MERCURY Diesel

Service Bulletin

Bulletin No. 2014-62

Circulate to: ☑ Sales Manager ☑ Accounting ☑ Service Manager ☑ Technician ☐ Parts Manager

Autopilot Module Reflash for SC2.2 Zeus and SC2.2 Generation I Diesel Axius—GPS Signal Loss

Models Affected

Description	Serial Number Range
Generation I SC2.2 Diesel Axius	88401303–88408276
SC2.2 Zeus	0M957858–0M968996

Scope

Worldwide

Situation

Mercury Marine has released a reflash for autopilot modules that are installed in the products listed above. Current autopilot operation can result in vessel heading changes that occur while in autoheading mode. The heading changes may occur if the GPS signal is lost and then reacquired while still in autoheading mode. This software update for the autopilot module, once downloaded, will cause autoheading mode (if active), to disengage if the GPS signal is lost. Although loss of GPS signal once acquired is rare, it may occur during inclement weather or when traveling under obstructions.

The reflash can only be downloaded to the affected autopilot modules using CDS G3 version 1.5.4 or greater.

IMPORTANT: As part of routine maintenance or if you receive customer reports describing unexpected heading changes due to GPS signal loss while in autoheading mode, reflash the autopilot module per the instructions in this bulletin.

IMPORTANT: For Zeus JH pods, ensure that Mercury Diesel Service Bulletin 2012-65 or 2012-65R1 has been completed.
If 2012-65 or 2012-65R1 has previously been completed, complete the instructions found in this bulletin, 2014-62.
If 2012-65 or 2012-65R1 has not been completed on SC2.2 Zeus vessels with JH pods, do not continue with this bulletin. Instead, follow the directions in Mercury Diesel Service Bulletin 2012-65R2, which has been updated to include the necessary reflash instructions also described in this bulletin.

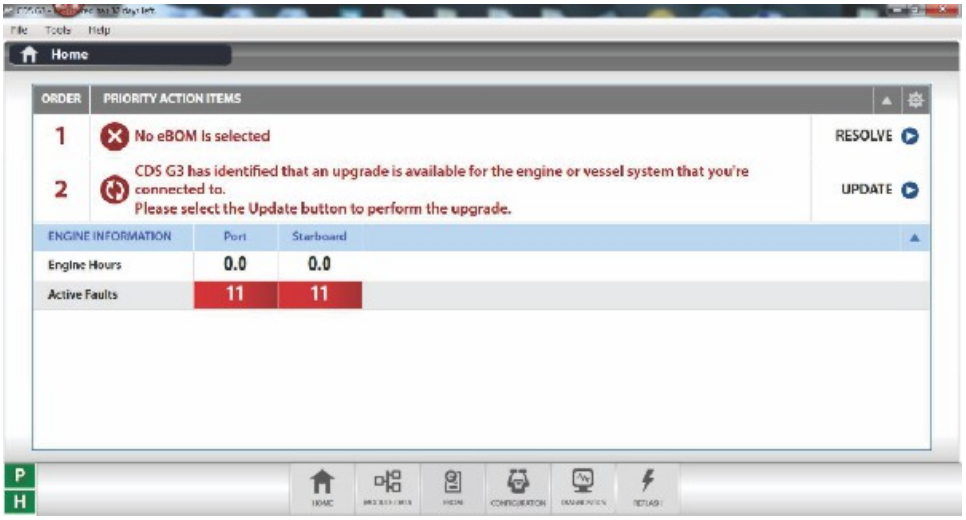
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Inspection/Test

