



TAL 042 H. 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 diode - Armature short-circuit |
| | | The alternator builds up but its voltage disappears when the battery is removed | - Faulty AVR - Field windings open circuit (check winding) - Main field winding open circuit (check the resistance) |
| Voltage too low | Check the drive speed | Correct speed | Check the AVR connections (possible AVR failure) - Field windings short-circuited - Rotating diodes burnt out - Main field winding 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 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 et F2 on the AVR | AREP+/PMG: Voltage between F1 and F2 = $6V < UDC < 10V$ | - Check the speed |
| | | SHUNT: Voltage between F1 and F2 = $10V < UDC < 15V$ | - Faulty rotating diodes - Short-circuit in the main field (check the resistance) - Faulty exciter armature (check the resistance) |
| (*) Warning : During single-phase operation, check that the sensing wires from the AVR are connected to the correct output terminals. | | | |
| 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 - Main field open circuit or short-circuited |
| (**) Warning : The AVR internal protection may cut in (overload, lost connection, short circuit). | | | |