

INFORMATION CENTER (GAUGE)

SERVICE PRODUCTS

Description	Part Number	Page
DIELECTRIC GREASE	293 550 004	10, 16

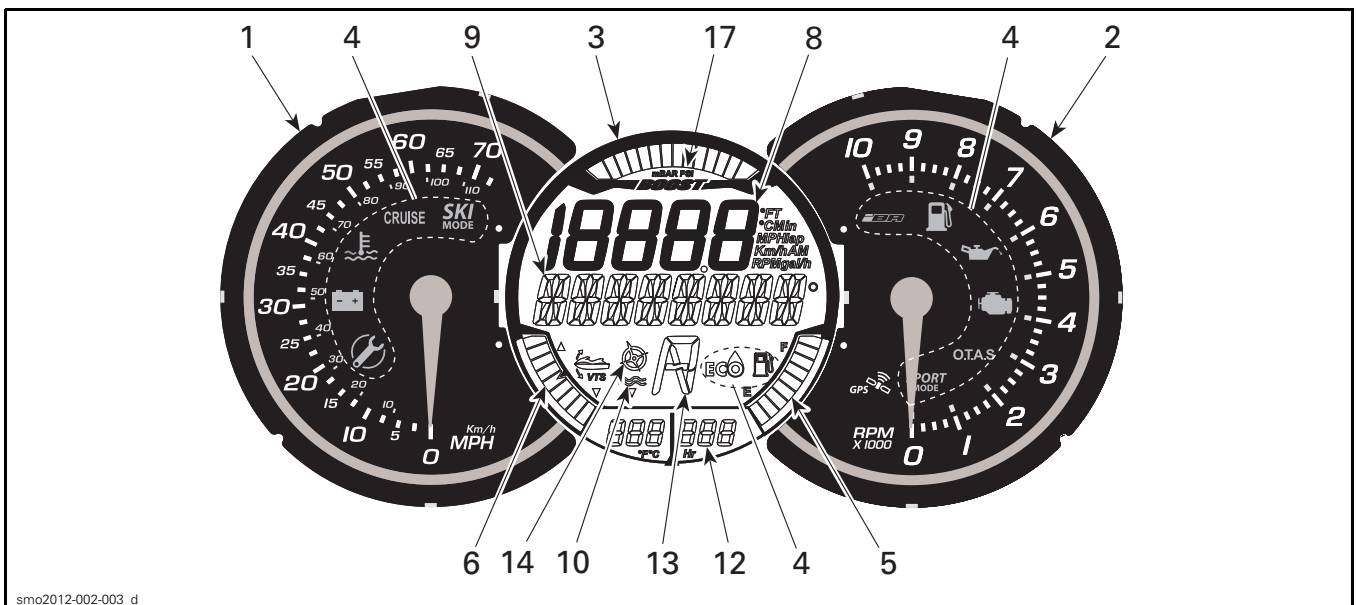
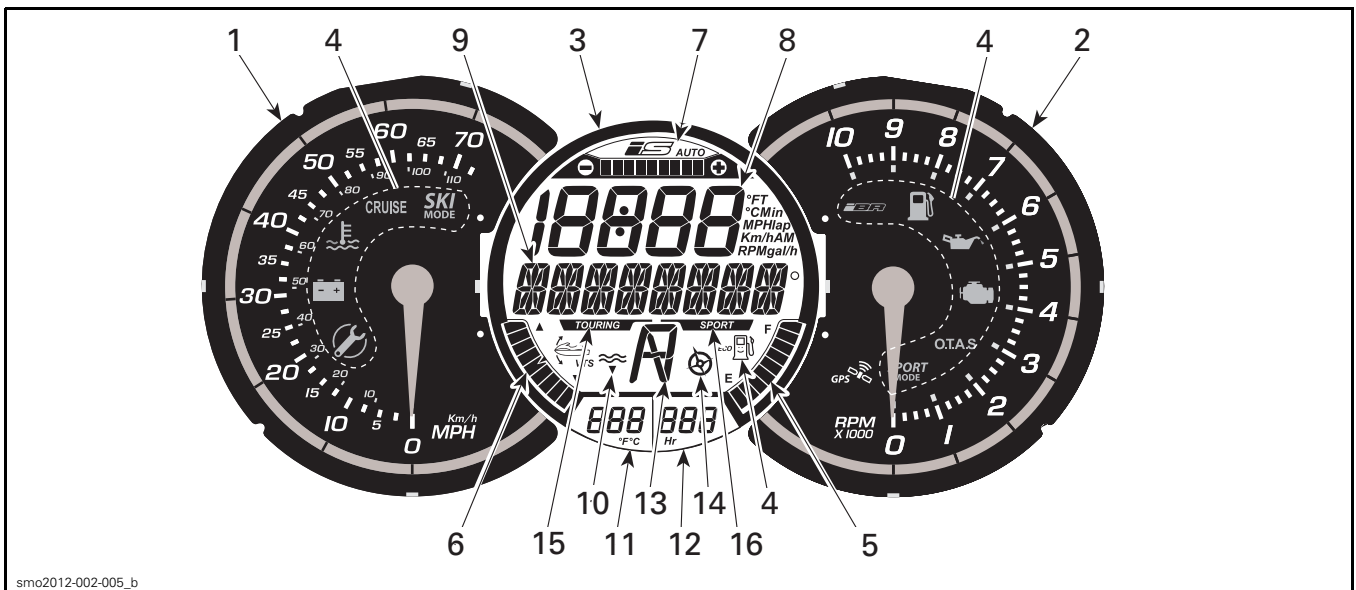
GENERAL

INFORMATION CENTER

⚠ WARNING

Do not adjust the display while riding, you could lose control.

Information Center Description



Subsection XX (INFORMATION CENTER (GAUGE))

1) Speedometer

The speedometer, located in the LH side of the information center, provides an analog indication of the speed of the watercraft in miles per hour (MPH) and kilometers per hour (km/h).

The speed indication is based on a GPS (Global Positioning System) incorporated within the information center.

If for some reason the GPS signal is lost, a default mode is used whereby, the speed is calculated using information received from other systems to provide an estimated watercraft speed.

2) Tachometer

The tachometer provides an analog indication of the revolutions per minute (RPM) of the engine. Multiply the indicated number by 1000 to obtain the actual engine RPM.

3) Multifunction Gauge

The multifunction gauge, located in the center of the information center, is capable of displaying different indications simultaneously.

Numerical and multifunction displays in the digital screen indicator can be used to display various indications, or for selecting modes of operation and changing settings as explained in their respective sections.

4) Indicator Lights

Indicator lights (pilot lamps), inform you of a selected function or a system anomaly.

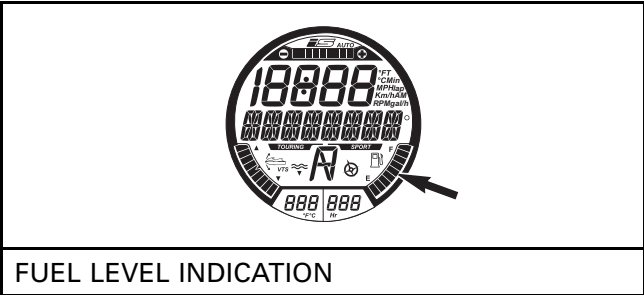
An indicator light may be accompanied by a scrolling message in the multifunction display.

See the following table for information on the usual pilot lamps. Refer to *MONITORING SYSTEM* for details on malfunction pilot lamps.

PILOT LAMPS (ON)	MESSAGE DISPLAY	DESCRIPTION
	MAINTENANCE REMINDER	Maintenance required.
	LOW-FUEL	Low fuel level, approx. 25% tank capacity, 14 L (3.7 U.S. gal.) or fuel level sensor disconnected.
	Scrolling SLOW SPEED MODE message	CRUISE mode or SLOW SPEED MODE engaged.
	Scrolling SKI MODE messages	Ski Mode activated.
	Scrolling SPORT MODE messages	Sport Mode activated.
	FUEL ECO	Fuel Economy Mode

5) Fuel Level Indication

A bar gauge located in the bottom RH side of the multifunction display continuously indicates the amount of fuel in the fuel tank while riding.



When the fuel tank is full, 8 segments (bars) of the indicator are turned on. The top segment is not used.

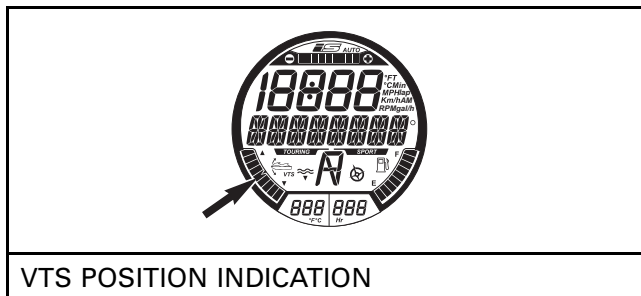
Low Fuel Level Warning

It is active when there is only 2 segments of fuel indicated (approximately 25% fuel tank capacity or 14 L (3.7 U.S. gal.).

