



PV101 PowerView Code Reader User Guide

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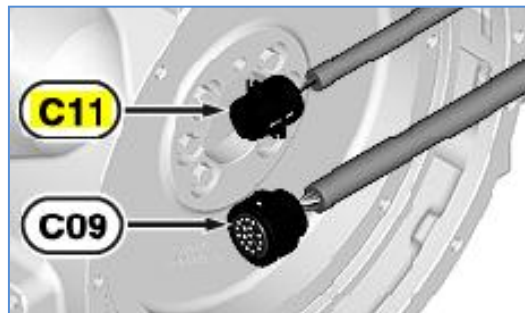
Part of kit# FR1042

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PowerView Code Reader Connection to Engine Harness

1. Locate diagnostic connector on engine harness (**C11**) and remove dust cap.
2. Connect harness from Code Reader to connector **C11**. Twist lock ring on reader harness connector to secure.



3. Connect **red** and **black** leads from reader harness to battery accordingly.
4. Turn reader toggle switch ON, engine off or running.

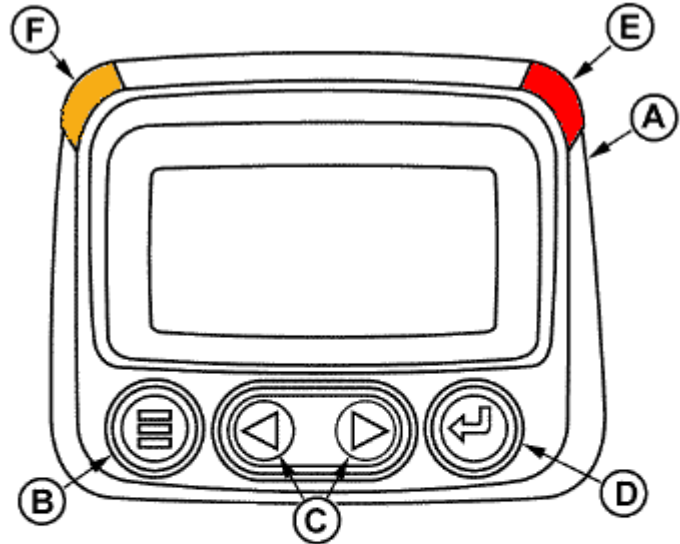
Follow instructions for reader setup and use further in this manual.

Using PowerView Diagnostic Gauge to Access Engine Information

The diagnostic gauge (A) allows the operator to view many readouts of engine functions and diagnostic trouble codes (DTC's). The gauge is linked to the electronic control system and its sensors. This allows the operator to monitor engine functions and to troubleshoot the engine systems when needed.

Press the menu key (B) to access the various engine functions in sequence. The displays can be selected as either customary English or metric units. The following menu of engine parameters can be displayed on the diagnostic gauge window:

- Engine hours
- Engine rpm
- System voltage
- Percent engine load at the current rpm
- Coolant temperature
- Oil pressure
- Throttle position
- Intake manifold temperature
- Current fuel consumption
- Active service (diagnostic) codes
- Stored service (diagnostic) codes
- Set the units for display
- View the engine configuration parameters



Diagnostic Gauge (Later Engines)

- A—Diagnostic Gauge (PV101)
- B—Menu Key
- C—Arrow Keys
- D—Enter Key
- E—Red “STOP ENGINE” Indicator Light
- F—Amber “WARNING” Indicator Light

E – When **Red** light comes on, stop engine immediately or as soon as safely possible to prevent engine damage. Correct problem before restarting.

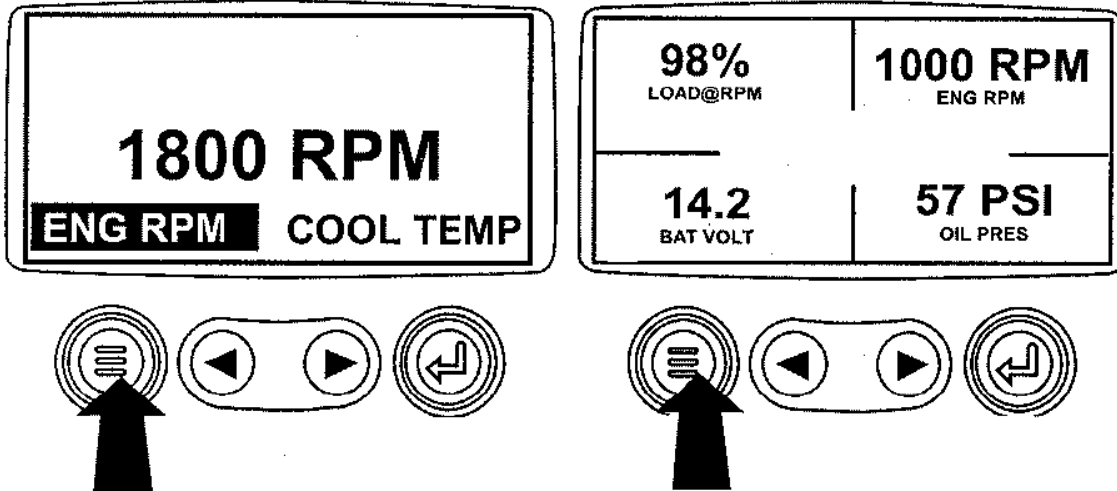
F – When **Amber** light comes on, an abnormal condition exists. It is not necessary to shutdown engine immediately, but problem should be corrected as soon as possible.

NOTE: *Engine parameters which can be accessed will vary with the engine application. Six languages for readouts are available and can be selected during setup of gauge.*

The diagnostic gauge includes a graphical backlit Liquid Crystal Display (LCD) screen. The display can show either a single parameter or a quadrant display showing four parameters simultaneously. The diagnostic gauge uses two arrow keys (C) for scrolling through the engine parameter list and viewing the menu list and an enter key (D) for selecting highlighted items. The **red** (E) and **amber** (F) lights are used to signal active trouble code received by the diagnostic gauge.

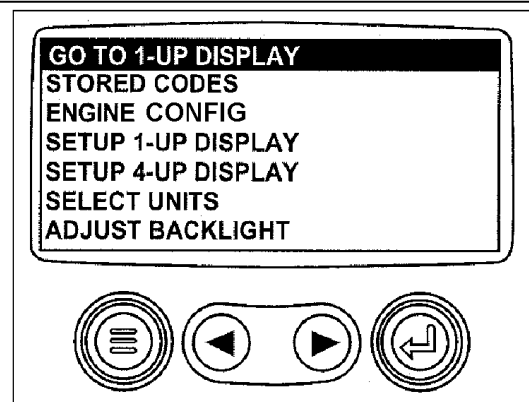
Main Menu Navigation

NOTE: The engine does not need to be running to navigate the diagnostic gauge screens. If engine start up is desired, See *Starting The Engine*. All of the engine values illustrated on the diagnostic gauge indicate the engine is running.

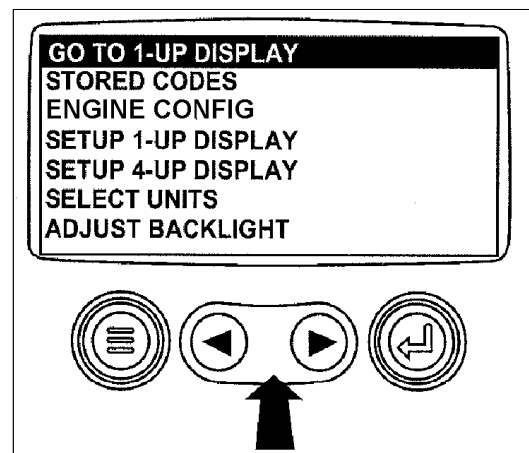


1. Turn the key switch to the **ON** position. Starting at the single or four engine parameter display, press the **"Menu"** key.

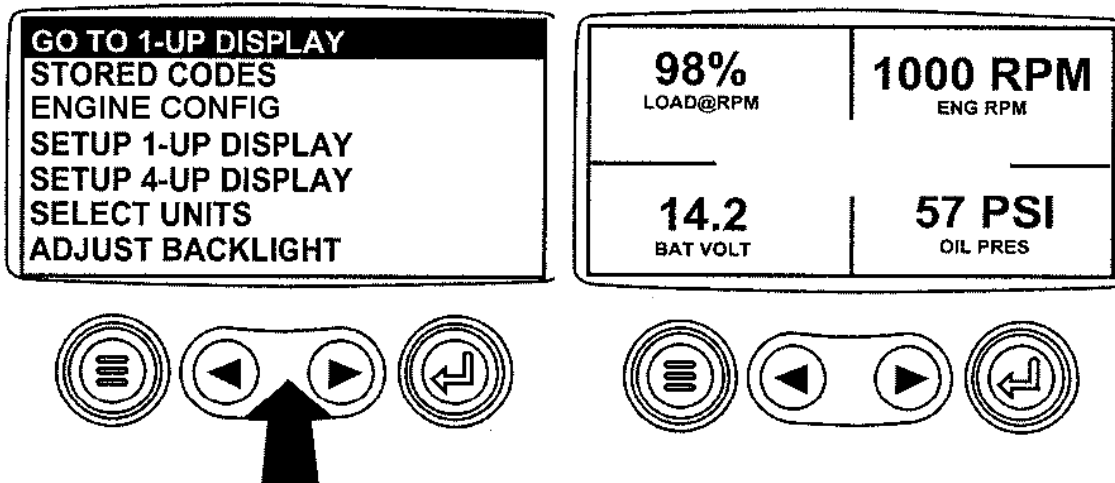
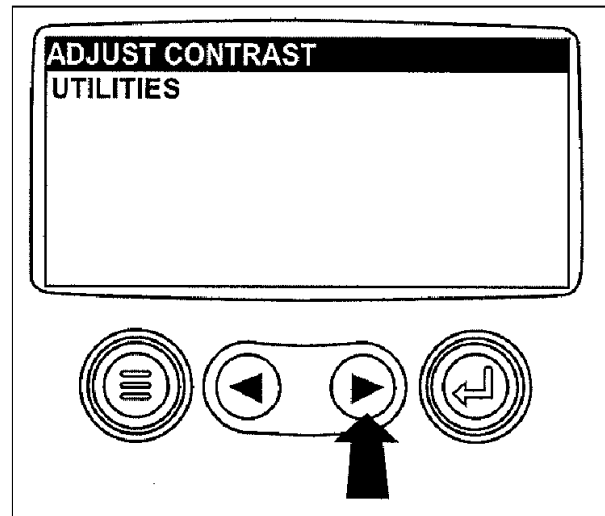
2. The first seven items of the **"Main Menu"** will be displayed.



3. Pressing the **"Arrow"** keys will scroll through the menu selections.



4. Pressing the right arrow key will scroll down to reveal the last items of "**Main Menu**" screen, highlighting the next item down.



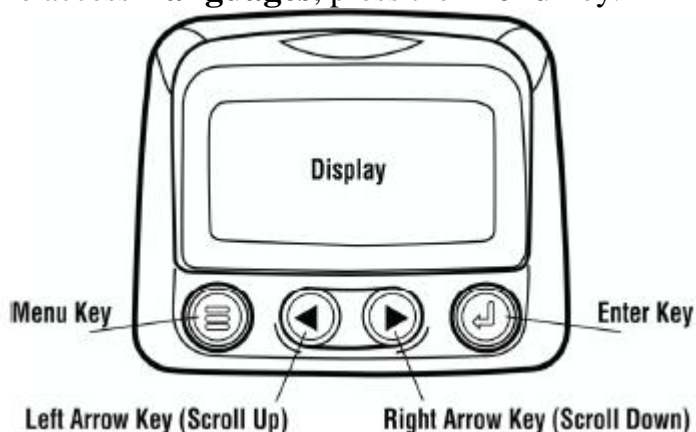
5. Use the arrow keys to scroll to the desired menu item or press the "**Menu Button**" to exit the main menu and return to the engine parameter display.

Multiple Language Options

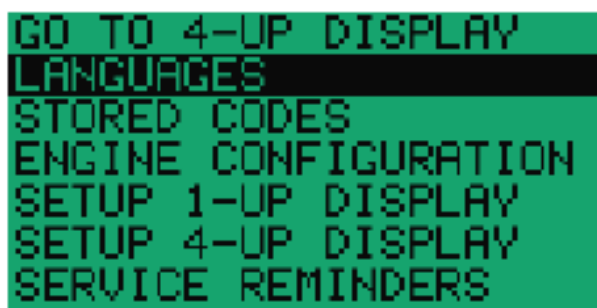
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Russian, Chinese, and Japanese models have been added to the line of existing languages (English, Spanish, French, German and Italian).

1. To access **Languages**, press the **Menu** key.



2. Use the **Right Arrow** to scroll down the list and press **Enter** when **LANGUAGES** is highlighted to display the list of available languages.