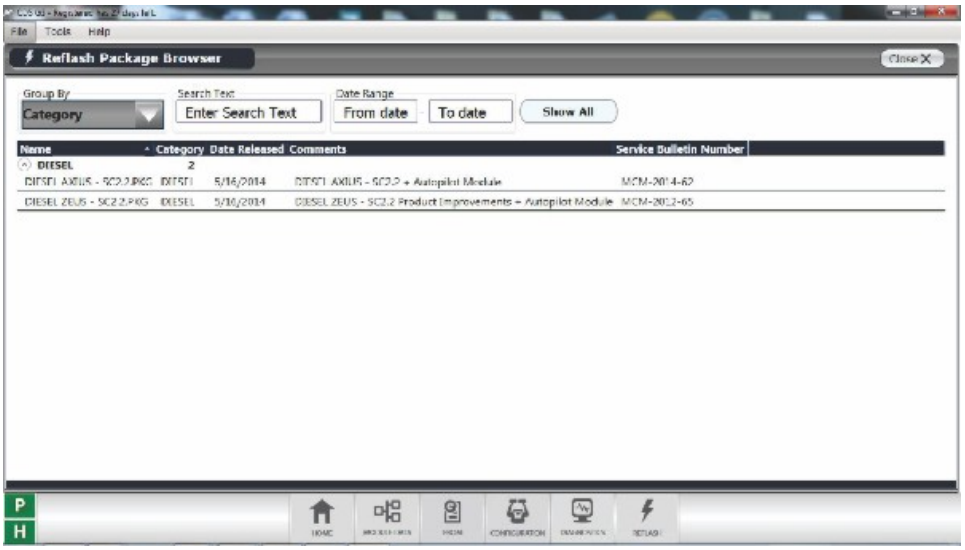
Connect the CDS G3 to the vessel and turn the keys on. If the CDS G3 is version 1.5.4 or greater, it will evaluate the software loaded for all updates that are applicable for the SmartCraft modules on this vessel. The **Home** screen is the default screen that appears when CDS G3 is activated. The **Home** screen directs you to priority action items, such as **CDS G3 has identified that an upgrade is available for the engine or vessel system that you're connected to. Please select the Update button to perform the upgrade**, as shown in the following screenshot.



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On the **Home** screen, select the **Update** button to the right of the priority action item, which indicates that there are available upgrades. This will call up the **Reflash Package Browser** where you can select the reflash packages that are applicable for the vessel you are connected to.

Next, use the drop-down arrow to the left of the category to view the available updates for this vessel. In the following screenshot, the category is listed as **Diesel**.



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There will be two reflash packages shown under the diesel category if the autopilot module can be updated by these reflash packages (Diesel Axius SC2.2 and Diesel Zeus SC2.2). This is because CDS G3 has the same autopilot module software upgrade for both vessel types loaded in both of the reflash packages shown. SC2.2 Zeus and Axius share a common autopilot module.

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CDS G3 looks at the current software of all the modules that are keyed on and awake on the vessel it is connected to. Then, CDS G3 identifies all reflash packages that have an upgrade for any of the modules that it is in communication with if those reflash packages have a service bulletin associated with them.

The **Diesel Zeus–SC2.2 PKG** should be selected for any autopilot modules installed on SC2.2 Zeus vessels being updated. The Diesel Zeus reflash package will not only allow the autopilot module to be updated, but will allow any module that can be updated to be updated as well.

The **Diesel Axius–SC2.2 PKG** should be selected for any SC2.2 Generation I Diesel Axius vessels being updated. The Diesel Axius reflash package will not only allow the autopilot module to be updated, but will allow any module that can be updated to be updated as well.

Prerequisites

The CDS G3 will check that the computer and vessel meet all prerequisites. If there are any cautions or failed checks listed, those must be addressed before proceeding.

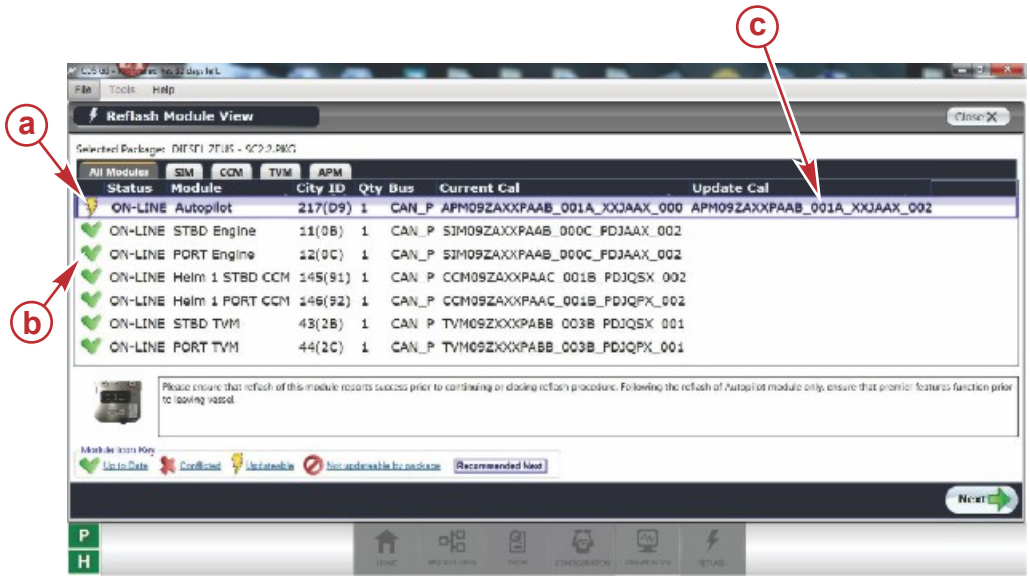
Connect the laptop to an AC 110-volt source to prevent module damage that can occur from discharging the laptop battery during the reflash procedure.

