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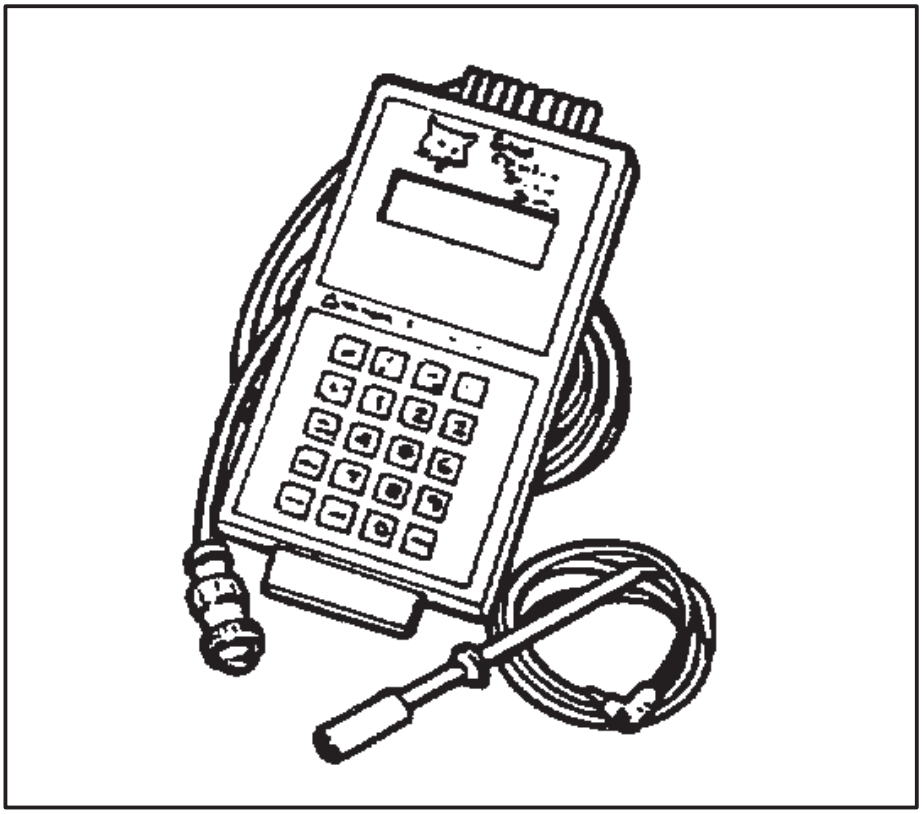
BOSS® Tool Operation Manual



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MELROE
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bobcat®

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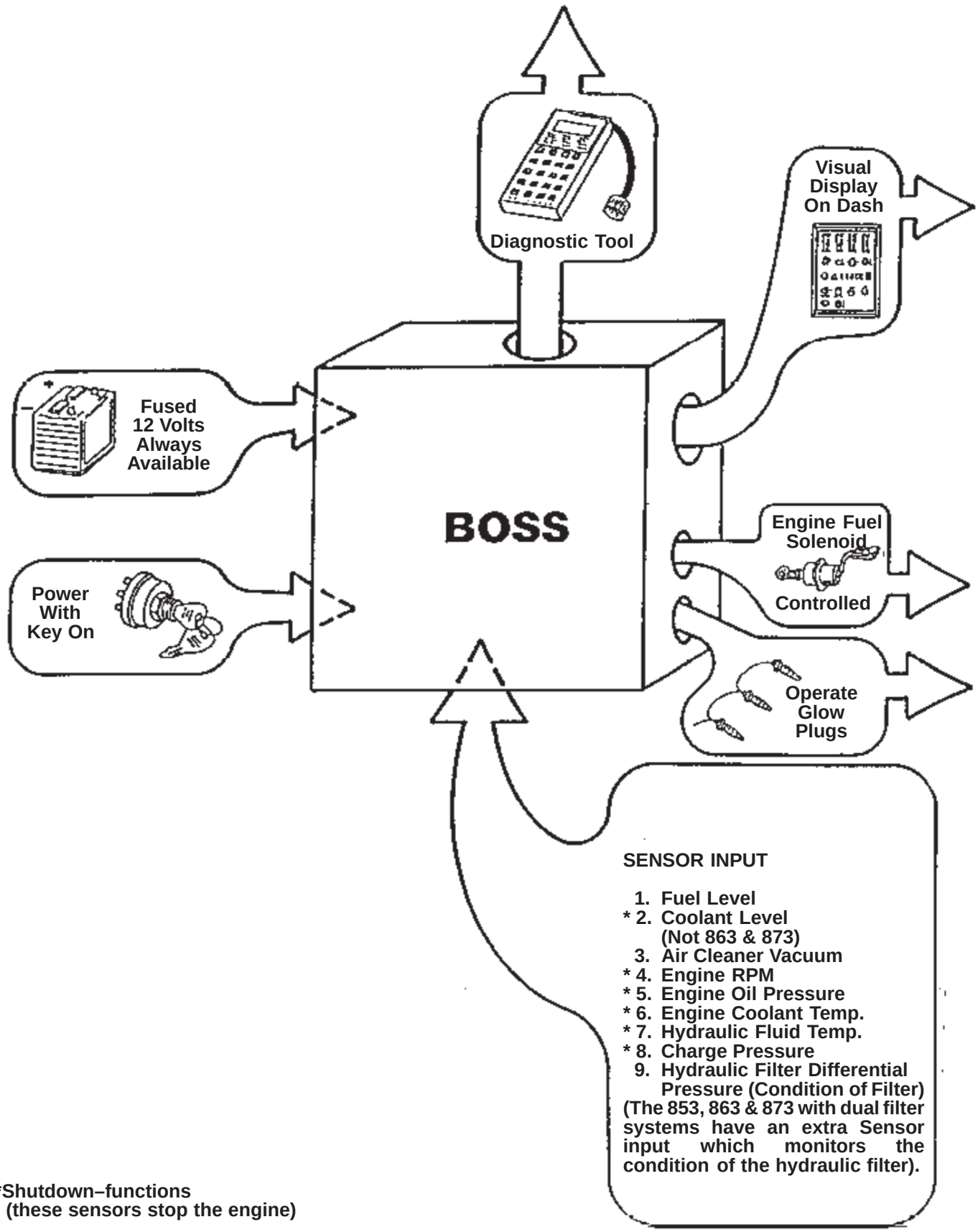
SCHEMATIC OF BOSS® FUNCTION AND MONITORING