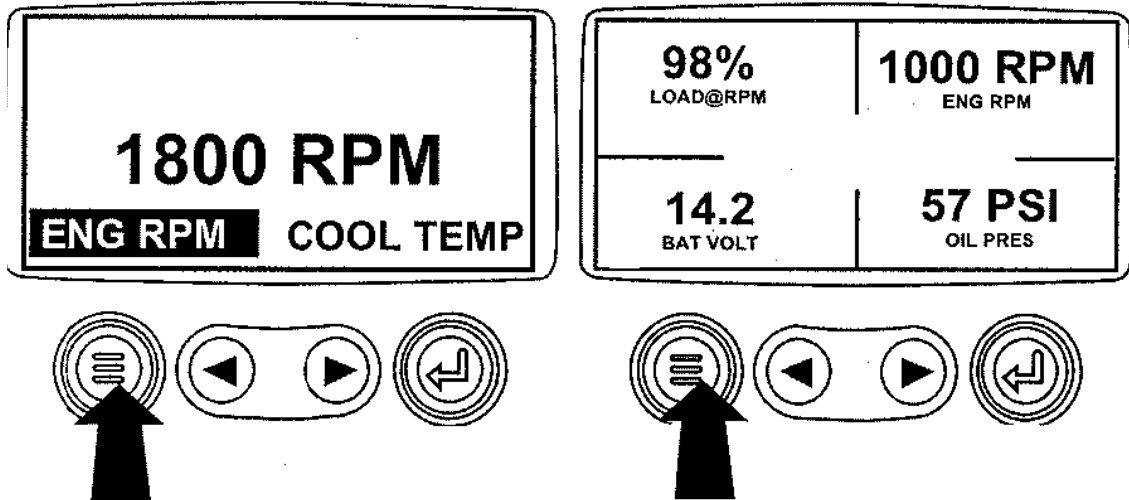
3. The currently selected language is indicated by an asterisk. To change to another language, press **Enter** while the desired language is highlighted.



Engine Configuration Data

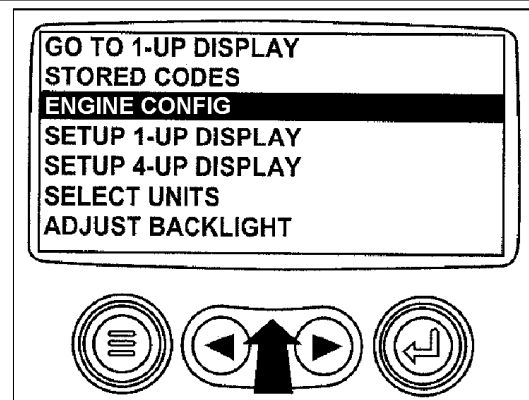
NOTE: The engine configuration data is a **read only** function.

NOTE: The engine does not need to be running to navigate the diagnostic gauge screens. If engine start up is desired, See *Starting The Engine*. All of the engine values illustrated on the diagnostic gauge indicate the engine is running.

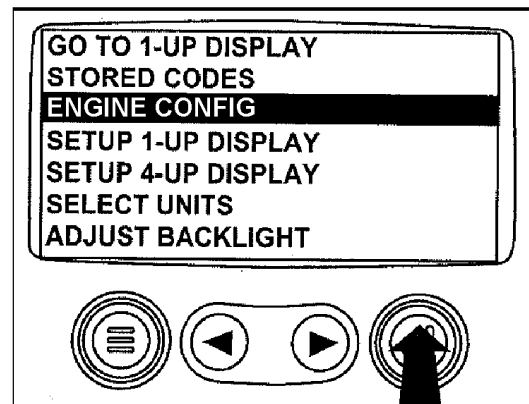


1. Turn the key switch to the **ON** position. Starting at the single or four engine parameter display, press the **"Menu"** key.

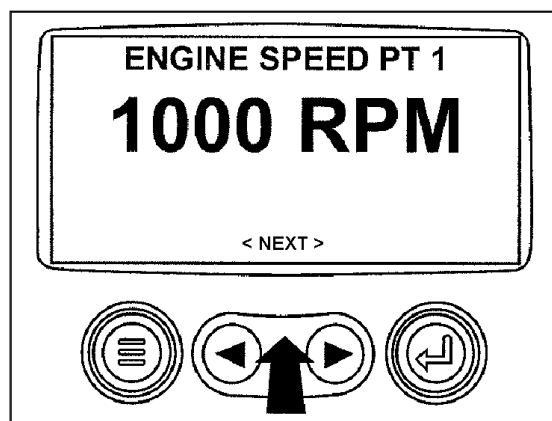
2. The main menu will be displayed. Use the **"Arrow"** keys to scroll through the menu until **"Engine Config"** is highlighted.



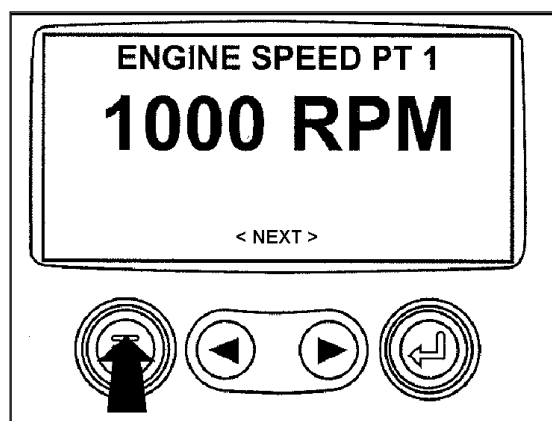
3. Once **"Engine Config"** menu item has been highlighted, press the **"Enter"** key to view the engine configuration data.



4. Use the "**Arrow**" keys to scroll through the engine configuration data.



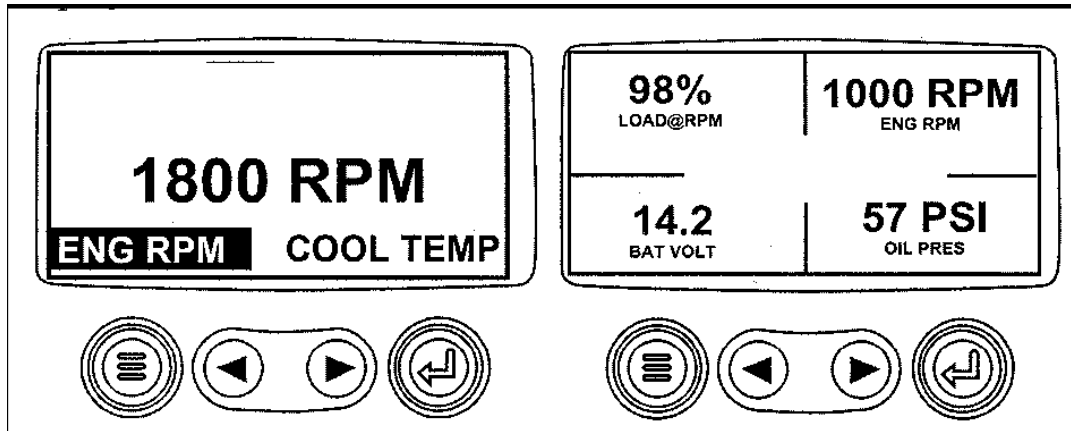
5. Press the "**Menu**" key to return to the main menu.



6. Press the "**Menu**" key to exit the main menu and return to the engine parameter display.

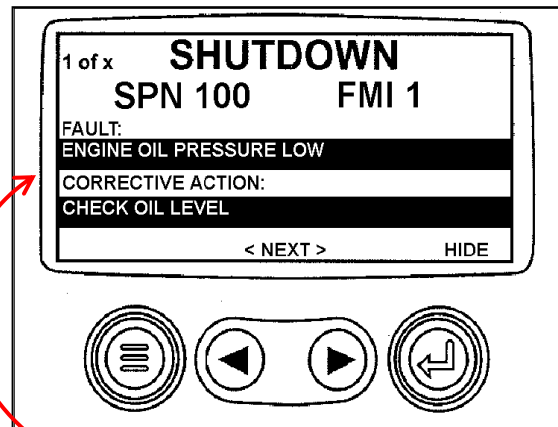
Engine Shutdown Codes

1. During normal operation the **single** or **four parameter** screen will be displayed.



2. When the diagnostic gauge receives a severe trouble code from an engine control unit, the single or four parameter screen will be replaced with the "Shutdown" message. The SPN and FMI number will be displayed along with a description of the problem and the corrective action needed.

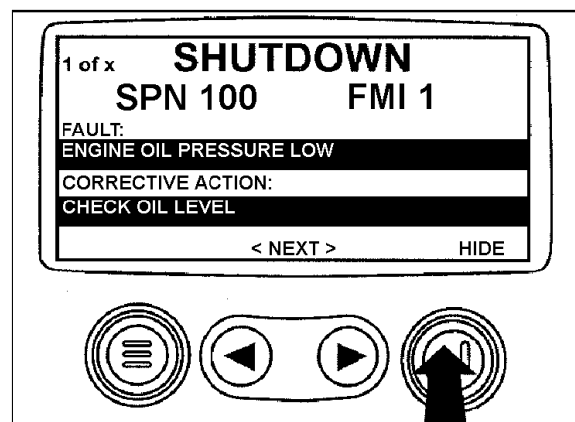
If the word "Next" appears above the arrow keys, there are more trouble codes that can be viewed by using the arrow keys to scroll to the next trouble code.



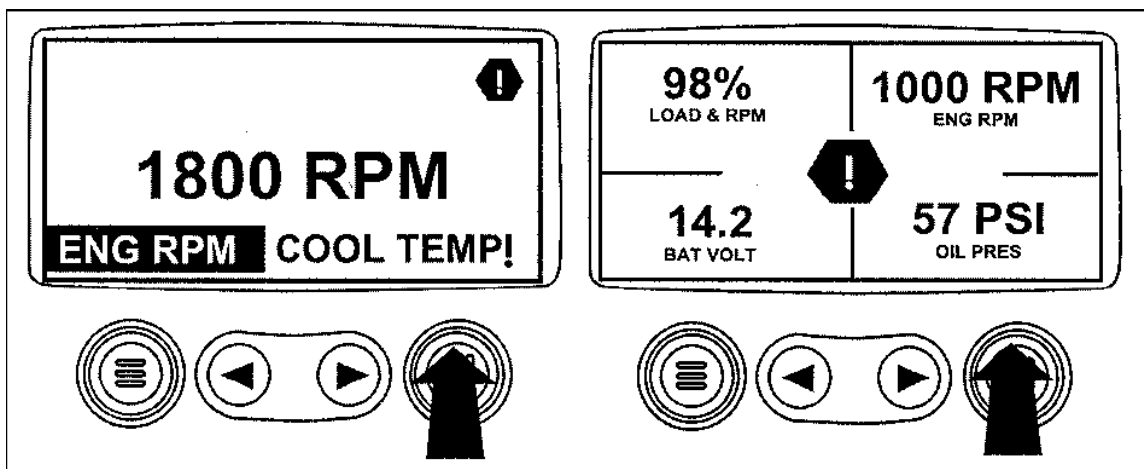
Shutdown Message

3. To acknowledge and hide the trouble code and return to the single or four parameter display, press the "Enter" key".

IMPORTANT: Ignoring the shutdown message can result in severe engine damage.

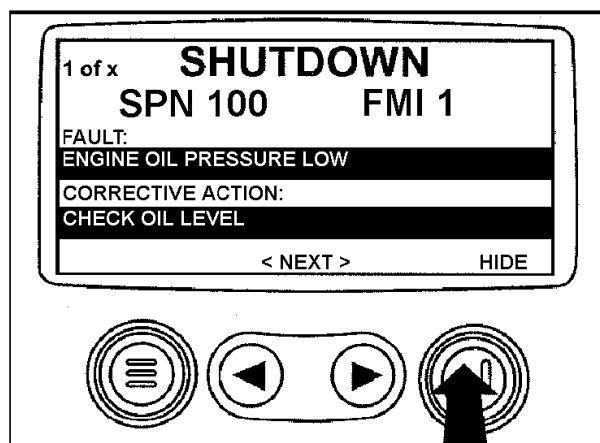


- The display will return to the single or four parameter display, but the display will contain the **"Shutdown"** icon. Pressing the **"Enter"** key will redisplay the hidden trouble code.



