

## TROUBLESHOOTING & FIXING

Troubleshooting and inspections must be performed by trained and authorized persons.

Correct equipment must be used when performing operations.

Do not make any part changes or adjustments without authorized and trained personnel.

If you cannot get a result with this table, call Universal Generator authorized services.

PROBLEM	POSSIBLE REASONS	SOLUTIONS
If the engine turns slowly but does not start:	No fuel in tank	Refuel
	Batteries are discharged	Charge/Replace batteries
	Defective starter	Repair/Replace
	Oil specification is not suitable	Replace with suitable oil
	Air in the fuel system	Eliminate air
	Clogged oil filter	Replace
	Defective fuel injection pump	Adjust/Repair/Replace
	Defective manuel fuel lift pump	Repair/Replace
	Poor compression	Measure/Engine revision
	Defective control unit	Adjust/Replace
	Engine mechanical fault (piston, piston rings etc)	Engine revision
	Problem in control panel	Repair/Replace
	Problem with electrical connections	Repair
Engine does not start:	Defective starter	Repair/Replace
	Defective starter relay	Replace
	Batteries are discharged	Charge/Replace batteries
	Defective control unit	Adjust/Replace
	Generator in OFF position	Switch to normal position
	No fuel in tank	Refuel
	Air in the fuel system	Eliminate air
	Problem in fuel system	Repair/Replace
	Fuel specification is not suitable	Replace with suitable fuel
	Clogged air intake	Open valve
	Clogged air filter	Replace
	Emergency button is pressed	Switch to normal position
	Poor compression	Measure/Engine revision
	Engine mechanical fault (piston,piston rings etc)	Engine revision
	Problem with electrical connections	Repair
	Ambient temperature is too low	Warm up ambient/Engine

Engine overheating:	Inadequate fresh air inlet	Make it suitable
	Inadequate hot air outlet	Make it suitable
	Unsuitable blinds and paddle box	Make it suitable
	Clogged air filter	Replace
	Radiator is too dirty or clogged	Clean/Replace
	Defective injectors	Adjust/Replace
	Wrong type injectors	Replace
	Clogged intercooler	Clean/Replace
	Excessive lubricating oil	Replace
	Inadequate coolant level	Refill
	Cooling fan is not working properly	Repair
	Clogged water hoses	Check/Repair/Replace
	Belts are worn or loosen	Adjust/Replace
	Defective water pump	Repair/Replace
	Leakage in cooling system (water-air)	Check/Repair/Replace
	Defective engine thermostat	Check/Replace
	Excessive exhaust back pressure	Make it suitable
	Overload	Decrease load level
Lubricating oil pressure is too high:	Defective sensor	Replace
	Defective display	Replace
	Oil specification is not suitable	Replace with suitable oil
Oil consumption too high:	Oil leakage	Repair
	Low load or no load operation	Load higher than 30%
	Oil viscosity too low	Replace with suitable oil
	Excessive lubricating oil	Replace
	Defective oil cooler	Repair/Replace
	Engine mechanical fault (piston,piston rings etc)	Engine revision
	Problem with cylinder head cover	Repair/Replace
Fuel consumption too high:	Fuel leakage	Repair
	Fuel specification is not suitable	Use suitable fuel
	Poor compression	Measure/Engine revision
	Defective manuel fuel lift pump	Repair/Replace
	Charge air is not cooled	Check/Repair
	Defective injectors	Adjust/Replace
Generator does not stop:	Clogged air filter	Replace
	Defective DC fuses	Repair
	Defective fuel solenoid	Adjust/Replace
	Mains supply problem	Measure mains voltage
	Defective control unit	Adjust/Repair/Replace
	Generator is cooling down	Wait/Check the timer
Alternator does not produce output voltage (No load voltage is lower than the 10% of nominal voltage):	Connections are loose	Check/Repair
	Excitation circuit is disconnected or short circuited	Check/Repair
	Defective rotating diodes or suppressor	Check/Repair
	Insufficient residual voltage	Apply external excitation
Alternator does not produce output voltage ( No load voltage is lower than 20-30% of nominal voltage. Output voltage is not effected from the rotation of AVR potentiometer):	Fuse (in AVR line) is broken	Replace
	Defective AVR	Check/Adjust/Replace
	Wrong connection of Excitor starter	Check
	Broken of exciter starter	İkaz statorunu kontrol ediniz/Tamir ediniz

Output voltage is 50-70% of the nominal voltage:	Defective AVR	Check/Repair/Replace
	Over excitation limitation	Adjust AVR potentiometer
	Fuse is broken	Replace
	Speed is lower than nominal	Check engine speed
	Voltage potentiometer is not adjusted	Adjust
Not enough power:	Engine is too cold	Warm up ambient/Engine
	Fuel specification is not suitable	Use suitable fuel
	High viscosity grade of oil	Replace with suitable oil
	Inadequate fuel	Provide enough fuel flowing
	Clogged fuel filter	Replace
	Clogged air filter	Replace
	Inadequate hot air outlet	Make it suitable
	Inadequate fresh air inlet	Make it suitable
	Defective injectors	Adjust/Replace
	Over-load	Decrease load level
	Defective manual fuel lift pump	Repair/Replace
	Defective turbocharger	Repair/Replace
	Defective fuel injection pump	Adjust/Repair/Replace
Output voltage is too high:	Poor compression	Measure/Engine revision
	Charge air is not cooled	Check/Repair
	Capacitive load	Eliminate consumer load
Unstable output voltage:	Defective AVR	Check/Repair/Replace
	Engine speed is variable	Adjust engine speed
	Stability potentiometer is not adjusted	Adjust STAB potentiometer
Blue smoke from exhaust:	Oil specification is not suitable	Replace with suitable oil
	Excessive lubricating oil	Replace
	Excessive oil consumption	Check/Engine revision
	Engine mechanical fault (piston, piston rings etc)	Engine revision
	Low load or no load operation	Load higher than 30%
White smoke from exhaust:	Poor compression	Measure/Engine revision
	Engine is too cold	Warm up ambient/Engine
	Defective engine thermostat	Check/Replace
	Fuel specification is not suitable	Replace with suitable fuel
	Problem in cold start system	Check/Repair
Black smoke from exhaust:	Defective injectors	Adjust/Replace
	Defective fuel injection pump	Adjust/Repair/Replace
	Over-load	Decrease load level
	Wrong valve tip clearance	Adjust
	Defective injectors	Adjust/Replace
	Oil specification is not suitable	Replace with suitable oil
	Defective manual fuel lift pump	Repair/Replace
	Defective fuel injection pump	Adjust/Repair/Replace
	Clogged air filter	Replace
	Inadequate fresh air inlet	Make it suitable
	Poor compression	Measure/Engine revision
	Charge air is not cooled	Check/Repair