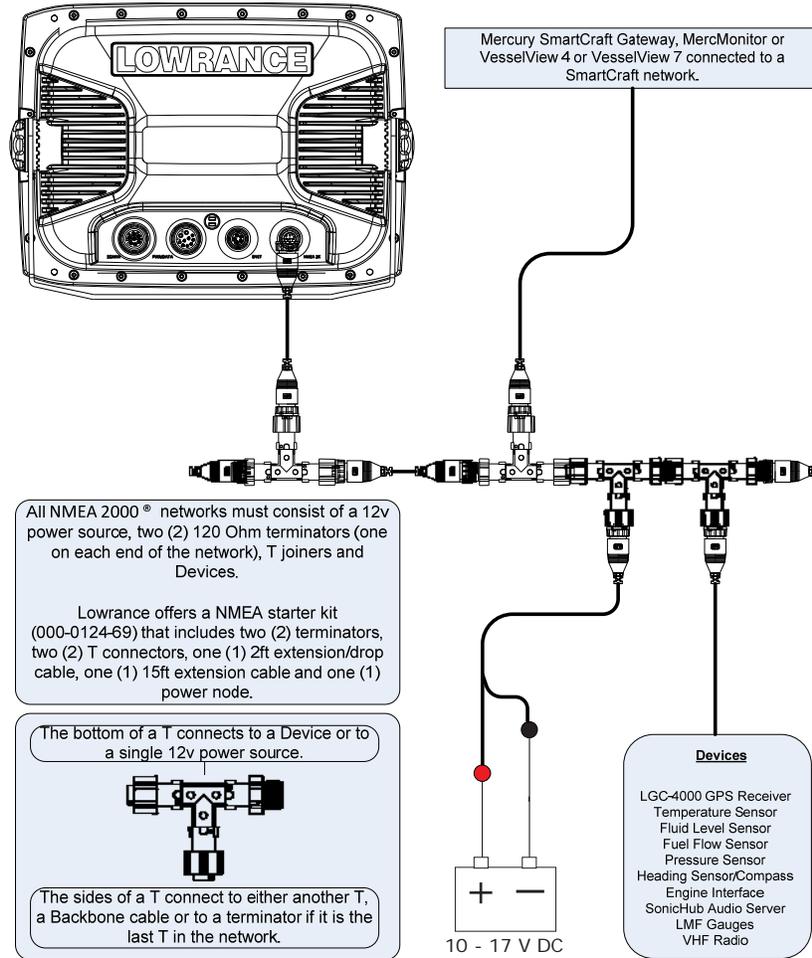


Mercury® Engine Connection for NMEA 2000® Messages

Many Mercury outboard engines have the ability to output engine data to a NMEA 2000® network. This output from the engine can be displayed on Navico Multi-Function Displays such as the Lowrance HDS, Lowrance LMF-200 and 400 gauges, the Simrad NSS/NSE/NSO or the B&G Zeus. The vessel must be equipped with an existing or new NMEA 2000® network as pictured below.



Mercury	Four stroke		OptiMax		Verado	
	40-60	75-115	75-125	135-250	150-200	225-300
Boost					✓	✓
Oil Temperature					✓	✓
Oil Pressure					✓	✓
Engine Trim		✓		✓	✓	✓
Boat Speed (Pitot)				✓	✓	✓
Water Pressure (2 stroke)			✓	✓	✓	✓
Water in Fuel			✓	✓	✓	✓
Engine Temperature		✓	✓	✓	✓	✓
Engine Diagnostics	✓	✓	✓	✓	✓	✓
Battery Voltage	✓	✓	✓	✓	✓	✓
Fuel Flow	✓	✓	✓	✓	✓	✓
Fuel Level/Range		✓	✓	✓	✓	✓
Engine Hours	✓	✓	✓	✓	✓	✓
RPM	✓	✓	✓	✓	✓	✓

Engine Connections

To connect to a Mercury engine you need either a VesselView 4, or a VesselView 7, or a Mercury Single or Multi-Engine Gateway Module or a MercMonitor™ that has NMEA 2000® output along with a SmartCraft compatible engine.

*Data output may vary depending on the SmartCraft to NMEA 2000 source.

SmartCraft Data Gateway Options

VesselView 4 and VesselView7

Mercury VesselView 4 and VesselView 7 units are designed to gateway Mercury SmartCraft data to the NMEA 2000 network.

VesselView 4 includes support for 1-2 Mercury engines and is a 4" color display.



VesselView 7 includes support for 1-4 Mercury engines and is a 6.4" touchscreen color display.



SmartCraft™ Gateway Options from Mercury

Truly smart boating.

The new Mercury Gateway (single & multi engine) converts engine and system data to NMEA 2000* protocol for use on non-Mercury gauges and displays.

OUT/IN MULTI AND SINGLE ENGINE INFORMATION	
RPM	Multiple Tank Levels
Voltage	Tabs
Oil Pressure	GPS Speed/COG/Lat-Lon
Coolant Temperature	Depth
Tank Level Fuel	Sea Water Temp
Trim Position	Paddle speed
Water Pressure	Pitot speed
Check Engine Alarm	Rudder Angle
Fuel Flow	Gear Pressure
Engine hours	Gear Temp
Boost Pressure	Fuel Pressure
Oil Temperature	

* NMEA 2000 Certification Pending

Gateway Kits	P/N
Single Engine SmartCraft Gateway	8M0065207
Multi Engine SmartCraft Gateway (1 - 4 engines)	8M0065208

Features available depend on engine and installation

For more information on the Mercury Gateway: <http://www.brunswick-marine.com/media/486726/gateway%20sell%20sheet.pdf>

MercMonitor™ Options from Mercury

The new MercMonitor converts engine and system data to NMEA 2000* / J1939 protocol for use on NMEA 2000* / J1939 multifunction gauges and displays.

