



Generator Disassembly and Assembly

Service Manual

⚠ DANGER!



**NOT INTENDED FOR USE IN CRITICAL
LIFE SUPPORT APPLICATIONS.**



**ONLY QUALIFIED ELECTRICIANS OR
CONTRACTORS SHOULD ATTEMPT
INSTALLATION!**



**DEADLY EXHAUST FUMES! OUTDOOR
INSTALLATION ONLY!**

This manual should remain with the unit.

**This manual must be used in conjunction
with the appropriate owner's manual.**

WARNING!

California Proposition 65

Engine exhaust and some of its constituents are known to the state of California to cause cancer, birth defects, and other reproductive harm.

WARNING!

California Proposition 65

This product contains or emits chemicals known to the state of California to cause cancer, birth defects, and other reproductive harm.

Table of Contents

Section 1 Disassembly and Assembly

1.1 Intended Purpose	1
1.2 Overview	1
1.3 Disassembly Hints	2
1.3.1 Stator Disassembly	2
1.3.2 Rotor Disassembly	2
1.4 Assembly Hints	2
1.4.1 Adapter Installation	2
1.4.2 Rotor and Fan Assembly	2
1.4.3 Stator Installation	3
1.4.4 Bearing Bracket Installation	3
1.4.5 Outlet Cover Installation	3

This page intentionally left blank.

Section 1 Disassembly and Assembly

1.1 — Intended Purpose

This quick guide is not intended to replace service training programs or information covered in specific product manuals. It is merely a guide for an experienced individual who is already qualified and experienced in servicing generator sets. This document is not meant to replace other service training or procedures.

1.2 — Overview

The insert of Figure 1-1 shows the adapter face as viewed from the engine output shaft and how the rotor assembly attaches to the engine crankshaft. The bottom illustration shows the disassembly/assembly process.

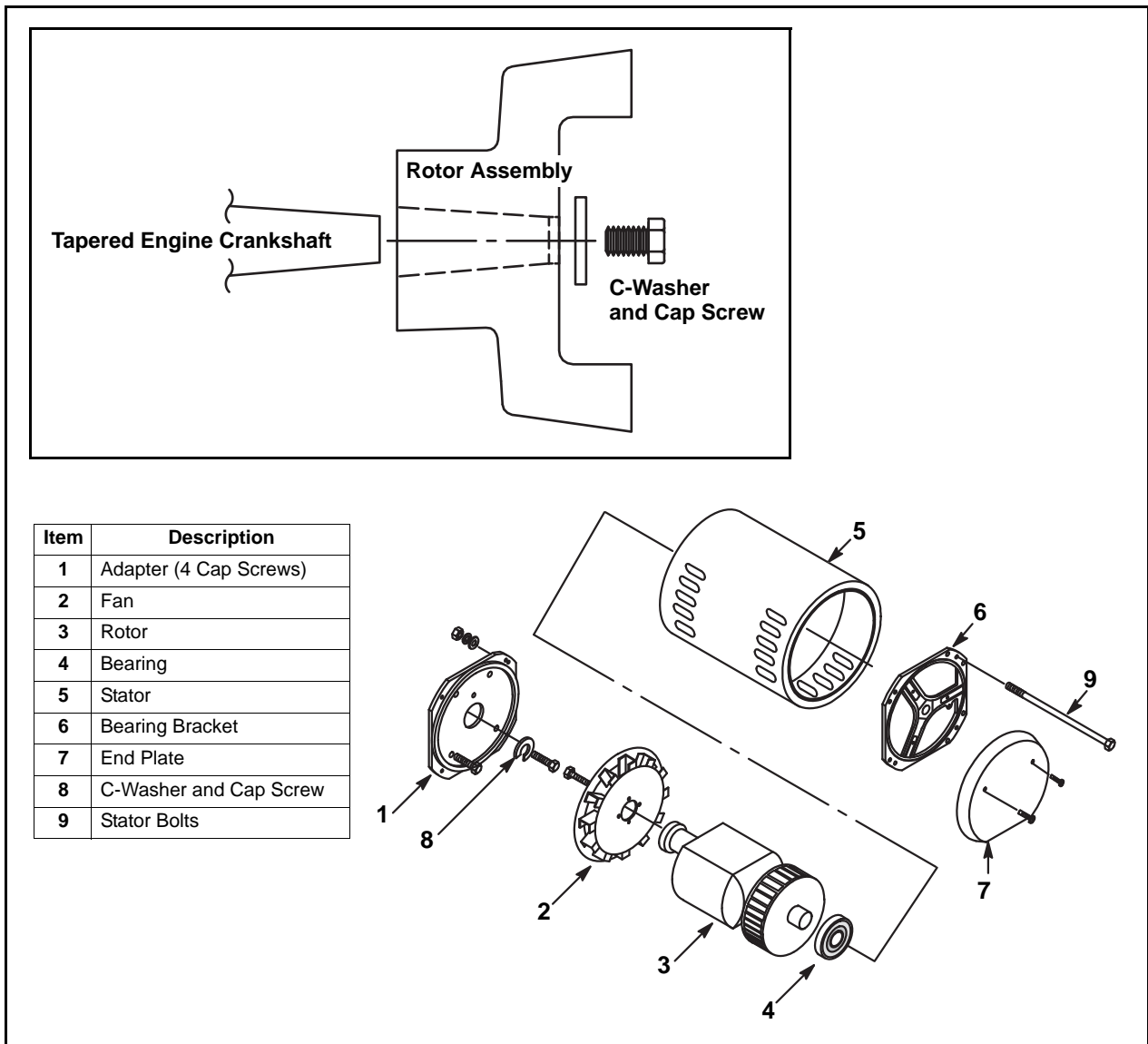


Figure 1-1. Typical Generator Assembly and Components

NOTE: Engine driven generator sets are subject to vibration. Consequently all fasteners should employ a locking device. Split type lock washers are generally suitable.