6) VTS Position

The VTS position indication located in the bottom LH side of the digital screen shows the riding attitude of the watercraft.

A single segment of a bar gauge type indicator is turned on to indicate the relative position of the watercraft bow.



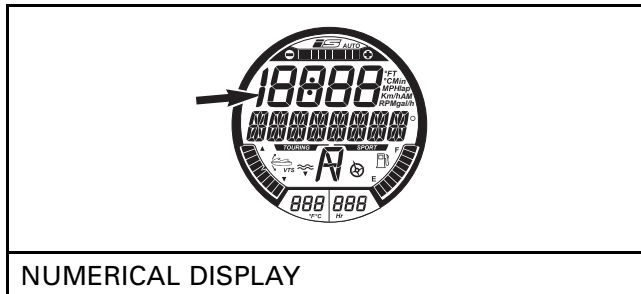
Refer to *OPERATING INSTRUCTIONS* for more details on using the VTS.

7) iS Position

Not used.

8) Numerical Display

The numerical display is used to provide a variety of indications as selected by the operator using the DISPLAY function in the multifunction display.



The available indications are dependent on the watercraft model or option installed.

When the information center is first powered up, the numerical display defaults to the last selected indication.

9) Multifunction Display

The multifunction display is used to:

- Display the WELCOME message on power up.
- Display the KEY recognition message.
- Provide various indications as selected by the operator.
- Activating and setting various functions and modes of operation.
- Display scrolling messages of function activation or system faults.
- Display fault codes.

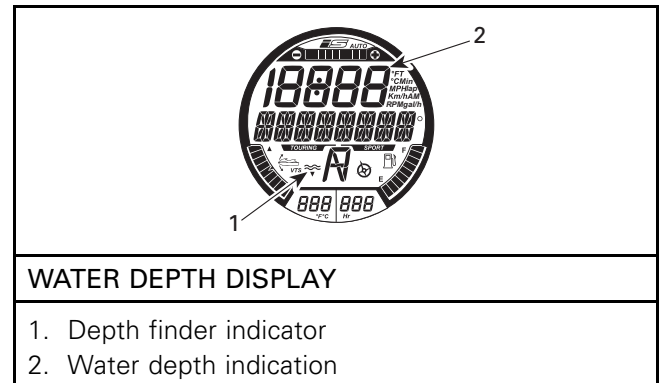
NOTE: The default indication in the multifunction display is the compass direction.

10) Water Depth Display

The water depth display provides an indication of the lake water depth.

The system is capable of indicating water depth under the hull in single increments up to 50 m (164 ft).

NOTE: Under certain conditions, the display may stop indicating. The display ability to provide an indication of the water depth depends on the conditions of use.



NOTE: The water depth indication is only available when a depth finder is installed and detected.

⚠ WARNING

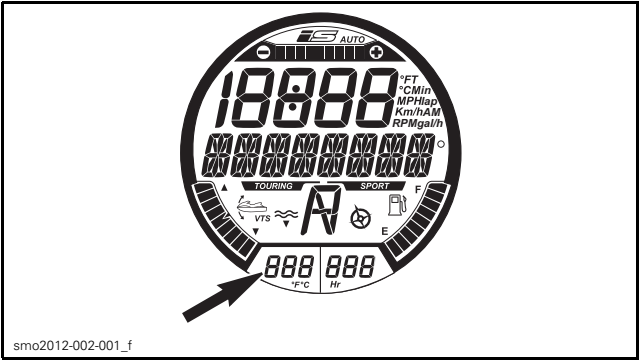
Never use the depth finder as a warning device to ride in shallow water.

11) Lake Water Temperature Display

GTX Limited Only

Continuously displays surface water temperature.

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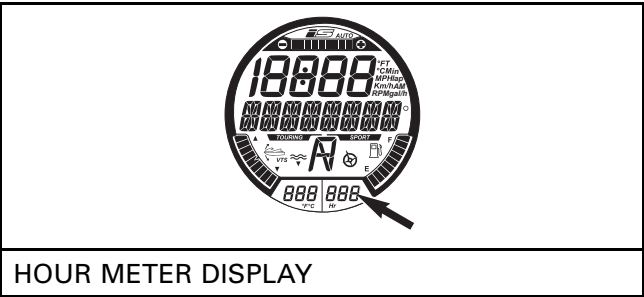


The numerical display may also be selected to display water temperature. See *NUMERICAL DISPLAY* in this section.

To change the unit of measurement, refer to *SETTING THE UNITS OF MEASUREMENT AND LANGUAGE* in this subsection.

12) Hour Meter Display (HR)

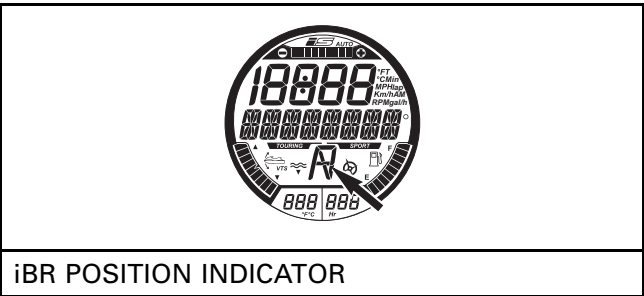
Continuously displays the accumulated engine hours.



13) iBR Position

Provides an indication of the iBR gate position.

- N (neutral)
- F (forward)
- R (reverse).



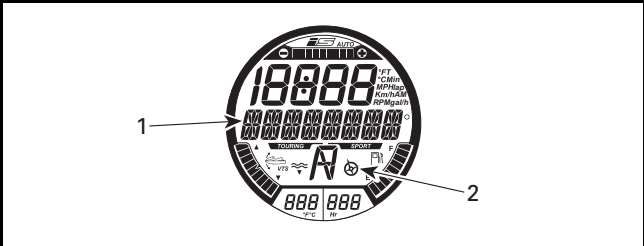
14) Compass

A GPS incorporated in the information center provides the indication in the multifunction display.

The cardinal points, intermediate cardinal points, as well as the azimuth the watercraft is travelling are displayed in the multifunction display by default when the watercraft is moving.

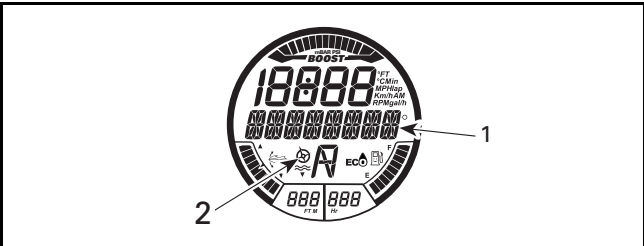
For a compass indication to be displayed, the GPS must have a good link with the navigation satellites.

This is confirmed when the COMPASS active indicator is visible in the digital screen.



COMPASS (GAUGE WITHOUT BOOST GAUGE)

1. Compass indication
2. Compass active indicator



COMPASS (GAUGE WITH BOOST GAUGE)

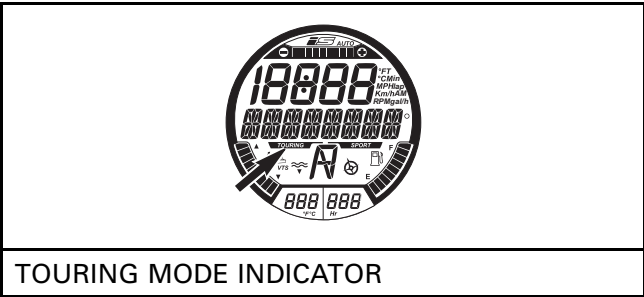
1. Compass indication
2. Compass active indicator

NOTE: The compass indication is only available above 5 km/h (3 MPH).

**WARNING**
Use the compass as a guide only. Not to be used for precision navigation purposes.

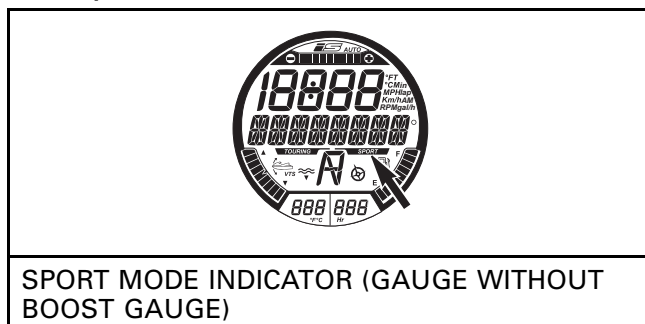
15) Touring Mode Indicator

When the TOURING mode indicator is ON, the default TOURING mode is active.



Refer to *OPERATOR'S GUIDE*.

16) Sport Mode Indicator



When sport mode of operation is selected, the sport mode indicator will come on and stay on until sport mode is deactivated, or the watercraft is shut down.

