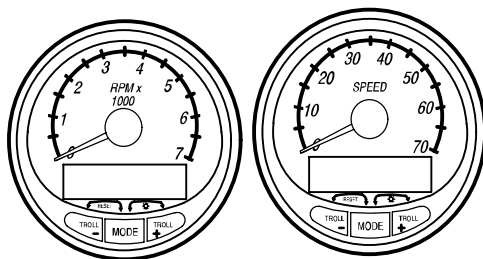
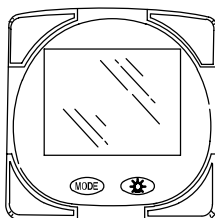


MERCURY

SmartCraft

Operation Manual



**THIS MANUAL DESCRIBES THE SMARTCRAFT GAUGE
SYSTEMS AVAILABLE FOR YOUR BOAT**

PRODUCT IDENTIFICATION

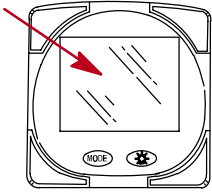
For boats equipped with SmartCraft gauge systems, look to the descriptions below to identify the system in the boat. Please read about the SmartCraft system to get the best performance from them.

Part 1

Monitor

Software Version 1.01 & 1.02

NOTE: Software version will flash on screen at start up

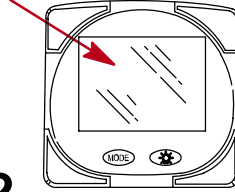


Part 1

Monitor

Software Version 2.00

NOTE: Software version will flash on screen at start up



Part 2

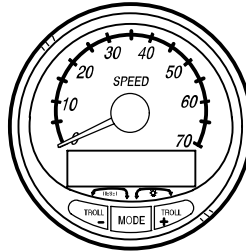
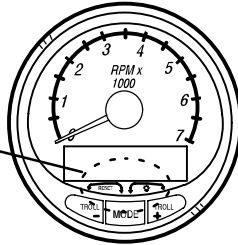
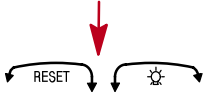
Part 2

MONITOR 1.01-1.02

MONITOR 2.00

System Tachometer and Speedometer

Note: Look for RESET and Brightness arrows



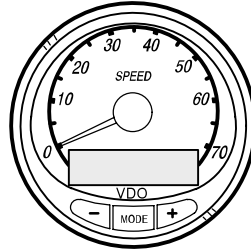
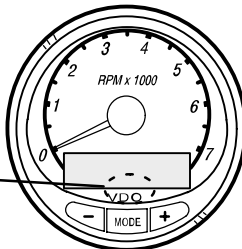
Part 3

Part 3

SYSTEM TACH & SPEED

Smart Tachometer and Speedometer

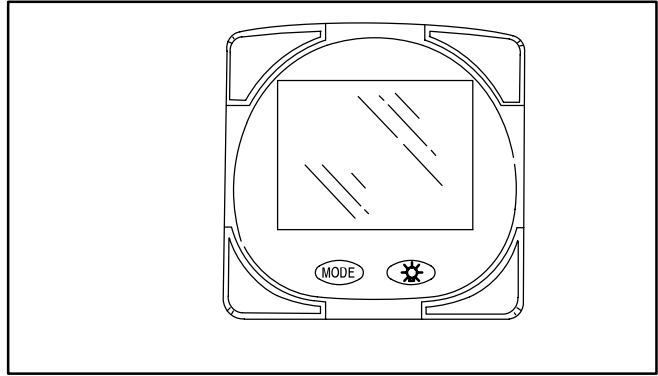
NOTE: Look for letters "VDO"



Part 4

Part 4

SMART TACH & SPEED



Part 1

Monitor with Software Version 1.01 and 1.02

Legend	1-1
Basic Operation	1-2
Standard Information Display Screens	1-3
Shallow Water Alarm	1-6
Warning System	1-7
Warning Display Screens	1-7
CAL 1 Calibration	1-9
CAL 2 Calibration	1-12

NOTE: *This manual shows all the Monitor display screens that are available. Depending on your type of engine, not all these screens will apply.*

Monitor with Software Version 1.01 and 1.02 is compatible with:

2001 model year and newer Mercury Outboard models that are designed for use with SmartCraft.

MONITOR – VERSION 1.01-1.02

Legend

A = *A*

L = *L*

B = *B*

N = *N*

C = *C*

O = *O*

D = *D*

P = *P*

E = *E*


S = *S*


F = *F*

T = *T*

I = *I*


U = *U*


 = Engine

 = Fuel

 = Water Temperature


 = Water Pressure


 = Oil

 = Alarm

MONITOR – VERSION 1.01-1.02

Basic Operation

This monitor is an LCD multi-function display gauge. A variety of displays can be activated using the  button.

Pressing the  button scrolls the following displays: fuel used, tachometer (RPM), fuel flow, power trim position, engine temp, water pressure, battery voltage, range (if calibrated), and water depth (if equipped with transducer).

The System Monitor will power up when the ignition is turned on.

The display includes a backlight which allows you to read it at night.

The backlight brightness is adjustable using  button.

In the event of a warning alarm, the warning icon(s) will be displayed.

MONITOR – VERSION 1.01-1.02

Standard Information Display Screens



Software Version



Engine Hours


Initial Power Up

At power up, a momentary (1 second) screen displays the current monitor software version, followed by a 4 second display showing hours of engine use.



Fuel Used

Displays approximate fuel used since the last reset. **Reset** will return display back to 0.

You can **Reset** anytime by pressing **MODE** and  buttons together momentarily.



Engine RPM

Tachometer – Displays engine speed in Revolutions Per Minute (RPM).

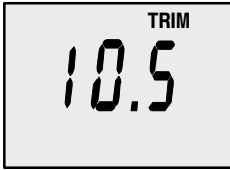


Fuel Flow

Displays current estimated individual engine fuel consumption in Gallons per hour (Gal/hr) or Liters per hour (Ltr/hr).

MONITOR – VERSION 1.01-1.02

Standard Information Display Screens

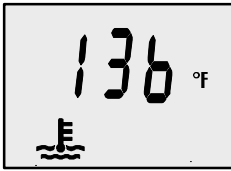


Trim Position

Displays trim position of the propulsion unit up to the maximum trim position, and then displays the trailer position.

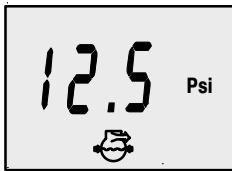
0 = down,
10 = full trim
25 = full trailer.

NOTE: This screen can be set to pop up whenever the trim switch is used. Refer to the CAL 1 Calibrations.



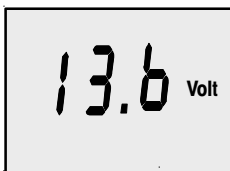
Engine Temperature

Displays the engine temperature in degrees Fahrenheit (°F) or Celsius (°C).



Water Pressure

Displays the engine temperature in degrees Fahrenheit (°F) or Celsius (°C).



Battery Voltage

Displays voltage level (condition) of battery.

MONITOR – VERSION 1.01-1.02

Standard Information Display Screens

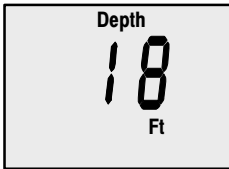


Range

Displays estimated range based on current fuel consumption and fuel remaining in the tank that is connected to the system. The number displayed is an estimate of the distance you can travel on the remaining fuel at current boat speed.

NOTE: Two requirements to activate this screen,

- 1. you must perform the fuel tank calibration in CAL 2. Refer to the CAL 2 Calibrations Section.*
- 2. You must have a speed input device connected to the system (paddle wheel or pitot pressure transducer).*



Water Depth

Displays the depth of water under the transducer if connected.



NOTE: You must have a depth transducer connected to the system in order for this screen to operate.

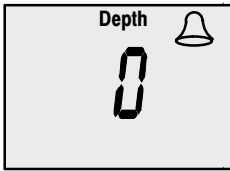
MONITOR – VERSION 1.01-1.02


Shallow Water Alarm

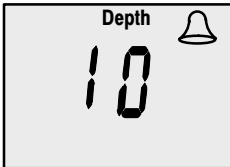
You can set an alarm to trigger whenever the boat moves into water shallower than the alarm level.

Setting Shallow Water Alarm.

1. The water depth screen must be displayed. Be sure Depth is turned on in CAL 2. Refer to CAL 2 Calibration Section.
2. Press both **MODE** and  buttons together for 3 seconds.
3. The alarm on or off menu will appear.
4. Press the  button to toggle to ON.



5. Push **MODE** button to save.
6. The depth number will be flashing. Press the  button to set the flashing number to desired alarm depth. 100 ft maximum depth and 2 ft minimum depth.



7. Push **MODE** button to save.

MONITOR – VERSION 1.01-1.02

Warning System

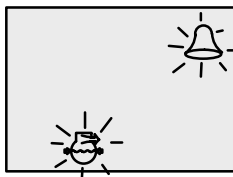
When a problem is detected with the engine, the warning display screens will alert the operator to the potential problem. Refer to the Engine Operation, Maintenance Manual for explanation of the problem and the correct action to take.

If problem can cause immediate engine damage, the Engine Guardian System will respond to the problem by limiting engine power. Immediately reduce throttle speed to idle. Refer to the Engine Operation, Maintenance Manual for further explanation of the problem and the correct action to take.

If the mode button is pressed to a different screen, the flashing alarm signal will remain flashing to indicate there still is a problem.

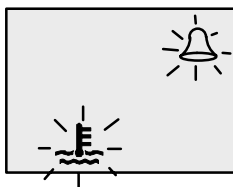
Warning Display Screens

IMPORTANT: Refer to the Engine Operation, Maintenance Manual for further explanation of the problem and the correct action to take.



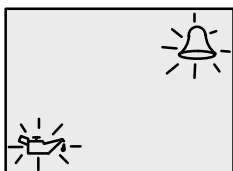
Low Water Pressure

The Bell and Water Pressure icons are displayed. There is insufficient water pressure in the cooling system.



Engine Overheat

The Bell and Temperature icons are displayed. There is insufficient water pressure in the cooling system.



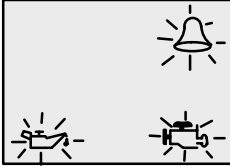
Low Oil Reserve

The bell and oil icons are displayed. The oil level is critically low in the engine mounted oil reservoir tank.

MONITOR – VERSION 1.01-1.02

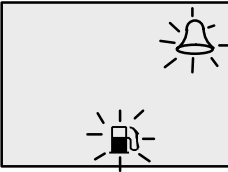
Warning Display Screens

IMPORTANT: Refer to the Engine Operation, Maintenance Manual for further explanation of the problem and the correct action to take.



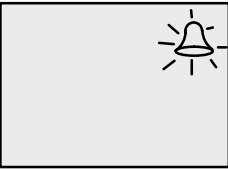
Oil Pump Fault

The Bell, Engine and oil icons are displayed. The oil pump has stopped functioning electrically. No lubricating oil is being supplied to the engine.



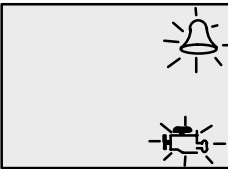
Water in Fuel

The Bell and Fuel Icon are displayed. Water in the water-separating fuel filter reached the full level.



Engine Overspeed

The Bell icon is displayed. The engine speed exceeded the maximum allowable RPM.



Engine Malfunction


The Bell and Engine Icon will appear to inform the driver that an engine problem occurred.


MONITOR – VERSION 1.01-1.02

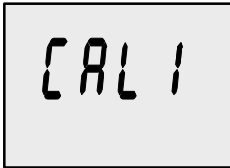
CAL 1 Calibration

Cal 1 Display Calibrations:


- Trim Pop up Screen (On or Off)
- Trim Sensor Setting
- English or Metric Readings Selection
- Range Readings Selection
- Fuel Tank Capacity Setting

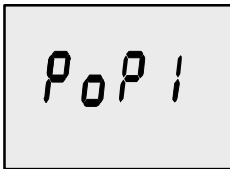
1. Turn ignition key to the on position.
2. Press and hold **MODE** and  for 3 seconds to bring up the CAL 1 calibration screen.

NOTE: Press and hold **MODE** and  for 3 seconds to get out of the CAL 1 calibration screen.





Cal 1 Start Screen

Press the **MODE** button to move to the next calibration screen. 



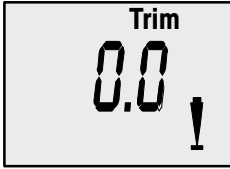
Trim Pop-up Screen (Turn on or off)

Select whether you want the power trim display screen to pop up whenever the trim switch is activated.




1. Have the number “flashing” on display screen.
2. Press the  button to select.
1 = on
0 = off
3. Press the **MODE** button to move to the next function. 

MONITOR – VERSION 1.01-1.02

CAL 1 Calibration






Trim Sensor 0.0 Setting

1. The word "Trim" and down arrow should be blinking.
2. trim unit to the full Down/In position.
3. Press the  button to save.
4. Press the  button to advance to 10.0 setting. 






Trim Sensor 10.0 Setting

5. The word "Trim" and down and up arrows should be blinking.
6. Trim unit out to the maximum trim (not trailer) position.
7. Press the  button to save.
8. Press the  button to advance to 25.0 setting. 



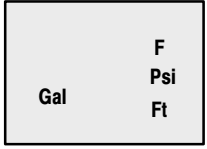
Trim Sensor 25.0 Setting

9. The word "Trim" and up arrow should be blinking.
10. Use the trim switch and trim unit out to the maximum trailer position.
11. Press the  button to save.
12. Press the  button to move to the next function. 

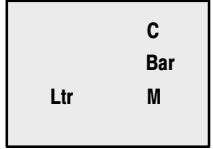
MONITOR – VERSION 1.01-1.02

CAL 1 Calibration

SAE English System






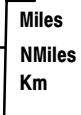
Metric System



English or Metric




Select whether you want the readings in the SAE English system or the Metric system.

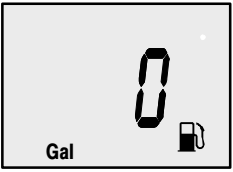
1. Press the  button to toggle between units.
2. Press the  button to move to the next function. 



Range Readings

Select whether you want the readings in Miles, Nautical Miles or Kilometers.

1. Press the  button to toggle between units.
2. Press the  button to move to the next function. 






Fuel Tank Capacity

If the boat installation does not have the fuel tank level sensor wired to the monitor, then calibrate the fuel tank capacity setting to read 0.

If a fuel tank level sensor is wired to the monitor, than enter the capacity of the fuel tank that has the sensor.

IMPORTANT: Set the fuel tank capacity setting at 0 if the fuel tank level is not going to be calibrated. This will prevent a constant alarm.



3. Press the  button to input tank capacity number.
4. Press the  button to move to the next function. 


MONITOR – VERSION 1.01-1.02

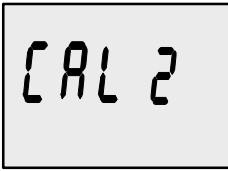
CAL 2 Calibration

Cal 2 Display Calibrations:

- Single or Multi-engine Installation Setting
- Dual Station Setting
- Paddle Wheel Speed Sensor Frequency Setting
- Pitot Water Pressure Sensor Input Setting
- Fuel Tank Calibration
- Depth Screen (On or Off)
- Coolant Screen (On or Off)
- Oil Pressure Screen (On or Off)
- Water Pressure Screen (On or Off)
- Voltage Screen (On or Off)

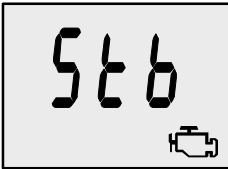
1. Turn ignition key to the on position.
2. Press and hold **MODE** and  for 3 seconds to bring up the CAL 1 calibration screen. Press and hold **MODE** and  again for 3 seconds to bring up the CAL 2 calibration screen.

