

INSTALLATION INSTRUCTIONS

Original Issue Date: 5/94

Model: 4/6.5CZ and 3.5/5CFZ

Market: Marine

Subject: Stator Service Replacement Kits 229967, 229968, and 229969

Follow these instructions to replace the stators listed in Figure 1. See the generator service manual (TP-5338) for specific disassembly/reassembly instructions.

Marine Model	Previous Stator Part Number	New Stator Part Number
3.5/5CFZ	267948	260069
4CZ	267451	260068
6.5CZ	267331	260070

Figure 1. Stator Replacements

Observe the following safety precautions when replacing the stator.

⚠ WARNING




Accidental starting.
Can cause severe injury or death.

Disconnect battery cables before working on generator set. (Remove negative (-) lead first when disconnecting battery. Reconnect negative (-) lead last when reconnecting battery.)

Disabling generator set. Accidental starting can cause severe injury or death. Before working on the generator set or connected equipment, disable the generator set as follows: 1) Disconnect power to battery charger, if equipped. 2) Remove battery cables (remove negative (-) lead first). Reconnect negative (-) lead last when reconnecting battery. Follow these precautions to prevent starting of generator set by the remote start/stop switch.

⚠ WARNING

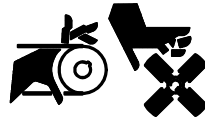


Fire.
Can cause severe injury or death.

Do not smoke or permit flame or spark to occur near fuel or fuel system.

Servicing fuel system. A flash fire can cause severe injury or death. Do not smoke or permit flame or spark to occur near carburetor, fuel line, fuel filter, fuel pump, or other potential sources of spilled fuel or fuel vapors. Catch all fuel in a suitable container when removing fuel line or carburetor.

⚠ WARNING



Rotating parts.
Can cause severe injury or death.

Do not operate generator set without all guards, screens, and covers in place.

Tightening hardware. Flying projectiles can cause severe injury or death. Retorque all crankshaft and rotor hardware after servicing. Do not loosen crankshaft hardware or rotor throbolt when making adjustments or servicing generator set. Rotate crankshaft manually in a clockwise direction only. Turning crankshaft bolt or rotor throbolt counterclockwise can loosen hardware. Loose hardware can cause hardware or pulley to release from engine of generator set and can cause personal injury.

Servicing generator set when operating. Exposed moving parts can cause severe injury or death. Keep hands, feet, hair, clothing, and test leads away from belts and pulleys when generator set is running. Replace guards, screens, and covers before operating generator set.

Perform the following functions before disassembly:

1. Close the seacock and the fuel valve.
2. Disconnect all external connections:
 - D The battery cables at the battery (the negative (-) lead first).
 - D The AC output leads in the controller.
 - D The remote start panel at the controller P3 connector.
 - D The water line at the seawater pump.
 - D The fuel line at the fuel pump filter inlet.
 - D The exhaust line at the mixing elbow.
3. Unbolt the generator set from the craft.
4. Remove the sound shield by opening the latches and lifting off the upper section of the sound shield.

Disassembly

1. Loosen the hose clamp and disconnect the hose at the air cleaner elbow outlet.
2. Remove the breather hose at the carburetor.
3. Loosen the 2 wing nuts to remove the air cleaner assembly.
4. Remove the controller cover screws and lift off the controller cover.
5. Disconnect the stator leads (1, 2, 3, and 4) from inside the controller.
6. Disconnect the B1/B2 inline connector located inside the controller.
7. Pull the leads from the grommets inside the controller.
8. Pull off the insulating boot from the capacitor and disconnect leads 55 and 66.
9. Remove the screw at the lower controller bracket to disconnect the controller ground strap and the fuel pump ground lead.
10. Unscrew the 3 nuts and the lock washers located inside the controller to dismount the controller from the rubber mounts.
11. Lift the controller and place it to the side of the generator set.

NOTE

Do not disconnect the engine wiring harness.

12. Remove the fuel-line clamp. Relocate the coolant recovery tank to access the screw.

13. Remove the 2 heat exchanger clamp screws. Keep the clamps on the heat exchanger.
14. Disconnect the fuel line from the fuel pump at the compression fitting by using a flare-nut wrench to prevent damage to the fitting.
15. Remove the bolt from the upper left side of the stator assembly to release the upper controller bracket.
16. Remove the 2 bolts that attach the upper controller bracket to the stator assembly.
17. Remove the thru-bolt cover and the controller bracket.
18. Discard the upper controller bracket.
19. Save the controller rubber mounts and all of the mounting hardware.
20. Remove the bolt from the ground-lug strap and the lower controller bracket.
21. Place a lifting strap under the stator assembly and use a chain hoist to support the weight of the stator assembly.
22. Remove the 2 bolts to release the stator assembly from the rear vibromount bracket.
23. Use a chain hoist to raise the stator assembly to clear the rear vibromount bracket.
24. Place a wood block under the generator adapter/fan housing.
25. Release the chain hoist to remove the lifting strap.
26. Remove the 2 bolts to dismount the lower controller bracket from the stator assembly.
27. Discard the lower controller bracket.
28. Save the fuel pump and all of the mounting hardware.
29. Remove the remaining (lower left side) stator assembly bolt.
30. Mount a puller onto the stator assembly and tighten the puller until the stator tolerance ring clears the rotor assembly.