NOTE: The sport mode is not the default riding mode. To be active, it must be selected after starting the engine.

Refer to *OPERATOR'S GUIDE*.

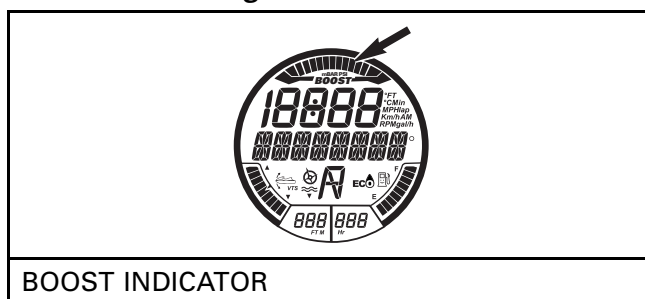
GTX LTD /RXT/WAKE PRO

In addition to the sport mode indicator in the multifunction display, a SPORT MODE indicator light turns ON in the tachometer.

RXT-X/RXP-X

There is no sport mode indicator in the multifunction display, only a SPORT MODE indicator light turns ON in the tachometer.

17) Boost Gauge



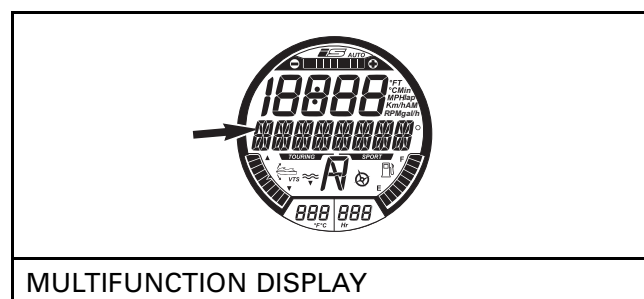
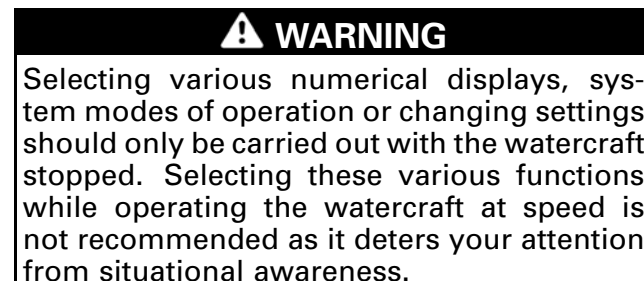
The boost gauge indicates the manifold pressure of the engine provided by the supercharger.

Navigating the Multifunction Display

When the electrical system is powered up and the cluster has completed its self test function, a WELCOME ABOARD SEA-DOO scrolling message will appear for a few seconds. After the welcome message, nothing will appear in the display until the watercraft is operated.

When the watercraft is being operated, the multifunction display provides an indication of compass heading or scrolling messages from the monitoring system.

The multifunction display is also used to display a menu for the selection of various functions which, permit changing the numerical display indication, system modes of operation, settings, active system fault codes, and a lap timer.



To change the unit of measurement, refer to *SETTING THE UNITS OF MEASUREMENT AND LANGUAGE* in this subsection.

Selecting Functions

When operating at speed, the multifunction display normally provides an indication of the compass direction and azimuth the watercraft is traveling.

To select the various functions available through the multifunction display, press the MODE button repeatedly until the desired function is visible:

- LAP TIME
- SKI MODE
- LAP TIME
- FUEL CONSUMPTION
- VTS MODE
- DISPLAY
- FAULT CODES
- KEY MODE
- SETTINGS.

Then press the SET button to enter that function.

NOTE: The fault code function is only available when there is an active fault. The settings and key mode functions are only available when the engine is shut off. The key mode function is only available with a normal key.

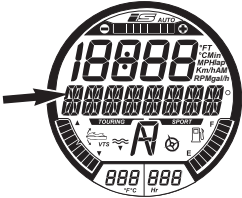
Function Description

Lap Timer

The lap timer can be used to record up to 50 individual lap times.

To activate and use the lap timer, carry out the following:

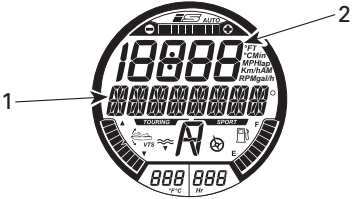
- 1. Press the MODE button repeatedly until LAP TIME is visible in the multifunction display.



MESSAGE DISPLAYED

LAP TIME

- 2. Press the SET button to enter the function, the lap timer will be activated and visible in the display.



FUNCTION SELECTED: LAP TIMER

1. Lap time
2. Lap count

- 3. To start the timer, press the SET button.

NOTE: The timer starts immediately when pressing the SET button.

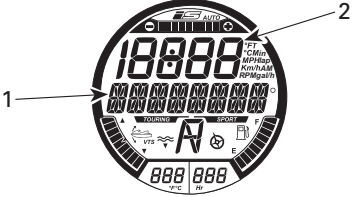
- 4. To record each lap time, press the SET button at the start of each lap.

NOTE: The lap time will be recorded, the lap counter in the numerical display will count the number of laps recorded, and the timer will continue to run.

- 5. To save the last lap and stop the timer, press the MODE button.

To view each lap time, use the UP or DOWN button. The lap counter will indicate which lap is indicated.

To view the cumulative lap time of all laps recorded, use the UP or DOWN button until ALL is visible in the lap counter.



MESSAGE DISPLAYED: LAP TIMER

1. Total time
2. ALL is displayed here

To reset the lap timer and lap counter, press and hold the SET button until the timer and counter are reset to 0 (zero).

Ski Mode

Ski mode is used for repeated controlled launches when towing a skier or wakeboarder. Refer to *OPERATOR'S GUIDE*.

Fuel Consumption

The FUEL CONSUMPTION function is used to display the watercrafts fuel consumption in four different ways.

- Instant fuel flow per hour (gal/h or l/h)
- Average fuel flow per hour (gal/h or l/h)
- Distance to empty (Mi or Km)
- Time to empty (h or min).

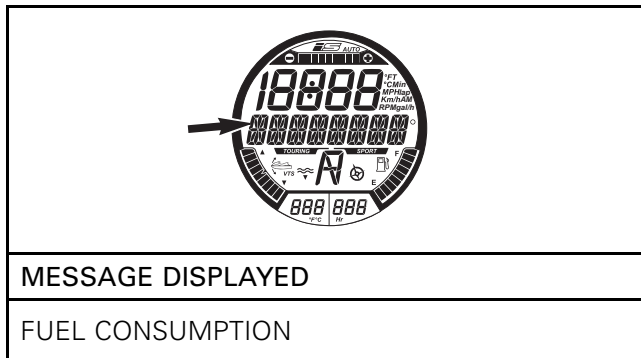
The fuel consumption functions are not continuously active.

A fuel consumption function becomes active only when selected as the indication in the numerical display.

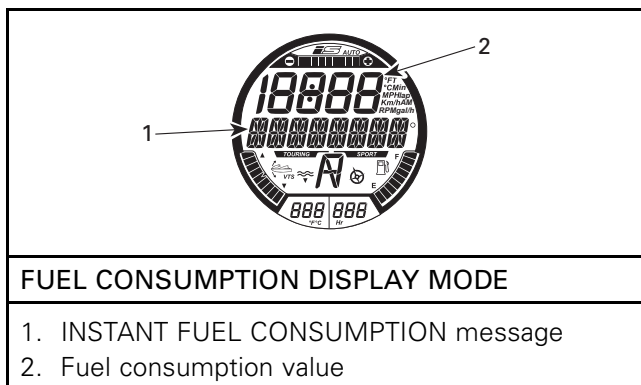
When the LOW FUEL indications come on in the multifunction gauge, the "TIME TO EMPTY" and "DISTANCE TO EMPTY" functions will indicate "0" (zero) if they are the selected indication.

To display the watercraft fuel consumption, carry out the following:

- 1. Press the MODE button repeatedly until FUEL CONSUMPTION is visible in the multifunction display.



2. Press the UP or DOWN button to toggle to the desired fuel consumption display mode.



3. Press the SET button to save the setting and return to the main display.

NOTE: The fuel consumption value will be displayed in the numerical display. Double click the SET button to reset the average fuel consumption indication. The display will momentarily indicate zero (0).

VTS Mode

The VTS MODE function is used to manually set the VTS or change VTS PRESET settings. Refer to *OPERATING INSTRUCTIONS* subsection in the *OPERATOR'S GUIDE* for details.

Display

The DISPLAY function is used to change the indication in the numerical display. Refer to *CHANGING NUMERICAL DISPLAY INDICATION*.

Fault Codes

The FAULT CODES function is used to display active fault codes. Refer to *MONITORING SYSTEM* subsection.

Key Mode

The KEY MODE function is used for changing LEARNING key settings. Refer to *OPERATING INSTRUCTIONS* subsection in the *OPERATOR'S GUIDE* for details.

