NIPPONDENSO REGULATORS

Honda
Opel
Toyota

DESCRIPTION

Nippondenso regulators are of two designs: a single element type and a two element type. Two element types consists of a voltage regulator and voltage relay. The single element type has a voltage regulator only.

APPLICATION

Model	Part No.
Honda	
Accord	31100-671-004
Civic, CVCC	31400-657-672
Opel	
All Models	94208462
Toyota	
2F	2700-60080
All Others	2700-38010

TESTING

VOLTAGE REGULATOR

Connect tests meters to voltage regulator circuit as shown in illustrations. Vary alternator RPM and check voltmeter reading. Increase alternator RPM and check voltage when ammeter registers 1/2 of maximum rated alternator output. Voltage should be 13.8-14.8 volts. Adjust alternator speed to 3,000 RPM, voltage output should again be 13.8-14.8 volts. If voltage is not within specified range, adjust voltage regulator by bending arm to obtain correct setting.

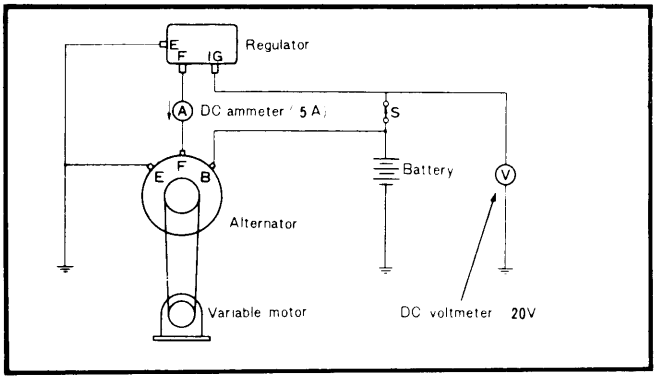

Fig. 1 Test Circuit for Single Element Type

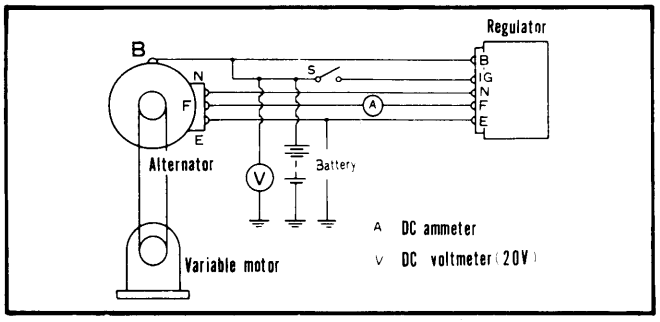

Fig. 2 Test Circuit for Two Element Type

VOLTAGE RELAY

Charge Warning Lamp Type – Connect test meters as shown in *Fig. 3 thru 6*. Increase alternator RPM gradually and note voltage when charge lamp goes out. Cut-in voltage should be 4.0-5.8 volts. If voltage is not as specified, bend voltage relay adjusting arm to obtain correct setting.

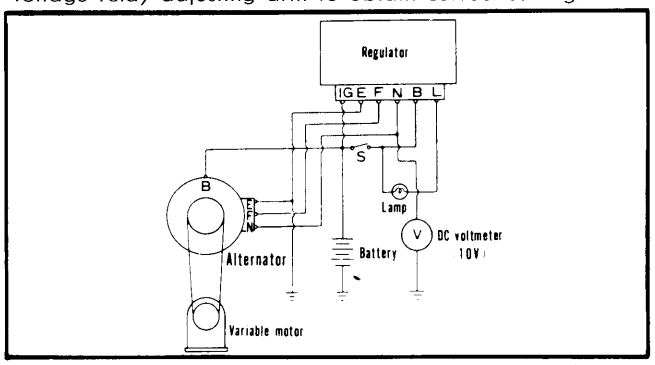

Fig. 3 Test Circuit for Relay-Warning Lamp Type

Ammeter Type – Connect test meters as shown in *Fig. 4 thru 6*. Increase alternator RPM gradually and note voltage. Voltage should be 4.5-5.8 volts. If necessary, adjust voltage by bending adjusting arm.

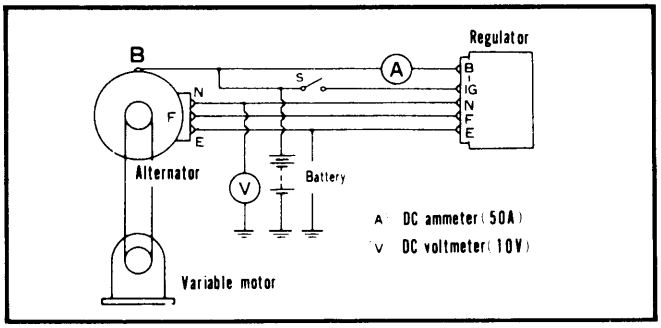

Fig. 4 Test Circuit for Relay-Ammeter Type

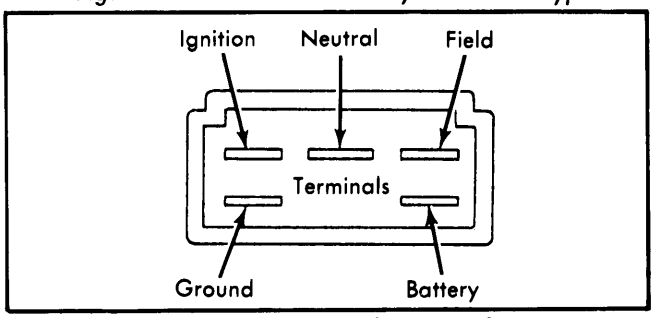

Fig. 5 Terminal Position for Two Element Type Regulator Wiring Connector.

