



Installation and Troubleshooting Guide

This installation is to be completed by an Authorized Dealer or Professional Service Technician. For questions regarding installation or warranty, call Technical Support at (800) 648-3976. Do not return to the Dealer or Distributor where the part was purchased. Contact Sierra Directly for Return Goods Authorization.

SIERRA P/N: 18-99249

This unit replaces the following P/N's: 18-5783, 582811, 763794, and 9-25005.

This unit replaces CDI P/N: 113-2811

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

This Power Pack does not have an RPM Limit.

How to test the Engine Stop Circuit (Kill) for DC Voltage:

1. DC voltage present on the kill circuit of the Power Pack due to a faulty key switch, boat harness, or engine harness will severely damage the Power Pack's internal kill circuit. Connect a Digital Multi Meter to the Ignition Stop wire AT THE POWER PACK while disconnected from the Power Pack in reference to a known good engine ground. Turn the Ignition switch on and off several times. If, at any time, you see over 2 VDC on the kill wire, there is a problem with one or both harnesses and/or the Ignition switch. The Ignition Stop wire should not be connected back to the new Power Pack at any point until the problem is corrected **OR DAMAGE TO THE POWER PACK WILL OCCUR!**

INSTALLATION

1. Disconnect the Negative battery cable.
2. Disconnect all of the wires going to the old Power Pack.
3. Remove the Power Pack mounting bolts and save the bolts.
4. Connect the wires from the new Power Pack to the Stator, Timer Base, and the Ignition coils.
5. Connect the Orange coil lead to the top Ignition coil and the Orange/Green coil lead to the bottom Ignition coil.
6. Mount the new Power Pack using the original bolts.
7. Reconnect the Negative battery cable.

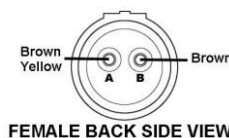
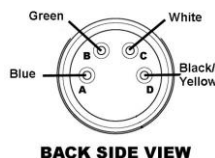
TROUBLESHOOTING

NO SPARK ON ANY CYLINDER:

1. Disconnect the Black/Yellow stop wire from the Power Pack and retest. If the engine's ignition now has spark, the stop circuit has a fault. Check the key switch, harness, and shift switch (if equipped).
2. Check the cranking RPM. A cranking speed of less than 250 RPM will not allow the system to spark properly.
3. Check the resistance and DVA of the Stator and Timer Base:

Read from	Read to	OEM Ohms	SIE Ohms	DVA (Connected)	DVA (Disconnected)
Brown (Stator)	Brown/Yellow (Stator)	485-635 Ω	450-600 Ω	150 V Minimum	150 V Minimum
Brown (Stator)	Engine Gnd	Open	Open	150 V Minimum	-
Brown/Yellow (Stator)	Engine Gnd	Open	Open	150 V Minimum	-
White (Common)	Blue (#1 Timer Base)	30-50 Ω	27-36 Ω	0.6 V Minimum	0.6 V Minimum
White (Common)	Green (#3 Time Base)	30-50 Ω	27-36 Ω	0.6 V Minimum	0.6 V Minimum
White (Common)	Blue (#2 Timer Base)	30-50 Ω	27-36 Ω	0.6 V Minimum	0.6 V Minimum
White (Common)	Green (#4 Time Base)	30-50 Ω	27-36 Ω	0.6 V Minimum	0.6 V Minimum

4. Check wire pin-out as follows:



6. Rare causes include a weak or broken flywheel Charge coil or Timer Base magnets. If possible, try another flywheel.
7. Disconnect the Yellow wires from the Rectifier and retest. If the engine now has spark, replace the Rectifier.

Dometic • 1 Sierra Place • Litchfield, IL 62056 USA

Web Support: www.catalog.sierraparts.com • Technical Support and Customer Service (800) 648-3976

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8. Check the Stator input diodes connected inside the Power Pack using a multi meter set to diode scale. If the readings show a short or open, replace the Power Pack.