Settings

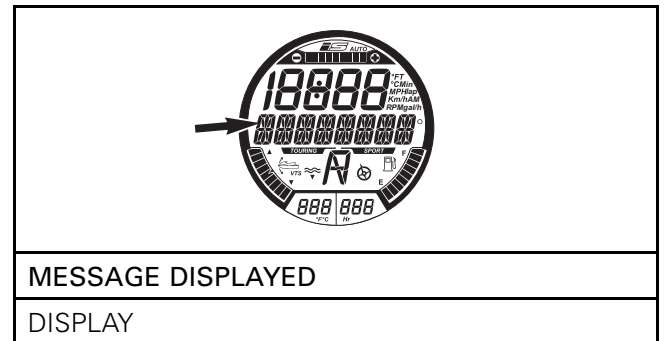
The SETTINGS function is used for:

- Clock setting. Refer to *MULTIFUNCTION GAUGE SETUP*
- iBR override function for maintenance.

Changing Numerical Display Indication

To change the indication in the numerical display, carry out the following:

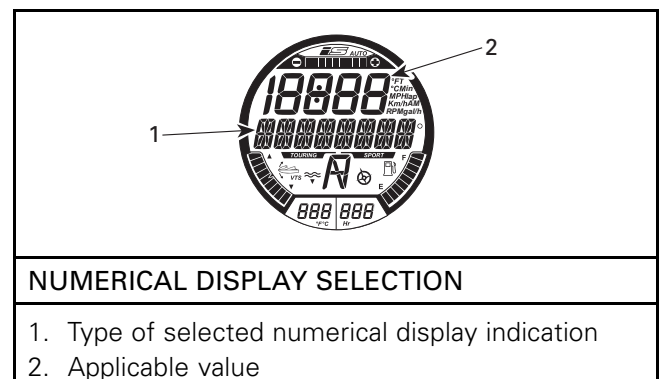
1. Press the MODE button on the RH handlebar repeatedly until DISPLAY is visible in the multi-function display.



2. Press the SET button to enter the DISPLAY function.

3. Press the UP or DOWN button until the preferred available indication appears.

- RPM
- SPEED
- LAKE TEMPERATURE (only on model GTX Limited)
- DEPTH
- ENGINE TEMP
- ALTITUDE (only on Limited models)
- TOP SPEED
- AVG SPEED
- TOP RPM
- AVG RPM
- CLOCK.



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4. Press the SET button to select and save the preferred indication, or wait for the display function to time out. The last indication visible will be automatically saved.

The following abbreviations are used in the numerical display:

- FT or M
- RPM
- MPH or Km/h
- °F or °C
- AM or PM
- Gal/h or l/h.

Resetting Numerical Display Indication

The following numerical display indications can be reset:

- Average fuel consumption
- Top speed
- Average speed
- Top RPM
- Average RPM.

To reset indications, double click the SET button. The numerical display will momentarily indicate zero (0).

NOTE: Each of these functions become active ONLY when selected as the numerical display indication.

Multifunction Display Messages

For a list of usual messages that may be displayed in the multifunction display, refer to *MULTIFUNCTION DISPLAY MESSAGES* in this section.

OPERATING MODES

Refer to *OPERATOR'S GUIDE*.

Refer to *INTELLIGENT THROTTLE CONTROL (ITC)*.

MULTIFUNCTION DISPLAY MESSAGES

FAULT MESSAGES	
WRONG KEY	Wrong key selected for model
RIGHT KEYPAD ERROR	MODE/SET, UP/DOWN arrow button malfunction
LOW OIL PRESSURE	Engine low oil pressure detected
HIGH EXHAUST TEMPERATURE	High exhaust temperature detected
HIGH ENGINE TEMPERATURE	High engine temperature detected
CHECK ENGINE	Engine system malfunction or maintenance required
HIGH BATTERY VOLTAGE	High battery voltage detected
LOW BATTERY VOLTAGE	Low battery voltage detected
LIMP HOME MODE	Major fault detected, engine power limited
FUEL SENSOR DEFECTIVE	Fuel level sensor fault
CALIBRATION CHECKSUM ERROR	Cluster programming corrupted, need to be re-flashed using BUDS2
MAINTENANCE REQUIRED	Watercraft maintenance required
DEPTH finder MODULE COMMUNICATION PROBLEM	Error message if depth finder is disconnected while riding
iBR MODULE ERROR	Error message if communication with the iBR module is lost while riding
OTAS DEFECTIVE – MAINTENANCE REQUIRED	OTAS is not correctly adjusted

TROUBLESHOOTING

DIAGNOSTIC TIPS

NOTE: It is a good practice to check for fault codes using BUDS2 software as a first troubleshooting step. Refer to *COMMUNICATION TOOLS AND BUDS2* subsection.

IMPORTANT: When troubleshooting an electrical system fault, check battery condition, cables and connections first.

Electrical System Activation

1. Press the START/STOP button.

NOTE: Pressing the START/STOP button without the tether cord (D.E.S.S. key) installed on the engine cut-off switch will turn on electrical power without starting the engine; the information center will cycle through a self-test function and shut off its display after a few seconds. However, the electrical system will stay powered up for approximately three minutes after the START button was pressed.

2. Install the tether cord on the engine cut-off switch to activate ECM and Information Center when testing procedures require a component or system to be supplied with electrical power.

IMPORTANT: When BUDS2 is being used, the ECM will stop communicating with BUDS2 approximately 3 minutes after the START button is pressed. Therefore, operations with BUDS2 will be interrupted. To reestablish communication, briefly press the START button. **Do not hold** the START button to avoid engine starting.

Circuit Testing

Check the related-circuit fuse condition with a fuse tester or ohmmeter (a visual inspection could lead to a wrong conclusion).

Electrical Connection Inspection

When replacing an electric or electronic component, always check electrical connections. Make sure they are tight, make good contact, and are corrosion-free. Dirty, loose or corroded contacts are poor conductors and are often the source of a system or component malfunction.

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Pay particular attention to ensure that pins are not bent or pushed out of their connectors.

Ensure all wire terminals are properly crimped on wires, and connector housings are properly fastened.

Check for signs of moisture, corrosion or dullness. Clean pins properly and coat them with DIELECTRIC GREASE (P/N 293 550 004) or other appropriate lubricant when reassembling them, except if otherwise specified such as for the ECM connectors.

Pay attention to ground wires.

TROUBLESHOOTING GUIDELINES

Press the START/STOP button and install the tether cord on the engine cut-off switch.

NOTE: Information center should come on, cycle through its self test function, and stay on for approximately 3 minutes after which all electrical power will turn off.

Briefly press the START/STOP button every 3 minutes to reenergize the electrical system. Do not hold the START/STOP button to avoid engine starting.

NOTE: When troubleshooting using the following guidelines, it is important to remember that some indications, functions and features described may not apply to every PWC model, or may be available as an option.

Information Center “Does Not Turn ON”

If the information center does not turn ON when the START/STOP button is pressed, the power circuit or ground circuit to the information center is probably open.

Test the 3 A GAUGE/OTAS/CAPS fuse (fuse 12) in fuse box 1 (FB1).

If the fuse tests good, test *INFORMATION CENTER INPUT VOLTAGE*.

If the information center input voltage test is good, test for continuity of the gauge ground circuit (gauge connector pin 11 (BLACK wire) to the ground bus-bar (pin H7) in FB1).

Refer to *WIRING DIAGRAM* for circuit details.

Information Center Turns ON with Some Indications Missing

1. Connect to the latest applicable BUDS2 version, refer to *COMMUNICATION TOOLS AND BUDS2* subsection.

2. Read the fault codes, refer to *DIAGNOSTIC AND FAULT CODES* subsection.

If a fault code is related to a communication problem, carry out a continuity test of the CAN bus wires between the applicable module and the CAN bus-bars in FB1. Refer to *WIRING DIAGRAM* and *CONTROLLER AREA NETWORK (CAN)* subsections.

NOTE: The information center, ECM, iS module, iBR module, and the diagnostic connector are linked together through CAN bus-bars in fuse box 1. If one wire of the two wire CAN bus system is open, communication will be slower than normal. Multiple fault codes may be generated and the ECM will put the watercraft in LIMP HOME mode.

If one module cannot be seen in BUDS2, the fault may be the wires that link the module to the CAN bus bars, or a problem internal to that module. Test the CAN bus wires from the faulty module to the CAN bus-bars in FB1 for continuity before assuming the problem is the module.

Information Center Goes Blank Except for:

- GPS indicator ON
- Compass ON (if watercraft moving)
- Fuel level ON
- iBR fault indicator light ON
- Indicated speed
- No other indications visible.

There is no communication between the information center and all other modules (ECM, iBR).