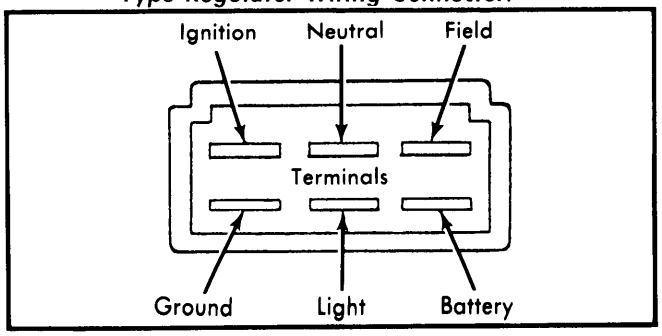

Fig. 6 Terminal Position for Two Element Regulator with Warning Lamp Circuit.

NIPPONDENSO REGULATORS (Cont.)

ADJUSTMENT

NOTE – *Adjustments are not applicable to sealed units. If points are slightly oxidized or pitted, dress contacts with suitable emery cloth (about 400 grit). If points are oxidized or pitted excessively, replace regulator assembly.*

Voltage Relay – Connect voltmeter between "N" terminal (white wire) and ground then increase engine speed gradually. Voltmeter reading should be 4.0-5.8 volts when indicator light goes out. Adjust cut-in voltage by adjusting armature core gap and point gap using following procedures.

1) If cut-in voltage is too high, adjust by bending core adjusting arm down. Bend arm up if cut-in voltage is too low.

2) If adjustment of core arm does not correct cut-in voltage, proceed with point gap adjustment. Disconnect negative cable from battery. Check armature core gap with armature depressed until moving point is in contact with "B" side point. Armature core gap should be .012" or more. Adjust by bending point arm "B".

3) Release the armature and adjust the gap between the "B" side point and the moving point by bending point arm "A". Point gap should be .016" to .047".

4) After point gap adjustment, recheck cut-in voltage. If not within 4.0-5.8 volts, repeat cut-in voltage adjustment.

Voltage Regulator – If the no load regulated voltage is not within the 13.8-14.8 volt range, adjust regulator as follows.

1) If regulated voltage is too high, adjust by bending armature adjusting arm down. If voltage is too low, bend arm up.

2) If core arm adjustment will not correct regulated voltage, proceed to point gap adjustment.

3) Disconnect battery ground cable. Depress armature arm until the moving point contacts "B" side point. Bend point arm "B" to obtain armature gap of .012" or more.

4) Release armature and adjust gap between "B" side point and moving point by bending point arm "A". Gap should be .012" to .018".

5) After gap adjustment is made, recheck no load regulated voltage under operating test. Repeat core arm adjustment if necessary.

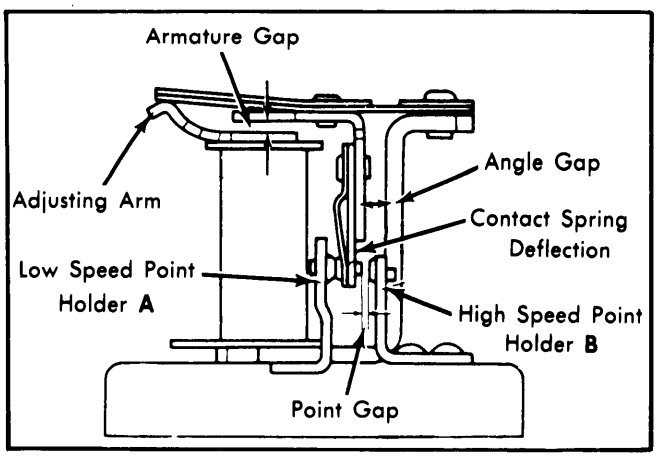

Fig. 7 Adjustments for Voltage Relay

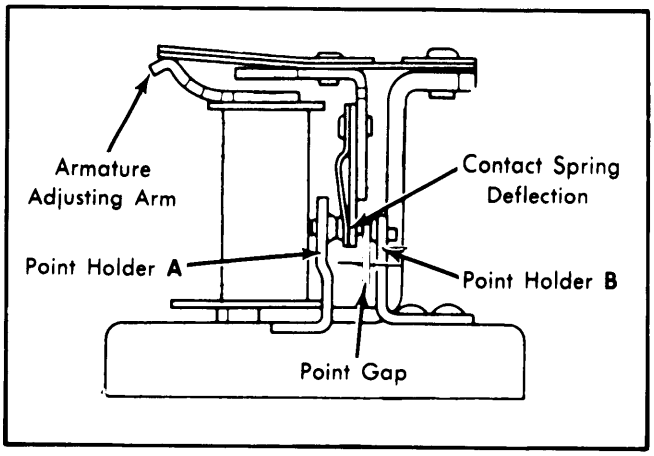

Fig. 8 Adjustments for Voltage Regulator