4. CLUSTER DIAGNOSTICS

4.1. Test at Turn On

When ignition voltage is first applied to the cluster, all the tell-tales, except turn signals, turn on for 2 seconds, then, turned off. Simultaneously, all the gauges reference themselves and then go to the position corresponding to their current reading.

4.2. Access to diagnostic menus and menu operation

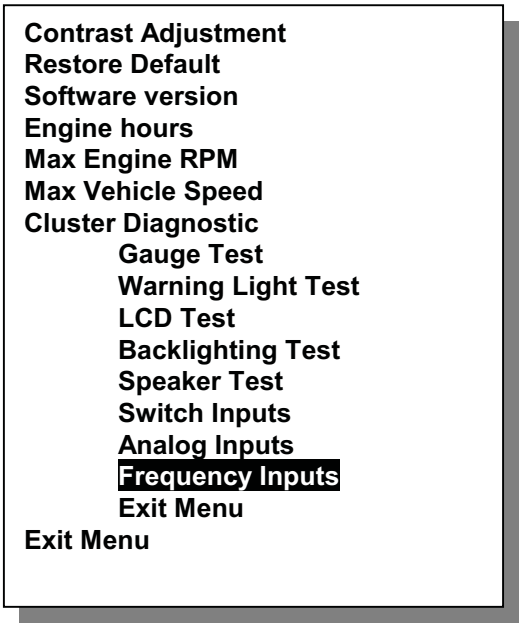
4.2.1. Access to diagnostic menus

On-board diagnostic functions are displayed in the message center. They can be accessed if the vehicle transmission is in PARK or if the vehicle PARK BRAKE is set and the MODE switch is pressed and held for at least 5 seconds. To exit diagnostics, select "EXIT MENU" or turn the vehicle ignition off then back on.

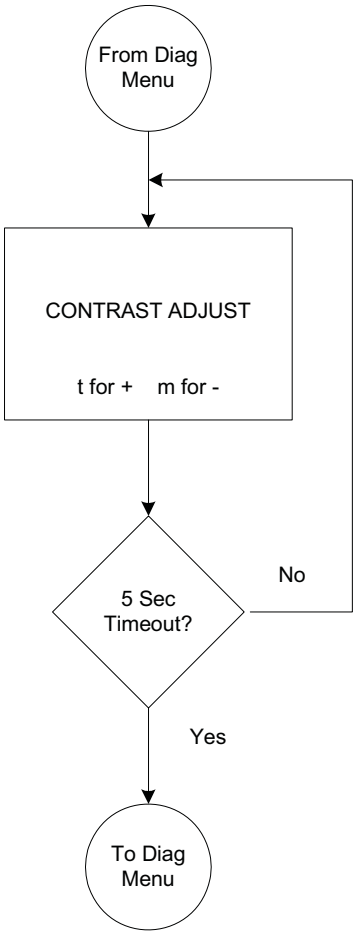
4.2.2. Menu Operation

Menus have 4 lines. To make a selection, a line must first be highlighted. To highlight a line, the trip switch is used to scroll up and the mode switch is used to scroll down. The highlighted line is shown in **reverse video**. Once highlighted, the line can be selected in either of two ways. Depressing and then releasing both the trip and mode switches at the same time chooses the line. Or, after 3 seconds of inactivity, the line shown in reverse video is automatically chosen.

A summary of all menu lines available in self-diagnostic mode is shown below.

