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## Diagnostic Tool Update—CDS G3 Software Version 1.7

**NOTICE**

The information released in this service bulletin supersedes any previously released bulletins regarding the CDS G3 diagnostic tool.

### Models Affected

Models Covered	Serial Number
MerCruiser Axis Systems	All
MerCruiser ECT Engines and 4.5L, 6.2L, and 8.2L Non-ECT Engines	All
Mercury Racing Sterndrive 520, 540, 565, 1100, 1350, and 1650	All
30–60 HP FourStroke EFI Engines	1C104424 and above
75/80/90/100/115 FourStroke (2.1L)	2B095049 and above
150 FourStroke	1B905505 and above
Joystick Piloting for Outboard	All
Mercury Diesel DTS and Zeus Pod Systems	All

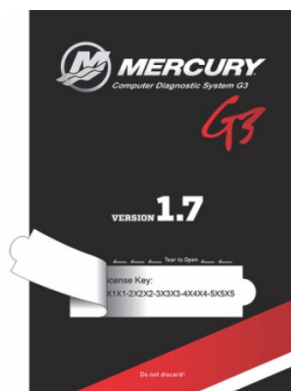
### Scope

Worldwide

### Situation

Mercury Marine is pleased to announce the release of a major update to the CDS G3 application, version 1.7.

**CDS G3 1.7 is now available as a download.** A license key will need to be ordered (8M0117374) for each computer that CDS G3 is to be installed on prior to performing the download. A CD is also available and should only be purchased if an adequate internet connection is not available to download the software.



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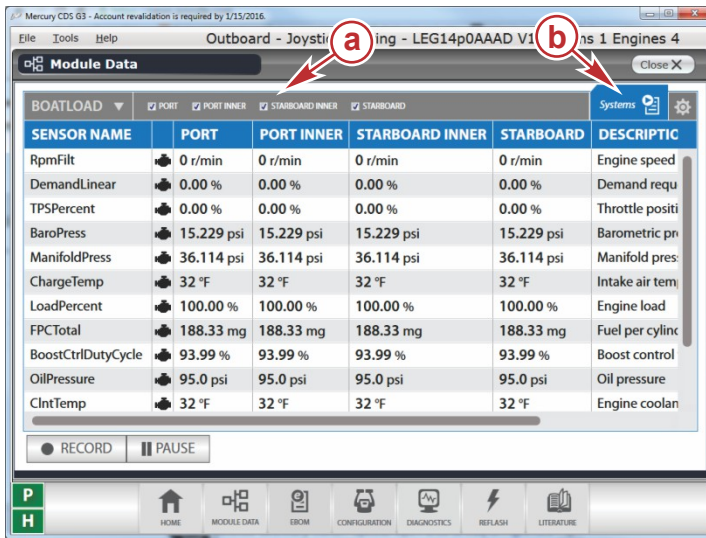
Refer to the following part numbers to update existing CDS G3 applications or to purchase additional complete G3 kits.

Part Description	Part Number
CDS G3 1.7 license key (includes download instructions)	8M0117374
CDS G3 1.7 complete kit with SmartCraft diagnostic interface, adapter cables, and license key	8M0114141
CDS G3 1.7 CD only (license key not included, only purchase if unable to download)	8M0114140

## New Features Introduced in CDS G3 1.7

With the release of CDS G3 1.7, Mercury Marine is excited to introduce two new features, multiple module support and a 5-day account validation extension.

### System Data View—Multiple Module



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The system data view—multiple module feature was developed to help in multiple engine applications when one engine is running abnormally and the other engines are running normally.

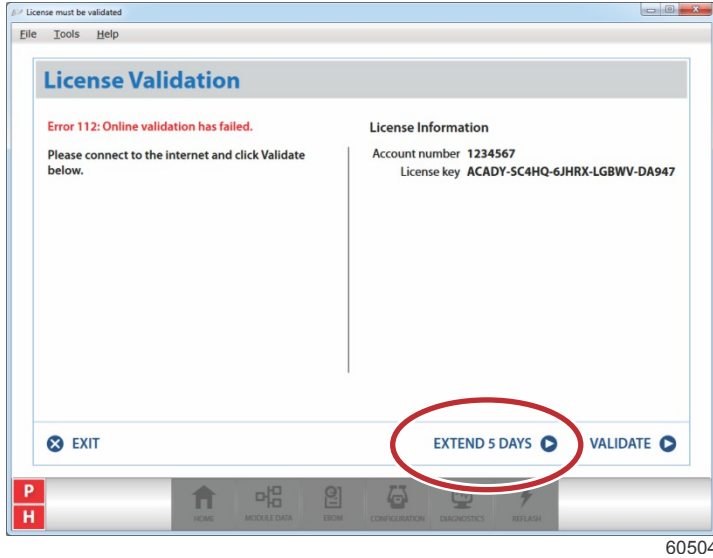
To use this feature, go to the Module Data screen and select the Systems data tab at the top. Then, select the desired modules or engines to compare.

