HOW TO CHECK DIODE BY CIRCUIT TESTER

Diode has two electrodes standing for anode and cathode, and most of current can not be supplied practically from cathode to anode although it can be supplied from cathode to anode as shown below.

![Diagram of diode](image)

Utilizing such character of diode, alternator is rectifying (A.C. to D.C) by using 6 or 8pcs. of diode. Accordingly, by checking electric continuity of anode and cathode, the bad or good characteristics of diode can be checked.

Method of checking diode is as follows;

Note:
1. In case of electric continuity check, after removing regulator from alternator, remove lead wire of stator coil from each terminal which is also connected to rectifier. If the lead wire of stator coil is connected, since there is electric continuity through the coil, open state of diode can not be checked.
2. Change the circuit tester for measurement to ohm meter position.
3. Pay attention to direction of current because, in case of ohm meter position, red lead (+) becomes minus and black lead (−) becomes plus potential which are opposite of voltage / ampere measurement position.
4. Using pointer type (analog) tester is preferable because, Liquid crystal display type (digital) can not distinguish open or electric continuity of diode as internal resistance of tester is large and current supplied into diode is micro-current level.
5. Do not use high voltage insulation resistance tester such as MEGA for diode check since diode will be broken by the tester.

Remove rectifier from Stator Coil
HOW TO CHECK PLUS SIDE OF RECTIFIER

① Connect the red lead (+) of circuit tester to output terminal [B] of rectifier, and connect the black lead (−) to three terminals (Denso type is of four terminals) connected with stator coil.
   After that, confirm if they have electric continuity at each terminal.
   If no electric continuity is confirmed at a diode, the diode is open (disconnection) state.

② Next, reverse the position of red and black lead of circuit tester, (red lead connected to three terminals and black lead connected to output terminal [B]) and check each terminal the same as method ①.
   After that, confirm if they do not have electric continuity at each terminal.
   If electric continuity is confirmed at a diode, the diode is of short circuit.

HOW TO CHECK MINUS SIDE OF RECTIFIER

③ Connect the red lead (+) of circuit tester to Ground position of rectifier, and connect the black lead (−) to three terminals (Denso type is of four terminals) connected with stator coil.
   After that, confirm if they do not have electric continuity at each terminal.
   If electric continuity is confirmed at a diode, the diode is of short-circuit.

④ Next, reverse the position of red and black lead of circuit tester (see ②), and check each terminal the same as method ③.
   After that, confirm if they have electric continuity at each terminal.
   If no electric continuity is confirmed at a diode, the diode is of open (disconnection) state.
TRIO DIODE

Note: Name of Trio diode is changed by maker as auxiliary diode, three diode and diode for exciting. However, in this text, it is called “TRIO DIODE”.

Generally, the shape of Trio diode is as below figure and three diodes are built into the rectifier. Anode side is connected to each phase of stator coil and cathode side (with band mark), together with three terminals of diode, is connected to connector of alternator and regulator as [L] terminal.

HOW TO CHECK TRIO DIODE

① Connect the red lead (+) of circuit tester to cathode side (L) of which three lead wires are connected, and connect the black lead (−) to each anode side. After that, confirm if each diode has electric continuity. If no electric continuity is confirmed at a diode, the diode is open (disconnection) state.

② Next, reverse position of the red and black lead of circuit tester, (red lead connected to each anode, and black lead connected to cathode side [L]), and check each diode the same as method ①. After that, confirm if each diode does not have electric continuity. If electric continuity is confirmed at a diode, the diode is of short-circuit.