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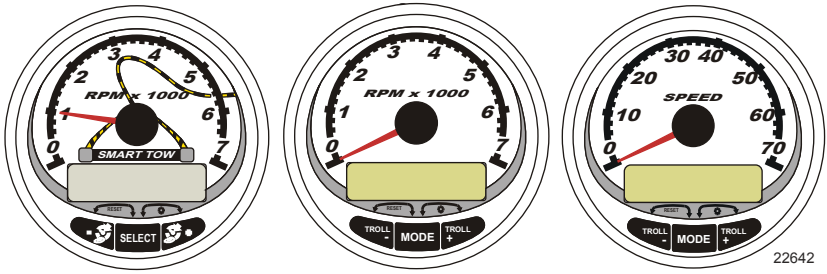
BASIC OPERATION AND FEATURES

Basic Operation and Features



Smart Tow Tachometer | **System Tachometer** | **System Speedometer**

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

Lights: Adjusts the brightness and contrast of the gauge.

Buttons: The "MODE/SELECT" button is used for selecting information screens. The "+" and "-" buttons are used for setting engine speed during troll, cruise control, and setting gauge calibrations.

Troll Control: Sets and controls the idle speed of the engine for trolling without using the throttle. (System Tachometer and Speedometer).

Cruise Control: Sets and controls the speed of the engine for cruising. (Smart Tow Tachometer only).

Launch Control: Sets and controls the speed of acceleration from idle to set cruise speed. (Smart Tow Tachometer only).

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 and alert the operator to a potentially damaging situation.

Warning System: The system sounds the warning horn and displays the warning message.

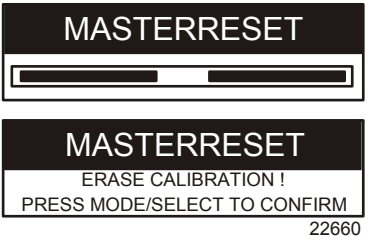
Master Reset

Returns the gauge to the factory defaults through the Master Reset command.

BASIC OPERATION AND FEATURES

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

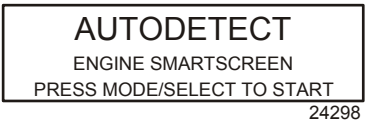
Press the "-" and "+" buttons simultaneously for approximately 10 seconds (until the graphic bars collide) to restore the unit to factory default settings. Press the "MODE/SELECT" button to confirm.



Auto Detection Engine Function

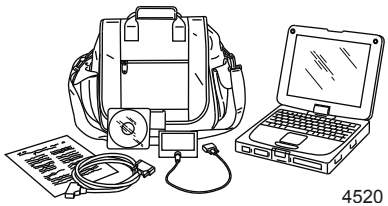
The System Tachometer/Speedometer and Smart Tow Tachometer come standard with an Engine Auto-detection feature. This feature lets the gauge, on the initial power up, automatically detect which engine type is used and configure the gauge to match that engine type.

On first time power up of the gauge or after a Master Reset, the gauge will display "AUTODETECT". Upon pressing the "MODE/SELECT" button, the gauge will automatically determine engine type. This will preset the data monitoring screens accordingly. The intention is to make initial setup easier. Press the "MODE/SELECT" button to start the Auto Detection Engine function.



If the gauge shows a warning of "NO STARBOARD ENGINE" or "MULTIPLE STARBOARD ENGINES", the engine location must be properly selected (Port and Starboard) at the engine using a Mercury Computer Diagnostic System tool (CDS). Perform the Master Reset and Auto Detect functions again. (Refer to **Master Reset**).

BASIC OPERATION AND FEATURES

Computer Diagnostic System (CDS)	Order through SPX
 4520	Monitors all electrical systems for proper function, diagnostics, and calibration purposes. For additional information, pricing, or to order the Computer Diagnostic System contact: SPX Corporation 28635 Mound Rd. Warren, MI 48092 or call: USA - 1-800-345-2233 Canada - 800-345-2233 Europe - 49 6182 959 149 Australia - (03) 9544-6222

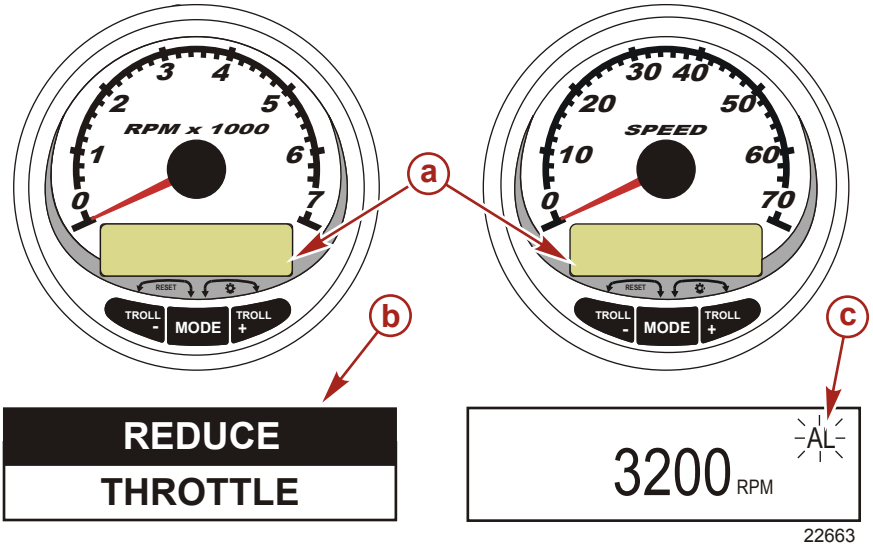
Display Screens

Tachometer Display Screen	Speedometer Display Screen
Engine Break-in	Speed
Engine Temperature	Fuel Used
Oil PSI	Cog/Sog - If there is a GPS input
Oil Pressure	Distance and fuel to Waypoint
Trim and Water Pressure	Clock - Air/Sea Temp
Water Pressure	Inst. and Avg. Fuel Economy
Battery Voltage and Engine Hours	Trip Odometer
Fuel Flow and Fuel Used	Fuel Tank Levels
% Fuel Remaining (Fuel Tank 1)	Oil Tank Levels
RPM	Fresh Water Levels
Depth	Waste Water levels
Speed/Sea Temperature	
	Dual Engine
	Trim and RPM Synchronizer
	Fuel Range
	Fuel Flow
	Trip Odometer
	Steering Angle

WARNING SYSTEM

Alarm Warnings

NOTE: *Alarm warnings are displayed as shown when used with engines prior to Gen I (2007).*



a - Display screen
b - Engine Guardian System
c - Alarm signal

When a problem is detected, the name of the offending alarm appears on the display.

If problem can cause immediate engine damage, the Engine Guardian System will respond to the problem by limiting engine power. Immediately reduce the throttle speed and refer to the warning messages on the following pages. Refer to the **Engine Operation, Maintenance, and Warranty 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 display a different screen, the flashing alarm signal "AL" will appear in the upper right corner to indicate there still is a problem.

