Service Bulletin

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3000 Series Zeus Pods Product Improvements

Models Affected

NOTICE
Revised May 2014. This bulletin supersedes the previous bulletin number 2012-65R1 dated July 2012.

Model	Product Improvement	Serial Range of Affected Units
Zeus JH Pods	Hydraulic Hose Inspection/Replacement	0M963373–0M966652
Zeus JH Pods	Hydraulic Pressure Transducer Replacement	0M963945–0M967171
Zeus JH Pods*	Electronic Module Reflash	0M963373–0M968241

*Software reflash applies to dual Zeus JH pods only.

Scope

Worldwide

Situation

A number of improvements have been made recently to Zeus JH pods in production. As part of our commitment to product quality and customer satisfaction, Mercury Marine will provide these improvements to owners of JH pods for the serial number ranges listed above. These improvements are part of a three point strategy to enhance Zeus product reliability and performance. This strategy includes; hydraulic steering and trim tab hose inspection/replacement, hydraulic pressure transducer replacement, and Zeus electronic module reflash/update. Each of these improvements is summarized below and detailed in the Inspection and Correction sections of this bulletin individually.

1. **High-pressure hydraulic steering and hydraulic trim tab hoses -** The high-pressure hydraulic steering and trim tab hoses on some JH Zeus pod drives may show signs of oil leakage/weepage where the hose is crimped onto the steel line of the fitting. There are a total of four hydraulic hoses on the steering and trim tab systems that should be inspected for this on all JH pods.
   IMPORTANT: If there are signs of leakage at any of the four hoses on either pod, replace all Zeus steering and trim hydraulic hoses on all pods.

2. **Hydraulic pressure transducer replacement -** Hydraulic pressure transducers are installed in multiple locations of Zeus pods. These transducers, used in both the hydraulic steering system and hydraulic trim tab system, report the system pressures to the Zeus electronic modules. Mercury Marine will pay to replace these five (5) transducers per pod in JH Zeus pods within the serial number range identified in the **Models Affected** chart at the beginning of this bulletin.

3. **Zeus electronic module reflash -** A new software release has occurred for Zeus electronic modules which requires the modules to be reflashed. This software reflash can be applied to all Zeus dual pod JH systems only. This software release provides an improvement to both module fault reporting and module fault strategies that utilize the warning horn system. The new software will result in shorter cycles both in longevity and number of tones for certain noncritical causes of audible warning horn notification.

   NOTE: The Zeus 2.2 reflash package in CDS G3 has recently been updated to include an autopilot module reflash due to handling changes that can occur when the GPS signal is lost while in autoheading mode.

High-Pressure Hydraulic Hose Inspection

Inspect both ends of each hydraulic hose around the crimp area shown by the arrow in the illustration below for oil accumulation indicating a leak or weepage. In addition, check the hose rubber for saturation with oil that could also indicate weepage or a slow oil leak. If any of the four high-pressure hydraulic steering or trim tab hoses show signs of oil leakage, replace all four hoses on that pod and the four hoses on each additional pod on that boat. If no hoses on the pod being inspected are leaking, continue with inspection for each additional pod. If any of those hoses are found to be leaking, replace all hoses on each pod on that boat.

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High-Pressure Hydraulic Hose Correction

Use the following chart for the part numbers of each hose. Replace all four high-pressure steering and trim tab hoses if any pod is found to have leaking hoses, along with the hoses on all pods on the vessel.

NOTE: *Ensure that the hose fitting and area around the fitting is clean before removal to avoid contamination. Use only a lint-free cloth to clean the fitting area before removal. Keep the replacement hoses sealed in the shipping bag until the time of installation. Refer to Service Manual #52, Section 5C, for complete instructions on replacing hoses.*

Parts Required

| Qty.	Description	Nm	lb-in.	lb-ft	Part Number
1	Filter to steering manifold	40	—	30	8M0053637
1	Pump to filter	40	—	30	8M0053638
1	Manifold to trim cylinder A port	40	—	30	8M0053639
1	Manifold to trim cylinder B port	40	—	30	8M0053640
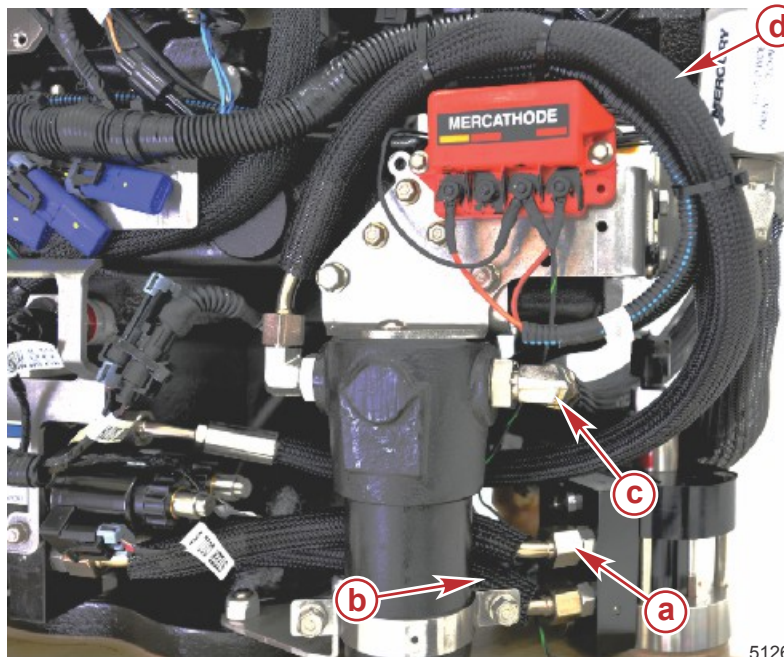
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a - 8M0053639 from steering manifold port A to upper port on trim manifold
b - 8M0053640 from steering manifold port B to lower port on trim manifold
c - 8M0053638 hydraulic pump to high pressure filter
**d -** 8M0053637 high pressure filter to steering manifold
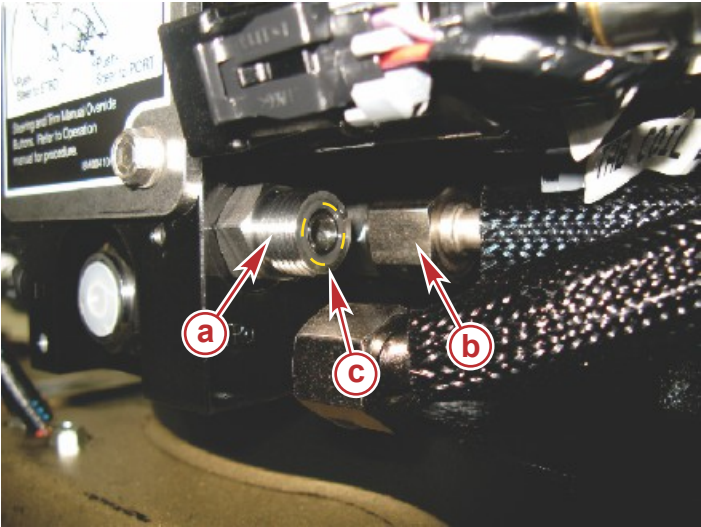
a - Port A on steering manifold
b - Port B on steering manifold
c - Verify o-ring remains intact in fitting before installation of new hose

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Hydraulic Pressure Transducer Inspection

Each pod's hydraulic steering manifold contains three (3) pressure transducers. These steering pressure transducers are indicated by letters b, c, and e in the following illustration.
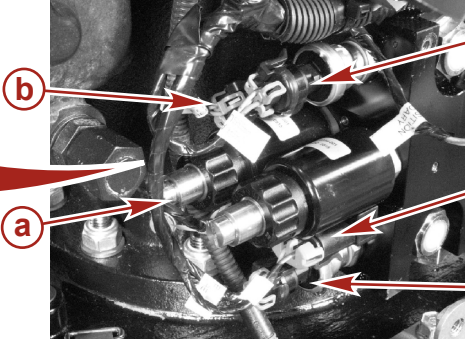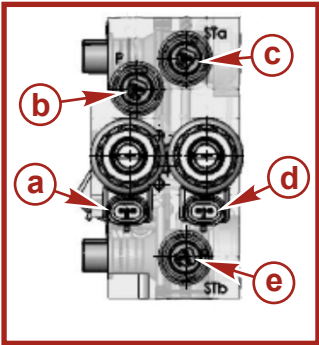

a - Trim tab coil A (TCA)
b - Pump pressure sensor
c - Steering A pressure sensor
d - Steering coil A (SCA)
e - Steering B pressure sensor

41885

Each pod's hydraulic trim tab manifold contains two (2) pressure transducers. These trim tab pressure transducers are identified by the letters a and b in the following illustration.

NOTE: The trim circuit is equipped with a check valve to prevent the trim tab from lowering when the hydraulic pump is not operating. When servicing the trim system, the trim tab should be all the way down. If the vessel is out of the water, you will need to supply water to the seawater pickup and operate the engine to lower the trim tab. If the transmission driven hydraulic pump will not operate, refer to Service Manual #52, Section 5D, for instructions on manually lowering the trim tab.
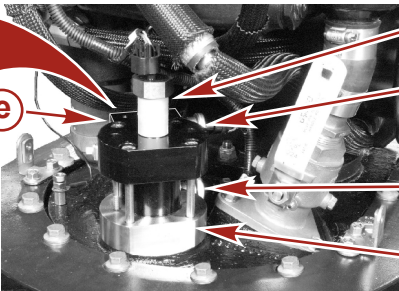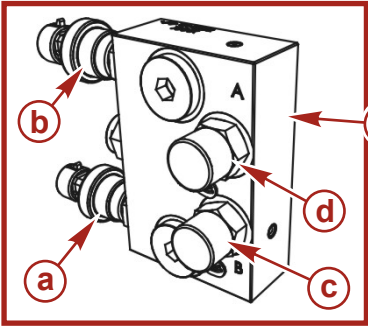
a - Trim tab pressure sensor B
b - Trim tab pressure sensor A
c - Hydraulic line connector B
d - Hydraulic line connector A
e - Hydraulic manifold
f - Trim tab position sensor
g - Trim cylinder

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The following illustration shows the previous or suspect sensor in Figure A and the new improved sensor in Figure B.

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Figure A. 3/4" hex head–transducer identified for replacement   Figure B. 7/8" hex head–new improved transducer

Hydraulic Pressure Transducer Correction

If the inspection reveals that the pressure transducers have already been changed to the new sensor shown in Figure B above, it is not necessary to replace them. If the inspection reveals the pressure transducers for the steering and trim tab systems have not been replaced and are identified as the transducer shown in Figure A above, replace each of the transducers on each pod. JH Zeus applications will need five total transducers for steering and trim tab hydraulic systems.

Use an open ended ¾" crow's foot socket and extension or wrench to remove the sensor. Use a 7/8" deep socket or wrench to install the new sensor. Refer to the following chart for the part number and torque value of these transducers.

NOTE: Ensure that the sensor fitting and area around the sensor is clean before removal to avoid contamination. Use only a lint-free cloth to clean the sensor area before removal. Keep the replacement sensor clean and sealed in the shipping container until time of installation.

Qty.	Description	Nm	lb-in.	lb-ft	Part Number
5	Hydraulic pressure transducer	25	—	18	8M6001284

Software Reflash Inspection

NOTE: **You must have version 1.5.4 CDS G3 or greater to complete the reflash.** *Previous versions of 1.5 CDS G3 software can be upgraded by connecting your laptop PC to the internet and opening CDS G3. The CDS G3 will attempt to contact the Mercury server at that time to look for updates. To verify your current version of CDS G3, click on the word* **Help** *at the top of the G3 screen and select* **About**. *The current version will be displayed at that time.*

The worksheet attached to the last page of the bulletin will provide Mercury with the necessary information to determine the correct vessel personality. When the software on a Zeus boat is reflashed, the vessel personality information is lost. In order to obtain the correct personality to import, please provide all information requested, complete and fax the worksheet to the fax number for Mercury Diesel Product Support, 1-800-842-4550. If you have any questions or cannot obtain any of the information on the worksheet, call Mercury Diesel Product Support at 920-929-5884.

Once the completed worksheet is received, we will begin a claim for you as a preauthorization and e-mail the vessel personality that will be imported after the reflash per the reflash instructions below. When you receive the personality e-mail, take the .vsl file attachment from the e-mail either using a memory stick or other file transfer method. You may leave the .vsl personality file on the memory stick or place it in a folder on your desktop.

Software Reflash Correction

Use the check list below to complete the following steps in this order for the reflash to be complete:

☐ Complete and fax worksheet on page 15 of this bulletin.

☐ Remove VSL from email and install on memory stick, or in folder on desktop of CDS G3 equipped PC.

☐ Ensure CDS G3 is version 1.5.4 or greater.

☐ Unplug all VesselView and SmartCraft gauges.

☐ Connect CDS G3 and turn all vessel keys on.

☐ Reflash SIMs.*

- ☐ Reflash Helm 1 Stbd Outer CCM.
- ☐ Reflash remaining CCMs.
- ☐ Reflash TVMs.
- ☐ Reflash autopilot module.
- ☐ Cycle both key switches to set the locations of the SIMs.
- ☐ Go to eBOM, select the uppermost eBOM from the displayed list.
- ☐ Perform City ID assignment.
- ☐ Perform lever adapt.
- ☐ Import vessel personality (.vsl file).
- ☐ Perform steering wheel adapt.
- ☐ Reconnect SmartCraft gauges.
- ☐ Start engines.
- ☐ Perform drive initialization.
- ☐ Sea trial, making sure to test autoheading, Skyhook, and waypoint track features.

*When reflashing from v0 to v3, SIM modules may not require reflash. CDS G3 is programmed to recognize and prevent update on those modules while allowing other modules to be updated.

Beginning Reflash

- • Select **Reflash**, then select **Module Reflash** to begin the reflash prerequisites.
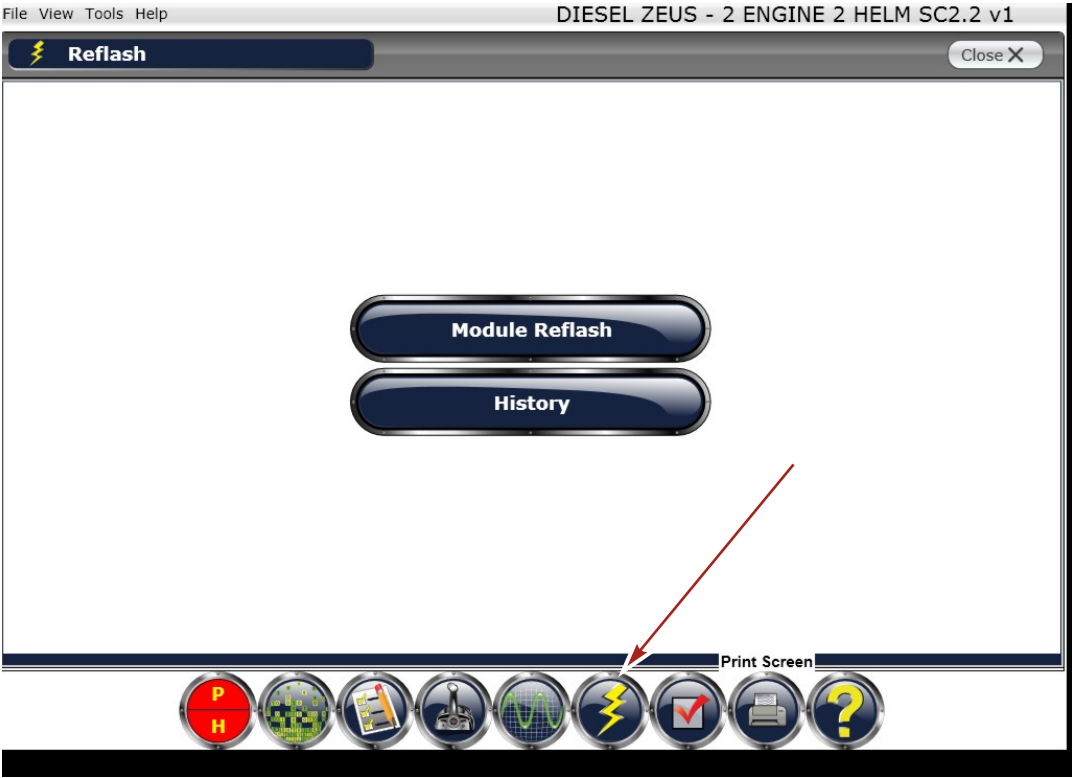

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- Select the Diesel category, then select the **DIESEL ZEUS - SC2.2.PKG** download for update to proceed.
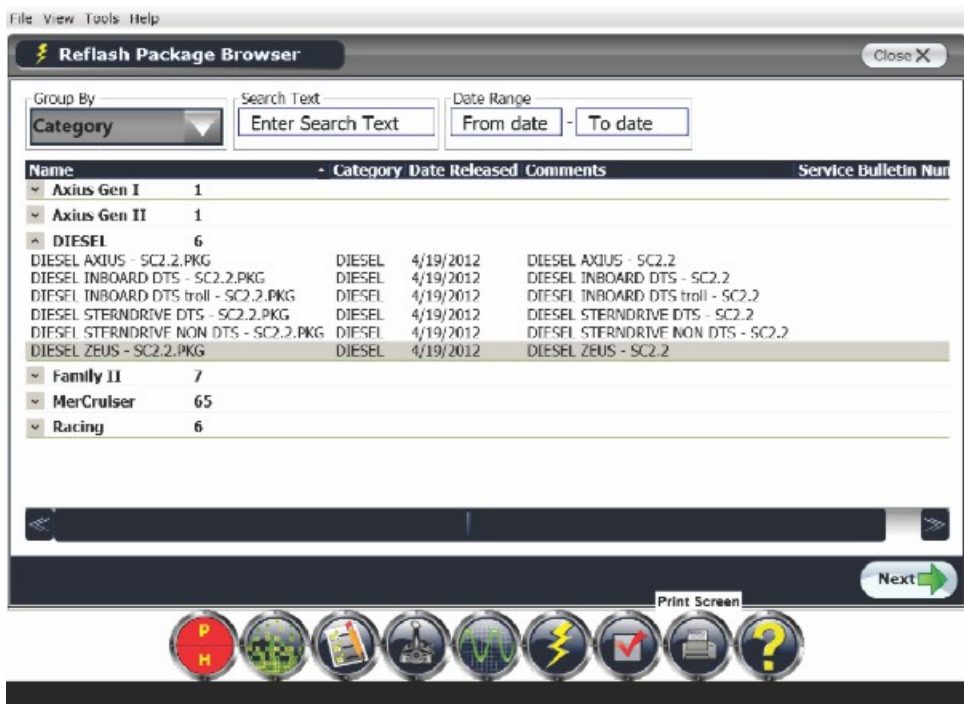
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- The system will check prerequisites of both the laptop PC and the Zeus system that must be passed before CDS G3 will allow reflash to proceed. If there are any cautions or failed checks listed, those must be addressed before proceeding.
  - Make sure the laptop is connected to an AC 110 volt source to prevent module damage due to discharge of laptop battery that can occur during reflash.
  - During Module Reflash, the system may launch the prerequisite screen again prior to letting you proceed with a particular module to ensure that all items are still showing passed checks.
- If all checks show passing indication, select **Next**.
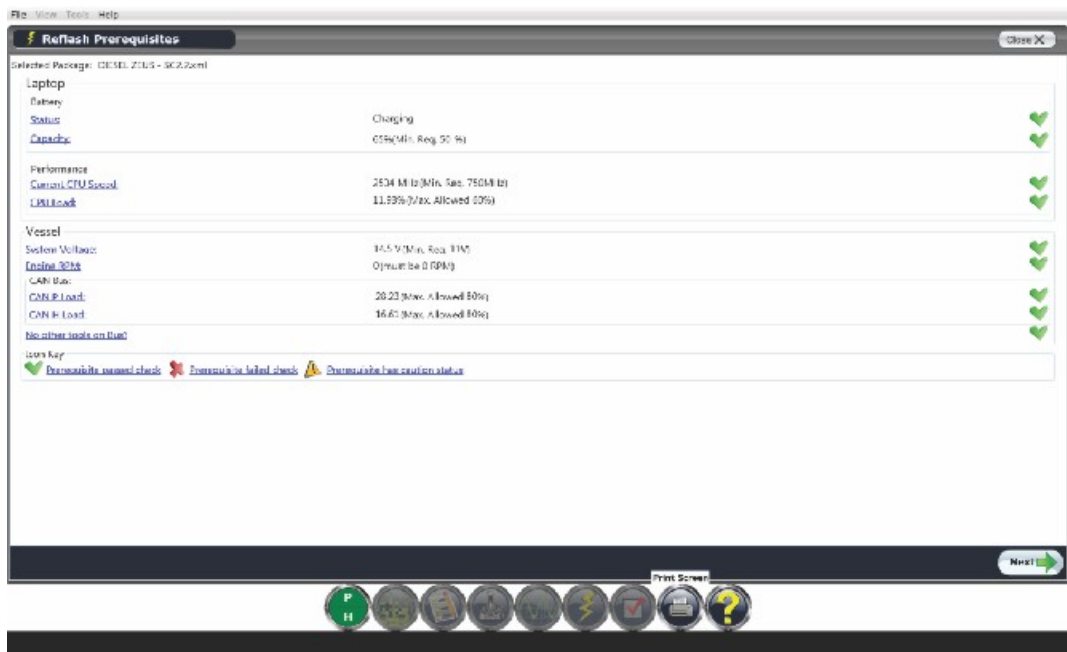
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NOTE: In Reflash, the CDS G3 lists the modules in the preferred order of reflash. As each module is reflashed it will move down to the bottom of the display and CDS G3 highlights the preferred module for the next reflash.

Reflash SIMs (Listed as Engines in CDS G3)

- When updating SC2.2 v0, SIMs may not require update.
- Unplug all VesselView and SmartCraft gauges from the junction box.
- Ensure starboard SIM is reflashed before port SIM. After reflash, each SIM City ID is set to (11 decimal, 0BHEX) Helm 1 STBD.
- As each SIM is flashed, the number of modules that appear on the starboard City ID (11 decimal, 0BHex) will increase by one. As the quantity of the starboard SIMs goes from 1 to 2, note that the display will show a "conflicted" red x icon next to the modules that have been completed. This is normal and expected.
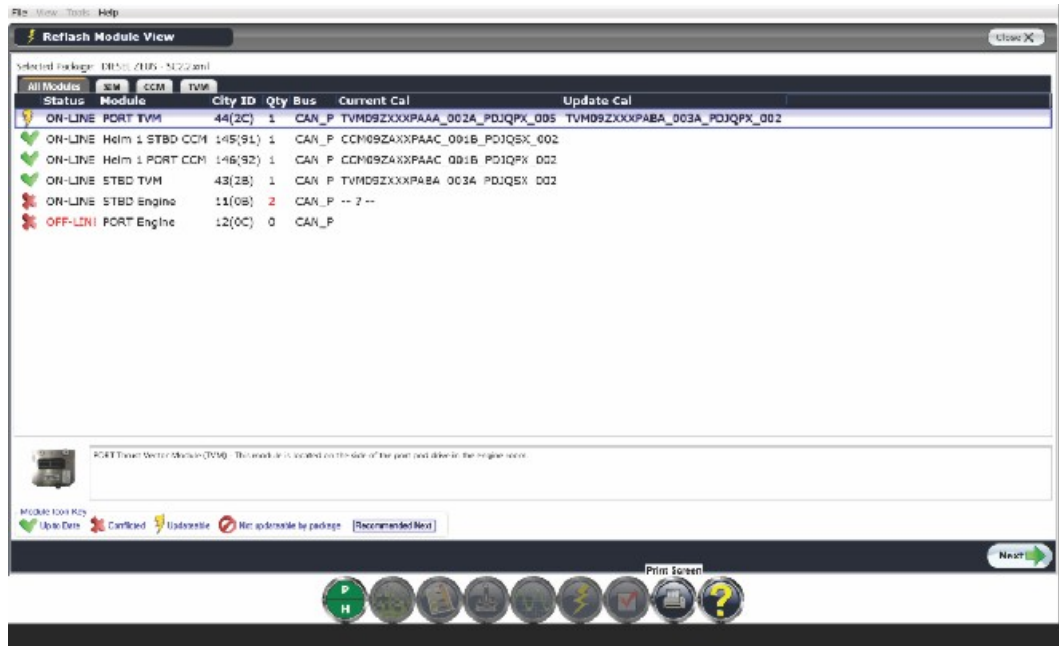
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Reflash CCMs

Ensure that helm 1 starboard CCM is reflashed before all other CCMs. Follow that with the starboard CCM for helm 2 and then the port CCMs for each helm.

Reflash TVMs

- Ensure that the Starboard TVM is reflashed prior to the Port TVM. After reflash each TVM is assigned a starboard City ID (decimal 43, 2BHex). As the quantity of the starboard TVMs goes from 1 to 2, note that the display will show a "conflicted" red x icon next to the modules that have been completed. This is normal and expected.
- **Lever Adapt** process when completed, sets the City ID assignment for the TVMs.
- After all modules have been reflashed, select **Close** to exit reflash.

Reflash Autopilot Module

This ensures that autopilot module will be up-to-date.

Cycle Both Key Switches, First Off Then Back On

This ensures the locations of the SIM modules will reset.

Select eBOM

- After the reflash is complete you will need to reselect the correct eBOM to proceed.
- The eBOM that should be selected is **Diesel Zeus - 2 Engine 1 Helm SC2.2 v3** or **Diesel Zeus - 2 Engine 2 Helm SC2.2 v3** depending on number of helms on the boat.

NOTE: As CDS G3 ranks the eBOMs from the most matching number of modules to least matching number, you may notice some mismatches in the module software in comparison to the eBOM expected software. This is a normal occurrence.

- Ensure the **Select** indication changes to **Deselect** after you click on it.


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Perform City ID Assignment

- Go to **Configuration**, then select **Helm Configuration**, then choose **Helm Setup**.
- Assign City IDs using the tab marked **Assign City ID.**
- Follow the onscreen directions to complete the City ID assignment.
- Upon completion, all CCMs are assigned unique City IDs.
   - Each module City ID corresponds to its helm and engine.

NOTE: If you neglected to select an eBOM prior to entering Helm Setup, you will have to manually enter the number of helms and the number of engines. With the eBOM selected, those values are locked to reflect the eBOMs direction.
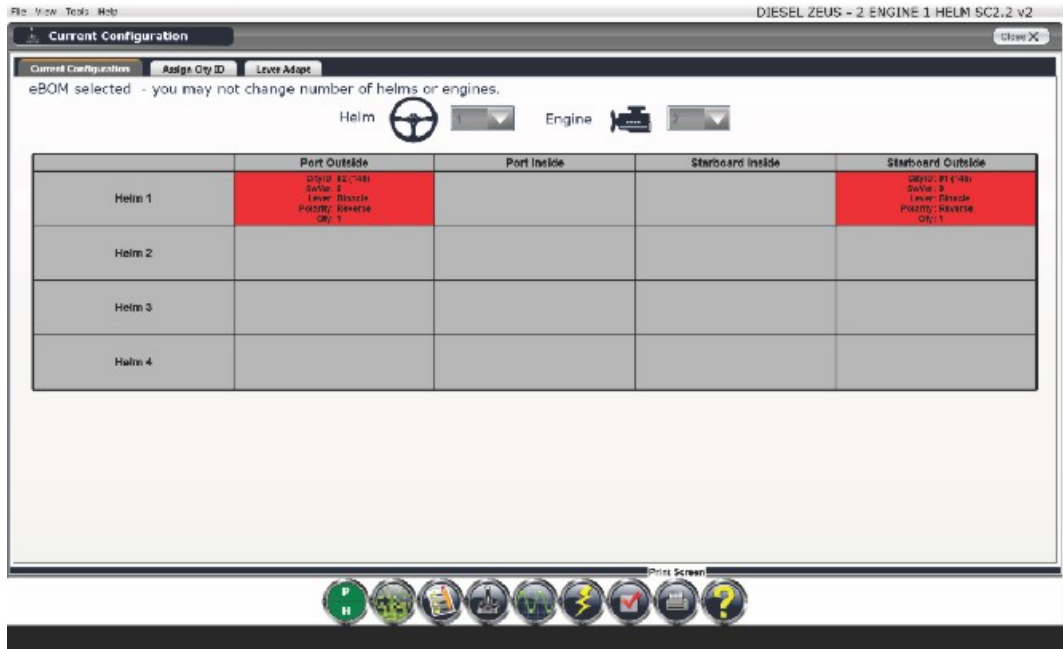
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Perform Lever Adapt

- Select the tab marked **Lever Adapt**, choose the correct remote control type and follow on-screen directions to completion.
- Do the lever adapt process for each helm separately.
- Upon completion:
  - Go back to the **Current Configuration** tab and ensure that all CCMs report their location correctly and show white status as opposed to red.
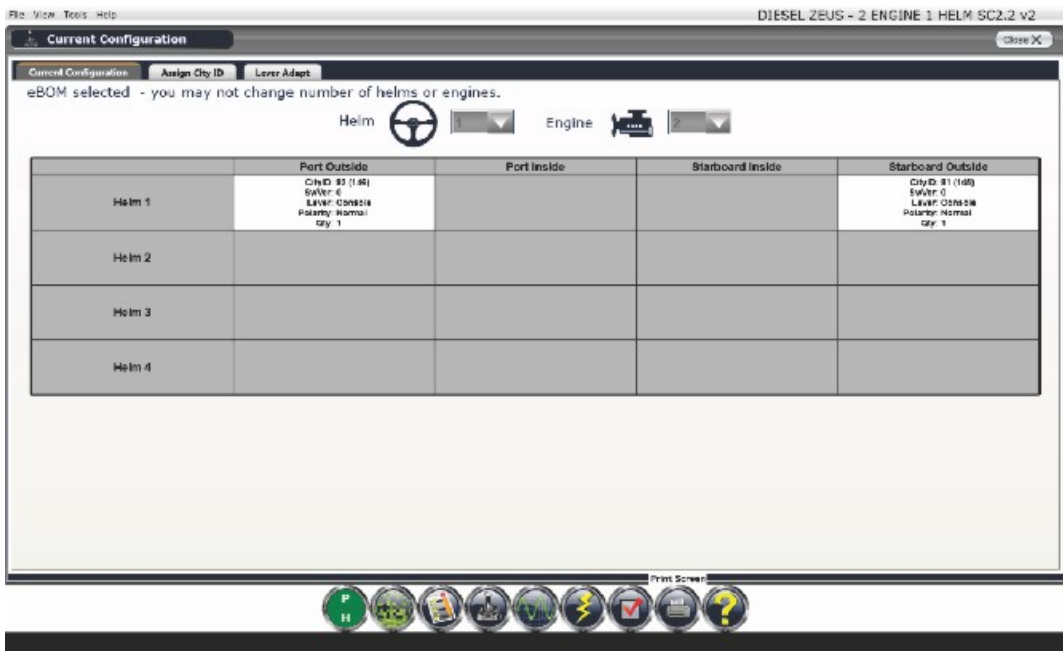

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Import Vessel Personality

- After a CCM, TVM, or SIM is reflashed, all vessel personality information for that application is lost.
- The personality information must be restored using the **Import** function in CDS G3. Go to **Configuration**, then select **Import**.
- Vessel personality files can be downloaded from the SmartCraft download center or are sent via e-mail from MerCruiser Product Support. You can keep the personality either on a memory stick or create a folder on your desktop to store personalities in.
- Follow the on-screen directions in CDS G3 to complete the personality import.
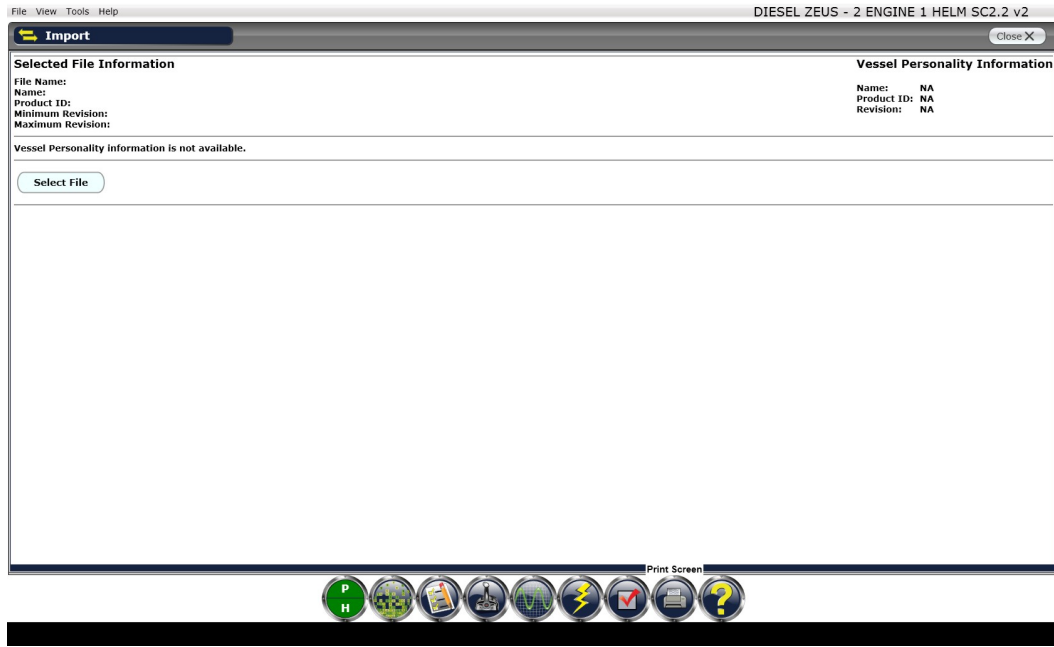
50549

- Use **Select File** to query the memory stick or file folder that contains the vessel personality.

Perform Steering Wheel Calibration

After a CCM is reflashed, the memorized position of the steering wheel at center is lost. It must be reprogrammed using CDS G3. Go to **Configuration** and select **Helm Configuration**. Now select **Steering Wheel Config**. Follow the on-screen direction in CDS G3 to reset the center position of the steering wheel. You must complete this for each helm separately.
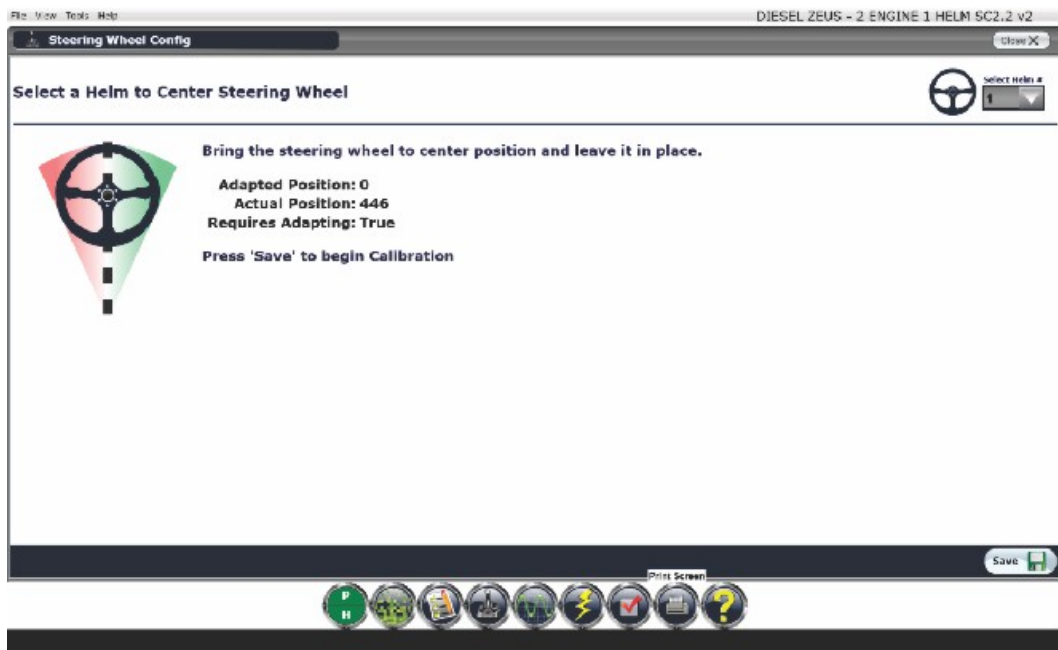
50550

Perform Drive Initialization

- When a TVM is reflashed, the mechanical stop information is lost.

  - Mechanical stop information must be restored using the **Drive Initialization** procedure. Go to **Configuration** and select **Drive Configuration** in CDS G3. Now select **Drive Initialization** and follow the on-screen directions to complete initialization of each pod's drive.
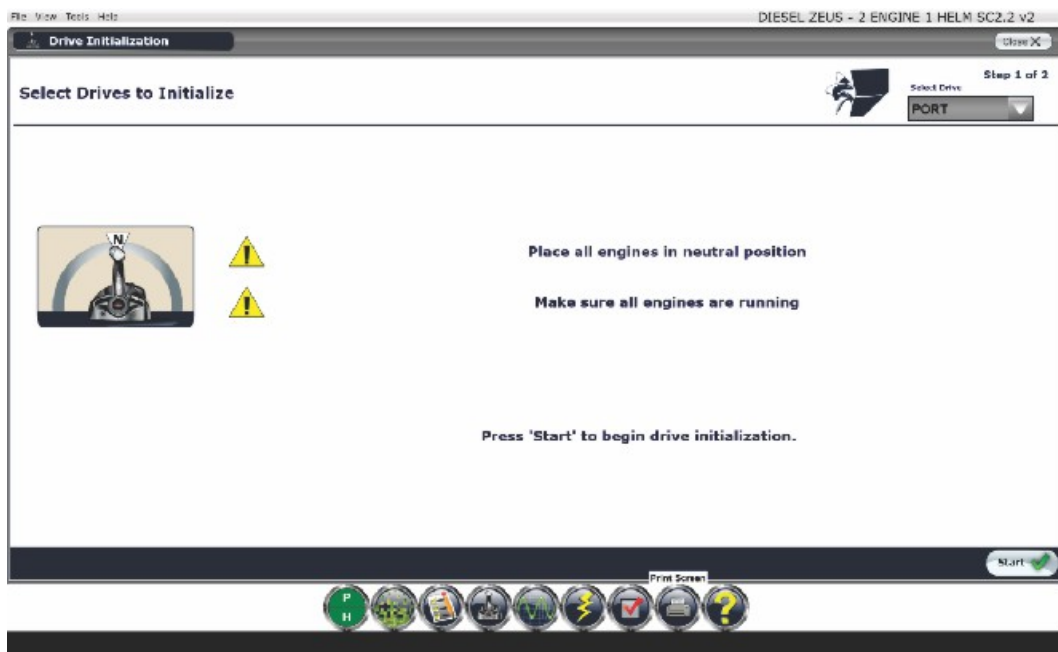
50551

Reconnect SmartCraft Gauges

Sea Trial

- After a software upgrade to a Zeus vessel, a sea trial must be performed to verify the operation of all features of the vessel.
- During water test - set drive alignment to ensure the vessel tracks straight using the **Drive Alignment** procedure in CDS G3. Go to **Configuration** and select **Drive Configuration** in CDS G3. Now select **Drive Alignment** and follow the on-screen directions to complete alignment of drives.
- Test all joystick directions for functionality.
- Test premier features: Skyhook (if installed), AutoHeading, and Track Waypoint functions.

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- Compass calibration procedure should also be performed during the water test if the IMU has been replaced. Only use the **Compass Calibration Wizard** in CDS G3 to complete the compass calibration. Go to **Configuration** and select **Compass Configuration**. Now select **Compass Calibration Wizard** and follow the on-screen directions to complete **Compass Calibration Wizard**.

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Warranty Procedure

United States and Canada: Mercury Marine will credit a distributor or dealer for the cost of the hydraulic hoses, pressure transducers, and the labor for the improvements on each pod. Submit the appropriate warranty claims through your normal warranty-processing channel listing:

Times listed below include time for completion of repairs plus test or water test time allowance. Times listed below cannot be retroactively applied to claims already paid.

For software reflash only

- Zeus pod serial number
- Labor: 1 hour
- Flat rate code: SB10

For software reflash and transducer replacement only

- Zeus pod serial number
- Labor: 1.5 hours
- Flat rate code: SB10 and SB05

For software reflash and hydraulic hose replacement only

- Zeus pod serial number
- Labor: 3 hours
- Flat rate code: SB30

For software reflash, hydraulic hose replacement, and transducer replacement

- Zeus pod serial number
- Labor: 3.5 hours
- Flat rate code: SB30 and SB05
- Part failure code: 731
- Failure code: 00

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

Owner Notification

All registered owners within the affected serial number ranges will receive a letter from Mercury Diesel. This letter will explain the situation and request that they contact their local dealer or distributor to set up a time to have the improvements completed. Some affected Zeus packages may have already had one or more of these improvements completed. Visit MercNET or contact Mercury Product Support or your regional service center to determine whether these improvements have already been completed on a certain Zeus pod. As a Mercury Diesel dealer or distributor you should also contact affected customers to make them aware of this campaign and to schedule an appointment for the repair. A copy of the customer letter is attached.

Disposition of Replaced Parts

United States and Canada: Scrap.

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

Zeus Reflash Worksheet

Zeus Vessel Information			
Hull ID number			
Boat make and model			
Port pod serial number		Starboard pod serial number	
Engine horse power			
Does boat currently have Skyhook? Y or N?		Does boat have a swim platform? Y or N?	
Number of helms		Does the boat have a flybridge? Y or N?	

Distributor/Dealer Contact Information	
Mercury dealer number	
Dealer e-mail address	
Phone number	
Contact name	

NOTE: The above information must be completed and faxed to the Mercury Technical Service Center before attempting reflash in order for vessel personality to be e-mailed for import after reflash. Fax to 1-800-842-4550.

NOTE: If you have access to www.mercurypie to download the correct vessel personality for the vessel, and are familiar with the Vessel Personality Import procedure, then it is not necessary to fill out or fax this worksheet to Mercury Technical Service Center.

NOTICE FOR PRODUCT IMPROVEMENT ELIGIBILITY FOR MERCURY ZEUS DRIVE SYSTEMS OWNERS

Dear Mercury Zeus Owner,

Thank you for your purchase of a new boat equipped with the Mercury Zeus Drive System. We appreciate your business and hope your vessel is performing up to your expectations.

As part of our commitment to superior customer satisfaction we are offering the benefit of some recent improvements made to production pods that occurred after your Zeus Pods were manufactured. Our intent, by making these changes to your Zeus System, is to increase your satisfaction with the Zeus Drive System and its proven performance and solid reliability record for years to come.

A brief summary of the improvements we will apply to your Zeus System includes an inspection of the hydraulic hoses. Also included is an inspection and replacement of the sensors that report hydraulic pressures to the Zeus electronic modules. These new sensors will offer an improvement to moisture resistance and extended reliability. Finally we will reflash the electronic modules that comprise the "brains" of your Zeus operating system. This upgrade improves system fault reporting strategies to shorten and reduce the number of audible tones for certain noncritical system faults. We sincerely believe that these improvements will extend trouble-free performance and improve your boating experience.

What should you do?

Contact Marine Repair Logistics (MRL) at 866-549-6458 or Mercury Consumer Support at 920-929-5040 to schedule these upgrades with your local Cummins Distributor or your local Mercury Diesel dealer. If you have any questions or no longer own the boat, please contact Mercury Diesel Consumer Service at 1-920-929-5040. The dealer will refer to Mercury Diesel Service Bulletin 2012-65R1 for instructions on the inspections and upgrades.

Mercury Marine will reimburse the dealer or distributor for performing these improvements in accordance with the instructions outlined in the service bulletin.

Sincerely,

Mercury Marine Customer Service