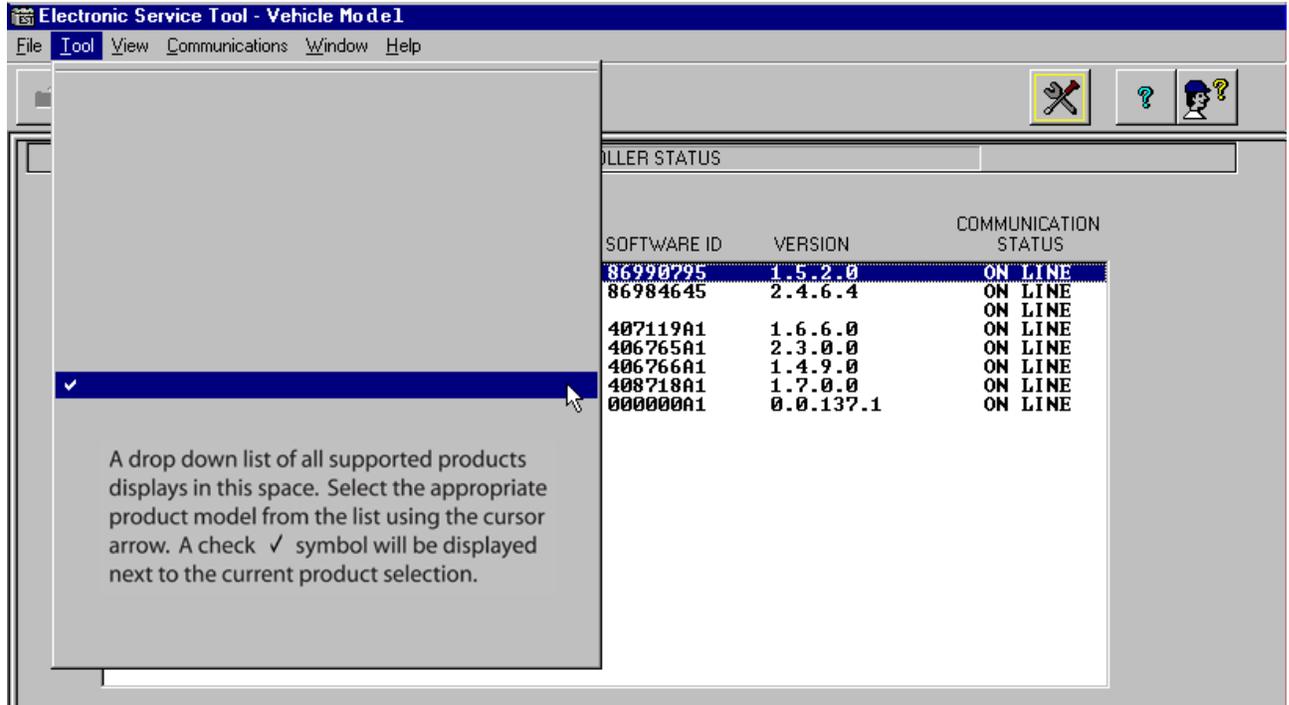
RZ02T007

Tool

The Tool pull down menu allows:

- Changing Electronic Service Tool applications.

