



Service Bulletin

Bulletin No. 2012-07

Circulate to: Sales Manager Accounting Service Manager Technician Parts Manager

Important New Model Information—150 FourStroke

Models Affected

Models Covered	Serial Number Or Year
150 FourStroke	1B905505 and Above

The purpose of this bulletin is to highlight some key product information on the 150 FourStroke in regards to:

- 150 FourStroke gauge options
- Digital to analog conversion
- Digital trim sender (standard feature)
- Analog tachometer requirements
- Tilt limit module
- Block water pressure
- Speedometer connections
- Mechanical steering
- Power steering
- Fuel line primer bulb
- Water separating fuel filter
- SmartCraft boat harness "Fuel 2/Other"
- 150 FourStroke diagnostic tool requirements

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

150 FourStroke Gauge Options

Function	Digital	Analog
Trim	Standard - three wire sensor on outboard.	Option 1: AGI kit P/N 892486K08. Option 2: New digital trim sender converter kit P/N 8M0059529.
Block coolant temperature	Standard - sensor on engine.	AGI kit P/N 892486K08.
Block coolant pressure	New SmartCraft digital block water pressure sender kit P/N 8M0059531. Sender threads into port located in exhaust manifold.	Hose adapter fitting threads into port located in exhaust manifold.
Engine oil temperature	Not available.	Not available.
Engine oil pressure	Standard - sensor on engine.	AGI kit P/N 892486K08.
Tachometer	Standard - data on CAN bus for SmartCraft gauges.	Option 1: Tachometer signal is defaulted to analog signal for use with an analog gauge. Option 2: AGI kit P/N 892486K08.
Fuel	Install SmartCraft boat sensor harness P/N 84-859743T03.	Make wiring connections per gauge installation instructions.
Pitot speed	New SmartCraft digital pitot sensor kit P/N 8M0059530.	Extend pitot hose from engine to gauge at helm.
Sea temperature	Install temperature transducer or sensor. Various options and part numbers.	Not available.
Water in fuel (WIF)	New remote water separating fuel filter kit P/N 8M0059528.	New remote water separating fuel filter kit p/n 8M0059528.

Digital to Analog Conversion

This new 150 FourStroke outboard is equipped for digital accessories and gauges and requires some conversion when using analog gauges. There are two options when converting to analog:

Option 1:

Description	Part Number
Digital trim sender converter kit	8M0059529

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

This kit will only convert the digital trim sender signal to analog. This kit is an economical option where an analog trim gauge is used with an analog tachometer and/or speedometer. This kit will not convert the digital signal for any other gauges.

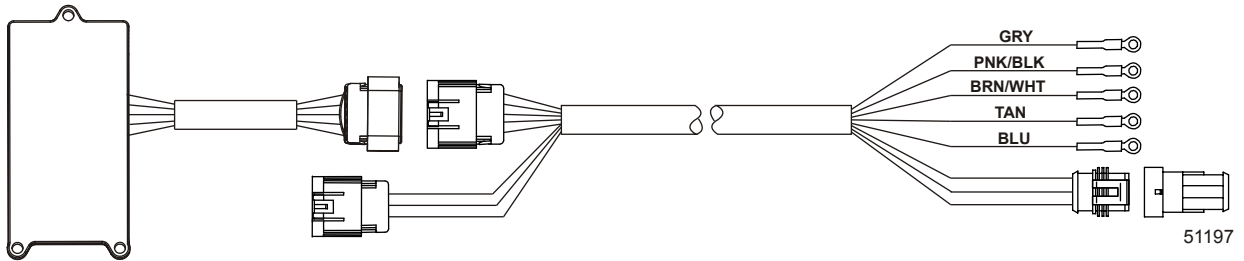


Digital trim sender converter P/N 8M0059529

Option 2:

Description	Part Number
Analog gauge interface (AGI) kit	892486K08

An AGI kit will be required if additional analog gauges are used. These gauges would include outboard trim, tachometer, engine coolant temperature, engine oil pressure, and fuel tank level.