NOTE

Bolt thread size is 5/16-18. Thread bolt in at least 1/4 in. (6 mm).

31. Remove the puller from the stator assembly.
32. Grasp the stator assembly and slide it off. If necessary, use a rubber mallet to loosen the stator assembly.
33. Discard the stator assembly.
34. Discard the tolerance ring.

Reassembly

1. Install a new tolerance ring (238211) into the stator assembly (260068, 260069, or 260070).
2. Place the stator assembly over the rotor and mount it using the four bolts.

NOTE

The new stator is similar to the old stator; however, the new stator incorporates a newly designed frame with extra bosses.

3. Alternately tighten the bolts to allow the stator assembly to slide over the adapter/fan housing lip.
4. Remove all of the bolts except the lower left bolt. The bolts will be replaced later.
5. Place the convoluted conduit (X-6003-13) over the stator output leads. Position the stator leads up for eventual routing to the controller box.
6. Mount the lower controller bracket (267985) to the stator assembly using the 2 bolts. Torque the 3 installed stator assembly bolts to 260 in. lbs. (29 Nm).

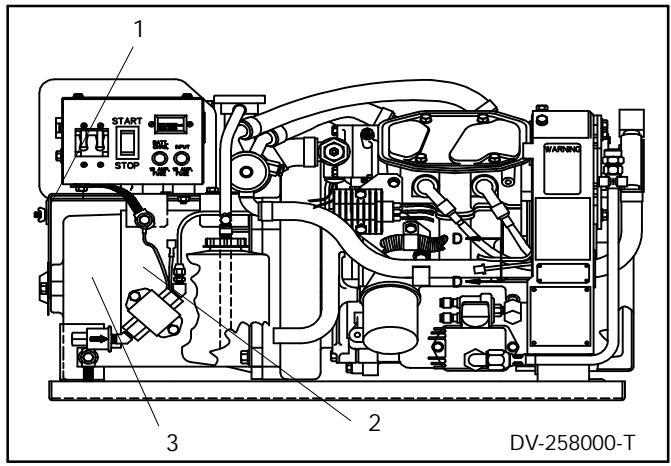
NOTE

The new controller brackets are similar to the old brackets; however, the new brackets incorporate a slight modification to provide additional clearance for mounting the new stator assembly.

7. Place the lifting strap under the stator assembly and connect it to the chain hoist.
8. Raise the stator assembly enough to remove the wood block.
9. Lower the stator assembly onto the rear vibromount bracket.
10. Mount the stator assembly to the rear vibromount bracket. Use a hoist as necessary to align the mounting holes.
11. Remove the lifting strap.
12. Connect the ground-lug strap to the lower controller bracket.
13. Place a star washer between the bracket and the ground strap.
14. Mount the throbolt cover and the upper controller bracket (267990) to the end bracket using the 2 bolts. Do not final tighten at this time.

15. Install the upper controller bracket bolt to the upper left stator assembly hole. Do not final tighten at this time.
16. Install the bolts to mount the heat exchanger clamps to the controller bracket.
17. Final tighten the bolts in steps 14 through 16.
18. Tighten the bolt installed in step 15 to 260 in. lbs. (29 Nm).
19. Use a flare-nut wrench to connect the fuel line to the fuel pump.
20. Reinstall the fuel line clamp connecting the upper controller bracket to the lower controller bracket.
21. Place the coolant recovery tank onto the mounting bracket.
22. Remount the fuel pump onto the notched lower controller bracket. Do not mount the fuel pump onto the generator adapter.
23. Route the stator leads (1, 2, 3, and 4) and the B1/B2 inline connector through the grommet inside the controller.
24. Place the controller onto the rubber mounts. Do not pinch the leads.
25. Mount the controller using the 3 lock washers and nuts.
26. Mount the controller ground strap and the fuel pump ground lead to the lower controller bracket. Place a star washer between the bracket and the leads.
27. Reconnect leads 55 and 66 to the capacitor. Connect the leads to either terminal.
28. Place the insulating boot over the capacitor terminals.
29. Reconnect the B1/B2 inline connectors.
30. Connect the stator leads (1, 2, 3, and 4) to the controller. See the wiring diagram in Figure 3.
31. Install the controller cover using the 4 screws.
32. Reconnect the breather hose to the carburetor.
33. Slide the hose onto the air cleaner elbow outlet.
34. Mount the air cleaner assembly and tighten the 2 wing nuts.
35. Tighten the air cleaner hose clamp.
36. Mount the generator set to the craft and install the sound shield. Reverse the procedure used before disassembly.