- a - Module or engine check boxes
- b - Systems data tab

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## 5-Day Account Validation Extension



License validation "Extend 5 Days"

The 5-day account validation extension feature has been added to address those situations where CDS G3 users have forgotten to revalidate the software before the 45-day validation period has expired. Selecting the **Extend 5 Days** button will allow full functionality of CDS G3 without revalidation or connecting to the internet for five additional days. This feature will be especially useful for the technician that has traveled offsite to a customer's location, only to discover that the CDS G3 program needs revalidation. Instead of spending precious time searching for an internet connection, the technician can immediately get to work on the boat, then perform the revalidation after returning to the shop.

## CDS G3 License Key (8M0117374)

The CDS G3 license key card will need to be purchased prior to downloading version 1.7 software. A license key will only allow validation of G3 1.7 onto one computer, therefore it is required to order one license key card for each computer that G3 1.7 will be installed on. The license key card may be ordered on a standard parts order through MercNET and will be delivered in the same manner. When the license key card is received, pull the perforated tab to display a 25 digit license key.

The following instructions can be found on the back of the license key card:

1. Open your internet browser and navigate to the website: [service.mercurymarine.com/g3/download](http://service.mercurymarine.com/g3/download)
2. Registration to [service.mercurymarine.com](http://service.mercurymarine.com) may be required.
3. After the latest version of the software has been downloaded, install and run the software.
4. Use the license key on the front of this card along with your Mercury dealer number to activate the software.

## Software Download

Ensure the computer you wish to install CDS G3 1.7 on has internet access on a high-speed connection. Navigate with the web browser to [service.mercurymarine.com/g3/download](http://service.mercurymarine.com/g3/download) and perform the following steps:

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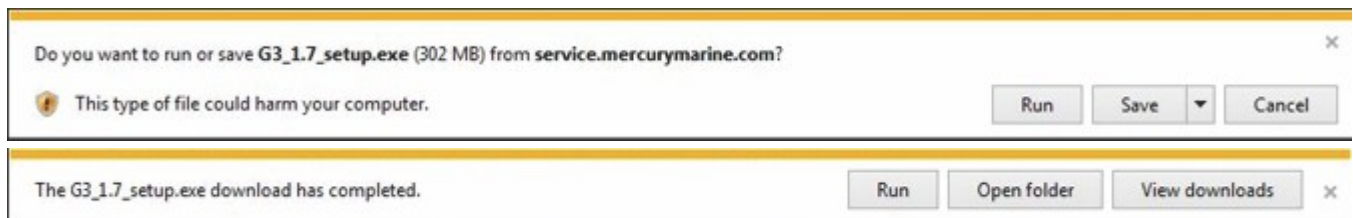
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Enter the 25 digit license key from the card you purchased.  
Click the **Download** button.

61053

The Internet Explorer web browser will give a message with options to save, run, or cancel. Select the **Run** button to install the program after it downloads. (Different internet browsers will have other iterations to save or run files; consult the internet browser's guide for more information.) You may also click **Save** to save the file to the download folder on the PC.



61055

## Software Installation

### Administrative Rights

The user performing the CDS G3 program installation must have administrative rights.

**NOTE:** *Some information technology (IT) departments may restrict user rights. If this has occurred, the IT department must perform the installation, or they must grant administrative rights to the user accounts performing the installation.*

### Antivirus/Internet Security Products

Antivirus and internet security products are recommended for use on computers running the CDS or CDS G3 programs. They help protect the computer from threats that may be encountered during internet sessions. Some of these products may display security warnings during the CDS G3 installation. If this occurs, the user must determine whether the warning is caused by the CDS G3 installation program, or if there is some other cause, such as a computer virus. If it can be determined that the CDS G3 installation program caused the warning, the user should allow the installation program to proceed.

## Software Installation

Any new installation of CDS G3 may be installed without a previous version of the software installed.

Before proceeding with installation, complete all *High Priority Updates* as provided by Microsoft Windows update service [support.microsoft.com](http://support.microsoft.com).

To install CDS G3, double-click the executable (.exe) that was downloaded from the [service.mercurymarine.com/g3/download](http://service.mercurymarine.com/g3/download) website.

During installation, the following programs may be installed:

- Microsoft® ReportViewer 2010
- Microsoft Visual C++ 2010 SP1 Redistributable Package (x86)

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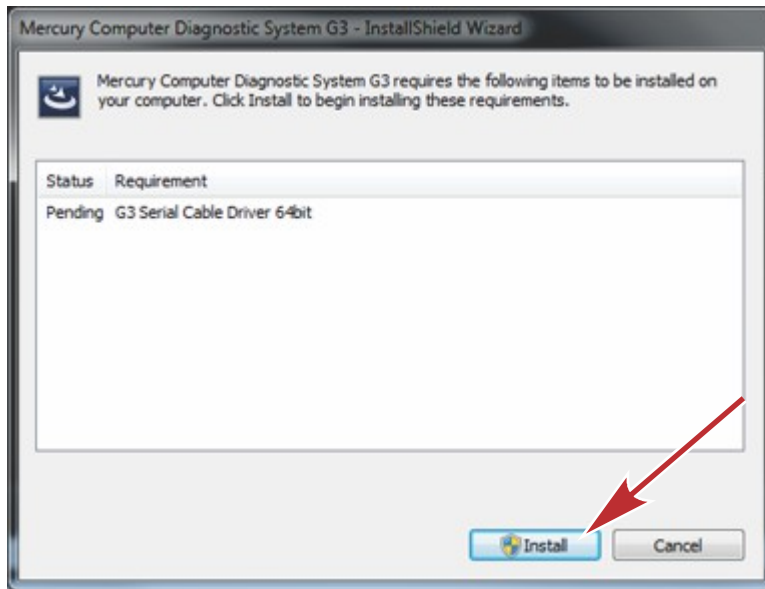
- Microsoft .NET Framework 4.5.2 Web
- Windows Installer 4.5
- Kvaser® 4.9 CAN Adapter Driver

These additional programs are required for CDS G3 to deliver a rich, interactive user experience.

