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ELECTRICAL GENERATORS SERVICE MAINTENANCE

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Electric generators (fig. 1), regardless of their power level, require regular maintenance. This will ensure their reliable operation, extend their service life and prevent breakdowns. Maintenance includes diagnostics, cleaning, replacement of consumables and adjustment of key nodes [1-3].



Figure 1 – Electric Generator Ruris R-Power GE1000 [2]

Timely maintenance of the electric generator reduces the risk of malfunctions during operation, extends the service life of the equipment, ensures stable operation and fuel economy, reduces the costs of repair and replacement of units.

Generator maintenance is divided into scheduled and unscheduled.

Scheduled maintenance includes regular work carried out in accordance with the manufacturer's recommendations:

- daily inspection before start-up (checking the fuel and oil level, visual inspection for fuel and oil leaks, checking the state of wiring and grounding;
- maintenance after every 20...50 hours of operation (lubricant change, cleaning or replacement of the air filter, inspection and cleaning of spark plugs, diagnostics of the cooling system);

- maintenance every 100...150 hours of operation (adjustment of engine valve clearances (if provided), replacement of the fuel filter (if available), complete cleaning of the fuel system).

Unscheduled maintenance is carried out in case of malfunctions, such as:

- reduction of generator power;
- increase in fuel consumption;
- increased noise level or appearance of vibrations.

Let's dwell on the features of the maintenance of key components:

- the engine, which is the main node of the generator, needs to control the level and condition of the lubricant. It is necessary to clean the cooling fins from dust and dirt, regularly check the operation of the carburetor and spark plugs.

- the generator part requires inspection of the winding for damage or contamination. It is necessary to check the level of insulation and the integrity of the wires, as well as monitor the voltage level at the output;

- the cooling system needs clean air channels. It is necessary to monitor the condition of the fan and impeller;

- the fuel system requires regular removal of sludge from the fuel tank, use of only high-quality fuel, cleaning or replacement of fuel filters.

When preparing the generator for long-term storage or operation in the cold season, it is necessary to completely drain the fuel and lubricant; clean the air filter and spark plug; make sure the generator is stored in a dry, ventilated area. When operating in winter, it is recommended to use winter types of fuel and lubricants.

Do not forget to disconnect the generator from all loads and allow the engine to cool down before servicing. Work with the fuel system must be carried out away from open flames. It is recommended to use original spare parts and consumables.

Oil is a key component in the operation of any internal combustion engine, including generator engines. Its main task is to reduce friction between moving parts, protect against wear and prevent overheating. The quality of the oil used directly affects the performance, engine life and overall reliability of the generator.

Using low-quality oil can lead to: accelerated wear of parts (low-quality oil does not form a reliable protective film); engine overheating (insufficient heat transfer leads to an increase in engine temperature); formation of deposits (impurities in the oil leave carbon deposits, clogging

channels and filters); reduction in service life (the likelihood of serious engine failure increases).

Therefore, regular maintenance of electric generators ensures their stable operation and reduces the risk of malfunctions. Adherence to the manufacturer's schedule and recommendations, as well as the use of quality consumables, will help extend the life of the equipment and reduce operating costs.

References

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ОБҐРУНТУВАННЯ ФОРМИ ВИСИПНОГО ОТВОРУ ШНЕКОВОГО ТРАНСПОРТЕРА-РОЗПОДІЛЬНИКА ЗЕРНА

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Зернові культури є стратегічною сировиною, основним та найважливішим продуктом харчування для людини. Виробництво зерна впливає на економіку і є основою виробничої безпеки держави.

Одним із найважливіших факторів, що впливають на сталий розвиток країни та її продовольчу безпеку, є збільшення виробництва зерна та скорочення втрат на всіх стадіях, тобто не тільки шляхом збільшення валового збору, а й поліпшення якості післязбиральної обробки та зберігання.