Carry out a continuity check of the CAN bus wires from the CAN bus-bars in FB1 to the information center (pins 2 and 3). Refer to the *WIRING DIAGRAM* and *CONTROLLER AREA NETWORK (CAN)* subsections for details.

If an open circuit is detected, carry out same test from the pin steering connector (pins 8 and 20).

All Indications ON Except for:

- LAKE WATER TEMP indication
- VTS indication
- iBR position indication
- CHECK ENGINE light is on.

NOTE: The lake water temperature indication is only available for the GTX Limited model.

The iBR CAN bus circuit is open or the iBR module is at fault.

NOTE: The ECM will generate several fault codes and engage LIMP HOME mode.

Carry out a continuity check of the CAN bus wires from the CAN bus-bars in FB1 to the iBR module (pins 2 and 3). Refer to the *WIRING DIAGRAM* and *CONTROLLER AREA NETWORK (CAN)* subsections for details.

NO RPM Indication and NO Engine Hour Display

If there is NO RPM indication and NO engine hour display, and the watercraft is in LIMP HOME mode, the CAN bus to the ECM is open.

Carry out a continuity check of the CAN bus wires from the CAN bus-bars in FB1 to the ECM module, connector "B" pins C1 and C2 (B-C1 and B-C2). Refer to the *WIRING DIAGRAM* and *CONTROLLER AREA NETWORK (CAN)* subsections for details.

NO Fuel Level Indication

If there is no fuel level indication, test the fuel level sensor and its wiring circuit to the information center. Refer to *FUEL TANK AND FUEL PUMP* subsection.

NO Depth Gauge Indication

If there is no depth gauge indication available and the depth finder active indicator is not on, refer to *DEPTH FINDER* in this subsection.

NOTE: If communication with the depth finder cannot be established when electrical power is first applied, the monitoring system assumes this is a normal situation (PWC not equipped with depth finder) and will not display an error message.

NO Speed or Compass Indication

To obtain a speed or compass reading and to turn on the GPS indicator, the GPS requires a good uplink to at least three navigation satellites.

If there is no speed or compass indication, look for the GPS indicator icon. If the GPS indicator is off, either the GPS cannot uplink with the satellites, or the GPS system in the information center is at fault.

If another watercraft nearby displays a good GPS uplink (GPS indicator light on in cluster), the information center may need to be replaced.

NOTE: If the GPS uplink is lost while navigating at speed, the speedometer will provide an estimated speed indication based on other parameters. The compass indication will not be available until a good satellite uplink is reestablished.

Speed and Compass Indication Slow to Come ON

When initially powering up the watercraft and driving away, the speed and compass indications may be slow to come on. This is normal as the GPS requires time to establish an uplink with the navigation satellites (cold start).

If the watercraft was run long enough to display the compass and speed indications, shut down for a short period of time and then restarted (hot start), the speed and compass indications should not take more than 30 seconds to come on.

If the speed and compass indications take more than 30 seconds to come on, test for the following:

- GPS fuse 4 in FB1
- Battery voltage at pin 1 of the information center
- Continuity of wire between information center (pin 1) and contact A5 of FB1.

NOTE: This circuit provides 12 Vdc to the GPS in the information center so that it memorizes the satellites it was linked to for a period of two hours. This allows the indications to be available within a few seconds of restarting the watercraft (hot start). After a two hour period, the GPS will have to reestablish new satellite links.

Beeper Does Not Function

The beeper is incorporated within the information center.

If no beep code is heard when installing the tether cord, first ensure ECM is powered. Refer to *ELECTRONIC FUEL INJECTION (EFI)* subsection.

In BUDS2, carry out the following:

- **Cluster Buzzer Test** on the cluster activation page
- Check for fault codes. Carry out service actions as applicable.

If the **Cluster Buzzer Test** failed, the ECM is powered, and the ECM and information center are communicating properly through the CAN bus, replace the information center.

PROCEDURES

INFORMATION CENTER

Information Center Self Test Function

When the START/STOP button is pressed momentarily and the vehicle powers up, all LCD segments and indicator lights in the information center will turn **ON for 3 seconds** (self test function). This self test function allows the driver time to ensure that all indications are functioning properly.

It also validates the information centers internal circuits, however, this does not validate proper operation of the individual external circuits and sensors that provide inputs to the information center.

If a system fault is detected by the ECM, the applicable message and/or indicator light will be displayed, and a beep code may be heard.

If the tether cord is not installed, the indications in the information center will shut off a few seconds after the self test function, but the electrical system power stays on for approximately 3 minutes. Installing the tether cord on the engine cut-off switch will turn the indications back on.

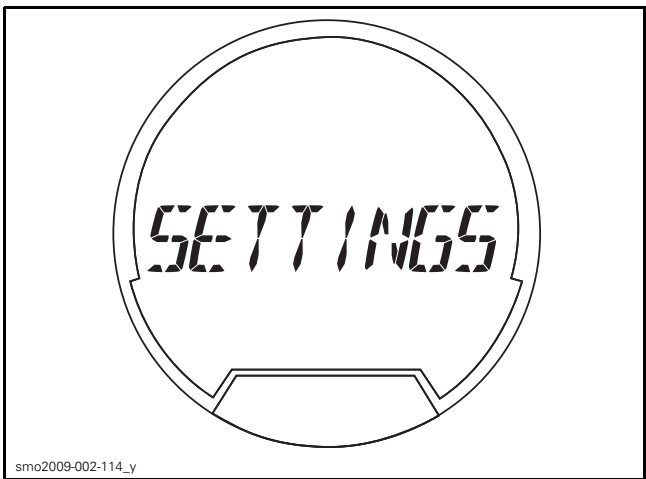
If the tether cord is installed, the cluster will stay on for approximately 3 minutes.

NOTE: If the START/STOP button is pressed and held without the tether cord installed, the information center will stay on as long as the START button is held.

Multifunction Gauge Setup

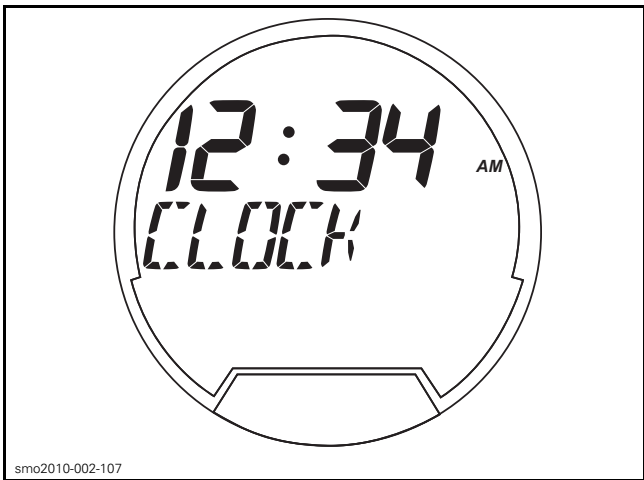
Setting the Clock

- 1. Press the MODE button repeatedly until SETTINGS is visible in the multifunction display.



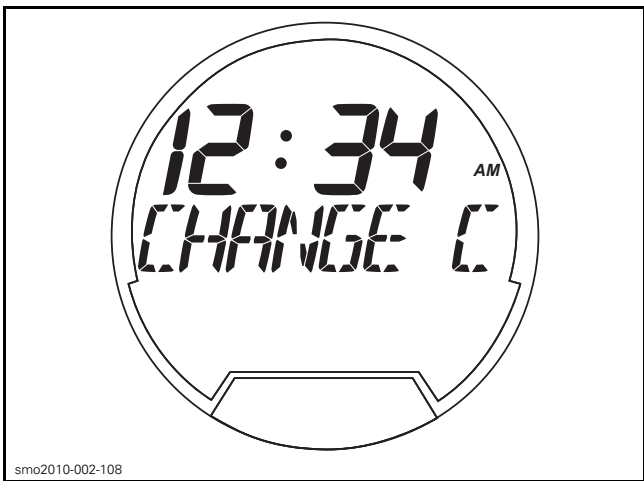
FUNCTION SELECTED: SETTINGS

- 2. Press the UP or DOWN arrow button repeatedly until CLOCK is visible.



FUNCTION SELECTED: CLOCK

- 3. Press the SET button to enter the function. CHANGE CLOCK OFFSET message will be displayed.



FUNCTION SELECTED: CHANGE CLOCK OFFSET

- 4. Press the UP or DOWN arrow button to adjust the clock to the correct local time.
- 5. Press the SET button to save the setting and return to the main display.

NOTE: The clock uses the GPS signal to maintain the appropriate time referenced to Greenwich Mean Time (GMT). When setting the clock, only the hour digits may be changed. For the clock to function, the GPS requires a good satellite uplink.

Setting the Units of Measurement and Language

- 1. Connect vehicle to BUDS2, refer to the *COMMUNICATION TOOLS AND BUDS2* subsection.

2. Press the START/STOP button to energize the electrical system.

NOTE: You will need to press the START button every three minutes or the electrical system will shut off.