WARNING SYSTEM

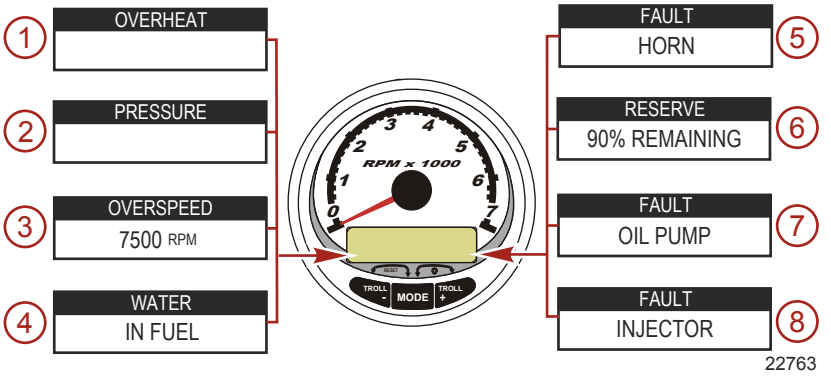
Warning Display Screens

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, and Warranty Manual** for explanation of the problem and the correct action to take.

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	×	

WARNING SYSTEM

NOTE: *Not all screens may apply to your engine type.*

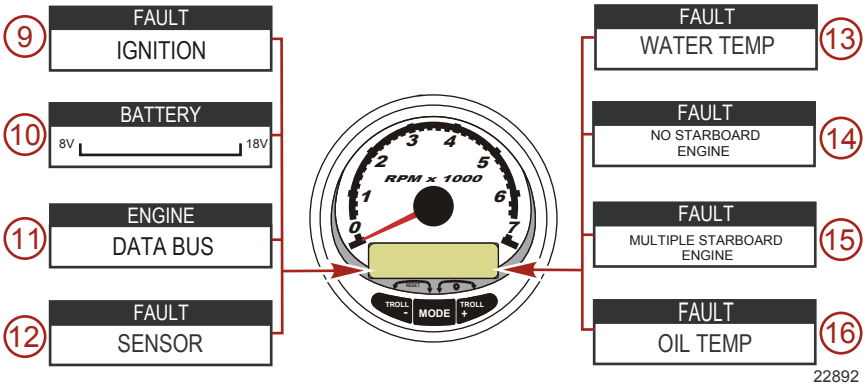


IMPORTANT: Refer to the Engine Operation, Maintenance, and Warranty Manual for further explanation of the problem and the correct action to take. Contact your dealer if the problem persists.

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**: The 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**: The 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 stopped functioning electronically.

WARNING SYSTEM

NOTE: *Not all screens may apply to your engine type.*



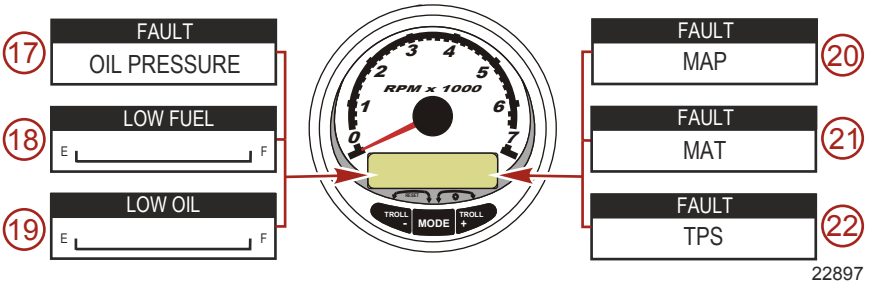
9. **FAULT - IGNITION**: A problem has developed in the ignition system.
10. **BATTERY**: The electrical system is not charging or the battery charge is low.
11. **ENGINE DATA BUS**: The data communication link between the tachometer and engine is not connected.
12. **FAULT - SENSOR**: One of the sensors 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**: The instrument does not detect the starboard engine computer. This usually indicates that no data is being transferred from the engine's computer to the gauge. Check the wiring. Make sure both terminator resistors are installed in the bus. Make sure both ECMs are not configured for the port location using a DDT or Quicksilver Diagnostic Tool.
15. **MULTIPLE STARBOARD ENGINE**: SmartCraft gauges are recognizing multiple engines as starboard.

NOTE: *In multiple engine applications, each engine must first be assigned a position (starboard, port, starboard2 or port2) with a Computer Diagnostic Tool (CDS) before the system will function properly.*

16. **OIL TEMPERATURE**: The engine oil is overheating.

WARNING SYSTEM

NOTE: *Not all screens may apply to your engine type.*

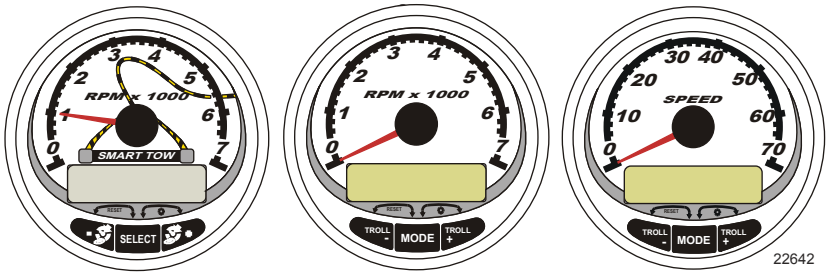


17. **OIL PRESSURE**: There is insufficient oil pressure.
18. **LOW FUEL LEVEL** The fuel level in the fuel tank is critically low. Stop for fuel immediately to avoid running out.
19. **LOW OIL LEVEL - OUTBOARD 2-STROKE ONLY**: The oil level in the remote oil tank is low. Stop and refill the oil tank 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.

WARNING SYSTEM WITH DESCRIPTIVE TEXT

Alarm Warnings with Descriptive Text

NOTE: *Descriptive text alarm warning screens are displayed with Gen I (2007) engines and newer.*



When a problem is detected, the "SYS FAULT" alarm appears on the display. Press the "+" button to show the faulty component. The upper bar in this screen displays the system where the fault is located. The faulty component is described in the scrolling text. Press the "+" button for more information. This screen gives a detailed description of the fault in the scrolling text. Press the "+" button to view the required corrective action.

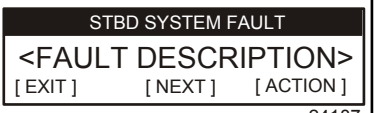
The alarm message will stay displayed until the "-" button is pressed. If there are multiple alarms, press the "MODE/SELECT" button to display.

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

If the "MODE/SELECT" button is pressed to display a different screen, the flashing alarm signal "AL" will appear in the upper right corner to indicate there still is a problem.