NOTE: Press and hold **MODE** and  for 3 seconds to get out of the CAL 2 calibration screen.



Cal 2 Start Screen

Press the **MODE** button to move to the next calibration screen. ↓



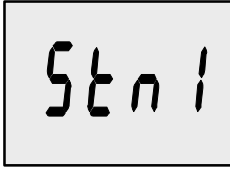
Single or Multi-Engine Setting

This screen lets you select the engine position that the Monitor is connected to.

Press the **MODE** button to move to the next function. ↓


MONITOR – VERSION 1.01-1.02

CAL 2 Calibration



Dual Station Setting


If you have 2 Monitors connected to the same engine, one can be set St1 and the other should be St2.

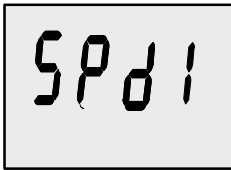
Press the **MODE** button to save and move to the next function. 



Paddle Wheel Speed Sensor Frequency

Frequency can be changed to match requirements of different sensors. 4.9 is the frequency of the paddle wheel speed sensor provided by Mercury Marine.

Press the **MODE** button to save and move to the next function. 



Water Pressure Sensor Input


Select the speed input of the Pitot water pressure sensor on the engine.

NOTE: The standard speed input on production Mercury Outboards is 100 PSI. On a High Performance Outboard it could be 200 Psi.

1. Press the  button to select.

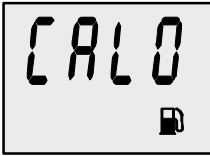
1 = 100 PSI

2 = 200 PSI

2. Press the **MODE** button to move to the next function. 

MONITOR – VERSION 1.01-1.02

CAL 2 Calibration

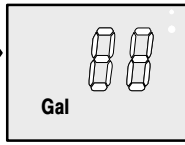


Fuel Tank Calibration

Select whether you want to calibrate the fuel tank.




NOTE: Selecting "1" will continue fuel tank calibration.

1. Press the  button to select 1= on, 0 = off.



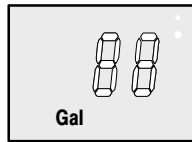
Fuel Tank Calibration 0% Setting

Have the fuel tank level at empty.

2. Press the  button to save. Press the  button to advance to 25% setting. 



25 Percent






Fuel to Add

Fuel Tank Calibration 25% Setting

Adding the amount of fuel shown will raise fuel tank level to 25 percent.

NOTE: The quantity of "Fuel to Add" is determined by the fuel tank capacity number entered in CAL 1

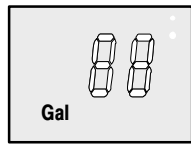
3. Add the displayed amount of fuel to the fuel tank.
4. Press the  button to save. Press the  button to advance to 50% setting. 

MONITOR – VERSION 1.01-1.02

CAL 2 Calibration



50 Percent






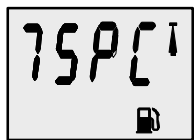
Fuel to Add

Fuel Tank Calibration 50% Setting

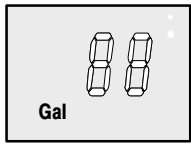
Adding the amount of fuel shown will raise fuel tank level to 50 percent.

NOTE: The quantity of "Fuel to Add" is determined by the fuel tank capacity number entered in CAL 1

5. Add the displayed amount of fuel to the fuel tank.
6. Press the  button to save. Press the  button to advance to 75% setting. 



75 Percent






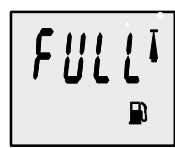
Fuel to Add

Fuel Tank Calibration 75% Setting

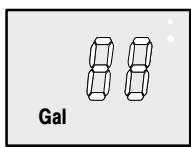
Adding the amount of fuel shown will raise fuel tank level to 75 percent.

NOTE: The quantity of "Fuel to Add" is determined by the fuel tank capacity number entered in CAL 1

7. Add the displayed amount of fuel to the fuel tank.
8. Press the  button to save. Press the  button to advance to full% setting. 






Full Percent



Fuel to Add

Fuel Tank Calibration Full Setting

Add the amount of fuel to fill the fuel tank.

9. Add the amount of fuel to fill the fuel tank.
10. Press the  button to save. Press the  button to advance to next function. 




MONITOR – VERSION 1.01-1.02

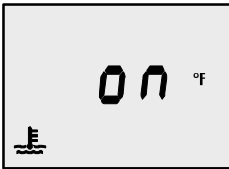
CAL 2 Calibration



Depth Display (on or off)




Select whether you want the depth screen to be displayed.

1. Press the  button to select on or off.
2. Press the  button to move to the next function. 



Coolant Temperature Display (on or off)




Select whether you want the coolant temperature screen to be displayed.

1. Press the  button to select on or off.
2. Press the  button to move to the next function. 



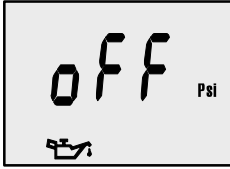
Oil Pressure Display (on or off)

Select whether you want the oil pressure screen to be displayed.

1. Press the  button to select on or off.
2. Press the  button to move to the next function. 




MONITOR – VERSION 1.01-1.02

CAL 2 Calibration



Water Pressure Display (on or off)




Select whether you want the water pressure screen to be displayed.

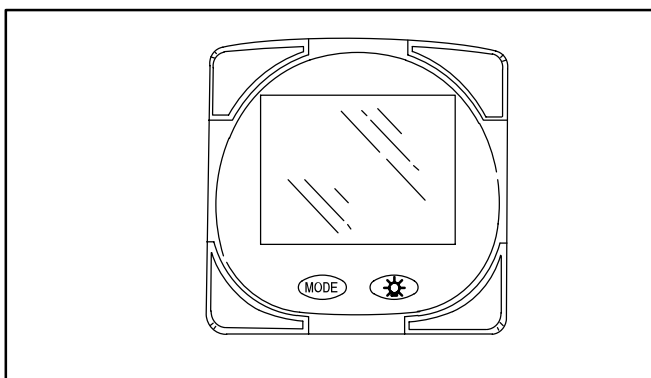
1. Press the  button to select on or off.
2. Press the  button to move to the next function. 



Battery Voltage Display (on or off)

Select whether you want the battery voltage screen to be displayed.

1. Press the  button to select on or off.
2. Press and hold  and  for 3 seconds to get out of the CAL 2 calibration screen.



MONITOR 2.00

Part 2

Monitor with Software Version 2.00

Legend	2-1
Basic Operation	2-2
Initial Power Up	2-2
Master Reset	2-4
Standard Information Display Screens	2-5
Shallow Water Alarm	2-8
Warning System	2-9
Warning Display Screens	2-9
CAL 1 Calibration	2-11
CAL 2 Calibration	2-16

NOTE: This manual shows all the Monitor display screens that are available. Depending on your type of engine, not all these screens will apply.

Monitor with Software Version 2.00 is compatible with:

2002 model year and newer Mercury Outboard Models that are designed for use with SmartCraft.
MerCruiser model 8.1/496





MONITOR – VERSION 2.00

Legend

A =

L =

B =

N =

C =

O =

D =

P =

E =

S =

F =

T =

I =

U =

MONITOR 2.00

= Engine

= Fuel

= Water Temperature

= Water Pressure

= Oil

= Alarm


MONITOR – VERSION 2.00


Basic Operation

The Monitor is an LCD multi-function display gauge. A variety of displays can be activated using the **MODE** button.

Pressing the **MODE** button scrolls the following displays: fuel used, tachometer (RPM), fuel flow, power trim position, engine temp, water pressure, battery voltage, range (if calibrated), and water depth (if equipped with transducer).

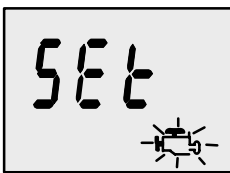
The Monitor will power up when the ignition is turned on.

The display includes a backlight which allows you to read it at night. The backlight brightness is adjustable using  button.

In the event of a warning alarm, the warning icon(s)  will be displayed.

Initial Power Up (Or After Master Reset)

Unit will display software level then flash the word “SEt” in conjunction with engine icon.



Press the **MODE** button.

AUTO-DETECTION

The unit will begin its “**Auto-detection**” of engine type procedure. In this procedure the Monitor checks with the engine control module (ECM) to see what type of engine you have and presets the data monitoring screens accordingly, (e.g. If Monitor detects an inboard engine connected to the data network it will turn off all engine/drive TRIM functions as these functions are not used in an inboard engine installation). The intention is to make initial setup easier.

(continued on next page)



MONITOR – VERSION 2.00

Initial Power Up (Or After Master Reset)

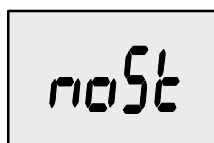
Initial Auto-Detection Error Messages:



Flashing “**Stbd**” – More than one of the engine computers (ECM's) are configured as a starboard engine. The engines must be programmed for proper engine location using a DDT or Quicksilver Diagnostic Tool.




Flashing “**nonE**” – The gauge does not see any engine computers (ECM's). Please check wiring for bad connections and for proper amount of terminator resistors.



Flashing “**noSt**” – None of the engine computers (ECM's) are configured as a starboard engine. Engines may not be compatible or must be programmed for proper engine location by using a DDT or Quicksilver Diagnostic Tool.



Flashing “**2001**” – You will need to manually select your engine type. Use the  button to scroll through the choices. Stnd = Stern Drive, Inbd = Inboard, JEtd = Jet Drive, Out2 = Outboard 2 Stroke, Out4 = Outboard 4 Stroke. Press **MODE** to continue.

MONITOR 2.00





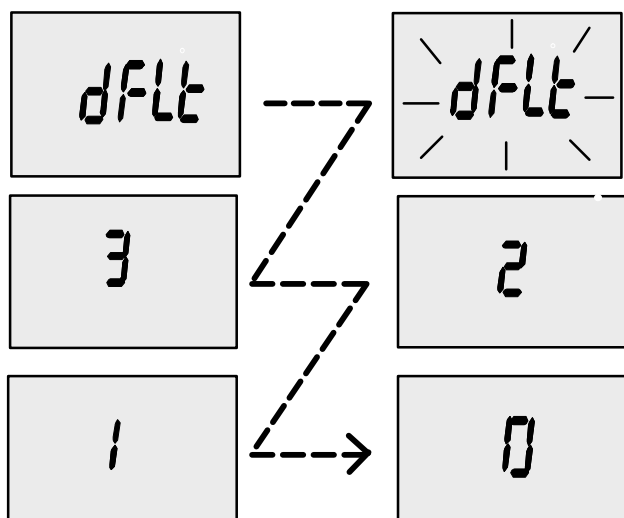
MONITOR – VERSION 2.00

Master Reset

You can return the gauge back to factory presets through the Master Reset command.

IMPORTANT: Performing a master reset will reset the unit back to all factory defaults, thus eliminating any installation calibrations performed during set up of product.

1. Hold in **MODE** and  for approximately 12 seconds. You will see the word “dFLt” let go of the buttons.
2. Immediately press and hold in **MODE** and  again until the unit counts down to zero “0”.
3. The “SEt” message flashing on the screen indicates that the unit has been reset to factory defaults.





MONITOR – VERSION 2.00

Standard Information Display Screens

NOTE: This manual shows all the Monitor display screens that are available. Depending on your type of engine, not all these screens will apply.



Software Version




Engine Hours

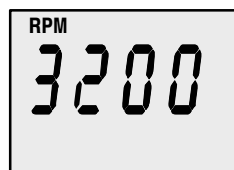
Start Up

At start up, a momentary (1 second) screen displays the current monitor software version, followed by a 4 second display showing hours of engine use.



Fuel Used

Displays approximate fuel used since the last reset. **Reset** will return display back to 0. You can **Reset** anytime by pressing **MODE** and  buttons together momentarily.



Engine RPM

Tachometer – Displays engine speed in Revolutions Per Minute (RPM).



Fuel Flow

Displays current estimated individual engine fuel consumption in Gallons per hour (Gal/hr) or Liters per hour (Ltr/hr).

MONITOR 2.00



MONITOR – VERSION 2.00

Standard Information Display Screens

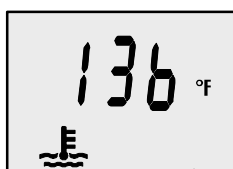


Trim Position

Displays trim position of the propulsion unit up to the maximum trim position, and then displays the trailer position.

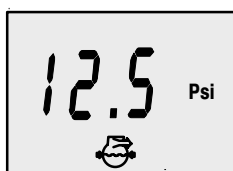
0 = down,
10 = full trim
25 = full trailer.

NOTE: This screen can be set to pop up whenever the trim switch is used. Refer to the CAL 1 Calibrations.



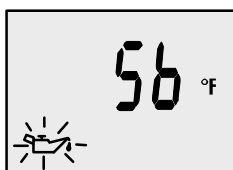
Engine Temperature

Displays the engine temperature in degrees Fahrenheit (°F) or Celsius (°C).



Water Pressure

Displays the engine temperature in degrees Fahrenheit (°F) or Celsius (°C).



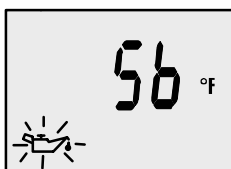
Oil Temperature

Displays the engine oil temperature in degrees Fahrenheit (°F) or Celsius (°C).



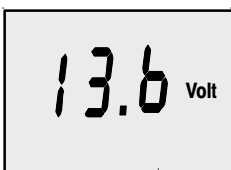
MONITOR – VERSION 2.00

Standard Information Display Screens



Oil Pressure

Displays engine oil pressure in Psi or Bar.



Battery Voltage

Displays voltage level (condition) of battery.



Range

Displays estimated range based on current fuel consumption and fuel remaining in the tank that is connected to the system. The number displayed is an estimate of the distance you can travel on the remaining fuel at current boat speed.

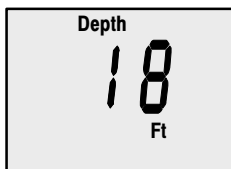
NOTE: Two requirements to activate this screen,

- 1. you must perform the fuel tank calibration in CAL 2. Refer to the CAL 2 Calibrations Section.*
- 2. You must have a speed input device connected to the system (paddle wheel or pitot pressure transducer).*

MONITOR 2.00

MONITOR – VERSION 2.00

Standard Information Display Screens



Water Depth



Displays the depth of water under the transducer if connected.

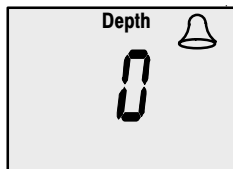
NOTE: You must have a depth transducer (purchased separately) connected to the system in order for this screen to operate.


Shallow Water Alarm

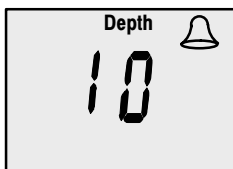
You can set an alarm to trigger whenever the boat moves into water shallower than the alarm level.

Setting Shallow Water Alarm.

1. The water depth screen must be displayed. Be sure Depth is turned on in CAL 2. Refer to CAL 2 Calibration Section.
2. Press both **MODE** and  buttons together for 3 seconds.
3. The alarm on or off menu will appear.
4. Press the  button to toggle to ON.



