

Faria[®]

**MARINE
INSTRUMENTS**



Owner's Manual

NMEA2000 MG2000 Tachometer

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FARIA NMEA 2000 CAN bus MG2000 Tachometer Manual

Standard Operating Conditions

Voltage: 12 - 24V System, (10.5 – 32 V operating, 36 V max operating, 1 Hr.)

Temperature: 0° - 158° F

Shock Resistant per MIL-STD-202, 50G

Humidity: 0% - 98% Rel

Vibration Resistant per SAE J1455

Water and Weather Resistant: IP-66 (from front only)

Corrosion Resistant per ASTM-B117-73, 48 Hr

The Faria MG2000 Tachometer combines the features of an ECU serial bus gateway and several instruments into one unit:

- The tachometer is analog but driven by a stepper motor for digital accuracy.
- The high resolution LCD screen displays information for many other functions and the various “screens” can be configured as the user wishes. As received, the screens are configured as shown in Fig. 1.

The MG2000 receives digital engine data from the Engine Control Unit (ECU) via the NMEA 2000 CAN bus and can receive GPS information via a NMEA 0183 connection to a suitable GPS unit. GPS information is displayed in the MG2000 speedometer. Analog inputs are provided for two non-engine sensors such as fuel level and trim position. A direct pressure port allows monitoring of engine water pressure.

The MG2000 provides a Faria Bus output to allow use of various other 5, 4, and 2 inch instruments with the MG2000.

Engine Temp

136 °F

Engine Hours

325 Hours

Depth

20 Feet

Fuel Left

47 Gal

Fuel Used

17.5 Gal

Fuel Inst

11.6 Gal

Volts

13.6 Volts

Sen Trim



Water Press

20 PSI

RPM

3400

Sen Fuel



Oil Pressure

40 PSI

**ALARM
SCREEN
WILL DISPLAY
ENGINE
AND LOCAL
ALARMS WHEN
THEY OCCUR**

Figure 1

The Faria MG2000 Tachometer will turn on when the ignition key is turned on and will turn off when the ignition key is turned off.

Operation

The unit will power up showing the “Self Test Mode Is In Operation” then switch to the last saved default screen.

Note: The warning LEDs will flash when there is no ECU data present. If this happens check the connection to the NMEA 2000 bus and ensure the unit is connected properly.

The instrument has three push buttons; “Down”, “Mode”, and “Up”;



that control the functions available. The “Mode” button is used to change the function of the LCD display and to access submenus and adjustable settings.



The “Down” and “Up” buttons are used to modify the settings.



In “Normal” operation mode, pressing the “Mode” button for a short period of time and then pressing “Down” or “Up” causes the display to cycle between the available screens.

Press and hold the “Mode” and “Up”

buttons to enter the “Edit” menus.



When the “Edit” menus have been selected, pressing the “Mode” button for a short period of time causes the instrument to return to “Normal” mode.

Press the “Down” or “Up” button to cycle between the available “Edit” functions.

Press and hold the “Down” and “Up” buttons for two (2) seconds to select an “Edit” function to change.

Within each “Editing” function the “Down” or “Up” buttons select settings or sub-functions. Follow the instructions in the “Edit” mode section of this manual to save the new settings after you select / adjust them.

Normal Mode

When the MG2000 is turned on, the unit enters the “Self Test” mode. The screen will display “The Self Test Mode Is In Operation” for 10 seconds. The horn will sound three times, the warning lights will flash three times, and the backlights will flash three times. When this is complete, the user selected “Default” screen will appear. The information below applies to the MG2000 with no user changes to the screen selections.

Contrast and Lighting

In the “Normal” operating mode the instrument display contrast and display mode can be adjusted by pressing the “Down” and “Up” buttons.



With the display in “Positive” mode, black on white, pressing the “Down” button decreases the contrast. Pressing the “Up” button increases contrast.

Continuing to press the “Up” button causes the display to reverse to the “Negative” mode, white on black. The contrast in this mode is controlled the same way as the “Positive” mode.

To return to “Positive” mode, continue to press the “Down” button until the display reverses.



To adjust the lighting intensity of all of the instruments in the system, press and hold both the “Down” and “Up” buttons for 2 seconds. The lighting intensity may now be adjusted by using the “Down” or “Up” buttons.



Return to the “Normal” mode by pressing and holding both the “Down” and “Up” buttons for 2 seconds.

Displayed Functions

Tachometer

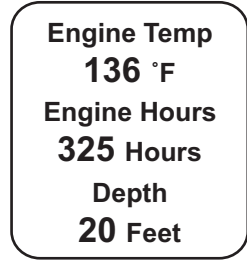
The tachometer is a digital instrument with the appearance of an analog instrument. The tachometer receives

data directly from the ECU so no settings are required.

A microprocessor controlled stepper motor moves the pointer to display engine revolutions per minute.



Default Screen “1”



Engine Temp

Displays the coolant / cylinder head temperature received from the ECU. Dial range can be selected in the “Edit” function.

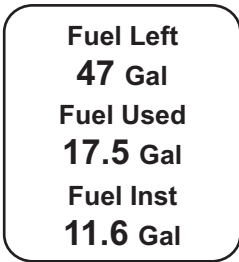
Engine Hours

Displays the Engine Hours data received from the engine ECU.

Depth

Displays the depth sunder data (if installed and on the engine bus) received from the engine.

Default Screen “2”



Fuel Left

Displays the quantity of fuel remaining in the fuel tank based on the original quantity of fuel in the tank when full and the amount of fuel used based on the GPH from the engine ECU and the time spent at each GPH. Fuel tank size and reset are available in the “Edit” mode.

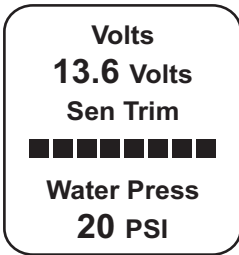
Fuel Used

Displays the amount of fuel used since reset based on the GPH from the engine ECU and the time spent at each GPH.

Fuel Inst

Displays the current, instantaneous, fuel flow in GPH.

Default screen “3”



Volts

Displays system voltage as received from the ECU.

Trim

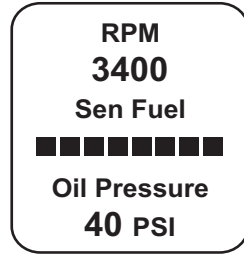
Analog input. Displays setting of the analog trim sender. Sender type can be selected in “Edit” mode.

Water Press

Analog input. Displays engine water pressure as supplied to the pressure port

on the tachometer. Pressure gauge dial range can be selected in “Edit” mode.

Default screen “4”



RPM

Display the RPM of the engine as reported from the ECU.

Sen Fuel

Analog input. Display setting of the analog fuel level sender. This display is the equivalent of a standard fuel gauge and should be used as the reference for the fuel remaining.

Each filled block represent 1/8 of a tank and when the fuel tank is empty, only empty blocks will be displayed. For best accuracy, the fuel level sender should be calibrated as described.

Oil Pressure

Displays oil pressure as received from the ECU.

Default screen “5”



This screen displays fault conditions based on engine data received from the ECU or alarms based on internally set alarm points. Engine alarms from the ECU will be displayed as “Check

Engine !" or "Engine Emergency Stop !". Accessing the "View" mode when the Alarm screen appears will allow more information to be displayed about the alarm, if provided by the engine.

Internal alarm values can be set for "Low Fuel" and other functions. Alarms for these settings will appear as required.