Alarm Warning with Descriptive Text	
SYS FAULT [SHOW] 24184	The "SYS FAULT" bar indicates there is a problem in the system. "SHOW" displays the faulty component.

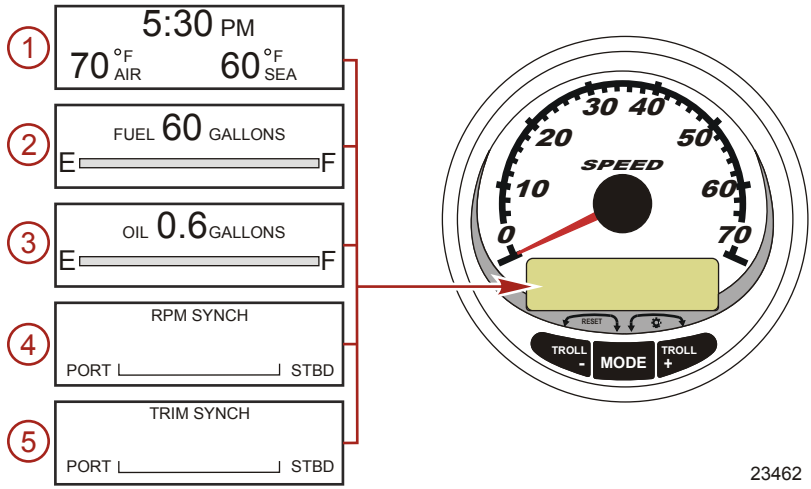
WARNING SYSTEM WITH DESCRIPTIVE TEXT

Alarm Warning with Descriptive Text	
 24186	The top bar indicates the system with the faulty component. The scrolling text displays the faulty component. "NEXT" displays the next fault. "MORE" displays a detailed description of the fault.
 24187	The scrolling text explains in detail the description of the fault. "ACTION" displays the course of action required by the operator.
 24189	The scrolling text displays the course of action required by the operator.

SYSTEM SPEEDOMETER DISPLAY SCREENS

System Speedometer Display Screens

NOTE: *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.

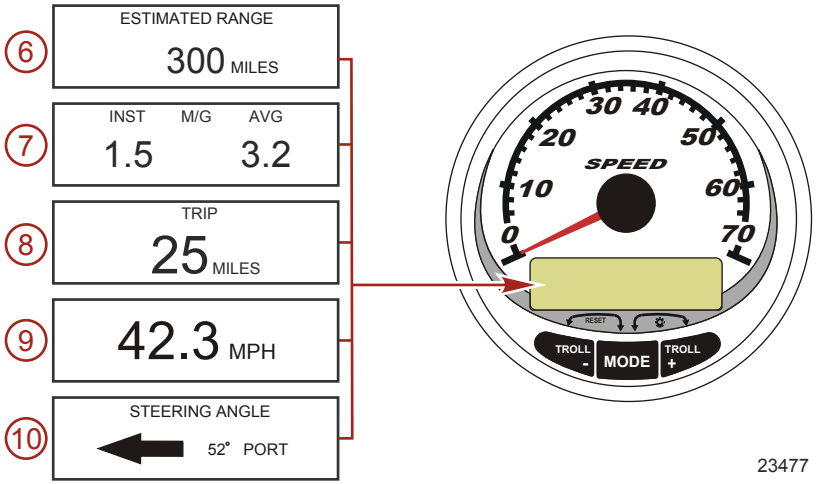
NOTE: *Readings can be displayed in English (U.S.) or Metric. Refer to* ***Speedometer Calibrations****.*

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 (Outboard 2-Stroke only), 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 SPEEDOMETER DISPLAY SCREENS

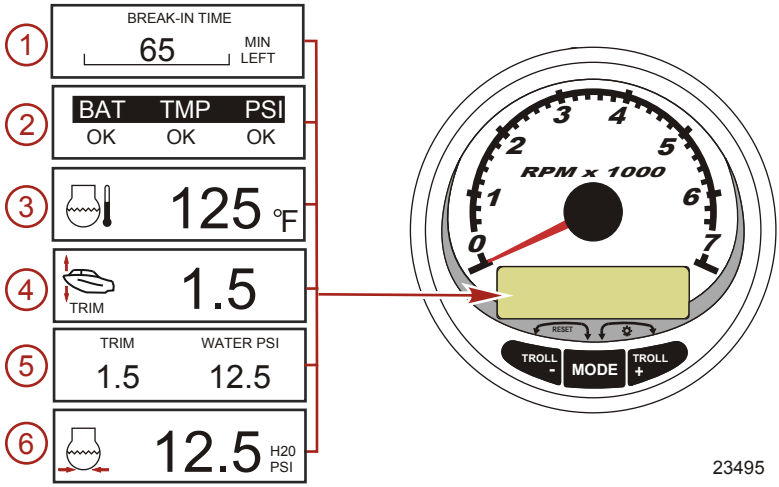
NOTE: *Not all screens may apply to your engine type.*



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:** Displays the average "AVG" fuel consumption as well as Instantaneous "INST" fuel economy. The numbers displayed indicate miles per gallon "MPG" or kilometers per liter "KM/L". **Fuel Reset:** To reset, select the display screen and press "MODE" and "-" simultaneously.
8. **Trip Odometer:** Displays the distance traveled since the gauge was last reset to zero. **Trip Reset:** To reset, select the display screen and press "MODE" and "-" simultaneously
9. **Digital Speedometer:** Displays the 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).
10. **Steering Angle:** Displays the relative position of the steering system. Available on Mercury MerCruiser models only. A steering angle sensor must be installed on the engine.

SYSTEM TACHOMETER DISPLAY SCREENS

System Tachometer Display Screens



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

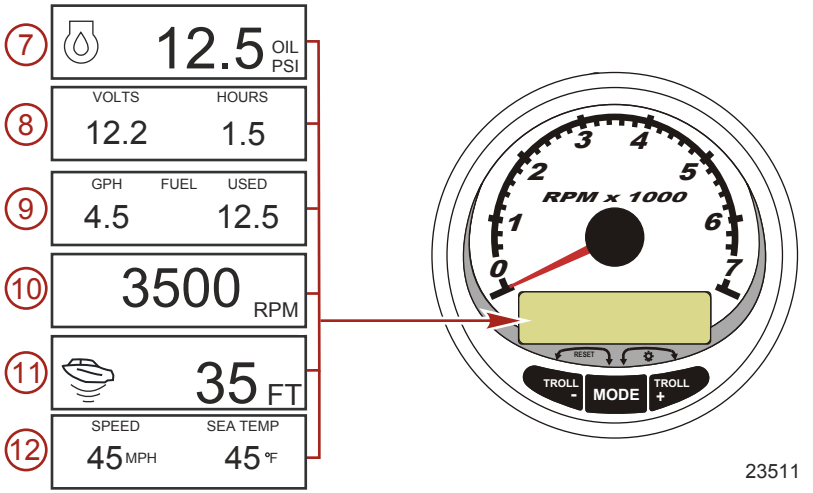
Press "MODE" to change display screens. You can revert back to the previous screen by pressing and holding "MODE" for 2 seconds.