Left Click Mouse On: Tool > appropriate vehicle selection

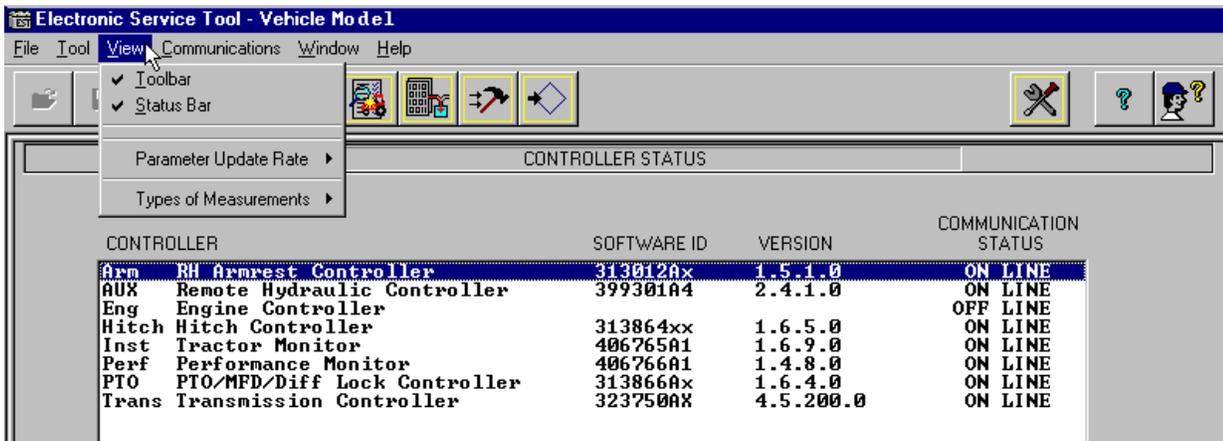


RZ02T001

View

The View pull down menu allows:

- Activating the Tool Bar. When activated, the Tool Bar is illustrated with a check mark symbol).
Left Click Mouse On:View > Toolbar
- Activating the Status Bar. When activated, the Tool Bar is illustrated with a check mark symbol).
Left Click Mouse On:View > Status Bar
- Deactivating the Tool Bar.
Left Click Mouse On:View > Toolbar
- Deactivating the Status Bar.
Left Click Mouse On:View > Status Bar
- Adjusting the rate the screen values are updated.
Left Click Mouse On:View > Parameter Update Rate > 2 seconds
- The Electronic Service Tool Screens to be displayed in English or Metric units.
Left Click Mouse On:View > Type of Measurements > English



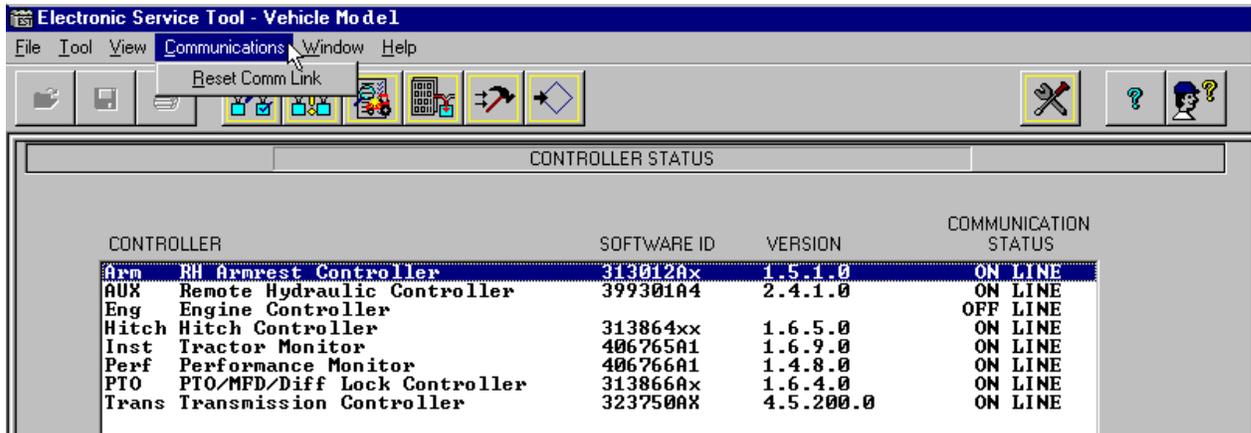
RZ02T008

Communication

The Communication pull down menu allows:

- The Electronic Service Tool communication link to be reset.