When the Literature feature is installed, the following applications and libraries may also be installed:

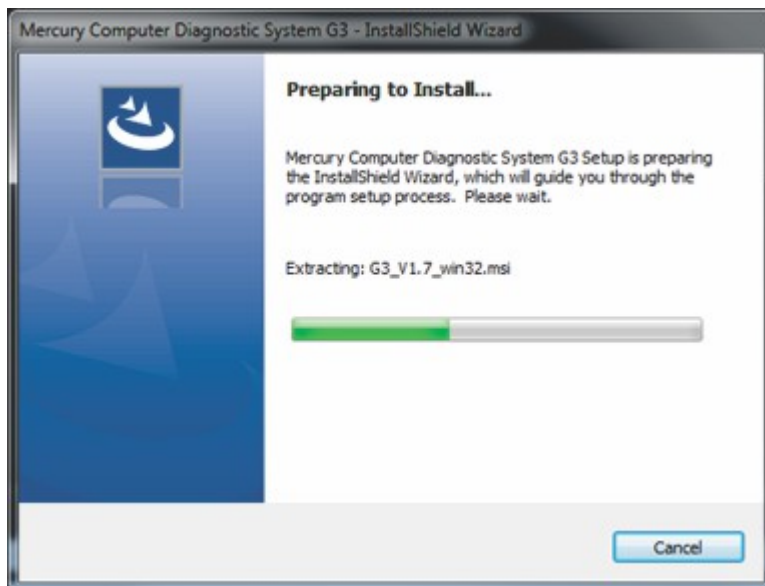
- IIS Express 8.0
- Microsoft .NET Framework 4.5.1
- Microsoft Internet Explorer 11

## Software Installation Steps



Install required software onto the computer. Click **Install**.

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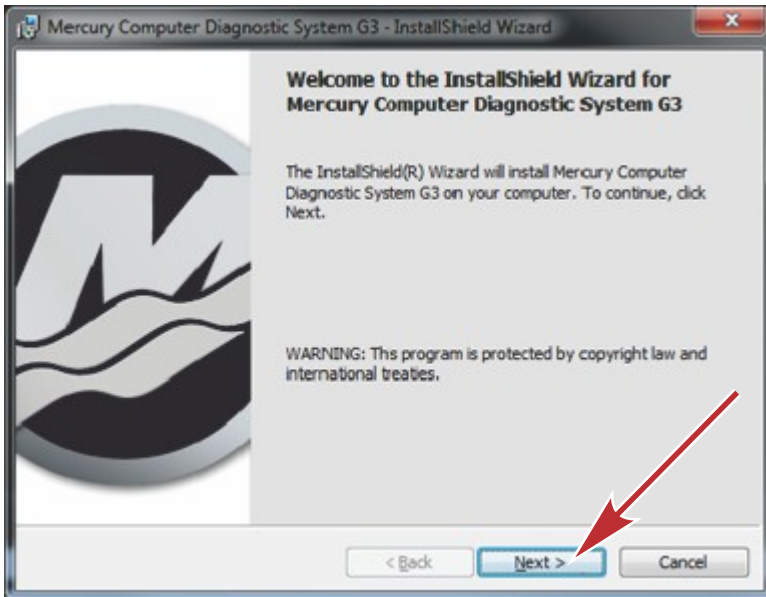


Extracting the G3 files.

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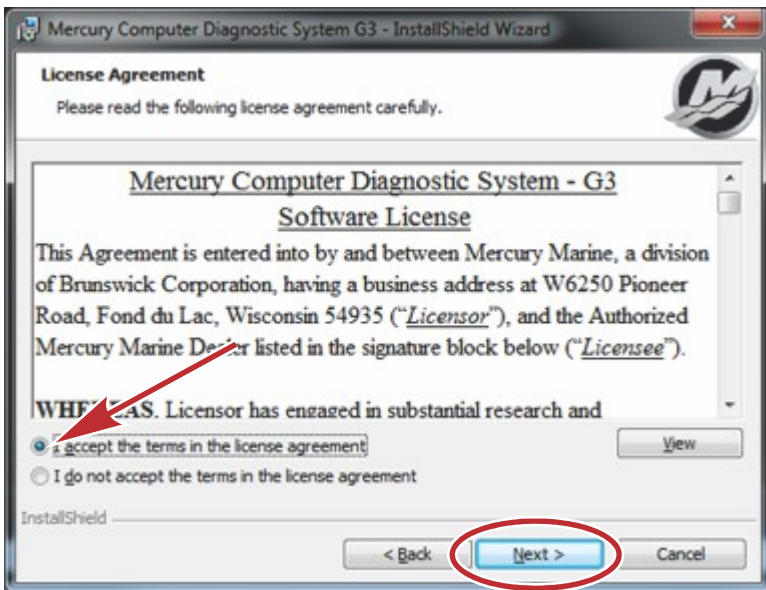
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The welcome screen will appear after the required software drivers are installed. Click **Next**.