1.3 — Disassembly Hints

See Figure 1-1.

During disassembly, note the routing of the wire leads for the outlet cover and the method of securing the leads. Upon reassembly, the leads must be reinstalled and secured as they were.

CAUTION: Damage to the molded bearing support or slip-ring assembly requires that the complete rotor assembly be replaced.

1.3.1— Stator Disassembly

The entire stator, bearing bracket and outlet box may be removed as an assembly. Open the control box cover and remove the collector ring brushes, if applicable. Remove the four stator bolts and fasteners used to secure the bearing bracket to the adapter. Tap the bearing bracket at the stator bolt holes to release from the stator shell. Now the stator assembly may be slid from the engine adapter casting by a gentle prying action between stator shell and engine adapter castings.

1.3.2— Rotor Disassembly

Loosen the rotor bolt a few turns using a thin wall 1/2 inch wrench. Remove the C-washer. The rotor can be removed from the engine crankshaft (rotor bolt does not have to be removed completely).

1.4 — Assembly Hints

See Figure 1-1.

NOTE: Before assembly, check adapter and engine shaft pilot surface fit. Be sure all machined surfaces are clean, free of burrs and damage.

1.4.1— Adapter Installation

1. Clean the engine shaft and pilot surface thoroughly.
2. Place the adapter on engine pilot surface.
3. There should be no observable left/right, up/down movement.
4. If the adapter does not fit snug to the pilot, replace the adapter.
5. Mount the adapter with four hex cap screws, tightening in a diagonal fashion to prevent adapter warpage.

1.4.2— Rotor and Fan Assembly

The rotor assembly mounts directly to the end of the tapered engine crankshaft.

NOTE: Before assembly, if the rotor, stator or bearing bracket has sustained any mechanical damage replace all parts (not just one damaged item).

1. Install a 5/16-24 x 3/4 inch NF hex head cap screw into the end of the engine crankshaft. Turn the cap screw approximately 3/8 inch into engine shaft. The C-washer will be installed after the rotor is on the crankshaft.
2. Slip the rotor fully onto the engine crankshaft. The cap screw extends through the rotor flange.
3. Slide the C-washer between the bolt head and the engine shaft, see Figure 1-1.
4. Tighten the cap screw with a thin wall 1/2 inch wrench.

NOTE: Two-bearing generators have permanently attached drive end castings. Bearing replacement should only be performed by authorized personnel. Consult Factory Service Department at 1-800-872-7697.

CAUTION: Damage to the molded bearing support or slip-ring assembly requires that the complete rotor assembly be replaced.

1.4.3— Stator Installation

1. With stator shell seam down, slip stator over the rotor onto engine adapter.
2. Seat the rotor to the adapter using rawhide-covered mallet.

1.4.4— Bearing Bracket Installation

CAUTION: These steps must be followed exactly as written to prevent damage.

1. The outboard bearing bracket must be assembled to the stator in the following manner:
 - a. The bracket web assembles the letter “Y.” The vertical portion of the “Y” must be positioned at the bottom of the bracket.
 - b. Align bracket stub shaft with the rotor bearing inner race bore. Bearing bracket pilot must be aligned with the stator housing.
 - c. Carefully and lightly tap on bracket, CENTER ONLY, until the bracket is seated on the stator shell. Any pressure or tapping on the bracket, other than in the center, can fracture the molded bearing support and slip ring assembly on the rotor.
2. Secure with stator bolts. The stator bolt holes must line up on the bearing bracket and adapter holes.
3. If applicable, inspect the brushes and replace them if worn to 1/2 inch or less.
4. If applicable, insert the brushes and tighten brush caps finger-tight. Be sure brushes work freely in holders.

1.4.5— Outlet Cover Installation

CAUTION: If wires are not bundled and properly secured before the cover is installed, the wires may come in contact with the rotor and be damaged.

When reinstalling cover, ensure no wires are or will be pinched when the cover is installed. The wires must be bundled and secured using wire ties as they were before disassembly.

1. Verify all wires are placed properly and secured with wire ties to prevent damage.
2. Install cover to bearing bracket using small screws.

NOTE: If the duplex 120 volt receptacle is replaced, observe the terminal on the ground side (gold color). The duplex tab may have been split into individual receptacles by removal of this connecting tab. If the tab has been removed, the tab on the replacement receptacle must also be removed to ensure the outlets remain isolated.

This page intentionally left blank.

Part No. MN2404 Rev. A 01/28/2014 Printed in USA
© Generac Power Systems, Inc. All rights reserved
Specifications are subject to change without notice.
No reproduction allowed in any form without prior written
consent from Generac Power Systems, Inc.

GENERAC[®]


Generac Power Systems, Inc.
S45 W29290 Hwy. 59
Waukesha, WI 53189
1-888-GENERAC (1-888-436-3722)
generac.com