During module reflash, the system may launch the prerequisite screen again prior to allowing you to proceed. If no failed checks are listed, select **NEXT**.

For SC2.2 Generation I Diesel Axius or SC2.2 Zeus, there are two possible update paths for these vessels:

- **Autopilot module only reflash**—This update involves reflashing only the autopilot module, importing the personality, and water testing the boat to ensure that the premier features are working.
- **Complete vessel reflash**—This update involves reflashing a combination of TVMs, CCMs, and SIMs as well as the autopilot module. CDS G3 is programmed to determine which modules can be updated as determined by the package you have selected. Depending on which modules you have to reflash, the configuration necessary to make the boat completely functional will vary. Completing the steps of this bulletin will ensure the functionality of the vessel.

Correction



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Reflash module view

a - Lightning bolt indicates module is updateable
b - Check mark indicates module is up-to-date
c - Available update

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SC2.2 Zeus JH Pods Serial Numbers 0M963373–0M968241

If the **Reflash Module View** shows that any combination of the CCMs, TVMs, or SIMs on vessels equipped with JH pods in the ranges listed above are updateable with the **SC2.2 Reflash Package View** screen, it is likely that **Mercury Diesel Service Bulletin 2012-65 (or 2012-65R1)** has not been completed on these vessels.

The technician must first complete all instructions and improvements listed in **2012-65R2**, and then complete the reflash and file the warranty claim as instructed in bulletin **2012-65R2**. **Mercury Diesel Service Bulletin 2012-65R2** instructs you to replace hydraulic hoses that are found to leak and to replace hydraulic system pressure transducers if they fit the parameters described in that bulletin.

If the **Reflash Module View** shows that only the autopilot module can be updated with this reflash package, follow the instructions in this bulletin, and file the warranty claim as instructed.

SC2.2 Zeus HH or IH pods

If the **Reflash Module View** indicates that any combination of the CCMs, TVMs, or SIMs can be updated with the SC2.2 **Reflash Package View** screen open, reflash those modules, and follow the **Multiple Module Reflash** directions in this service bulletin to apply the updates, and file the warranty claim as instructed.

If only the autopilot module can be updated with this reflash package, follow the **Autopilot Module Only** instructions of this bulletin, and file the warranty claim as instructed.