Left Click Mouse On: Communications > Reset



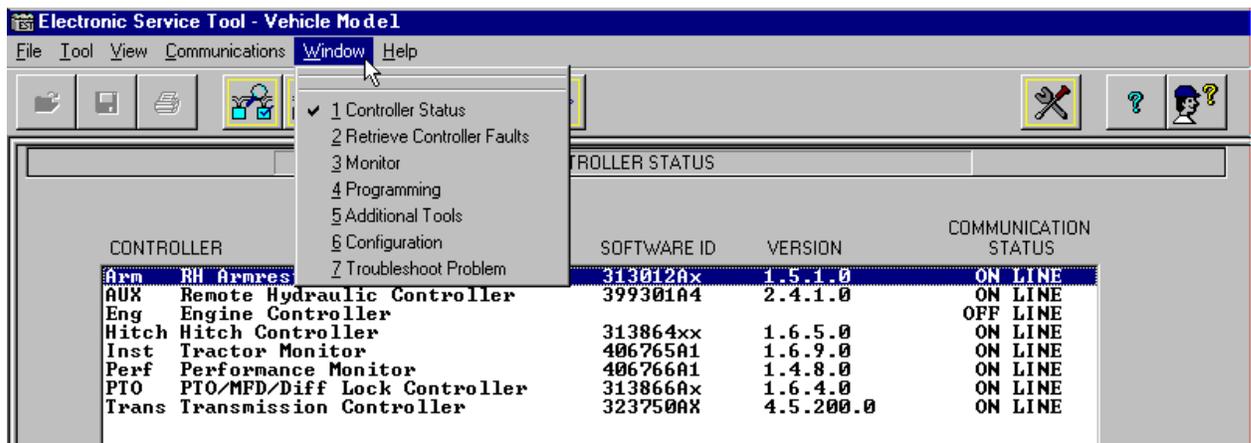
RZ02T009

Window

The Window pull down menu allows:

- Changing screen function windows in a manner similar to selecting an icon from the Tool Bar. The current screen selection is illustrated with a check mark symbol.

Left Click Mouse On: Window > Controller Status

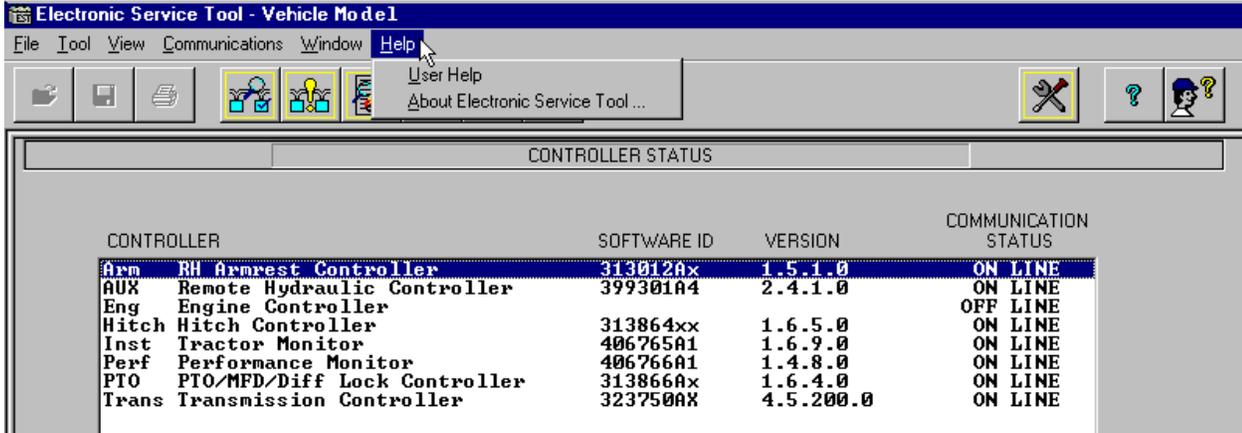


RZ02T010

Help

The Help pull down menu allows:

- Search help subjects of the Electronic Service Tool.
Left Click Mouse On: Help > User Help
- Electronic Service Tool software version verification.
Left Click Mouse On: Help > About Electronic Service Tool



RZ02T011

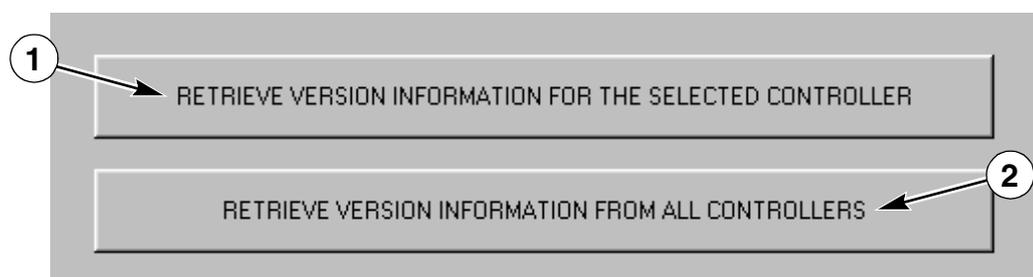
Section 6: Controller Status

From the CONTROLLER STATUS window, controller version information can be obtained. Controller version information is used to determine if the hardware and software installed are compatible with the customer needs and are updated properly.