LCD Display Screens:

In "Normal" mode, press "Mode" once to enter screen "Select" mode,



press "Up" or "Down" to move between screens. (See Figure 2)

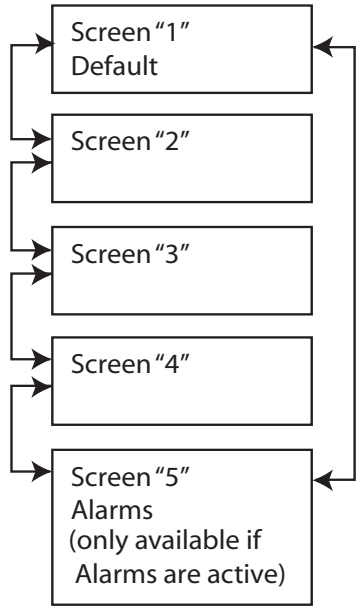
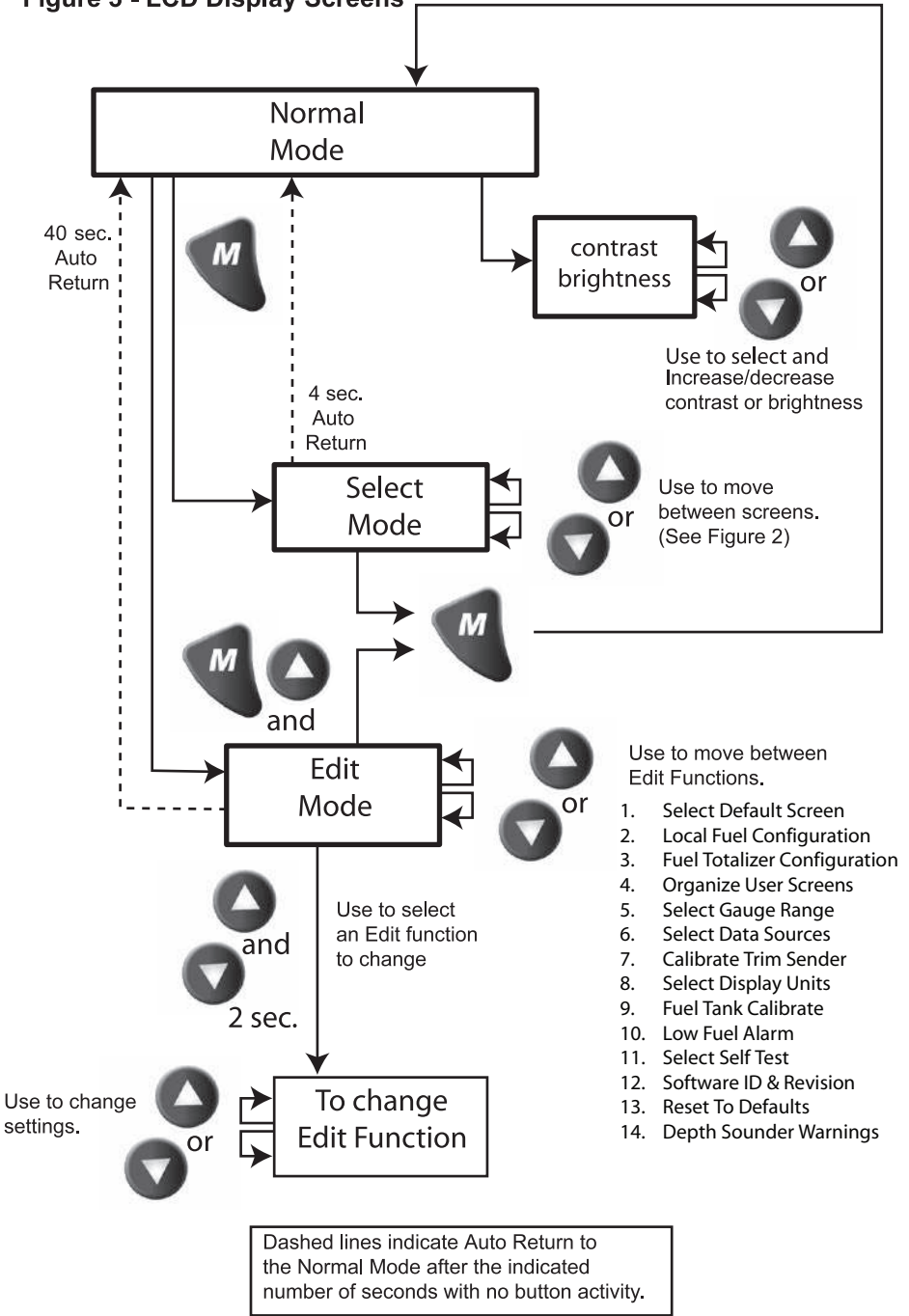


Figure 2

Press "Mode" once to return to "Normal" mode.



Figure 3 - LCD Display Screens



Edit Mode

The “Edit” mode is used to adjust or set the values of numerous functions and options in the MG2000. The procedure below specifies the steps to be taken in the “Edit” mode to adjust / set each option.

To enter “Edit” mode, press “Mode” and “Up” buttons while in “Normal” mode.



To return to “Normal” mode, press “Mode” button once while in “Edit” mode.



Functions that are set or adjusted in the “Edit” mode.

1. Select Default Screen
2. Local Fuel Configuration
3. Fuel Totalizer Configuration
4. Organize User Screens
5. Select Gauge Range
6. Select Data Sources
7. Calibrate Trim Sender
8. Select Display Units
9. Fuel Tank Calibrate
10. Low Fuel Alarm
11. Select Self Test
12. Software ID & Revision
13. Reset To Defaults
14. Depth Sounder Warnings

Instructions – Function	LINE	DISPLAY
<u>Select Default Screen</u>	1	Select
	2	Default
	3	Screen
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Default Screen.”</p> <p>Press “Up” or “Down” to select another function or “Mode” to return to “Normal” mode.</p>		
(Display Screen 1 is the “Default” at first turn on.)	1	Default
	2	Display
	3	Screen:
	4	1
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select Screen 1 as the “Default Screen” and exit.</p> <p>Press “Up” or “Down” to select another Screen.</p>		
	1	Default
	2	Display
	3	Screen:
	4	X
<p>Press and hold the “Up” <u>and</u> “Down” for 2 seconds to select this Screen as the “Default Screen” and exit.</p> <p>Press “Up” or “Down” to select another Screen.</p> <p>Repeat until desired “Default Screen” is selected.</p> <p>Press “Up” or “Down” to select another function or “Mode” to return to “Normal” mode.</p>		
<u>Local Fuel Config</u>	1	Local
	2	Fuel
	3	Config
<p>Press and hold “Up” and “Down” for 2 seconds to choose “Local Fuel Config.”</p> <p>Press “Up” or “Down” to select another function.</p>		
“Reset Fuel Used”	1	Reset
	2	Fuel
	3	Used

<p>Press and hold “Up” and “Down” for 2 seconds to reset “Fuel Used” to zero (0).</p> <p>Automatically resets fuel used to zero and returns to “Local Fuel Config” menu.</p> <p>Press “Up” or “Down” to select another function or “Mode” to return to “Edit” mode.</p>			
<p>Set “Fuel Tank Full”</p>	1	Set Fuel Tank Full	
	2		
	3		
<p>NOTE: In order to use the “Fuel Left” function, the owner must set this function when the fuel tank is filled or use the set current amount of fuel below. In addition, if “Set Fuel Tank Full” function is used, the “Fuel Tank Size” must be set correctly to the size of the fuel tank in this application. The computer will monitor fuel usage and calculate the fuel left in the tank. This function does not replace the fuel level function provided by the fuel sender and should be used with caution.</p>			
<p>Press and hold “Up” and “Down” for 2 seconds to set “Fuel Tank Full.”</p> <p>Automatically sets the fuel available to the tank size selected by the user and returns to “Local Fuel Config” menu.</p> <p>Press “Up” or “Down” to select another function or “Mode” to return to “Edit” mode.</p>			
<p>Set “Amount of Fuel”</p>	1	Set Amount of Fuel	
	2		
	3		
<p>NOTE: If a known amount of fuel is in the fuel tank but it is not full, this function can be used to indicate the amount of fuel available. The “Fuel Left” function will then use the amount of fuel entered to calculate the “Fuel Left.”</p>			
<p>Press and hold “Up” and “Down” for 2 seconds to select “Set Amount of Fuel.”</p> <p>Press “Up” or “Down” to select another function or “Mode” to return to “Edit” mode.</p>			
<p>Press “Up” or “Down” to set the amount of fuel known to be in the fuel tank. Adjust until the displayed volume matches the known amount of fuel in the tank.</p>	1	Fuel Amount XXX	
	2		
	3		

