



YANMAR
®

**Electronic Control System
Operation Manual
for BY Series Engines
with Unlimited Controls**

***ELECTRONIC
CONTROL
SYSTEM
MANOPBYUM01
REVISION 3.2***



RECREATIONAL CRAFT DIRECTIVE 94/25/EC

Maximum performance, and compliance with the EMC Directive, can only be ensured by correct installation. It is strongly recommended that the installation conforms with the following standards:

APPLICABLE STANDARDS

- a) ISO 8846 Small Craft-Electrical Devices
Protection against ignition of surrounding flammable gases.
- b) ISO = International Standards Organization

SAFE BOATING STATEMENT

This device meets or exceeds the applicable ABYC, ISO, and USCG safe boating rules, regulations, standards, and guidelines.

SAFE BOATING ON THE WEB

U.S. Coast Guard www.uscg.mil
U.S. Power Squadron www.usps.org



American Boat & Yacht Council (<http://www.abycinc.org>)

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California Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the state of California to cause cancer, birth defects, and other reproductive harm.

California Proposition 65 Warning

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm.
Wash hands after handling.

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System Overview

Although the scope of this document relates to both single and dual engines, the instructions within depict the more widely used dual engine configuration.

Helm Components

This dual engine electronic control system consists of the following helm equipment:

- Two Yanmar i5601E Digital Displays and two Digital Tachometers (one respectively, if single engine)
- Dual Shift & Throttle Control Head (single shift & throttle control head, if single engine)

Yanmar i5601E Digital Display

Note: Displays "Single" if single engine configuration.



Digital Tachometer

780757SDFB



The i5601E displays real-time data as well as warnings or alarms for any engine abnormality. Diagnostic codes will be stored for future reference by a Yanmar technician.

Shift & Throttle Control Head

CH67500: Control Head



CP67601: Trolling Switch (Optional)



The Shift & Throttle Control Head selects the gear positions and the throttle settings. The Control Head has several lights that confirm modes of operation and display warnings, if present. Buttons enable engine RPM synchronization and shift disconnect as well as setting the brightness of the lights.

Other control configurations with similar functions may be used.

Start Up

WARNING

*In normal operating mode, the engine is started and stopped with the key switch.
In an emergency situation, you can use the lanyard to kill all power to the engine. This will allow you to stop at once.*

Review the next pages to become familiar with the helm equipment.

Place the control levers in neutral and turn the PORT ignition switch to the “On” position – but do not start the engine. The green control head light will illuminate.

With the Control Levers in Neutral, check to see if the green light on the Control Head is solid or flashing. If flashing, push the “Select” button to select the head. The yellow light will now come on.



Redundant (Back-up) Throttle

In the unlikely event that the throttle signal is lost between the helm mounted shift/throttle control head and the engine, the system is designed to revert to the redundant or subthrottle. First, the engine would reduce RPMs to idle speed, the digital display would show “Throttle Error,” and a small red indicator light would flash at the key panel. Directly below the red light is a small potentiometer (small, knurled knob) label “subthrottle.” Turn the knob all the way to counter-clockwise in order to take control of the throttle. Then turn the knob SLOWLY to clockwise - the light will glow solid and you will have control of the throttle. When the signal loss problem has been corrected, you must shut the engine off and restart to return throttle control back to the shift/throttle control head.

For Emergency Shift of Marine Gear see Transmission Manual.

Note: To use the Emergency Shift for the Stern Drive, please refer to Appendix E.

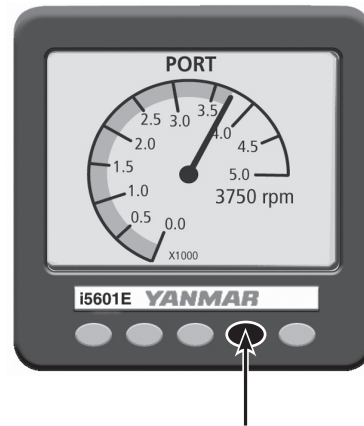
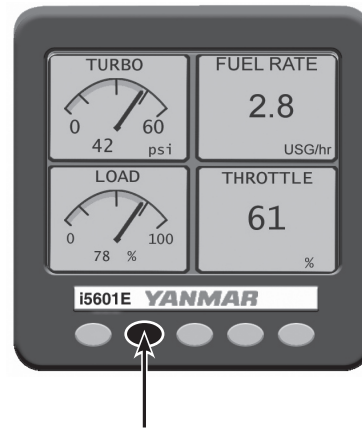
Electronic Control System:
Operation Manual for BY Series Engines with Unlimited Controls

YANMAR

Start Up

i5601E Display

When powered-up, the i5601E Digital Display will initially display an introductory screen showing the software revision level. It will then display one of the following four screens:



These screens show all of the key engine data and can be accessed by pushing a single button, also called a “softkey.” The right-most softkey allows the contrast and brightness to be set (see illustration below).



Start Up

Optional Tachometer and Speedometer Menu Structure

The tachometer and speedometer menu structures (please refer to detailed diagrams on the next four pages) are set up with a Main Menu display, accompanied by their respective submenus. Successfully navigating the main and submenus depends on the familiarization and understanding of how the ENTER, UP, and DOWN buttons are pressed, and in what combination.

To Navigate the Menus:

- After the “Yanmar Marine Power-on” flashes on, the screen will return to the last display viewed on shutdown. Use the up and down buttons to scroll through the Main Menu items from ENGINE DATA to SYSTEM SETUP.
- To view the submenu features under one of these Main Menu displays, press the enter button. Then use the UP button to move forward and the DOWN button to move backward through the submenus.
 - Pressing the UP button at the end of the submenu scrolls directly to the first submenu item.
 - At any time you may return to the Main Menu by pressing the enter button.
 - With a bit of practice, navigating the menu should become second nature.



To Customize the Main Menu:

It is possible to customize the Main Menu to better suit your boating needs.

- Scroll through the submenu until the substitute main menu item is found. Press and hold the enter button for 3 seconds. The item will be “recognized” as the new choice for the Main Menu display. You will be returned to the Main Menu with the new item displayed and the previous Main Menu item will become part of the submenu.

Control Button Operation



To Enter or Exit a Submenu:

- Press enter button at any Main Menu display to go into submenus.
- Press ENTER button at any time to exit back to the Main Menu.

To Customize the Main Menu:

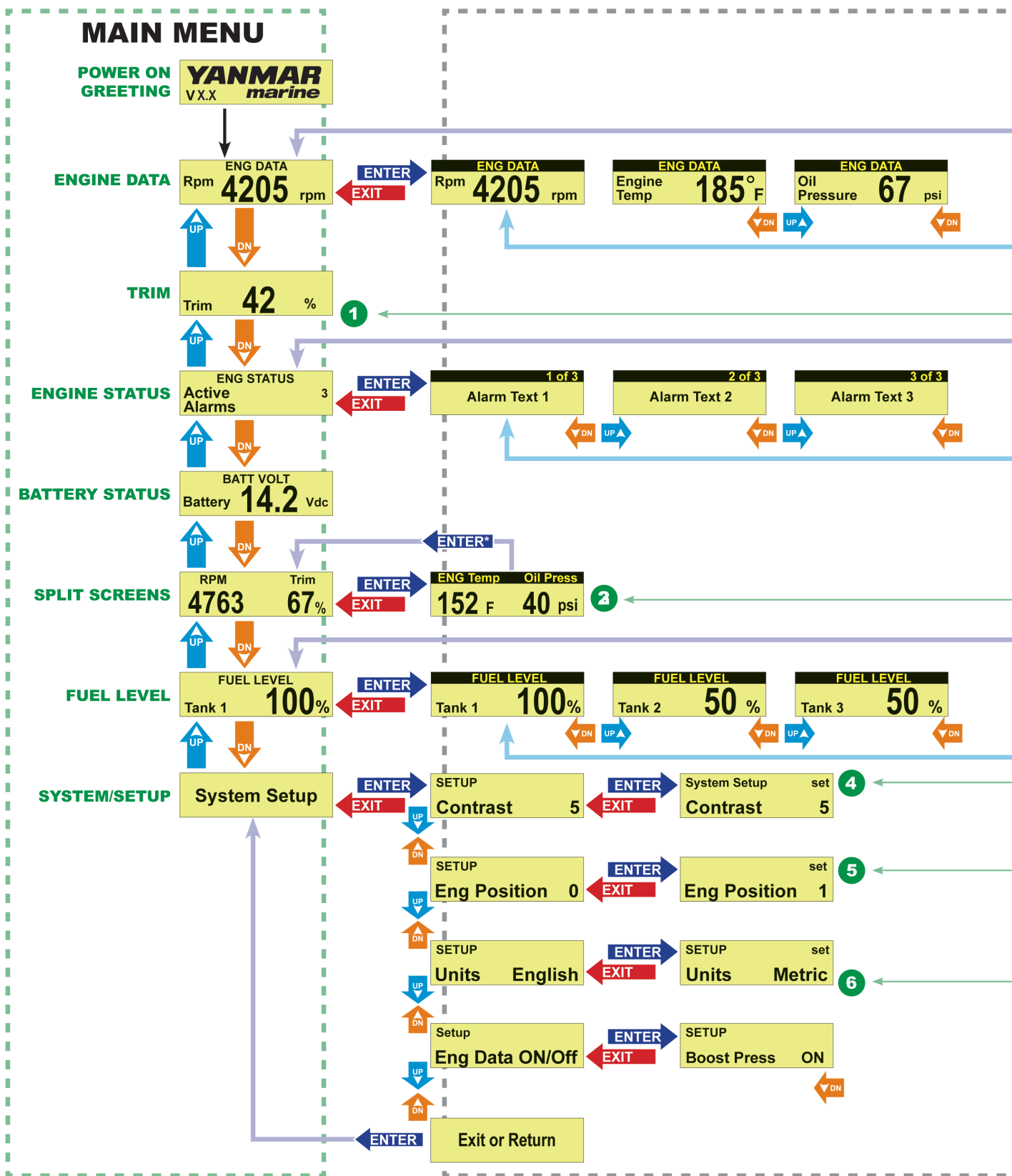
- Choose submenu item to replace Main Menu item, then Press and Hold enter button for 3 seconds. This will return you to the Main Menu, replacing the previous item with the one you just chose.

To Operate the Backlight:

- Press the up/down buttons at same time (ONLY possible when in Main Menu).

Start Up

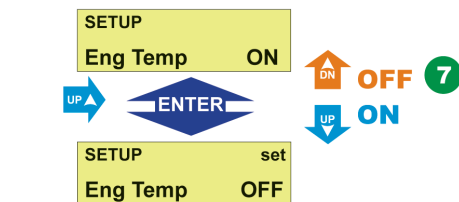
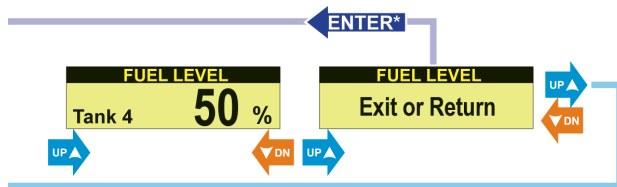
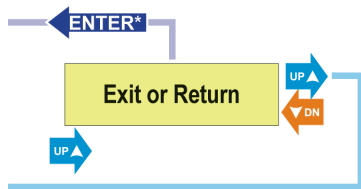
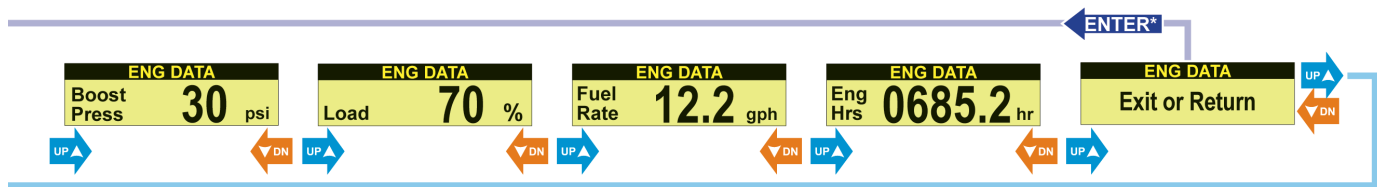
Tachometer Menu Structure