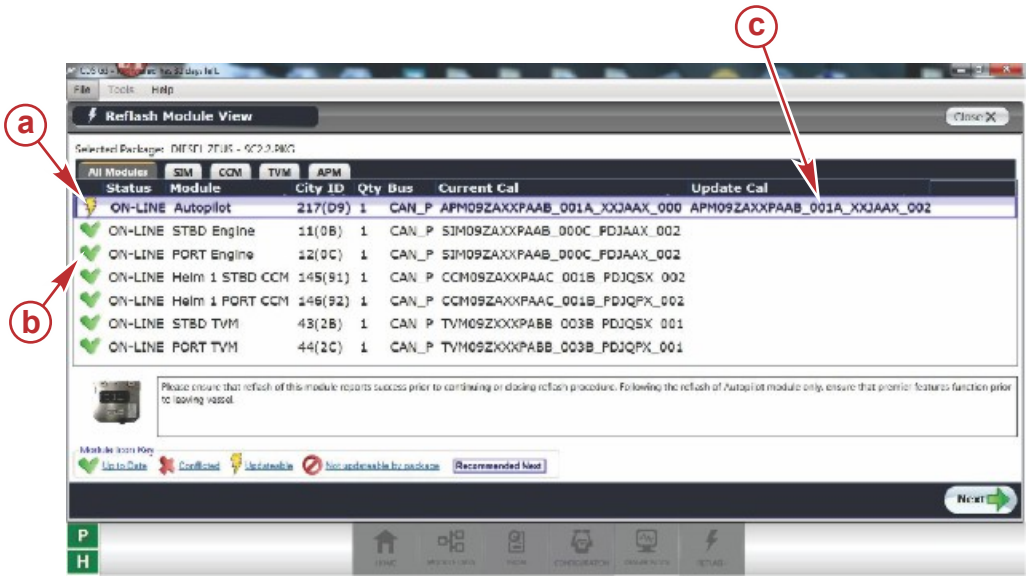
SC2.2 Generation I Diesel Axius

If the **Reflash Module View** screen shows that any of the CCMs, TVMs, or SIMs can be updated with the SC2.2 reflash package view screen open, reflash those modules and follow the **Multiple Module Reflash** directions in this service bulletin, and file the warranty claim as instructed.

If only the autopilot module can be updated with this reflash package, follow the **Autopilot Module Only** instructions of this bulletin, and file the warranty claim as instructed.

Autopilot Module Only Reflash for SC2.2 Zeus and SC2.2 Generation I Diesel Axius

1. Disconnect all VesselViews or SmartCraft gauges from the junction box before proceeding. If all other modules on this vessel have been reflashed previously or are already up-to-date, the CDS G3 **Reflash Module** screen will show that only the autopilot module can be updated. This is indicated by a lightning bolt icon, as shown in the following figure.



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Reflash module view

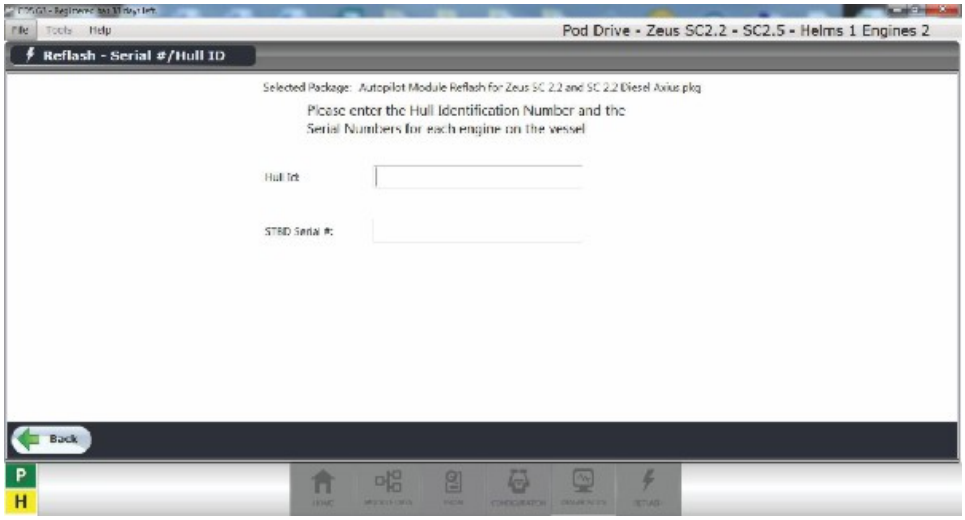
a - Lightning bolt indicates module is updateable
b - Check mark indicates module is up-to-date
c - Available update

