



# **Eletromak Warranty Statement**

JMG Ltd (hereinafter referred to as "the Company") warrants new electric power generation products sold by it to be free of defects in material and workmanship. The warranty is subject to the following:

### WARRANTY PERIOD

- Prime Power (PRP) is defined as being the maximum power that a generating set can deliver continuously while supplying a variable electrical load when operated for an unlimited number of hours per year. The permissible average power output over 24 hours of operation shall not be below 30% & shall not exceed 70% of the PRP. For applications requiring permissible average output higher than stated, the continuous power (COP) rating should be used.
- Emergency Standby Power (ESP) is defined as the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set can deliver in the event of a utility power outage or under test conditions for up to 200 hours of operation per year. The permissible average power output over 24 hours of operation shall not be below 30% & shall not exceed 70% of the ESP.
- The warranty period for the EY Model Eletromak electric power generation products in prime applications is 36 months from date of start-up or 8,760 hours (whichever comes first) provided the equipment is covered under a service agreement with JMG Limited for the entire warranty period. If the equipment is not under service agreement with JMG Limited, the warranty is limited to 12 months or 2000 hours, whichever comes first.

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Conditional upon signing up for a service contract with JMG for the duration of the warranty period.

### THE USER'S RESPONSIBILITIES

- Ensure that the load assessment of the site is carried out by an authorized representative of the company or its dealers.
- Install, operate, and maintain the generator set in accordance with the manufacturer's instructions.
- Acknowledge, execute, and return the Warranty Registration Form to the dealer within one month of delivery.
- Ensure that the initial start-up is performed by an authorized representative of the company or its dealers. In exceptional circumstances, said start-up would be waived, but only if a Pre-Delivery Inspection has been completed. In such circumstances, warranty will be adjusted to have commenced one month and terminated 13 months after the date of shipment by the Company.
- Give access to the equipment for repair as soon as the defect has become apparent.
- Accept the Company's sole Judgement as to whether the faulty part is defective in material or workmanship.
- Labor costs, except as stated under "The Company's Responsibilities." For avoidance of doubt, Company is not responsible for labor costs associated with removal or reinstallation of the equipment on site.
- The costs and risks for transport/shipping and other charges associated with the replacement of the repair parts.
- Any costs more than the purchase price of the equipment.
- Other miscellaneous costs including but not limited to courier, travel, mileage, lodging, taxes, telephone calls, overtime, except as stated under "The Company's Responsibilities."
- Complete any outstanding payments for the purchase of equipment, parts, or services relating to the equipment under warranty.
- Give access to Company's Engineers to operate and remove the warrantable parts in the event of a warrantable failure.
- Costs associated with the rental of generating sets used to replace the equipment being repaired.





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### THE COMPANY'S RESPONSIBILITIES

If a defect in material or workmanship arises during the warranty period, the Company will during regular working hours and through a place of business of an FG Wilson Dealer or other source approved by the Company:

- Replace or at the Company's discretion repair the defective parts.
- Provide reasonable and customary labour costs to correct the defect, including labour, to disconnect and reconnect the equipment.
- To mount equipment and provide support systems, except where such equipment, its mountings, and support systems are supplied by a third party.
- Provide for the cost of service supplies such as coolant oil and filters, which are made unserviceable by the defect.
- Provide travel labour, up to four hours and 300 KM round trip, if the engine is inoperative due to a defect and, in the opinion of the Company, it cannot reasonably be transported to an appropriate service location.
- Maintain items that are contaminated or damaged by a warrantable failure.
- Failed components claimed under warranty remain the property of the Company. The Company has the right to reclaim any failed component that has been replaced under warranty.

### **LIMITATIONS** This warranty does not cover:

- Defects due to the user's improper: installation, load balance, maintenance, repairs, or use as adjudged by the Company.
- Repairs required because of failure to perform periodical inspections and services and/or the routine checks and maintenance as specified in the Owner's Handbook.
- Alterations or repairs not authorized by the Company in writing.
- Any operation more than the Company's rating or outside the stated site conditions.
- · Normal wear and tear.
- Damage to parts, fixtures, housings, attachments, and accessory items that are not part of the generating set.
- · Negligence, accidents, or misuse.
- Use of improper or contaminated fuels, coolants, or lubricants.
- Improper storage before and after commissioning.
- Owner's delay in making equipment available after notification of a potential equipment problem.

- Owner or operator abuse or neglect such as: operation without adequate coolant or lubricants; under fueling; over-fueling; over-speeding; lack of maintenance to lubricating, cooling or air intake systems; late servicing and maintenance; improper storage, starting, warm-up, run-in or shutdown practices, or for progressive damage resulting from a defective shutdown or warning device.
- Damage to equipment other than the failure of any component due to Manufacturer defects or workmanship.
- This warranty does not cover costs resulting from difficulty in gaining access to the equipment & repair of cosmetic damage to enclosures.
- Any product specific hours limitations.
- Belts, Batteries, radiator poking, coolant are not included under warranty
- Damages on fuel system that include fuel injection pumps, atomizers/injectors, lift pumps are not included under warranty once diesel test sample results read "caution" or "failure" based on official certified LAB results
- Main Alternator and all its internal components include AVR, Diodes, coupling disk are not included under warranty if the cause of failure is due to overload, load unbalance, high step load, reverse current moisture, rust and/or any other environmental impact.