Controller version information contains:

- Controller Name
- Boot Code Information
- Manufacturing ECU ID
- Hardware ID
- Software ID
- Software Version

To view the controller version information:



RZ00M137

Item Number	Description
1	Retrieve Version Information For The Selected Controller button - To view controller information from an individual controller, use the left button of the mouse to select the controller in the controller list to view version information from. As the controller is selected the name of the controller will be highlighted (darkened). To view the controller version information, use the left button of the mouse to click on the RETRIEVE VERSION INFORMATION FOR THE SELECTED CONTROLLER button in the lower center portion of the screen.
2	Retrieve Version Information From All Controllers button - Selecting this button will display the controller version information from all controllers.

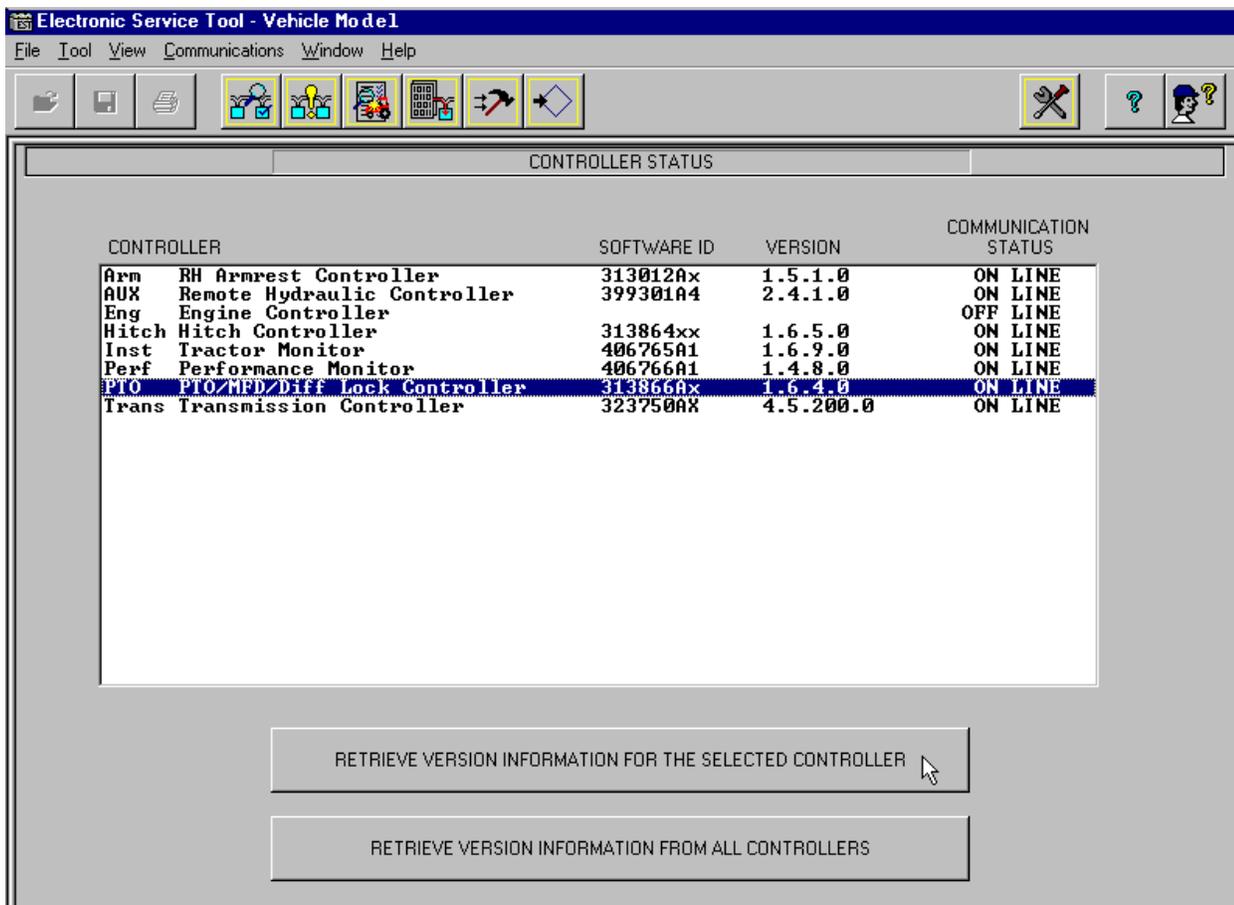
Controller Version Information — One Controller

Controller Version information contains:

- Controller Name
- Boot Code Information
- Manufacturing ECU ID
- Hardware ID
- Software ID
- Software Version

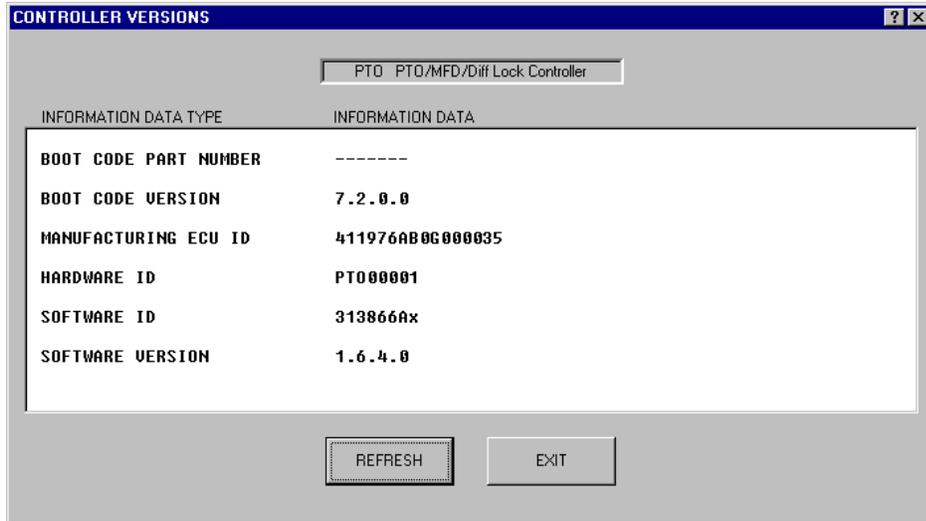
To view controller version information from an individual controller, use the left button of the mouse to select the desired controller. As the controller is selected the name of the controller will be highlighted (darkened).

To view the controller version information, use the left button of the mouse to click on the RETRIEVE VERSION INFORMATION FOR THE SELECTED CONTROLLER button in the lower center portion of the screen.



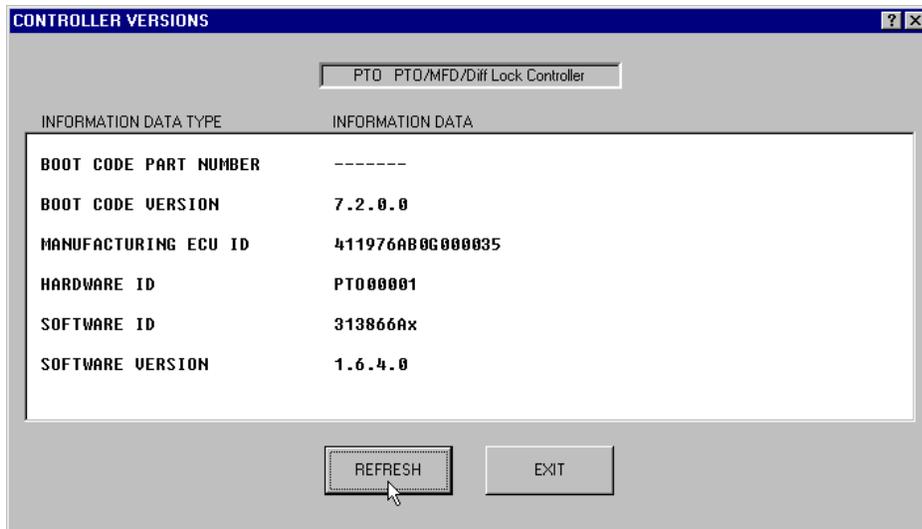
RZ02T012

A CONTROLLER VERSIONS screen will be displayed.