Analog gauge interface kit P/N 892486K08

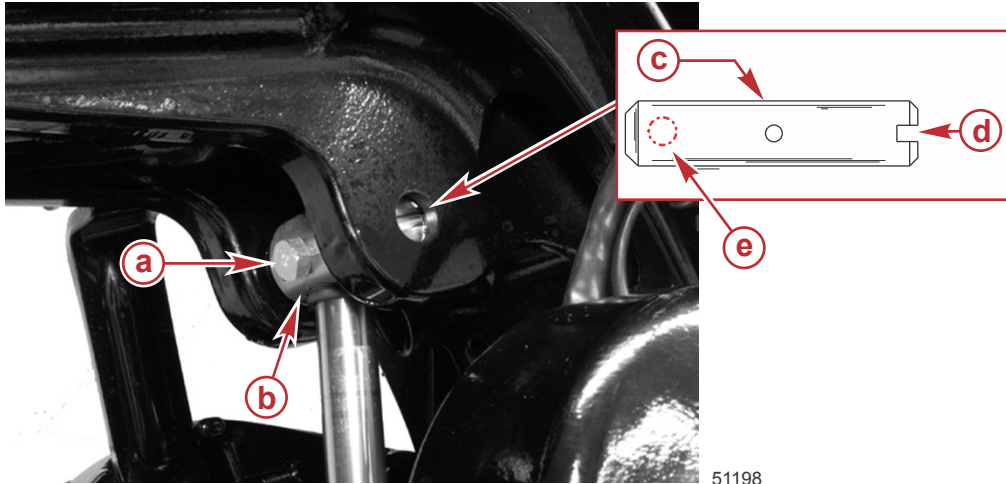
Digital Trim Sender (Standard Feature)

The digital trim sender and upper pivot pin for the power trim can be installed incorrectly. The correct installations for these components are as follows:

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

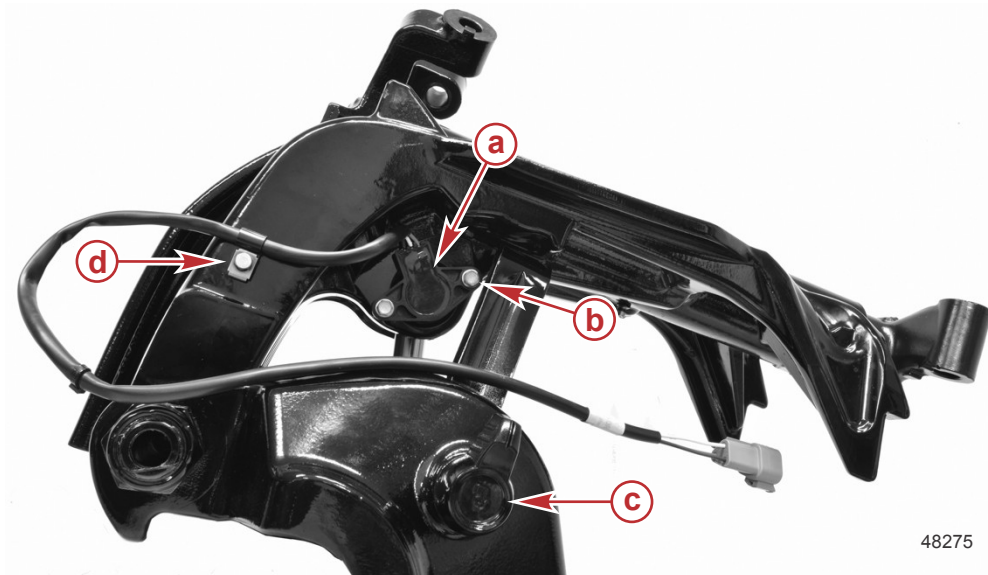
This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

- The pivot pin is installed with the magnet end toward the trim sender on the port side of the swivel bracket. The slot in the pin is used to align the hole in the pin with the hole in the rod eye of the trim ram for installation of the pivot pin retaining screw.



- a** - Upper pivot pin retaining screw (5/16 in. special)
- b** - Trim cylinder rod eye
- c** - Upper pivot pin
- d** - Slotted end of pivot pin
- e** - Magnet end of pivot pin

- The digital trim sender must be installed with the wires facing up and the potting material facing out away from the swivel bracket.



- a** - Trim sender
- b** - Mounting screws
- c** - Tilt lock lever knob
- d** - Clamp

Analog Tachometer Requirements

The 150 FourStroke outboard requires a 7000 RPM tachometer set up for a 12 pole alternator (6 pulses per revolution). Adjustable tachometers from Mercury Marine need to be set to 6P or 4 if not using an AGI module. When using an AGI with a Mercury Marine adjustable tachometer, the tachometer switch needs to be set to 4P.