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

1. **Engine Break-In:** Displays the time remaining on the break-in period of a new engine. This screen will automatically disappear after the break-in period is complete.
2. **Quick Reference Screen:** Indicates that the battery, engine temperature and pressures are operating properly.
3. **Temperature:** Displays the engine coolant temperature.
4. **Power Trim Angle:** Displays the 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.
5. **Power Trim Angle/Water Pressure:** Displays the trim angle of the engine and cooling system water pressure.
6. **Water Pressure:** Displays the cooling system water pressure at the engine.

SYSTEM TACHOMETER DISPLAY SCREENS

NOTE: *Not all screens may apply to your engine type.*



7. **Oil Pressure:** Displays the engine oil pressure in "PSI" or "BAR".
8. **Battery Voltage:** Displays the voltage level (condition) of the battery. Also records the running time of the engine.
9. **Fuel Flow:** Displays the engine fuel use in gallons per hour or liters per hour.
10. **Digital Tachometer:** Displays the engine speed in revolutions per minute (RPM).
11. **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: *A depth transducer (purchased separately) must be connected to the system in order for this screen to operate.*

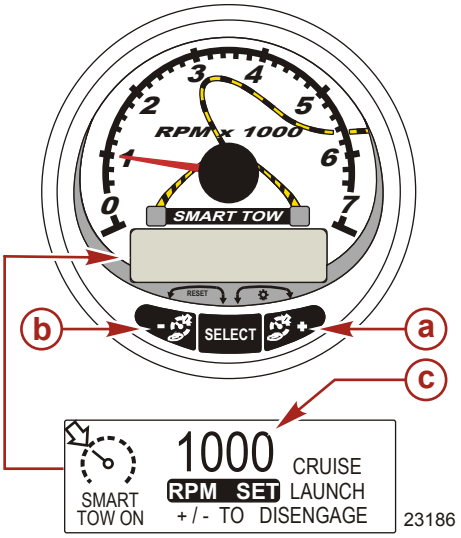
12. **Speed/Temp:**Displays a split screen of water temperature and vessel speed.

NOTE: *A speed input sensor must be installed (purchased separately).*

SMART TOW TACHOMETER DISPLAY SCREENS

Cruise Control Operation

NOTE: *Cruise control is only available with Gen I (2007) and newer engines.*



a - Increase set cruise speed

b - Decrease set cruise speed

c - Set cruise speed

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

Set the cruise control speed in RPM by using the Smart Tow tachometer.

The cruise control can be shut off at anytime by pushing the "+" and "-" buttons simultaneously.

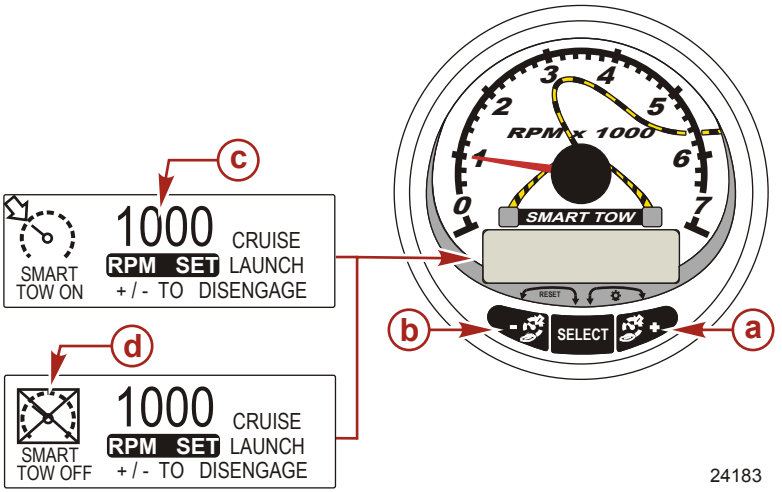
When the cruise control is engaged and the the throttle is moved below the set cruise speed, engine RPM will decrease with throttle movement. When the throttle is moved above the set cruise speed, the cruise control will actively control the engine speed to the set cruise speed.

When the cruise control is disengaged it will remember the set speed. It will return to that speed when the cruise control is re-engaged and the throttle is positioned beyond the set cruise speed.

SMART TOW TACHOMETER DISPLAY SCREENS

Press "SELECT" twice to exit the cruise control screen.

TURNING THE SYSTEM ON/OFF



a - Increase set cruise speed
b - Decrease set cruise speed
c - Set cruise speed
d - Cruise control off

SETTING CRUISE CONTROL

To set the cruise control speed:

1. Push either the "+" or "-" button to bring up the cruise control display screen.
2. Set desired cruise RPM. When the throttle is in the wide open position the set RPM will be the maximum speed.
3. Push "+" and "-" button simultaneously to engage the cruise control.

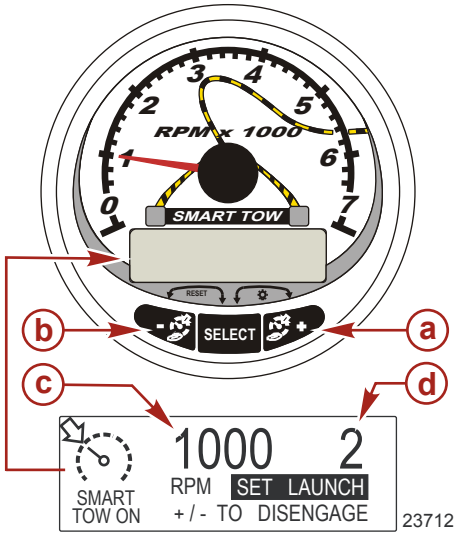
CANCELING CRUISE CONTROL

To cancel the cruise control: press the "+" and "-" buttons simultaneously.

SMART TOW TACHOMETER DISPLAY SCREENS

Launch Control Operation

NOTE: *Launch control is only available with Gen I (2007) and newer engines.*



a - Raise launch control setting
b - Lower launch control setting
c - Set cruise RPM
d - Launch control setting

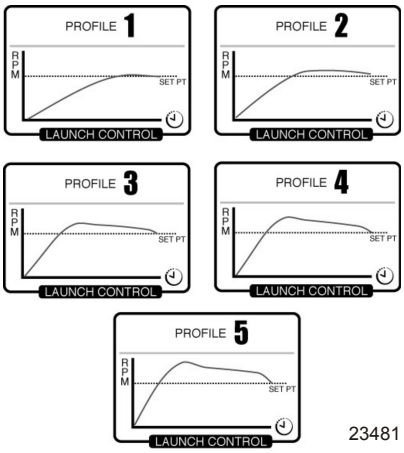
BASIC OPERATION

Launch control determines how fast the engine accelerates to a set cruise speed.