Start Up

Tachometer Menu Structure

SUB MENUS



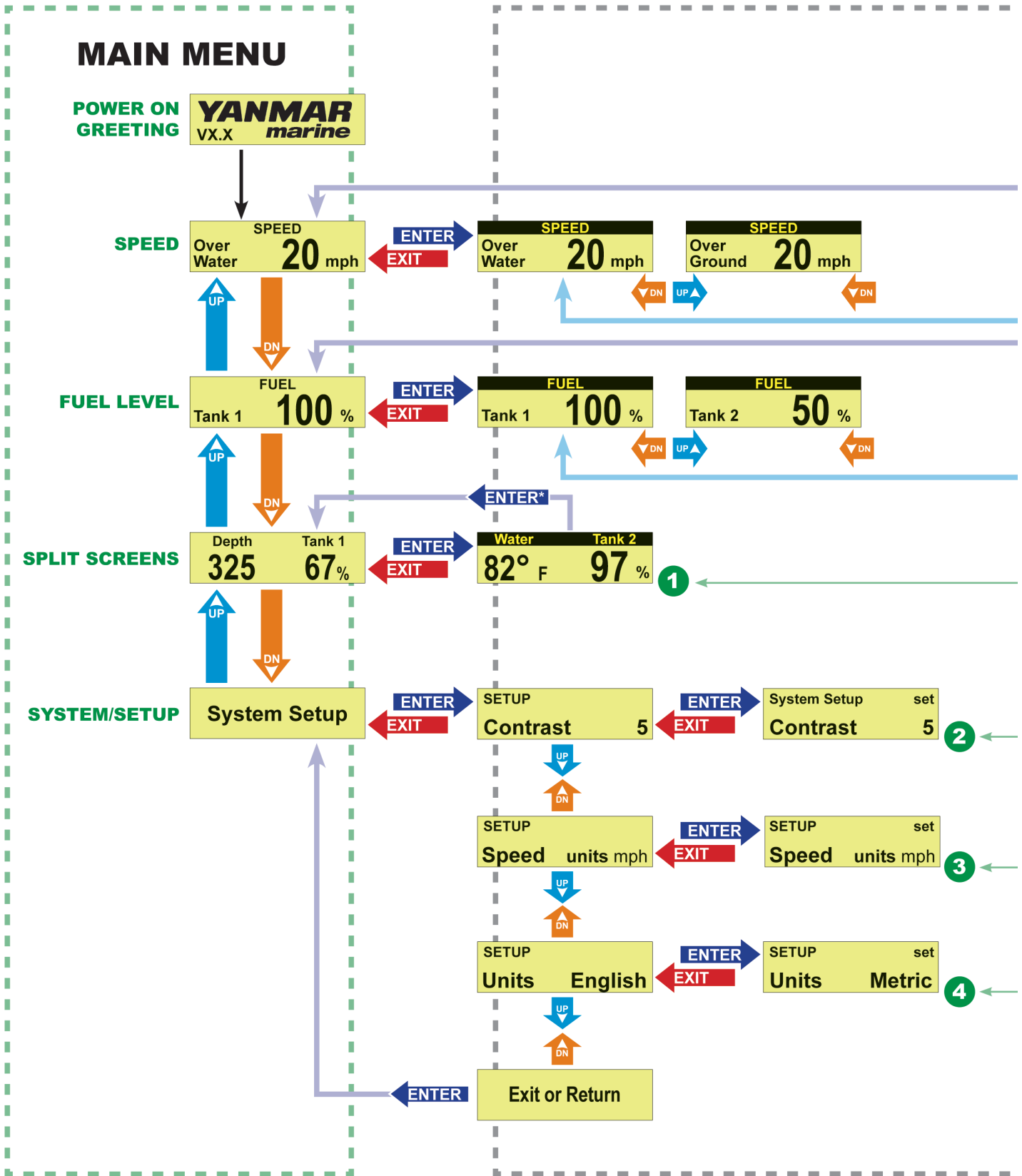
SCREEN OPERATIONS

- 1 Marine Gear, no value shown
- 2 View list of Active Alarms.
 - Check Engine
 - Hot Engine
 - Low System Voltage
 - High Boost Pressure
 - Throttle Position Sensor
 - Neutral Start Protect
- 3 Use UP key to scroll items on left of Split Screen and DOWN arrow to scroll items on right. ENTER button returns to MAIN menu.
- 4 Adjust contrast level from 0 - 10 in increments of 1. Only values between 3 - 7 (inclusive) will be saved and restored at power-up. Settings above and below will be saved as 3 or 7.
- 5 0 - Port
1 - Starboard (Dual), Center (Triple)
2 - Starboard (Triple)
Use arrow keys to scroll through numbers, then press ENTER to set. Gauge will reset after position is changed.
- 6 English - psi, gallons, degrees F.
Metric - bar, liters, degrees C.
- 7 UP or Down arrow toggles ON/OFF. Any parameter can be turned off.

**Press and release at any time, to return to Main Menu.*

Start Up

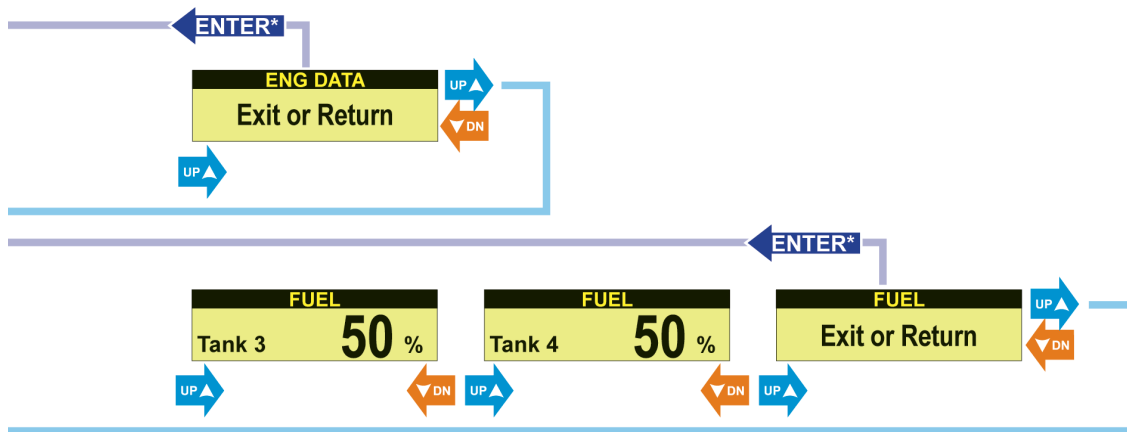
Speedometer Menu Structure



Start Up

Speedometer Menu Structure

SUB MENUS



SCREEN OPERATIONS

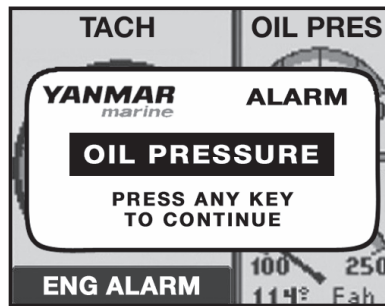
- 1 Use UP key to scroll items on left of Split Screen and DOWN arrow to scroll items on right. ENTER button returns to MAIN menu.
- 2 Adjust contrast level from 0 - 10 in increments of 1. Only values between 3 - 7 (inclusive) will be saved and restored at power-up. Settings above and below will be saved as 3 or 7.
- 3 kn (knots)
mph (miles per hour)
kph (kilometers per hour)
- 4 English - meters, degrees F.
Metric - feet, degrees C.

**Press and release at any time, to return to Main Menu.*

Start Up

Alarms

In the unlikely event that an engine fault occurs, a warning box appears in the display showing the cause of the fault, and the action to take, "Press Any Key To Continue."



Pressing any key acknowledges the alarm and immediately switches the display to the Alarms screen. The i5601E continues to beep until all alarm conditions (engine faults) have cleared. Unacknowledged alarms are shown as flashing boxes. Press any key to acknowledge alarm boxes that may still be flashing, and they will then change to a steady highlighted state.

YANMAR <i>marine</i>	PORT Alarm
HOT ENGINE	CHECK ENGINE
OVER REV	EMERGENCY STOP
OIL PRESSURE	LOW VOLTAGE
TURBO BOOST	ALTERNATOR
GEAR OIL	SEA WATER FLOW
ENG COM ERROR	LOW COOLANT
MAINTENANCE	WATER IN FUEL
NETWORK	MAIN THROTTLE
PWR REDUCTION	SEC THROTTLE
NEUTRAL PROTECT	SHUTTING DOWN

Alarm blocks remain highlighted as long as the alarm condition (engine fault) remains and will automatically reset to an un-highlighted state after the alarm condition has passed.

Start Up

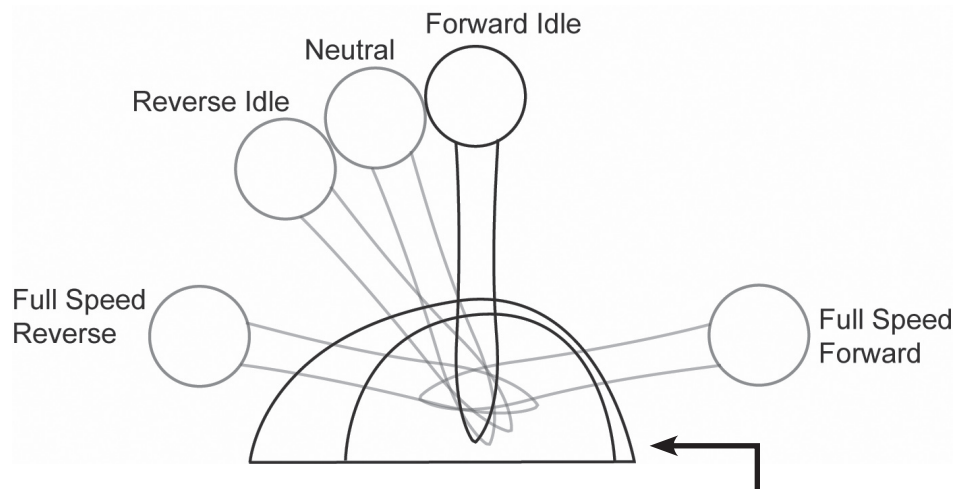
First Time Control Operation

Various features of the electronic control system have been selected and set as part of the installation. They can be checked in Appendix D. They include:

- Max Throttle Amount in Split Range Throttle (SRT)
 - Shift Delays
 - Type of Sync (Cruise or Power Train)
 - Station Protection
1. Before starting the engines for the first time, take a moment to familiarize yourself with the shift and throttle controls. With the engines not running, move the control levers over the full range until you are familiar with the feel. Note that the detent pressure and drag can be adjusted using the adjusting screw on the front surface of the control head. The top screw sets the detent pressure; the lower screw sets the drag.
 2. Place the control levers in neutral and turn the ignition switches to the “on” position -- but do not start the engine. The green control head light will illuminate.
 - a. Check to see if the green light on the control head is solid or flashing. If solid, proceed to the Operation Section of this book. If flashing, push the “Select” button to select the head. The yellow light will now come on.