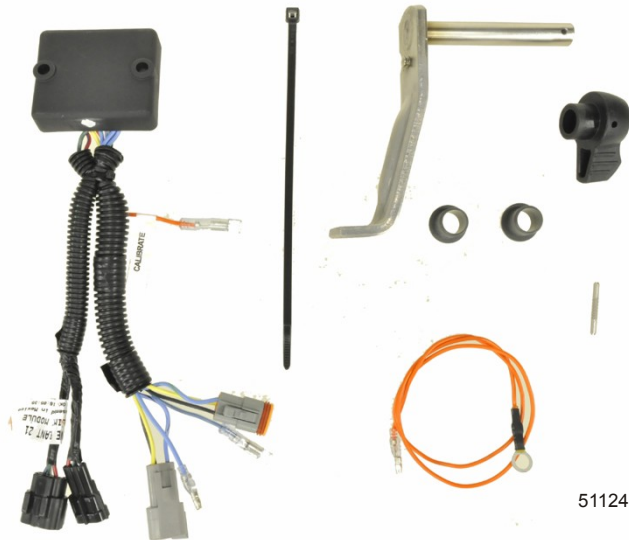
THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

Digital Tilt Limit Module Kit

Description	Part Number
Digital tilt limit module kit	8M0072610

The tilt limit module is plugged in line with the trim sender wiring located in the bottom cowling. The module is then calibrated to limit the up tilt of the outboard into the boat. The tilt limit module works in conjunction with the trim switch in the remote control handle, the trim switch located on the tiller handle, and the trim switch in the bottom cowl. The tilt limit module can be used in combination with the optional digital trim sender converter when using an analog trim gauge.



Block Water Pressure

Description	Part Number
SmartCraft digital block water pressure sender kit	8M0059531

IMPORTANT: Use care when removing the brass plug in the water pressure port of the exhaust manifold. To avoid damaging the brass hex, use a 6 point socket and a ratchet handle to remove it by hand.

The sender is threaded into the water jacket of the exhaust manifold. The engine wiring harness is equipped with a water pressure sensor harness connector.

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

Analog water pressure gauges utilize the same water pressure port on the exhaust manifold. A Legris fitting supplied with the gauge kit is threaded into the port. A 90° Legris fitting P/N 840908 is also available.



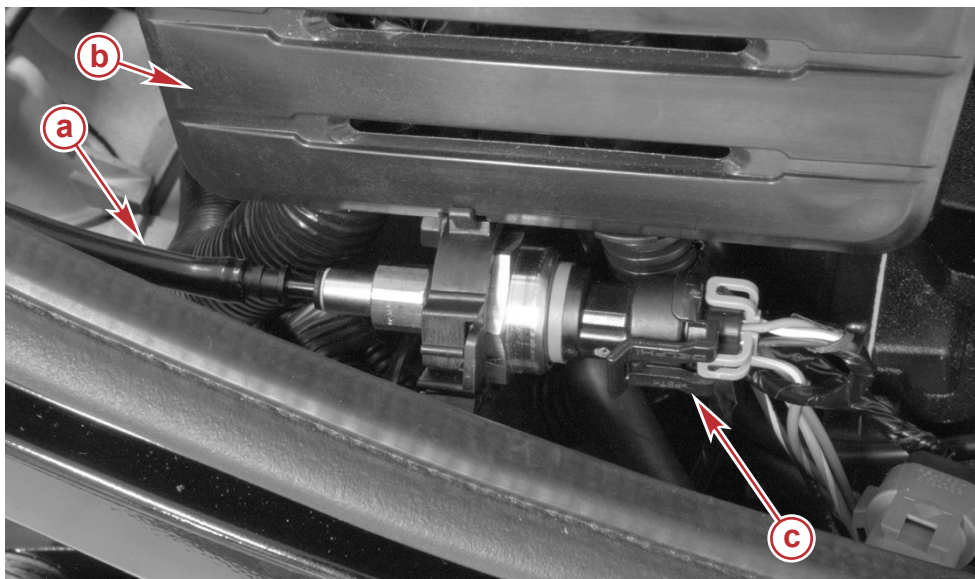
48522

Speedometer Connection

Description	Part Number
SmartCraft digital pitot sensor kit	8M0059530

The SmartCraft digital pitot sensor is secured to the lower electrical box cover of the engine. The engine's speedometer hose fitting is cut off and the hose is connected to the sensor with the kit supplied Legris fitting. The engine wiring harness is equipped with a pitot sensor harness connector.

Analog speedometers are connected to the engine's speedometer hose connection.



- a** - Speedometer hose
- b** - Electrical cover
- c** - Engine harness connector

48525

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

Mechanical Steering

Description	Part Number
Mechanical steering link rod attaching kit	92876A12

The 150 FourStroke is not shipped with a steering link rod and will require an optional steering attachment system.

Power Steering

Description	Part Number
Power steering isolator kit (dual outboard)	8M0073037
Power steering isolator kit (triple outboard)	8M0073038

The 150 FourStroke can utilize the Verado style power steering system for multiple outboard installations only. Power steering is not available for a single 150 FourStroke with the exception of the Big Tiller with power steering.

When installing power steering on multiple 150 FourStroke outboard installations, one of the following power steering wiring kits must be used.