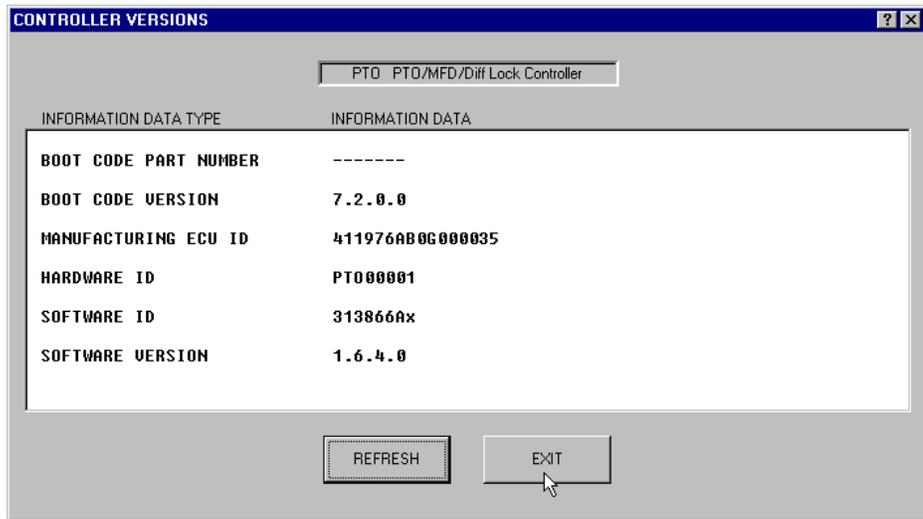
RZ02T013

Note: The refresh  button is used to update the information on the screen. Use the left button of the mouse to click on the refresh button and the display of the screen will be updated.



RZ02T014

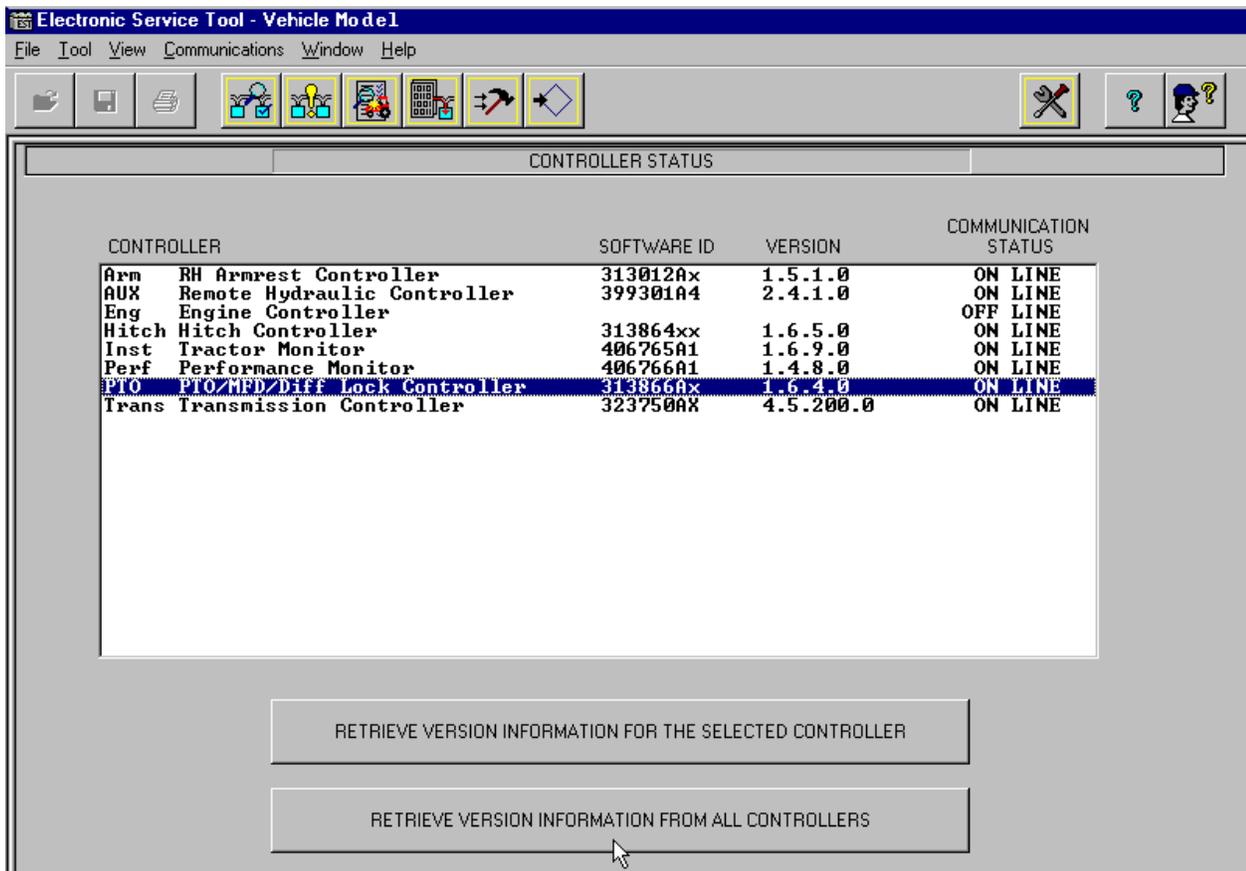
The Exit button can be used to return to the CONTROLLER STATUS window. Using the left button of the mouse, click on the Exit button to close the CONTROLLER VERSIONS screen.