<p>When the volume is correctly set, Press and hold “Up” and “Down” for 2 seconds to save the value and return to the “Local Fuel Config” mode.</p> <p>Press “Up” or “Down” to select another function or “Mode” to return to “Edit” mode.</p>		
<p>Select “Fuel Tank Size”</p>	1	<p>Select Fuel Tank Size</p>
	2	
	3	
<p>Press and hold “Up” and “Down” for 2 seconds to enter the “Select Fuel Tank Size” menu or press “Mode” to return to “Edit” mode.</p>		
<p>Select “Standard Fuel Tank Size”</p>	1	<p>Select Standard Fuel Tank Size</p>
	2	
	3	
	4	
<p>Press and hold “Up” and “Down” for 2 seconds to enter the “Select Standard Fuel Tank Size” menu. Press “Up” or “Down” to select a different function or press “Mode” to return to “Edit” mode.</p>		
<p>Press “Up” or “Down” to scroll through the selections.</p> <p>Only three selections will show at one time. When the correct choice is next to the selection arrow, Press and hold “Up” And “Down” for 2 seconds to save the selection and return to the “Select Standard Fuel Tank Size” selection.</p>	1	<p>Select Fuel Tank Size</p> <p>120 Gal</p> <p>> 25 Gal</p> <p>36 Gal</p> <p>40 Gal</p> <p>50 Gal</p> <p>55 Gal</p> <p>80 Gal</p>
	2	
	3	
	4	
	5	
	6	
<p>Select “Other Fuel Tank Size”</p>	1	<p>Select Other Fuel Tank Size</p>
	2	
	3	
	4	
<p>Press and hold “Up” and “Down” buttons for 2 seconds to enter the “Select Other Fuel Tank Size” menu. Press “Up” or “Down” to select a different function or press “Mode” to return to “Edit” mode.</p>		

<p>Press “Up” or “Down” to set the fuel tank size displayed on the Screen to match your fuel tank size. Line 4 value will adjust.</p> <p>When set, Press and hold “Up” and “Down” for 2 seconds to save the value.</p>	1	Select Other Fuel Tank XX
	2	
	3	
	4	
<p>Press “Up” or “Down” to select a different function or press “Mode” to return to “Local Fuel Config” menu.</p>		
<p>Press “Up” or “Down” to select a different function or press “Mode” to return to “Edit” mode.</p>		

<p><u>Fuel Totalizer Config</u></p>	1	Fuel Totalizer Config
	2	
	3	
<p>Press and hold “Up” and “Down” for 2 seconds to choose “Local Fuel Config.”</p> <p>Press “Up” or “Down” to select another function.</p>		
<p>Reset “TFuel Used”</p>	1	Reset TFuel Used
	2	
	3	
<p>Press and hold “Up” and “Down” for 2 seconds to reset “TFuel Used” to zero (0).</p> <p>Automatically resets total fuel used to zero and returns to “Fuel Totalizer Config” menu.</p> <p>Press “Up” or “Down” to select another function or “Mode” to return to “Edit” mode.</p>		
<p>Set “TFuel Tank Full”</p>	1	Set TFuel Tank Full
	2	
	3	
<p>NOTE: In order to use the “TFuel Left” function, the owner must set this function when the fuel tank is filled or use the set current amount of fuel below. In addition, if “Set TFuel Tank Full” function is used, the “TFuel Tank Size” must be set correctly to the size of the fuel tank in this application. The computer will monitor fuel usage and calculate the fuel left in the tank. This function does not replace the fuel level function provided by the fuel sender and should be used with caution.</p>		

<p>Press and hold “Up” and “Down” for 2 seconds to set “TFuel Tank Full.”</p> <p>Automatically sets the total fuel available to the TFuel tank size selected by the user and returns to “Fuel Totalizer Config” menu.</p> <p>Press “Up” or “Down” to select another function or “Mode” to return to “Edit” mode.</p>			
<p>Total Amount of Fuel</p>	1	Total Amount of Fuel	
	2		
	3		
<p>NOTE: If the known combined amount of fuel is in the fuel tanks but they are not full, this function can be used to indicate the amount of fuel available. The “TFuel Left” function will then use the amount of fuel entered to calculate the “TFuel Left.”</p>			
<p>Press and hold “Up” and “Down” for 2 seconds to select “Total Amount of Fuel</p> <p>Press “Up” or “Down” to select another function or “Mode” to return to “Edit” mode.</p>			
<p>Press “Up” or “Down” to set the amount of fuel known to be in the fuel tanks. Adjust until the displayed volume matches the known amount of fuel in the tanks.</p>	1	Fuel Amount XXX	
	2		
	3		
<p>When the volume is correctly set, Press and hold “Up” and “Down” for 2 seconds to save the value and return to the “Fuel Totalizer Config” menu.</p> <p>Press “Up” or “Down” to select another function or “Mode” to return to “Edit” mode.</p>			
<p>Select “TFuel Tank Size”</p>	1	Select TFuel Tank Size	
	2		
	3		
<p>Press and hold “Up” and “Down” for 2 seconds to enter the “Select TFuel Tank Size” menu or press “Mode” to return to “Edit” mode.</p>			
<p>Select “Standard TFuel Tank Size”</p>	1	Select Standard TFuel Tank Size	
	2		
	3		
	4		
<p>Press and hold “Up” and “Down” for 2 seconds to enter the “Select Standard TFuel Tank Size” menu. Press “Up” or “Down” to select a different function or press “Mode” to return to “Edit” mode.</p>			

Press “Up” or “Down” to scroll through the selections. Only three selections will show at one time.	1	Select TFuel Tank Size 120 Gal > 25 Gal 36 Gal 40 Gal 50 Gal 55 Gal 80 Gal
	2	
	3	
	4	
	5	
	6	
When the correct choice is next to the selection arrow, Press and hold “Up” And “Down” for 2 seconds to save the selection and return to the “Select Standard TFuel Tank Size” selection		
Select “Other TFuel Tank Size”	1	Select Other TFuel Tank Size
	2	
	3	
	4	
Press and hold “Up” and “Down” for 2 seconds to enter the “Select Other TFuel Tank Size” menu. Press “Up” or “Down” to select a different function or press “Mode” to return to “Edit” mode.		
Press “Up” or “Down” until the combined size of all fuel tanks is displayed on the Screen. Line 4 value will adjust. When set, Press and hold “Up” and “Down” for 2 seconds to save the value.	1	Select Other Fuel Tank XX
	2	
	3	
	4	
Press “Up” or “Down” to select a different function or press “Mode” to return to “Fuel Totalizer Config” menu.		
Set “Totalizer Mode”	1	Set Totalizer Mode
	2	
	3	
Press and hold “Up” and “Down” for 2 seconds to enter the “Set Totalizer Mode” menu. Press “Up” or “Down” to select a different function or press “Mode” to return to “Edit” mode.		
Press “Up” or “Down” to scroll through the selections. When “Set Totalizer Mode” is set to “On,” an additional default screen will be available that will display TFuel Left, TFuel Used and TFuel Inst. Press and hold “Up” And “Down” for 2 seconds to save the selection and return to the “Fuel Totalizer Config” selection	1	Select TFuel Tank Size On > Off
	2	
	3	
	4	
	5	

Press “Up” or “Down” to select a different function or press “Mode” to return to “Edit” mode.		
Organize User Screens	1	Organize User Screens
	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Organize User Screens.” Press “Up” or “Down” to select another function or “Mode” to return to “Normal” mode.		
Organize Screen 1	1	Set up Screen 1
	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Set Up Screen 1.” Press “Up” or “Down” to select another Screen or “Mode” to return to “Edit” mode.		
Refer to the list of available functions on page 22 in this owner’s manual. Press “Up” or “Down” to select the function to be displayed in Screen 1, line 1.	1	Screen 1 Line 1 Function Disp. Data
	2	
	3	
	4	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the selection for Screen 1, line 1 and advance to Screen 1, line 2. Press “Mode” to exit with no change made.		
Refer to the list of available functions on page 22 in this owner’s manual. Press “Up” or “Down” to select the function to be displayed in Screen 1, line 2.	1	Screen 1 Line 2 Function Disp. Data
	2	
	3	
	4	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to save selection for Screen 1, line 2 and advance to Screen 1, line 3. Press “Mode” to exit with no change made.		
Refer to the list of available functions on page 22 in this owner’s manual. Press “Up” or “Down” to select the function to be displayed in Screen 1, line 3.	1	Screen 1 Line 3 Function Disp. Data
	2	
	3	
	4	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to save selection for Screen 1, line 3 and jump to set up Screen 1. Press “Mode” to exit with no change made.		



