MERCURY Diesel

Service Bulletin

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Replacing JH Pods with KH Pods

NOTICE
Revised August 2016. This bulletin supersedes the previous bulletin number 2012-66R2 June 2014.

Models Affected

Models Covered	Serial Number Or Year
Zeus 3000 series pods	0M963373–0M968996

Scope

Worldwide

Situation

Zeus pods with SmartCraft software version SC2.2 are no longer available. Beginning in December of 2012, production and service replacement Zeus pod TVMs are programmed with SmartCraft software version SC2.5. Model identifiers have changed from JH to KH for production, and JP to KP for service. Production pods use H instead of P as the last identifier in the model/part number.

Zeus JH pods can be replaced with the new KP pods. However, both pods must have the same software level. If both JH pods are being replaced, no special actions are required to make them compatible with the vessel. However, if only one JH pod is replaced with a KH model pod: then you must replace the remaining SC2.2 TVM from the JH pod with a TVM from SC2.5 pods.

Description	Part Number
Port SC2.5 TVM	8M0084833
Starboard SC2.5 TVM	8M0084837

You must also replace the five pressure transducers in the hydraulic steering and trim system, as the new software requires pressure transducers with a higher range scale. Changing the TVM on a SC2.2 pod to a SC2.5 TVM without replacing the pressure transducers will cause the hydraulic pressure readings shown in CDS G3 to be inaccurate.

Qty.	Description	Nm	lb-in.	lb-ft	Part Number
1	Hydraulic pressure transducer kit	25	–	18	8M0078384

Part Interchangeability

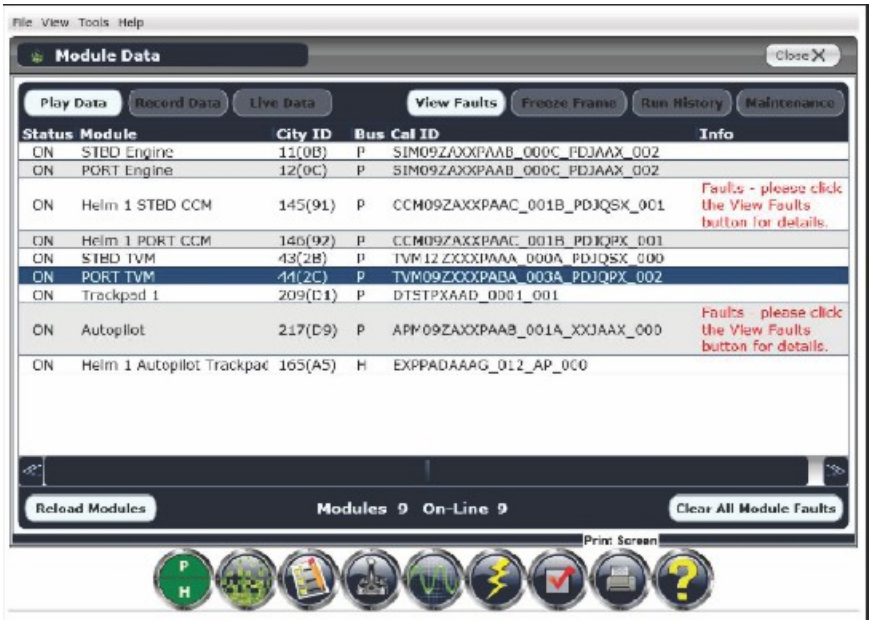
Reference to the following chart for current service replacement KP pods corresponding to the no longer available JP pods:

JP Pod Part Number (NLA)	Current KP Pod Part Number	Pod Model Description
5P4AG94JP	5P4AG94KP	1.34 port pod QSM with drop box
5P4AY54JP	5P4AY54KP	2.24 port pod QSB without drop box
5P4AZ54JP	5P4AZ54KP	2.06 port pod QSB without drop box
5P4CY64JP	5P4CY64KP	2.24 port pod QSB with drop box

JP Pod Part Number (NLA)	Current KP Pod Part Number	Pod Model Description
5P4CZ64JP	5P4CZ64KP	2.06 port pod QSB with drop box
5P4DA74JP	5P4DA74KP	1.95 port pod QSB with drop box
5P4DB74JP	5P4DB74KP	1.79 port pod QSC with drop box
5Q4AG94JP	5P4AG94KP	1.34 starboard pod QSM with drop box
5Q4AY54JP	5Q4AY54KP	2.24 starboard pod QSB without drop box
5Q4AZ54JP	5Q4AZ54KP	2.06 starboard pod QSB without drop box
5Q4CY64JP	5Q4CY64KP	2.24 starboard pod QSB with drop box
5Q4CZ64JP	5Q4CZ64KP	2.06 starboard pod QSB with drop box
5Q4DA74JP	5Q4DA74KP	1.95 starboard pod QSC with drop box
5Q4DB74JP	5Q4DB74KP	1.79 starboard pod QSC with drop box
5P4AL84JP	5P4AL84KP	1.50 port pod CAT ZF QSC with drop box
5Q4AL84JP	5Q4AL84KP	1.50 starboard pod CAT ZF QSC with drop box

TVM Replacement

When a vessel has SC2.5 software in either the port or starboard pod and SC2.2 software in the opposite pod, CDS G3 can be connected to that vessel to check compatibility of the TVMs. The module data screen will show the Calibration ID levels. Cal ID's of the TVMs will differ as shown in the following example.