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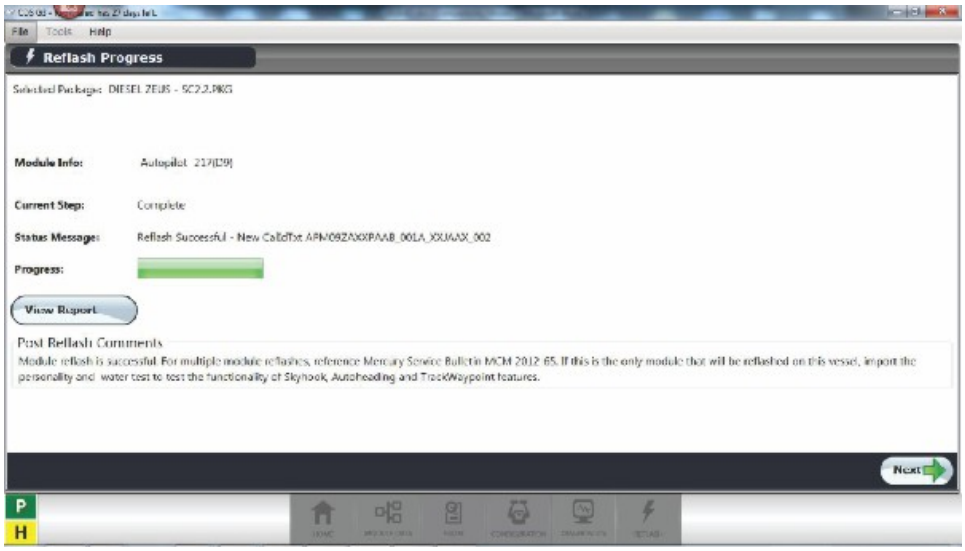
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2. Click on **Next** to proceed. You will be required to enter the hull ID and pod serial number as shown.



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3. Select **Next** to proceed. Once the following screenshot appears, the autopilot reflash has been successful.



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Configuration After Reflashing Autopilot Module Only

1. Select **Next**.
2. Select **Finish** from the reflash **Module View** screen.
3. If you have previously selected an EBOM proceed to **Configuration**. If you have not previously selected an EBOM, select EBOM, then select the applicable EBOM for your configuration, usually the uppermost EBOM.
4. Select **Configuration**.
5. From **Configuration** menu, select **Personality**.
6. Select **Import Vessel.**
7. Use **Select File** to query the location of the file folder or memory stick that contains the vessel personality.
8. Select **Begin Import** to import the vessel personality.
9. When CDS G3 indicates that the personality has been successfully imported, key off all engines, move all electronic remote control handles to reverse-wide-open throttle, and disconnect CDS G3.

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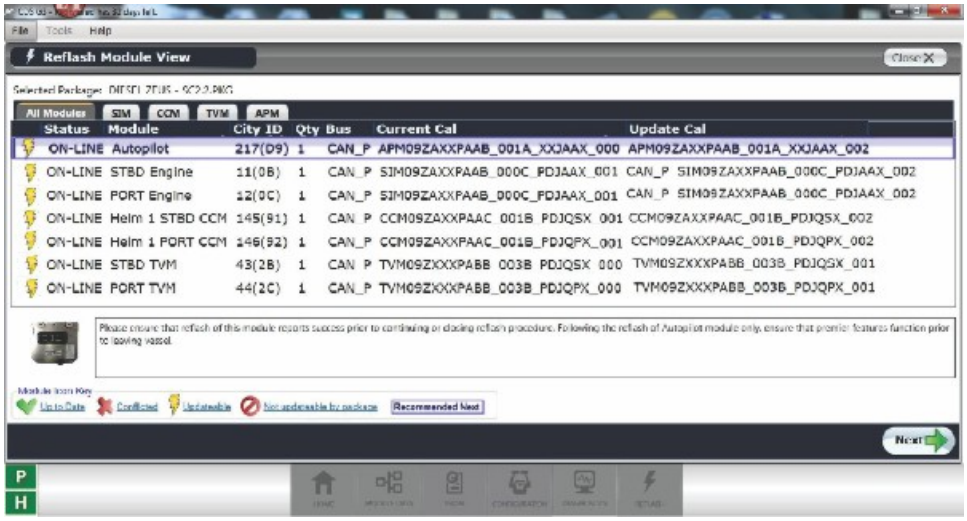
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10. Launch the vessel to verify that the autoheading, Skyhook and waypoint track functions are performing properly. If the standby light is flashing, it indicates that autopilot is not enabled. Common causes are the GPS has not acquired a satellite fix, the starboard key switch is off, or the vessel personality was not imported. Check all three and wait for the light to stop flashing before engaging any of the premier features.
11. Proceed to the **Warranty** section for instructions on filing a claim.