Repeat for remaining Screens (2, 3, etc) Press “Mode” to return to the “Edit” mode.		
Press “Up” or “Down” to select another function or “Mode” to return to “Normal” mode		
Select Gauge Range (dial reading range)	1	Select
	2	Gauge
	3	Range
Press and hold “Up” <u>and</u> “Down” for 2 seconds to “Select Gauge Range.” Press “Up” or “Down” to select another function.		
Select “Oil Pressure Dial”	1	Select
	2	Oil Pressure
	3	Dial
Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Oil Pressure Dial.” Press “Up” or “Down” to select another “Gauge Range.” Press “Mode” to return to “Edit” mode.		
Press “Up” or “Down” to scroll through the selections. When the correct choice is next to the selection arrow, Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the selection and return to “Gauge Range” selection.	1	Select
	2	Oil Pressure
	3	Dial
	4	100 psi
	5	> 60 psi
	6	80 psi
Select “Coolant Temperature Dial”	1	Select
	2	Coolant Temp
	3	Dial
Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Coolant Temp Dial.” Press “Up” or “Down” to select another “Gauge Range.” Press “Mode” to return to “Edit” mode.		
Press “Up” or “Down” to scroll through the selections. When the correct choice is next to the selection arrow, Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the selection and return to “Gauge Range” selection.	1	Select
	2	Coolant Temp
	3	Dial
	4	100 – 250 F
	5	> 60 – 220 F
Select “Voltmeter Dial”	1	Select
	2	Voltmeter
	3	Dial

<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Voltmeter Dial.”</p> <p>Press “Up” or “Down” to select another “Gauge Range.”</p> <p>Press “Mode” to return to “Edit” mode.</p>		
<p>Press “Up” or “Down” to scroll through the selections.</p> <p>When the correct choice is next to the selection arrow, Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the selection and return to “Gauge Range” selection.</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p>	<p>Select Voltmeter Dial</p> <p>32 v</p> <p>> 16 v</p>
<p>Select “Water Pressure Dial”</p>	<p>1</p> <p>2</p> <p>3</p>	<p>Select Water Press Dial</p>
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Water Pressure Dial.”</p> <p>Press “Up” or “Down” to select another “Gauge Range.”</p> <p>Press “Mode” to return to “Edit” mode.</p>		
<p>Press “Up” or “Down” to scroll through the selections.</p> <p>When the correct choice is next to the selection arrow, Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the selection and return to “Gauge Range” selection.</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p>	<p>Select Water Press Dial</p> <p>60 psi</p> <p>> 45 psi</p>
<p>Select “Boost Pressure Dial”</p>	<p>1</p> <p>2</p> <p>3</p>	<p>Select Boost Press Dial</p>
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Boost Pressure Dial”</p> <p>Press “Up” or “Down” to select another “Gauge Range”</p> <p>Press “Mode” to return to “Edit” mode.</p>		
<p>Press “Up” or “Down” to scroll through the selections. Only three selections will show at one time.</p> <p>When the correct choice is next to the selection arrow, Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the selection and return to “Gauge Range” selection</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p>	<p>Select Boost Press Dial</p> <p>20 PSI</p> <p>> 30 PSI</p> <p>50 PSI</p> <p>70 PSI</p>
<p>Press “Up” or “Down” to select another “Gauge Range.”</p> <p>Press “Mode” to return to “Edit” mode.</p>		
<p>Press “Up” or “Down” to select another function or “Mode” to return to “Normal” mode.</p>		

Select Data Sources	1	Select Data Sources
	2	
	3	
Press and hold “Up” and “Down” for 2 seconds to choose “Select Data Sources.” Press “Up” or “Down” to select another function.		
Set “Engine Instance”	1	Set Engine Instance
	2	
	3	
Press and hold “Up” and “Down” for 2 seconds to select “Set Engine Instance”. ”Press “Up” or “Down” to select another function.		
Press “Up” or “Down” to set the engine instance. Line 5 value will adjust between 0 and 4. When set, press and hold “Up” and “Down” for 2 seconds to save the selection and return to the “Select Data Sources” menu.	1	Set Engine Instance
	2	
	3	
	4	
	5	X
Press “Up” or “Down” to select another function or “Mode” to return to the “Edit” mode.		
Set “Battery Instance”	1	Set Battery Instance
	2	
	3	
Press and hold “Up” and “Down” for 2 seconds to select “Set Battery Instance”. Press “Up” or “Down” to select another function.		
Press “Up” or “Down” to set the battery instance. Line 5 value will adjust between 0 and 15. When set, press and hold “Up” and “Down” for 2 seconds to save the selection and return to the “Select Data Sources” menu.	1	Set Battery Instance
	2	
	3	
	4	
	5	X
Press “Up” or “Down” to select another function or “Mode” to return to the “Edit” mode.		
Set “Oil Level Instance”	1	Set Oil Level Instance
	2	
	3	
Press and hold “Up” and “Down” for 2 seconds to select “Set Oil Level Instance”. Press “Up” or “Down” to select another function.		

<p>Press “Up” or “Down” to set the battery instance.</p> <p>Line 5 value will adjust between 0 and 15.</p> <p>When set, press and hold “Up” and “Down” for 2 seconds to save the selection and return to the “Select Data Sources” menu.</p>	1	<p>Set Oil Level Instance</p> <p>X</p>
	2	
	3	
	4	
	5	
<p>Press “Up” or “Down” to select another function or “Mode” to return to the “Edit” mode.</p>		
<p>Set “Fuel Level Instance”</p>	1	<p>Set Fuel Level Instance</p>
	2	
	3	
<p>Press and hold “Up” and “Down” for 2 seconds to select “Set Fuel Level Instance.”</p> <p>Press “Up” or “Down” to select another function.</p>		
<p>Press “Up” or “Down” to set the battery instance.</p> <p>Line 5 value will adjust between 0 and 15.</p> <p>When set, press and hold “Up” and “Down” for 2 seconds to save the selection and return to the “Select Data Sources” menu.</p>	1	<p>Set Fuel Level Instance</p> <p>X</p>
	2	
	3	
	4	
	5	
<p>Press “Up” or “Down” to select another function or “Mode” to return to the “Edit” mode.</p>		
<p>Set “GPS Source”</p>	1	<p>Set GPS Source</p>
	2	
	3	
<p>Press and hold “Up” and “Down” for 2 seconds to select “Set GPS Source.”</p> <p>Press “Up” or “Down” to select another function.</p>		
<p>Press “Up” or “Down” to scroll through the selections. When the correct choice is next to the selection arrow, Press and hold “Up” And “Down” for 2 seconds to save the selection and return to the “Select Data Sources” menu.</p>	1	<p>Set GPS Source</p> <p>> Local NMEA2K</p>
	2	
	3	
	4	
	5	
	6	
<p>Press “Up” or “Down” to select another function or “Mode” to return to the “Edit” mode.</p>		
<p>“Trim Sender” type</p>	1	<p>Trim Sender Type</p>
	2	
	3	