*Shutdown–functions
(these sensors stop the engine)

MONITOR SERVICE CODES

One of the following Alphabetic Codes may appear on your monitor.

Engine **C**oolant **L**evel

Engine **C**oolant Temperature

Engine Oil **P**ressure

Engine **S**peed

Air **F**ilter

Hydrostatic Fluid Temperature

battery

FUEL Level

Hydraulic **F**ilter

Hydraulic Fluid **P**ressure

One of the following Numeric Codes will appear following one of the above Alphabetic Codes. Example:
Shut Down

Warning

Wiring Not Connected

Wiring Shorted

High Sensor Voltage

Sensor No Signal

Sensor Out of Range

(See Loader Operation & Maintenance Manual for additional information on Service Codes.)

BOSS® DIAGNOSTIC TOOL

The BOSS Diagnostic tool connects to the BOSS Controller on the Bobcat loader. The tool lets the technician read the values of the sensors and switches on the Liquid Crystal Display (LCD) of the Tool. There is no need to connect hydraulic pressure/temperature tools etc. to the loader.

DIAGNOSTIC TOOL KIT – MEL1400A

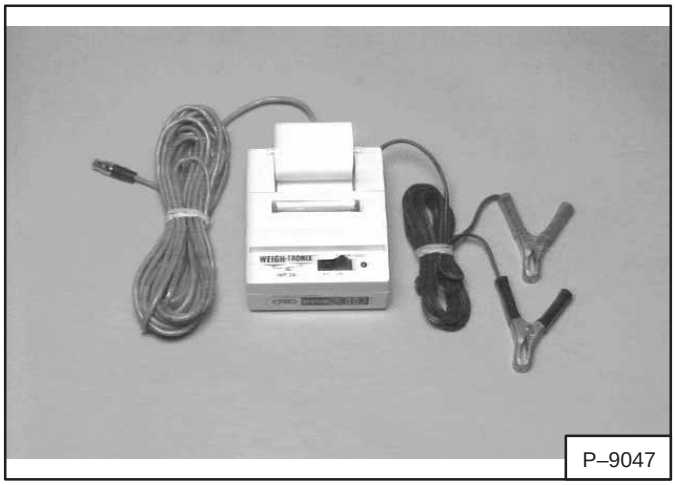
Included in Kit (Part Number MEL1400A)

* Case
* Tool Module with cable and model cartridge
* Test Plugs (4)
* Jumper Wire
* Positive & Negative Probes with alligator clips

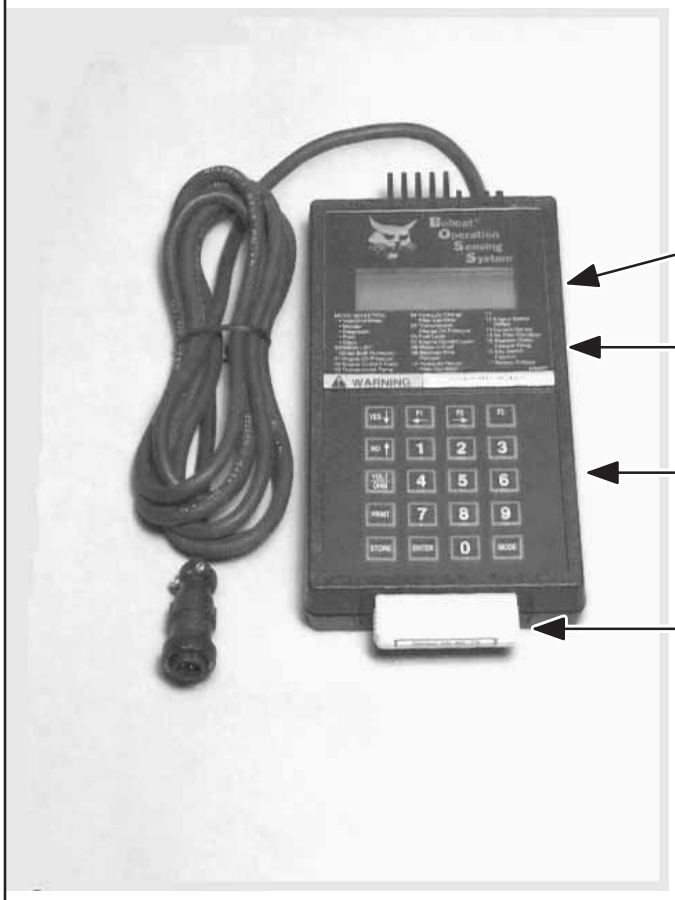
Optional Printer (Part Number MEL1403)