Shift & Throttle Control Head Functions

The most common Shift and Throttle Control Head comes with a dual function, single lever control. A single lever control initiates both shifting and throttle for a single engine.



Note: the detent pressure and drag can be adjusted using the adjusting screw on the front surface of some control heads.

Operations

Control Head Operation

WARNING

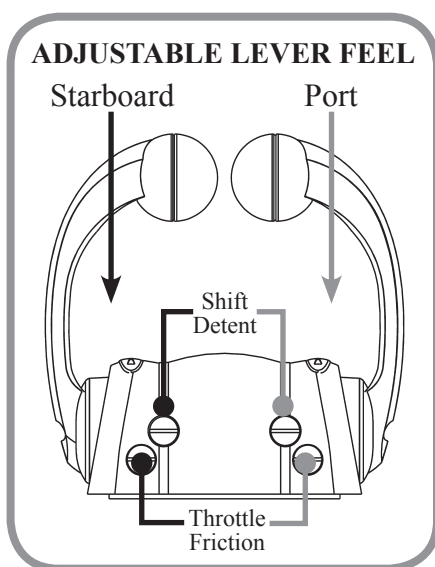
The boat will start to move during the next steps. Be very cautious when first engaging the gears to establish that forward is truly forward and reverse is truly reverse. A quick in-and-out of gear test is recommended. Ensure that the boat is clear of all obstacles forward and aft before conducting this test.

Identification

Engine Trim Control:

in the handle (optional)

Lever Position Indicators:



Select/change Station:

NOTE: Station Protection may be turned on. See Appendix F.

A lit green SELECT lamp indicates a station is active. ●

- On single station boats, station selection is automatic.
- For multi-station boats, choose a station and then press SELECT button with levers in neutral.

to Change Stations:

- Move to new station and press SELECT button. (Green lamp flashes.) ✨
- Match control handle positions with those of active station. (Green lamp goes steady when levers match and this station is now in control.) ●

Indicator Dimming Feature:

Push SELECT button and the lamps will dim. There are four degrees of brightness from which to choose.

NOTE: Indicator Dimming is only accessible from the active control station. (Green lamp on steady.) ●



Operations

NOTE: The flashing yellow N (Neutral) lamp ☀ can indicate status of either Shift Disconnect (SD) or Split Range Throttle (SRT). Please exercise caution when engaging/disengaging either of these modes! A steady-on Neutral lamp ALWAYS indicates engine is in NEUTRAL. ●



Shift Disconnect (SD):

Flashing yellow N (Neutral) lamp indicates SD engaged for this engine. ☀ Allows throttle control without gear engagement.

TO ENGAGE Shift Disconnect:

- Move engine's lever to the "Neutral" position.
- Press the N (Neutral) button next to this lever. (Yellow lamp flashes.) ☀

To Disengage Shift Disconnect:

- Return engine's lever to the "Neutral" position.
- Press N (Neutral) button next to this lever. The yellow N (Neutral) lamp will go steady - SD is disengaged and the engine and transmission will now respond to lever commands. ●

Split Range Throttle (SRT):

Flashing yellow N (Neutral) lamp - SRT engaged for this engine. ☀ Provides greater throttle sensitivity: moving an engine's control lever to "Full Forward" will only produce the maximum percentage of WOT (Wide Open Throttle selected at set-up - default Throttle Limit is 25%)

TO ENGAGE Split Range Throttle:

- Move engine's lever to Forward Idle position.
- Press N (Neutral) button next to this lever. (Yellow lamp flashes.) ☀

TO DISENGAGE Split Range Throttle:

- Move engine's lever to Forward Idle or Reverse Idle.
- Press N (Neutral) button next to engine lever. The **yellow** N (Neutral) lamp will go out - SRT is disengaged. ○

Operations

Sync Operations:

NOTE: Your system ships with *Cruise Sync* set as the default. *Power Train Sync* may be selected using the *i5601E* display.

Cruise Sync (CS): Default

Automatically synchronizes engine RPMs when levers are close together and above 20% forward throttle.

A lit red SYNC lamp indicates sync is enabled. ●

TO ENABLE CS:

- Press SYNC button. (Red lamp flashes.) ☀
- Match control handle positions within 5% of each other. (Red lamp goes steady when levers match — cruise sync is now enabled.) ●

CS AUTOMATIC ENGAGEMENT:

- When levers are moved within 10% of each other and over 20% forward throttle.

CS AUTOMATIC DISENGAGEMENT:

- When levers are moved more than 10% apart or under 20% forward throttle.

TO DISABLE CS:

- Press SYNC button. (Red lamp flashes.) ☀
- Match control handle positions within 5% of each other. (Red lamp goes off when levers match — cruise sync is now off.) ○

Power Train Sync (PTS):

Automatically synchronizes engines and transmissions; the port lever controls throttle and shift of both engines across the entire control range.

A lit red SYNC lamp indicates sync is engaged. ●

TO ENGAGE PTS:

- Press SYNC button. (Red lamp flashes.) ☀
- Match control handle positions within 5% of each other. (Red lamp goes steady when levers match — power trains are now in sync.) ●

TO DISENGAGE PTS:

- Press SYNC button. (Red lamp flashes.) ☀
- Match control handle positions within 5% of each other. (Red lamp goes off when levers match — power train sync is now disengaged.) ○



Note: Starboard lever may be chosen as master control using the *i5601E*

Operations

System Alarms

Critical Alarms

Continuous flashing both lights on either side of the control indicates a **Critical Alarm**. System will do a “Safe Shut Down,” and **must be serviced before further use**.

When a critical alarm occurs, the system will automatically go to the selected “Fail Safe Response” mode. The system **MUST** be shut down and restarted for most critical alarms. Some functions may operate for a time after restart. See display on Control Unit to determine cause of alarm.

If the alarm is caused by the Throttle Actuator hitting “Stop” - Wide Open Throttle (WOT) - the alarm will go away when the throttle is pulled back. **However, as with ALL Critical Alarms, the system must be serviced before further use.**

Non-Critical Alarms

Intermittent flashing of both lights on either side the control (five seconds flash, normal for fifteen seconds, then repeating), indicates a **Non-Critical Alarm**. Acknowledge by a power up cycle. Continue to operate and **have the system checked as soon as possible**.



Operations

Optional Trolling Mode

Note: The Trolling Mode must be calibrated before trolling will operate properly. Refer to the Installation Manual, Appendix F, for instructions.

The Trolling mode option allows the boat operator to slow the forward and aft speed of the boat for fishing. Trolling mode is achieved by the ECU electronically adjusting pressure bypass valves in the gearbox, allowing the clutches to slip.