<p>Press and hold “Up” and “Down” for 2 seconds to select “Trim sender type.”</p> <p>Press “Up” or “Down” to select another function.</p>		
<p>Press “Up” or “Down” to scroll through the selections.</p> <p>Only three selections are displayed at one time.</p> <p>When the correct choice is next to the selection arrow, Press and hold “Up” and “Down” for 2 seconds to save the selection and return to “Select Data Sources” menu.</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p>	<p>Trim Sender Type NMEA2K > Evinrude Mercury Volvo Suzuki</p>
<p>Press “Up” or “Down” to select another function or “Mode” to return to the “Edit” mode.</p>		
<p>“Fuel Sender” type</p>	<p>1</p> <p>2</p> <p>3</p>	<p>Fuel Sender Type</p>
<p>Press and hold “Up” and “Down” for 2 seconds to select “Fuel sender type.”</p> <p>”Press “Up” or “Down” to select another function.</p>		
<p>Press “Up” or “Down” to scroll through the selections.</p> <p>When the correct choice is next to the selection arrow, Press and hold “Up” and “Down” for 2 seconds to save the selection and return to “Select Data Sources” menu.</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p>	<p>Fuel Sender Type NMEA2K > USA 240-33 EU 10 - 180</p>
<p>Press “Up” or “Down” to select another function or “Mode” to return to the “Edit” mode.</p>		
<p>“Water Pressure” source</p>	<p>1</p> <p>2</p> <p>3</p>	<p>Water Pressure Source</p>
<p>Press and hold “Up” and “Down” for 2 seconds to select “Water Pressure Source.”</p> <p>”Press “Up” or “Down” to select another function.</p>		

<p>Press “Up” or “Down” to scroll through the selections.</p> <p>When the correct choice is next to the selection arrow, Press and hold “Up” and “Down” for 2 seconds to save the selection and return to the “Select Data Sources” menu.</p>	1	<p>Water Pressure Source</p> <p>> NMEA2K Local</p>
	2	
	3	
	4	
	5	
	6	
<p>Press “Up” or “Down” to select another function or “Mode” to return to the “Edit” mode.</p>		
<p>Calibrate “Trim Sender”</p>	1	<p>Calibrate Trim Sender</p>
	2	
	3	
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Calibrate Trim Sender.”</p>		
<p>Adjust engines to the full up position. Press the “Up” button to save settings.</p>	1	<p>Set Trim UP</p> <p>Press UP TRIM</p> 
	2	
	3	
	4	
	5	
<p>Adjust engines to the full down position. Press the “Down” button to save settings.</p>	1	<p>Set Trim DOWN</p> <p>Press DOWN TRIM</p> 
	2	
	3	
	4	
	5	
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the calibration values, and return to the “Edit” mode.</p> <p>Repeat as necessary.</p>		
<p>Press “Up” or “Down” to select another function or “Mode” to return to “Normal” mode.</p>		
<p><u>Select Display Units</u></p>	1	<p>Select Display Units</p>
	2	
	3	
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Display Units.”</p> <p>Press “Up” or “Down” to select another function.</p>		
<p>Select “Pressure Units”</p>	1	<p>Select Pressure Units</p>
	2	
	3	
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Pressure Units”</p> <p>Press “Up” or “Down” to select another choice of “Units”</p>		

<p>Press “Up” or “Down” to scroll through the selections.</p> <p>When the correct choice is next to the selection arrow, Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the selection and return to select “Units.”</p>	1	PSI BAR BAR > PSI
	2	
	3	
	4	
	5	
<p>Select “Volume Units”</p>	1	Select Volume Units
	2	
	3	
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Volume Units”</p> <p>Press “Up” or “Down” to select another choice of “Units”</p>		
<p>Press “Up” or “Down” to scroll through the selections.</p> <p>When the correct choice is next to the selection arrow, Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the selection and return to select “Units”</p>	1	Select Volume Units LITERS > GAL
	2	
	3	
	4	
	5	
<p>Select “Temperature Units”</p>	1	Select Temperature Units
	2	
	3	
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Temperature Units.”</p> <p>Press “Up” or “Down” to select another choice of “Units.”</p>		
<p>Press “Up” or “Down” to scroll through the selections.</p> <p>When the correct choice is next to the selection arrow, Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the selection and return to select “Units.”</p>	1	Select Temperature Units °C > °F
	2	
	3	
	4	
	5	
<p>Select “Distance Units”</p>	1	Select Distance Units
	2	
	3	
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Distance Units.”</p> <p>Press “Up” or “Down” to select another choice of “Units.”</p>		
<p>Press “Up” or “Down” to scroll through the selections.</p> <p>When the correct choice is next to the selection arrow, Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the selection and return to select “Units.”</p>	1	Select Distance Units NM > Miles km
	2	
	3	
	4	
	5	
	6	

Select “Depth Units”	1	Select Depth Units
	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Depth Units.” Press “Up” or “Down” to select another choice of “Units.”		
Press “Up” or “Down” to scroll through the selections. When the correct choice is next to the selection arrow, Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the selection and return to select “Units.”	1	Select Depth Units FATHOMS > Feet Meters
	2	
	3	
	4	
	5	
	6	
Press “Up” or “Down” to select another choice of “Units” or “Mode” to return to “Edit” mode.		
<u>Fuel Tank Calibrate</u>	1	Fuel Tank Calibrate
	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Fuel Tank Calibrate.” Press “Up” or “Down” to select another function.		
Ensure that fuel tank is as Empty before setting this level. Press “Up” <u>and</u> “Down” for 2 seconds.	1	Calibrate Fuel Tank EMPTY
	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to save “Empty” calibration point. Ensure that fuel tank is Half full before continuing to the next step.	1	Calibrate Fuel EMPTY FUEL LEVEL □□□□□□□□
	2	
	3	
	4	
	5	
Press “Down” to go to the next Screen.	1	Calibrate Fuel EMPTY
	2	
	3	
Press “Up” <u>and</u> “Down” for 2 seconds.	1	Calibrate Fuel HALF FULL
	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to save “Half Full” calibration point. Ensure that fuel tank is Full before continuing to the next step.	1	Calibrate Fuel HALF FULL FUEL LEVEL ■ ■ ■ ■ □ □ □ □
	2	
	3	
	4	
	5	

Press “Down” to go to the next Screen.	1	Calibrate Fuel HALF FULL
	2	
	3	
Press “Up” <u>and</u> “Down” for 2 seconds.	1	Calibrate Fuel Tank FULL
	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to save the “Full” calibration point.	1	Calibrate Fuel FULL FUEL LEVEL ■■■■■■■■■■
	2	
	3	
	4	
	5	
Press “Mode” to return to “Edit” mode. Repeat if necessary by pressing the “Up” <u>or</u> “Down” button.	1	Calibrate Fuel Tank FULL
	2	
	3	
<u>Low Fuel Alarm Setting</u>	1	Low Fuel Alarm
	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Low Fuel Alarm.” Press “Up” or “Down” to select another function.		
<u>Adjust “Low Fuel Alarm” Setting.</u>	1	Low Fuel XX.X
	2	
	3	
Press “Up” or “Down” to set desired “Low Fuel Alarm” setting. Line 3 value will adjust. Press and hold “Up” <u>and</u> “Down” for 2 seconds to save “Low Fuel Alarm” value and return to “Edit” mode.		
Press “Up” or “Down” to select another function or “Mode” to return to “Normal” mode.		
<u>Select “Self Test”</u>	1	Select Self Test
	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Self Test.” Press “Up” or “Down” to select another function.		