12 Volt Printer and Cable

P–9046



P–9047



Tool Display
Liquid Crystal Display (LCD)
4 Rows x 20 Characters.

Mode Section
and Sensor List

Key Pad

Model Cartridge

NOTE: For diagnostic functions always use updated cartridge.

P–9045

INTRODUCTION

The BOSS Diagnostic Tool uses plug–in cartridges. The BOSS Cartridges contain the information needed by the tool to initialize or diagnose the BOSS Unit.

BOSS Cartridge (MEL1445) is used to initialize BOSS Units (P/N 6666916, 6669166 & 6669685). The cartridge can be used to restore loader values inadvertently erased or to diagnose all model Bobcat Loaders with a BOSS installed.

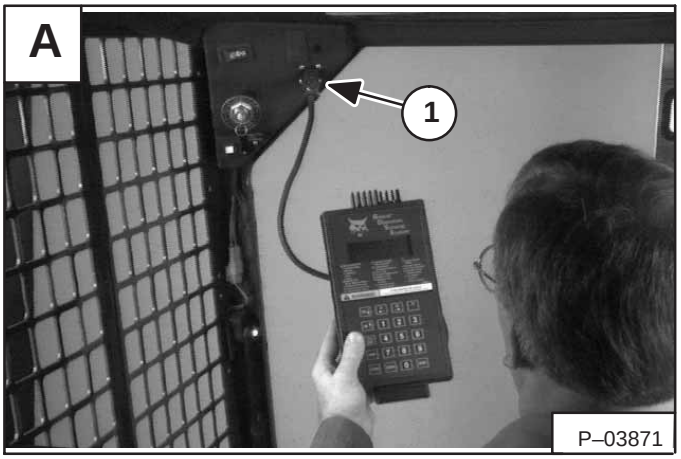
It **CANNOT** be used to initialize an old Back–Up BOSS Unit (P/N 6661110).

BOSS Cartridge (MEL1400–7) is used to initialize an old Back–Up BOSS Unit (P/N 6661110).

F1 – Initialization Press F1 to begin the Initialization process. Initialization is the process of 'programming' the BOSS Unit on the loader by entering the loader Model Number, Serial Number and Elapsed Operating Hours so that the Unit uses the correct set of values when monitoring functions of the Bobcat Loader. A new uninitialized BOSS Unit must be Initialized when installed in a Bobcat Loader. See Page 6 for Initialization.

F2 – Diagnostic Tool Press F2 to access the diagnostic functions of the BOSS Unit. (See Page 10.)

CONNECTING THE DIAGNOSTIC TOOL



Stop the engine.

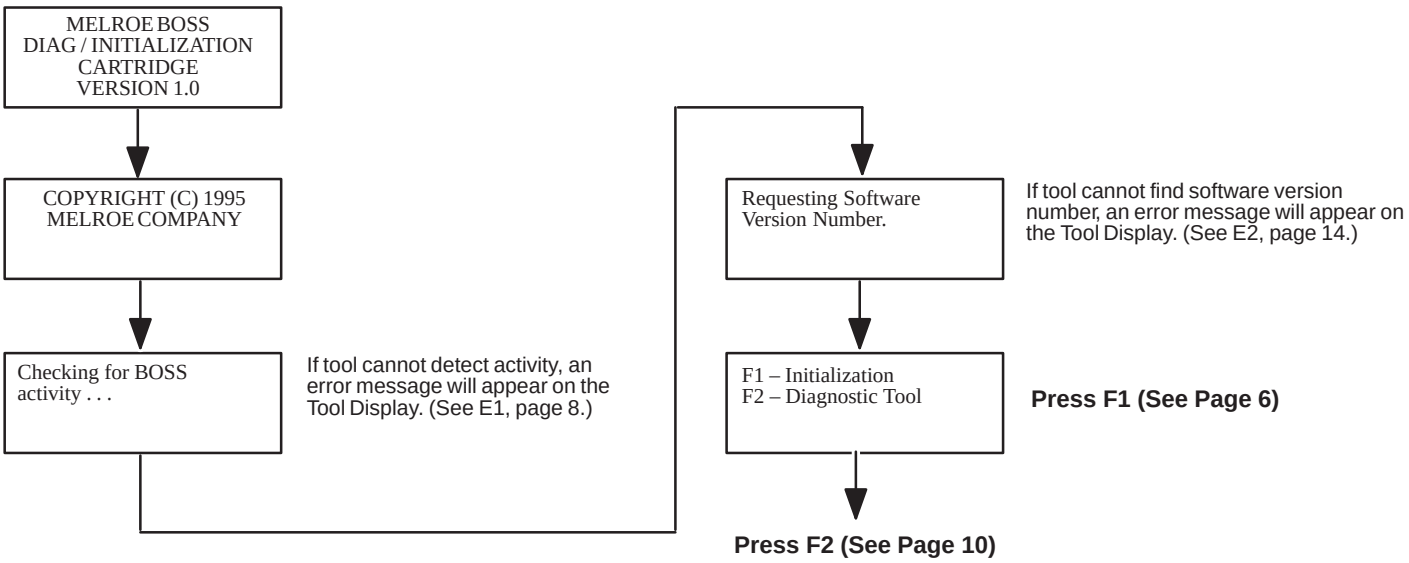
Lift and block the loader. (See the Service Manual.)