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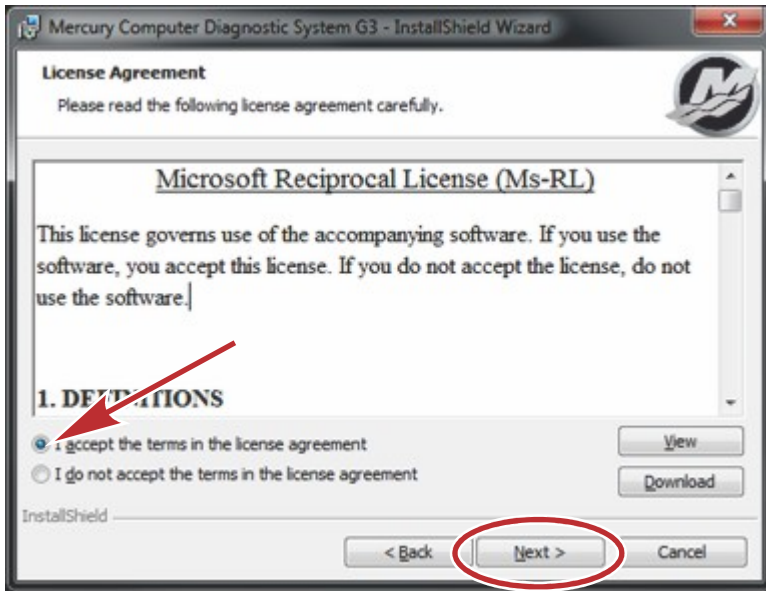
Accept the terms of the Mercury Marine G3 license agreement after reading and approving them. Click **Next**.

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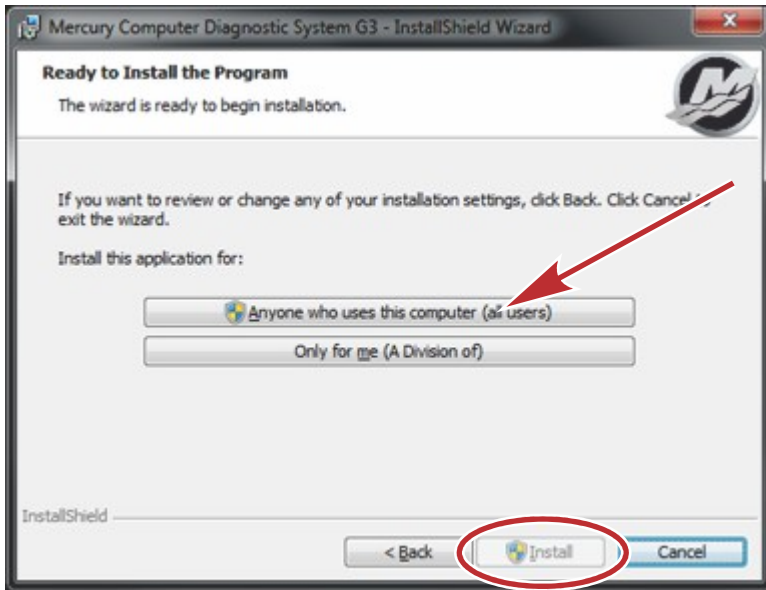
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Accept the terms of the Microsoft license agreement after reading and approving them. Click **Next**.

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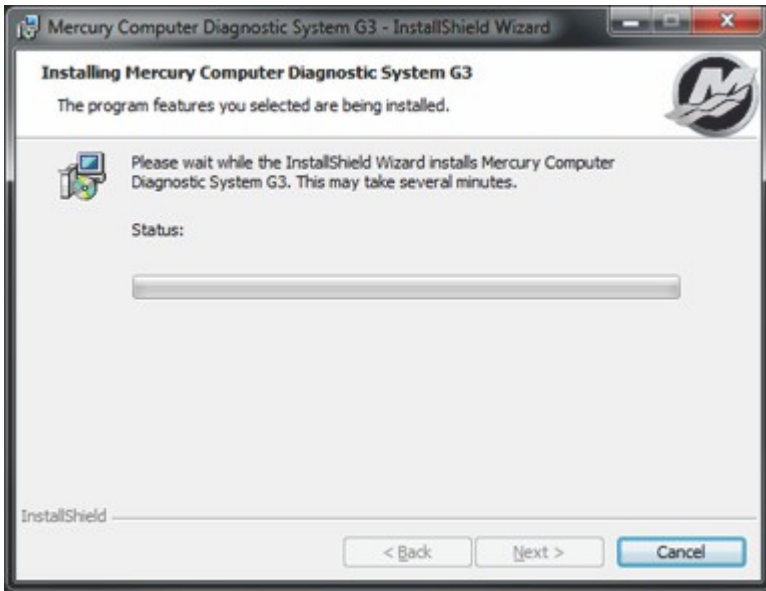


Choose to install this application for "Anyone who uses this computer (all users)." Click **Install**.