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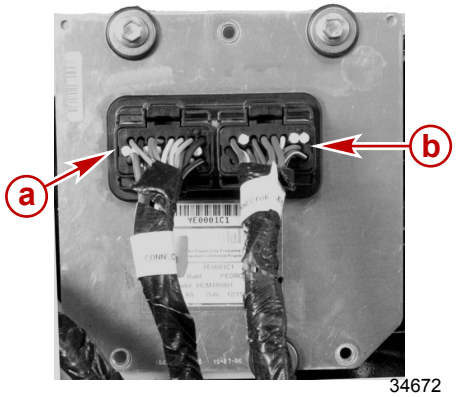
Notice the initial portion of the Cal ID of the STBD TVM is TVM12ZXXXPAAA. The port is TVM09ZXXXPABA. This indicates that the TVM module on the starboard side contains SC2.5 software and the port side TVM module contains SC2.2 software. The TVM version may vary slightly from this software version.

To align the vessel with tested and approved architecture, when you have one SC2.2 JH pod and one SC2.5 KH pod, you must replace the TVM on the SC2.2 JH pod with a TVM that contains SC2.5 software. Follow the direction below to replace the TVM.

1. Unlock and disconnect the two TVM connectors.



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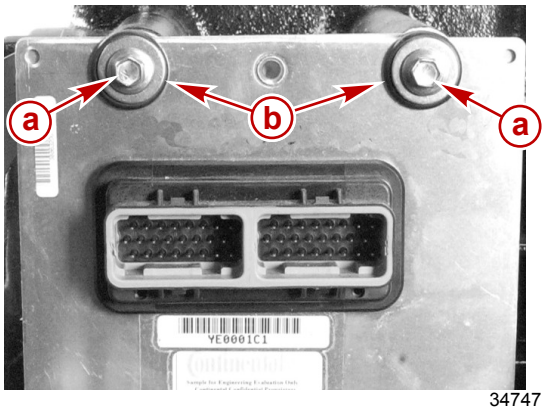
a - TVM connector A
b - TVM connector B

2. Remove the two upper screws and washers.



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a - Screw
b - Washer

3. Remove the lower screw and harness anchor.

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Lower screw and harness anchor

4. Remove the TVM from the electrical bracket. Retain the grommets and bushings.
5. Install the grommets on the new TVM module. Insert the bushings in from the back of the TVM bracket.
6. Using the three screws and washers, mount the TVM to the electrical bracket. Ensure that the harness anchor is between the washer and the bushing on the lower screw.
7. Tighten the three TVM mounting screws to the specified torque.

Description	Nm	lb-in.	lb-ft
TVM mounting screws	5.5	48	–

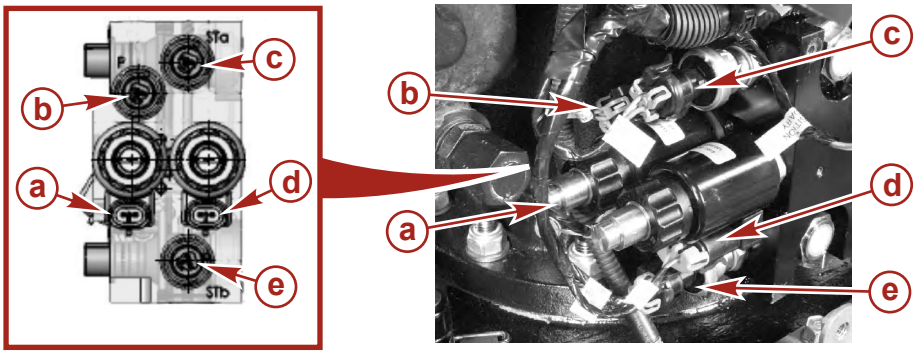
NOTE: *The TVM connectors require firm pressure to install and properly engage the connector locks. There will be a distinct and audible click when the connector locks.*

8. Attach the TVM connectors A and B. The wires are tagged connector A and connector B. Ensure that the connectors lock.

Hydraulic Transducer Replacement

The kit for the transducer replacements includes the five transducers and two labels to apply to the steering and trim manifolds to indicate that the transducers have been replaced with the higher scale transducer.