3. Navigate to the **Settings** page.

In the **Language** field, choose the desired unit of language.

In the **Cluster Units** field, choose the desired unit of measurement, **Imperial** or **Metric**.

Clearing the Maintenance Reminder Indicators

When the watercraft, engine or supercharger are due for maintenance, the maintenance reminder indicator will come on, and a scrolling **MAINTENANCE REQUIRED** or **SUPERCHARGER MAINTENANCE REQUIRED** message will scroll in the digital screen. These maintenance reminders must be cleared using BUDS2.

1. Connect vehicle to the latest applicable BUDS2 version, refer to the *COMMUNICATION TOOLS AND B.U.D.S.* subsection.
 2. Press the START/STOP button to energize the electrical system.
- NOTE:** You will need to press the START button every three minutes or the electrical system will shut off.
3. Navigate to the **Summary** page.
 4. Choose the **Vehicle** tab.
 5. At the bottom RH side of the vehicle page in the **Last Service** field, choose **Reset Service**.

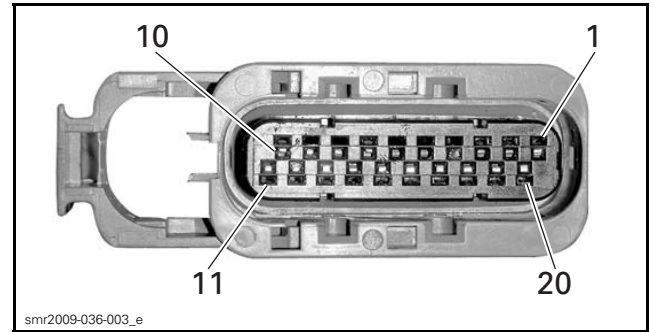
NOTE: If the supercharger maintenance was carried out before the reminder appeared in the information center, the supercharger maintenance reminder must be reset in order to reset the supercharger maintenance hour counter and prevent the reminder from appearing prematurely.

Information Center Pin-Out

NOTE: Depending on watercraft model and installed accessories, some multifunction gauge connector pins may not be used. Refer to *WIRING DIAGRAM*.

Testing Information Center Input Voltage

1. Disconnect the gauge connector.
2. Press the START button and install the tether cord on the engine cut-off switch.



GAUGE CONNECTOR PIN-OUT

INPUT VOLTAGE TEST AT GAUGE CONNECTOR		
PROBE		VOLTAGE
Pin 1 (Hot at all times)	Pin 11 (Permanent ground)	Battery voltage
Pin 12 (Hot with main relay on)		

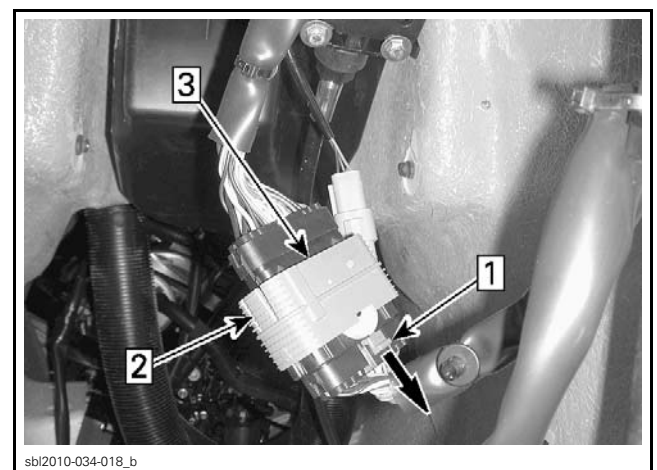
If battery voltage is measured as specified, replace the information center.

If battery voltage is measured to battery ground but not to pin 11, test *CONTINUITY OF GAUGE GROUND WIRE* circuit from the gauge connector to the ground bus-bar contact in FB1 as described further in this subsection.

3. If battery voltage is not measured at the gauge connector, check wiring. Refer to *WIRING DIAGRAM*.

Testing Gauge Ground Wire Continuity

1. Disconnect the 24-pin steering connector.



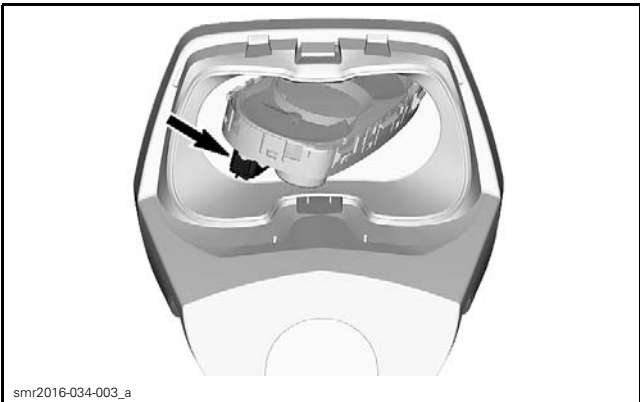
TYPICAL - 24-PIN STEERING CONNECTOR DISCONNECT

Step 1: Pull out safety lock
Step 2: Press in on release tab
Step 3: Pull locking collar down

GROUND TEST AT STEERING CONNECTOR	
PROBE	VOLTAGE
Pin 11 (Permanent ground)	Battery voltage

2. Repair wiring and connectors as required.

Removing the Information Center



Installing the Information Center

Installation of the information center is the reverse of the removal procedure. However, pay attention to the following.

NOTE: If you are installing a replacement information center, refer to *INFORMATION CENTER REPLACEMENT* in this subsection.

After the information center has been replaced, connect the watercraft to the latest applicable BUDS2 version and carry out any updates (if required). Refer to *COMMUNICATION TOOLS AND BUDS2* subsection.

Once the information center has been updated (if required), select the applicable settings as described in *SETTING LANGUAGE AND UNITS OF MEASUREMENT* in this subsection.

MODE/SET AND UP/DOWN ARROW BUTTONS

Overview

The MODE/SET and UP/DOWN arrow buttons assembly contains a series of 4 diodes for the MODE and SET switches, and another 4 diodes for the UP/DOWN arrow switches. Refer to *WIRING DIAGRAM* for simplified diagram of switches.

The center wire to the switches (pin C), is common to both sides of the switch assembly (somewhat like a ground wire). The other two wires (pins A and B), act as signal wires to the information center for each set of switches. They actually each form one branch of an electronic circuit within the information center.

Each diode (in circuit) drops a nominal 0.6 Vdc when conducting electricity. If the circuit current passes through all four diodes (say MODE and SET switches open), a drop of 2.4 Vdc would be measured across the 4 the diodes (pin B to pin C). This voltage drop of 2.4 Vdc measured at pin B tells the gauge the MODE and SET switches are open.

If the MODE switch is pressed, 2 diodes are bypassed. The remaining two diodes in the circuit drop 1.2 Vdc (at pin B).

If the SET switch is pressed, 1 diode is bypassed. The remaining three diodes in the circuit drop 1.8 Vdc (at pin B).

The gauge senses these voltages through pin 17 of the gauge connector, and interprets them as signals that tell it which switch is activated.

If the command signal generated by the closure of a switch concerns another module, a circuit within the gauge will translate it to CAN protocol and transmit it through the CAN bus. The applica-

ble module will react to the command, carry out the function, and transmit the result back through the CAN bus.

The information center will use the signals from the switches and the transmitted information from the other modules, convert them to an indication, and cancel the command signal it sent out once the function has been carried out.

Command signals from the MODE and SET switches are used by the information center only.

The UP/DOWN arrow switch commands are used by the gauge for certain functions and settings. They will also be translated and sent out through the CAN bus to be used by the ECM for the CRUISE, SKI mode and SLOW SPEED functions for increasing or decreasing speed when the functions are active, and by the iBR for iBR gate positioning in SLOW SPEED mode of operation.

The UP/DOWN switches are also used for VTS trim on models without VTS buttons.

NOTE: The voltages stated previously vary slightly depending on the actual voltage applied to the circuit and the current flow through the diodes. When using a Fluke 115 multimeter for testing in diode test mode, the voltage and current applied by the multimeter are lower than in circuit. The quality of probe contact, the actual probes and leads, and the precision of the meter calibration will all affect the results, which will most likely be slightly lower than nominal values stated.

Testing MODE/SET and UP/DOWN Buttons Using BUDS2

1. Connect the watercraft to BUDS2 version. Refer to *COMMUNICATION TOOLS AND BUDS2*
2. Press the START/STOP button to energize the electrical system.

NOTE: You will need to press the START button every three minutes or the electrical system will shut off.

3. Navigate to the **Measurements** page.
4. Choose the **Cluster - Basic**
5. Press each of the MODE/SET and UP/DOWN arrow buttons and look for the applicable indicator light to come on in the **Switch inputs** field on lower RH side of the cluster page (Mode, Set, Up or Down).

If each of the gauge button indicator lights come on when the applicable switch is pressed, the problem may be related to the information center.