<p>This Screen will display for 10 seconds.</p> <p>The horn will sound three times.</p> <p>The warning lights will flash three times.</p> <p>The backlights will flash three times.</p>	1	<p>The Self Test Mode Is in Operation</p>
	2	
	3	
	4	
	5	
	6	
<p>When “Self Test” is complete the unit will return to the “Edit” mode.</p>		
<p>Press “Up” or “Down” to select another function or “Mode” to return to “Normal” mode.</p>		
<p><u>Software ID and Revision</u></p>	1	<p>Software Id & Revision MG2000 PGFXXXX NMEA 2000</p>
	2	
	3	
	4	
	5	
	6	
<p>Press “Up” or “Down” to select another function or “Mode” to return to “Normal” mode.</p>		
<p>Press “Up” or “Down” to select another function or “Mode” to return to the “Normal” mode.</p>		
<p><u>Reset To Defaults</u></p>	1	<p>Reset To Defaults</p>
	2	
	3	
<p>Press and hold “Up” and “Down” for 2 seconds to select “Reset To Defaults.” Selecting this option will immediately reset the unit to factory defaults.</p>	1	<p>Reset To Defaults Confirm</p>
	2	
	3	
	4	
<p>Press “Up” or “Down” to select another function or “Mode” to return to the “Normal” mode.</p>		
<p>Press “Up” or “Down” to select another function or “Mode” to return to the “Normal” mode.</p>		
<p><u>Depth Sounder Warnings</u></p>	1	<p>Depth Sounder Warnings</p>
	2	
	3	
<p>Press and hold “Up” <u>and</u> “Down” for 2 seconds to select “Depth Sounder Warnings.”</p> <p>Press “Up” or “Down” to select another function.</p>		
<p>Press “Up” or “Down” to select another function.</p>		
<p>Press “Up” <u>and</u> “Down” to select “Shallow Warning.”</p>	1	<p>Shallow Warning</p>
	2	
	3	

Set Depth Sounder Shallow Warning.	1	Shallow Warning XX.X
Press “Up” or “Down” to set desired “Depth Sounder Shallow Alarm” setting. Line 3 value will adjust.	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to save shallow alarm setting. Press “Down” to go to the Deep Warning.		
Press “Up” <u>and</u> “Down” to select “Deep Warning.”	1	Deep Warning
	2	
	3	
Set Depth Sounder Deep Warning Press “Up” or “Down” to set desired “Depth Sounder Deep Alarm” setting. Line 3 value will adjust.	1	Deep Warning XX.X
	2	
	3	
Press and hold “Up” & “Down” for 2 seconds to save the deep alarm setting. Press “Down” to go to the Keel Offset.		
Press “Up” <u>and</u> “Down” to select “Keel Offset”.	1	Keel Offset
	2	
	3	
Set Depth Sounder Keel Offset” Press “Up” or “Down” to set desired “Keel Offset” setting. Line 3 value will adjust.	1	Keel Offset XX.X
	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to save “Keel Offset.” Press the “Mode” button to return to the “Edit” mode.		
Press “Up” or “Down” to select another function or “Mode” to return to “Normal” mode.		

Available Functions for Display in MG2000 Tachometer Screens

The functions listed below can be displayed in the user configurable screens. All of the functions may not be available in your installation. If a function is selected for display and that function does not appear on the screen, the function does not exist in this installation.

1. System Volts
2. Sensor Trim
3. Water Pressure
4. Engine Temperature
5. Engine Hours
6. Fuel Left
7. Fuel Used
8. Fuel Instantaneous
9. Depth
10. Clock
11. COG
12. GPS Speed
13. Air Temperature
14. Water Temperature
15. Latitude / Longitude
16. Oil Level
17. Sensor Fuel
18. Oil Pressure
19. RPM
20. Total Fuel Used
21. Total Fuel Left
22. Total Fuel Instantaneous

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Alarm Mode

The “Alarm” screen appears only if an alarm condition exists. The alarm condition may be a warning sent from the engine ECU or a “local” alarm such as “Low Fuel”. When an alarm condition occurs, the “Alarm Screen” will appear and the screens described below will be displayed.

The descriptions below also explain how to temporarily override the alarm screen and audible / visual warnings and return to “Normal” mode. In all cases, the alarm will re-occur after a period of time to ensure that the user remembers the alarm condition. Once an alarm condition has been corrected, the alarm screen, horn, and warning lights will no longer be displayed.

Note: The warning LEDs will flash when there is no ECU data present. Ensure that there is connection to the NMEA 2000 bus.

Alarm Mode	LINE	DISPLAY
<p>The “Alarm” screen will only appear if a local alarm or an engine alarm occurs.</p> <p>Local alarms are “Low Fuel”, “Depth Sounder Shallow”, and “Depth Sounder Deep.”</p> <p>Only two engine alarms appear automatically, “Check Engine” and “Engine Emergency Stop.” Follow the instructions provided to view more information about engine alarms.</p>		
<p>LOW FUEL</p> <p>Displays “Low Fuel” warning.</p> <p>Red LED blinks.</p> <p>Horn “beeps.”</p>	1	Low
	2	Fuel
	3	!
<p>Press “Mode” to turn off LED, silence alarm horn, and return to “Run” mode. Alarm will reactivate in 15 minutes but can continue to be deactivated as required.</p>		
<p>DEPTH SHALLOW</p> <p>Displays “Depth Shallow” warning.</p> <p>Red LED blinks.</p> <p>Horn “beeps.”</p>	1	Depth
	2	Shallow
	3	!
<p>Press “Mode” to turn off LED, silence alarm horn, and return to “Run” mode. Alarm will reactivate in 0.5 minutes if not corrected but can continue to be deactivated as required.</p>		

DEPTH DEEP Displays “Depth Deep” warning. Red LED blinks. Horn “beeps.”	1	Depth Deep !
	2	
	3	
Press “Mode” to turn off LED, silence alarm horn, and return to “Run” mode. Alarm will reactivate in 0.5 minutes if not corrected but can continue to be deactivated as required.		

ENGINE WARNINGS

Any engine alarm except “Engine Emergency Stop” Red LED blinks. Horn “beeps.” (PGN 127489 Field 11 Bits 0-14)	1	CHECK ENGINE !
	2	
	3	
“Engine Emergency Stop” alarm. Red LED on continuously. Horn on continuously. (PGN 127489 Field 11 Bits 15)	1	ENGINE EMERGENCY STOP !
	2	
	3	
Press and hold “Up” <u>and</u> “Down” for 2 seconds to view alarm messages. Press “Mode” to silence alarm horn and return to “Run” mode. LED will continue to function as stated until engine alarm(s) is no longer sent by ECU.		

Alarm Messages - From the Engine ECU

CHECK ENGINE (PGN 127489 Field 11 Bits 0)	1	CHECK ENGINE !
	2	
	3	
OVER TEMPERATURE (PGN 127489 Field 11 Bits 1)	1	HIGH ENGINE TEMP
	2	
	3	
LOW OIL PRESSURE (PGN 127489 Field 11 Bits 2)	1	LOW OIL PRESSURE
	2	
	3	

LOW OIL LEVEL (PGN 127489 Field 11 Bits 3)	1	LOW OIL LEVEL
	2	
	3	
LOW FUEL PRESSURE (PGN 127489 Field 11 Bits 4)	1	LOW FUEL PRESSURE
	2	
	3	
LOW SYSTEM VOLTAGE (PGN 127489 Field 11 Bits 5)	1	LOW SYSTEM VOLTAGE
	2	
	3	
LOW COOLANT LEVEL (PGN 127489 Field 11 Bits 6)	1	LOW COOLANT LEVEL
	2	
	3	
WATER FLOW (PGN 127489 Field 11 Bits 7)	1	WATER FLOW
	2	
	3	
WATER IN FUEL (PGN 127489 Field 11 Bits 8)	1	WATER IN FUEL
	2	
	3	
CHARGE INDICATOR (PGN 127489 Field 11 Bits 9)	1	CHARGE INDICATOR
	2	
	3	
PREHEAT INDICATOR (PGN 127489 Field 11 Bits 10)	1	PREHEAT INDICATOR
	2	
	3	
HIGH BOOST PRESSURE (PGN 127489 Field 11 Bits 11)	1	HIGH BOOST PRESSURE
	2	
	3	