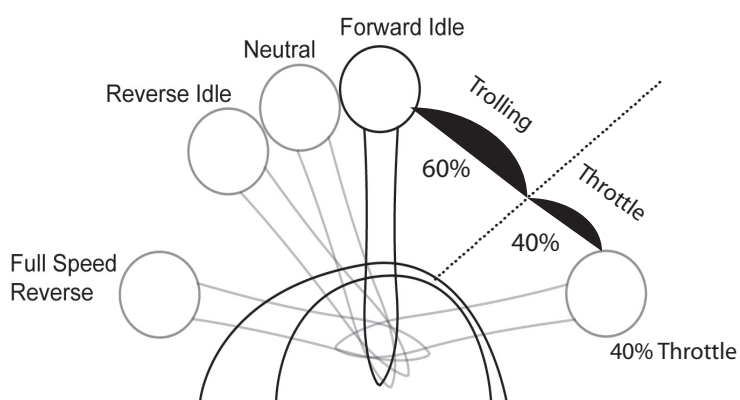
When trolling is selected (by pressing the separate trolling switch) and the control lever is moved forward, the boat will start to move at the slowest speed. As the lever approaches 60% throttle, the boat will be close to its non-trolling idle speed. Moving the lever further forward will cause the transmission to lock out trolling and advance the throttle. The factory set defaults will limit throttle to 40%.

The trolling defaults -- as shown in Appendix D -- can be set to a variety of operating modes. Contact your dealer for details, or see technical manual.

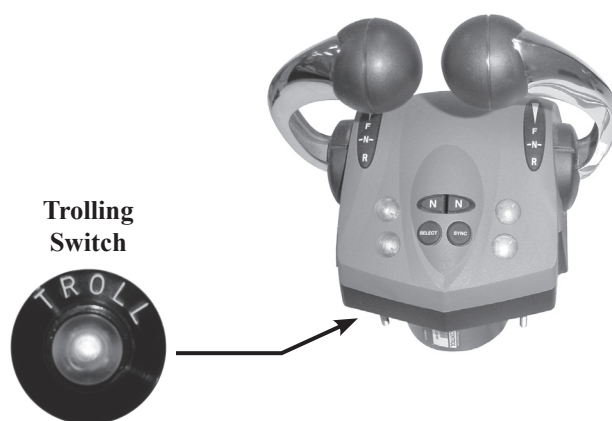
How to Enter Trolling Mode:

- 1) Move the Control Head lever(s) to the Neutral position.
- 2) Start the engine(s) if necessary. The system must see RPM in order to permit trolling mode to be entered.
- 3) Press the separate trolling switch. This places the system in trolling mode. The trolling light will illuminate to indicate trolling mode is active.
- 4) When you move the Control Head lever(s) in either the forward or reverse direction, the engine RPM will remain steady, but the boat should move in the selected direction.
- 5) To take the boat out of the trolling mode, return the Control Head lever(s) to the Neutral position and press the Trolling switch.

Control Lever Range of Operation



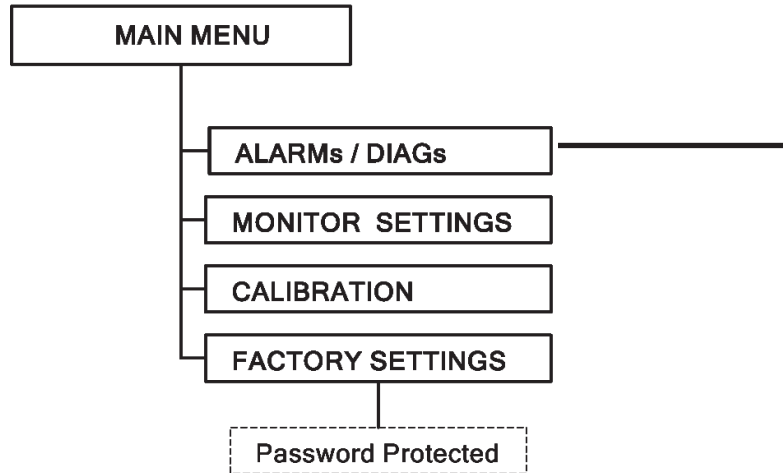
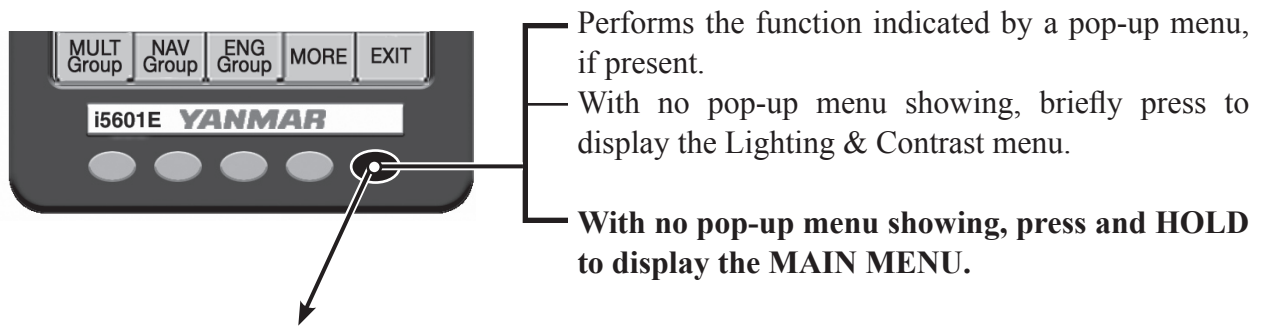
Trolling Switch



Note: While engaged in Trolling mode, Split Range Throttle (SRT) is not operational.

Operations

i5601E Digital Display Alarms/Engine Diagnostic Codes



Buttons

- Down Arrow moves menu selection down
- Up Arrow moves menu selection up
- Right Arrow acts on current menu item
- Back Moves back to previous menu

Engine Alarms/Diagnostic Codes

The ALARMS / DIAGs Screen Menu allows user to go the Alarm or Diag Code Screen. This is very useful in the HOT KEY Mode, as a dedicated hot key is not required to view these screens. User can hold Right most key down go into the menu mode and then via this menu access the desired screen.

Appendix A

i5601E Digital Display Setup

The i5601E was set up at the factory with the keys assigned and locked as shown on page 4 of this manual. This mode is the default mode and allows start up and operation of the engine. It serves many applications quite well. The i5601E Digital Display unit has many additional features and capabilities. This section of the book shows the use of some of these features.

Changing the basic set up is typically accomplished in one of two ways.

1. Go to the systems menu and alter basic selections
2. Enable the right arrow key (5) on the basic screens to allow changing of the data shown in the default displays.

To enter the Main Menu press and hold key 5 until the menu appears.









To move around the menus use the softkeys at the bottom of the screen.

The function of a particular softkey changes from screen to screen to whatever is most appropriate for the given screen.



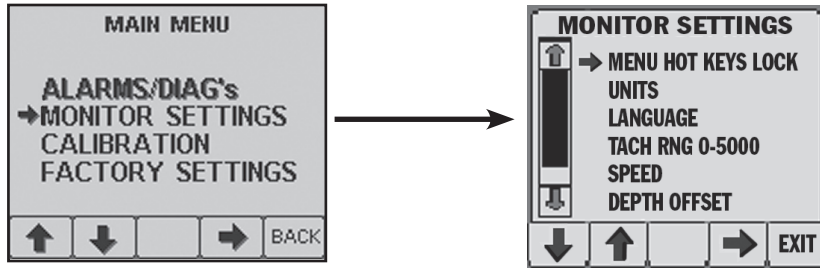
Keys 1 2 3 4 5

NOTE: Any changes to the setup menus may require reconfiguring the i5601E HOT KEY SETUP.