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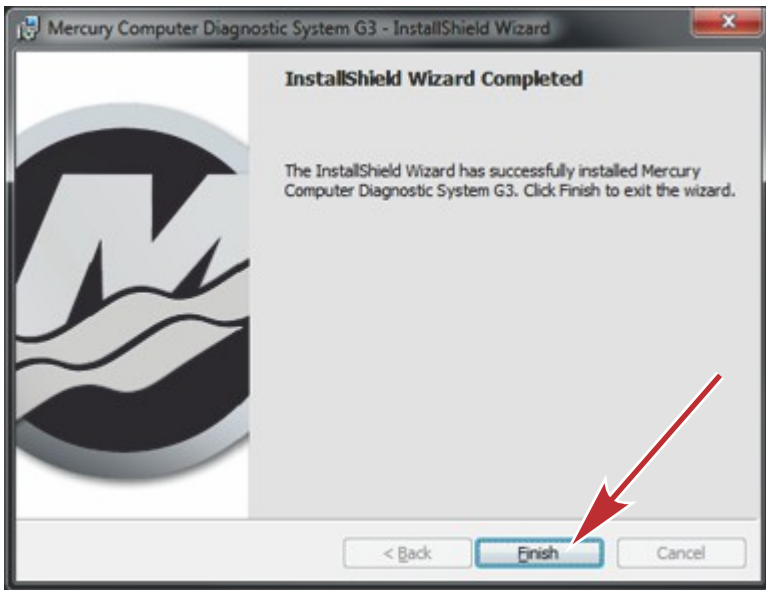
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The software installation progress will display.

61063



Click **Finish** to complete the installation.

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## License Key

A license key is a 25-character alphanumeric key (for example X1X1X-X2X2X-X3X3X-X4X4X-X5X5X) that is used to unlock the CDS G3 application and that ties a PC to a license. One license key card will be received for each license key that is purchased.

**NOTE:** If it is no longer desired to use CDS G3 on a specific PC, the license may be removed from it by clicking the **Deactivate Machine** button from the **Help→About** toolbar menu. It may then be activated with the same license key on a different PC.

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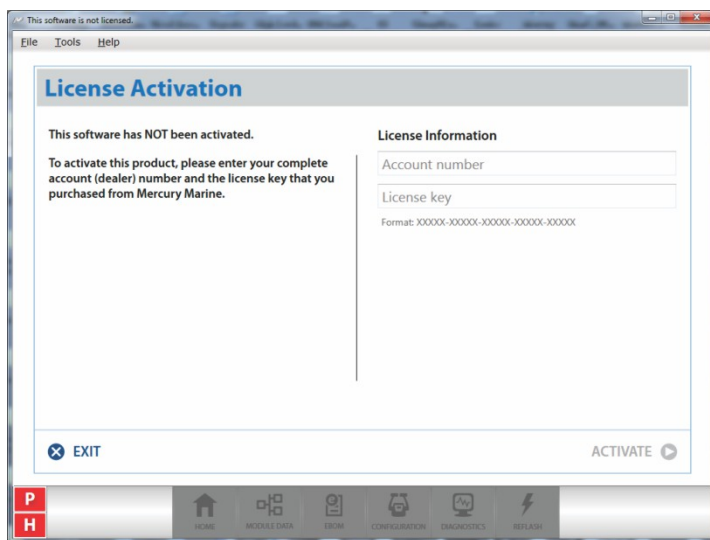
## License Activation

Version 1.7 no longer offers the trial option to use the software before it's activated. When a CDS G3 license has been activated, account revalidation is still required every 45 days. **CDS G3 may only be used by contracted Mercury Marine accounts**, so the 45-day revalidation requirement is partially intended to ensure that only active accounts may use the software. The other purpose for revalidation is to ensure the software stays up to date. To license and validate CDS G3, internet access is required. The software installation may be revalidated at any time to restart the 45-day validation period. If the PC is connected to the internet when CDS G3 is started, revalidation will automatically occur. Manual revalidation can be done from the **Help->About** toolbar menu by pressing the **Validate Account** button. Once the 45-day validation period has expired, the software will be disabled until revalidation is completed. If the 45-day validation expires in error, the revalidation requirement may be extended for five days to get the current job completed.

**IMPORTANT:** After the 45-day validation period has expired and the 5 day extension is allowed to expire, account revalidation must occur before the software will work again.