REV LIMIT EXCEEDED (PGN 127489 Field 11 Bits 12)	1	REV LIMIT EXCEEDED
	2	
	3	
EGR SYSTEM (PGN 127489 Field 11 Bits 13)	1	EGR SYSTEM
	2	
	3	
THROTTLE POSITION SENSOR (PGN 127489 Field 11 Bits 14)	1	THROTTLE POSITION SENSOR
	2	
	3	
ENGINE EMERGENCY STOP (PGN 127489 Field 11 Bits 15)	1	ENGINE EMERGENCY STOP !
	2	
	3	

Deutsch 12 Pin Connector		(For reference only: See drawing HN0389 for details of harness)	
Pin	Function	HN0389 Wire Color	
1	Power Out to Faria Bus Instruments	Red	
2	Faria Bus Signal A-Y	White	
3	Faria Bus Signal B-Z	Green	
4	Ground In (and ground to Faria Bus Instruments)	Black	
5	Power In (+14 V from Ignition)	Violet	
6	Fuel Sender In	Pink	
7	Trim Sender In	Blue / White	
8	NMEA CAN Power Ground	Black	
9	NMEA CAN Power	Red (Micro-C cable)	
10	NMEA CAN Shield (if present)	Shld (Micro-C cable)	
11	NMEA CAN Low In	White (Micro-C cable)	
12	NMEA CAN High In	Blue (Micro-C cable)	

Deutsch 6 Pin Connector		(For reference only: See drawing HN0401 for details of harness)	
Pin	Function	HN0401 Wire Color	
1	N/C		
2	N/C		
3	NMEA 0183 A (+)	Red / White	
4	NMEA 0183 B (-)	Red / Blue	
5	N/C		
6	N/C		

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NMEA 2000 MG2000 Tachometer NMEA2000 PGN's Supported

PGN	Field #	Bytes	Bits	PGN Name	Faria Function
127488	1	1		Engine Parameter Rapid Update	Engine Instance
127488	2	2,3		Engine Parameter Rapid Update	RPM
127488	3	4,5		Engine Parameter Rapid Update	Boost Pressure
127488	4	6		Engine Parameter Rapid Update	Trim
127489	1	1		Engine Parameter Dynamic	Engine Instance
127489	2	2,3		Engine Parameter Dynamic	Oil Pressure
127489	4	6,7		Engine Parameter Dynamic	Engine Temperature
127489	7	12-15		Engine Parameter Dynamic	Engine Hours
127489	11		0	Engine Parameter Dynamic	Check Engine
127489	11		1	Engine Parameter Dynamic	Over Temperature
127489	11		2	Engine Parameter Dynamic	Low Oil Pressure
127489	11		3	Engine Parameter Dynamic	Low Oil Level
127489	11		4	Engine Parameter Dynamic	Low Fuel Pressure
127489	11		5	Engine Parameter Dynamic	Low System Voltage
127489	11		6	Engine Parameter Dynamic	Low Coolant Level
127489	11		7	Engine Parameter Dynamic	Water Flow
127489	11		8	Engine Parameter Dynamic	Water in Fuel
127489	11		9	Engine Parameter Dynamic	Charge Indicator
127489	11		10	Engine Parameter Dynamic	Preheat Indicator
127489	11		11	Engine Parameter Dynamic	High Boost Pressure
127489	11		12	Engine Parameter Dynamic	Rev. Limit Exceeded
127489	11		13	Engine Parameter Dynamic	EGR System
127489	11		14	Engine Parameter Dynamic	Throttle Pos. Sensor
127489	11		15	Engine Parameter Dynamic	Eng. Emergency Stop
127505	2		4-8	Fluid Level	Fluid Type
127505	3	2,3		Fluid Level	Fuel Level
127508	2	2,3		Battery Status	Battery Voltage
128267	2	2-5		Water Depth	Water Depth

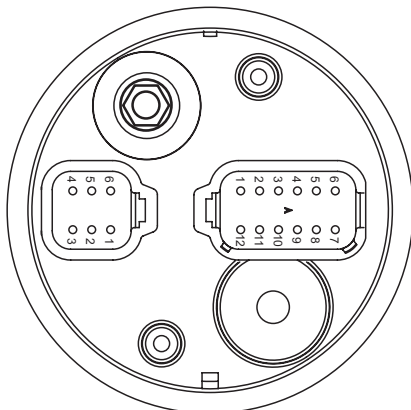
Harness HN0389

NMEA2000

Tachometer Cable

NMEA 2000

MG2000 Tachometer



12- pin connector

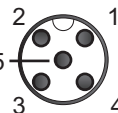
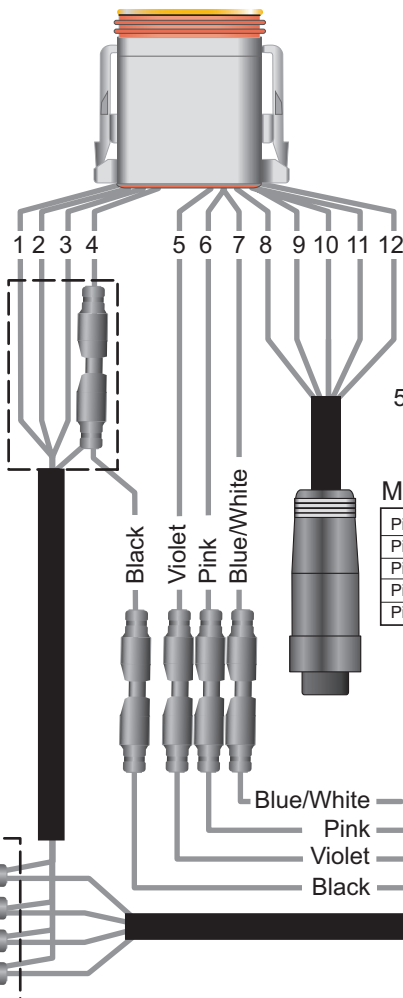
Pin 1	Red
Pin 2	White
Pin 3	Green
Pin 4	Black
Pin 5	Violet
Pin 6	Pink
Pin 7	Blue/ White
Pin 8	Black
Pin 9	Red
Pin 10	Shield
Pin 11	White
Pin 12	Blue

4- pin connector

Pin A	Red
Pin B	White
Pin C	Green
Pin D	Black & Shield



Heat Shrink Tubing



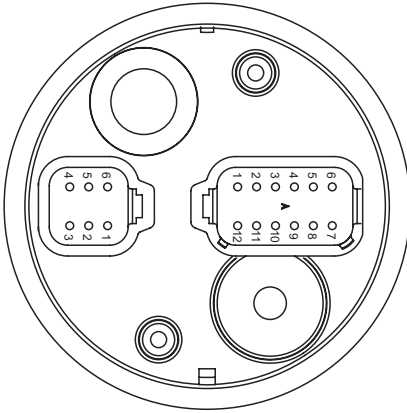
Micro-C Cable

Pin 1	Shield	Drain
Pin 2	Red	+V
Pin 3	Black	-V
Pin 4	White	CAN-H
Pin 5	Blue	CAN-L

- Blue/White — Trim Sender
- Pink — Fuel Sender
- Violet — Ignition +14 Vdc
- Black — Ground