Insert the cartridge into the Tool.

Turn the key switch ON. (Keyless Start – enter the four digit code.)

Remove the dust cap from the diagnostic connector plug. Connect the diagnostic tool plug (Item 1) **[A]** into the loader connector.

The BOSS diagnostic tool will start up and scroll through the following windows.



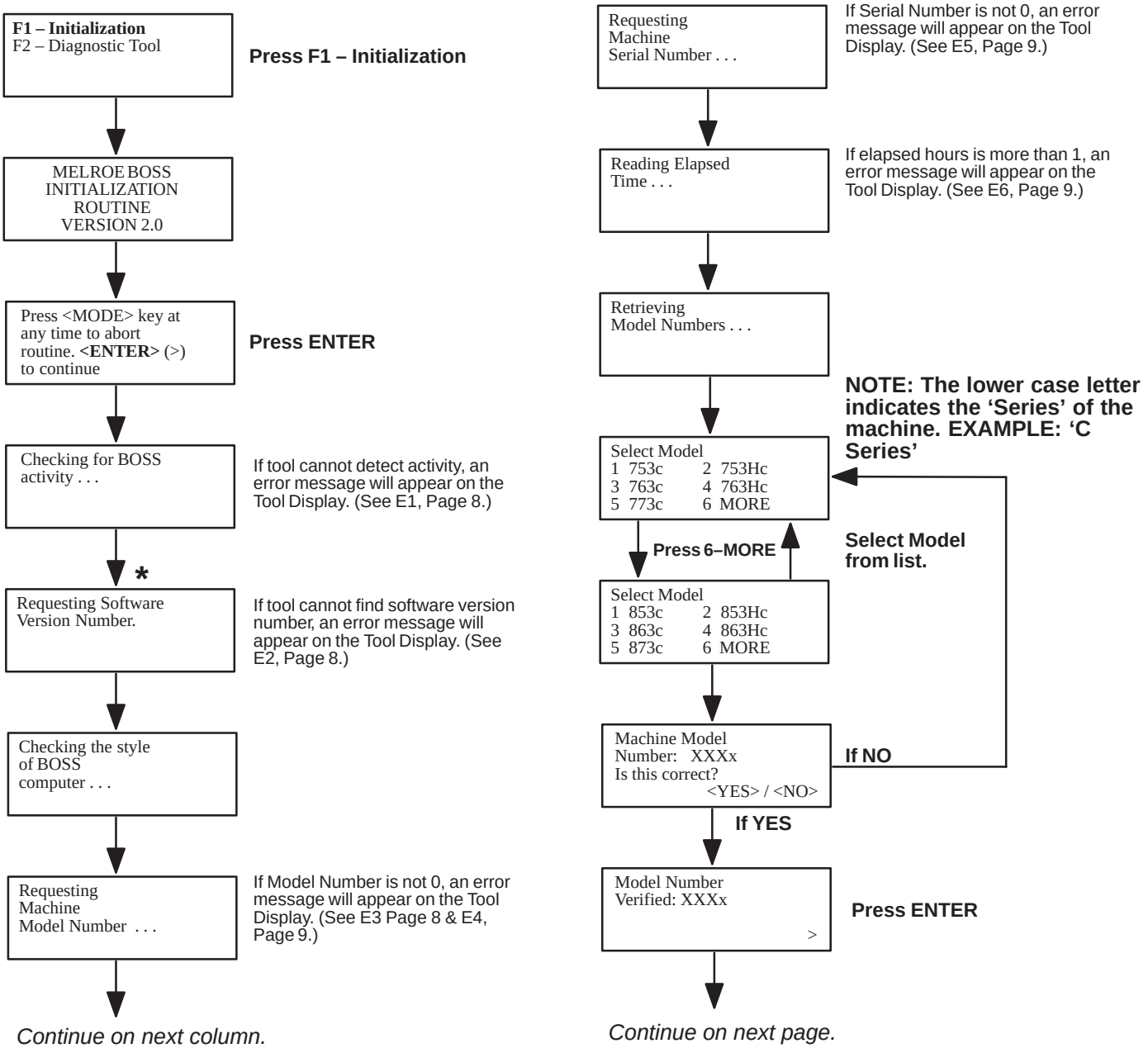
F1 – INITIALIZATION

NOTE: If you pressed F1 by mistake, remove the BOSS™ Cartridge (MEL1445). Insert the cartridge and start over.