Red meter lead	Black meter lead	Reading
Brown (Stator)	Black ground wire	Reading*
Brown/Yellow (Stator)	Black ground wire	Reading*
White (Timer Base Common)	Black ground wire	Reading*

*** This Measurement is with the meter set to the diode scale. Where you see the term "Reading" represents a reading on the meter. Actual Meter readings will vary depending on type of meter.**

NO SPARK ON ONE BANK:

1. Disconnect the Black/Yellow stop wire from the Power Packs and retest. If the engine's ignition has spark, the stop circuit has a fault. Check the key switch, harness, and shift switch (if present).
2. Check the Stator and Timer Base DVA (see **NO SPARK ON ANY CYLINDER**).
3. Swap the Stator wire pairs from one side of the engine to the other side and see if the problem moves. If it does, either the Stator is faulty or there is a poor connection between the Stator and the Power Pack.
4. Check the DVA on the Orange Primary wires from the Power Pack to the Ignition coils while connected to the Ignition coils. You should have a reading of at least 150 V or more. If the reading is low on one cylinder, disconnect the Orange Primary wire from the Ignition coil for that cylinder and reconnect it to a Pack Load resistor. Retest. If the reading is now good, the Ignition coil is likely bad. A continued low reading usually indicates a bad Power Pack.
5. Visually inspect the Ignition coils for burned or discolored areas or cracks in the casing (indicating arcing inside the Ignition coil).

NO SPARK OR INTERMITTENT ON ONE OR MORE CYLINDERS:

1. Check the resistance and DVA of the Stator and Timer Base (see **NO SPARK ON ANY CYLINDER**).
2. Check the DVA on the Orange Primary wires from the Power Pack while connected to the Ignition coils. You should have a reading of at least 150 V or more. If the reading is low on one cylinder, disconnect the Orange wire from the Ignition coil for that cylinder and reconnect it to a Pack Load resistor. Retest. If the reading is now good, the Ignition coil is likely bad. A continued low reading usually indicates a bad Power Pack.

ENGINE WILL NOT STOP (KILL):

1. Disconnect the Black/Yellow wire at the Power Pack. Connect a jumper wire to the stop wire from the Power Pack and short it to engine ground. If this stops the Power Pack from sparking, the stop circuit has a fault. Check the key switch, harness, and shift switch (if present). If this does not stop the Power Pack from sparking, replace the Power Pack.

MISS AT ANY RPM:

1. In the water or on a Dynamometer, check the DVA on the Orange wires from the Power Pack while connected to the Ignition coils. You should have a reading of at least 150 DVA or more, increasing with engine RPM until it reaches 300-400 DVA maximum. A sharp drop in DVA right before the miss becomes apparent on all cylinders will normally be caused by a bad Stator. A sharp drop in DVA on less than all cylinders will normally be the Power Pack or Timer Base.
2. Connect an inductive tachometer to each cylinder in turn and try to isolate the problem. A high variance in RPM on one cylinder usually indicates a problem in the Power Pack or Ignition coil. Occasionally a Timer Base will cause this same problem. Check the Timer Base DVA (see **NO SPARK ON ANY CYLINDER**).
3. Perform a high speed shutdown and read the spark plugs. Check for water. A crack in the block can cause a miss at high speed when the water pressure gets high, but a normal shutdown will mask the problem.
4. Disconnect the Yellow wires from the Stator to the Rectifier and retest. If the miss clears, replace the Rectifier.
5. Check the Timer Base and Charge coil flywheel magnets for cracked, broken, or loose magnets.

HIGH SPEED MISS OR WEAK HOLE SHOT:

1. Connect DVA meter between the Brown/Yellow and the Brown wires and do a running test on each set. AT NO TIME SHOULD THE VOLTAGE EXCEED 400 DVA. If it does, the regulator circuit in the Power Pack is faulty. The voltage should show a smooth climb and stabilize, gradually falling off at high RPM (above 5000). If you see a sudden drop in voltage right before the miss becomes apparent, the problem is likely in the Stator.
2. Disconnect the Rectifier and retest. If the problem disappears, replace the Rectifier and retest.

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