Multiple Module Reflash for SC2.2 Zeus and SC2.2 Generation I Diesel Axius

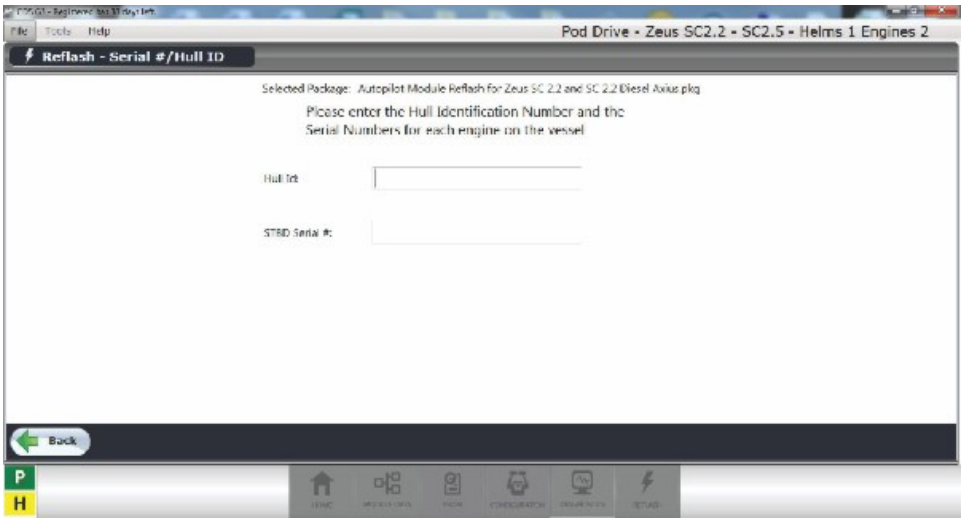
The following are instructions for completing reflash when multiple modules can be updated with the selected reflash package.

1. Disconnect all VesselViews or SmartCraft gauges from the junction box before proceeding with module reflash. Modules on the vessel that are updateable by this reflash package will be indicated with a lightning bolt icon in the **Reflash Module View**, as shown in the following illustration.



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2. Click on **Next** to proceed. You will be required to enter the hull ID and pod serial number.



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3. Select **Next**. The first module listed that can be updated will begin the reflashing process. The order in which the modules are updated can be altered by selecting one prior to beginning the process. Altering the order of the reflash is usually not necessary as the CDS G3 lists the modules in the preferred order. The order presented in this procedure is for reference only and is provided to ensure that the order of reflash is being followed by CDS G3. If you do not see all modules listed in **Reflash Module View**, make sure all keys are on. As each module is reflashed it will move down to the bottom of the display on **Reflash Module View**.

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4. Ensure that the starboard SIM is reflashed prior to reflashing the port SIM. If an error in selecting the port SIM prior to the starboard SIM occurs, it will appear in **Reflash Module View** as being in conflict because both SIMs are now listed as starboard. This means that neither module can be updated. To remedy this, turn the port key off to disable the port SIM. The starboard SIM should now be updateable.
5. After the reflash has completed, select **Finish** from the **Reflash Module View**.
6. After all modules have been reflashed, cycle both key switches first off then back on to reset the city IDs of both SIMs.

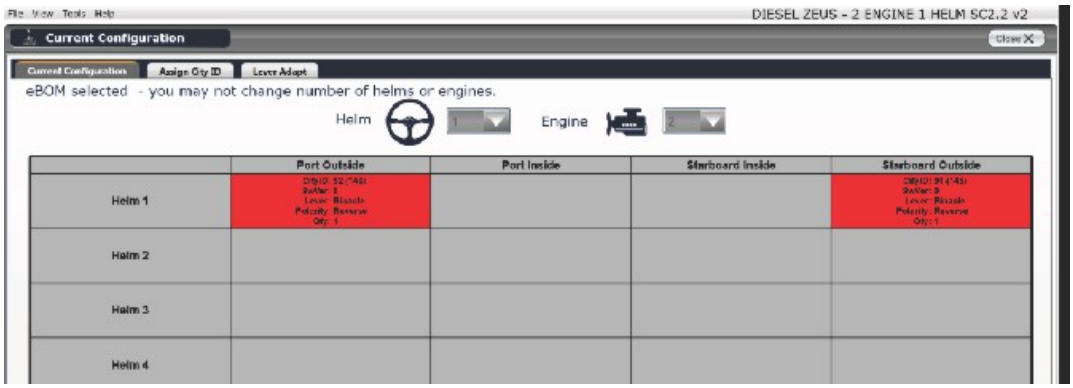
Configuration After Reflashing Multiple Modules

Select an EBOM

1. Exit the reflash screen by selecting **Configuration**.
2. Even if you have previously selected an EBOM, proceed to EBOM as the applicable EBOM has likely been changed due to reflash.
3. Unselect any previously selected EBOM.
4. Select the applicable EBOM for your vessel, usually the uppermost EBOM.