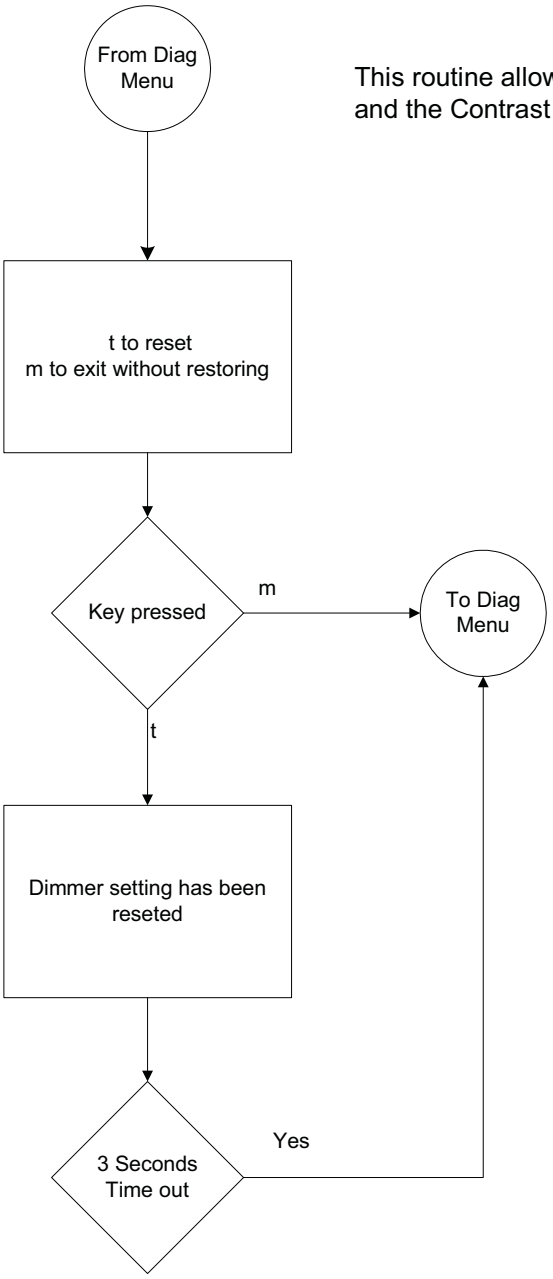


4.3. Contrast Adjustment



This routine adjusts the contrast of the LCD display. The new setting is stored in non volatile memory

4.4. Restore Default



This routine allows the user to restore the setting of the Dimmer and the Contrast to the original factory value.

4.5. Software version

Displays the software part number and version programmed into the micro controller.

Pressing the mode switch exits to the diagnostic menu. (The message "m to exit" appears on the screen).

4.6. Engine hours

Displays the engine hours.

Pressing the mode switch exits to the diagnostic menu. (The message “m to exit” appears on the screen).

4.7. Max Engine RPM

Displays the maximum engine RPM that was sustained for > 3 seconds.

Pressing the mode switch exits to the diagnostic menu. (The message “m to exit” appears on the screen).

4.8. Max Vehicle Speed

Displays the maximum vehicle speed that was sustained for > 5 seconds.

Pressing the mode switch exits to the diagnostic menu. (The message “m to exit” appears on the screen).