-  **BACK** Returns you to the previous menu or screen.
-  **-** Decreases the setting of a selected menu item.
-  **↓** Moves the cursor arrow down to select the next menu item in a list.
-  **EXIT** Exits the current menu and returns you to the prior screen.
-  **+** Increases the setting of a selected menu item.
-  **MORE** Reveals additional keys and swaps them with those currently shown.
-  **ON/OFF** Toggles the operational status of a currently selected menu item.
-  **↑** Moves the cursor arrow up to select the previous menu item in a list.

Appendix A

Display Settings



The Monitor Settings Menu allows setting of parameters that are specific to the display unit. Some settings such as Language and Lighting will be communicated to the other displays.

Display Description

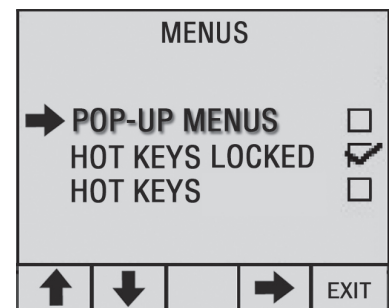
Function

Display Description	Function
MENU HOT KEYS LOCK	Controls the actions of the keys
UNITS	Sets a variety of units to suit the operator
LANGUAGE	Sets the language the unit will display
TACH RNG 0-5000	Sets the tach range
SPEED	Allows adjustments to speed readings if available
DEPTH OFFSET	Allows adjustments to depth readings if available
DEFAULT MONITOR	Returns the unit to the default settings
BEEPER ON	Turns the key beeper on and off
ABOUT	Supplies information about the display

Menus

This menu controls the key functions. There are three choices.

1. When the Pop-Up Menu feature is selected (drawing at right), the unit functions like a typical computer. A key push brings up a menu and you then use the keys to make a series of selections. This is the mode that allows new screen set ups to be selected and any screen to be accessed.
2. The Hot Key Locked selection allows keys 1, 2, 3, and 4 to be assigned as favorite screens. Pushing the key immediately brings up the selected screen. This mode will not display the right arrow over key 5. Thus the screens are locked when this is selected. This is the factory default setting.
3. The Hot Key selection allows keys 1, 2, 3, and 4 to be assigned as favorite screens. Pushing the key immediately brings up the selected screen. This mode will display the right arrow above key 5. That arrow allows the user to select various data inputs in the various sections of the screen.



Appendix A

User Settings and Factory Settings

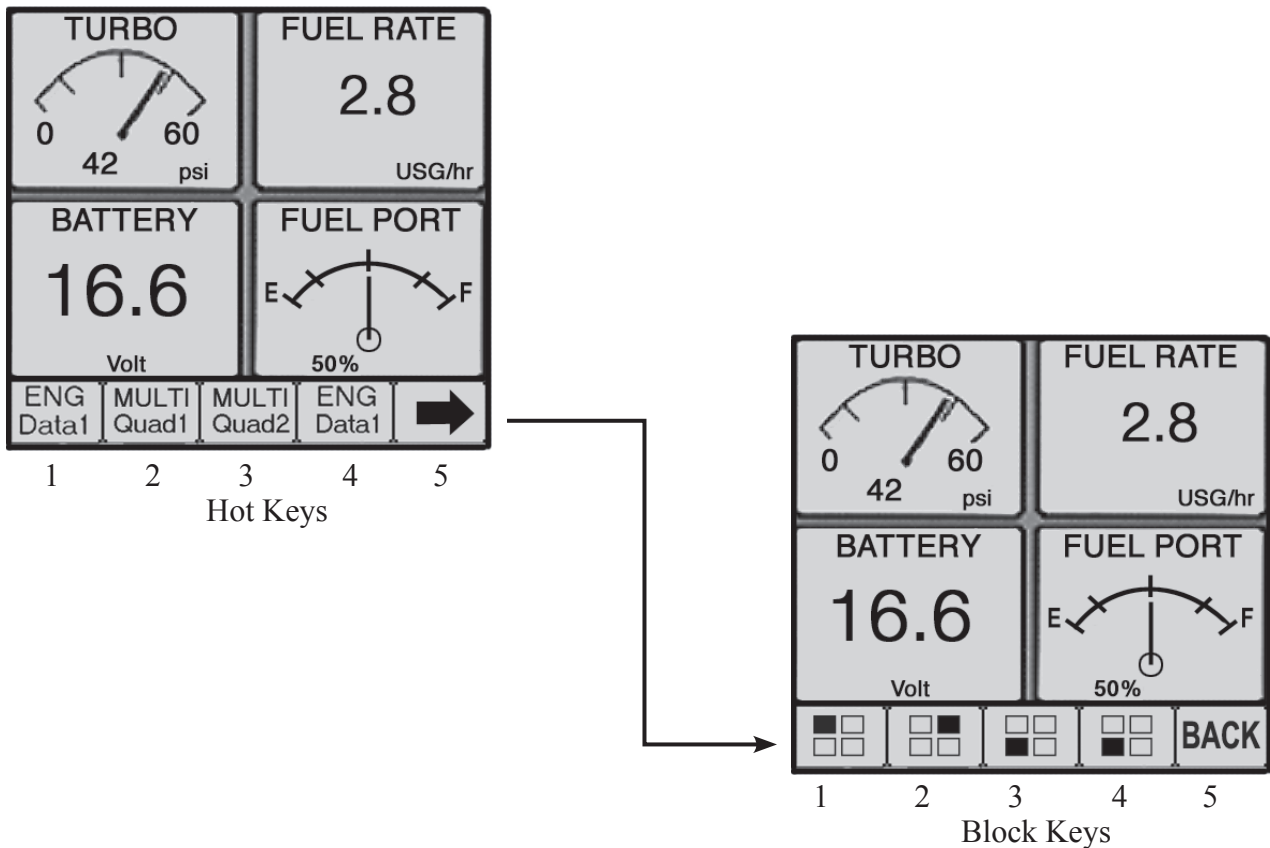
- The factory settings require a password to change.

“Unlocking” the Hot Keys

This is a popular way to expand the use of the i5601E. To unlock the hot keys and allow for additional data selections go to the Main menu, as described on page 18. Then select HOT KEYS. Exit the menu back to the normal operating screens. You will see a right hand arrow above key 5 when any key is pressed.

The Right Arrow button changes the menu to allow selection of each block. Pressing a block key will cycle through the choices listed on the next page. The choices are presented in alphabetical order. Bold items are the default settings and will appear initially unless replaced by another listed item.

Example using a quad screen:



Each button cycles the related block through the list on the next page.

Note: Data in NMEA 2000® format may be added to the CANBus system from a compatible device which feeds the optional parameters listed above. The i5601E display has the capability of displaying additional information as other devices with NMEA 2000® communication capabilities are added to the vessel.

Appendix A

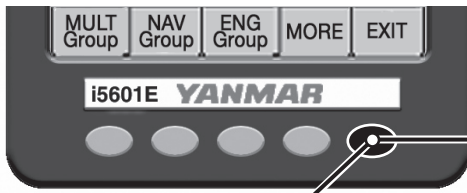
Quad Screen Parameters

These data choices can be placed in any box of a quad screen or in the two small boxes of an engine data screen: The screen headings that are included in a standard (default) set-up are noted in **bold**.