Set the launch control by using the Smart Tow tachometer. The settings are 1 through 5, with 1 being the most gradual acceleration and 5 being the most aggressive. Press "+" to increase launch control setting and "-" to decrease launch control setting. The launch control setting will remain until changed.

SMART TOW TACHOMETER DISPLAY SCREENS

SETTING LAUNCH CONTROL



23481

1. Press "+" or "-" to bring up the cruise control display screen.
2. Push the "SELECT" button to highlight "SET LAUNCH".
3. Push "+" to raise the setting and push "-" to lower the setting.
4. Launch control will automatically turn on with the cruise control.

If the cruise control is engaged and none of the numerical launch control settings are selected, ("CRUISE" is displayed) launch acceleration is controlled by the throttle up to the RPM set point.

The display screen will revert back to the "RPM SET" screen after 5 seconds of inactivity. Push the "+" or "-" buttons to reactivate the cruise control display screen.

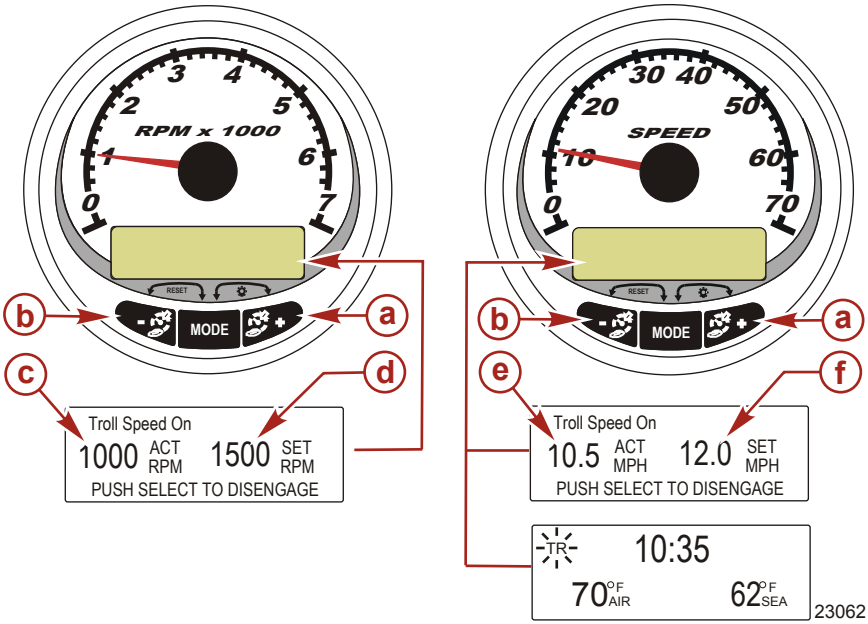
CANCELING LAUNCH CONTROL

The launch control will turn off when the cruise control is turned off.

TROLL CONTROL

Troll Control Operation

NOTE: *The troll control feature is only available on the System Tach/Speedometer.*



a - Increase troll speed
b - Decrease troll speed
c - Actual RPM
d - Set RPM
e - Actual MPH
f - Set MPH

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

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

Set the troll control by using either the System Tach/Speedometer. (The Smart Tow Tachometer controls cruise only.) The speedometer will set the speed in MPH, KPH, or KN while the tachometer will set the speed in RPM.

The troll control can be shut off at anytime by adjusting the throttle or by pushing the "MODE" button when in the troll display screen.

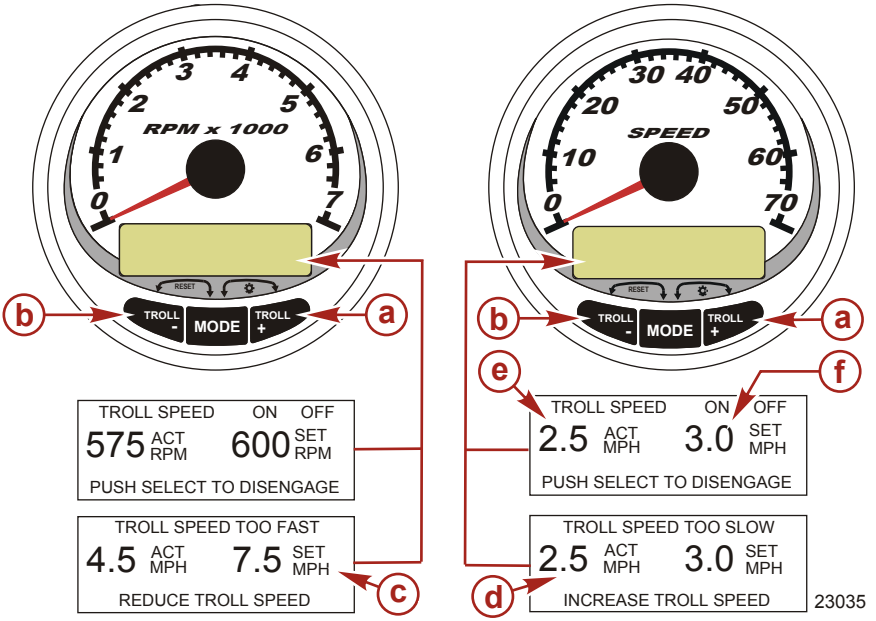
When the troll control is shut off, the system will remember the set speed. When the troll control is re-engaged, it will return to the set speed.

TROLL CONTROL

The display screen will revert back to the previous screen after 5 seconds of inactivity. Push the "+" or "-" button to reactivate the troll control display screen.

When the troll control is engaged and not in the troll control display screen, a flashing "TR" signal will appear in the upper left corner of the screen to indicate the troll control is still active.

SETTING TROLL CONTROL



a - Increase troll set speed
b - Decrease troll set speed
c - Setting is too fast, reduce set troll speed
d - Setting is too slow, increase set troll speed

1. With the engine running, shift the engine into gear. Set the engine speed at idle.
2. Push in either the "+" or "-" buttons to bring up the troll control display screen.
3. Press "MODE" to engage the troll control.

4. Use the "+" and "-" buttons to set the desired speed. Use "+" to increase the set speed and use "-" to decrease the set speed.
5. If the troll speed is set to a higher speed than the troll control can maintain, the "TROLL SPEED TOO FAST" display will appear. Reduce the set troll speed.
6. If the troll speed is set to a slower speed than the troll control can maintain, the "TROLL SPEED TOO SLOW" display will appear. Increase the set troll speed.

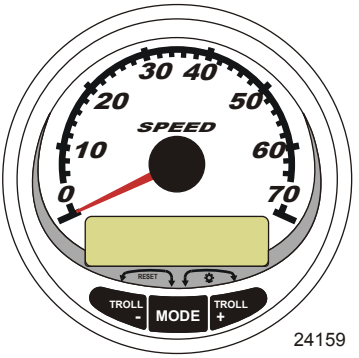
CANCELING TROLL CONTROL

There are three ways to cancel the troll control:

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

SPEEDOMETER CALIBRATION

Speedometer Quick CAL Calibration



SC1000 System Speedometer

This calibration is for setting the lighting and contrast.