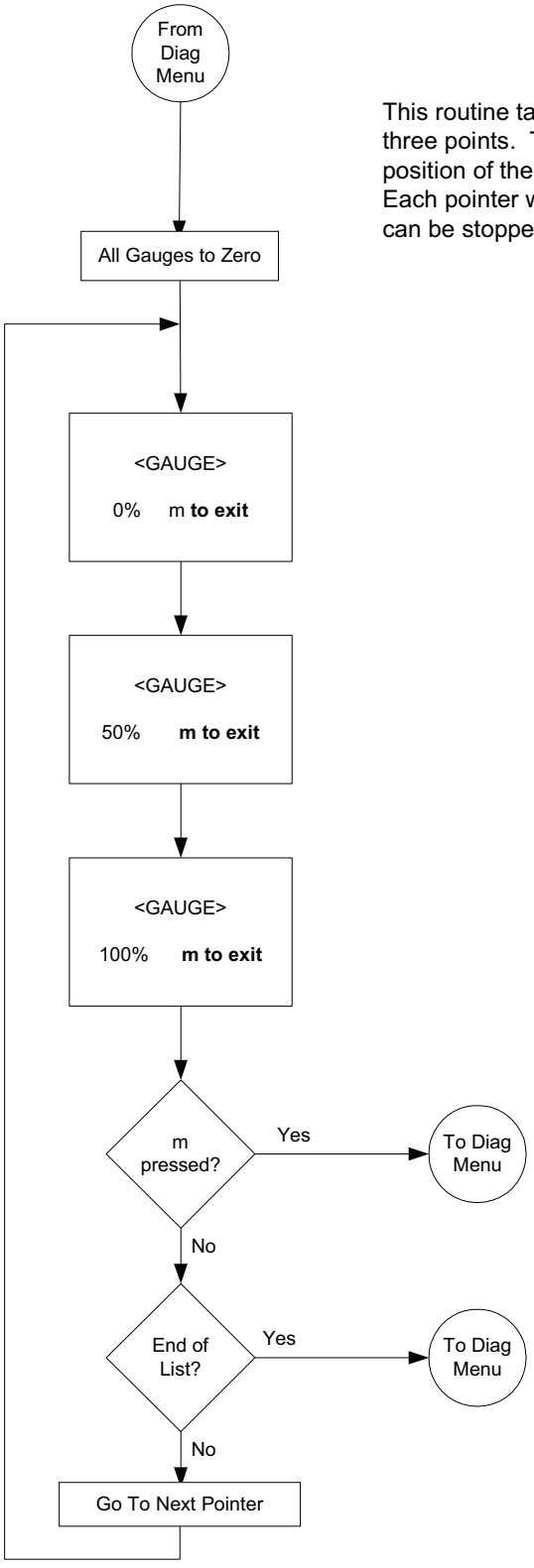
4.9. Cluster Self Diagnostics

Cluster diagnostics gives the technician two powerful tools for determining whether or not a cluster needs replacement.

The first tool, Master Mode, gives the technician control over the outputs of the cluster. The technician can individually