



TAL 047. ELECTRICAL FAULTS. TROUBLESHOOTING

Fault	Action	Effect	Check/Cause
No voltage at no load on start-up	Connect a new battery of 4 to 12 volts to terminals F1 and F2, respecting the polarity, for 2 to 3 seconds	The alternator builds up and its voltage is still correct when the battery is removed	- Lack of residual magnetism
		The alternator builds up but its voltage does not reach the rated value when the battery is removed	- Check the connection of the voltage reference to the AVR - Faulty diodes - Armature short-circuit
		The alternator builds up but its voltage disappears when the battery is removed	- Faulty AVR - Field windings open circuit (check winding) - Revolving field coil open circuit (check the resistance)
Voltage too low	Check the drive speed	Correct speed	Check the AVR connections (AVR may be faulty) - Field windings short-circuited - Rotating diodes burnt out - Revolving field coil short-circuited (check the resistance)
		Speed too low	Increase the drive speed (do not touch the AVR voltage pot. before running at the correct speed)
Voltage too high	Adjust AVR voltage potentiometer	Adjustment ineffective	Faulty AVR
Voltage oscillations	Adjust the AVR stability potentiometer		- Check the speed: possibility of cyclic irregularity - Loose connections - Faulty AVR - Speed too low when on load
Voltage correct at no load and too low when on load	Run at no load and check the voltage between F1 and F2 on the AVR	Voltage between F1 and F2 (DC) SHUNT / AREP / PMG < 10V	- Check the speed
		Voltage between F1 and F2 SHUNT / AREP / PMG > 15V	- Faulty rotating diodes - Short-circuit in the revolving field coil (check the resistance) - Faulty exciter armature (check the resistance)
Voltage disappears during operation	Check the AVR, the surge suppressor, the rotating diodes, and replace any defective components	The voltage does not return to the rated value	- Exciter winding open circuit - Faulty exciter armature - Faulty AVR - Revolving field coil open circuit or short-circuited