

HQ

Diesel Generator Set — Quick Diagnostic Guide

Find the problem. Open the right section. Take action.

HUAQUAN POWER — Free Resource

⚡ When Something Goes Wrong — Check This First

Identify your symptom, then go straight to the relevant section in the checklist

✖ Cannot Start / No Response

1. **1** Battery voltage: 24–27V **S2**
2. **2** Battery terminals: clean and tight?
3. **3** Fuel level above 25%?
4. **4** Fuel line: bleed if airlocked
5. **5** Emergency stop button: reset if engaged

⚡ Output Voltage Unstable / Fluctuating

1. **1** Check AVR (Automatic Voltage Regulator)
2. **2** Verify all electrical connections are tight
3. **3** Inspect alternator brushes and slip rings
4. **4** Load test: stable at 50–75% load?
5. **5** Check engine speed (50Hz/60Hz)

🔥 Overheating / High Coolant Temp

1. **1** Coolant level in sight glass **S1**
2. **2** Radiator: check for blockages/debris
3. **3** Fan belt tension and condition **S2**
4. **4** Thermostat: opening properly?
5. **5** Coolant pH: flush if below 7.5 **S3**

☝ Black / White / Blue Smoke

1. **1** **Black smoke:** air filter clogged? **S2**
2. **2** **White smoke:** fuel quality / water in fuel **S3**
3. **3** **Blue smoke:** oil entering combustion
4. **4** Turbocharger oil seals **S4**
5. **5** Run compression test if persists

⚠ Warning Light On / Alarm Sounding

1. **1** Note the fault code on control panel
2. **2** Oil pressure: 2–5 bar at runtime
3. **3** Battery voltage under load
4. **4** Run hours: overdue for service?
5. **5** Do NOT run if oil pressure alarm active

🛢 High Fuel Consumption

1. **1** Generator running overloaded? **S3**
2. **2** Air filter: check and replace **S2**
3. **3** Fuel injector condition / timing
4. **4** Exhaust system: any restriction?
5. **5** Engine tune-up overdue? **S5**

Ref: **S1** =Daily **S2** =Weekly **S3** =Monthly **S4** =Quarterly **S5** =Annual**HQ**

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Diesel Generator Set — Monthly Health Checklist

Practical inspection guide for industrial backup power systems | 5KW – 3000KW

HUAQUAN POWER — Free Download | Version 1.0 — June 2026

How to use this checklist: Check each item and record **OK** / **WARN** / **FAIL**. Keep this log for at least 12 months.
Tip: For quick diagnosis, see the **Quick Diagnostic Guide** on the previous page.

Generator Set Information

Model:

Serial No.:

Power Rating:

Run Hours:

Installation Site:

Inspection Date:

SECTION 1 — DAILY CHECKS

takes 5 minutes

✓	Item	Freq	Status	Notes
☐	Engine oil level Dipstick: between MIN and MAX marks	Daily	OK / WARN / FAIL	
☐	Coolant level Sight glass. Do NOT open radiator cap when hot	Daily	OK / WARN / FAIL	
☐	Fuel level Top up if below 25%	Daily	OK / WARN / FAIL	
☐	Visible leaks — oil, fuel, coolant Walk around. Look for pooling or drips	Daily	OK / WARN / FAIL	
☐	Control panel — warning lights / alarms	Daily	OK / WARN / FAIL	
☐	Ventilation — air openings clear	Daily	OK / WARN / FAIL	

SECTION 2 — WEEKLY CHECKS

takes 15 minutes

✓	Item	Freq	Status	Notes
☐	Air filter — inspect element Tap dust out. Replace if torn or heavily clogged	Weekly	OK / WARN / FAIL	
☐	Battery terminals and voltage Measure: 24–27V for 24V system. Terminals clean and tight?	Weekly	OK / WARN / FAIL	
☐	Radiator and fan belt tension Press belt: deflect 10–15mm. Check for cracks	Weekly	OK / WARN / FAIL	
☐	Hoses and clamps — condition Cracks, hardening, or loose clamps on fuel/coolant lines	Weekly	OK / WARN / FAIL	
☐	30-minute no-load test run Run at no-load 30 min. Check: oil pressure, coolant temp, noise, vibration	Weekly	OK / WARN / FAIL	

SECTION 3 — MONTHLY CHECKS

takes 30–45 minutes

✓	Item	Freq	Status	Notes
☐	Engine oil and filter — replace Record run hours at change	Monthly	OK / WARN / FAIL	Run hrs: ____
☐	Fuel filter — drain water Open bowl drain valve. Remove accumulated water	Monthly	OK / WARN / FAIL	
☐	Coolant pH test Use test strips. pH 7.5–10. Flush if below 7.5	Monthly	OK / WARN / FAIL	pH: ____
☐	Exhaust system — check for leaks	Monthly	OK / WARN / FAIL	
☐	ATS auto start test Simulate power failure. Verify genset starts + ATS transfers	Monthly	OK / WARN / FAIL	
☐	Electrical connections — torque check	Monthly	OK / WARN / FAIL	
☐	Load test — 75% rated load, 30 min Monitor: fuel, oil pressure, coolant temp, frequency	Monthly	OK / WARN / FAIL	Fuel: ____ L Load: ____%

SECTION 4 — QUARTERLY CHECKS

✓	Item	Freq	Status	Notes
☐	Air filter — replace	Every 3 Months	OK / WARN / FAIL	
☐	Fuel system — inspect lines and tank	Every 3 Months	OK / WARN / FAIL	
☐	Turbocharger — inspect seals and shaft play	Every 3 Months	OK / WARN / FAIL	
☐	Alternator — check voltage and frequency	Every 3 Months	OK / WARN / FAIL	V: ____ Hz: ____

SECTION 5 — ANNUAL CHECKS

✓	Item	Freq	Status	Notes
☐	Coolant flush and replace	Every 12 Months	OK / WARN / FAIL	
☐	Full engine diagnostic — compression, oil analysis	Every 12 Months	OK / WARN / FAIL	
☐	Governor adjustment check	Every 12 Months	OK / WARN / FAIL	
☐	Voltage regulator — calibrate	Every 12 Months	OK / WARN / FAIL	
☐	Starting system — overhaul starter motor and solenoid	Every 12 Months	OK / WARN / FAIL	
☐	Load bank test — 100% rated load, 1 hour	Every 12 Months	OK / WARN / FAIL	

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Free for reference. Always refer to the manufacturer's official manual for your specific model.

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