

Working together to give *you* the best in diesel engine generator set support

Information Guide 1 – Emergency Generator Maintenance Guide

Interval	Task
Daily	<ul style="list-style-type: none"> • Check oil, fuel and coolant levels • Check for leaks • Check correct pressure for hydraulic start systems • Examine electrical connections • Check logging of load conditions Voltage, current, power factor, frequency, etc. • Check logging of excitation volts / amps • Check logging of winding temperatures
Fortnightly	<p>Check all the above plus:</p> <ul style="list-style-type: none"> • Lubricate all oil/grease points • Run engine, record engine temperatures and pressures and compare with previous
Monthly	<p>Check all the above plus:</p> <ul style="list-style-type: none"> • Take engine oil sample for analysis • Remove all sediment and water from fuel service tanks • Make sure all joints move freely in the fuel pump control • Check acid levels in batteries, top up distilled water if needed • Check relief bore for leakage
6 Monthly	<p>Check all the above plus:</p> <ul style="list-style-type: none"> • Check cooling water for pH values and tension of drive belts • Remove cylinder head covers, turn priming pump to make sure that oil is getting on valve rocker gear and check springs for corrosion • Check alternator for voltage and operations • Operate air flap valves manually to ensure free movement
Yearly	<p>Check all the above plus:</p> <ul style="list-style-type: none"> • Remove, dismantle and clean crankcase breather • Drain and refill oil sumps of turbocharger • Replace engine oil filters and renew engine oil dependent on sample results • Renew governor oil if spate supply • Overspeed test, run engine light at full speed and then manually raise engine speed until it reaches 15%. • Check tappets in cylinder heads and adjust if necessary • Record voltage output • Record current / load of generator • Record speed on/off load • Record winding temperature • Record oil temperature • Record water / air temperature (coolant) • Record ambient temperature • Record vibration levels

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	<ul style="list-style-type: none"> • Check for any visual damage / leaks digitally record as required • Check circuit breakers are locked off and made safe • Check engine start circuit • Lub oil system • Cooling water system • Air cooling fans • Insulation resistance measurements / anti-condensation heaters operable • Polarisation index • Carry out Partial discharge analysis (if applicable) • Winding resistance measurements (stator, rotor, exciter etc.) • Cleaning / inspection of stator windings • Inspection of rotor, exciter windings, diodes and fuses • Inspection / cleaning of slip rings for wear roundness and brush condition • Inspection of brush holders • Check carbon brushes and brush length • Inspection of terminal boxes inc. insulators, ner, ct's etc • Oil pumps and ancillary
2 Yearly	<p>Check all the above plus:</p> <ul style="list-style-type: none"> • Replace fuel injectors and carry out compression test • Borescope inspection of piston crowns, coolers and heat exchange units and borescope internals of the intercooler • Clean fuel filters and examine flexible mountings
6 Yearly	<p>Check all the above plus:</p> <ul style="list-style-type: none"> • Overhaul the following or replace with service exchange units: Fuel injection pumps, Cylinder heads, Heat exchanger, Oil coolers, and followers, Pistons and connecting rods, Cylinder liners, Thermostat, Viscous Damper, Turbocharger, Engine coolant pump, Overspeed trip, Tachometer, Generator drives, Manifolds, Governor, Starter motor • Inspect the following, replacing if required: Camshaft and followers, Crankshaft • Confirm generator breaker and HV line are tested • Function test protection system • Confirm generator protection system is in good working order • Confirm AVR is operating correctly

This is a generic guide and should be reviewed against engine specific information.

For help in developing or reviewing maintenance strategies, call us on **01206 791552** for a free consultation.