Fuel Line Primer Bulb

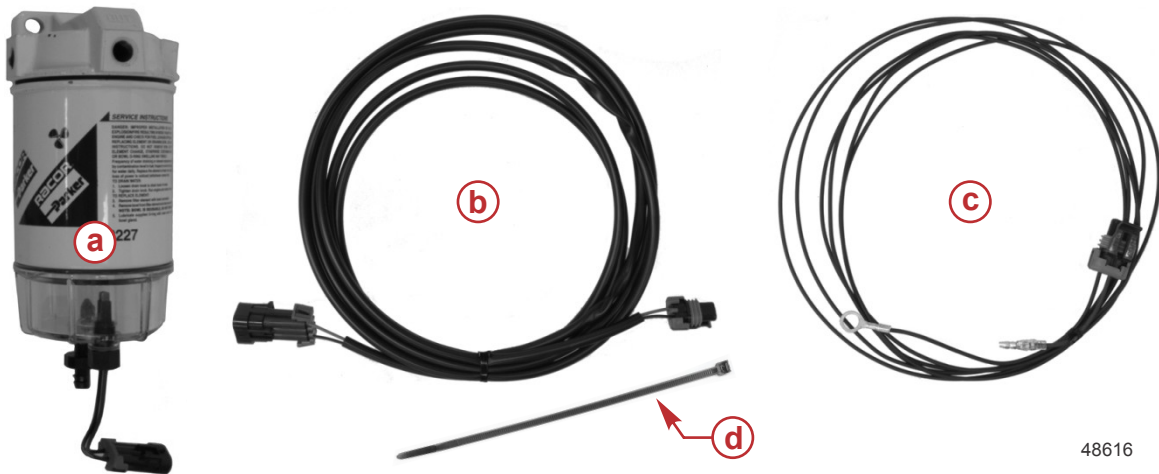
IMPORTANT: Do not install a fuel line primer bulb into the fuel system of this outboard.

The 150 FourStroke does not utilize a fuel primer bulb to prime the fuel system. However, the fuel system is not adversely affected with a primer bulb installed.

Water Separating Fuel Filter

Description	Part Number
Remote water separating fuel filter kit	8M0059528

Kit contains a serviceable boat mounted water separating fuel filter with WIF sensor. Wiring harnesses are included to either connect the WIF sensor directly to the engine's 6-pin harness connector or to adapt into the boat sensor harness.



- a - Fuel/water separating filter assembly
- b - 6-pin harness
- c - Adapter harness
- d - Cable tie

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

SmartCraft Boat Harness Fuel 2/Other

IMPORTANT: If a SmartCraft boat harness is being used without a water separating fuel filter WIF sensor, the unused "Fuel 2/Other" bullet connector lead must be plugged or isolated. Failure to isolate this unused connector could cause false water in fuel warnings.

When using a SmartCraft boat harness on the 150 FourStroke, the "Fuel 2/Other" wire is dedicated to the WIF sensor for the water separating fuel filter and will no longer support a second tank.

150 FourStroke Diagnostic Tool Requirements

Description	Part Number
CDS G3 version 1.3.0 update disc	8M0059687
CDS G3 complete kit	8M0046124



51125

The 150 FourStroke outboard requires CDS G3 version 1.3.5 or greater. Along with the standard data and fault support in this version, the following active diagnostics are also supported for this engine.

- Injector pulse test
- Ignition spark gap test
- Tachometer output test
- Fuel pump output test
- IAC output test
- Horn output test
- Cylinder misfire test
- Smart start test

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.

To connect the CDS G3 SmartCraft interface cable to the engine, you must remove the yellow resistor cap from the electrical box and replace it with the SmartCraft interface adapter harness P/N 8M0046081. The adapter harness contains the proper termination for the CAN bus circuit. Proper termination is required to ensure reliable communication. The adapter allows the SmartCraft diagnostic interface cable to connect directly to the 10-pin connector on the engine.



- a - SmartCraft diagnostic interface adapter with resistor P/N 8M0046081
- b - Resistor cap from engine

51128

CDS G3 Versions explained: The "8" in the version number indicates the number of production builds within this "major" release. Following the version sequence, 1 is equal to the major version number, 3 is equal to the minor version number, and 8 is equal to the number of released builds. At this time, Mercury Marine releases major and minor version changes on physical media like a compact disc at a cost of US \$50. Any build that doesn't come packaged on physical media is provided at no cost and is distributed through the software's web update mechanism. For instance, version 1.3.0 was released on physical media and eight no cost updates have been provided as of the writing of this bulletin.



- a - Major version number
- b - Minor version number
- c - Number of released builds

51200

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND PROTECTED BY COPYRIGHT AND IS THE PROPERTY OF MERCURY MARINE.

This document is provided for the sole and exclusive use of the original recipient as prescribed by Mercury Marine and may not be distributed or copied, digitally or otherwise, without the prior written consent of Mercury Marine.