During the initialization process if you press the MODE key to abort, all data will be erased and an ERROR message will be displayed. (Initialization process has ended in an unsatifactory condition. (See Page 9.)

When this symbol (>) appears in the lower right hand corner of the Tool Display, press ENTER to continue.

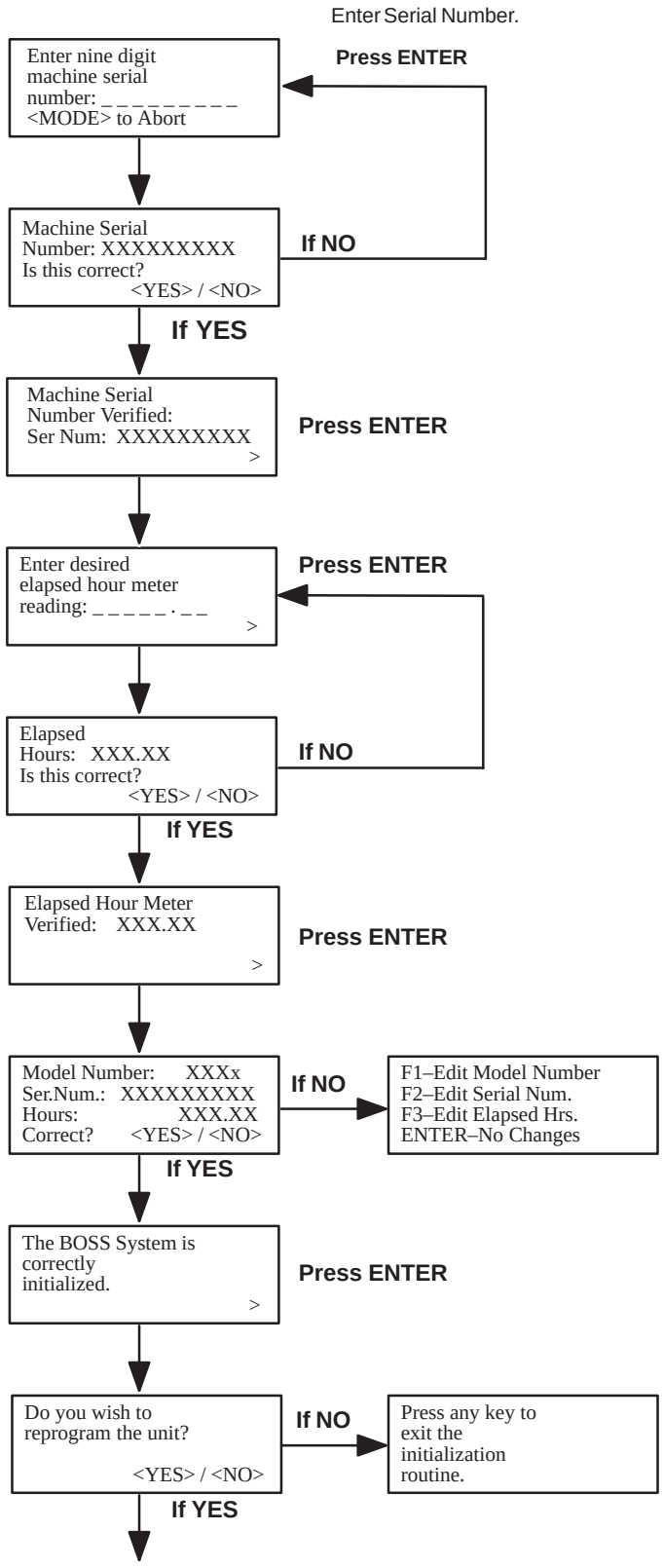
When three dots (...) appear in the lower right hand corner of the Tool Display, it means that the message on the Display continues. Press F1 or F2 to scroll forward or backward through the message.



***** The software version determines how to program the model number. You may need to choose a model number from a list (as shown above) or you may need to enter the model number from the keypad on the Tool.

F1 – INITIALIZATION (Cont'd.)

NOTE: When this symbol (>) appears in the lower right hand corner of the Tool Display, press ENTER to continue.



If you answer **YES**, the Diagnostic Tool will return to the beginning of the initialization process to start over.

ERROR MESSAGES

E1

Cannot detect BOSS activity. The tool is trying to make contact.

Be sure key switch is ON.

Disconnect Diagnostic Tool and reconnect to try again.

Possible Causes:
Faulty Tool or Tool Display.

E2

Software Version Number Request Transmit Error. Retry ? <YES> / <NO>

If NO

Initialization isn't possible without version number. Retry ? <YES> / <NO>

If NO

The initialization process has ended in an unsatisfactory condition. >

If the software version is not received, the Diagnostic Tool cannot Initialize the BOSS Controller.