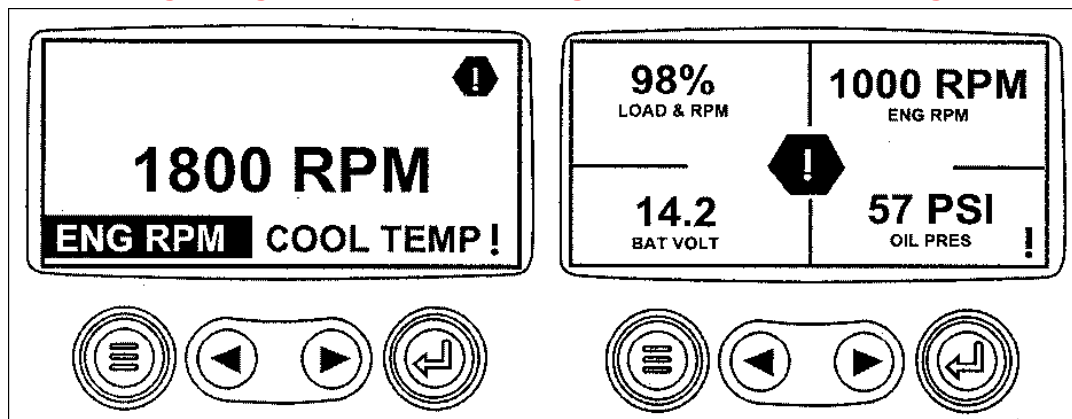
IMPORTANT: Ignoring the shutdown message can result in severe engine damage.

- Pressing the **"Enter"** key once again will hide the trouble code and return the screen to the single or four parameter display.



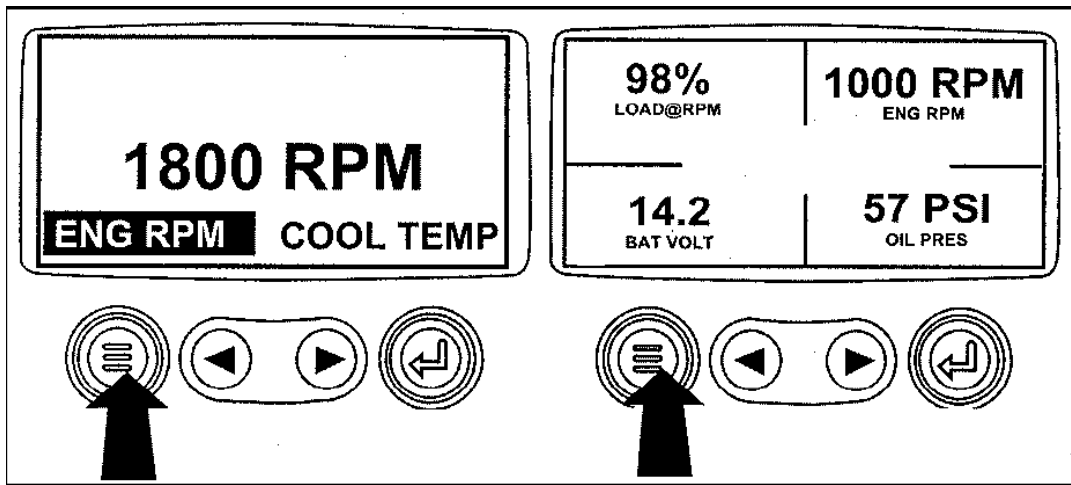
- The single or four parameter screen will display the shutdown icon until the trouble code condition is corrected.

IMPORTANT: Ignoring the shutdown message can result in severe engine damage.

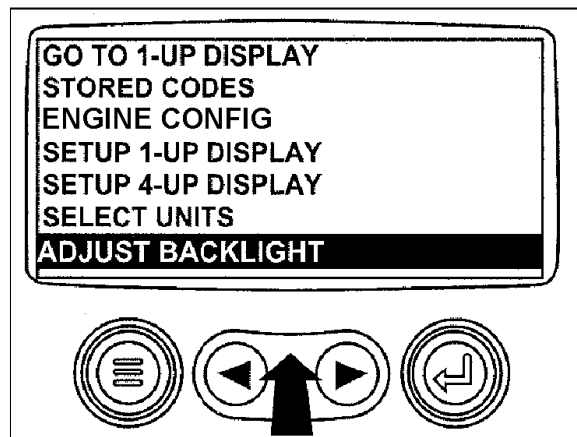


Adjusting Backlighting

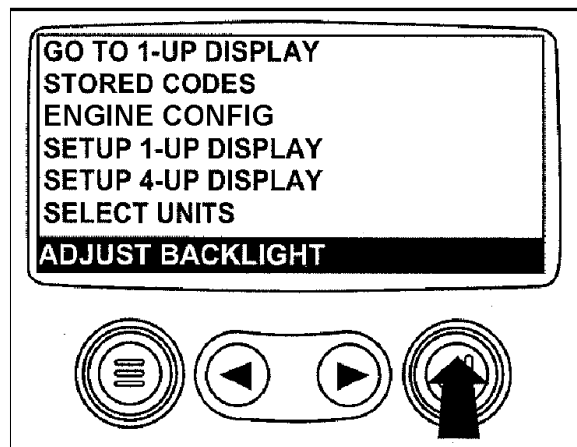
1. Turn the key switch to the **ON** position. Starting at the **single** or **four engine parameter** display, press the "**Menu**" key.



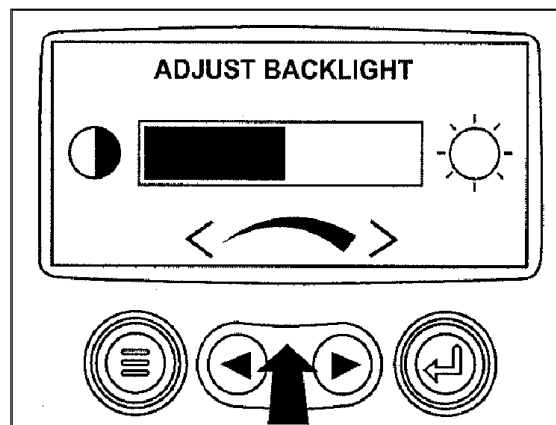
2. The main menu will be displayed. Use the "**Arrow**" keys to scroll through the menu until "**Adjust Backlight**" is highlighted.



3. Once the "**Adjust Backlight**" menu item has been highlighted, press the "**Enter**" key to activate the "**Adjust Backlight**" function.



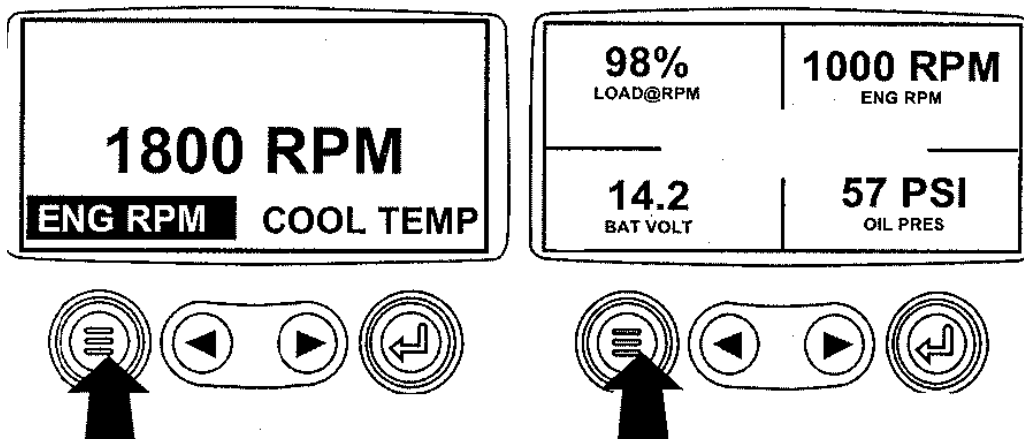
4. Use the "**Arrow**" keys to select the desired backlight intensity.



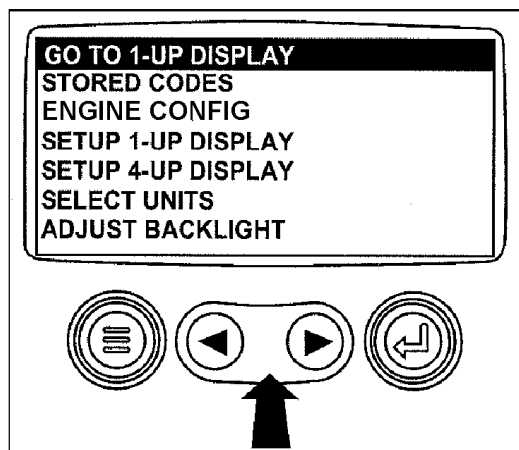
5. Press the "**Menu**" key to return to the main menu.

Adjusting Contrast

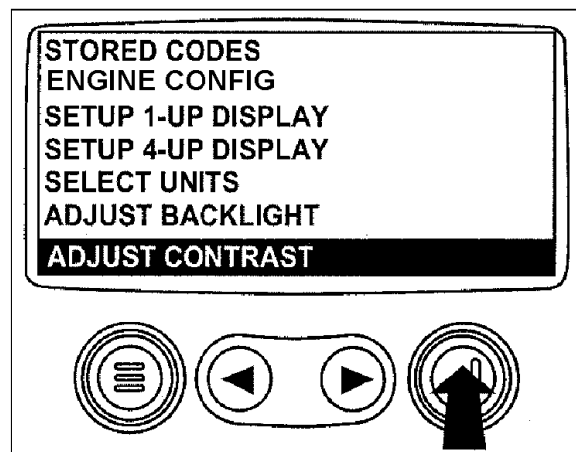
1. Turn the key switch to the **ON** position. Starting at the single or four engine parameter display press the "**Menu**" key.



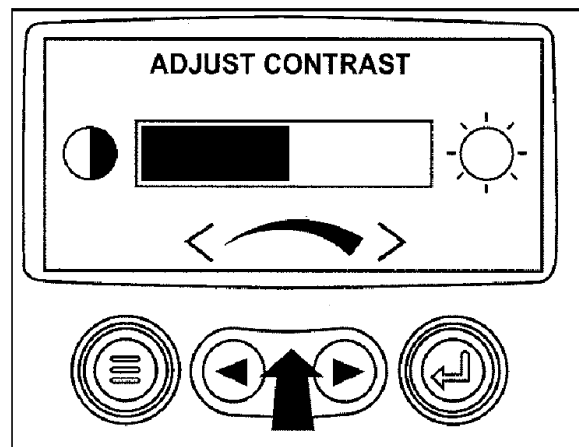
2. The main menu will be displayed. Use the "**Arrow**" keys to scroll through the menu until "**Adjust Contrast**" is highlighted.



3. Once the **"Adjust Contrast"** menu item has been highlighted, press the **"Enter"** key to activate the **"Adjust Contrast"** function.



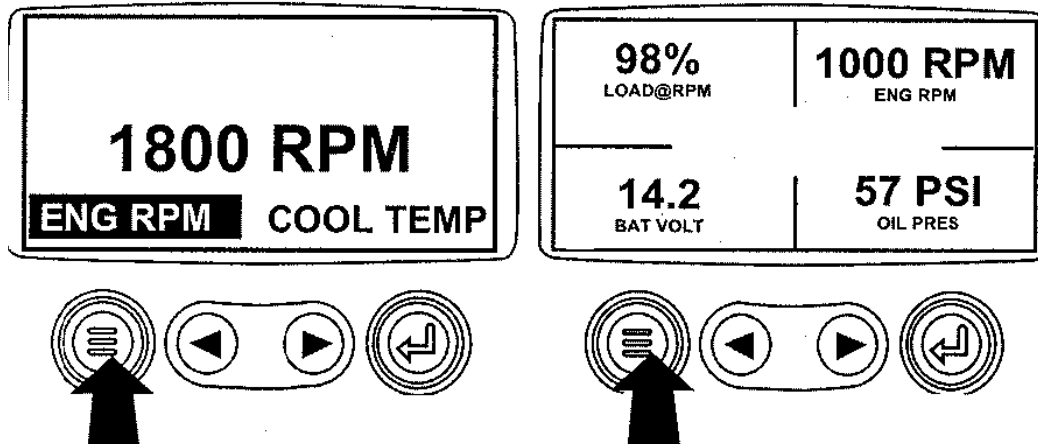
4. Use the **"Arrow"** keys to select the desired contrast intensity.



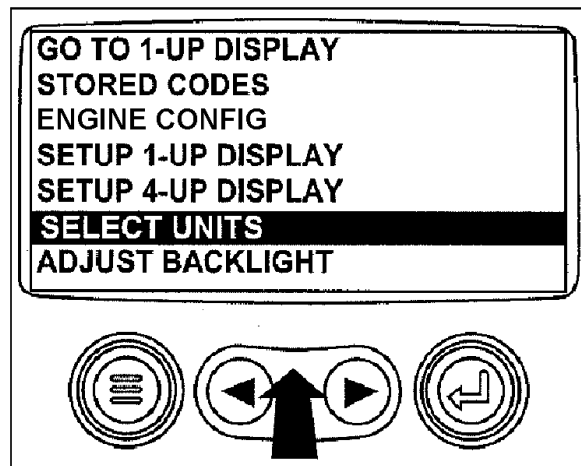
5. Press the **"Menu"** key to return to the main menu.
6. Press the **"Menu"** key to exit the main menu and return to the engine parameter display.