5. Push **MODE** button to save.
6. The depth number will be flashing. Press the  button to set the flashing number to desired alarm depth. 100 ft maximum depth and 2 ft minimum depth.



7. Push **MODE** button to save.



MONITOR – VERSION 2.00

Warning System

When a problem is detected with the engine, the warning display screens will alert the operator to the potential problem. Refer to the Engine Operation, Maintenance Manual for explanation of the problem and the correct action to take.

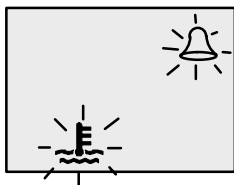
If problem can cause immediate engine damage, the Engine Guardian System will respond to the problem by limiting engine power. Immediately reduce throttle speed to idle. Refer to the Engine Operation, Maintenance Manual for further explanation of the problem and the correct action to take.

If the mode button is pressed to a different screen, the flashing alarm signal will remain flashing to indicate there still is a problem.

Warning Display Screens

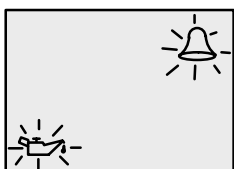
IMPORTANT: Refer to the Engine Operation, Maintenance Manual for further explanation of the problem and the correct action to take.

MONITOR 2.00



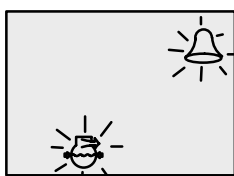
Engine Overheat

The Bell and Temperature icons are displayed. There is insufficient water pressure in the cooling system.



Low Oil Reserve

The bell and oil icons are displayed. The oil level is critically low in the engine mounted oil reservoir tank.



Low Water Pressure

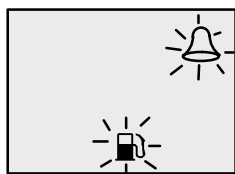
The Bell and Water Pressure icons are displayed. There is insufficient water pressure in the cooling system.



MONITOR – VERSION 2.00

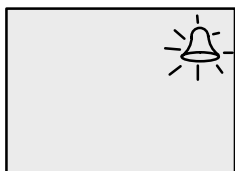
Warning Display Screens

IMPORTANT: Refer to the Engine Operation, Maintenance Manual for further explanation of the problem and the correct action to take.



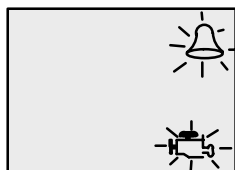
Water in Fuel

The Bell and Fuel Icon are displayed. Water in the water-separating fuel filter reached the full level.



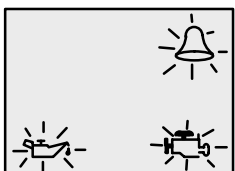
Engine Overspeed

The Bell icon is displayed. The engine speed exceeded the maximum allowable RPM.



Engine Malfunction

The Bell and Engine Icon will appear to inform the driver that an engine problem occurred.



Oil Pump Fault

The Bell, Engine and oil icons are displayed. The oil pump has stopped functioning electrically. No lubricating oil is being supplied to the engine.




MONITOR – VERSION 2.00

CAL 1 Calibration

Cal1 Display Calibrations:


- (On or Off) Trim Pop up Screen
- Trim Calibration
- English or Metric Units Selection
- Range Units Selection
- (On or Off) Depth, Trim, Engine Temperature, Oil Pressure, Oil Temperature, Water Pressure, Volts, Engine Hours, and Data Simulator pages.

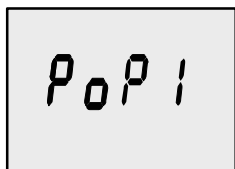
1. Turn ignition key to the on position.
2. Press and hold **MODE** and  for 3 seconds to bring up the CAL 1 calibration screen.

NOTE: Press and hold **MODE** and  for 3 seconds to get out of the CAL 1 calibration screen.





Cal 1 Start Screen

Press the **MODE** button to move to the next calibration screen. 



Trim Pop-up Screen (Turn on or off)

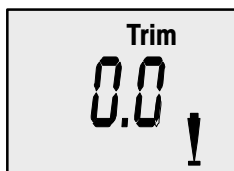
Select whether you want the power trim display screen to pop up whenever the trim switch is activated.

1. Have the number “flashing” on display screen.
2. Press the  button to select.
1 = on
0 = off
3. Press the **MODE** button to move to the next function. 





MONITOR – VERSION 2.00

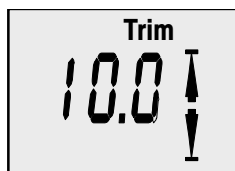
CAL 1 Calibration



**Trim Sensor
0.0 Setting**



(Full Trim in Position)

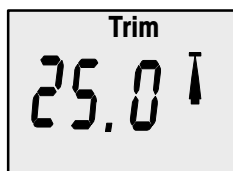
1. The word “Trim” and down arrow should be blinking.
2. trim unit to the full Down/In position.
3. Press the  button to save.
4. Press the  button to advance to 10.0 setting. ⬇



**Trim Sensor
10.0 Setting**



(Full Trim Out Position)

5. The word “Trim” and down and up arrows should be blinking.
6. Trim unit out to the maximum trim (not trailer) position.
7. Press the  button to save.
8. Press the  button to advance to 25.0 setting. ⬇



**Trim Sensor
25.0 Setting**

(Full Trailer Out Position)

9. The word “Trim” and up arrow should be blinking.
10. Use the trim switch and trim unit out to the maximum trailer position.
11. Press the  button to save.
12. Press the  button to move to the next function. ⬇



MONITOR – VERSION 2.00

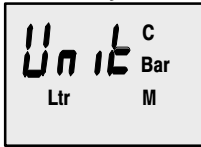
CAL 1 Calibration

SAE English System

Metric System

English or Metric

Select whether you want the readings in the SAE English system or the Metric system.

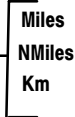
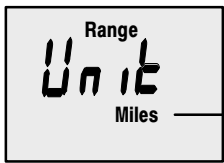


1. Press the button to toggle between units.
2. Press the button to move to the next function.

MONITOR 2.00

Range Readings

Select whether you want the readings in Miles, Nautical Miles or Kilometers.



1. Press the button to toggle between units.
2. Press the button to move to the next function.

Depth Display (on or off)

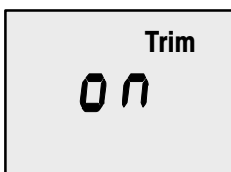
Select whether you want the depth screen to be displayed.



1. Press the button to select on or off.
2. Press the button to move to the next function.

Trim Display (on or off)

Select whether you want the trim screen to be displayed.



1. Press the button to select on or off.
2. Press the button to move to the next function.






MONITOR – VERSION 2.00

CAL 1 Calibration



Coolant Temperature Display (on or off)




Select whether you want the coolant temperature screen to be displayed.

1. Press the  button to select on or off.
2. Press the  button to move to the next function. 



Oil Pressure Display (on or off)




Select whether you want the oil pressure screen to be displayed.

1. Press the  button to select on or off.
2. Press the  button to move to the next function. 



Oil Temperature Display (on or off)

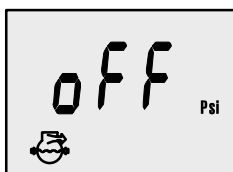
Select whether you want the oil temperature screen to be displayed.

1. Press the  button to select on or off.
2. Press the  button to move to the next function. 



MONITOR – VERSION 2.00

CAL 1 Calibration



Water Pressure Display (on or off)

Select whether you want the water pressure screen to be displayed.

1. Press the button to select on or off.
2. Press the button to move to the next function.



Battery Voltage Display (on or off)

Select whether you want the battery voltage screen to be displayed.

1. Press the button to select on or off.
2. Press and hold and for 3 seconds to get out of the CAL 2 calibration screen.



Engine Hours Display (on or off)

Select whether you want the engine hours screen to be displayed.

1. Press the button to select on or off.
2. Press and hold and for 3 seconds to get out of the CAL 2 calibration screen.



MONITOR 2.00


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CAL 2 Calibration

CAL2 Display Calibrations:

- Paddle Wheel Speed Sensor Frequency Setting
- Pitot Water Pressure Speed Sensor Input Setting
- Pitot Water Pressure Speed Sensor Multiplier
- Fuel Tank Calibration

1. Turn ignition key to the on position.
2. Press and hold **MODE** and  for 3 seconds to bring up the CAL 1 calibration screen. Press and hold **MODE** and  again for 3 seconds to bring up the CAL 2 calibration screen.

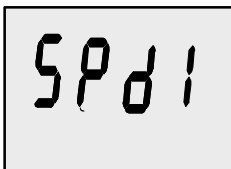
NOTE: Press and hold **MODE** and  for 3 seconds to get out of the CAL 2 calibration screen.



Cal 2 Start Screen

Press the **MODE** button to move to the next calibration screen. ⬇


Press the **MODE** button to save and move to the next function. ⬇



Pitot Water Pressure Sensor Input

Select the PSI input of the Pitot water pressure sensor on the engine.

NOTE: The standard speed input on production Mercury Outboards is 100 PSI. Certain High Performance applications may require a 200 Psi input.

1. Press the  button to select.
 - 1 = 100 PSI
 - 2 = 200 PSI
2. Press the **MODE** button to move to the next function. ⬇




MONITOR – VERSION 2.00

CAL 2 Calibration



Paddle Wheel Speed Sensor Frequency

Frequency can be changed to match requirements of different sensors. 4.9 is the frequency of the paddle wheel speed sensor provided by Mercury Marine.

Press the **MODE** button to save and move to the next function. 

Fuel Tank Calibration

THERE ARE THREE METHODS TO SET UP THE FUEL TANK LEVEL MONITORING FEATURE:

First: Do nothing. Linear readout based on raw sensor values. This mode does not factor in irregular tank shapes.

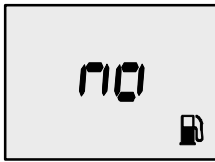
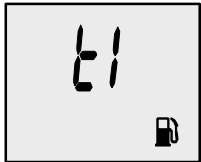
Second: By following the tank calibration procedure, but without actually adding fuel to the tank. The Monitor will supply an estimated range value based on default sensor values. This mode does not factor in irregular tank shapes.

Third: By following the tank calibration procedure completely, which includes adding fuel at certain calibration points. Monitor will display an estimated range value that factors in the tank shape.

MONITOR 2.00

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CAL 2 Calibration





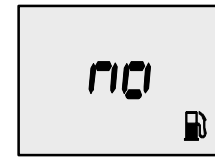
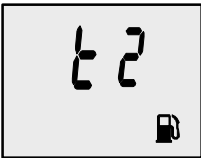
Tank 1 (fuel) Capacity Setting

“t1” = tank 1

1. Press the **MODE** button until “t1” is displayed. “t1” = tank 1.
2. Press **MODE** once more. The word “no” and the fuel icon will be displayed.

NOTE: The word “no” will not go away unless the gauge sees a tank connected to the system. With no tank connected, you will not be able to enter a capacity.


3. Enter the capacity of tank 1 in gallons using the  key.
4. Press the **MODE** button to save and move to the next function. 




Tank 2 Capacity Setting

NOTE: Tank 2 does not have to be a fuel tank. It could represent an oil tank for example.

“t2” = tank 2

1. Press the **MODE** button until “t2” is displayed. “t2” = tank 2.
2. Press **MODE** once more. The word “no” and the fuel icon will be displayed.
3. Enter the capacity of tank 2 in gallons using the  key.

NOTE: The word “no” will not go away unless the gauge sees a tank connected to the system. With no tank connected, you will not be able to enter a capacity.

4. Press the **MODE** button to save and move to the next function. 



MONITOR – VERSION 2.00

CAL 2 Calibration

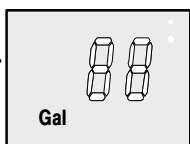


Tank 1 Calibration

Once the capacities have been entered, you need to. Select whether you want to calibrate fuel tank 1 "t1".

NOTE: The gauge will not let you calibrate the fuel tank until the capacity had been entered).

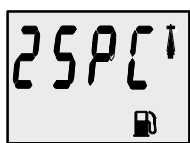
1. Press the button to select 1= on, 0 = off. Selecting "1" will continue fuel tank calibration.



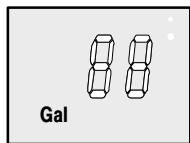
Tank 1 Calibration 0% Setting

Have the fuel tank level at empty.

2. Press the button to save. Press the button to advance to 25% setting. ↓



25 Percent



Fuel to Add

Tank 1 Calibration 25% Setting

Adding the amount of fuel shown will raise fuel tank level to 25 percent.

*NOTE:*The quantity of "Fuel to Add" is determined by the fuel tank capacity number entered

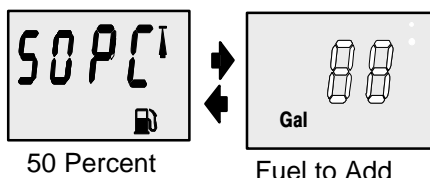
3. Add the displayed amount of fuel to the fuel tank.
4. Press the button to save. Press the button to advance to 50% setting. ↓

MONITOR 2.00



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CAL 2 Calibration

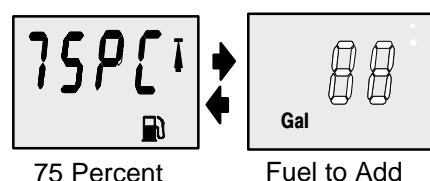


Tank 1 Calibration 50% Setting

Adding the amount of fuel shown will raise fuel tank level to 50 percent.

NOTE: The quantity of "Fuel to Add" is determined by the fuel tank capacity number entered

- 5. Add the displayed amount of fuel to the fuel tank.
- 6. Press the button to save. Press the button to advance to 75% setting. ↓

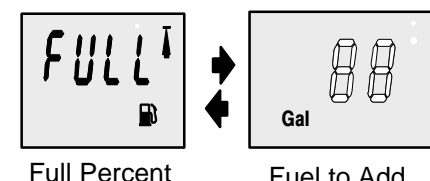


Tank 1 Calibration 75% Setting

Adding the amount of fuel shown will raise fuel tank level to 75 percent.

NOTE: The quantity of "Fuel to Add" is determined by the fuel tank capacity number entered

- 7. Add the displayed amount of fuel to the fuel tank.
- 8. Press the button to save. Press the button to advance to full% setting. ↓



Tank 1 Calibration Full Setting

Add the amount of fuel to fill the fuel tank.

- 9. Add the amount of fuel to fill the fuel tank.
- 10. Press the button to save. Press the button to advance to next function. ↓



MONITOR – VERSION 2.00

CAL 2 Calibration




Tank 2 Calibration

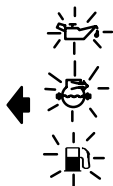
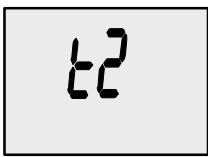
Select whether you want to calibrate tank 2.

NOTE: Tank 2 does not have to be a fuel tank. It could represent an oil tank for example.

NOTE: The gauge will not let you calibrate the tank until the capacity had been entered).



MONITOR 2.00

1. Press the **MODE** button until "t2" is displayed. "t2" = tank 2.
2. Press the  button to select 1= on, 0 = off. Selecting "1" will continue tank 2 calibration.
3. Press the **MODE** button to continue.



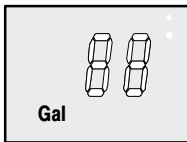
Tank 2 Calibration Icon Selection

Select one of three icons for tank 2 display screen. (oil, water/waste, fuel).

1. Press the  button, you will see a blinking icon. Using the  button, select which icon you want tank 2 to be, (oil, fuel, or water/waste).