RZ02T015

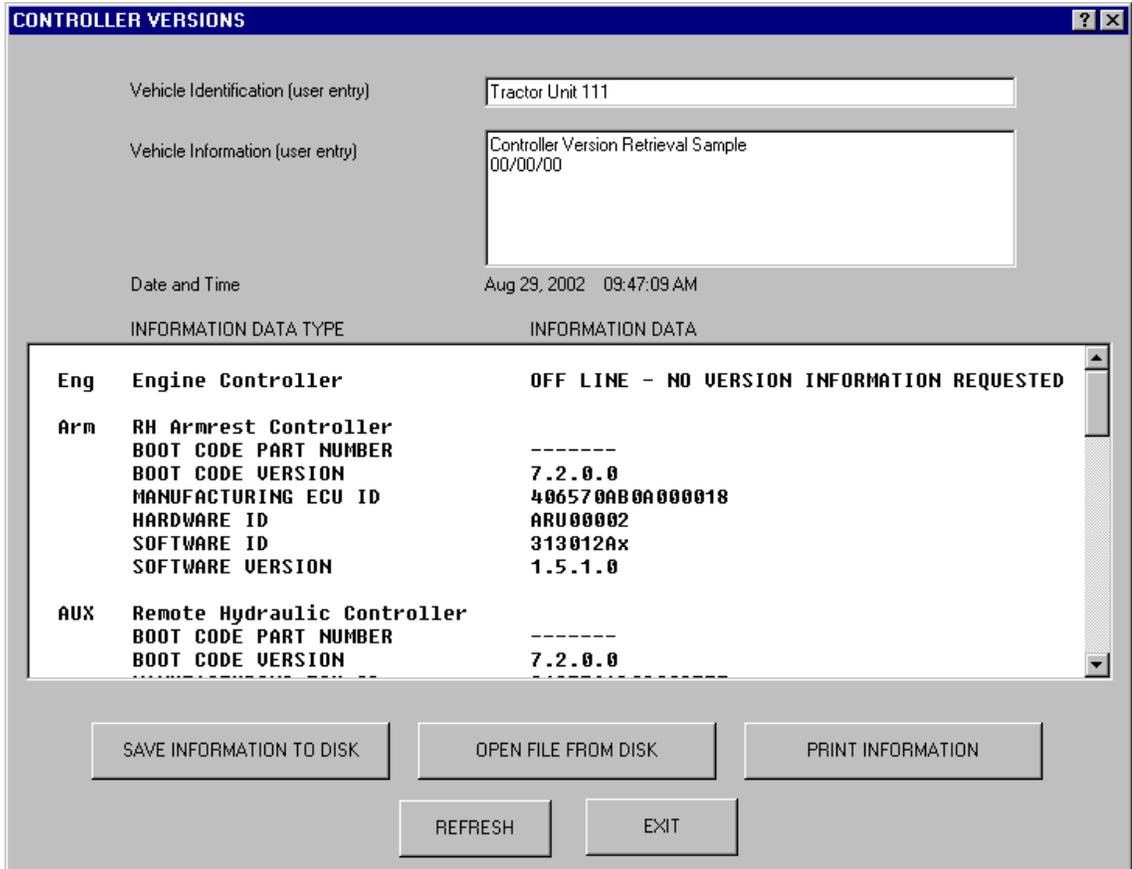
Controller Version Information — All Controllers

To view the controller version information from all controllers, use the left button of the mouse to click on the RETRIEVE VERSION INFORMATION FROM ALL CONTROLLERS button in the lower center portion of the screen.



RZ02T016

A **CONTROLLER VERSIONS** screen will be displayed. To allow viewing of information not currently shown on the Electronic Service Tool screen a scroll bar is located along the right hand side of the screen. To view information lower on the screen move the cursor arrow over the down arrow  of the scroll bar and hold the left button of the mouse until the desired portion of the screen is displayed.



RZ026017