



Installation and Troubleshooting Guide



NOTE: This installation is to be completed by an Authorized Dealer or Professional Service Technician. For questions regarding installation or warranty, call CDI Tech Support at 866-423-4832. **Do not return to the Dealer or Distributor where the part was purchased. Contact CDI Electronics Directly for Return Material Authorization.**

CDI P/N: 144-3251A 5 Timing Protection Module (TPM) 2 Cyl.

NOTE: This unit can replace the 823251A 5 TPM Module.

This product is designed for installation by a professional marine mechanic. CDI cannot be held liable for injury or damage resulting from improper installation, abuse, neglect or misuse of this product.

Disconnect the kill wire(s): Connect a DC voltmeter between the kill wires and engine ground. Turn the ignition switch on and off several times. If, at any time, you see over 2 volts DC on the kill wires, there is a problem with the harness or ignition switch. Battery voltage on the kill circuit can destroy most ADI type switch boxes.

NOTICE: The TPM Modules require an inductive spark plug. Please use the Factory recommended BPZ8H-10.

INSTALLATION

1. Disconnect all wires and remove the old TPM and clean all ground wires and mounting plate.
2. Check all the trigger, stator and kill wires for breaks and broken insulation.
3. Install the new TPM using the original bolts.
4. Connect the CDM connector with the longest wires to the #1 CDM and the CDM connector with the shortest wires to the #2 CDM. Lubricate the seals with a light amount of dielectric grease before connecting the plugs to the CDM Modules.
5. Connect all remaining wires, matching wires colors. Use a light amount of dielectric grease in the bullet connectors to prevent corrosion and to make it easier to snap the connectors together.
6. Verify ignition timing according to the Service Manual.

TROUBLESHOOTING

NO FIRE EITHER CYLINDER:

1. Disconnect the Black/Yellow kill wire and retest. If you now have fire, the kill circuit has a problem (check the Emergency Stop switch, key-switch and harness).
2. Test the stator and trigger as follows:

Red Lead	Black Lead	Ohms	DVA @ cranking	DVA Disconnected
Green/White	Green	400-700	180 V min connected	240 V +
Green/White	Eng Gnd	open	180 V min connected	Less than 5 V.
Green	Eng Gnd	open	20 V min connected	Less than 5 V.
White	White/Black	900-1430	4 V min	6 V +

3. Check for broken or bare wires on the unit, stator and trigger.
4. Check for DC voltage on the kill (stop) wires (usually Black/Yellow) with the key-switch in the on and off position. At no time should you see over 2 volts DC on this wire as severe damage to the CDMs can occur.
5. Check the DVA voltage on the Green/White wires going to the CDM modules. You should have at least 160 volts on each wire.
6. Using a CDM Test harness, break the Kill circuit between the CDM modules. If you have fire now, one of the CDM modules is shorted.
7. Disconnect the rectifier. If the engine fires, replace the rectifier.

ENGINE WILL NOT KILL:

Check kill circuit in the pack by using a jumper wire connected to the black/yellow wire coming out of the pack and shorting it to ground. If this kills the engine, the kill circuit in the harness or on the boat is bad, possibly the ignition switch.

HIGH SPEED MISS:

1. Disconnect the rectifier and retest. If miss is gone, the rectifier is usually at fault.
2. Check the DVA voltage between the Green and Green/White wires at high speed. . **NOTICE:** Use caution when doing this and do not exceed the rated voltage range of your meter. The reading should show a smooth climb in voltage. If there is a sudden or fast drop in voltage right before the miss becomes apparent, the stator is usually at fault. If there is no indication of the problem, it could be mechanical problem.

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3. Replace both CDM modules at the same time. If the miss is gone, put one CDM back on at a time and retest until you determine which original CDM caused the problem. If the miss is still present and the stator is ok, replace the TPM.

BOTH CYLINDERS FIRE BUT THE ENGINE WILL NOT RUN:

Index the flywheel and check timing on both cylinders. If the timing varies, replace the TPM.

ONE CYLINDER HAS WEAK OR NO FIRE ON 1 CYLINDER:

1. Check trigger and stator voltage to the CDM.
2. Replace CDM module.

TIMING WILL NOT ADVANCE ON BOTH CYLINDERS:

Replace the TPM.

TIMING WILL NOT ADVANCE ON 1 CYLINDER:

Check the wiring between the TPM and the CDM module. If ok, replace the CDM.

ENGINE HARD TO START WHEN COLD:

1. Check fuel enrichment valve.
2. Replace TPM.

ENGINE HARD TO START WHEN HOT:

1. Check stator and trigger.
2. Replace TPM.

ENGINE WILL NOT RUN OVER 2500:

1. Disconnect Tan wire from TPM. If engine now performs normally, replace Temperature sensor.
2. Replace TPM.

ENGINE TIMING FLUCTUATES: (NOTE- Timing can vary by 2-3 degrees at idle).

1. Check the Temperature sensor.
2. Replace TPM.

ENGINE MISFIRES OCCASIONALLY:

Check spark plugs – must be inductive type.