NOTE: If you choose oil or water/waste icon, no further tank 2 calibration will be needed. If tank 2 will be for fuel, continue tank 2 procedure.

2. Press the **MODE** button to continue.



Tank 2 Calibration 0% Setting

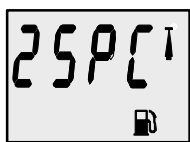
Have the fuel tank level at empty.

3. Press the  button to save. Press the **MODE** button to advance to 25% setting. 

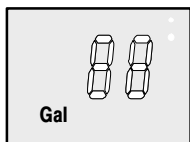


MONITOR – VERSION 2.00

CAL 2 Calibration



25 Percent



Fuel to Add

Tank 2 Calibration 25% Setting

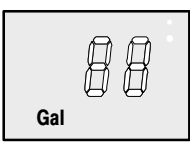
Adding the amount of fuel shown will raise fuel tank level to 25 percent.

NOTE :The quantity of fuel to add is determined by the fuel tank capacity number entered.

- 4. Add the displayed amount of fuel to the fuel tank.
- 5. Press the button to save. Press the button to advance to 50% setting. ↓



50 Percent



Fuel to Add

Tank 2 Calibration 50% Setting

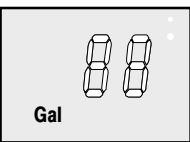
Adding the amount of fuel shown will raise fuel tank level to 50 percent.

NOTE: The quantity of fuel to add is determined by the fuel tank capacity number entered.

- 6. Add the displayed amount of fuel to the fuel tank.
- 7. Press the button to save. Press the button to advance to 75% setting. ↓



75 Percent



Fuel to Add

Tank 2 Calibration 75% Setting

Adding the amount of fuel shown will raise fuel tank level to 75 percent.

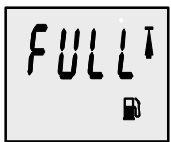
NOTE: The quantity of fuel to add is determined by the fuel tank capacity number entered.

- 8. Add the displayed amount of fuel to the fuel tank.
- 9. Press the button to save. Press the button to advance to full% setting. ↓

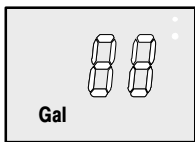


MONITOR – VERSION 2.00

CAL 2 Calibration



Full Percent





Fuel to Add

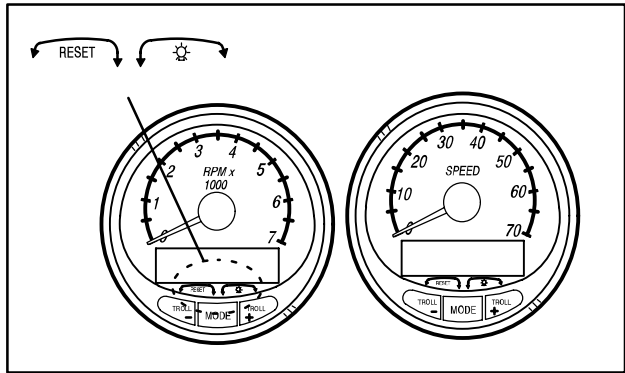
Tank 2 Calibration Full Setting

Add the amount of fuel to fill the fuel tank.

10. Add the amount of fuel to fill the fuel tank.

11. Press the  button to save. Press the  button to advance to next function. ↓

MONITOR 2.00



Part 3

System Tach and Speedometer

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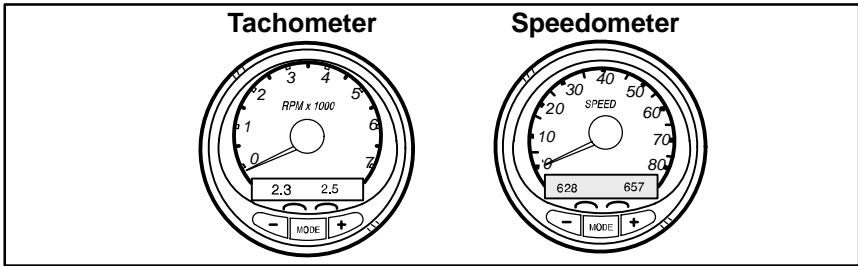
NOTE: This manual shows all the Monitor display screens that are available. Depending on your type of engine, not all these screens will apply.

System Tach and Speedometer are compatible with:

- 2002 model year Mercury Outboard models that are designed for use with SmartCraft.
- MerCruiser model 8.1/496

SYSTEM TACH & SPEED

SYSTEM TACH & SPEEDOMETER



Basic Operation and Features

Power up: Each gauge will power up when the ignition is turned on. Gauges will stay on as long as the ignition is on.

Lights: The brightness and contrast are adjustable.

Buttons: The **MODE** button is used for selecting information screens. The “+” and “-” buttons are used for setting engine speed during troll control and setting gauge calibrations.

Troll Control: Allows the operator to set and control the idle speed of the engine for trolling without using the throttle.

Engine Guardian System: Monitors the critical sensors on the engine for any early indications of problems. The system will respond to a problem by reducing engine speed in order to maintain a safe operating condition.

Warning System: The system will sound the warning horn and display the warning message.

SYSTEM TACH & SPEEDOMETER

Basic Operation and Features

Digital Display Screen: Displays the following engine information.

Tachometer Display Screen:	Speedometer Display Screen:
<p><i>DEPENDING ON ENGINE TYPE</i> Engine Break-in Engine Temperature Oil Psi Trim and RPM Trim and Water Pressure Water Pressure Battery Voltage and Engine Hours Fuel Flow and Fuel Used RPM Depth</p>	<p><i>DEPENDING ON ENGINE TYPE</i> Speed Fuel Used COG/SOG – If GPS Input Distance and fuel to waypoint – <i>if waypoint programmed into optional GPS</i> Clock – Air/Sea Temp Inst. and Ave. Fuel Economy Trip Odometer Fuel Tank Levels Oil Tank Levels Fresh Water Tank2 or Level(s) Waste Water Level(s) or <i>Dual Engine</i> Trim and RPM Synchronizer – Fuel Range Fuel Economy Trip Odometer</p>

SYSTEM TACH & SPEEDOMETER

Auto-Detection Engine Function

On first time power up of gauge or after a “Master Reset”, gauge will show “**Auto detect**”. Upon pressing the mode button, gauge will automatically determine engine type. This will preset the data monitoring screens accordingly. The intention is to make initial setup easier. If gauge shows a warning of “No Starboard Engine” or “Multiple Starboard Engines”, engine will need to be properly selected (Port and Stbd) using a Mercury engine diagnostic tool. “Master Reset” and “Auto detect” again. (Refer to “Master Reset”).

System tach and speed come standard with the “**Engine Auto-detection Screen**” this screen lets the gauge on its initial power up automatically detect which engine type you are using and preconfigure the gauge to match that vessel type.

Master Reset

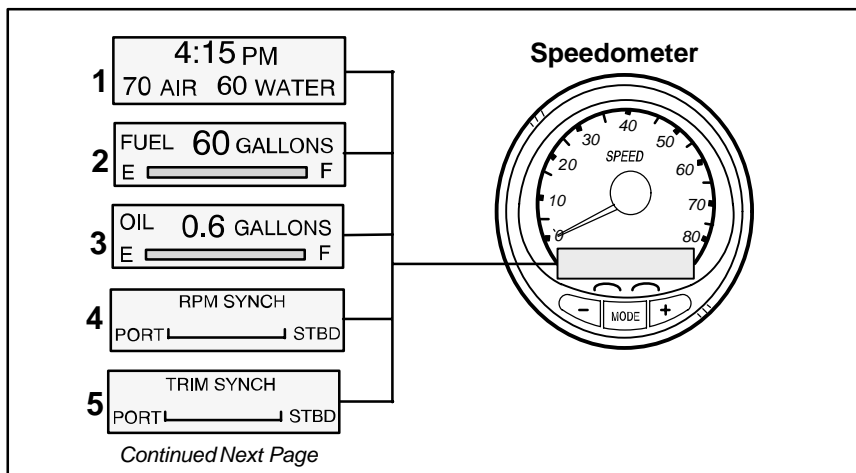
You can return the gauge back to factory presets through the Master Reset command.

IMPORTANT: Performing a master reset will reset the unit back to all factory defaults, thus eliminating any installation calibrations performed during set up of product.

By pressing and simultaneously for approximately 10 seconds (Until the graphic bars “collide”). You will be able to restore the unit back to factory presets.



SYSTEM TACH & SPEEDOMETER



Speedometer Display Screens

NOT ALL SCREENS MAY APPLY TO YOUR ENGINE TYPE.

When the ignition is turned on, the speedometer will show the last screen that was displayed before the ignition was turned off.

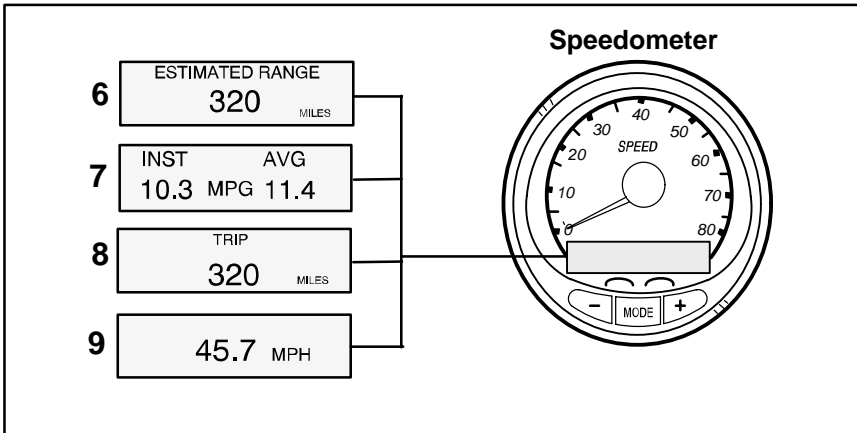
Press **MODE** to change display screens. You can revert back to the previous screen by pressing and holding **MODE** for 2 seconds. This will reverse the display rotation.

NOTE: Readings can be displayed in English (U.S.) or Metric. Refer to Calibrations.

NOTE: Descriptions are not necessarily in order on the gauge. Order changes depending on engine type.

1. **Clock - Temp** – Clock, air temperature and water temperature. The air and water temperature sensors will have to be connected to obtain display readings.
2. **Fuel Level** – Displays the amount of fuel remaining.
3. **Oil Level** – Displays the amount of engine oil remaining, or water/waste tank level (if attached).
4. **RPM Synchronizer** – Dual Engines Only – Monitors the revolutions of both engines.
5. **Trim Synchronizer** – Dual Engines Only – Displays the trim position of both engines. Simplifies keeping trim levels equal.

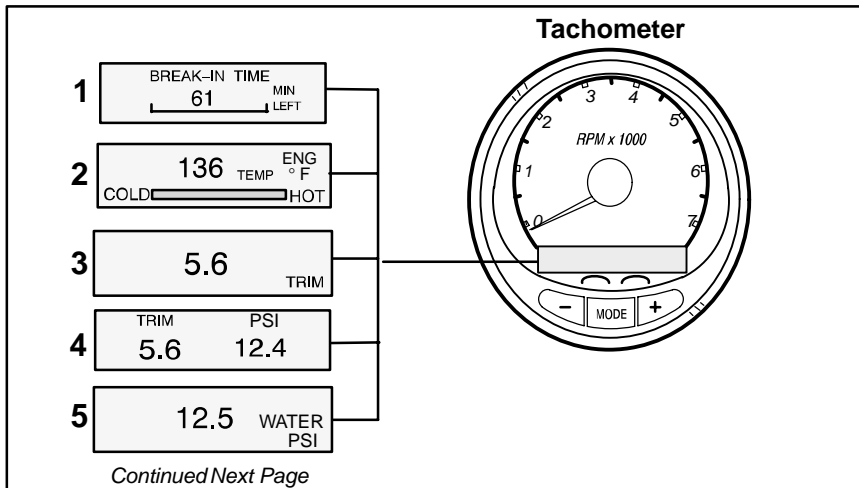
SYSTEM TACH & SPEEDOMETER



Speedometer Display Screens

- 6. Range** – The estimated range is based on boat speed, fuel consumption and fuel remaining in the tank. The numbers displayed indicates an estimate of the distance you can travel with the remaining fuel. Speed input required (Paddle Wheel, Pitot Pressure or GPS).
- 7. Fuel Economy** – The display shows average “**AVG**” fuel consumption as well as Instantaneous “**INST**” fuel economy. The numbers displayed indicate miles per gallon “**MPG**” or kilometer per liter “**KM/L**”.
Fuel Reset – To reset, select the display screen and press **MODE** and **TROLL** buttons.
- 8. Trip Odometer** – Tells how far you’ve gone since you last reset the gauge to zero. **Trip Reset** – To reset, select the display screen and press **MODE** and **TROLL** buttons.
- 9. Digital Speedometer** – Can display boat speed in miles per hour, kilometer per hour, or nautical miles per hour. The speedometer will use the paddle wheel for its low speed readings but will switch to the speedo or GPS (if connected) for high speed readings. (Transition point setting is described in Cal2).

SYSTEM TACH & SPEEDOMETER



Tachometer Display Screens

NOT ALL SCREENS MAY APPLY TO YOUR ENGINE TYPE.

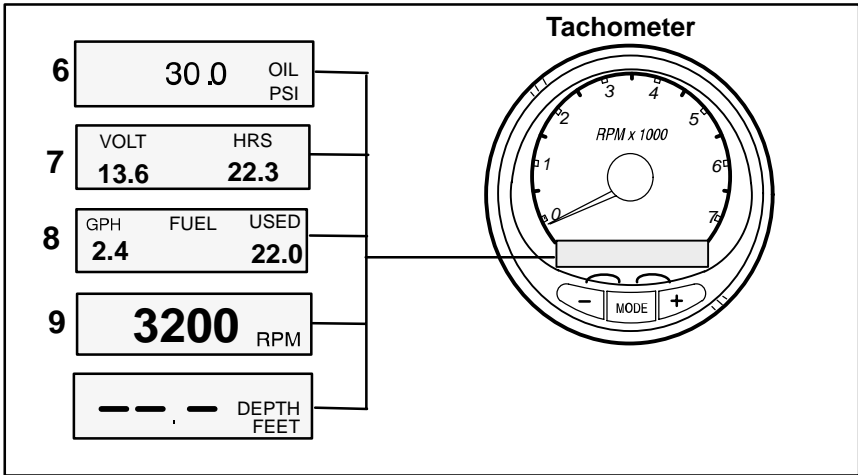
When the ignition is turned on, the tachometer will display the last screen that was displayed before the ignition was turned off.

Press **MODE** to change display screens. You can revert back to the previous screen by pressing and holding **MODE** for 2 seconds. This will reverse the display rotation.

NOTE: Readings can be displayed in English (U.S.) or Metric. Refer to Calibration.

1. **Engine Break-in** – Displays time remaining on the break-in period of a new engine. This screen will automatically disappear after the break-in period is complete.
2. **Temperature** – Displays engine coolant temperature.
3. **Power Trim Angle** – Displays trim angle of the outboard or sterndrive up to the maximum trim angle, and then displays the trailer angle. 0 = down, 10 = maximum trim, and 25 = full trailer.
4. **Power Trim Angle - Water Pressure** – Displays trim angle of the engine and cooling system water pressure.
5. **Water Pressure** - Displays cooling system water pressure at the engine.