test all four gauges, all 17 warning lights, the LCD pixels, backlighting and speaker.

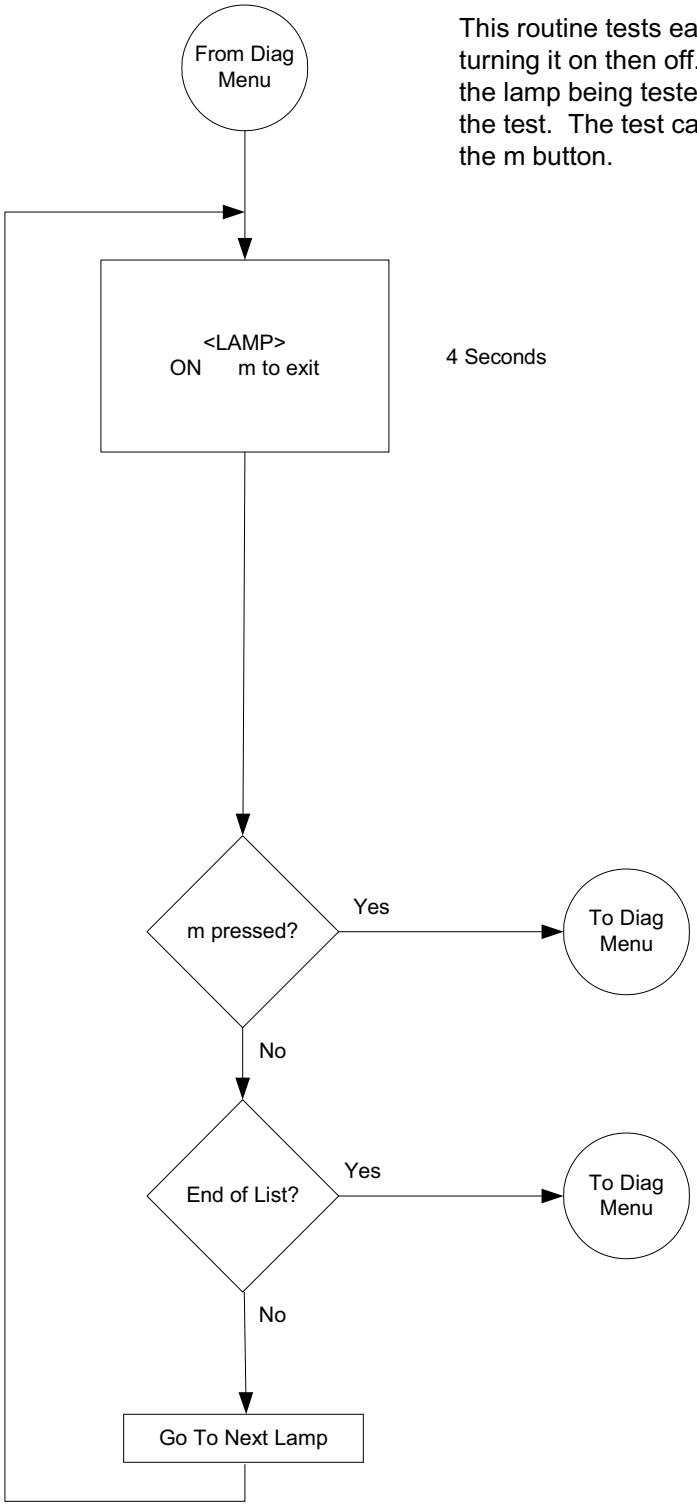
The second tool, Current Value Monitor, shows the technician in real time the status of the cluster inputs. The technician can test switch inputs, analog inputs and frequency inputs.

