



Thank you for purchasing Candoopro! Please read the following information before using the system for the first time. If you have any questions about the use of the system, please contact us at Sales@candoopro.com, or visit our Forum at <http://forums.candoopro.com/>.

Quick Start Guide – Mercury Outboards and Mercruiser Stern Drives

Hardware and Cable Guide; what's included:

NOTE: If you ordered Mercury capability as an add-on to an existing Marine version of Candoopro, you will only receive the set of 6 cables to connect the Marine Main Diagnostic Cable to the various Mercury/Mercruiser engines.

The Candoopro system setup for Mercury includes the following parts:

The Vehicle Diagnostic System Box, which connects between your PC and the Outboard Engine



The USB Cable, which connects the Vehicle Diagnostic System Box to the PC:



The Marine Main diagnostic cable, which connects to the Vehicle Diagnostic System Box and to the various Mercury Diagnostic Adapter Cables:



Mercury Diagnostic Adapter Cables and engines supported

The Candoopro Mercury Diagnostic kit comes with a set of 6 Adapter Cables for the various supported engine types. The following information outlines the various cables, which engines are supported by that particular cable, and the general location of the diagnostic connectors.

The Marine Main diagnostic cable is fastened to each of the Mercury Diagnostic Adapter cables by carefully aligning the slot of the connected to the mating slot, then screwed lightly hand tight.



Mercury 2-pin flat connector:



Used on the following engines:

- 4-Stroke 40/50/60 HP **2002-2005**
- 2-Stroke EFI 150/175/200/225 HP **1994-2005**
- 2-Stroke DFI/Optimax **1998-2005**
- 4-Stroke Verado **2004-2005**



Connecting to engines with the 2-Pin Connector:

Location of the connector varies by engine and year, but generally the 2-Pin connector is located near the ECM. It will have a protective cap over it. Remove the protective cap and couple the diagnostic cable to the diagnostic connector. (Early 2000's Optimax and late 90's 2-Stroke EFI shown below for reference)



Mercury 4-pin flat connector:



Used on the following engines:

- 4-Stroke EFI 40/50/60/75/90/100/115 HP **2006-2009**
- 4-Stroke EFI 75/90/100/115 HP **2010-2013**
- 2-Stroke Optimax **2006+**
- 4-Stroke Verado **2006+**
- Mercruiser Sterndrives (non-ECT) **2001+**



Connecting to engines with the 4-Pin Flat Connector:

Location of the connector varies by engine and year, but generally the 4-Pin connector is located near the ECM or at rear of the engine. It will have a protective cap over it. Remove the protective cap and couple the diagnostic cable to the diagnostic connector. (Late 2000's Optimax shown below for reference)



Mercury 4-pin square connector:

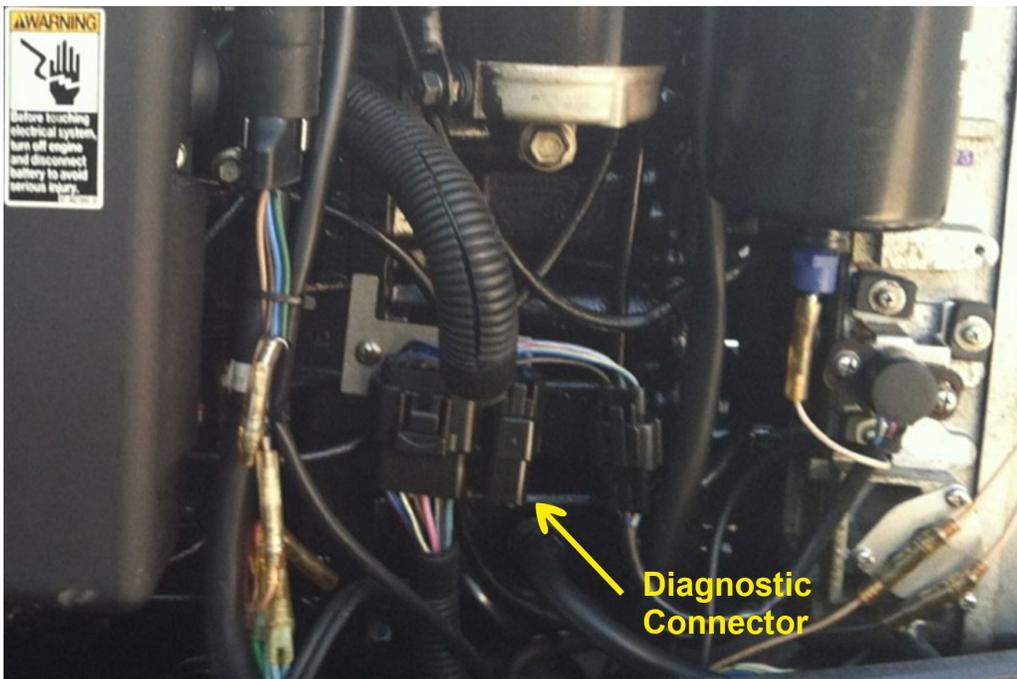
Used on the following engines:

- 4-Stroke Carb 25/30/40/50/60 1998-2005
- 2-Stroke Carb 3.0L 225 HP 1995-1999
- 2-Stroke EFI 3.0L 225/250 HP 1995-2001



Connecting to engines with the 4-Pin Square Connector:

Location of the connector varies by engine and year, but generally the 4-Pin square connector is located near the ECM on the 4 stroke carb engines, and directly under the starter on the 3.0L engines. It will have a protective cap over it. Remove the protective cap and couple the diagnostic cable to the diagnostic connector. (3.0L engine shown for reference)



Mercury G3 connector:



Used on the following engines:

- 4-Stroke 30/40/50/60 HP EFI **2010+** (1C104424 and above)
- 4-Stroke 150 HP **2012+** (1B905505 and above)
- 4-Stroke 75/80/90/100/115 HP **2014+** (2B095049 and above)
- Mercruiser Sterndrives with ECT system **2008+**



Connecting to engines with the G3 Connector:

NOTE! Many Mercury engines use the SmartCraft control system. The SmartCraft connector looks just like the G3 connector. Only connect this connector to engines in the above list. You will not harm anything, but will not be able to do a diagnostics session.

Location of the connector varies by engine and year, but generally the G3 connector is located near the ECM. It will usually have a Yellow protective cap over it. Remove the protective cap and couple the diagnostic cable to the diagnostic connector. (Late 60 HP 4 Stroke EFI shown for reference)



Tohatsu/Mercury connector:



Used on the following engines:

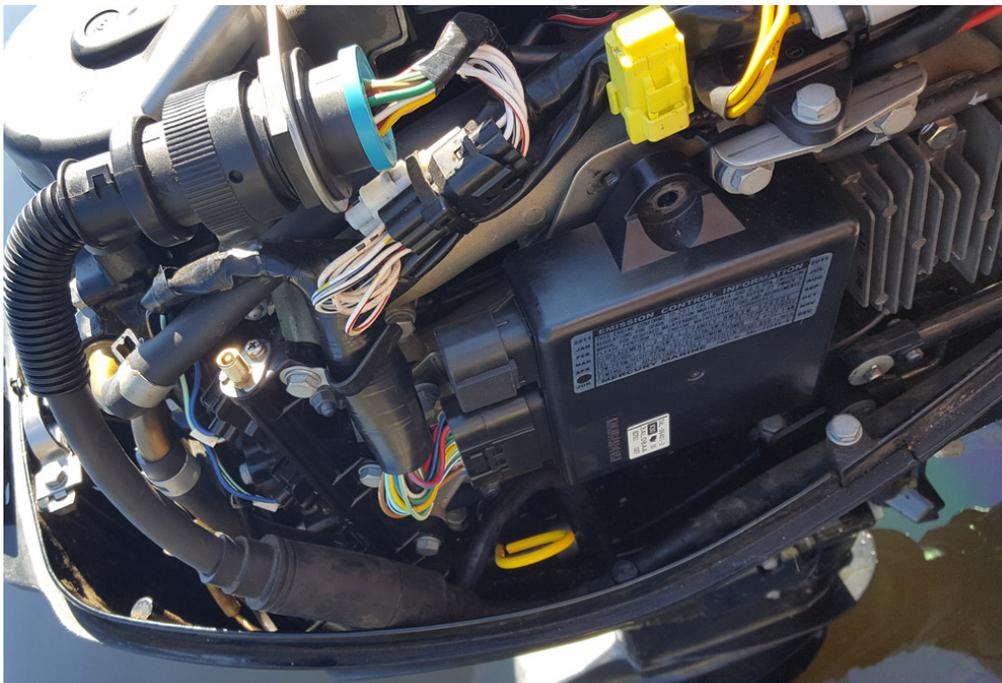
- 4-Stroke EFI 25/30 HP



Connecting to engines with the Tohatsu Connector:

NOTE! The Tohatsu engines are unique in three ways. First, there is no diagnostic connector on the harness, you plug into the top connector on the ECM. Second, you must apply battery power to the ECM to enable the diagnostic session. Third, the engine must be running to get the full fault and monitoring information.

The ECU has a rubber plug on the top connector, remove this plug and connect the cable. You may need to loosen the mounting screws on the ECM to get clearance from the harness. In order to tap into battery power, you can remove the protective cover on the front of the engine to get access to the battery cables at the starter solenoid. Clip the red alligator clip to the positive battery cable (red) and clip the black alligator clip to somewhere with good ground.