SYSTEM TACH & SPEEDOMETER

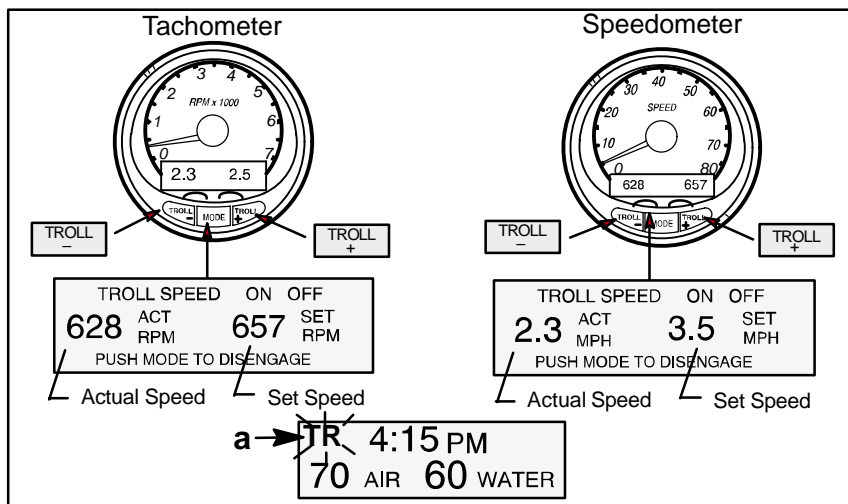


Tachometer Display Screens

- 6. Oil Pressure** – Displays engine oil pressure in units of Psi or Bar.
- 7. Battery Voltage** – Displays voltage level (condition) of battery. Also records the running time of engine.
- 8. Fuel Flow** – Displays engine fuel use in gallons per hour or liters per hours.
- 9. Digital Tachometer** – Displays engine speed in Revolutions Per Minute (RPM).
- 10. Water Depth** – Displays the depth of water under the transducer if connected. The water depth screen can be turned on or off in CAL 1 Calibration. You can set an alarm to trigger whenever the boat moves into water shallower than the alarm level. Refer to CAL 2 Calibration for water depth alarm and offset settings.

NOTE: You must have a depth transducer (purchased separately) connected to the system in order for this screen to operate.

SYSTEM TACH & SPEEDOMETER



Troll Control

Basic Operation

NOTE: Troll control may not be available on all engine models.

With troll control you can maintain a trolling speed of 550 to 1000 rpm without using the throttle.

NOTE: Troll control min/max range may change depending on engine type.

You can set the troll control by using either the tachometer or speedometer. Tachometer will set the speed in RPM and speedometer will set the speed in MPH, Kph or KN.

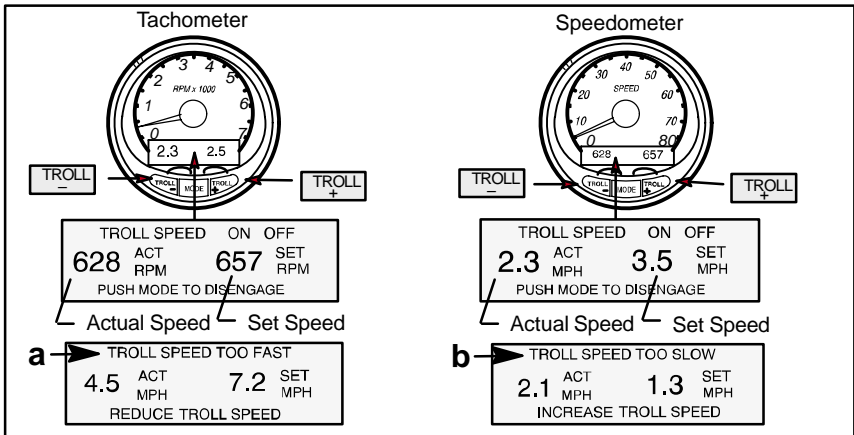
You can shut off troll control anytime by pushing the **MODE** button when in the troll display screen or by moving the throttle.

If you have troll control set at a desired speed and then you shut off the troll control, the system remembers the set speed and will return to that speed when re-engaged.

The display screen will revert back to the previous screen after 10 seconds of no activity. Push the **TROLL +** or **TROLL -** button to reactivate the display screen.

When the troll control is engaged and you are out of the troll control screen, a flashing signal “TR” (a) will appear in the upper left corner of the display to indicate troll control is still running.

SYSTEM TACH & SPEEDOMETER



Troll Control

To Set Troll Control

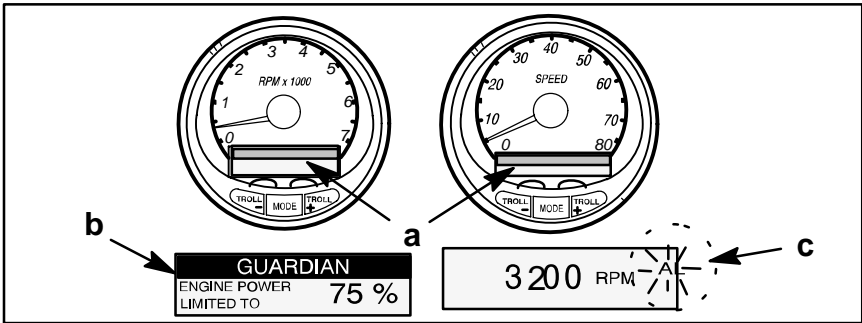
1. With the engine running, shift engine into gear. Set engine speed at idle.
2. Push in the or button to bring up the troll control display screen.
3. Press to engage (turn on) the troll control.
4. Use the buttons to set the desired speed. Use (+) to increase speed and (-) to decrease speed.
5. If you set troll control to a higher speed than the troll rpm can bring the boat to, the **TARGET SPEED TOO FAST** (a) message will appear. Reduce troll speed.
6. If you set troll control to a slower speed than the troll rpm can bring the boat to, the **TARGET SPEED TOO SLOW** (b) message will appear. Increase troll speed.

To Get Out of Troll Control

There are three ways to turn off the troll control:

- Press the button when in the troll display screen.
- Move the throttle to a different speed.
- Shift engine into neutral.

SYSTEM TACH & SPEEDOMETER



Warning System

Alarms Warnings – When a problem is detected, the name of the offending alarm appears on the display (a).

If problem can cause immediate engine damage, the Engine Guardian System (b) will respond to the problem by limiting engine power. Immediately reduce throttle speed to idle and refer to the warning messages on the following pages. Refer to the Engine Operation, Maintenance Manual for further explanation of the problem and the correct action to take.

The alarm message will stay displayed until the mode button is pressed. If there are multiple alarms, these will cycle on the display at five-second intervals.

If the mode button is pressed to a different screen, the flashing alarm signal “AL” (c) will appear in the upper right corner to indicate there still is a problem.

SYSTEM TACH & SPEEDOMETER

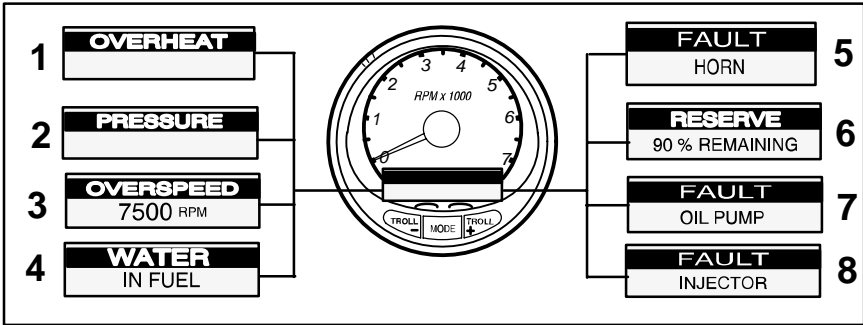
Warning Display Screens

When a problem is detected with the engine, the warning display screens will alert the operator to the potential problem. Refer to the Engine Operation, Maintenance Manual for explanation of the problem and the correct action to take.

WARNING DISPLAY SCREENS

PROBLEM	TACHOMETER DISPLAY	SPEEDOMETER DISPLAY
BATTERY	●	
ENGINE DATA BUS	●	
FAULT – HORN	●	
FAULT – IGNITION	●	
FAULT – INJECTOR	●	
FAULT – OIL PUMP	●	
FAULT – SENSOR	●	
FAULT – WATER TEMP	●	
LOW FUEL		●
LOW OIL		●
OIL TEMP	●	
OIL PSI	●	
OVERHEAT	●	
OVER SPEED	●	
PRESSURE	●	
RESERVE OIL	●	
WATER IN FUEL	●	
MAP	●	
MAT	●	
TPS	●	

SYSTEM TACH & SPEEDOMETER

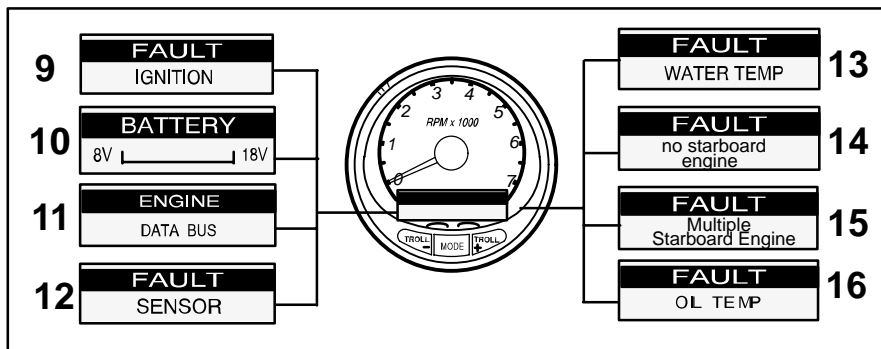


Warning Display Screens

IMPORTANT: Refer to the Engine Operation, Maintenance Manual for further explanation of the problem and the correct action to take.

1. **OVERHEAT** – The engine has overheated.
2. **PRESSURE** – There is insufficient water pressure in the cooling system.
3. **OVERSPEED** – Engine speed exceeded the maximum allowable RPM.
4. **WATER IN FUEL** – Water in the water-separating fuel filter reached the full level.
5. **FAULT-HORN** – Warning horn is not functioning correctly.
6. **RESERVE OIL LOW – 2 STROKE OUTBOARD ONLY** – Oil level is critically low in the engine mounted oil reservoir tank.
7. **FAULT-OIL PUMP** – Oil pump has stopped functioning electrically. No lubricating oil is being supplied to the engine.
8. **FAULT-INJECTOR** – One or more of the fuel injectors have stop functioning electrically.

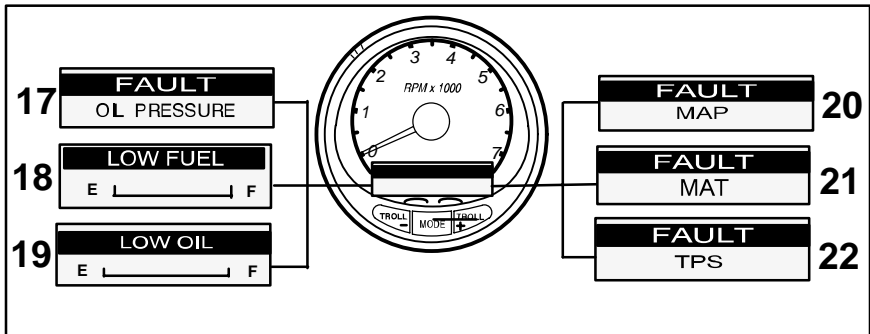
SYSTEM TACH & SPEEDOMETER



Warning Display Screens

9. **FAULT-IGNITION** – A problem has developed in the ignition system.
10. **BATTERY** – The electrical system is not charging or the battery charge is low.
11. **ENGINE DATA BUS** – The data communication link between the tachometer and engine is not connected.
12. **FAULT-SENSOR** – One of the sensors is not functioning correctly.
13. **FAULT-WATER TEMP** – The sensor for measuring outside lake/sea water temperature is not functioning correctly.
14. **NO STARBOARD ENGINE** – Informs you that the Instrument does not see the starboard engine computer. Usually indicates that no data is being transferred from the engine's computer to the gauge. (Check wiring, also make sure both terminator resistors are installed in the bus). Make sure both ECM's are not configured for port location using a DDT or Quicksilver Diagnostic Tool.
15. **MULTIPLE STARBOARD ENGINE** – SmartCraft Gauges are recognizing multiple engines as starboard.
In multiple engine applications, each engine must first be assigned a position (starboard, port, starboard2 or port2) with a Quicksilver Diagnostic Tool before the system will function properly.
If you have a dual engine application, you must first program the port engine with a Quicksilver Diagnostic Tool.
16. **OIL TEMPERATURE** – Engine oil is overheating.

SYSTEM TACH & SPEEDOMETER



Warning Display Screens

17. **OIL PRESSURE** – There is insufficient oil pressure.
18. **LOW FUEL LEVEL** – This message serves as a warning that the fuel level in the fuel tank is critically low. You should stop for fuel immediately to avoid running out.
19. **LOW OIL LEVEL – OUTBOARD 2 STROKE ONLY** – oil level in the remote oil tank is low. You should stop and refill the oil tank immediately to avoid running out.
20. **FAULT-MAP** – Engine problem occurred. Have the engine checked by your dealer.
21. **FAULT-MAT** – Engine problem occurred. Have the engine checked by your dealer.
22. **FAULT-TPS** – Engine problem occurred. Have the engine checked by your dealer.

SYSTEM TACH & SPEEDOMETER

Quick Cal Calibration

Quick Cal – This calibration is for setting lighting and contrast.

1. Press in the **[MODE]** and **[TROLL +]** buttons for up to 2 seconds to get to Quick Cal screen.
2. Press **[MODE]** to advance through the calibration selections.

CAL 1 Tachometer Calibration

Cal 1 – This calibration level lets you turn on and off the system screens. You may configure the system to display as little or as much information as you prefer.

1. Press in the **[MODE]** and **[TROLL +]** buttons and hold for approximately 7 seconds until you see the *Cal 1* screen.
2. Press **[MODE]** to advance through the calibration selections.