Selecting Units of Measurement

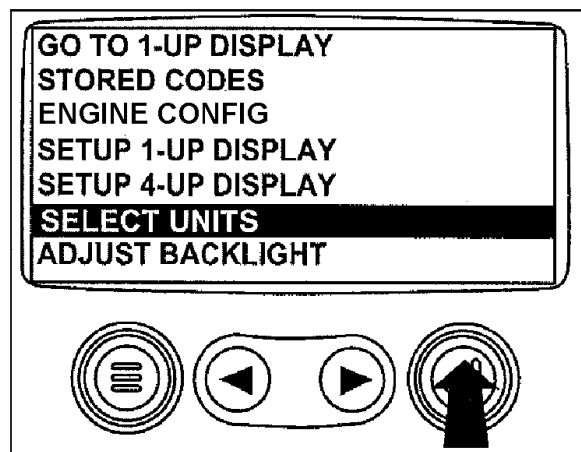
1. Turn the key switch to the **ON** position. Starting at the single or four engine parameter display, press the **"Menu"** key.



2. The main menu will be displayed. Use the "**Arrow**" keys to scroll through the menu until "**Select Units**" is highlighted.



3. Once the "**Select Units**" menu item has been highlighted press the "**Enter**" key to access the "**Select Units**" function.

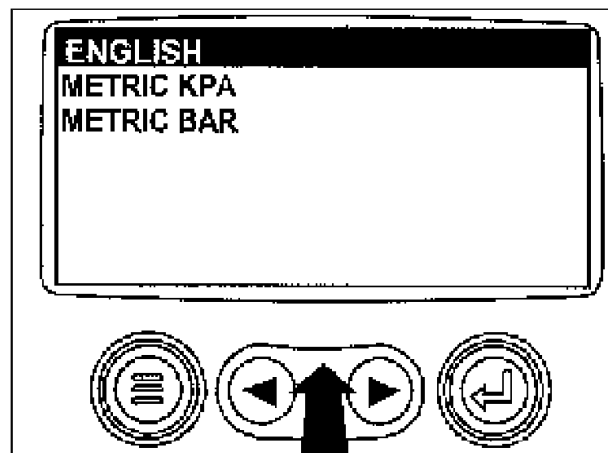


4. There are three choices for units of measurement, **English**, **Metric kPa** or **Metric Bar**.

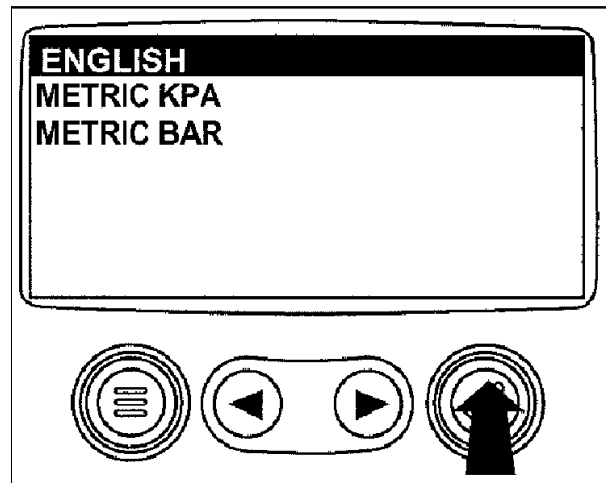
English is for Imperial units, with pressures displayed in PSI and temperatures in °F.

Metric kPa and Metric bar are for IS units, with pressures displayed in kPa and bar respectively, and temperatures in °C.

Use the "**Arrow**" keys to highlight the desired units of measurement.



5. Press the "**Enter**" key to select the highlighted units.

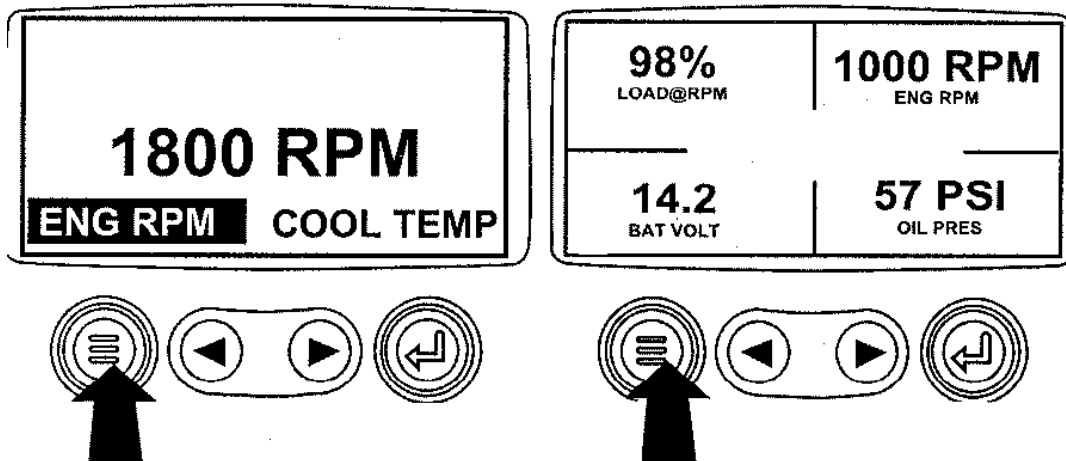


6. Press the "**Menu**" key to return to the main menu.

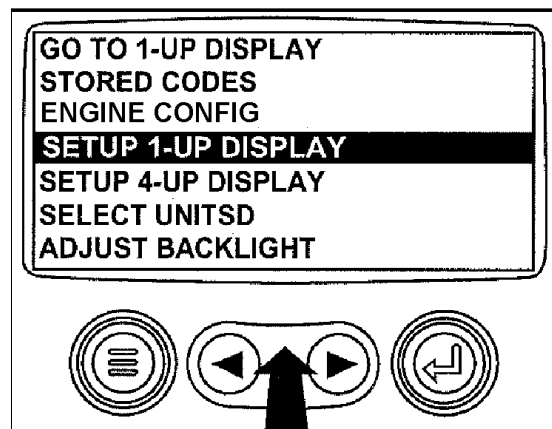
7. Press the "**Menu**" key to return to the engine parameter display.

Setup 1-Up Display

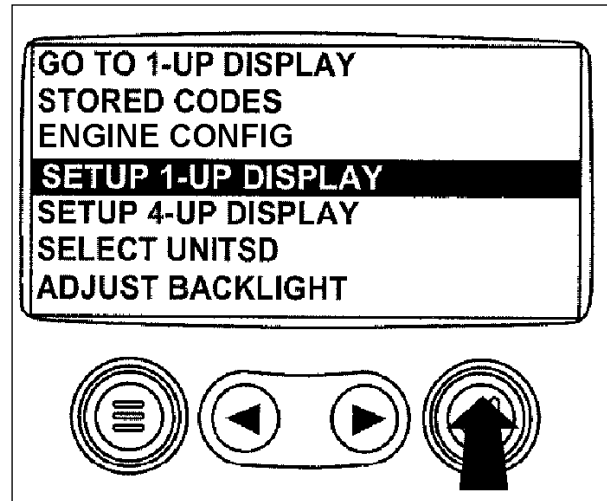
1. Turn the key switch to the **ON** position. Starting at the single engine parameter display, press the "**Menu**" key.



2. Use the "**Arrow**" keys to scroll through the menu until "**Setup 1-Up Display**" is highlighted.



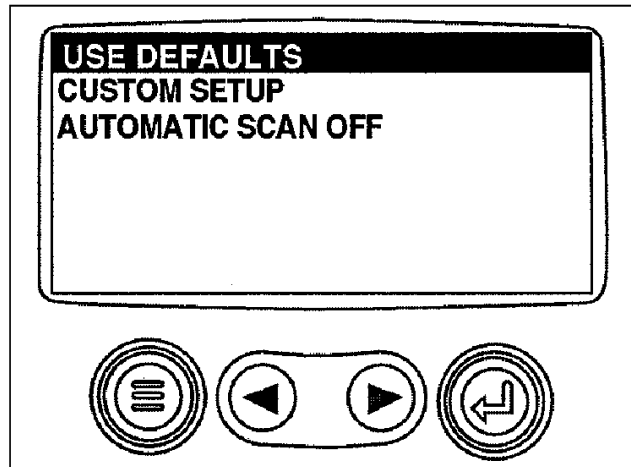
3. Once "**Setup 1-Up Display**" menu item has been highlighted press the "**Enter**" key to access the "**Setup 1-Up Display**" function.



4. Three options are available for modification of the 1-Up Display.

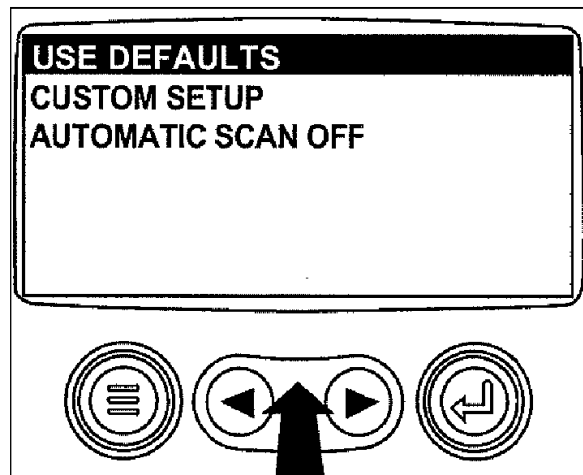
a. **Use Defaults** – This option contains the following engine parameters for display: Engine Hours, Engine Speed, Battery Voltage, % Load, Coolant Temperature and Oil Pressure.

b. **Custom Setup** – This option contains a list of engine parameters. Engine parameters from this list can be selected to replace any or all of the default parameters. This option can be used to add parameters available for scrolling in the 1-Up Display.

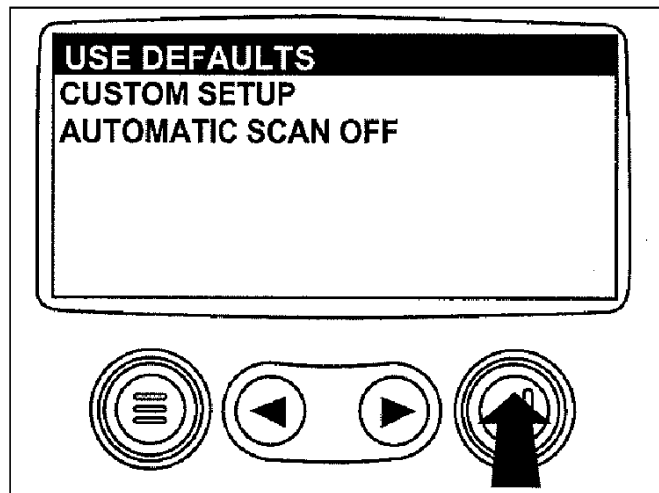


c. **Automatic Scan** – Selecting the scan function will allow the 1-Up Display to scroll through the selected set of parameters one at a time, momentarily pausing at each.

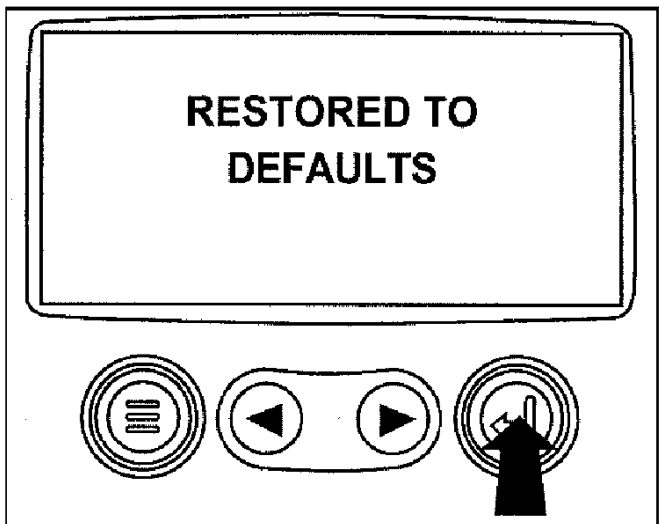
5. **Use Defaults** - To select "**Use Defaults**" use the Arrow keys to scroll to and highlight "**Use Defaults**" in the menu display.



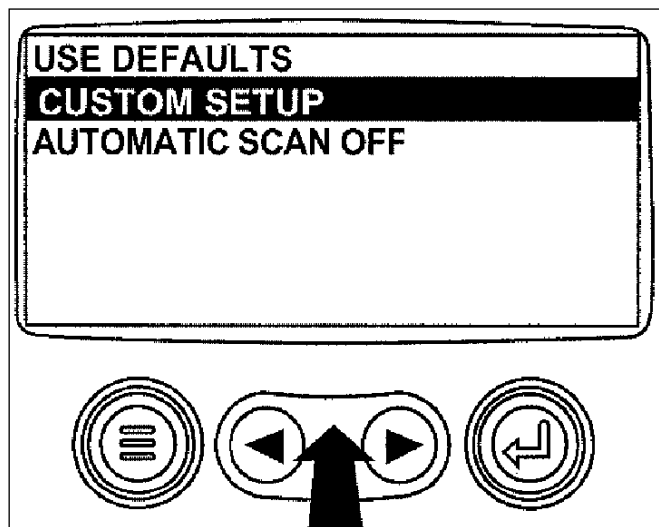
6. Press the "**Enter**" key to activate the "**Use Defaults**" function.