37. Reconnect all the external connections:
 - D The exhaust line to the mixing elbow.
 - D The fuel line to the fuel pump filter inlet.
 - D The water line to the seawater pump.
 - D The remote start panel to the controller P3 connector.
 - D The AC output leads to the controller.
 - D The battery cables to the battery (the negative lead last).
38. Open the seacock and the fuel valve.
39. Start unit and verify proper output voltage and frequency. See service manual.



1. Upper controller bracket (267990)
2. Lower controller bracket (267985)
3. Stator

Figure 2. Controller Bracket and Stator Location

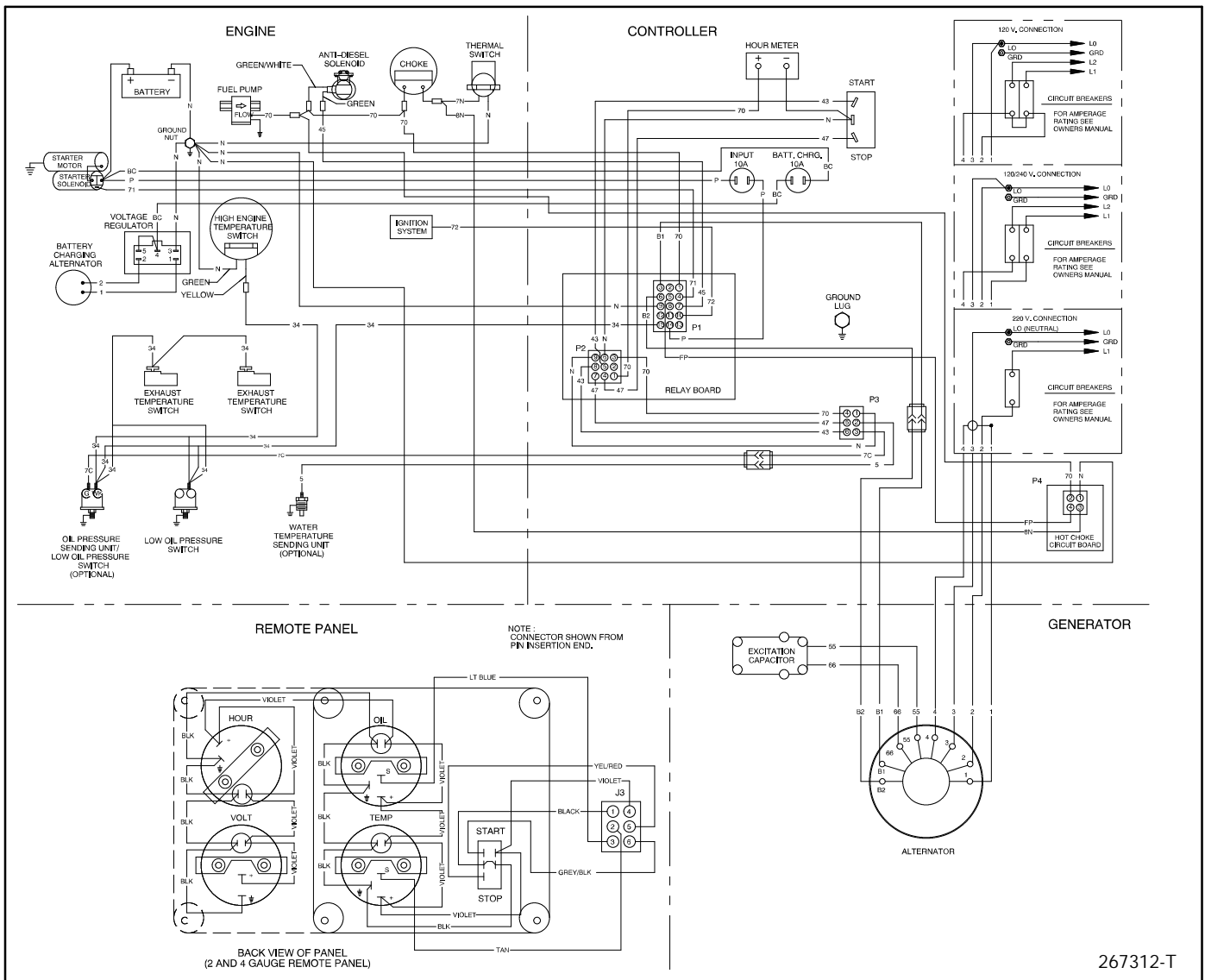


Figure 3. Wiring Diagram

Stator Service Replacement Kits

Parts List					
Kits: 229967, 229968, and 229969			Unique Parts		
Qty.	Description	Common Parts	229967	229968	229969
1	Conduit, convoluted	X-6003-13			
1	Tolerance ring	238211			
1	Stator		260070	260068	260069
1	Bracket, lower controller	267985			
1	Bracket, upper controller	267990			