If one or all of the indicator lights does not come on, test *MODE/SET AND UP/DOWN ARROW SWITCH USING A MULTIMETER*.

Testing MODE/SET and UP/DOWN Switch

NOTE: It is important to set the multimeter to the diode check function when testing the MODE/SET and UP/DOWN arrow switches as it contain diodes.

1. Test the MODE/SET and UP/DOWN arrow switches as per following tables.

MODE/SET SWITCH TEST			
SWITCH POSITION	FLUKE 115	GAUGE CONNECTOR	VOLTAGE
Switch released	RED lead BLACK lead	Pin 17 Pin 18	Approx. 2 Vdc or OL (see note 1)
	BLACK lead RED lead	Pin 17 Pin 18	OL
MODE depressed	RED lead BLACK lead	Pin 17 Pin 18	Approx. 1.1 Vdc
	BLACK lead RED lead	Pin 17 Pin 18	OL
SET depressed	BLACK lead RED lead	Pin 17 Pin 18	Approx. 1.6 Vdc
	BLACK lead RED lead	Pin 17 Pin 18	OL

UP/DOWN ARROW SWITCH TEST			
SWITCH POSITION	FLUKE 115	GAUGE CONNECTOR	VOLTAGE
Switch released	RED lead BLACK lead	Pin 16 Pin 18	Approx. 2 Vdc or OL (see note 1)
	BLACK lead RED lead	Pin 16 Pin 18	OL

UP/DOWN ARROW SWITCH TEST			
SWITCH POSITION	FLUKE 115	GAUGE CONNECTOR	VOLTAGE
UP depressed	RED lead BLACK lead	Pin 16 Pin 18	Approx. 1.1 Vdc
	BLACK lead RED lead	Pin 16 Pin 18	OL
DOWN depressed	RED lead BLACK lead	Pin 16 Pin 18	Approx. 1.6 Vdc
	BLACK lead RED lead	Pin 16 Pin 18	OL

NOTE: Remember that each diode should drop approximately 0.6 Vdc when positively biased, and read as an OL (open circuit) when negatively biased (leads reversed).

Note 1: May be OL on some multimeters. If the readings are correct when testing with the switch depressed UP and DOWN, while it was OL with the switch released, then the switch is functional.

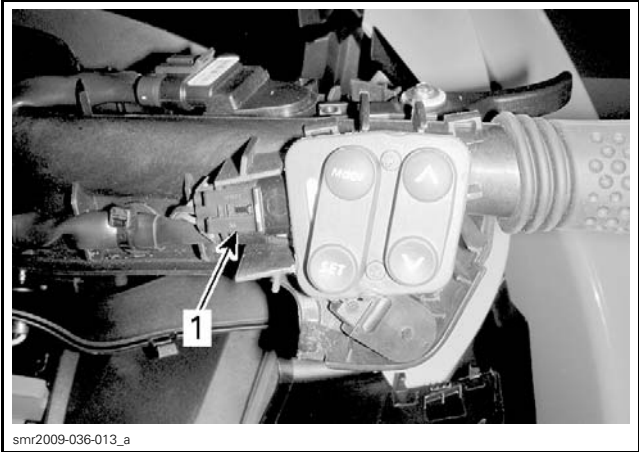
When measuring between pins 17 and 18, or 16 and 18, if an OL is obtained with both positive and negative diode biasing, test the continuity of each wire between the gauge and switch assembly. If continuity is good, replace the switch assembly.

If any reading is significantly different than specified, carry out the same test at the switch connector, refer to the wiring diagram. If you obtain the same results, replace the switch assembly.

If voltages measured on every switch are as specified (or very close to it), the switches and the wiring harness are good. The fault may be within the gauge. Replace the gauge.

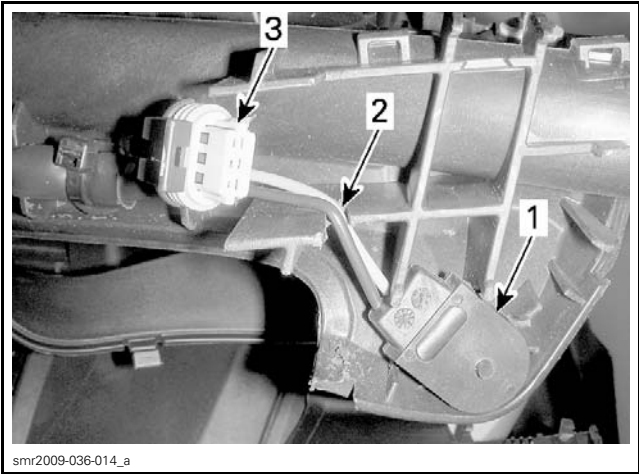
Replacing the MODE/SET and UP/DOWN Switch Assembly (Except X Package)

- 1. Remove steering cover, refer to *STEERING AND O.T.A.S.* subsection.
- 2. Disconnect connector from switch assembly.



TYPICAL - GTX LIMITED IS ILLUSTRATED
1. MODE/SET and UP/DOWN switch connector

- 3. Remove switch assembly from support by lifting it off the support.
- 4. As applicable, ensure wiring from cruise switch is properly inserted in slot provided before installing MODE/SET and UP/DOWN arrow switch assembly.



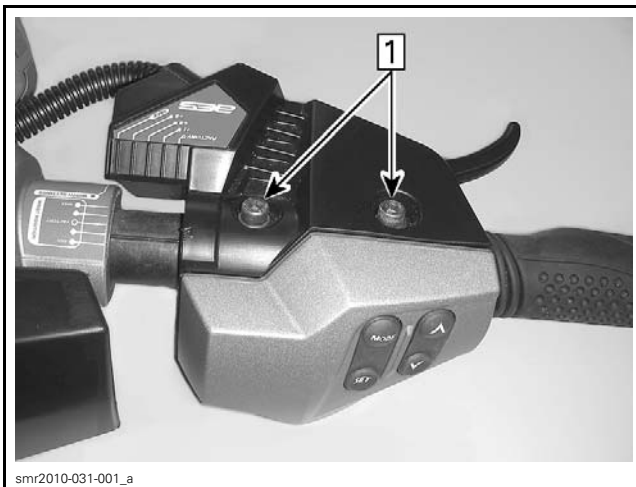
TYPICAL - GTX LIMITED IS ILLUSTRATED
1. Cruise switch
2. Wiring in slot provided in support
3. MODE/SET and UP/DOWN arrow switch connector

- 5. Apply a small amount of DIELECTRIC GREASE (P/N 293 550 004) on switch contact pins.
- 6. Install connector on new switch assembly.
- 7. Insert switch assembly in switch support.
- 8. Install steering cover, refer to *STEERING AND O.T.A.S.*

Replacing the MODE/SET and UP/DOWN Switch Assembly (X Package Only)

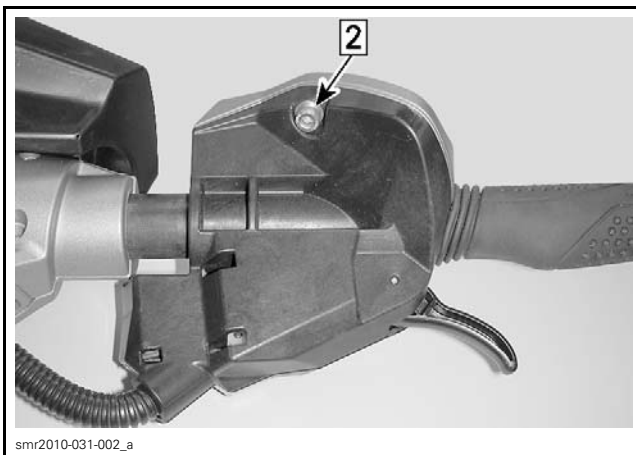
Removing the Switch

1. Remove the 2 screws in the front of the upper handlebar housing.



Step 1: Remove these two screws

2. Remove the screw at back of the handlebar.

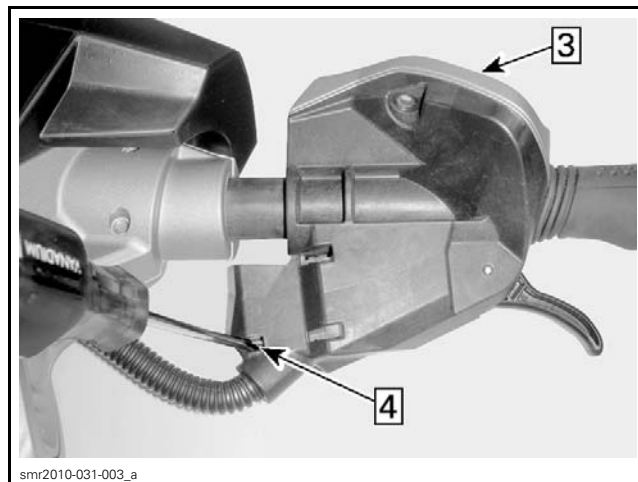


Step 2: Remove this screw

NOTICE Do not try to pull the cover off the housing at this time or damage to the cover will occur.