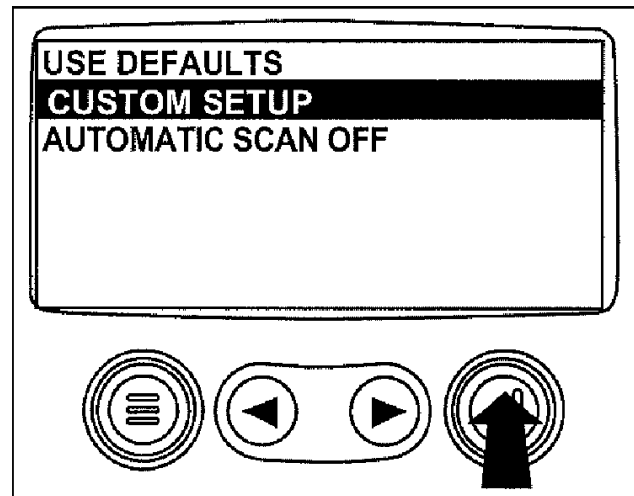
7. The display parameters are reset to the factory defaults, then the display will return to the "**Setup 1-Up Display**" menu.



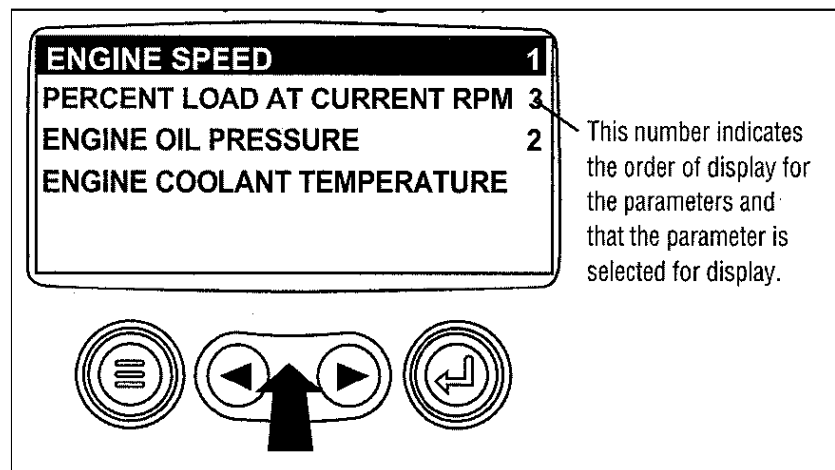
8. **Custom Setup** - To perform a custom setup of the 1-Up Display, use the arrow buttons to scroll to and highlight "**Custom Setup**" on the display.



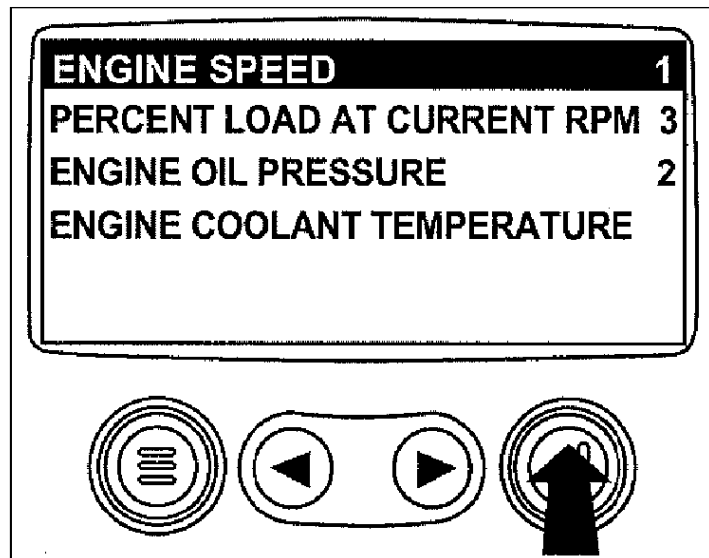
9. Press the "**Enter**" key to display a list of engine parameters.



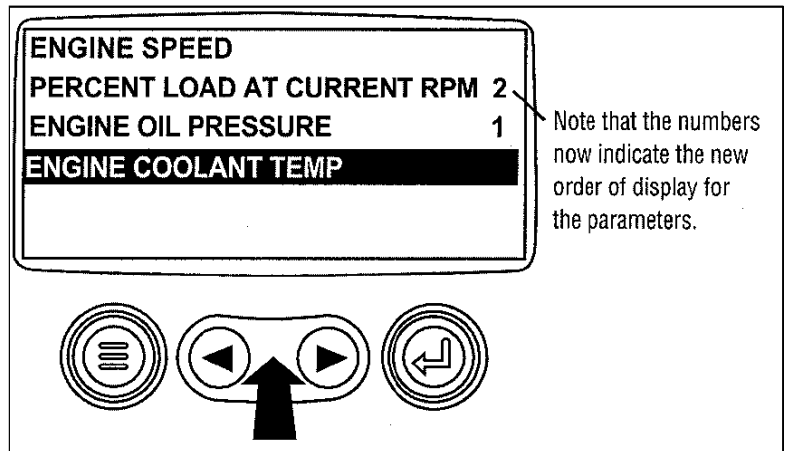
10. Use the "**Arrow**" keys to scroll to and highlight a selected parameter (parameter with a number to right of it).



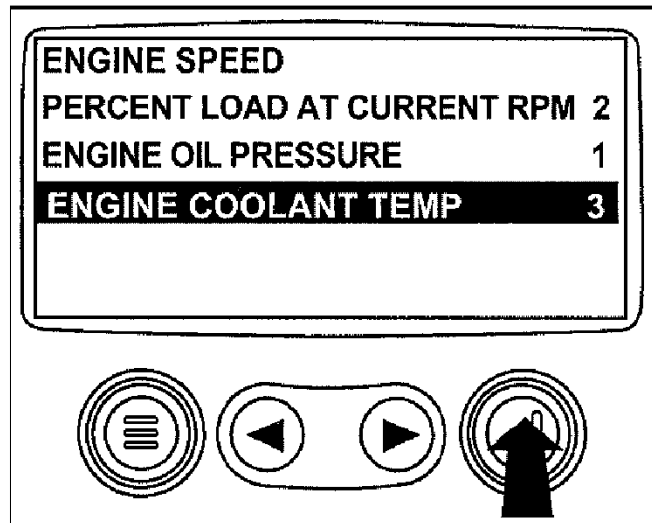
11. Press the "**Enter**" key to deselect the selected parameter, removing it from the list of parameters being displayed on the 1-Up Display.



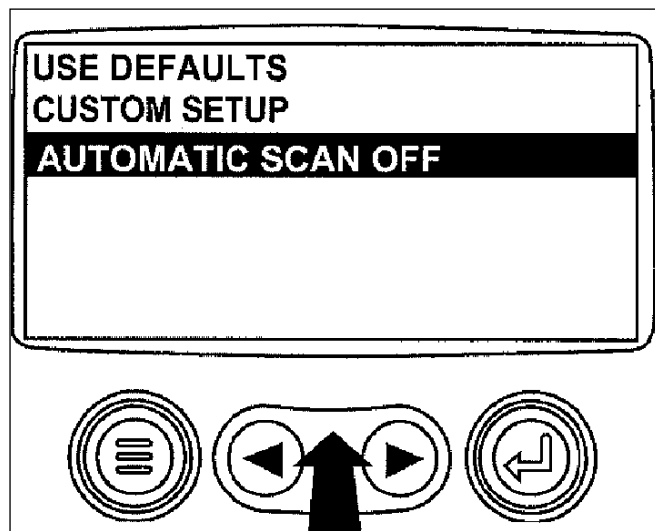
12. Use the "**Arrow**" keys to scroll and highlight the desired parameter that has not been selected for display (parameter without a number to right of it).



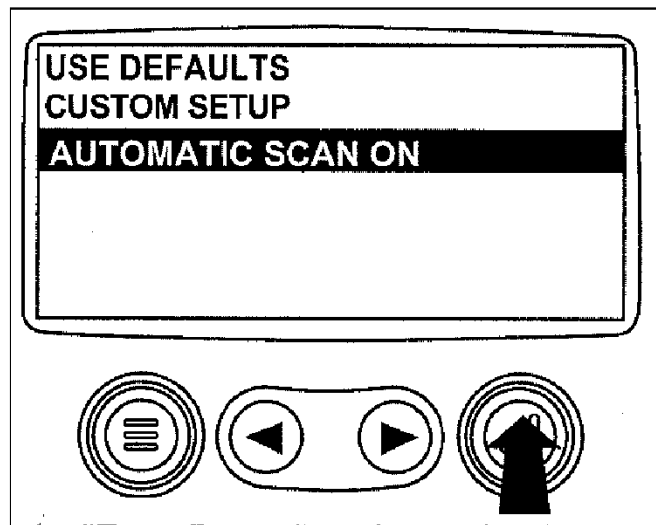
13. Press the "**Enter**" key to select the parameter for inclusion in the Single Engine Parameter Display.
14. Continue to scroll through and select additional parameters for the custom 1-Up Display. Press the "**Menu**" key at any time to return to the "**Custom Setup**" menu.



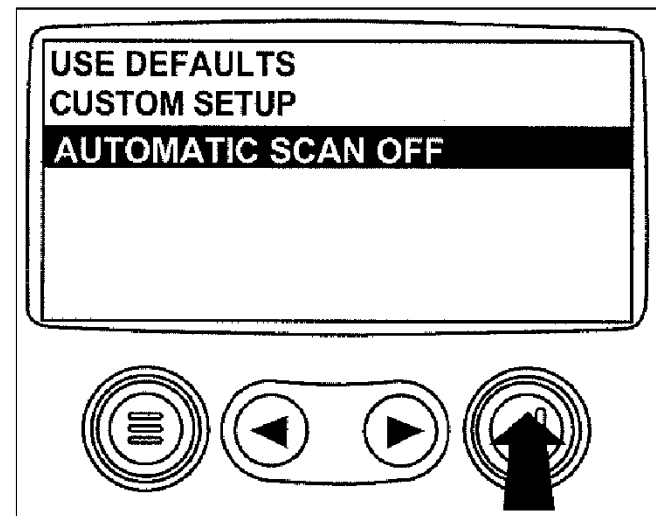
15. **Automatic Scan** - Selecting the scan function will allow the 1- Up Display to scroll through the selected set of parameters one at a time. Use the "**Arrow**" keys to scroll to the "**Automatic Scan**" function.



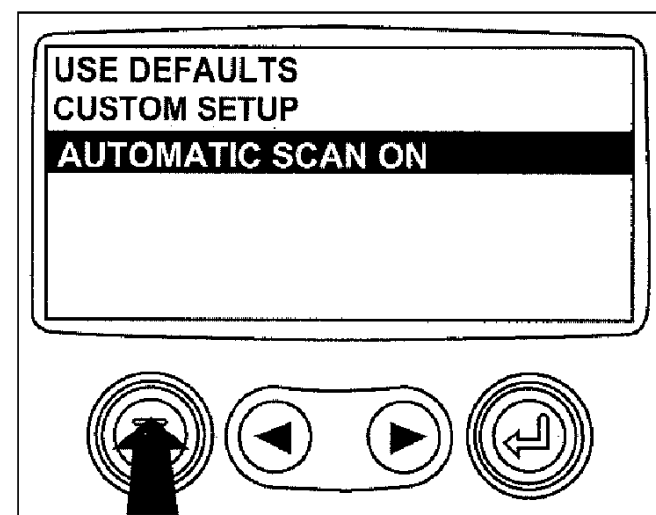
16. Press the "**Enter**" key to toggle the "**Automatic Scan**" function **ON**.