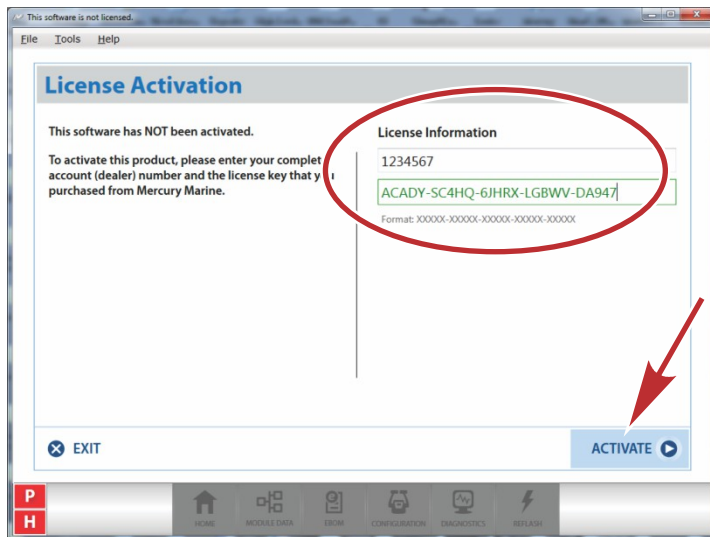
**NOTE:** A CDS G3 license can be removed from a machine by pressing the **Deactivate Machine** button from the **Help->About** toolbar menu. This will free up a license and allow the license key to be reused on a new or different PC. This option is only available when a license is active.

## License Activation Screen



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A CDS G3 installation that has not been activated will display this screen. This screen is also displayed when the 45-day validation period expires. To activate a license, an internet connection is required. The full dealer number and the 25-character license activation key are required. Account validation is required every 45 days, but is performed automatically when an internet connection is present during the application startup. It can also be performed manually at any time. Once completed, the 45-day validation period is reset.

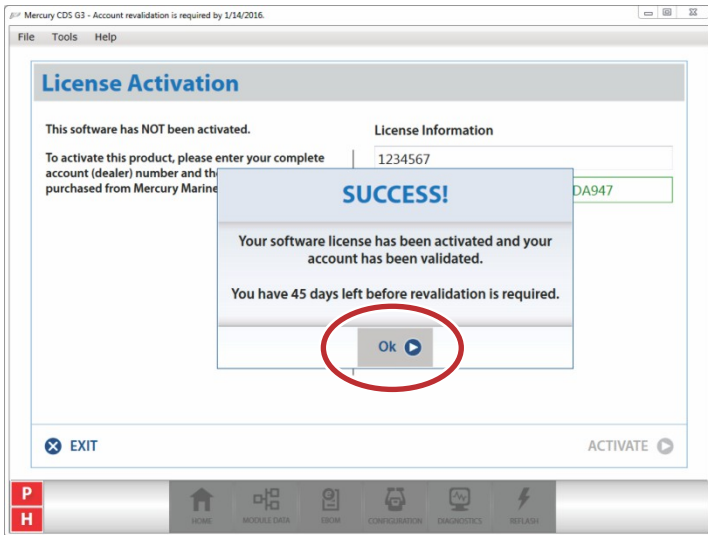


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Enter the dealer number and license key. After entering dealer number and license key click **Activate**.

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Click **Ok** to finish.

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## CDS G3 Version Number

CDS G3 versions are defined by a version number. The example below shows version 1.7.2. The number defines three parts of the version: a major version, a minor version, and a build number. The image below is from the CDS G3 startup splash screen.

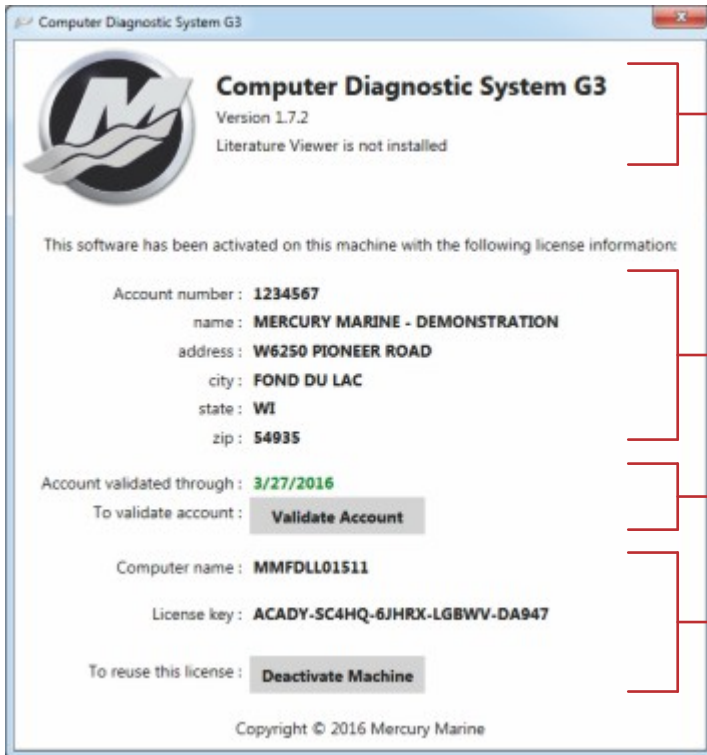


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The complete version number can be noted from the splash screen, as shown above, or by selecting Help→About from the toolbar menu at the top of the screen.



61065

- a - Version number and literature viewer installation status
- b - Dealer information and account number
- c - Account validation expiration date and button to manually perform validation
- d - Computer name, license key, and **Deactivate Machine** button

## CDS G3

Mercury Marine is the provider of the CDS G3 license, which permits the purchaser to access diagnostic content, configuration tools, and features via the CDS G3 product for business use only.