<i>Screen Heading</i>	<i>Function</i>	<i>Typical Data Source</i>
Battery	Battery Voltage	Engine
Bearing	Bearing to Waypoint	GPS
COG	Course Over Ground	GPS
Coolant	Engine Coolant Temperature	Engine
Depth	Depth of the water	Sonar
Fuel Rate	Fuel level if single engine	Sender
Fuel Tank 1	Fuel level in Tank 1	Sender
Fuel Tank 2	Fuel level in Tank 2	Sender
Fuel Tank 3	Fuel level in Tank 3	Sender
Fuel Tank 4	Fuel level in Tank 4	Sender
Gear	Indicates the selected gear	Engine
Heading	Current vessel heading	Compass
Hours	Actual Engine Hours	Engine
Load	Percent load on engine	Engine
Network	Network voltage	Engine
Oil Pressure	Engine Oil Pressure	Engine
Oil Temperature	Engine Oil Temperature	Engine
RPM	Engine Revolutions Per Minute	Engine
Rudder	Rudder Angle	Sender
Sea Temp	Sea Water Temperature	Sender
SOG	Speed Over Ground	GPS
Speed (SOW)	Speed through the water	Sender
Tab Port	Position of the Port Trim Tab	Sender
Tab Stbd	Position of the Starboard Trim Tab	Sender
Trim Port	Port Engine Trim	Sender
Trim Stbd	Starboard Engine Trim	Sender
Throttle	The percent of throttle currently selected	Engine
Torque	The percent torque the engine is developing	Engine
Turbo	The amount of turbo boost pressure	Engine
Waste	The amount of waste in the holding tank	Sender
Water	The amount of water in the water tank	Sender
WP Dist	The distance to the selected waypoint	GPS
XTE graph	The cross track error from a best source	GPS
XTE value	The cross track error from a best source	GPS

Appendix B

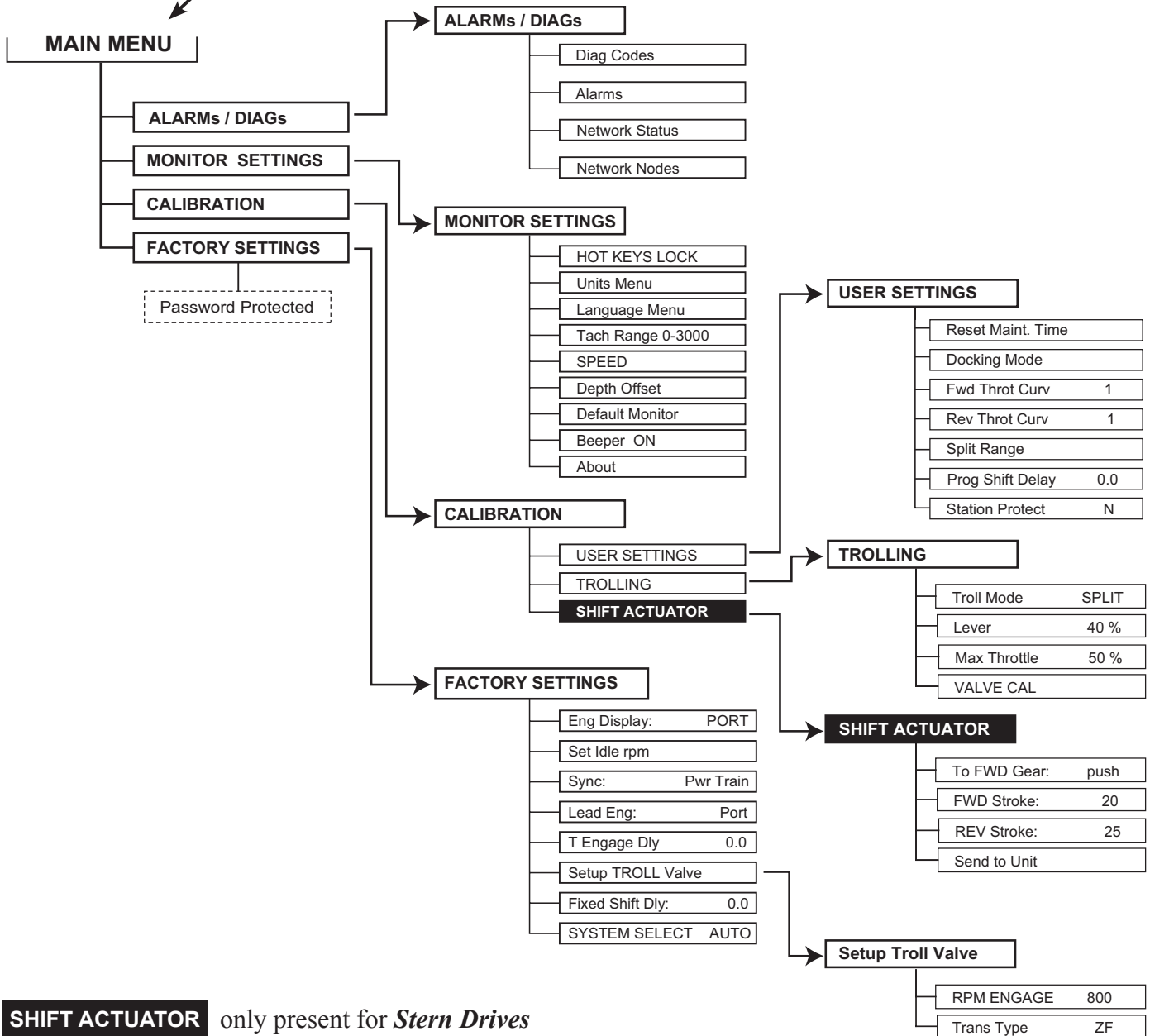
i5601E Menu Navigation



Performs the function indicated by a pop-up menu, if present.

With no pop-up menu showing, *briefly* press to display the Lighting & Contrast menu.

With no pop-up menu showing, press and **HOLD** to display the MAIN MENU.



SHIFT ACTUATOR only present for *Stern Drives*

Appendix C

Network Status

The i5601E has several screens to help technicians diagnose errors on the NMEA 2000® Data Bus. See i5601E Operation on page 18 and Menu Navigation on page 22 to locate this screen.



Network Status Display

Accesses the Network Status Display Screen. The purpose of the display is to show details of the Network and allow determination of Network Problems. (The values are constantly monitored and do not rely on the screen being displayed.)

NETWORK STATUS	
Bus Load %:	0.00
Peak Load %:	0.00
Frames/Sec:	0
Total Frames:	0
Error Frames/Sec:	0
Errors Total:	13
Bus Off:	Yes
Bus Voltage:	13.0
RESET	BACK

Bus Load:	Current bus load over 1 sec
Peak Load:	Peak Load since last Reset
Frames/Sec:	Current frames transferred over 1 sec
Total Frames:	Total number of frames received since last Reset
Error Frames/Sec:	Error frames over 1 sec
Errors Total:	Total Number of errors received since last Reset
Bus Off	If YES, indicates unit is not Transmitting on Bus
Bus Voltage:	Measured Value of Bus Supply

Buttons:

- | | |
|--|--|
|  | “Reset” – Resets the various parameters that have accumulated values |
|  | “Back” – Moves back to previous menu |

Network Nodes Display




The Network Units Display shows Yanmar and Teleflex units that have claimed an address on the bus. From the information in the claimed message name (Device Class, Function, and Instance Fields) the type of Model number of the unit will be determined. (The specific model may not be indicated, but it will give a general model of the type of the unit.) i.e. i813x.