Mercury MEFI connector:



Used on the following engines:

- All Inboard/Stern drives with MEFI 1-4 1996-2001



Connecting to engines with the MEFI Connector:

Location of the connector varies by engine and year, but generally the MEFI connector is located near the ECM. It will have a protective cap over it. Remove the protective cap and couple the diagnostic cable to the diagnostic connector. (2000 Indmar Monsoon shown for reference)



NOTE ABOUT MERCURY OUTBOARDS MADE BY YAMAHA

Yamaha produced the following engines for Mercury Marine:

- Mercury 75/90/115 and 225 HP models **2003-2005**

You must purchase the Yamaha kit from Candoopro in order to diagnose these engines!

Getting Started- Loading Software and Starting up the Program:

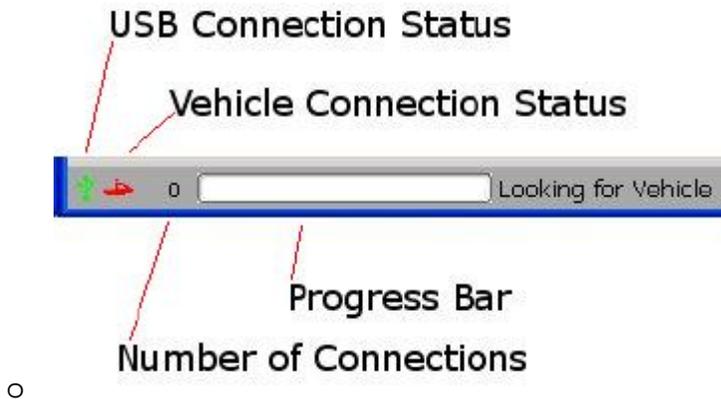
First Time: (Internet Connection is REQUIRED)

- Install USB Drivers, by entering the following into your web browser
 - <http://www.candoopro.com/candooinstall/driver/usbdriver.exe>
- Connect CANDoo Professional System to the PC with the provided USB Cable
- Install CANDoo Professional Software, by entering the following into your web browser
 - <http://www.candoopro.com/candooinstall/CanDooPro.msi>
- Start CANDoo Professional by going to start menu and launching CANDoo Professional
 - When prompted to download the new update, you must select “YES”

Each Use: (Internet Connection is Optional)

- Connect CANDoo Professional System to the PC with the provided USB Cable
- Start CANDoo Professional by going to start menu and launching CANDoo Professional
- Connect the Candoopro box and applicable cable to the diagnostic connector on the engine as noted above
- Once you start the program and select “Continue without Updating” at the License and Version check screen, the next page will pull up a Select Brand screen
- There are two tabs on the Select Brand screen
 - The Detail tab gives you a line by line description of each engine, years applicable, and photos of the ECM’s used for each section
 - The Simple tab allows you to quickly select the proper engine if you already know which engine you choose to work on.

- Select the applicable engine you are working on. The program will begin to attempt to connect to the ECU
- Bottom left of the CANDOo Professional software shows the current status



Waking up the ECU:

In order to initiate a diagnostic session, you need to “wake up” or turn on the ECU. This is done by turning on the ignition switch of the boat.

1. If you do not wish to run the engine while doing diagnostics (for example, to read and clear faults) you just need to turn on the ignition switch without starting the engine. Once the engine is in diagnostic mode, the ECU should continue to stay active (exception, the Tohatsu engines will not report faults or proper monitoring information until the engine is running)
2. If you wish to do an active diagnostic session while the engine is running (for example, using the engine monitor function, or to drop a cylinder while running) please follow the instructions and warnings in the service manual for this vehicle, and make sure you supply cooling water to the engine per the service manual. Start the engine.

Starting the Diagnostic Session:

When the Candoopro application is running, and the ECU has been woken up, you are ready to start the diagnostic session.

Once the ECU is woken up, the Candoopro application should detect the Mercury ECU, indicated by the icon on the lower left of the screen changing from red to green, and the status should change from “Looking for Vehicle”, to “Mercury Detected”.



Once “Mercury Detected” appears, the program reads the basic information from the ECM. There are a lot of different variations of engine configurations, particularly on the engines that use the PCM555 and ECM555

ECM's. (Like Optimax , Verado, and the 4 stroke EFI engines) These engines will display an additional selection screen for you to select the proper engine type, horsepower, and serial number range.

WARNING! Take your time and make sure you have selected the proper engine type, horsepower, and serial number range for the engine you are working on!

The Candoopro system will read the data from the ECM. You are now ready to read and clear faults, view operating history, activate various functions available for that particular model.

General Faq's:

- CANDOo Professional checks for updates on startup, if there is an active internet connection.
- The hardware box must always be connected to the PC when you startup the program to enable the system to check for new updates.
- If you are using wireless and get out of range, it can cause CANDOo Professional to freeze up while trying to connect to the website on startup. We suggest disabling the wireless on your laptop if you are moving out of wireless range.
- Make sure you have a fully charged battery on the boat when doing a diagnostic session, failure to do so can cause data corruption!
- When you are done, always close the program first before disconnecting the USB cable to the Candoopro box. If you disconnect the USB cable before closing the program, the program will freeze and you may need to stop the program manually via the Task Manager to exit the program.