**IMPORTANT: Licenses and license keys are NOT transferable.**

Hardware is not provided with the purchase of a license and must be purchased separately. The CDS G3 licensing agreement is presented for review and acceptance during installation. This document can also be accessed after installation for further details.

## Operating System Requirements

Mercury Marine will provide technical support for CDS G3 version 1.7 on these operating systems:

- Windows 7 SP1 Professional
- Windows 7 SP1 Enterprise
- Windows 7 SP1 Ultimate
- Windows 8.1 Professional
- Windows 8.1 Enterprise
- Windows 10 Pro
- Windows 10 Enterprise

**Windows 10 Pro is strongly recommended for best performance with CDS G3 1.7.**

CDS G3 will not operate on Windows XP or Windows 8.0, however, Windows 8.1 Professional is supported (see chart above).

## Computer Requirements

Mercury Marine does not recommend any computer hardware providers. The following are the minimum computer specifications that are required to use the CDS G3 product.

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**NOTE:** It is strongly recommended to get at least the recommended hardware options for optimum performance with CDS G3 software.

Computer Hardware	Minimum	Recommend
<b>CPU:</b>	1.2 GHz multicore processor (dual core or better)	Intel® I5 processor, 2.4 GHz or higher
<b>Screen resolution:</b>	1024 x 768	
<b>Screen size:</b>	10.1 inch	
<b>Memory:</b>	2 GB RAM	8 GB RAM or better
<b>Hard Drive:</b>	120 GB hard drive	128 GB SSD or better
<b>Internet Access:</b>	Wired/wireless	
<b>CD/DVD Drive:</b>	DVD drive	Optional external USB DVD drive
<b>USB:</b>	Three USB 2.0 or 3.0 ports	USB port hub can also be used
<b>External Ports:</b>	Optional 9-pin serial port	Optional USB – 9-pin serial port
<b>Accessories:</b>	Mouse	Mouse

## CDS G3 Updates

Only build releases are provided at no charge during the active support period. Mercury Marine will make every effort possible to make each of these releases available directly through the CDS G3 application from the Home screen. As long as the computer has internet access when the CDS G3 software is started, it will automatically check for available updates. When updates are available, there will be a notification on the Home screen or on a pop-up at the bottom of the screen. The update process can also be manually initiated by selecting **Check for Updates** from the gear menu on the Home screen. In the event that updates cannot be provided directly from CDS G3, they will be made available through the service.mercurymarine.com website. When an executable (.exe) is provided as an update, it will contain everything needed to install and run the software. There is no need to have a previous version of the software installed. Also, if a previous version is installed, an executable update can be installed without uninstalling the previous version.

The CDS G3 kit no longer includes an installation disc; it will only contain the hardware required to use the software and a license key. If you don't have a high-speed internet connection available to download the executable in an acceptable amount of time, a backup disc which contains the latest installation of CDS G3 is available for purchase. The purchase of a backup disc does not include a license to use the software.