1. Press the "MODE" and "+" buttons simultaneously for two seconds to bring up the Quick Cal display screen.
2. Press the "-" or "+" button to select the option choice displayed in the [ ] brackets on the screen.
3. Press "MODE" ["SAVE"] to save the setting and advance through the calibration selections.

Quick CAL	
	Adjusts the brightness of the gauge lighting.
	Adjusts the contrast of the display screen.

Speedometer CAL 1 Calibration

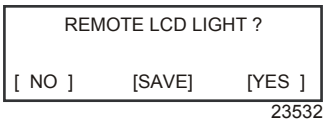
This calibration allows you to turn on and off the system display screens.

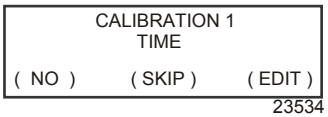
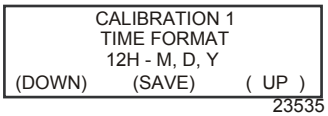
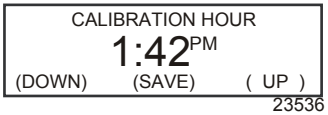
NOTE: *Screens may vary depending on your engine type.*

1. Press the "MODE" and "+" buttons simultaneously for approximately six seconds to bring up the Cal 1 display screen.

SPEEDOMETER CALIBRATION

2. Press the "-" or "+" button to select the option choice displayed in the [ ] brackets on the screen.
3. Press "MODE" ["SAVE"] to save the setting and advance through the calibration selections.

REMOTE LIGHTING AND CONTRAST	
 23532	Adjusts the lighting levels on all gauges simultaneously from this gauge.
 23533	Adjusts the contrast of another System Tach/ Speed simultaneously from this gauge.

TIME	
 23534	Sets the time. Select "EDIT" to format the time or "SKIP" to advance to the next screen.
 23535	Formats the time as either 12 hour month-day-year or as 24 hour day-month-year. Select "DOWN" or "UP" to change the format.
 23536	Adjusts the hours to match your local time. Select "DOWN" or "UP" to change the hour setting.
 23538	Adjusts the minutes to match your local time. Select "DOWN" or "UP" to change the minute setting.

DISPLAY UNITS	
 23539	Changes units of measurement between English (standard) or Metric. Select "DOWN" or "UP" to change between English or Metric units.
 23540	Changes the units in which speed is displayed. Choose from: MPH (Miles Per Hour), KN (Knots), or KMH (Kilometers Per Hour).

SPEEDOMETER CALIBRATION

DISPLAY SCREENS	
STEERING ANG. SCREEN ? YES [NO] [SAVE] [YES] 23542	The steering angle is displayed ("YES") or off ("NO"). The steering angle sensor must be set to "YES" in the tachometer "CAL 2" external sensors calibration.
TEMP/CLOCK SCREEN ? YES [NO] [SAVE] [YES] 23543	The split screen showing air temperature and time is displayed ("YES") or off ("NO").
FUEL USED SCREEN ? YES (NO) (SAVE) (YES) 23544	The fuel used screen is displayed ("YES") or off ("NO").
TRIP SCREEN YES (NO) (SAVE) (YES) 23545	The trip screen is displayed ("YES") or off ("NO").
FUEL MGMNT SCREEN YES (NO) (SAVE) (YES) 23546	The fuel management screen is displayed ("YES") or off ("NO").

SIMULATOR MODE	
SIMULATOR MODE NO [NO] [SAVE] [YES] 23547	Enables the simulation mode. (Used for demonstration purposes only).

EXIT	
SIMULATOR MODE EXIT ? [NO] [YES] [CAL 2] 23549	Press "MODE" to exit. Press "-" to go to the start of CAL 1. Press "+" to continue to CAL 2.

Speedometer CAL 2 Calibration

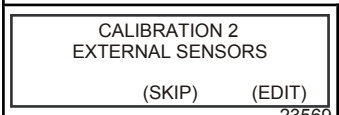
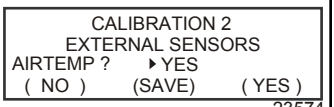
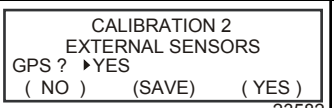
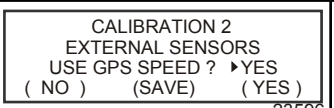
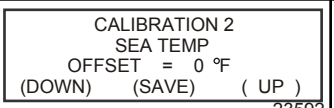
This calibration lets you configure the system sensor inputs.

NOTE: *Screens may vary depending upon the version of the gauge and your engine type.*

1. Press and hold the "MODE" and "+" buttons simultaneously for approximately nine seconds until the "CAL 2" display screen appears.

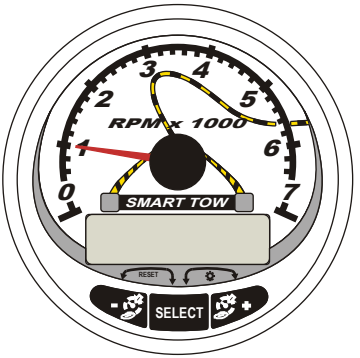
SPEEDOMETER CALIBRATION

2. Press the "-" or "+" button to select the option choice displayed in the [ ] brackets on the screen.
3. Press "MODE" ["SAVE"] to save the setting and advance through the calibration selections.

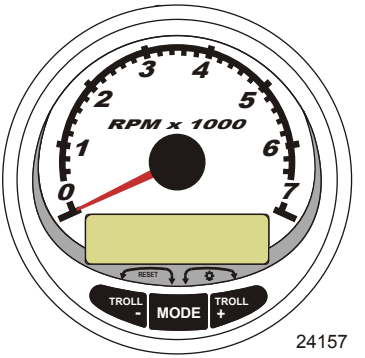
EXTERNAL SENSORS	
 23569	Selects and calibrates external sensors that are installed in the system. Select [SKIP] for to proceed to the next selection. Select [EDIT] to proceed to external sensor selection.
 23574	Is an air temperature sensor installed? Press "-" to select no or "+" to select yes.
 23582	Is a GPS sensor installed? Press "-" to select no or "+" to select yes.
 23596	Use the GPS input to drive the speed display? Press "-" to select no or "+" to select yes.
 23592	Adjust the water temperature sensor to correct display readings that are too high/low. Press "-" or "+" to calibrate the temperature display down or up.
 23617	To enable troll control select "YES" to disable select "NO".
 23618	Press "MODE" to exit. Press "-" to go to the start of CAL 2. Press "+" to continue to CAL 1.