3. Take hold of the housing cover to prevent it from falling off the handlebar when unlocking the upper housing in the following step.
4. Using a small screwdriver, unlock the tab that retains the upper housing and pull the upper housing off.

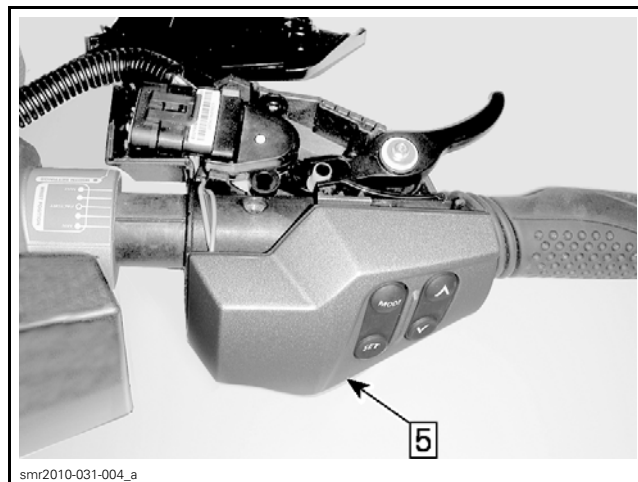
NOTICE As you remove the upper housing, hold on to the housing cover to prevent it from falling off the handlebar.



Step 3: Hold on to this housing cover

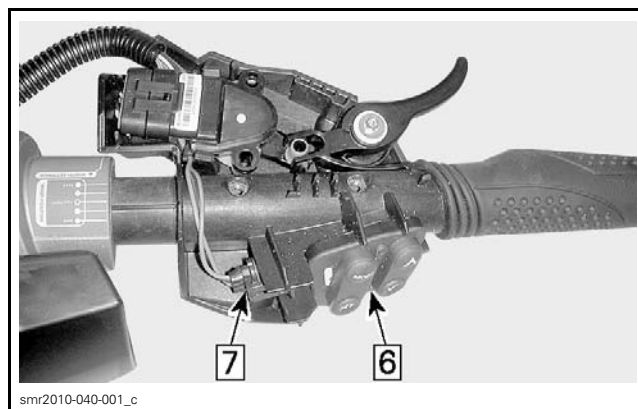
Step 4: Unlock this tab

5. Remove the housing cover from the handlebar.



Step 5: Remove housing cover

6. Remove switch from handlebar housing.
7. Remove connector from switch.



Step 6: Remove switch

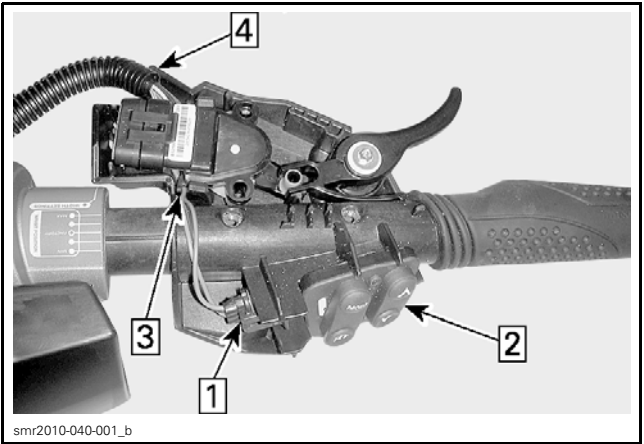
Step 7: Remove connector

Subsection XX (INFORMATION CENTER (GAUGE))

Installing the Switch

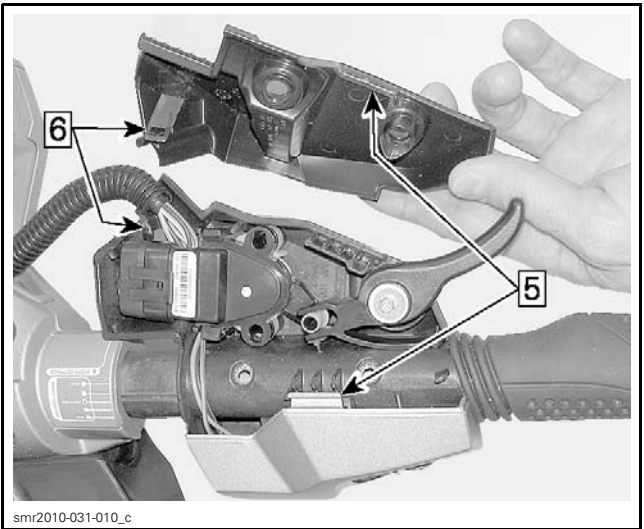
Installation is the reverse of the removal procedure however, pay attention to the following.

- 1. Install connector on switch assembly.
- 2. Insert switch assembly in handlebar housing.
- 3. Ensure proper wire routing.
- 4. Ensure proper positioning of corrugated conduit.



Step 1: Install connector
Step 2: Insert switch in handlebar housing
Step 3: Ensure proper wire routing
Step 4: Ensure proper positioning of corrugated conduit

- 5. Ensure engagement of housing cover retaining tabs.
- 6. Ensure engagement of upper housing locking tabs.



Step 5: Ensure engagement of housing cover retaining tabs
Step 6: Ensure engagement of upper housing locking tabs

- 7. Position the upper housing on the handlebar housing.
- 8. Ensure proper engagement of the upper housing and cover tabs.

- 9. Install the three retaining screws for the upper housing and tighten them as specified.

TIGHTENING TORQUE	
Upper switch housing screw	2 N•m (18 lbf•in)

- 10. Connect watercraft to the latest applicable BUDS2 version, refer to *COMMUNICATION TOOLS AND B.U.D.S.* subsection.
- 11. Ensure there are no fault codes, refer to *DIAGNOSTIC AND FAULT CODES* subsection.
- 12. Ensure proper operation of throttle lever and switch assembly.

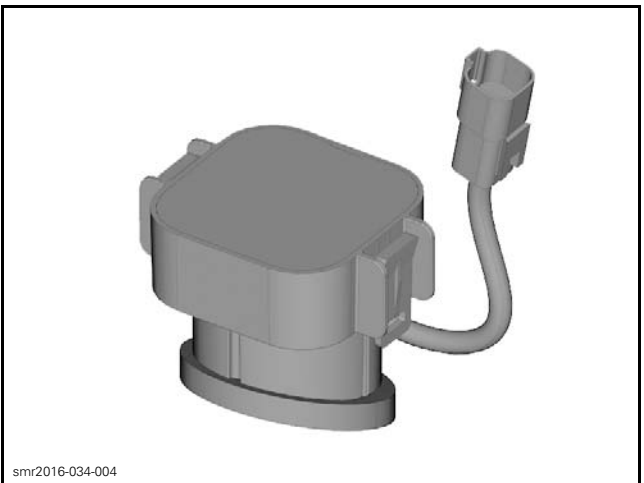
WATER TEMPERATURE SENSOR

The water temperature sensor is connected to the ECM.

Water from the jet pump passes through the intercooler inlet hose where the sensor measures its temperature, generating a signal that is interpreted by the ECM module. The ECM module then sends the information through the can-bus to the information center that translates it into a temperature indication.

If the temperature display is 0 degrees, water temperature sensor might be defective. Verify water temperature sensor and replace if necessary.

DEPTH FINDER



**WARNING**

Never use the depth gauge as a warning device to ride in shallow water. Use it as a navigation guide only. Not to be used to get precise navigation data.

Depth Finder Troubleshooting

DEPTH FINDER TROUBLESHOOTING		
SYMPTOM	POSSIBLE CAUSE	REMEDY
Nothing is displayed in the information center	Depth finder not connected.	Properly connect depth finder.
	Depth finder not properly installed.	Make sure depth finder is properly installed in battery holder base. There must be no air gap between hull and silicone pad(s).
	12 Vdc wire or ground wire to depth finder open.	Check fuse and wiring harnesses.
	Problem with communication link wires.	Check wires to CAN bus-bars in FB1.
---- (ft or m) is displayed	Watercraft is not in water.	Launch watercraft in water and recheck.
	There is air between silicone pad and depth finder or between depth finder and battery holder base.	Remove depth finder. Replace silicone pad.
	Depth finder is defective.	Try a new depth finder.

NOTE: When watercraft is not in water, the icon is active but there is no reading. To verify proper operation, launch watercraft in water and compare depth indication with actual depth.

Replacing the Depth Finder

Do not attempt remove the depth finder. Epoxy glue holds it in place.

Order a new depth finder from accessories (PAC) and follow the instructions provided with the kit.

Testing Depth Finder Operation

1. Press START/STOP button to activate gauge.
2. Confirm the depth finder icon is active in gauge.
3. If icon is not active, check in BUDS that icon box is checked.