17. Press the "**Enter**" key again to toggle the "**Automatic Scan**" function **OFF**.



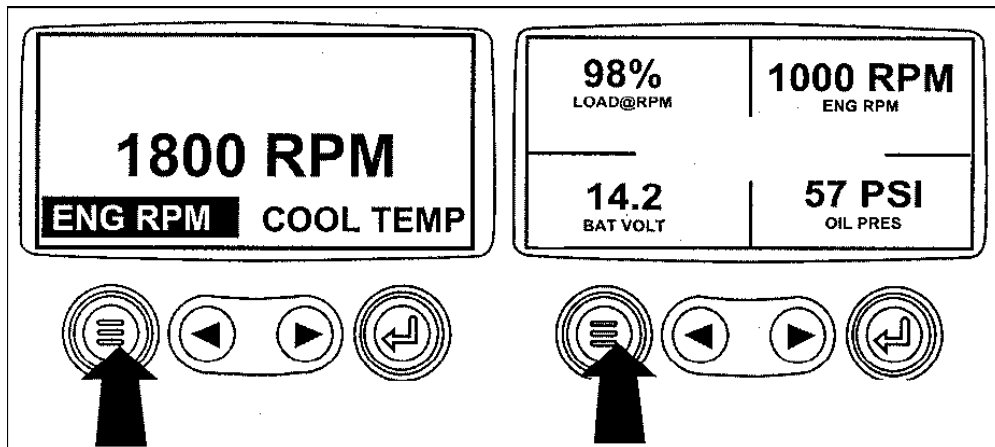
18. Once the "**Use Defaults**", "**Custom Setup**" and "**Automatic Scan**" functions have been set, press the "**Menu**" key to return to the main menu.



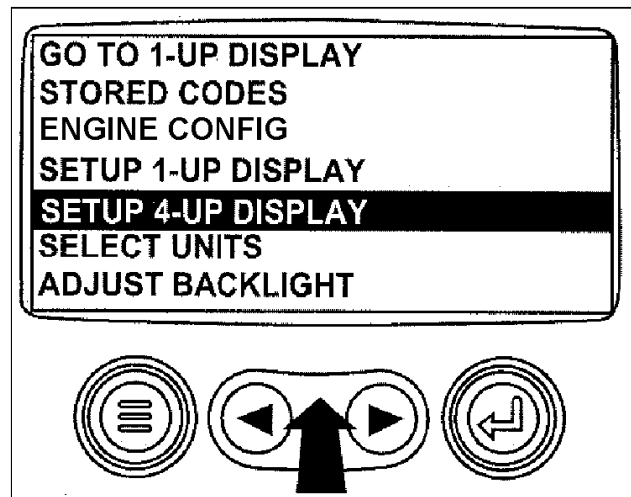
19. Press the "**Menu**" key to exit the main menu and return to the engine parameter display.

Setup 4-Up Display

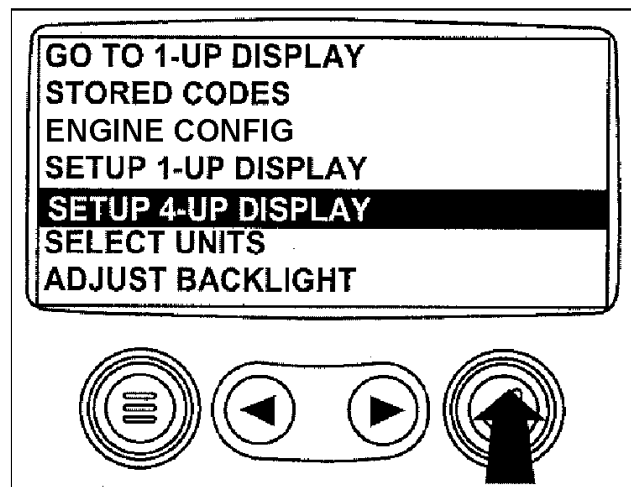
1. Turn the key switch to the **ON** position. From the single or four engine parameter display, press the **"Menu"** key.



2. The main menu will be displayed. Use the **"Arrow"** keys to scroll through the menu until **"Setup 4-Up Display"** is highlighted.



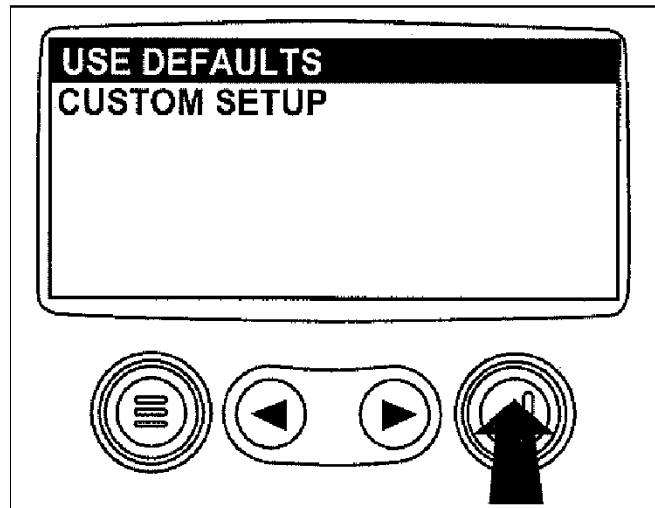
3. Once the **"Setup 4-Up Display"** menu item has been highlighted, press the **"Enter"** key to activate the **"Setup 4-Up Display"** menu.



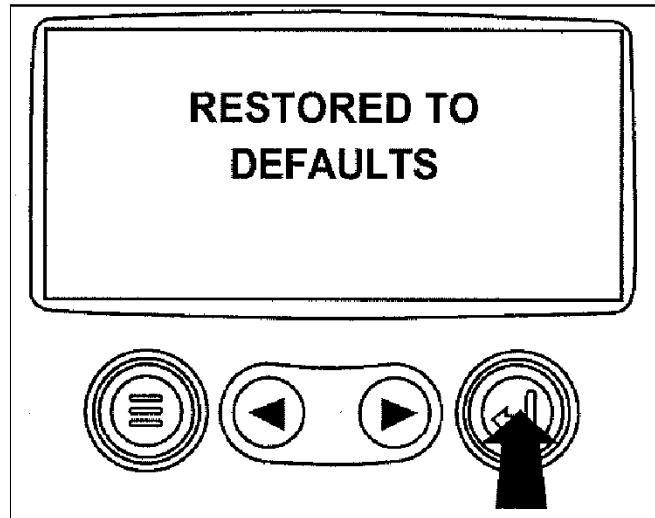
4. Two options are available for the 4-Up Display;

a. **Use Defaults** – This option contains the following engine parameters for display: Engine Speed, Battery Voltage, Coolant Temperature and Oil Pressure.

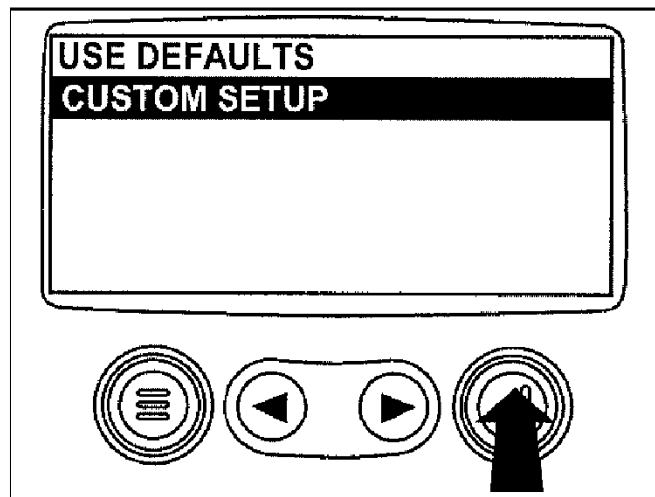
b. **Custom Setup** – This option contains a list of engine parameters. Engine parameters from this list can be selected to replace any or all of the default parameters.



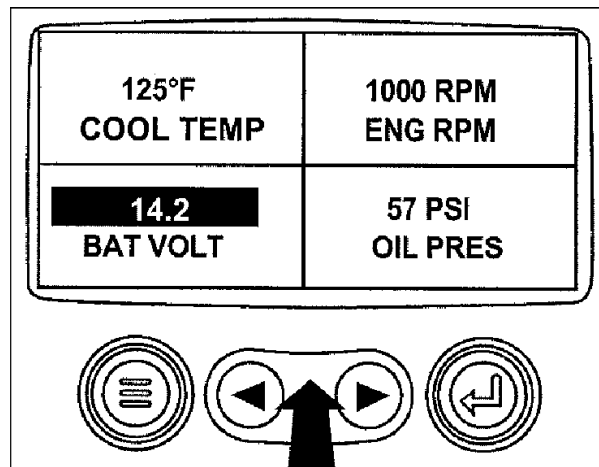
5. To reset the display parameters to the factory defaults, scroll to and highlight "Use Defaults". Press the "Enter" key to activate the "Use Defaults" function. A message indicating the display parameters are reset to the factory defaults will be displayed, then the display will return to the "Setup 4-Up Display" menu.



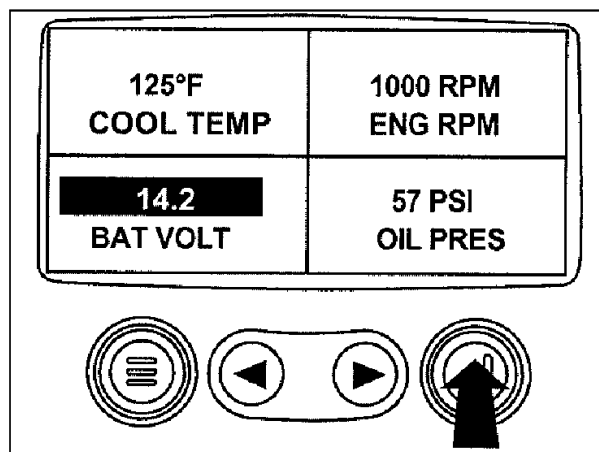
6. **Custom Setup** - To perform a custom setup of the 4-Up Display, use the arrow buttons to scroll to and highlight "Custom Setup" on the display.



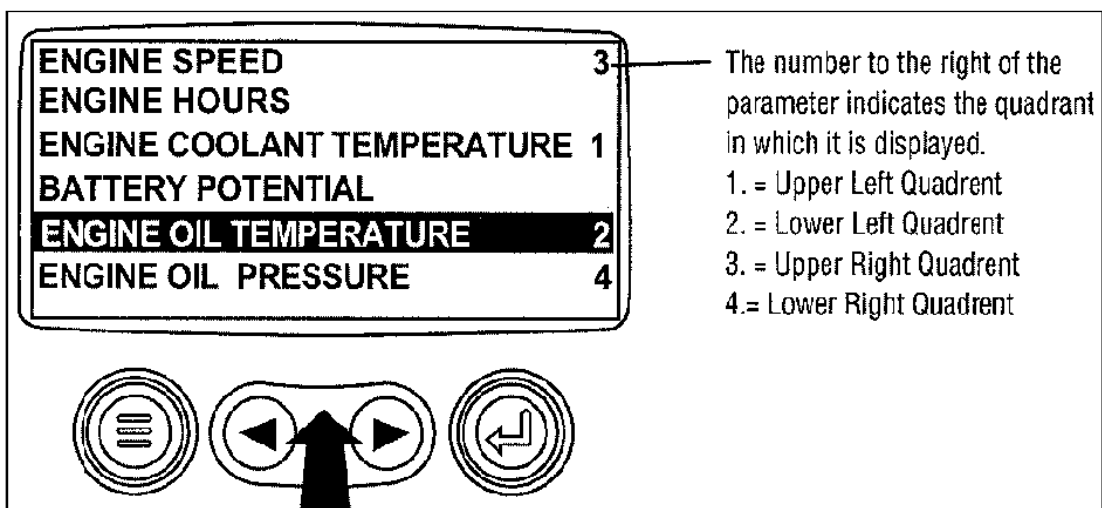
7. The quadrant with the highlighted parameter value is the current selected parameter. Use the "**Arrow**" keys to highlight the value in the quadrant you wish to change to a new parameter.



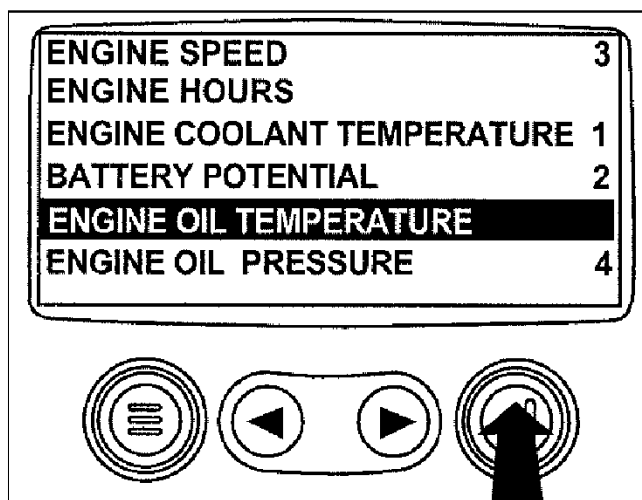
8. Press the "**Enter**" key and a list of engine parameters will be displayed.