## CDS G3 Harness Connections

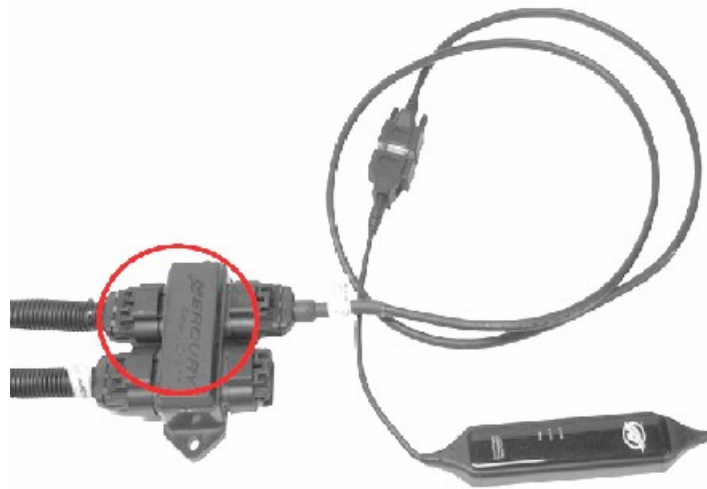
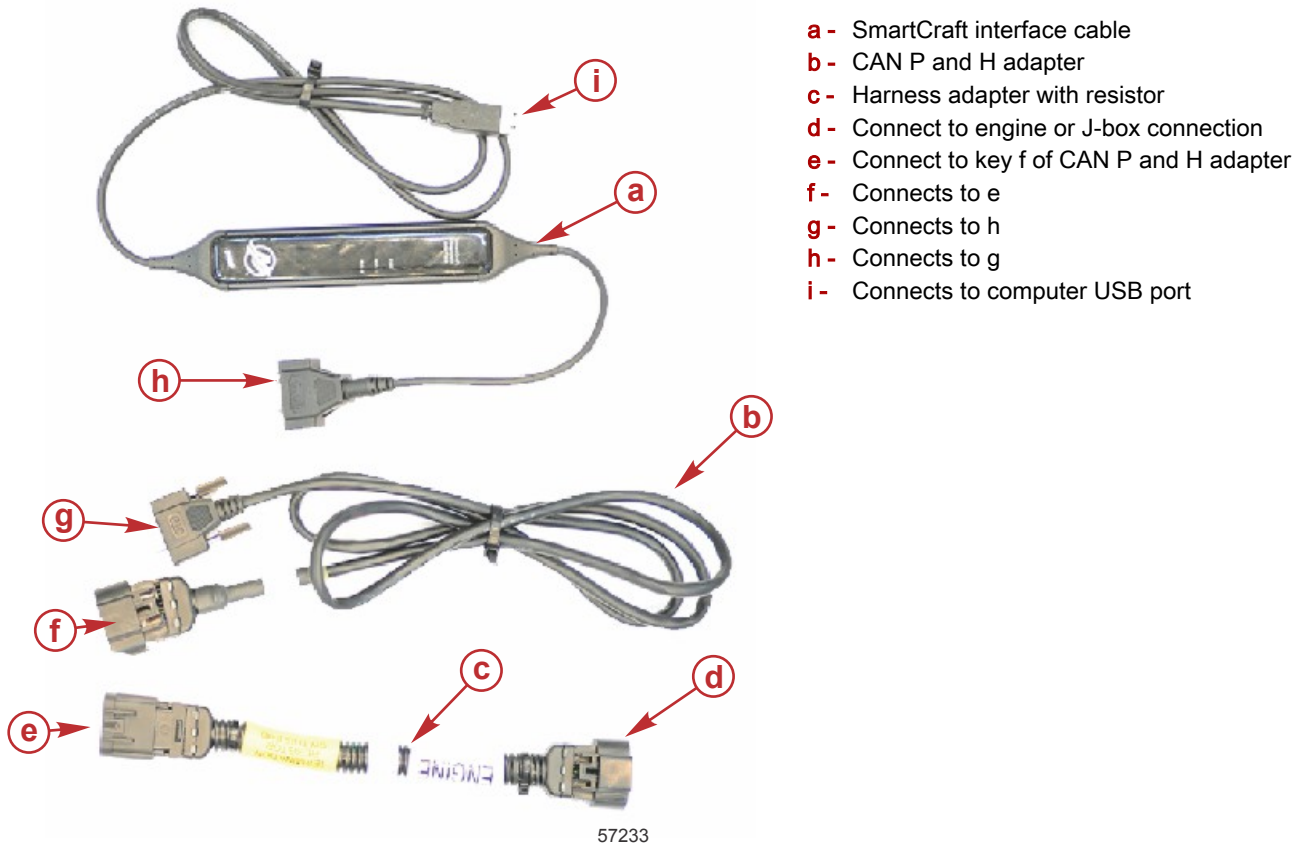
### Vessels with a Junction Box

1. Insert the SmartCraft Diagnostic Interface USB connector into a powered USB port.
2. Connect the SmartCraft Diagnostic Interface DB9 connector to the CAN P/CAN H adapter harness DB9 connector.
3. Connect the CAN P/CAN H adapter harness to the junction box to communicate with the power package.

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**IMPORTANT:** Ensure that the correct termination resistor is installed on the CAN P bus. The CAN P bus must be properly terminated for the tool to communicate reliably. Improper termination will result in communication errors or complete loss of communication.



**Junction box connection**

## Vessels without a Junction Box

1. Insert the SmartCraft Diagnostic Interface USB connector into a powered USB port.
2. Connect the SmartCraft Diagnostic Interface DB9 connector to the CAN P/CAN H adapter harness DB9 connector.

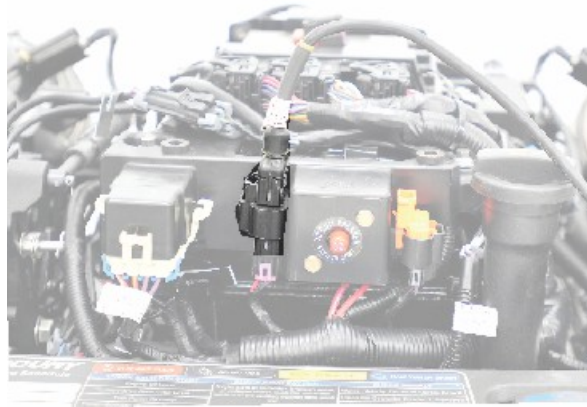
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3. Remove the CAN P termination resistor from the engine harness.

**IMPORTANT: Ensure that the correct termination resistor is installed on the CAN P bus. The CAN P bus must be properly terminated for the tool to communicate reliably. Improper termination will result in communication errors or complete loss of communication.**

4. Connect the CDS G3 harness adapter (84-8M0046081) to the CAN P/CAN H adapter harness, and connect the adapter harness to the engine harness connector.



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**CDS G3 typical engine connection (4.5L shown)**

**IMPORTANT: The CDS G3 harness adapter (84-8M0046081) contains the correct termination resistor for the SmartCraft Diagnostic Interface to communicate with the control module.**

All of the components above are included in the CDS G3 kit, which is part number 8M0114141. When interfacing the CDS G3 diagnostic tool to the CAN bus, proper termination must be maintained. If access to the CAN bus is obtained by removing a termination resistor, then the 8M0046081 adapter harness must be used as well. If the CAN bus is accessed through an open J-box port, 8M0046081 will not be used.

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