Press **YES** to Retry.

OR

Possible Causes: Tool to Controller wiring bad; BOSS may be busy (EXAMPLE: Glow Plugs Cycling) or is not responding.

Software Version Number Request Receive Error. Retry ? <YES> / <NO>

If NO

Press **YES** to Retry.

Possible Causes: Tool to Controller wiring is bad; BOSS may be busy; BOSS controller may be very old version (original version did not store software version number). If Controller is an old version (6669242) press **NO**.

E3

Machine Model Number Request Transmit Error. Retry? <YES> / <NO>

OR

Machine Model Number Request Receive Error. Retry? <YES> / <NO>

If NO

Machine initialization process aborted. >

Press ENTER

Press any key to exit the initialization routine.

OR

Press **YES** to Retry.

Press **YES** to Retry.

Machine Serial Number Request Transmit Error. Retry? <YES> / <NO>

OR

Machine Serial Number Request Receive Error. Retry? <YES> / <NO>

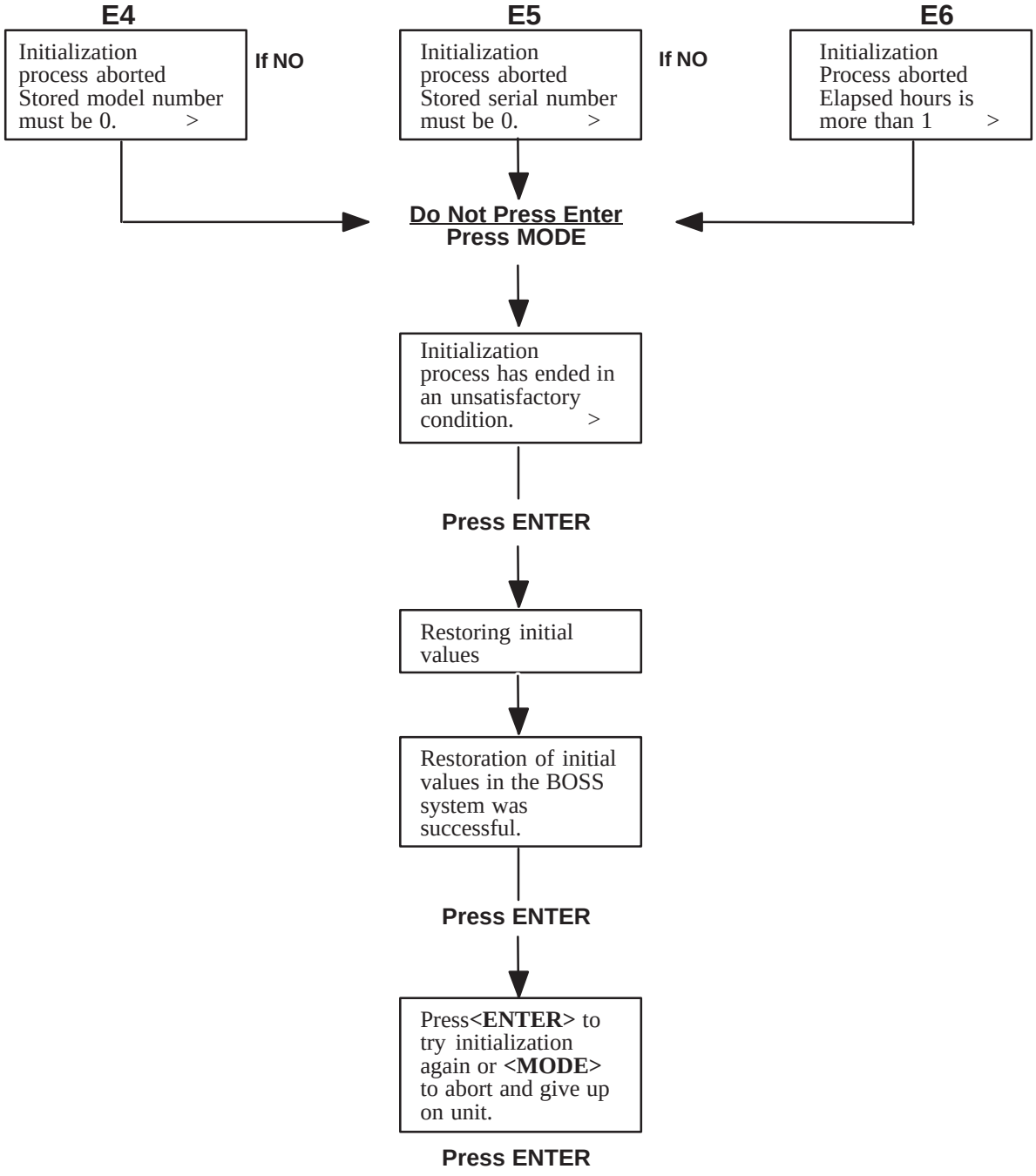
If NO

Press **YES** to Retry.

Press **YES** to Retry.

