

# The Importance of Maintenance for Safety and Long Service Life

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**Denyo**

*Have you ever experienced malfunctions or breakdowns after using a generator for a long period of time?*

Those issues may be preventable through proper maintenance. Even in the used generator market, Denyo products are highly regarded and trade at high prices. This is not only because of their inherent mechanical durability, but also because users have carried out appropriate maintenance.

*So, what are the basic maintenance items for generators?*

Here, we will introduce the types of problems that can occur when each maintenance task is neglected.

Because maintenance items and procedures differ by model, be sure to check the instruction manual for your specific unit.

## Engine Oil Inspection and Replacement / Engine Oil Filter Replacement

Use the oil level gauge to check the amount of engine oil and the condition of the oil.

If the level is low, replenish it. If the oil is dirty, replace it with new engine oil and replace the oil filter as well. Be sure to replace them according to operating hours as well.

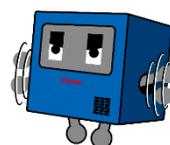
Neglecting this can lead to insufficient oil lubrication inside the engine, reduced cooling and cleaning performance, and premature metal wear. As a result, in the worst case, it can cause serious engine failure such as seizure.



Oil that has become sludge-like due to poor oil maintenance



Generator burnout caused by poor oil maintenance



## Air Cleaner Element Cleaning and Replacement

Remove the air cleaner element and clean it. If it is heavily soiled or damaged, replace it.

Neglecting this can lead to insufficient air intake or the intrusion of foreign matter, resulting in reduced output, black smoke, and engine damage.

## Fuel Filter Cartridge Replacement

Replace the fuel filter cartridge according to operating hours.

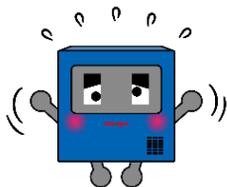
Neglecting this can cause fuel clogging, leading to starting difficulties, reduced output, and damage to fuel system components.



White smoke caused by fuel injection pump failure



Fan belt severed due to poor maintenance



Generator burnout caused by leakage current or ground faults



Water pump deterioration caused by insufficient coolant concentration

## Fan Belt Tension Inspection, Adjustment, and Replacement

Press the center of the belt between the alternator pulley and the fan pulley with your finger to check and adjust belt tension and elongation. At the same time, inspect the belt for damage, and replace it if any abnormalities are found.

Neglecting this can cause overheating due to reduced cooling performance or belt breakage, and in the worst case, lead to engine damage.

## Insulation Resistance Measurement

Using a 500 V insulation resistance tester, take measurements at least once a month and confirm that the resistance is 1 MΩ or higher. If the value is below 1 MΩ, dry the machine and restore insulation by removing oil and dust around the output terminals, circuit breaker area, and generator lead wires.

Neglecting this can result in leakage current, ground faults, and generator burnout, leading to emergency shutdowns, electric shock accidents, or fires.

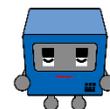
\*When measuring with an insulation resistance tester exceeding 500 V, be sure to disconnect all AVR connectors inside the generator control panel before taking measurements.

## Engine Coolant Inspection and Replacement

Check that the coolant level in the reserve tank is within the specified range, that there is a sufficient amount of coolant in the radiator itself, and that the coolant concentration is appropriate. If the level is below the lower limit, replenish it. If the coolant is dirty or the concentration is inappropriate, replace it.

Neglecting this can cause overheating, leading to emergency engine shutdowns, component damage, and in the worst case, serious engine damage.

Users should always remain conscious of performing maintenance and operate equipment safely. Being mindful of regular maintenance helps prevent malfunctions and avoid costly repair expenses. In addition, Denyo has sales agents in many countries and regions, providing comprehensive local support, including maintenance services.



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