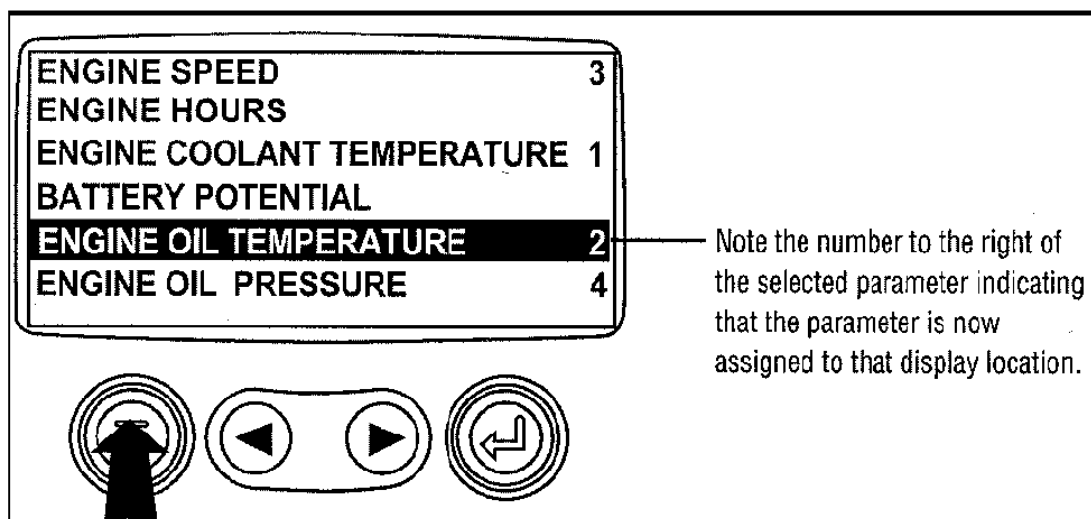
9. The parameter that is highlighted is the selected parameter for the screen. Use the "**Arrow**" keys to highlight the new parameter to be placed in the "**4-Up Display**".



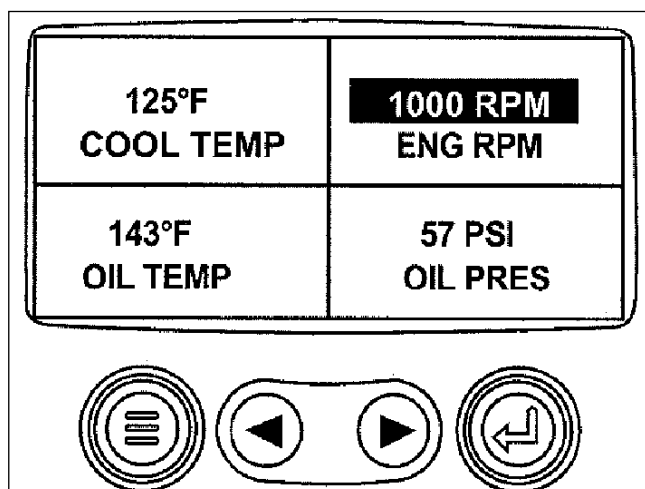
10. Press the "**Enter**" key to change the selected parameter in the quadrant to the new parameter.



11. Use the "**Menu**" keys to return to the "4-Up Custom Setup" screen.

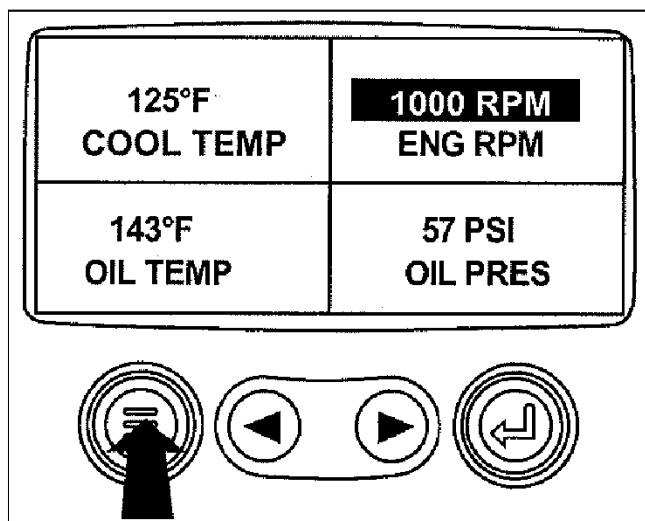


12. The selected quadrant has now changed to the new selected parameter.

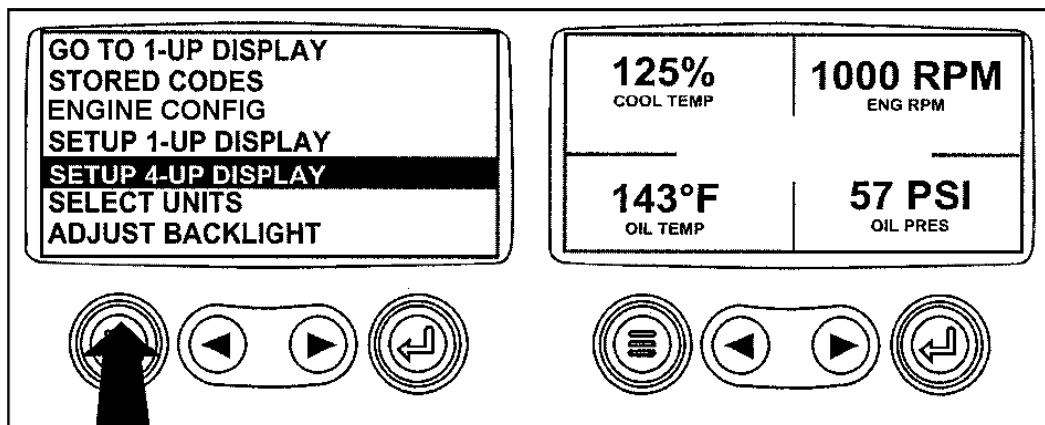


13. Repeat the parameter selection process until all spaces are as desired.

14. Press the "**Menu**" key to return to the main menu.



15. Press the "**Menu**" key to exit the main menu and return to the engine parameter display.

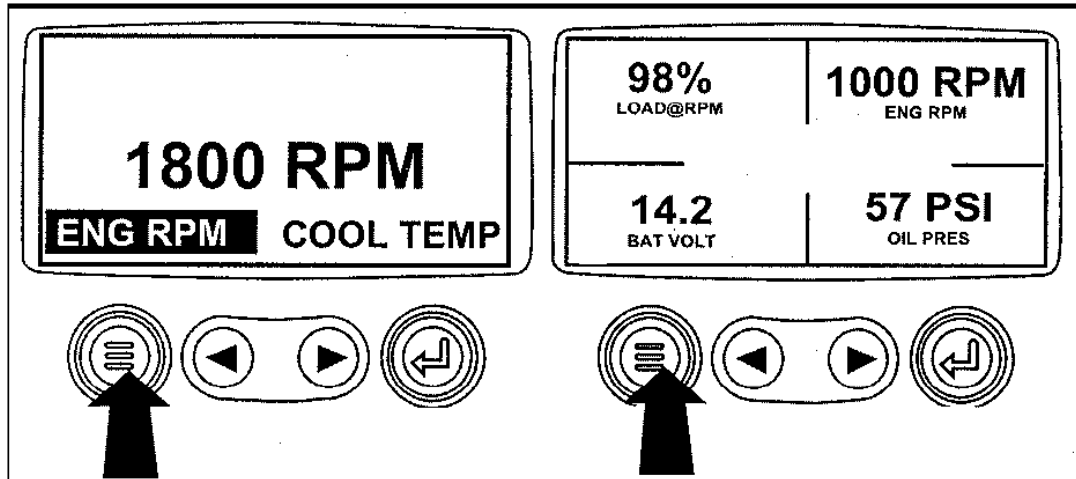


Accessing Stored Trouble Codes

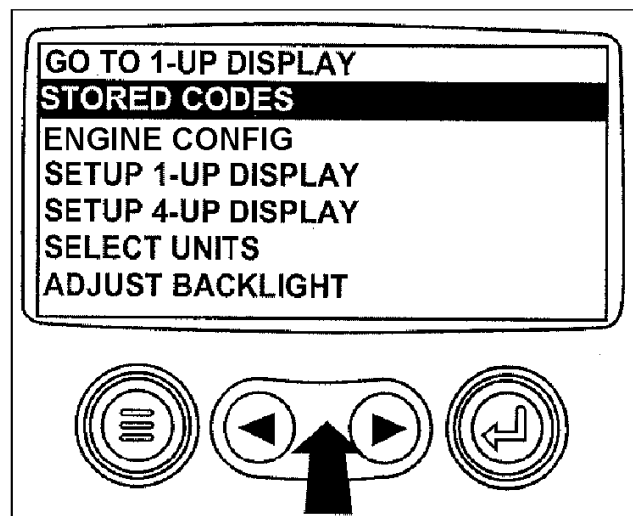
NOTE: The engine does not need to be running to navigate the diagnostic gauge screens. If engine start up is desired, See *Starting The Engine*. All of the engine values illustrated on the diagnostic gauge indicate the engine is running.

For description of trouble codes, see chart in *Troubleshooting Section*.

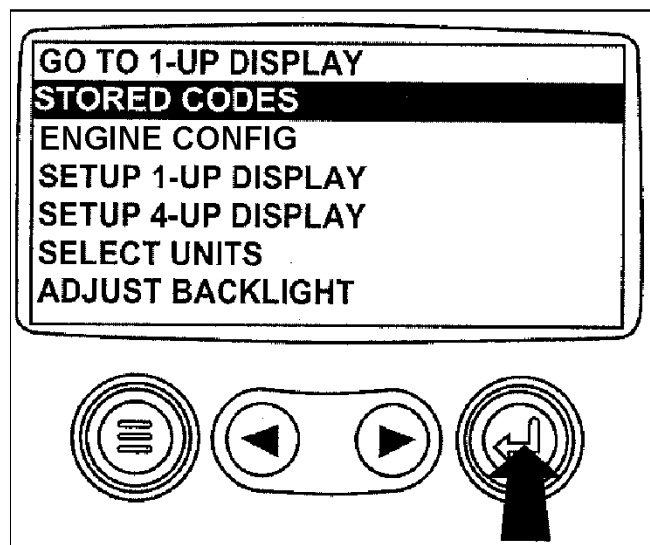
1. Turn the key switch to the **ON** position. Starting at the single or four engine parameter display, press the **"Menu"** key.



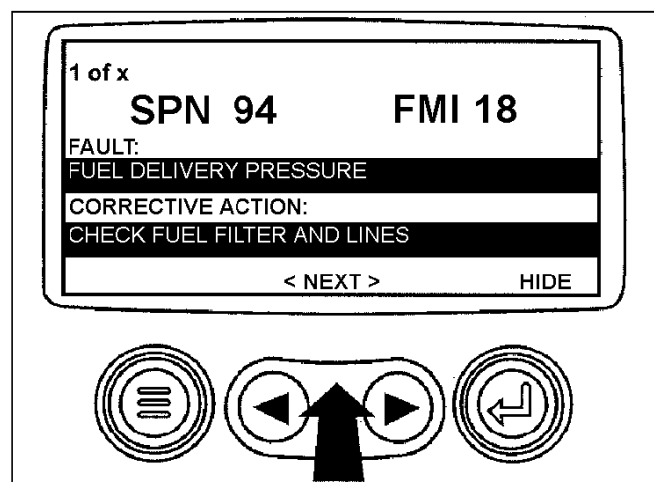
2. The main menu will be displayed. Use the **"Arrow"** keys to scroll through the menu until **"Stored Codes"** is highlighted.



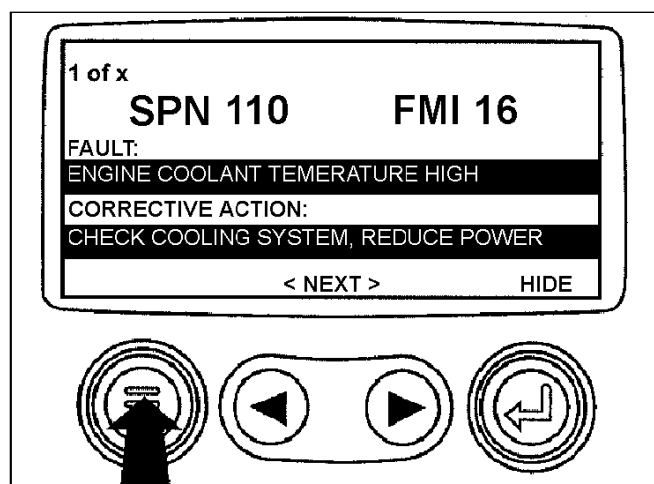
3. Once the "**Stored Codes**" menu item has been highlighted press the "**Enter**" key to view the stored codes.



4. If the word "**Next**" appears above the "**Arrow**" keys, there are more stored codes that may be viewed. Use the "**Arrow**" key to scroll to the next stored code.