ERROR MESSAGES (Cont'd)

NOTE: If the BOSS™ test tool displays one of the following error screens, the BOSS™ controller needs to be reprogrammed. The following steps will reset the BOSS™ the controller so that it can be programmed with the proper model, serial number and hours.

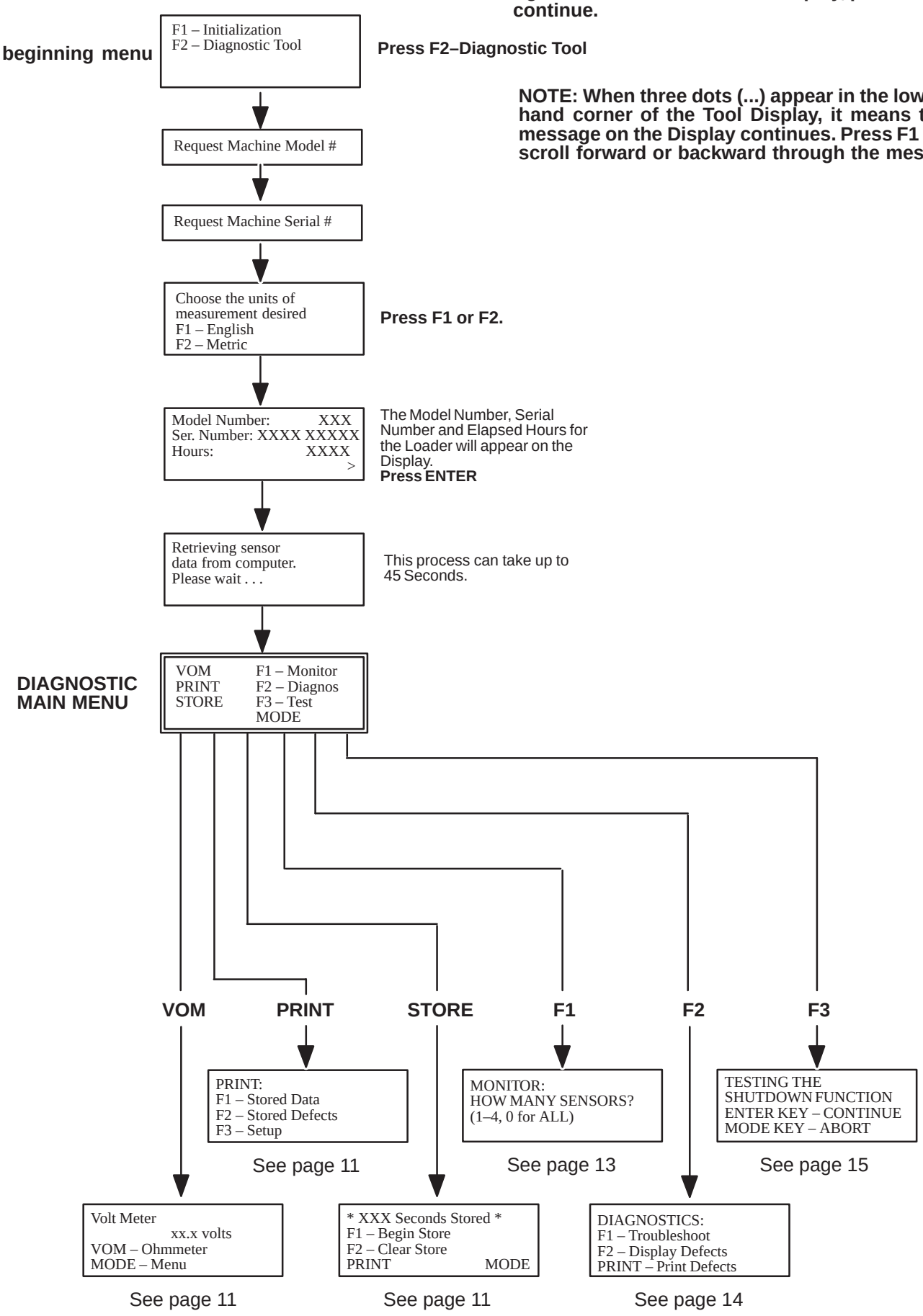


Go to the top of the right hand column of page 6

F2 – DIAGNOSTIC DISPLAY MENUS

NOTE: When this symbol (>) appears in the lower right hand corner of the Tool Display, press ENTER to continue.

NOTE: When three dots (...) appear in the lower right hand corner of the Tool Display, it means that the message on the Display continues. Press F1 or F2 to scroll forward or backward through the message.



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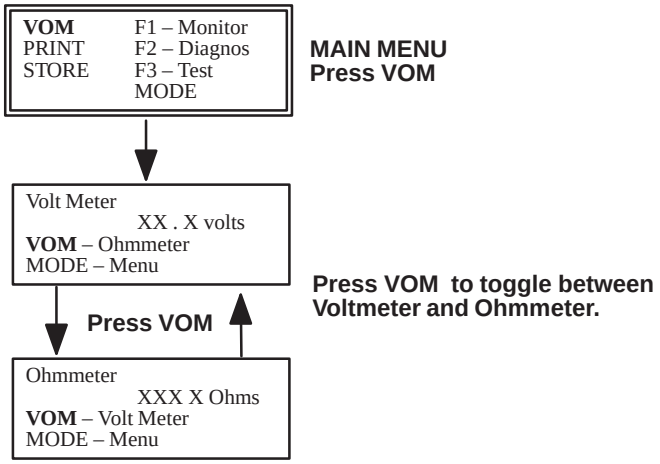
VOM – Volt/Ohmmeter

The Diagnostic Tool can be used as a **Volt/Ohmmeter** to check sensors, wires and switches.