<p style="text-align: center;">REMOTE SCREENS?</p> <p>[NO] [SAVE] [YES]</p>	<p>If yes is selected, then screen changes made on this SC1000 tach will effect any other SC1000 tach in the system. NOTE: all tach will need to have this screen turned to "Yes" for this function to work.</p>
<p style="text-align: center;">REMOTE LCD LIGHT?</p> <p>[NO] [SAVE] [YES]</p>	<p>If yes is selected, then lighting levels made on this SC1000 tach will effect any other SC1000 tach in the system. NOTE: all tach will need to have this screen turned to "Yes" for this function to work.</p>
<p style="text-align: center;">REMOTE LCD CONTRAST?</p> <p>[NO] [SAVE] [YES]</p>	<p>If yes is selected, then contrast levels made on this SC1000 tach will effect any other SC1000 tach in the system. NOTE: all tach will need to have this screen turned to "Yes" for this function to work.</p>
<p style="text-align: center;">TRIM POPUP?</p> <p>[NO] [SAVE] [YES]</p>	<p>Do you want power trim display screen to pop up momentarily when you trim the engine?</p>

(continued on next page)

SYSTEM TACH & SPEED

CAL 1 Tachometer Calibration

<p>TRIM CALIBRATION</p> <p>[SKIP] [EDIT]</p>	<p>Choosing edit allows you to calibrate the gauge to the standard 0–10 unit trim and 11–25 trailer position scale.</p>
<p>TRIM FULL DOWN THEN PRESS PLUS BUTTON</p> <p>[DFLT] [SKIP] [SAVE]</p>	
<p>TRIM FULL UP THEN PRESS PLUS BUTTON</p> <p>[DFLT] [SKIP] [SAVE]</p>	
<p>TRIM TO TRAILER POINT THEN PRESS PLUS BUTTON</p> <p>[DFLT] [SKIP] [SAVE]</p>	
<p>DISPLAY UNITS</p> <p>[DOWN] [SAVE] [UP]</p>	<p>Lets you change units of measure between English (standard) or Metric.</p>
<p>SPEED UNITS</p> <p>[DOWN] [SAVE] [UP]</p>	<p>Lets you select speed units. You can choose from MPH (Miles Per Hour), KN (Nautical Miles Per Hour) or KMH (Kilometers Per Hour).</p>
<p>DEPTH SCREEN?</p> <p>[NO] [SAVE] [YES]</p>	<p>Do you want to turn on the depth screen? (Remember: You must have a Smart Craft depth transducer connected to the system for this screen to operate)</p>
<p>ENGINE TEMP SCREEN?</p> <p>[NO] [SAVE] [YES]</p>	<p>Do you want to turn on the engine temp screen?</p>

(continued on next page)

SYSTEM TACH & SPEED

SYSTEM TACH & SPEEDOMETER

CAL 1 Tachometer Calibration

<p>OIL TEMP SCREEN?</p> <p>[NO] [SAVE] [YES]</p>	<p>Do you want to turn on the oil temp screen?</p>
<p>OIL PRESS SCREEN?</p> <p>[NO] [SAVE] [YES]</p>	<p>Do you want to turn on the oil pressure screen?</p>
<p>TRIM AND PSI SCREEN?</p> <p>[NO] [SAVE] [YES]</p>	<p>Do you want to turn on the trim and water pressure split screen?</p>
<p>WATER PSI SCREEN?</p> <p>[NO] [SAVE] [YES]</p>	<p>Do you want to turn on the water pressure screen?</p>
<p>TRIM AND RPM SCREEN?</p> <p>[NO] [SAVE] [YES]</p>	<p>Do you want to turn on the trim and RPM split screen?</p>
<p>RPM SCREEN?</p> <p>[NO] [SAVE] [YES]</p>	<p>Do you want to turn on the digital RPM screen?</p>
<p>SIMULATOR MODE?</p> <p>[NO] [SAVE] [YES]</p>	<p>Do you want to turn on a simulation mode? (used for demonstration purposes).</p>
<p>EXIT?</p> <p>[NO] [SAVE] [CAL2]</p>	<p>Do you want to exit calibration? Or jump straight into calibration level 2?</p>

SYSTEM TACH & SPEED

CAL 2 Tachometer Calibration

CAL 2 – This calibration level lets you configure the system sensor inputs.

1. Press in the **[MODE]** and **[TROLL +]** buttons and hold for approximately 10 seconds for calibration2 (*Ca2*) screen.
2. Press **[MODE]** to advance through the calibration selections.

EXTERNAL SENSORS [SKIP] [EDIT]	This section lets you enable or disable the following external sensor inputs.
PITOT SENSOR? [NO] [SAVE] [YES]	Is the boat equipped with a pitot sensor to measure boat speed?
PADDLE SENSOR? [NO] [SAVE] [YES]	Is the boat equipped with a paddle wheel to measure boat speed?
TRIM SENSOR? [NO] [SAVE] [YES]	Is the boat equipped with a trim sensor?
SEA TEMP? [NO] [SAVE] [YES]	Is the boat equipped with a water temperature sensor?
INVERT STEERING [NO] [SAVE] [YES]	Is steering angle showing up on the link gauge opposite the direction that it should be? If it is then this feature will reverse the signal so it is displayed properly.

(continued on next page)

SYSTEM TACH & SPEEDOMETER

CAL 2 Tachometer Calibration

<p>SPEED OPTION</p> <p>[SKIP] [EDIT]</p>	This section lets you configure the following speed sensors.
<p>PITOT SENSOR?</p> <p>[NO] [SAVE] [YES]</p>	Select pitot transducer type. You can choose 100 or 200 PSI. (100 PSI is the most common)
<p>PITOT SENSOR MULTIPLIER</p> <p>[DOWN] [SAVE] [UP]</p>	Adjust the pitot pressure sensor for correcting display readings that are to high/low.
<p>PADDLE SENSOR PULSE FACTOR</p> <p>[DOWN] [SAVE] [UP]</p>	Adjust paddle wheel frequency for display readings that are to high/low.
<p>PADDLE TO PITOT TRANSITION</p> <p>[DOWN] [SAVE] [UP]</p>	Set the speed at which the gauge stops looking at the paddle wheel and starts using pitot to measure boat speed.

(continued on next page)

There are three methods for calibrating fuel tank level monitoring feature:

First: Do nothing. Linear readout based on raw sensor values. This mode does not factor in irregular tank shapes.

Second: By following the tank calibration procedure described on next page, but without actually adding fuel. System Tach will supply an estimated range value based on linear interpolation of the sensor range values. This mode does not factor in irregular tank shapes.

Third: By following the tank calibration procedure described on next page completely, which means adding fuel at each calibration point. System Tach will display an estimated range value that factors in the tank shape.

SYSTEM TACH & SPEEDOMETER

CAL 2 Tachometer Calibration

<p>FUEL TANK CAPACITY</p> <p>[DOWN] [SAVE] [UP]</p>	Lets you enter the capacity of your boats fuel tank. This option is the same for tank 1 as it is for tank 2.
<p>CALIBRATION FUEL TANK</p> <p>[SKIP] [EDIT]</p>	Lets you enter the mode where you can calibrate your fuel tank. Fuel tank calibration procedure is the same for tank 1 as it is for tank 2.
<p>EMPTY TANK THEN PRESS PLUS BUTTON</p> <p>[DFLT] [SKIP] [SAVE]</p>	You can choose to have an empty tank and hit SAVE, or hit DFLT and a default value will be entered based on the capacity of the tank.
<p>FILL TO 1/4 THEN PRESS PLUS BUTTON</p> <p>[DFLT] [SKIP] [SAVE]</p>	You can choose to have tank at 1/4 and hit SAVE, or hit DFLT and a default value will be entered based on the capacity of the tank.
<p>FILL TO 1/2 THEN PRESS PLUS BUTTON</p> <p>[DFLT] [SKIP] [SAVE]</p>	You can choose to have tank at 1/2 and hit SAVE, or hit DFLT and a default value will be entered based on the capacity of the tank.
<p>FILL TO 3/4 THEN PRESS PLUS BUTTON</p> <p>[DFLT] [SKIP] [SAVE]</p>	You can choose to have tank at 3/4 and hit SAVE, or hit DFLT and a default value will be entered based on the capacity of the tank.
<p>FILL TO FULL THEN PRESS PLUS BUTTON</p> <p>[DFLT] [SKIP] [SAVE]</p>	You can choose to have tank at full and hit SAVE, or hit DFLT and a default value will be entered based on the capacity of the tank.

(continued on next page)

SYSTEM TACH & SPEEDOMETER

CAL 2 Tachometer Calibration

DEPTH SENSOR OFFSET

[DOWN]

[SAVE]

[UP]

Lets you electronically configure a depth offset. Entering a negative number gives you a water line offset. A positive number gives you a keel offset.

DEPTH ALARM

[DOWN]

[SAVE]

[UP]

Lets you enter a depth value. When the depth transducer reads that value or below, the shallow water alarm will sound.

SYSTEM TACH & SPEEDOMETER

Quick Cal Calibration

Quick Cal – This calibration is for setting lighting and contrast.

1. Press in the **MODE** and **TROLL +** buttons for up to 2 seconds to get to Quick Cal screen.
2. Press **MODE** to advance through the calibration selections.

CAL 1 Speedometer Calibration

Cal 1 – This calibration level lets you turn on and off the system screens. You may configure the system to display as little or as much information as you prefer.

1. Press in the **MODE** and **TROLL +** buttons and hold for approximately 7 seconds until you see the *Cal 1* screen.
2. Press **MODE** to advance through the calibration selections.

REMOTE LCD LIGHT? [NO] [SAVE] [YES]	Enables you to set the lighting levels on all the SC1000 simultaneously from this gauge.
REMOTE LCD CONTRAST? [NO] [SAVE] [YES]	Enables you to control the contrast from another System TACH/Speed simultaneously from this gauge.
TIME [NO] [SKIP] [EDIT]	Allows you to set the time.
TIME FORMAT [DOWN] [SAVE] [UP]	Choose between a 12 hour and 24 hour format.
USE GPS TIME? [DOWN] [SAVE] [UP]	If you have a GPS connected this feature enables the gauge to let the GPS update the gauges internal clock.

(continued on next page)

SYSTEM TACH & SPEEDOMETER

CAL 1 Speedometer Calibration

<p>CALIBRATION HOUR 12:00 AM</p> <p>[DOWN] [SAVE] [UP]</p>	<p>Adjust the gauges internal clock to match your local time. First set the hours then press MODE button to set the minutes.</p>
<p>DISPLAY UNITS</p> <p>[DOWN] [SAVE] [UP]</p>	<p>Lets you change units of measurement between English (standard) or Metric.</p>
<p>SPEED UNITS</p> <p>[DOWN] [SAVE] [UP]</p>	<p>Lets you select the units at which speed is displayed. You can choose from MPH (Miles Per Hour), KTS (Knots), or KMH (Kilometers Per Hour).</p>
<p>TO WAYPOINT SCREEN?</p> <p>[NO] [SAVE] [YES]</p>	<p>If you have a GPS connected you can turn on the screen that shows your distance and fuel to a waypoint.</p>
<p>SIMULATOR MODE?</p> <p>[NO] [SAVE] [YES]</p>	<p>Do you want to turn on a simulation mode? (Used for demonstration purposes).</p>
<p>EXIT?</p> <p>[NO] [YES] [CAL2]</p>	<p>Do you want to exit calibration? Or jump straight into calibration level 2?</p>

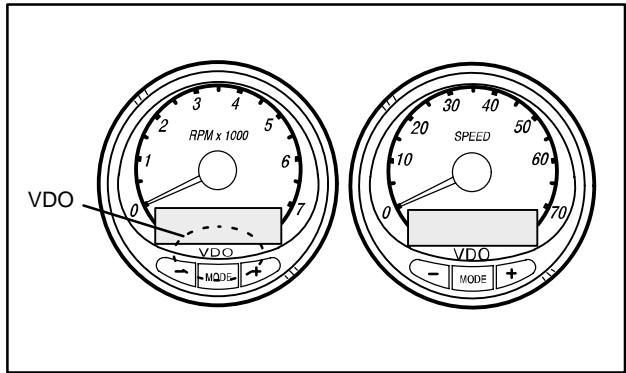
SYSTEM TACH & SPEED

CAL 2 Speedometer Calibration

CAL 2 – This calibration level lets you configure the system sensor inputs.

1. Press in the **[MODE]** and **[TROLL +]** buttons and hold for approximately 10 seconds for calibration2 (*Ca2*) screen.
2. Press **[MODE]** to advance through the calibration selections.

EXTERNAL SENSORS [SKIP] [EDIT]	This lets you enable or disable external sensor inputs.
AIR TEMP? [NO] [SAVE] [YES]	Are you using a air temp. sensor?
GPS? [NO] [SAVE] [YES]	Do you have a GPS sensor installed?
USE GPS SPEED? [NO] [SAVE] [YES]	Use the GPS input to drive the speed display?
WATER TEMPERATURE ADJUST [DOWN] [SAVE] [UP]	Adjust water temp. transducer to match actual sea water temperature.



Part 4

Smart Tach and Speedometer

Basic Operation and Features	4-1
Speedometer Display Screens	4-2
Tachometer Display Screens	4-4
Troll Control	4-6
Warning System	4-8
Warning Display Screens	4-9
Tachometer Calibration	4-12
Speedometer Calibration	4-17

NOTE: This manual shows all the Monitor display screens that are available. Depending on your type of engine, not all these screens will apply.

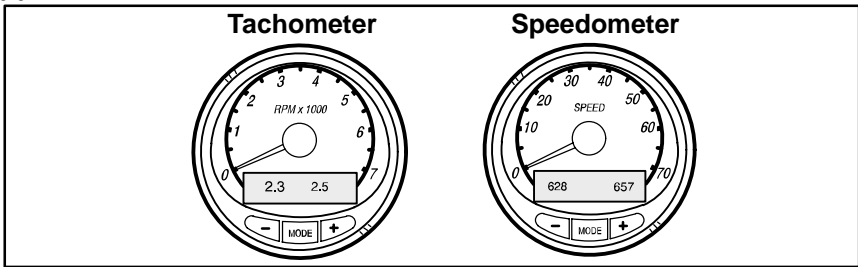
Smart Tach and Speedometer are compatible with:

2001 model year and newer Mercury Outboard models that are designed for use with SmartCraft.

SMART TACH & SPEED

SMART TACH & SPEEDOMETER

gog95



os1

Basic Operation and Features

Power up: Each gauge will power up when the ignition is turned on. Gauges will stay on as long as the ignition is on.

Lights: The brightness and contrast are adjustable.

Buttons: The MODE button is used for selecting information screens. The + and – buttons are used for setting engine speed during troll control and setting gauge calibrations.

Troll Control: Allows the operator to set and control the idle speed of the engine for trolling without using the throttle.

Engine Guardian System: Monitors the critical sensors on the engine for any early indications of problems. The system will respond to a problem by reducing engine speed in order to maintain a safe operating condition.

Warning System: The system will sound the warning horn and display the warning message.

Tachometer Display Screen:

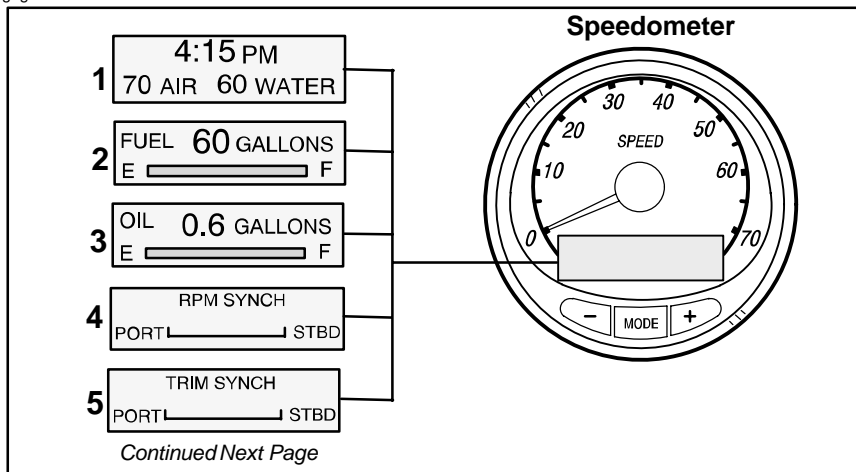
- Digital Tachometer
- Hour Meter
- Power Trim Angle
- Fuel Flow
- Engine Temperature
- Battery Voltage
- Water Pressure

Speedometer Display Screen:

- Clock and Temperature
- Fuel Tank Level(s)
- Oil Tank Level(s)
- Fuel Economy
- Fuel Range
- Trip Odometer
- Digital Speedometer
- Barometer Reading

SMART TACH & SPEEDOMETER

gog95



os12

Speedometer Displays

When the ignition is turned on, the speedometer will show the last screen that was displayed before the ignition was turned off.

