Installation and Troubleshooting Guide

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CDI P/N: 178-9550

This unit replaces the following P/N: 32101-95500 for 1979-1987 DT75 and DT85 Suzuki Engines.

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

Installation

1. Disconnect the negative battery cable.
2. Remove the Brown, Blue and Red Stator wires from the power pack.
3. Remove the Red/Yellow, Yellow and Red wires from the Rectifier/Regulator.
4. Remove the Red/White, Black/Red and Black wires from the CD Ignition Module.
5. Remove the flywheel.
6. Remove the old stator, saving the mounting bolts. Note the location of the wire bundle coming from the stator.
7. Mount the new stator using the original bolts with a thread-locker applied. Make sure the wire bundle is in the same location as the original stator.
8. Connect the Yellow, Red and Yellow/Red wires from the Rectifier/Regulator. NOTE: The new stator uses a Yellow/Red wire in place of the Red/Yellow wire on the original stator.
9. Connect the Red/White, Black/Red and Black wires from the CD Ignition Module.
10. Replace the flywheel according to the service manual.
11. Reconnect the battery cable.

Troubleshooting

NO SPARK ON ANY CYLINDER:

1. Disconnect the Green stop wire and retest. If the engine's ignition now has spark, the stop circuit has a fault-check the key switch, harness and shift switch.
2. Check the resistance and DVA output of the Stator and Trigger:

Read from	Read to	Ohms Reading	DVA (connected to pack)
Green Trigger wire	Pink Trigger wire	320-391 ohms	2 Volts Minimum @ cranking
Yellow/Red Trigger wire	White/Red Trigger wire	320-391 ohms	2 Volts Minimum @ cranking
Black Stator wire	Red/White Stator wire	114-140 ohms	20 Volts Minimum @ cranking
Black/Red Stator wire	Red/White Stator wire	680-825 ohms	100 Volts Minimum @ cranking

3. Check the cranking RPM. A cranking speed of less than 250-RPM will not allow the system to fire properly.

NO SPARK OR INTERMITTENT ON ONE OR MORE CYLINDERS:

1. Check the resistance and DVA output of the Stator and Trigger:

Read from	Read to	Ohms Reading	DVA (connected to pack)
Green Trigger wire	Pink Trigger wire	320-391 ohms	2 Volts Minimum @ cranking
Yellow/Red Trigger wire	White/Red Trigger wire	320-391 ohms	2 Volts Minimum @ cranking
Ignition coil Primary	Ignition Coil Frame	0.2-0.30 (1983-86)	
Ignition coil Primary	Ignition Coil Frame	0.2-0.50 (1987)	
Ignition coil Secondary	Ignition Coil Frame	2130-2880 (1983-86)	
Ignition coil Secondary	Ignition Coil Frame	4700-7000 (1987)	
Orange (connected)	Engine Ground		96 Volts Minimum@ cranking
Blue (connected)	Engine Ground		96 Volts Minimum @ cranking
Grey (connected)	Engine Ground		96 Volts Minimum @ cranking

2. Check the DVA output on the Orange, Blue and Grey wires from the power pack while connected to the ignition coils. You should have a reading of at least 96V or more. If the reading is low on one cylinder, disconnect the wire from the ignition coil for that cylinder and reconnect it to a load resistor. Retest. If the reading is now good, the ignition coil is likely bad. A continued low reading indicates a bad power pack or trigger (test per above).

ENGINE WILL NOT ACCELERATE ABOVE APPROXIMATELY 2000 RPM:

1. Verify the engine is not overheating and causing the power pack to limit the RPM.
2. Disconnect the Brown wire from the power pack and retest. If the engine now performs correctly, check the overheat sensor, oil level in the oil tank mounted on the engine and the wiring harness.
3. Check the position of the Brown wire and make sure it is not next to a spark plug wire.

ENGINE WILL NOT ACCELERATE ABOVE APPROXIMATELY 2500 RPM:

1. Using an inductive tachometer, check the RPM on all cylinders. A difference in readings between the individual cylinders can be caused by a bad coil, power pack or spark plug.
2. If all cylinders show the same RPM and the engine will only rev to approximately 2500 RPM, check the running stator DVA output from idle thru WOT. You should show a steady increase in voltage on the Black to the Red/White stator wires throughout the RPM range. A drop in voltage can be the result of a bad stator coil or a shortage in the ignition pack
3. Disconnect the regulator/rectifier wires to the regulator/rectifier and retest – if the engine now performs OK, the regulator/rectifier is likely bad.

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HIGH SPEED MISS:

1. Verify the engine is not overheating and causing the problem.
2. Using an inductive tachometer, check the RPM on all cylinders. A difference in readings between the individual cylinders can be caused by a bad coil, power pack or spark plug.
3. Disconnect the Yellow/Red, Yellow and Red wires to the regulator/rectifier and retest – if the engine now performs OK, the regulator/rectifier is likely bad.

S.A.F.E. WILL NOT ENGAGE:

Disconnect the Brown warning wire from the power pack. Connect a jumper wire to engine ground and connect it to the terminal where the Brown wire goes. If the engine now limits at approximately 2000 RPM, check the wiring from the temperature sensor and oil tank to the power pack. If it still fails to engage, the power pack is likely bad.

ENGINE WILL NOT KILL (STOP)

Disconnect the Green kill wire and connect a jumper wire to engine ground. If you still have spark, the power pack is likely bad. If the engine has no spark with the jumper connected, either the wiring harness, keyswitch or emergency stop switch is bad.

WILL NOT CHARGE BATTERY:

1. Connect a digital multimeter to the battery and an inline ampmeter between the regulator/rectifier and the battery.
2. Start the engine and allow it to warm up. Increase the engine idle to approximately 2000 RPM. If the battery voltage does not increase, but the ampmeter shows a 2 amp or charge rate, have the battery tested. If there is no increase in voltage and the ampmeter shows no charging amperage, check the stator battery charge windings for discoloration and burned areas.
3. Disconnect the Red/Yellow, Yellow and Red wires from the regulator/rectifier and check the Stator resistance:

Read from	Read to	Ohms Reading
Yellow/Red Stator wire	Red Stator wire	0.35-0.7 ohms
Yellow Stator wire	Red Stator wire	0.8-1.1 ohms
Yellow/Red Stator wire	Engine Ground	Open
Yellow Stator wire	Engine Ground	Open
Red Stator wire	Engine Ground	Open

4. Connect the Red/Yellow, Yellow and Red wires to the regulator/rectifier and check the Stator DVA voltage at approximately 1500 RPM:

Read from	Read to	DVA Reading
Yellow/Red Stator wire	Red Stator wire	6 V Minimum
Yellow Stator wire	Red Stator wire	12 V Minimum