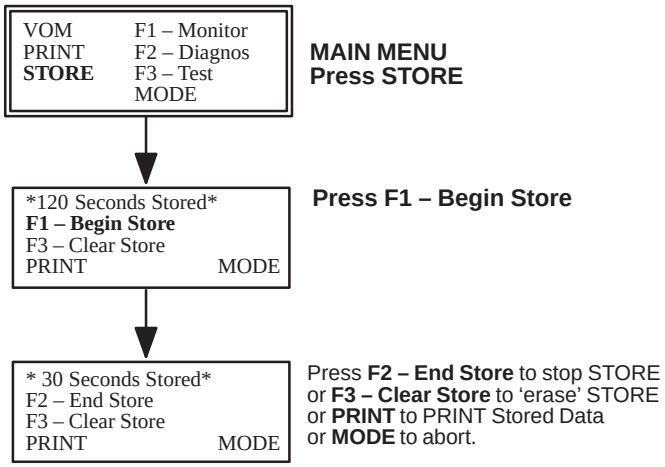
Connect the test wires to the Tool; red–to–red, black–to–black.



Press MODE to return to MAIN MENU

STORE

The Diagnostic Tool stores Defects which have occurred with the Bobcat Loader and can also be used to STORE Data from the sensors.

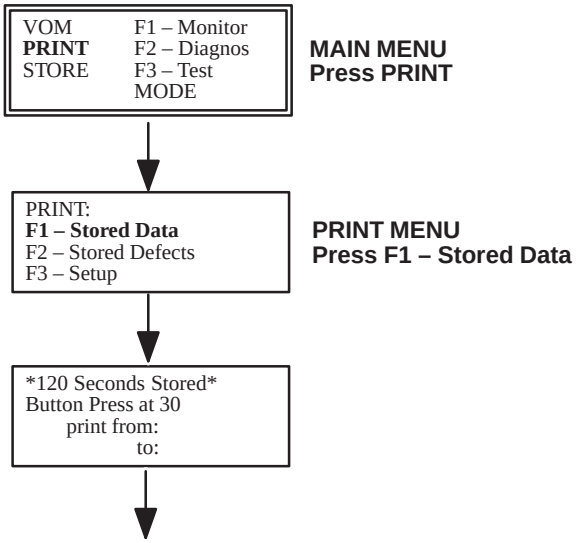


At the top of the Tool Display is ***30 Seconds Stored***. This means that there are always an additional 30 seconds of stored data before you press **F1** to **Begin Store**.

Press MODE to return to MAIN MENU

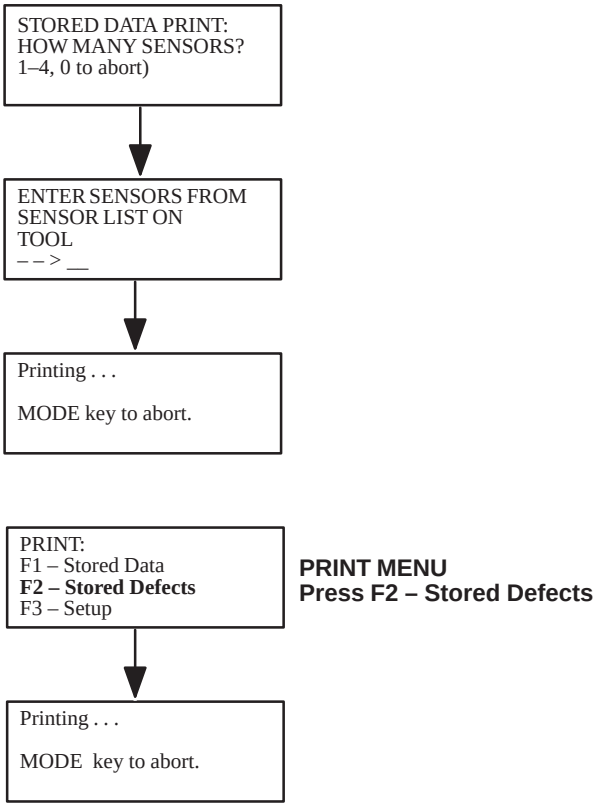
PRINT

The Diagnostic Tool can be used to print Stored Data for any item on the SENSOR LIST.



The '***120 Seconds Stored***' indicates that there are already 120 Seconds of data stored in the BOSS Controller. '**Button Press at 30**' indicates that there are always 30 seconds of data stored, even before you press **Begin Store** (see STORE at left).

Enter the beginning second where you want the print to begin and press **ENTER** then enter the ending second and press **ENTER** again.



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