NETWORK NODES		
↑	→001 YAN	Head
	002 YAN	Head
	086 YAN	i5601
	087 YAN	i5601
	131 YAN P	i832x
↓	132 YAN S	i832x
↑	↓	BACK

The information displayed consists of:

- Node Address
- Manufacturer's Code - (All mfg's **codes** will be shown, but only Yanmar and Teleflex units will show the mfg's **name**)
- Manufacturers Model Info - On some units the ending letter signifies the following: P - Port
S - Starboard
C - Center Engine

Buttons:

- | | |
|---|---|
|  | “Down” Arrow – Scrolls screen down. |
|  | “Up” Arrow – Selects Node Detail Screen |
|  | “Back” – Moves back to previous menu |

Appendix D

Yanmar BY Unlimited Default Settings: Dual Engine

For stern drive configuration, the engine interface part number is i8130. For marine gear the part number is i8140.

Stern Drive

Engine Interface part number	i8130P	i8130S
Idle RPM	not adjustable	not adjustable
Sync	Cruise	Cruise
Lead Engine	Port*	Port*
Split Range Throttle	25%	25%
Forward Throttle Curve	F1	F1
Reverse Throttle Curve	R1	R1
Programmable Shift Delay	4.8	4.8
Fixed Shift Delay	0	0
Station Select Protection	Off	Off

Marine Gear

Engine Interface part number	i8140P	i8140S
Idle RPM	not adjustable	not adjustable
Sync	Cruise	Cruise
Lead Engine	Port*	Port*
Troll Trans Type	ZF	ZF
Troll Engage RPM	800	800
Split Range Throttle	25%	25%
Forward Throttle Curve	F1	F1
Reverse Throttle Curve	R1	R1
Programmable Shift Delay	4.8	4.8
Fixed Shift Delay	0	0
Station Select Protection	Off	Off
Troll Mode**	Full	Full
Troll Lever Travel	60%	60%
Maximum Throttle in Troll Mode	40%	40%
Troll Throttle Engage Delay	0.2	0.2

Note: A system reset may be needed for some changes to take effect.

*Only shows when Sync is set to Power Train

**Troll Mode functions are not displayed until Troll Mode is selected.

Appendix E

Emergency Shift for Stern Drive Engines

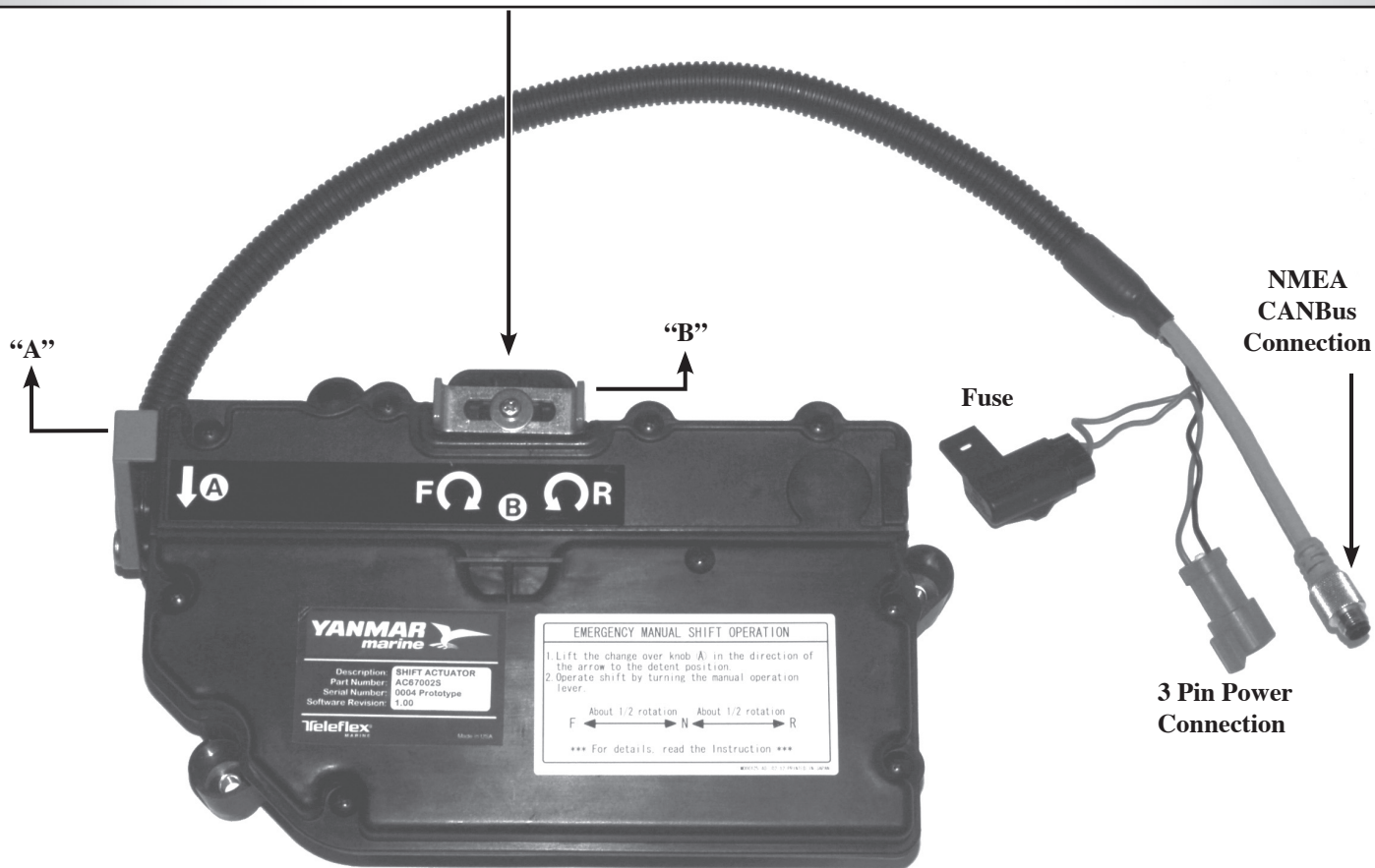
Manual Shift Operation

In case of loss of shift at the Control Head, go to the Actuator and switch it into Manual Shift Operation:

1. Unplug the power unit. This will keep the servo from driving the motor and the unit from flashing an “error” on the Control Head.
2. Push lever “A” in the direction of the arrow; this will place the Actuator in “Manual” mode.
3. Turn the bracket style lever “B” clockwise to put the shift into “Forward” or turn it counter-clockwise to shift it into “Reverse.”

Warning:

Engage lever “B” instructions with caution - they are sometimes reverse of the label.



Appendix F

Station Select Protection

Station Select Protection prevents accidental switching between control stations on multi-stationed boats. If turned on, a change of control stations requires that control head buttons be pressed in a specific sequence - SELECT, SELECT, NEUTRAL, SELECT to change stations.

The menu options are:

- Station Select Protection Off (N) (Default Setting).
- Station Select Protection On (Y).

NOTE: *If the status of Station Protection is in question, it may be checked through the i5601E Digital Display. Sequence: “Main Menu - Calibration,” “Calibration,” “User Settings.” “Station Protect” is the last option under “User Settings.” OR try to set the second station - if Station Protection is on (Y) Station Select will not engage.*

Operation

To change stations this is the button sequence:

- Go to the station you wish to make active.
- Press the SELECT button.
- Press the SELECT button again.
- Press the NEUTRAL or ‘N’ button.
- Press the SELECT button.
- The station will go active (green light on solid) if the handles are matched with the originally active station. ●
- If the green light flashes ☼, match the handles with the originally active station and the green light will go solid. ●



Warning:

Until the green light is on solid, the original active station retains controls of the boat.

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