4.9.1. Gauge Test

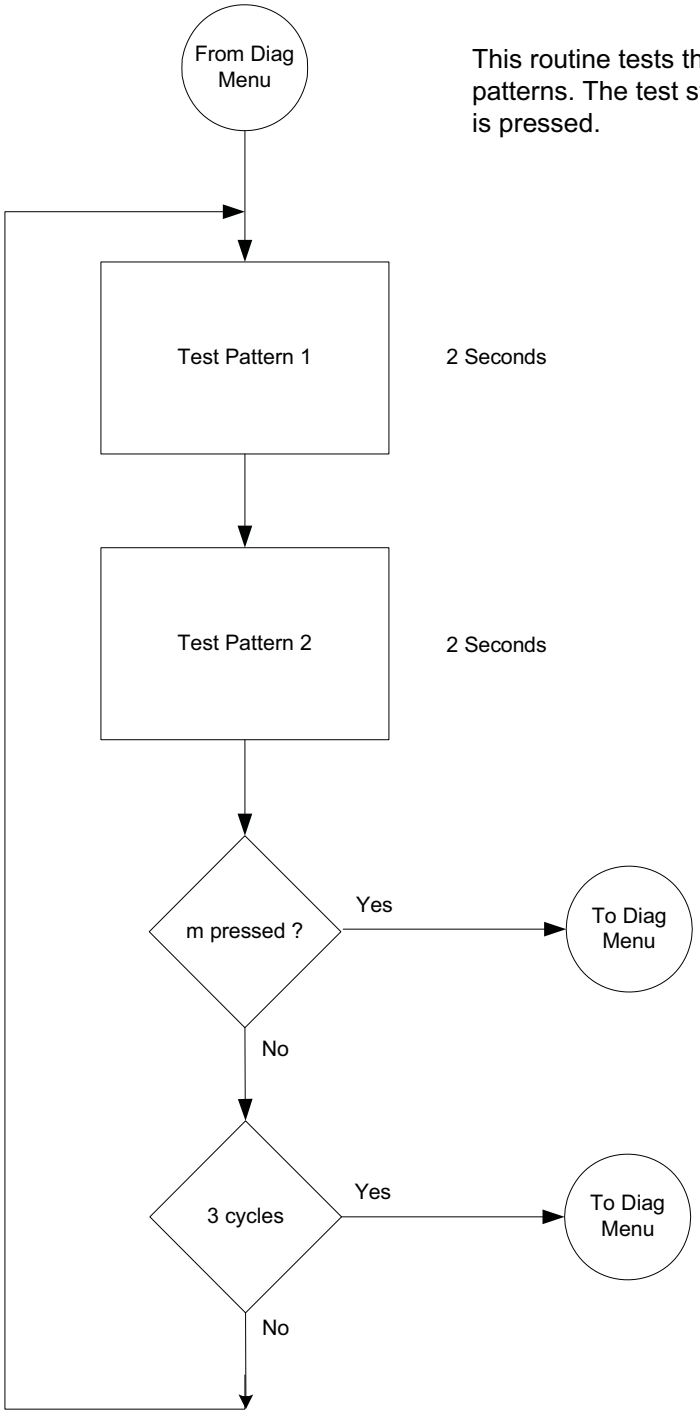


This routine takes each pointer through three points. The display indicates the position of the pointer during the test. Each pointer will be checked. The test can be stopped by pressing the m button.

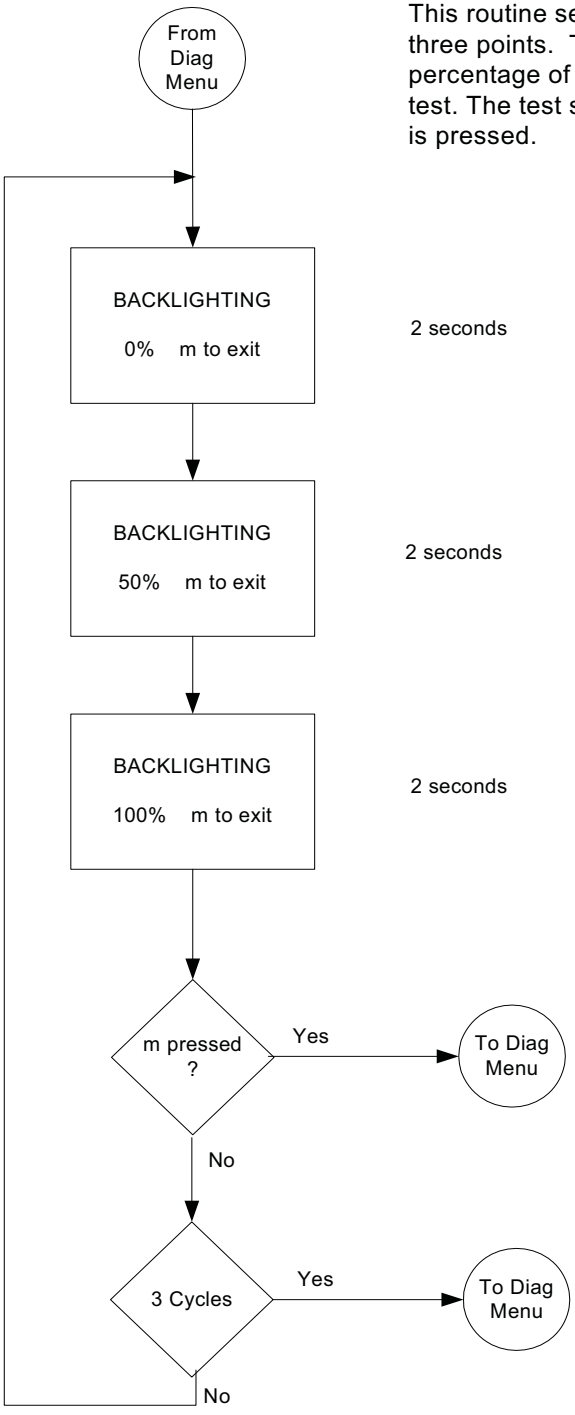
4.9.2. Warning Lamps Test



4.9.3. LCD Test


From Diag Menu
This routine tests the LC Display using test patterns. The test stops after 3 cycles or if m is pressed.
Test Pattern 1
2 Seconds
Test Pattern 2
2 Seconds
m pressed ?
Yes
To Diag Menu
No
3 cycles
Yes
To Diag Menu
No

4.9.4. Backlighting Test



This routine set the backlighting through three points. The display indicates the percentage of the backligting during the test. The test stops after 3 cycles or if m is pressed.