Assign City IDs

1. Select **Configuration**.
2. In the **Configuration** menu, select **Helm Configuration**.
3. In the **Helm Configuration** menu, select **Helm Setup**.
4. Assign city IDs using the tab marked **Assign City ID**.
5. Follow the on-screen directions to complete the city ID assignment.



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Upon completion, all CCM modules will be assigned unique city IDs.

Perform Lever Adapt

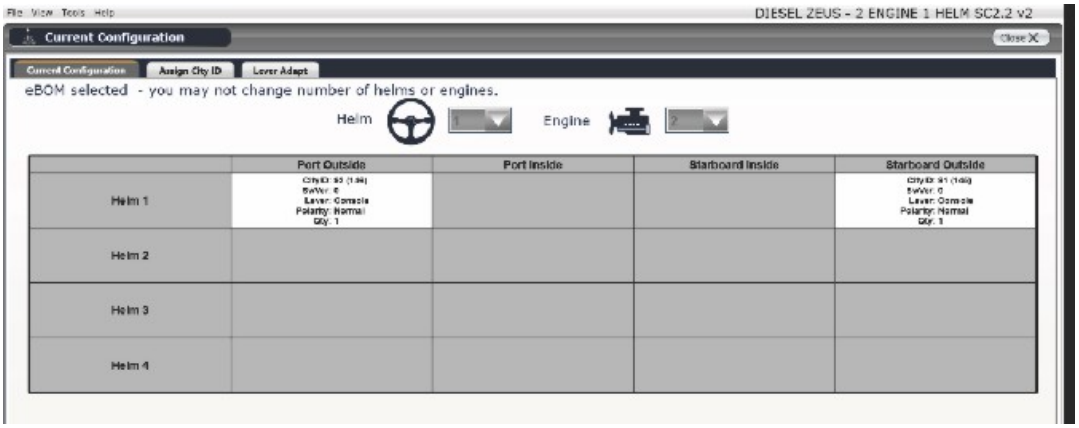
1. Select the tab marked **Lever Adapt**.
2. Choose the correct remote control type and follow the on-screen directions to complete the process. Do a lever adapt for each helm on a dual-station vessel.

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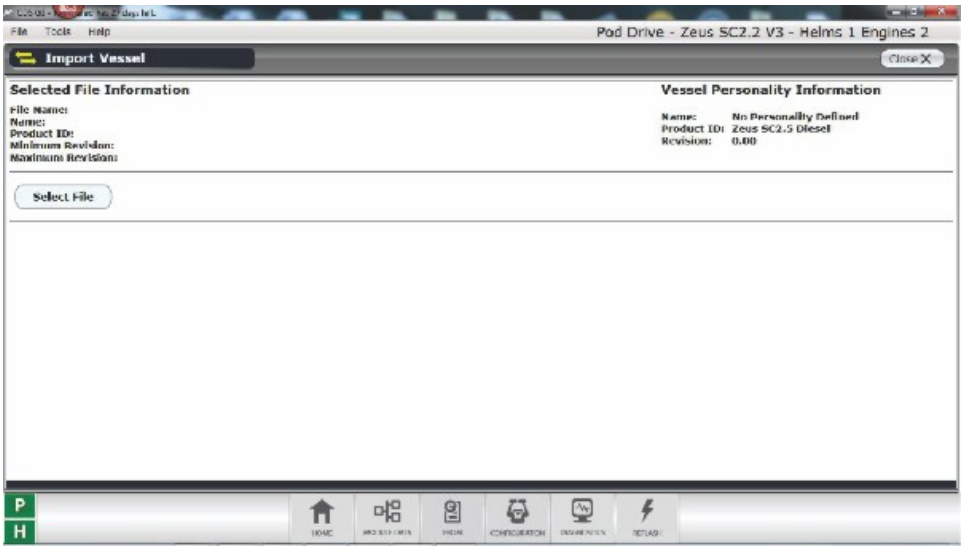
Upon completion of lever adapt, the current configuration (under the **Current Configuration** tab) will indicate all CCMs' city IDs and display their statuses in white as opposed to red.