For best practice, kindly refer to the attached "Generator Start-Up and Operation Guidelines." The "Generator Start-Up and Operation Guidelines" shall be deemed to be an integral part of this Warranty Statement.

THE WARRANTIES SET FORTH HEREIN ARE THE SOLE WARRANTIES MADE BY THE COMPANY CONCERNING THE PRODUCT. THE COMPANY MAKES NO OTHER WARRANTIES, EXPRESSLY OR IMPLIEDLY ON THE MERCHANTABILITY OR THE FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT IS THE COMPANY LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.



# **GENERATOR START-UP AND OPERATION GUIDELINES**

### GENERATOR START-UP PROCESS

### **Pre Startup Checks**

- 1. Engine Oil Level Check (Recommended: between Min & Max)
- 2. Radiator Coolant Level (Recommended: should be near full to brim)
- 3. Check Air-cleaner if in place and not blocked.
- 4. Check Fan Belt visibly tight enough and in good condition
- 5. Fuel supply valve check (Recommended: continuous flow ON)
- 6. Drain Water from Fuel Water Separator.
- 7. Check Battery terminals well connected.
- 8. Ensure Gen Breaker connecting Load to be OPEN (In OFF condition).
- 9. START THE GENERATOR and allow it to run for 30 seconds without Load

### Post Startup Checks

- 1. Observe the engine sound and confirm that there is no abnormal noise.
- 2. Check engine to ensure there are no leakages.
- 3. Check Oil pressure showing within normal Range (3 to 4 Bar)
- 4. Switch the change over to generator
- 5. Close the Generator circuit breaker to CONNECT THE LOAD.
- 6. Check the engine temperature if within normal range
- 7. Check the charging alternator if charging the battery.
- 8. Check the load if balanced and within MIN & Max Range as per Gen Capacity.
- 9. Check the generator output voltage.
- 10. Check the frequency.
- 11. Record the hour counter and all above readings in the logbook.

### Generator Stopping Procedure

- 1. Open the generator circuit breaker to DISCONNECT THE LOAD.
- 2. Switch the change over to main power (Example: NEPA).
- 3. Allow the engine to run under for 5 min. in order to cool the engine.
- 4. Turn OFF the Generator by pressing OFF Button on Panel.
- 5. Open the SP door to accelerate the engine cooling.
- 6. Record the hour counter reading in the logbook.
- 7. Take Note of Hours Remaining for Next Service.
- 8. If Due Request for the Generator Routine Service.



### DOs & DON'Ts

### DOs

- 1. Prior to daily operation, please check the following:
  - Oil Level
  - Fuel level in the tank
  - · Coolant level and visual check of the radiator for any leakage
  - Battery
  - Visual Check on all connection and cables
- 2. Use the recommended oil as per the operation and maintenance manual.
- 3. Use the recommended coolant as per the operation and maintenance manual.
- 4. Prior to fueling, TURN OFF the generator and Start Up after at least 15 minutes.

This helps reducing possibility of contaminations entering fuel system.

- 5. Keep the fuel tank full in order to prevent accumulation of moisture in the fuel.
- 6. Ensure the belts are properly adjusted.
- 7. Service the generator on time according the operation manual.
- 8. Use emergency stop button only in emergency.
- 9. Use genuine filter and spare parts for the service.
- 10. Keep the generator, sound proof and surrounding area clean

### **DON'Ts**

- 1. Do not use the emergency stop button for normal engine stopping.
- 2. Never disconnect the charging alternator or battery cable.
- 3. Do not use the generator to charge alternative batteries.
- 4. Never stop the engine immediately after it has been working with load, it can lead to overheat and accelerate wear of engine component.
- 5. Avoid sudden shutdown of the generator. Hot engine shutdown will shorten turbocharger shaft and bearing life.
- $\ensuremath{\mathsf{6}}.$  Avoid immediate loading of the genset upon startup. Cold engine consume excess fuel.
- 7. Never operate the engine without thermostat.
- 8. Never run a generator with air filter removed.
- 9. Do not top up the radiator with any type of water; always use recommended Coolant.
- 10. Do not operate the Generator at light load or over load, it leads to damage the engine.
- 11. Do not operate the Generator with unbalanced load; it leads to damage of the Main Alternator.
- 12. Never use low quality contaminated fuel, as it will affect the injector and fuel injection pump.
- 13. Do not block Ventilation (path of Air circulation) to the Generator to avoid overheating.
- 14. Do not allow the first step loading of the generator to be more than 60% of its rating capacity.