TACHOMETER CALIBRATION

Tachometer Quick CAL Calibration



SC1000 Smart Tow Tachometer



SC1000 System Tachometer

This calibration is for setting lighting and contrast.

1. Press the "MODE/SELECT" and "+" buttons simultaneously for approximately two seconds or until the "QUICK CAL" screen appears.
2. Press the "-" or "+" button to select the option choice displayed in the [ ] brackets on the screen.
3. Press "MODE/SELECT" ["SAVE"] to save the setting and advance through the calibration screens.

Quick CAL	
	Adjusts the brightness of the gauge lighting.
	Adjusts the contrast of the display screen.

Tachometer CAL 1 Calibration

This calibration lets you turn the system screens on and off.

NOTE: *The screens may vary depending upon the version of the gauge.*

TACHOMETER CALIBRATION

1. Press and hold the "MODE/SELECT" and "+" buttons for approximately seven seconds until the "CAL 1" screen appears.
2. Press the "-" or "+" button to select the option choice displayed in the [ ] brackets on the screen.
3. Press "MODE/SELECT" ["SAVE"] to save the setting and advance through the calibration screens.

Tachometer CAL 1 Calibration - Remote Light and Contrast	
REMOTE SCREENS ? [NO] [SAVE] [YES] 23620	If "YES" is selected, then screen changes made on this tachometer will effect all tachometers in the system. All tachometers need the screen set to "YES" for this function to work.
REMOTE LCD LIGHT ? [NO] [SAVE] [YES] 23532	Adjusts the lighting levels on all gauges simultaneously from this gauge. If "YES" is selected, then lighting levels changes made on this tachometer will effect all tachometers in the system. All tachometers need the screen set to "YES" for this function to work.
REMOTE LCD CONTRAST ? [NO] [SAVE] [YES] 23533	Adjusts the contrast of another System/Smart Tow Tachometer simultaneously from this gauge. If "YES" is selected, then contrast level changes made on this tachometer will effect all tachometers in the system. All tachometers need the screen set to "YES" for this function to work.

Tachometer CAL 1 Calibration - Trim	
HIGH RESOLUTION TRIM ? [NO] [SAVE] [YES] 23621	Enables the trim angle to be displayed in 0.1° increments if "YES" is selected.
TRIM POPUP ? [NO] [SAVE] [YES] 23641	The trim display screen pops up when the trim setting is changed if "YES" is selected.
CALIBRATION 1 TRIM CALIBRATION [SKIP] [EDIT] 23910	Select "EDIT" to calibrate the gauge to the standard 0 - 10° unit trim and 11 - 25° trailer position scale. Select "SKIP" to advance to the next selection.

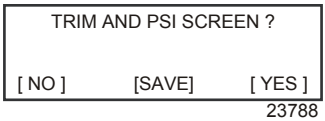
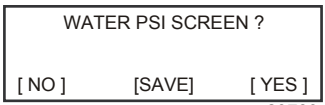
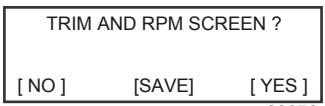
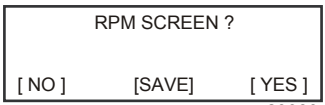
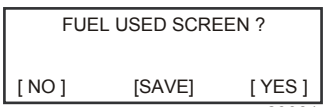
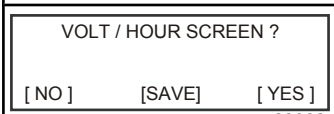
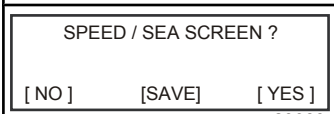
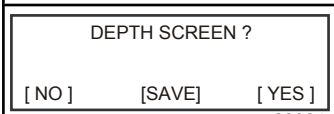
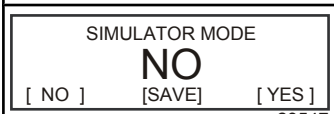
TACHOMETER CALIBRATION

Tachometer CAL 1 Calibration - Trim	
CALIBRATION 1 TRIM FULL DOWN THEN PRESS PLUS BUTTON [DFLT] [SKIP] [SAVE] 23911	Trim the system to the full down position then press the "+" button to save the setting.
CALIBRATION 1 TRIM FULL UP THEN PRESS PLUS BUTTON [DFLT] [SKIP] [SAVE] 23912	Trim the system to the up position then press the "+" button to save the setting.
CALIBRATION 1 TRIM TO TRAILER POINT THEN PRESS PLUS BUTTON [DFLT] [SKIP] [SAVE] 23919	Trim the system to the trailer point then press the "+" button to save the setting.

Tachometer CAL 1 Calibration - Display Units	
DISPLAY UNITS ENGLISH [DOWN] [SAVE] [UP] 23539	Changes units of measure between English (standard) or Metric. Select "DOWN" or "UP" to change between "ENGLISH" or "METRIC" units of measure.
SPEED UNITS MPH [DOWN] [SAVE] [UP] 23540	Changes the units in which speed is displayed. Choose from: MPH (Miles Per Hour), KN (Knots), or KMH (Kilometers Per Hour).

Tachometer CAL 1 Calibration - Display Screens	
QUICK REF SCREEN ? [NO] [SAVE] [YES] 23978	The quick reference screen is displayed ("YES") or off ("NO").
ENGINE TEMP SCREEN ? [NO] [SAVE] [YES] 23783	The engine temperature screen is displayed ("YES") or off ("NO").
OIL TEMP SCREEN ? [NO] [SAVE] [YES] 23786	The oil temperature screen is displayed ("YES") or off ("NO").
OIL PRESS SCREEN ? [NO] [SAVE] [YES] 23787	The oil pressure screen is displayed ("YES") or off ("NO").

TACHOMETER CALIBRATION

Tachometer CAL 1 Calibration - Display Screens	
 23788	The split screen showing trim angle and water pressure is displayed ("YES") or off ("NO").
 23789	The water pressure screen is displayed ("YES") or off ("NO").
 23979	The split screen showing trim angle and engine RPM is displayed ("YES") or off ("NO").
 23980	The engine RPM screen is displayed ("YES") or off ("NO").
 23981	The fuel used screen is displayed ("YES") or off ("NO").
 23982	The split screen showing volts and engine hours is displayed ("YES") or off ("NO").
 23983	The split screen showing speed and sea temperature is displayed ("YES") or off ("NO").
 23984	The depth screen is displayed ("YES") or off ("NO").
 23547	Enables the simulation mode. (Used for demonstration purposes only).
 23549	Press "MODE/SELECT" to exit. Press "-" to go to the start of CAL 1. Press "+" to continue to CAL 2.

TACHOMETER CALIBRATION

Tachometer CAL 2 Calibration

This calibration configures the system sensor inputs.