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Import Vessel Personality

1. Select **Configuration**.
2. From the **Configuration** menu, select **Personality**.
3. From the **Personality** menu select **Import Vessel**.
4. Use **Select File** to query the location of the file folder or memory stick that contains the vessel personality.



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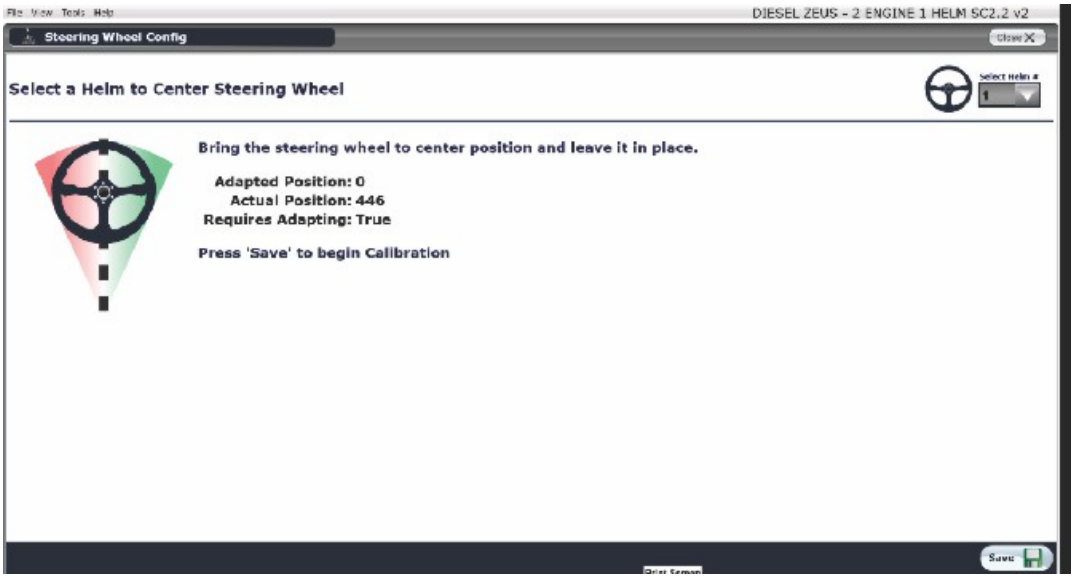
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Calibrate the Steering Wheel

After a CCM is reflashed, the memorized position of the steering wheel at center is lost. It must be reprogrammed using CDS G3. From the **Configuration** screen, select **Helm Configuration**, then **Steering Wheel Config**. Follow the on-screen directions to reset the center position of the steering wheel. Each helm must be completed separately if the vessel is equipped with dual stations.



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Initialize the Drives

When a TVM is reflashed the mechanical stop information is lost. It must be reprogrammed using CDS G3. Drive initialization is the procedure to program mechanical stop information into new or reflashed TVMs. From the **Configuration** menu, select **Drive Configuration**, then **Drive Initialization**. Follow the on-screen directions to complete the initialization on both pods for Zeus or on both steering cylinders for Generation I Diesel Axius.



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Final Steps

After a software update to a Zeus or Axius vessel, a sea trial is necessary to verify the operation of all features on the vessel.

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1. Reconnect all SmartCraft gauges.
2. During the water test, set the water drive alignment to ensure the vessel tracks straight.
   a. From the **Configuration** screen, select **Drive Configuration**.
   b. Select **Drive Alignment** and follow the on-screen directions.
3. Test all joystick directions for functionality.
4. Test premier Skyhook, autoheading and track waypoint functions.

Warranty

United States and Canada: Mercury Marine will credit a distributor or dealer for the cost of labor to perform this reflash. Submit the appropriate warranty claims through your normal warranty-procession channel, listing:

- For software reflash and water test
- Zeus pod serial number
- Labor: 1 hour
- Flat Rate Code: SB10

Outside the United States and Canada: Follow the instructions issued by the Marine Power International office or by an authorized Marine Power distributor.

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