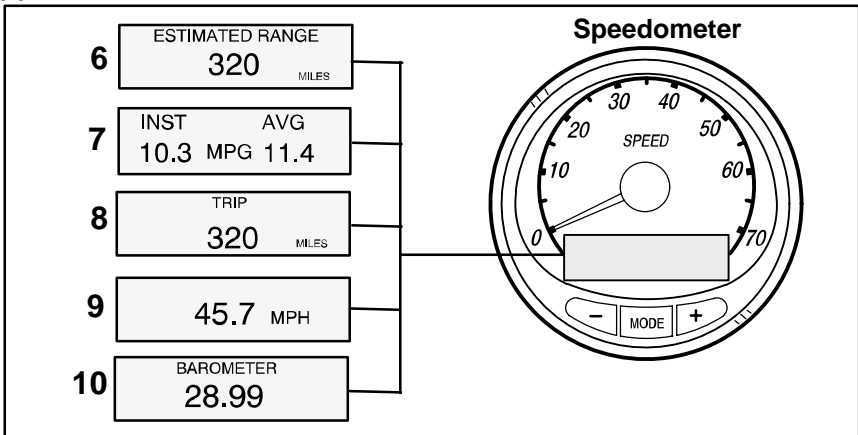
Press **MODE** to change display screens. You can revert back to the previous screen by pressing and holding **MODE** for 2 seconds. This will reverse the display rotation.

NOTE: Readings can be displayed in English (U.S.) or Metric. Refer to Calibrations.

1. **Clock - Temp** – Clock, air temperature and water temperature. The air and water temperature sensors will have to be connected to obtain display readings.
2. **Fuel Level** – Displays the amount of fuel remaining.
3. **Oil Level** – Displays the amount of engine oil remaining.
4. **RPM Synchronizer** – Dual Engines – Monitors the revolutions of both engines. Allows throttle adjustments to keep each running uniformly.
5. **Trim Synchronizer** – Dual Engines – Displays the trim position of both engines. Simplifies keeping trim levels equal.

SMART TACH & SPEEDOMETER

gog95



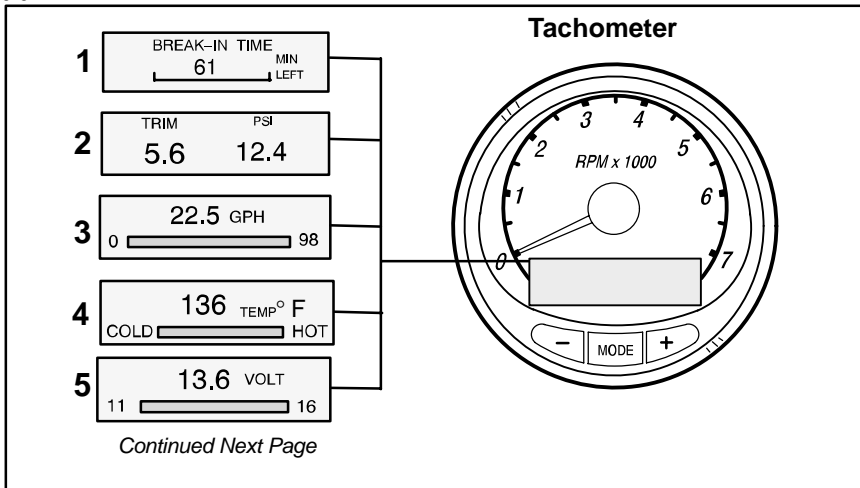
os13

Speedometer Displays

6. **Traveling Range** – The estimated traveling range is based on current fuel consumption and fuel remaining in the tank. The numbers displayed indicates an estimate of the distance you can travel with the remaining fuel.
7. **Fuel Economy** – The display shows average “**AVG**” fuel consumption as well as Instantaneous “**INST**” fuel economy. The numbers displayed indicate miles per gallon “**MPG**” or kilometer per liter “**KM/L**”. **Reset** – To reset, select the display screen and press **MODE** and **TROLL** buttons.
8. **Trip Odometer** – Tells how far you’ve gone since you last set the gauge to zero. **Trip Reset** – To reset, select the display screen and press **MODE** and **TROLL** buttons.
9. **Digital Speedometer** – Can display boat speed in miles per hour, kilometer per hour, or knots. The digital speedometer will continue to increase even if needle is at maximum. The speedometer will use the paddle wheel for its low speed readings but will switch to the speedo or GPS (if connected) for high speed readings.
10. **Barometer** – Shows the barometric pressure reading only at the time the ignition was turned on.

SMART TACH & SPEEDOMETER

gog95



osl4

Tachometer Displays

When the ignition is turned on, the tachometer will display the last screen that was displayed before the ignition was turned off.

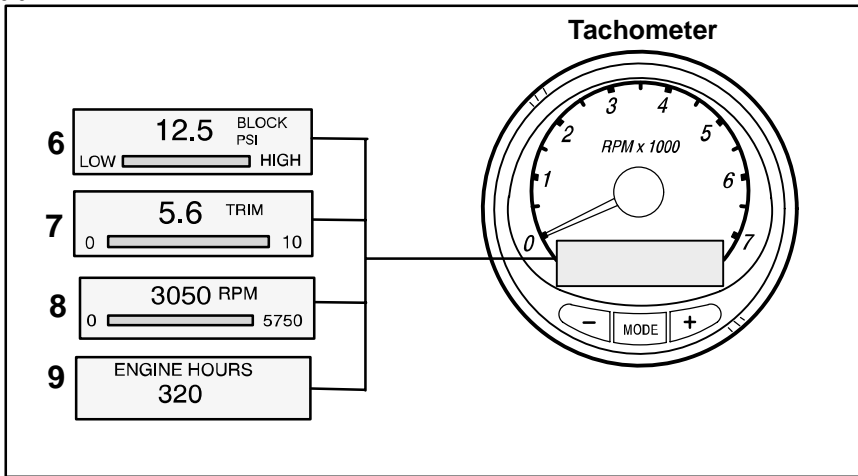
Press **MODE** to change display screens. You can revert back to the previous screen by pressing and holding **MODE** for 2 seconds. This will reverse the display rotation.

NOTE: Readings can be displayed in English (U.S.) or Metric. Refer to Calibration.

1. **Engine Break-in** – Displays time remaining on the break-in period of a new engine. This screen will automatically disappear after the break-in period is complete.
2. **Power Trim Angle - Water Pressure** – Displays trim angle of the outboard and cooling system water pressure.
3. **Fuel Flow** – Displays engine fuel use in gallons per hour or liters per hours.
4. **Temperature** – Displays engine coolant temperature from Cold to Hot.
5. **Battery Voltage** – Displays voltage level (condition) of battery.

SMART TACH & SPEEDOMETER

gog95



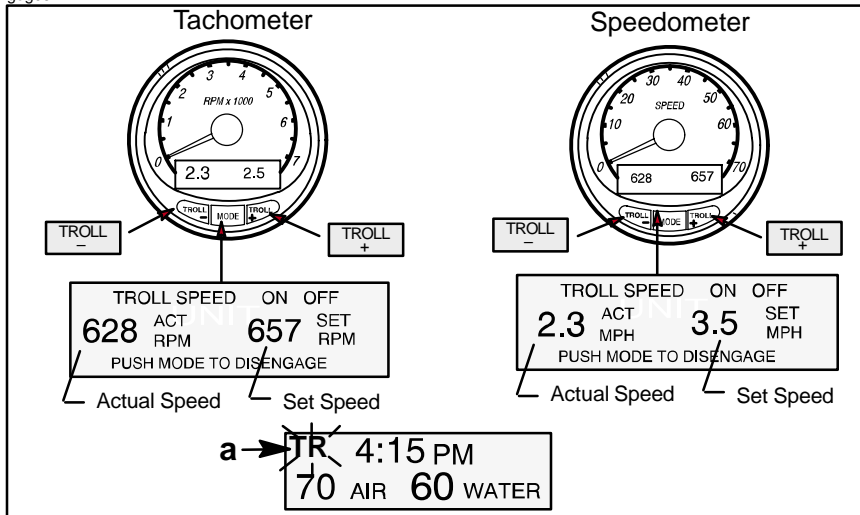
os15

Tachometer Displays

- 6. Water Pressure:** Displays cooling system water pressure at the engine.
- 7. Power Trim Angle:** Displays trim angle of the outboard up to the maximum trim angle, and then displays the trailer angle. 0 = down, 10 = full trim, and 25 = full trailer.
- 8. Digital Tachometer:** Displays engine speed in Revolutions Per Minute (RPM).
- 9. Hour Meter:** Records the running time of the engine.

SMART TACH & SPEEDOMETER

gog95



oso6

Troll Control

Basic Operation

With troll control you can maintain a trolling speed of 550 to 1000 rpm without using the throttle. See *NOTE*: following.

NOTE: Avoid using a very low rpm trolling speed for an extended period of time. Doing so could result in a low-battery voltage condition.

You can set the troll control by using either the tachometer or speedometer. Tachometer will set the speed in RPM and speedometer will set the speed in MPH.

You can shut off troll control anytime by pushing the **MODE** button when in the troll display screen or moving the throttle.

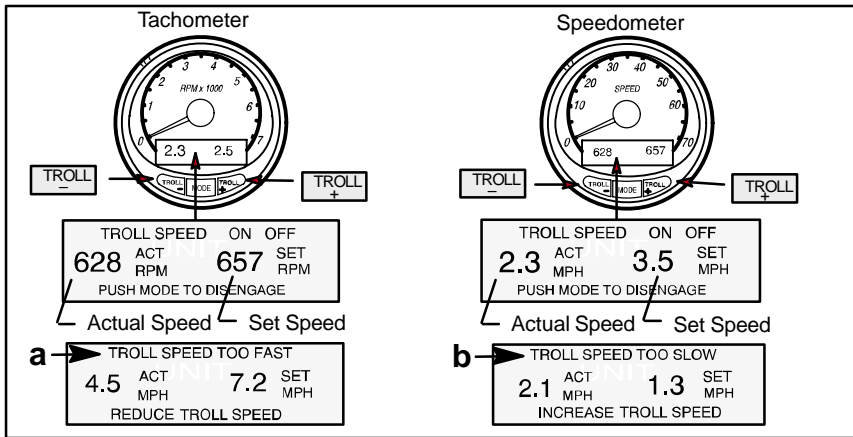
If you have troll control set at a desired speed and then you shut off the troll control, the system remembers the set speed and will return to that speed when re-engaged.

The display screen will revert back to the previous screen after 10 seconds of no activity. Push the **TROLL +** or **TROLL -** button to reactivate the display screen.

When the troll control is engaged and you are out of the troll control screen, a flashing signal "TR" (a) will appear in the upper left corner of the display to indicate troll control is still running.

SMART TACH & SPEEDOMETER

gog95



osi7

Troll Control

To Set Troll Control

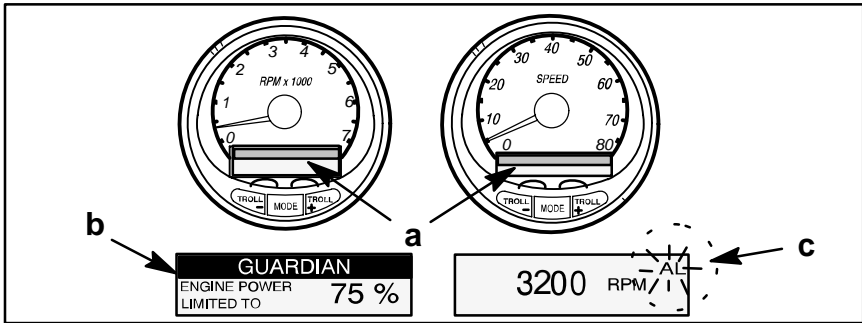
1. With the engine running, shift outboard into gear. Set engine speed at idle.
2. Push in the or button to bring up the troll control display screen.
3. Press to engage (turn on) the troll control.
4. Use the buttons to set the desired speed. Use (+) to increase speed and (-) to decrease speed.
5. If you set troll control to a higher speed than the troll rpm can bring the boat to, the **TARGET SPEED TOO FAST** (a) message will appear. Reduce troll speed.
6. If you set troll control to a slower speed than the troll rpm can bring the boat to, the **TARGET SPEED TOO SLOW** (b) message will appear. Increase troll speed.

To Get Out of Troll Control

There are three ways to turn off the troll control:

- Press the button when in the troll display screen.
- Move the throttle to a different speed.
- Shift outboard into neutral.

SMART TACH & SPEEDOMETER



Warning System

Alarms Warnings – When a problem is detected, the name of the offending alarm appears on the display (a).

If problem can cause immediate engine damage, the Engine Guardian System (b) will respond to the problem by limiting engine power. Immediately reduce throttle speed to idle and refer to the warning messages on the following pages. Refer to the Engine Operation, Maintenance Manual for further explanation of the problem and the correct action to take.

The alarm message will stay displayed until the mode button is pressed. If there are multiple alarms, these will cycle on the display at five-second intervals.

If the mode button is pressed to a different screen, the flashing alarm signal “AL” (c) will appear in the upper right corner to indicate there still is a problem.

SMART TACH & SPEEDOMETER

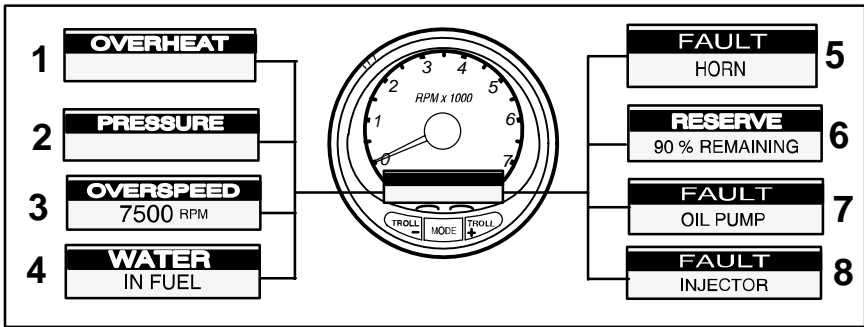
Warning Display Screens

When a problem is detected with the engine, the warning display screens will alert the operator to the potential problem. Refer to the Engine Operation, Maintenance Manual for explanation of the problem and the correct action to take.

WARNING DISPLAY SCREENS

PROBLEM	TACHOMETER DISPLAY	SPEEDOMETER DISPLAY
BATTERY	●	
ENGINE DATA BUS	●	
FAULT – HORN	●	
FAULT – IGNITION	●	
FAULT – INJECTOR	●	
FAULT – OIL PUMP	●	
FAULT – SENSOR	●	
FAULT – WATER TEMP	●	
LOW FUEL		●
LOW OIL		●
OVERHEAT	●	
OVER SPEED	●	
PRESSURE	●	
RESERVE OIL	●	
UNIT MISMATCH (MULTI ENGINE)	●	
WATER IN FUEL	●	

SMART TACH & SPEEDOMETER

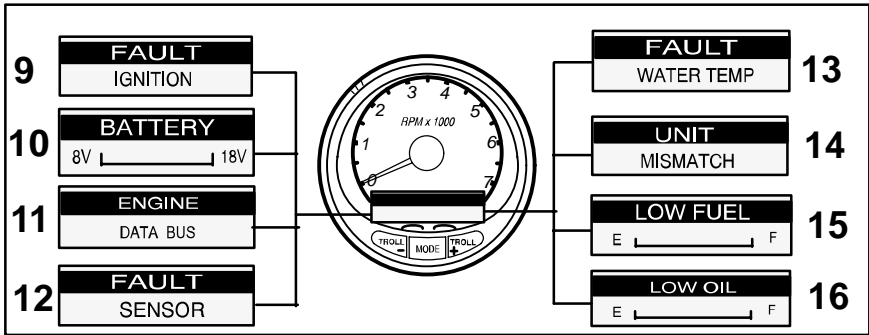


Warning Display Screens

IMPORTANT: Refer to the Engine Operation, Maintenance Manual for further explanation of the problem and the correct action to take.

1. **OVERHEAT** – The engine has overheated.
2. **PRESSURE** – There is insufficient water pressure in the cooling system.
3. **OVERSPEED** – Engine speed exceeded the maximum allowable RPM.
4. **WATER IN FUEL** – Water in the water-separating fuel filter reached the full level.
5. **FAULT-HORN** – Warning horn is not functioning correctly.
6. **RESERVE OIL LOW – 2 STROKE OUTBOARD ONLY** – Oil level is critically low in the engine mounted oil reservoir tank.
7. **FAULT-OIL PUMP** – Oil pump has stopped functioning electrically. No lubricating oil is being supplied to the engine.
8. **FAULT-INJECTOR** – One or more of the fuel injectors have stop functioning electrically.

SMART TACH & SPEEDOMETER



Warning Display Screens

IMPORTANT: Refer to the Engine Operation, Maintenance Manual for further explanation of the problem and the correct action to take.

9. **FAULT-IGNITION** – A problem has developed in the ignition system.
10. **BATTERY** – The electrical system is not charging or the battery charge is low.
11. **ENGINE DATA BUS** – The data communication link between the tachometer and engine is not connected.
12. **FAULT-SENSOR** – One of the sensors is not functioning correctly.
13. **FAULT-WATER TEMP** – The sensor for measuring outside lake/sea water temperature is not functioning correctly.
14. **UNIT MISMATCH** – (Multi Engines) This message tells you that the tachometers are not calibrated alike. For example, this could happen if one tachometer reading is English and the other is in Metric. Re-calibrate the tachometers.
15. **LOW FUEL LEVEL** – This message serves as a warning that the fuel level in the fuel tank is critically low. You should stop for fuel immediately to avoid running out.
16. **LOW OIL LEVEL – OUTBOARD 2 STROKE ONLY** – oil level in the remote oil tank is low. You should stop and refill the oil tank immediately to avoid running out.

SMART TACH & SPEEDOMETER

os126

Tachometer Calibration

NOTE: When calibrating multi tachometers (multi engines) turn ignition on for all the tachometers.

Simple Calibration – This calibration for setting lighting and a few other common screens can be made while engine is running.

1. Press in the **[MODE]** and **[TROLL +]** buttons for calibration screen.
2. Press **[MODE]** to advance through the calibration selections.

Advanced Calibration – This calibration goes through all mode selections.

1. Turn ignition key to the off position.
2. Hold **[TROLL +]** **[TROLL -]** and turn ignition on.
3. Press and hold **[MODE]** for 2 seconds to bring up the calibration screen.
4. Press **[MODE]** to advance through the calibration selections.

CALIBRATION BRIGHTNESS		
[DOWN]	[SAVE]	[UP]

Press – or + to adjust level. Press **MODE** to save setting

CALIBRATION BRIGHTNESS SET ALL INSTRUMENTS?	
[NO]	[YES]

Do you want the same brightness level for all SmartCraft gauges? Press + for yes. Press **MODE** for no.

CALIBRATION CONTRAST		
[DOWN]	[SAVE]	[UP]

Press – or + to adjust level. Press **MODE** to save setting

CALIBRATION CONTRAST SET ALL INSTRUMENTS?	
[NO]	[YES]

Do you want the same contrast level for all SmartCraft gauges? Press + for yes. Press **MODE** for no.

CALIBRATION CONTROL OPTIONS REMOTE SCREEN ? YES – NO		
[DOWN]	[SAVE]	[UP]

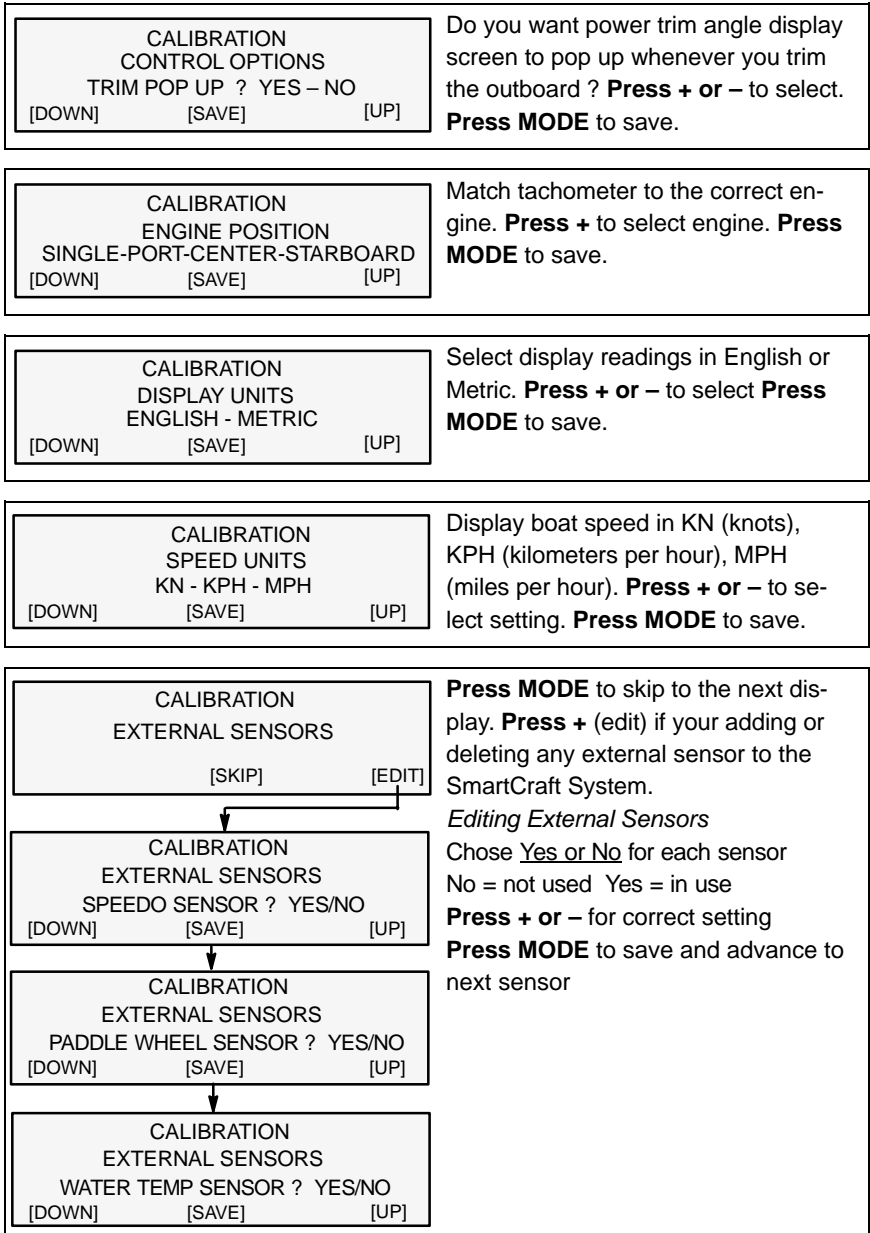
Multi Engine – Do you want tachometer display screens to advance together? Press + or – to select. Press **MODE** to save.

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SMART TACH & SPEEDOMETER

os17

Tachometer Calibration



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SMART TACH & SPEEDOMETER

os118

Tachometer Calibration

CALIBRATION FUEL TANK CAPACITY CAPACITY = XX.XX [DOWN] [SAVE] [UP]	Add the capacity of the fuel tank. Press + or - to select. Press MODE to save.
---	---

CALIBRATION FUEL TANK CALIBRATION [SKIP] [EDIT]	This calibration accurately adjusts the fuel level sending unit in the fuel tank. <i>NOTE: If the fuel tank is not calibrated, fuel range cannot be displayed</i> Press MODE to skip to the next display. Press + (edit) to calibrate the fuel tank. <i>Pressing DFLT (default) during edit will return to original value setting</i> Calibrate the fuel tank as follows: <ol style="list-style-type: none">1. Empty the fuel tank, Press + to save2. Fill tank to 1/4 full, Press + to save.3. Fill tank to 1/2 full, Press + to save4. Fill tank to 3/4 full, Press + to save.5. Fill tank to full, Press + to save. The fuel tank is now calibrated
↓ CALIBRATING EMPTY TANK THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	
↓ CALIBRATING 1/4 VALUE FILL TO X.X G. THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	
↓ CALIBRATING 1/2 VALUE FILL TO X.X G. THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	
↓ CALIBRATING 3/4 VALUE FILL TO X.X G. THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	
↓ CALIBRATING FULL FILL TANK TO FULL THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	

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SMART TACH & SPEED

SMART TACH & SPEEDOMETER

os119

Tachometer Calibration

CALIBRATION OIL TANK CAPACITY CAPACITY = XX.XX [DOWN] [SAVE] [UP]	Add the capacity of the oil tank. Press + or - to select. Press MODE to save.
--	---

CALIBRATION OIL TANK CALIBRATION [SKIP] [EDIT]	This calibration accurately adjusts the oil level sending unit in the oil tank. Press MODE to skip to the next display. Press + (edit) to calibrate the oil tank. <i>Pressing DFLT (default) during edit will return to original value setting</i> Calibrate the oil tank as follows: <ol style="list-style-type: none">1. Empty the oil tank, Press + to save2. Fill tank to 1/4 full, Press + to save.3. Fill tank to 1/2 full, Press + to save4. Fill tank to 3/4 full, Press + to save.5. Fill tank to full, Press + to save. The oil tank is now calibrated
CALIBRATING EMPTY TANK THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	
CALIBRATING 1/4 VALUE FILL TO X.X G. THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	
CALIBRATING 1/2 VALUE FILL TO X.X G. THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	
CALIBRATING 3/4 VALUE FILL TO X.X G. THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	
CALIBRATING FULL FILL TANK TO FULL THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	

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SMART TACH & SPEEDOMETER

os120

Tachometer Calibration

CALIBRATION SPEED SENSORS [SKIP] [EDIT]	<p>If the speedometer is not reading correctly, the speed sensors can be recalibrated to correct the setting. Press MODE to skip to the next display. Press + (edit) to calibrate the sensors.</p> <p>Increasing or decreasing the multiplier will increase or decrease the speed reading</p> <p>Press – or + for changing setting. Press MODE to save.</p>
CALIBRATION PITOT SENSOR MULTIPLIER 1.00 [DOWN] [SAVE] [UP]	
CALIBRATION PADDLE WHEEL SENSOR MULTIPLIER 1.00 [DOWN] [SAVE] [UP]	

CALIBRATION TRIM CALIBRATION [SKIP] [EDIT]	<p>If the trim setting is not reading correctly, the trim sensor can be recalibrated to correct the setting. <i>Pressing DFLT (default) during edit will return to original value setting</i></p> <p>Press MODE to skip to the next display. Press + (edit) to calibrate the sensor.</p> <ol style="list-style-type: none">1. Trim outboard full up, than Press + to save.2. Trim outboard to the point where the trim cylinders takes over, than Press + to save.3. Trim outboard full down, than Press + to save.
CALIBRATION TRIM FULL UP THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	
CALIBRATION TRIM TO TRAILER POINT THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	
CALIBRATION TRIM FULL UP THEN PRESS PLUS (+) BUTTON [DFLT] [SKIP] [SAVE]	

CALIBRATION EXIT ? [NO] [YES]	<p>Do you want to exit the calibration mode? Press + for yes. Press MODE for no.</p>
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SMART TACH & SPEEDOMETER

osl27

Speedometer Calibration

Simple Calibration – This calibration for setting lighting and setting the clock can be made while engine is running.

1. Press in the **MODE** and **TROLL +** buttons for calibration screen.
2. Press **MODE** to advance through the calibration selections.

Advanced Calibration – This calibration goes through the entire mode selections.

1. Turn ignition key to the off position.
2. Hold **TROLL +** **TROLL -** and turn ignition key to the on position.
3. Press and hold **MODE** for 2 seconds to bring up the calibration screen.
4. Press **MODE** to advance through the calibration selections.

<p>CALIBRATION BRIGHTNESS</p> <p>[DOWN] [SAVE] [UP]</p>	<p>Press – or + to adjust level. Press MODE to save setting</p>
---	---

<p>CALIBRATION BRIGHTNESS SET ALL INSTRUMENTS? [NO] [YES]</p>	<p>Do you want the same brightness level for all SmartCraft gauges? Press + for yes. Press MODE for no.</p>
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<p>CALIBRATION CONTRAST</p> <p>[DOWN] [SAVE] [UP]</p>	<p>Press – or + to adjust level. Press MODE to save setting</p>
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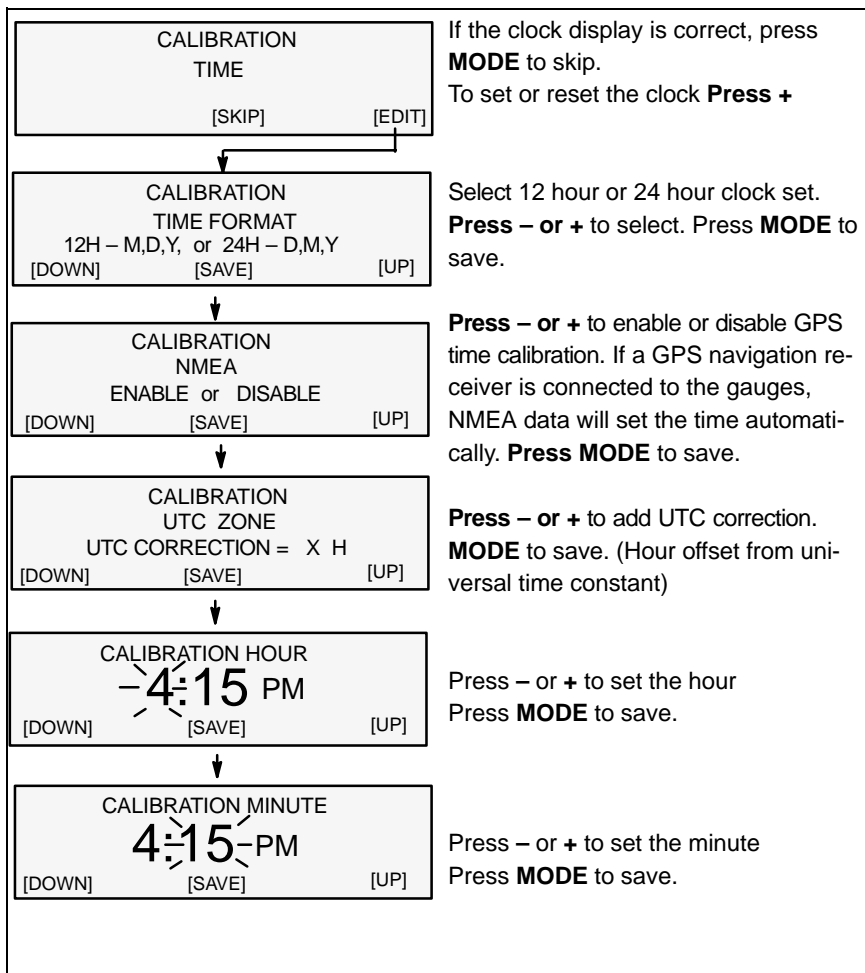
<p>CALIBRATION CONTRAST SET ALL INSTRUMENTS? [NO] [YES]</p>	<p>Do you want the same contrast level for all SmartCraft gauges? Press + for yes. Press MODE for no.</p>
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SMART TACH & SPEEDOMETER

osl22

Speedometer Calibration



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SMART TACH & SPEEDOMETER

os|24

Speedometer Calibration