5. Press the "**Menu**" key to return to the main menu.

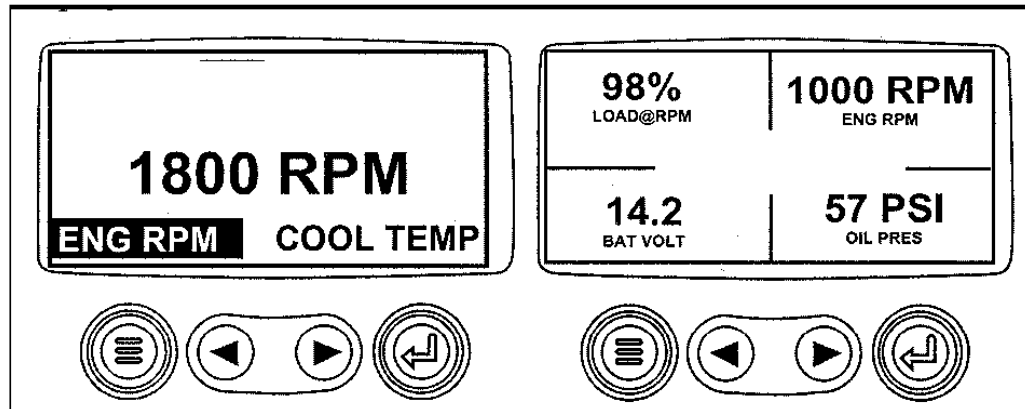


6. Press the "**Menu**" key to exit the main menu and return to the engine parameter display.

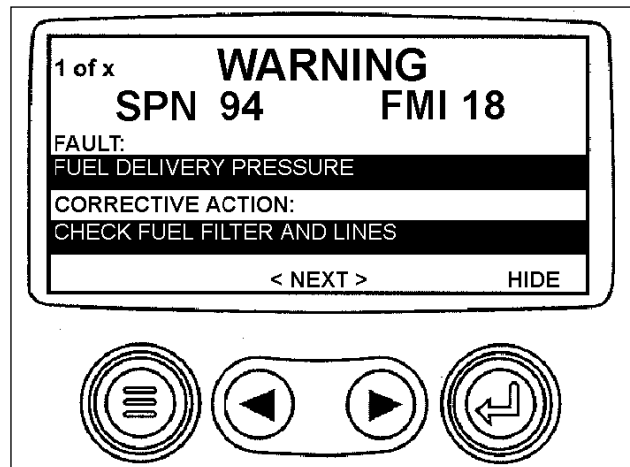
Accessing Active Trouble Codes

NOTE: The engine does not need to be running to navigate the diagnostic gauge screens. If engine start up is desired, See *Starting The Engine*. All of the engine values illustrated on the diagnostic gauge indicate the engine is running. For description of trouble codes, see chart in *Troubleshooting Section*.

1. During normal operation the single or four parameter screen will be displayed.

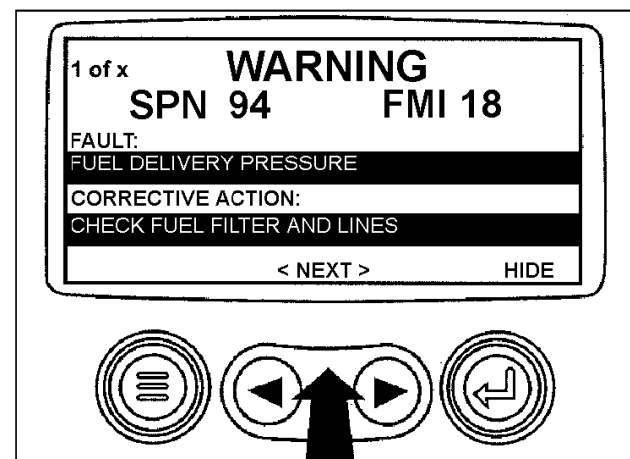


2. When the diagnostic gauge receives a trouble code from an engine control unit, the single or four parameter screen will be replaced with the "WARNING" message. The SPN and FMI number will be displayed along with a description of the problem and the corrective action needed.



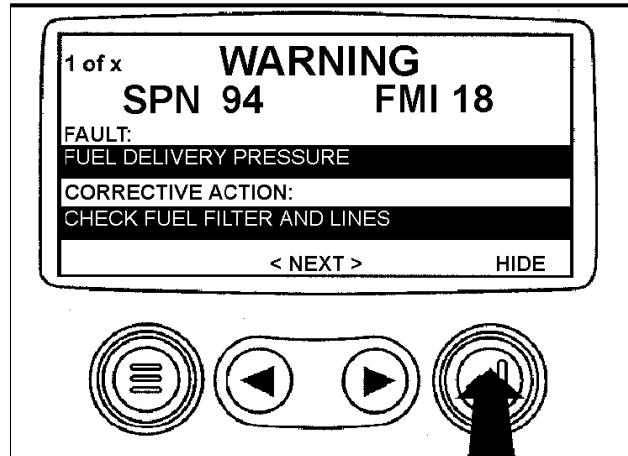
IMPORTANT: Ignoring active trouble codes can result in severe engine damage.

3. If the word "Next" appears above the arrow keys, there are more trouble codes that can be viewed by using the arrow keys to scroll to the next trouble code.

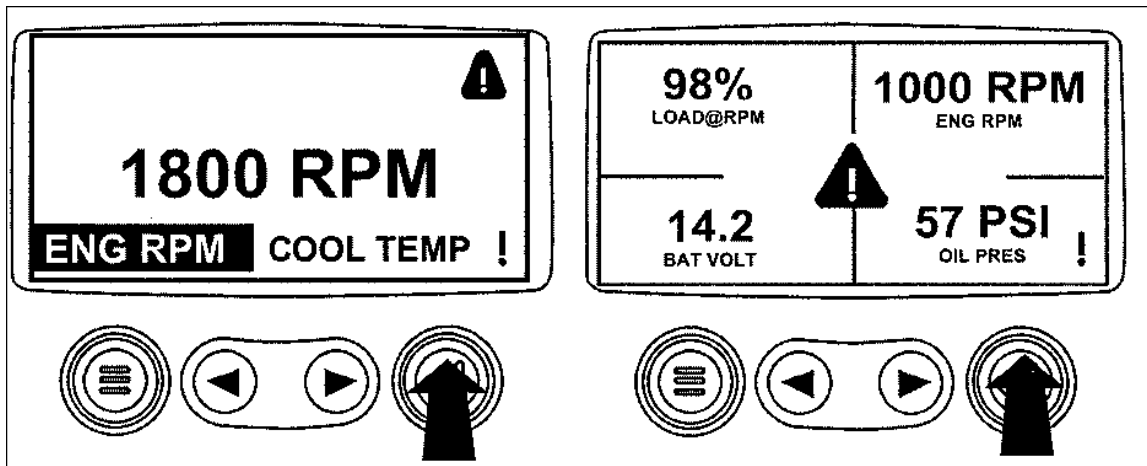


IMPORTANT: Ignoring active trouble codes can result in severe engine damage.

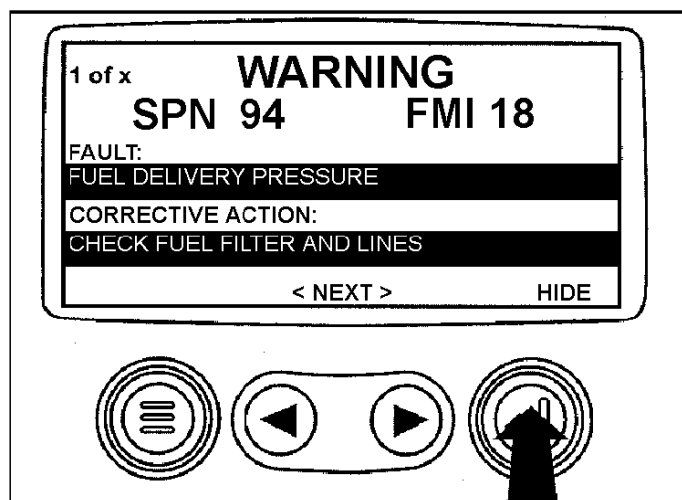
4. To acknowledge and hide the code and return to the single or four parameter display, press the **"Enter"** Key.



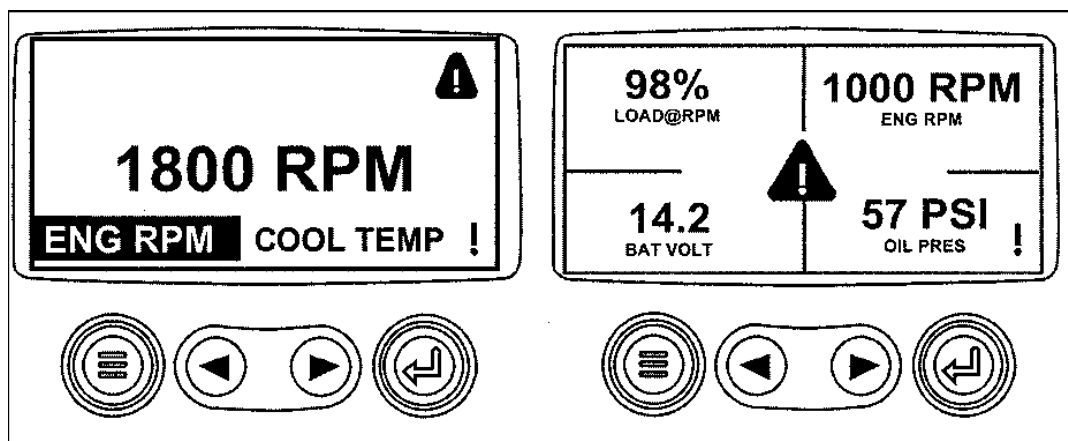
5. The display will return to the single or four parameter display, but the display will contain the **warning icon**. Pressing the **"Enter"** key will redisplay the hidden trouble code.



6. Pressing the **"Enter"** key once again will hide the trouble code and return the screen to the single or four parameter display.



7. The single or four parameter screen will display the **warning icon** until the trouble code condition is corrected.



IMPORTANT: Ignoring active trouble codes can result in severe engine damage.

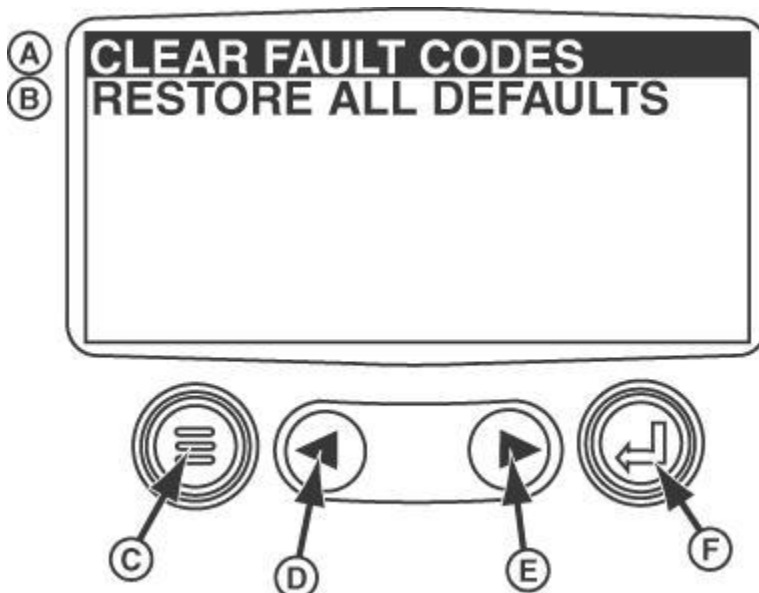
Clearing Stored DTC's on Diagnostic Gauge (PowerView)

NOTE: For more detailed information on the diagnostic gauge, see the PowerView Installation and Operation Manual or your **John Deere Engine Operation and Maintenance Manual**. **Operation manual does not explain clearing DTC's.**

The engine does not need to be running to navigate the diagnostic gauge screens. For description of trouble codes, see chart in Troubleshooting Section of appropriate engine technical manual (CTM).

LEGEND:

- A - Clear Fault Codes
- B - Restore All Defaults
- C - Menu (Select) Key
- D - Scroll Up Arrow Key
- E - Scroll Down Arrow Key
- F - Enter Key



1. Turn power to diagnostic gauge **OFF**.
2. Turn power **ON** to diagnostic gauge. **As soon as screen backlight comes on, simultaneously press and hold Menu (C) and Enter (F) keys.** A menu appears (See figure 1.) on the screen with the following options: "Clear Fault Codes" (A); and, "Restore All Defaults" (B), with "Clear Fault Codes" item highlighted.

NOTE: Because there is only a split-second moment when this step can successfully be performed, it might have to be done more than once before success is achieved.

3. With "Clear Fault Codes" item highlighted, press enter (F) key.
4. Screen displays that stored fault codes have been cleared. →
5. Prior to restarting the engine or other such operation, turn power to the diagnostic gauge **OFF**, then turn it back **ON** again.