GPS Chart Plotters Pucks

NMEA 2000 / J1939 [†] Out/In Supported	Data Level	NMEA 2000 Only Out/In Supported	Data Level
RPM	1 • 2 • 3	Multiple Tank Levels	2 • 3
Voltage	1 • 2 • 3	Tabs	2 • 3
Oil Pressure	1 • 2 • 3	GPS Speed/COG/Lat-Lon (in only)	2 • 3
Coolant Temperature	1 • 2 • 3	Depth	2 • 3
Tank Level Fuel	1 • 2 • 3	Sea Water Temp	2 • 3
Trim Position	1 • 2 • 3	Paddle speed	2 • 3
Water Pressure	1 • 2 • 3	Pitot speed	2 • 3
Check Engine Alarm	1 • 2 • 3	Rudder Angle	3
Fuel Flow	2 • 3	Gear Pressure ⁶	3
Engine hours	2 • 3	Gear Temp ⁶	3
Boost Pressure ⁵	2 • 3	Fuel Pressure	3
Oil Temperature ⁵	2 • 3		
New MercMonitor Kits		P/N	
Single Engine - Troll Control - NMEA 2000	Data Level 1	879337K51	
Single Engine - RPM SmartTow - NMEA 2000	Data Level 2	879338K51	
Multi Engine - RPM SmartTow - NMEA 2000	Data Level 3**	879337K52	
Multi Engine - SmartTow Pro - NMEA 2000	Data Level 3	879339K51	

¹ Features available depend on engine and installation
² Available on outboard engines only
³ Only available on some Mercury DTS model engines
⁴ Not available on MerCruiser engines

⁵ Available on Mercury Verado
⁶ Available on Cummins MerCruiser Diesel Engines
 * NMEA 2000 Certification Pending
[†] J1939 limits signals and data levels



For information on MercMonitor Gateways: http://www.mercurymarine.com/media/mercury/documents/NMEA_Gateway_sell_sheet.pdf

MFD Setup

After the physical connections have been made the user can now setup the unit to display the engine data.

Before any information will show up on the MFD the MercMonitor™ must be configured to output NMEA 2000® Data.

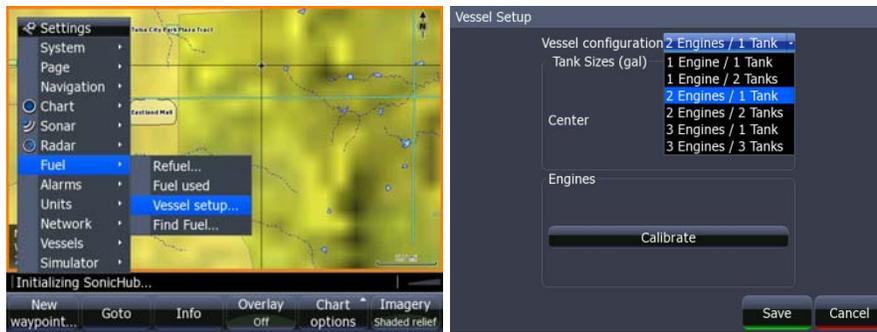
On the MercMonitor™ perform the following steps:

- 1) Press Exit to return from the display page to the main menu
- 2) Scroll to Settings and press Select
- 3) Scroll to Gateway and press Select
 - a. Change the gateway output format to NMEA 2000®
 - b. Change the gateway to transmit
 - c. Set the number of engines

VesselView 4, VesselView 7 and the Mercury Gateways are already designed to output NMEA 2000 data to the network with no user setup needed.

On HDS perform the following steps:

- 1) Vessel Setup: Press the Menu key twice to access the system menu, select the Fuel menu then Vessel Setup...and press Enter.
 - a. Change the Vessel Setup to match the Engine/Tank configuration of the vessel.



i.

- b. Set the Tank Size.



i.

- c. Select Save to retain these settings.
- 2) With the Engine powered on confirm that it shows up in the device list.
 - a. Press the Menu key twice to access the system menu, select the Network menu then Device List and press Enter.

- i. You should now see your engine listed along with any other devices that are connected to your network.



- ii.
 - b. From the Device List you can highlight the Engine and press enter to see and the Data that is available from the Engine.
 - i. Scroll to the Data tab and press Enter.
- 3) Confirm that the data sources are set for the Engine.
 - a. Press the Menu key twice to access the system menu, select the Network menu then Data Sources and press Enter.
 - i. From here select Engine and press Enter.
 - ii. Auto Configure the Network. In most cases this will set the data sources to the correct location.
 - 1. If the engine instances are not set by Mercury then you may need to manually select the engine you wish to set (Port/Center/Starboard) and press Enter.
 - 2. From here you can manually set the data source for all engine related information.



- a.
 - 4) Now Data overlays and the Info gauge screen can be set up.
 - a. Reference the manual for your MFD to set overlays and edit the gauge screen.