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



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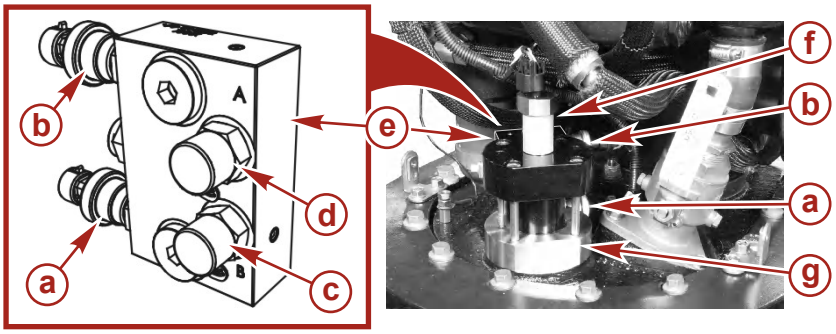
- **a -** Trim tab coil A (TCA)
- **b -** Pump pressure transducers
- **c -** Steering A pressure transducers
- **d -** Steering coil A (SCA)
- **e -** Steering B pressure transducers

Each pod's hydraulic trim tab manifold contains two 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 the* ***Zeus 3000 Series Pod Drive*** *service manual for instructions on manually lowering the trim tab.*



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- **a -** Trim tab pressure transducers B
- **b -** Trim tab pressure transducers A
- **c -** Hydraulic line connector B
- **d -** Hydraulic line connector A
- **e -** Hydraulic manifold
- **f -** Trim tab position transducers
- **g -** Trim cylinder

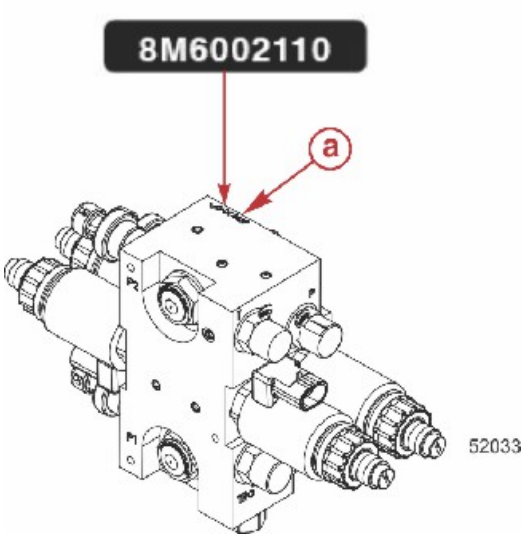
Refer to the following table for the part number and torque value of these transducers.

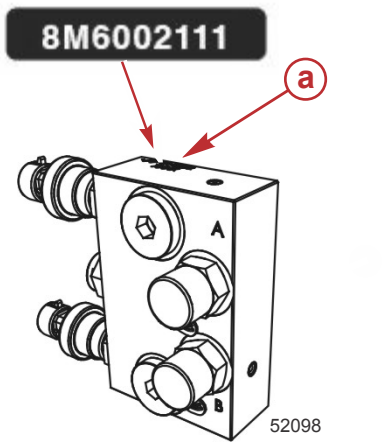
NOTE: *Ensure that the sensor fitting and the area around the sensor are clean before removal to avoid contamination. Use only a lint-free cloth to clean the sensor area before removal. The replacement sensor must remain sealed in the shipping container until time of installation.*

Qty.	Description	Nm	lb-in.	lb-ft	Part Number
1	Hydraulic pressure transducer kit	25	–	18	8M0078384

Label Placement

Two decal labels are included in the transducer kit. The labels should be installed on the steering manifold and the trim manifold. Use the following illustrations to determine the placement of each label. These labels indicate that the newer 3500 psi pressure transducers have been installed for future part replacement reference. Ensure that the surface is clean, dry, and free of oil prior to the application of the decal.





Steering manifold

Trim tab manifold

a - Affix the decal here

Perform Drive Initialization

When a TVM is replaced, the mechanical stop information is lost and must be restored with CDS G3. Go to **Configuration**, select **Drive Configuration**, then select **Drive Initialization**. In the upper right portion of the Drive Initialization screen you must select either the port or starboard TVM that was just replaced. The **pod** that was replaced will not require initialization. Follow the on-screen directions to complete initialization of the replaced TVM.

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Sea Trial

After any configuration procedures on a Zeus vessel, a sea trail should be performed to verify the operation of all features of the vessel.

- During the sea trial, set the drive alignment to ensure that the vessel tracks straight using the **Drive Alignment** procedure in CDS G3. Go to **Configuration**, select **Drive Configuration**, then select **Drive Alignment** and follow the on-screen directions to complete alignment of the drives.
- Test all joystick directions for functionality.
- Test the premier features: Skyhook (if installed), AutoHeading, and Track Waypoint functions.

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Use the checklist below to verify all tasks are completed.

- ☐ Replace one JH pod with KH pod.
- ☐ Turn all keys off and de-energize all panels or battery switches.
- ☐ Disconnect TVM on the remaining JH pod.
- ☐ Remove and replace remaining SC2.2 TVM with SC2.5 TVM.
- ☐ Replace pressure transducers and install decals to the steering and trim tab manifolds on the JH pod.
- ☐ Reconnect TVM.
- ☐ Turn all keys on, energize all panels and battery switches.
- ☐ Connect CDS G3, monitor all modules for faults and address if necessary.
- ☐ Launch the boat and perform drive initialization on the pod that had the TVM and transducers replaced.
- ☐ Perform an on the water drive alignment using CDS G3.
- ☐ Conduct a Sea Trial, testing all premier functions (Skyhook, AutoHeading, and Track Waypoint).
- ☐ Test all joystick functions in open water and while docking vessel.