NOTE: *The screens may vary depending upon the version of the gauge.*

1. Press and hold the "MODE/SELECT" and "+" buttons for approximately ten seconds until the "CAL 2" screen appears.
2. Press the "-" or "+" button to select the option choice displayed in the [ ] brackets on the screen.
3. Press "MODE/SELECT" ["SAVE"] to save the setting and advance through the calibration screens.

FUEL TANK CALIBRATION

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

1. Do nothing. The linear readout is based on raw sensor values. This mode does not factor in irregular tank shapes.
2. By performing the following tank calibration procedure, but without actually adding fuel. The System Tachometer/Smart Tow Tachometer will supply an estimated range value based on linear interpolation of the sensor range values. This mode does not factor in irregular tank shapes.
3. By performing the following tank calibration procedure completely, which means adding fuel at each calibration point. The System Tachometer/Smart Tow Tachometer will display an estimated range value that factors in the tank shape.

CAL2 Tachometer Calibration - Tank 1 and 2 Level Calibration	
CALIBRATION 2 FUEL TANK 1 CAPACITY CAPACITY = 26.2 G [DOWN] [SAVE] [UP] 23992	Enter the capacity of the tank. Select "DOWN" or "UP" to set the tank capacity. Then press "SAVE". This option is the same for tank 1 as it is for tank 2.
CALIBRATION 2 FUEL TANK 1 [SKIP] [EDIT] 23993	Select "EDIT" to enter the calibration mode of the fuel tank. The calibration procedure is the same for tank 1 as it is for tank 2. Select "EDIT" to begin tank level calibration.
TANK CALIBRATION : DEFAULT CALIBRATION, OR ADD FUEL ? [DFLT] [ADD] 23994	Select "DFLT" to let SmartCraft calibrate the tank levels. Select "ADD" to calibrate the tank levels by adding fluid to the tank.

TACHOMETER CALIBRATION

CAL2 Tachometer Calibration - Tank 1 and 2 Level Calibration	
CALIBRATING : EMPTY TANK THEN PRESS PLUS BUTTON [SKIP] [SAVE] 23995	Empty the tank. Select "SAVE" to calibrate the tank level to empty.
CALIBRATING : FILL TO 1/4 THEN PRESS PLUS BUTTON [SKIP] [SAVE] 24002	Fill the tank to 1/4 full. Select "SAVE" to calibrate the tank level to 1/4 full.
CALIBRATING : FILL TO ½ THEN PRESS PLUS BUTTON [SKIP] [SAVE] 24003	Fill the tank to 1/2 full. Select "SAVE" to calibrate the tank level to 1/2 full.
CALIBRATING : FILL TO 3/4 THEN PRESS PLUS BUTTON [SKIP] [SAVE] 24004	Fill the tank to 3/4 full. Select "SAVE" to calibrate the tank level to 3/4 full.
CALIBRATING : FILL TO FULL THEN PRESS PLUS BUTTON [SKIP] [SAVE] 24005	Fill the tank to full. Select "SAVE" to calibrate the tank level to full.
CALIBRATION 2 TANK 2 INPUT OIL TANK [DOWN] [SAVE] [UP] 24148	Select tank 2 input: oil tank, fuel tank 2, water tank, waste tank, or not installed.

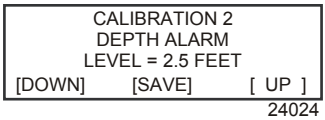
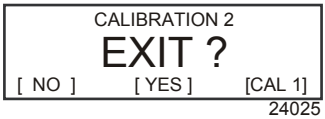
EXTERNAL SENSORS

CAL2 Tachometer Calibration - External Sensors	
CALIBRATION 2 EXTERNAL SENSORS ? [SKIP] [EDIT] 24006	Selects and calibrates external sensors that are installed in the system. Select [SKIP] to proceed to the speed options. Select [EDIT] to proceed to external sensor selection.
CALIBRATION 2 EXTERNAL SENSORS PITOT SENSOR ? ▶ YES [NO] [SAVE] [YES] 24007	Is the boat equipped with a pitot sensor to measure boat speed? Press "-" to select no or "+" to select yes.
CALIBRATION 2 EXTERNAL SENSORS PADDLE SENSOR ? ▶YES [NO] [SAVE] [YES] 24008	Is the boat equipped with a paddle wheel to measure boat speed? Press "-" to select no or "+" to select yes.

TACHOMETER CALIBRATION

CAL2 Tachometer Calibration - External Sensors	
CALIBRATION 2 EXTERNAL SENSORS TRIM SENSOR ? ▶YES [NO] [SAVE] [YES] 24009	Is the boat equipped with a trim sensor? Press "-" to select no or "+" to select yes.
CALIBRATION 2 EXTERNAL SENSORS SEA TEMP ? ▶YES [NO] [SAVE] [YES] 24010	Is the boat equipped with a water temperature sensor? Press "-" to select no or "+" to select yes.
CALIBRATION 2 EXTERNAL SENSORS STEERING SENSOR ? ▶YES [NO] [SAVE] [YES] 24011	Is the boat equipped with a steering sensor? Press "-" to select no or "+" to select yes.
CALIBRATION 2 SPEED OPTION [SKIP] [EDIT] 24012	This section configures the following speed sensors. Select "EDIT" to calibrate the sensors. Select "SKIP" to proceed to the depth sensor screen.
CALIBRATION 2 PITOT SENSOR 100 PSI TYPE [NO] [SAVE] [YES] 24014	Select pitot transducer type. Choose between 100 or 200 psi. (100 psi is the most common)
CALIBRATION 2 PITOT SENSOR MULTIPLIER = 1.00 [DOWN] [SAVE] [UP] 24018	Adjust the pitot pressure sensor to correct display readings that are too high/low. Press "-" or "+" to calibrate the pitot sensor multiplier down or up.
CALIBRATION 2 PADDLE SENSOR PULSEFACTOR = 3.0 [DOWN] [SAVE] [UP] 24021	Adjust paddle wheel frequency to correct display readings that are too high/low. Press "-" or "+" to calibrate the paddle sensor pulse factor down or up.
CALIBRATION 2 TRANSITION SPEED TRANSITION = 30 MPH [DOWN] [SAVE] [UP] 24022	Set the speed at which the gauge stops reading the paddle wheel and starts using pitot sensor to measure boat speed. Press "-" or "+" to calibrate the transition speed down or up.
CALIBRATION 2 DEPTH SENSOR OFFSET = 3 FEET [DOWN] [SAVE] [UP] 24023	Electronically configure a depth offset. Entering a negative number gives you a water line offset. A positive number gives you a keel offset. Press "-" or "+" to calibrate the depth sensor offset down or up.

TACHOMETER CALIBRATION

CAL2 Tachometer Calibration - External Sensors	
 24024	Enter a depth value. When the depth transducer reads that value or below, the shallow water alarm will sound. Press "-" or "+" to calibrate the depth alarm level down or up.
 24025	Press "MODE/SELECT" to exit. Press "-" to go to the start of CAL 2. Press "+" to continue to CAL 1.