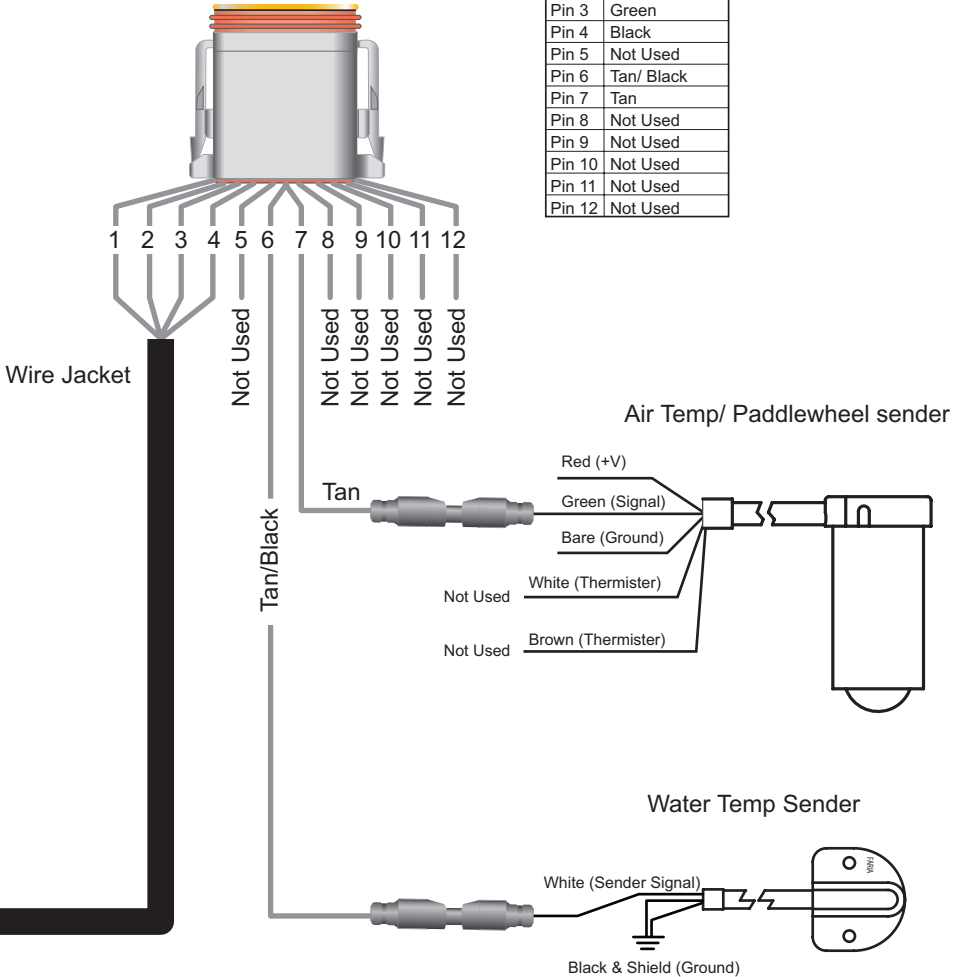
Wire Jacket

Harness HN0389 Speedometer Cable



12- pin connector

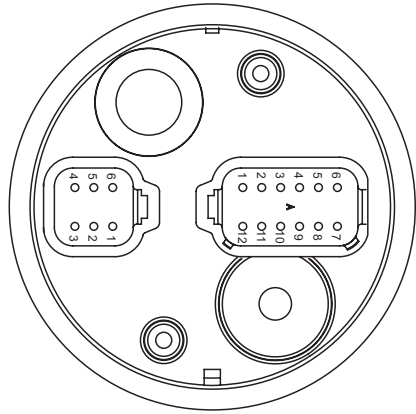
Pin 1	Red
Pin 2	White
Pin 3	Green
Pin 4	Black
Pin 5	Not Used
Pin 6	Tan/ Black
Pin 7	Tan
Pin 8	Not Used
Pin 9	Not Used
Pin 10	Not Used
Pin 11	Not Used
Pin 12	Not Used



Harness HN0401

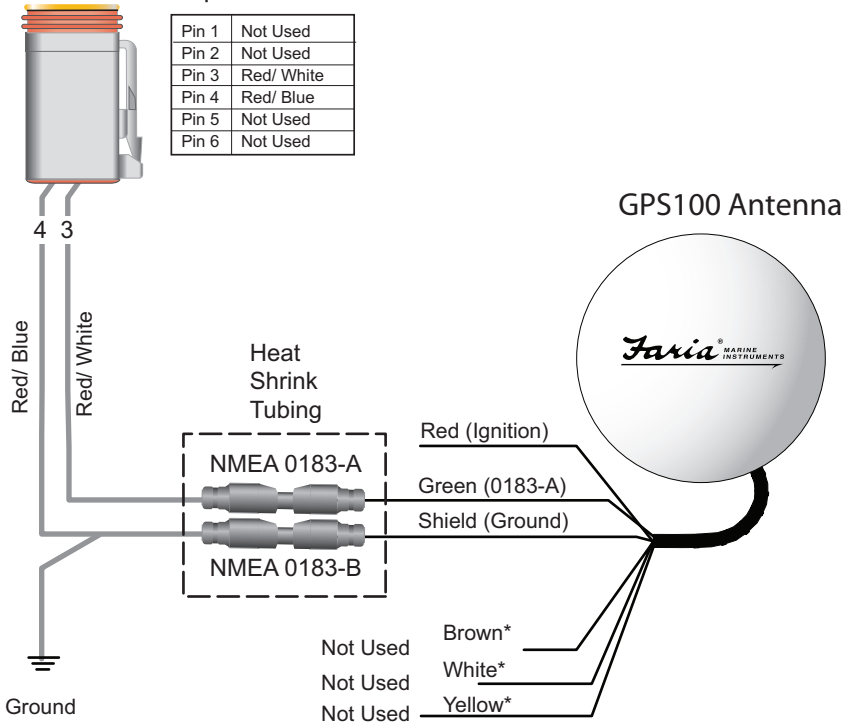
NMEA 0183 Cable

NMEA 2000
MG2000 Tachometer



6- pin connector

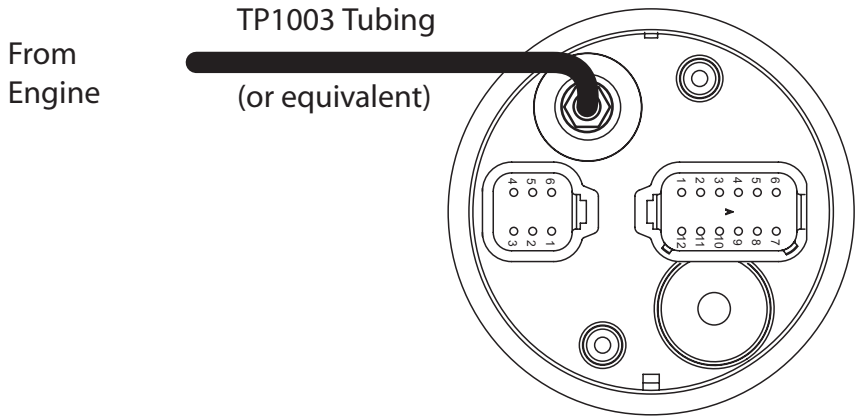
Pin 1	Not Used
Pin 2	Not Used
Pin 3	Red/ White
Pin 4	Red/ Blue
Pin 5	Not Used
Pin 6	Not Used



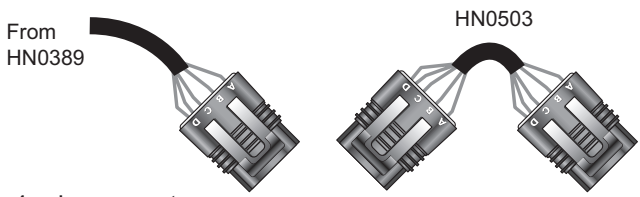
- *Note:
- 1) Cut off the connector at the end of the antenna cable
 - 2) Cut off the following wires because they are not used: White, Yellow, Brown
 - 3) Cut wires so that they are different lengths. This ensures they do not touch each other.

Water Pressure Connection NMEA2000 Tachometer

NMEA 2000
MG2000 Tachometer

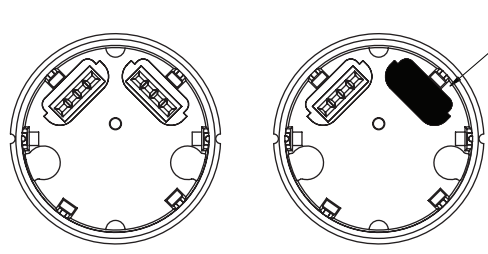


Tachometer to 2” Gauge Connection NMEA2000 Tachometer



4- pin connector

Pin A	Red
Pin B	White
Pin C	Green
Pin D	Black & Shield



Note: To help reduce moisture in the gauges, be sure to install PJ0018 in all open connectors

2" Gauges

Notes:

