

Service Bulletin

Bulletin No. 2014-62R1

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

NOTICE

Revised July 2015. This bulletin supersedes the previous bulletin number 2014-62 May 2014.

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, 2014-62R1. 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.

1 2	CDS G3 h CDS G3 h CDS G3 h Please sel	Is selected as identified d to. ect the Upp	d that an upg date button t	grade is ava	ailable for	r the engin	ie or vesse	l system that yo	u're	RESOLVE	C
ENGINE INF	FORMATION			a har tattit	the upgra	ade.				UPDATE	C
		Port	Starboard								
Engine Hou	urs	0.0	0.0								
Active Faul	lts	11	11								
			•	<u>ما</u> م	Q1		5	Ł			
			П		HEIN	CONFICURATION	DAMAGENES	MOTAGE			

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**.

oup By	Search Text			
A second s	Enter Course Text	Date Range		
regory	Enter Search Text	From date		
ne <u>^</u> Ci	itegory Date Released Com	ments	Service Bulletin Number	
ISEL AXUS - 902.2.PKG I	4 ATSEL 5/16/2014 DTS	FLAXIUS - SC2.2 + Autopilot Module	MCM-2014-62	
SEL ZEUS - SCZ 2.PKG (CESEL 5/10/2014 CIES	EL ZEUS - SC2.2 Product Improvements + Autopilot Mo	dule MCM-2012-65	

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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

	Fictors - Marine to 32 days let. Film Tools Help Film Reflash Module View	-	-		
्	Selected Package: DIESEL7EUS - 902.2.80		_		
	All Modules SIM COM TVM Status Module	City ID Q	ty Bus	Current Cal	Update Cal
	VON-LINE Autopilot	217(D9) 1	CAN_P	APM09ZAXXPAAB_001A_XXJAAX_000	APM09ZAXXPAAB_001A_XXJAAX_002
	💜 ON-LINE STBD Engine	11(08) 1	CAN_P	SIM09ZAXXPAAB_000C_PDJAAX_002	
	V ON-LINE PORT Engine	12(0C) 1	CAN_P	SIM09ZAXXPAAB_000C_PDJAAX_002	
	V ON-LINE Helm 1 STBD CCM	145(91) 1	CAN P	CCM09ZAXXPAAC 0018 PDJQSX 002	
~'	V ON-LINE Helm 1 PORT CCM	146(92) 1	CAN_P	CCM09ZAXXPAAC_0018_PDJQPX_002	
b)	VON-LINE STED TVM	43(2B) 1	CAN P	TVM09ZXXXPABB 003B PDJQSX 001	
	V ON-LINE PORT TVM	44(2C) 1	CAN_P	TVM09ZXXXPABB_003B_PDJQPX_001	
	Mark in team long	nis module reports	s success prior t	e cartilizing or dozing reflach procedure. Following the re	clash of Aurapilot module only, ensure that promier features function prior
					Next
	P		A		y

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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 Mercury Diesel Service Bulletin 2012-65R2, and then complete the reflash and file the warranty claim as instructed in Mercury Diesel Service 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 View** 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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2. Click on Next to proceed. You will be required to enter the hull ID and pod serial number as shown.

rite Tools Help		-		Po	od Drive - Zeus	SC2.2 - SC2.5 - Helm	ns 1 Engines 2
🕴 Reflash - Serial #/Hull ID							
	Selected Package	: Autopilot Mo	dule Reflast	n for Zeus SC 2.2 ar	nd SC 2.2 Diesel Axius p	ikg	
	Please Serial f	enter the Hu Numbers for	ull Identifi each eng	cation Number ine on the vess	and the el		
	Hull Int	1					
	STBD Serial #:						
Back							
		10	00				
Н	1000	Marca Ana		CHOCKARDA DAV	ARNER RETAR		
							5596

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

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File Tools Help	p	
🕴 Reflash Pr	Progress	
Selected Package: 0	DIESEL ZEUS - 5C 2.2.PKG	
Module Info:	Autopäät 217(139)	
Current Step:	Complete	
Status Message:	Reflash Successful - New CalidTot: APM/092AXXPAAB_001A_XXI/AX_002	
Progress:		
View Report		
Post Reflash Co Module reflash is a personality and wa	omiments successful For multiple module reflashes, reference Mercary Service Bullet's MCH 2012 65. If this is the only module that will be reflashed on this vessel, import th system test to test the functionality of Skynook, Autoheading and TrackWaypoint features.	ic
		.st
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Н	10.06. material error classification consistents. Elifer-	

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

- 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.

Modules	SIM COM TVM	APM	1			
Status	Module	City ID	Qty	Bus	Current Cal	Update Cal
ON-LIN	E Autopilot	217(D9)	1	CAN_P	APM09ZAXXPAAB_001A_XXJAAX_000	APM09ZAXXPAAB_001A_XXJAAX_002
ON-LINE	E STBD Engine	11(0B)	1	CAN_P	SIM09ZAXXPA4B_000C_PDJAAX_001	CAN_P SIM09ZAXXPAAB_000C_PDJAAX_002
ON-LINE	E PORT Engine	12(0C)	1	CAN_P	SIM09ZAXXPAAB_000C_FDJAAX_001	CAN_P SIM09ZAXXPAAB_000C_PDJAAX_002
ON-LINE	E Helm 1 STBD CCM	145(91)	1	CAN P	CCM09ZAXXPAAC 001B PDJQSX 001	CCM09ZAXXPAAC_001B_PDJQ5X_00Z
ON-LINE	Helm 1 PORT CCM	146(92)	1	CAN_P	CCM09ZAXXPAAC_0018_PDJQPX_001	CCM09ZAXXPAAC_001B_PDJQPX_002
ON-LINE	STBD TVM	43(2B)	1	CAN P	TVM09ZXXXPABB 003B PDJQSX 000	TVM09ZXXXPABB_003B_PDJQSX_001
ON-LINE	PORT TVM	44(2C)	1	CAN_P	TVM09ZXXXPABB_003B_PDJQPX_000	TVM09ZXXXPABB_003B_PDJQPX_001
Je Iton Key Lin to Cate	Please ensure that reflash of the lawing vassel.	tis module re;	oderaab	eccess prior 1	o continuing or clacing reflach procedure. Following the i	refaah of Auropiiot module only, ensure that premier features functi

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

COSIGN - Regimented bas 11 rkgs lieft.					
rite Tools Help				Pod Drive - Zeus SC	2.2 - SC2.5 - Helms 1 Engines 2
🕴 Reflash - Serial #/Hull ID					
	Selected Package	: Autopilot Modul	e Reflash for Zeus SC	2.2 and SC 2.2 Diesel Avius pkg	
	Please Serial I	enter the Hull I Numbers for ea	Identification Nun ch engine on the	nber and the vessel	
	Hull Ick				
	STBD Serial #:				
Back					
P	合	oko Sta	2 6	···· 4	
н	1040	Sector Sector	PACINI CONTRATION	CALLS ELAD	
					5506

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 Current 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.

urrent Configuration			DIESEL ZEU	S - 2 ENGINE 1 HELM SC
d Configuration Assign City ID	Lever Adapt			_
M selected - you may no	ot change number of helms or Helm	engines.		
				Mada and Addition
Heim 1	Digito 52(746) Softwar Lawar Blacelo Pototity Revenue Ogr. 1	Port INSIGE	attroodfd INSide	atendolarid Cuttstale Othero 2 1 (145) Swive b Lever Bisaale Poleity: Reverse Oty: 1
Helm 2				
Heim 3				
			2	

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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.

selected - you may n	ot change number of helms or Helm	engines.	2	
	Port Outside	Port Inside	Starboard Inside	Starboard Outside
Heim 1	Chylic ist (199) Swyer C Laver: Cornelis Petanty: Nermal Sity: 1			Chylic Sh (148) Swike 0 Laver Connole Polarige Normal Sign 1
Helm 2				
Helm 3				
Heim 4				

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.

Import Vessel Selected File Information Vessel Personal Name: Na	3 - Helms 1 Engines 2
Selected File Information Vessel Personal lite Name: No Per- Modul ID: No Per- Product ID: 2005 St Revision: 0.00 Select File	Close
Inform Revision User	ty Information anality Defined 2.5 Diesel
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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.

File View Tools Help		DIESEL ZEUS - 2 ENGINE 1 HELM SC2.2 v2
Steering Wheel Con	fig	Chave X
Select a Heim to Ce	enter Steering Wheel	
0	Bring the steering wheel to center position and leave it in place. Adapted Position: 0 Actual Position: 446 Requires Adapting: True Press 'Save' to begin Calibration	
	Grist Samon	Save 📳

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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: 0.5 hour per pod, total 1.0 hour per boat
- 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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