NIPPONDENSO REGULATORS

Arrow/Colt, Challenger/Sapporo
1600 cc Engine Equipped
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.
Arrow/Colt, Challenger/Sapporo	026000-1764
Honda (All Models)	56979-31400-657-673
Opel	94208462
Toyota	
Celica	27700-45020
Corolla	27700-38100
Corona	27700-45020
Cressida	27700-38060
Land Cruiser	27700-24020
Pick-Up	27700-38060

TESTING

VOLTAGE REGULATOR

Opel and Toyota – Connect test meters as shown in illustrations. Vary alternator RPM and check voltmeter reading. Increase alternator RPM and note voltage when ammeter registers ½ of maximum rated output. Voltage should be 13.8-14.8 volts. Increase alternator speed to 3,000 RPM and note voltage again from 13.8-14.8 volts. If voltage is not within specified range, adjust regulator by bending arm to obtain correct setting.

Honda, Arrow/Colt and Challenger/Sapporo – Connect voltmeter between terminals A and E (except Toyota) or pin 6 (battery) and positive battery post (Toyota only). With engine idling, disconnect battery ground cable from negative post. Accelerate engine momentarily to 2000-4000 RPM and note voltage of 13.5-14.5 (Toyota) or 14.5-15.8 (except Toyota). If not within specifications, adjust or replace regulator as required.

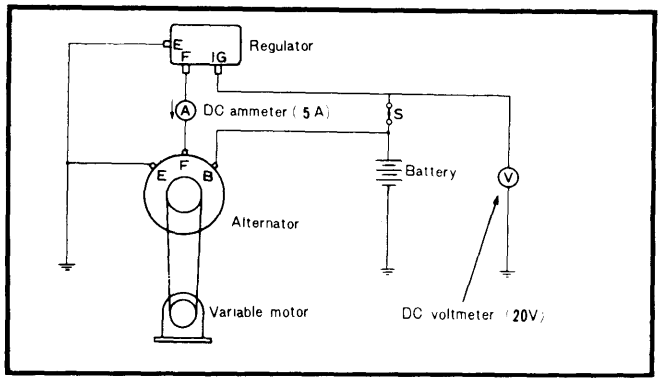

Fig. 1 Test Circuit for Single Element Type

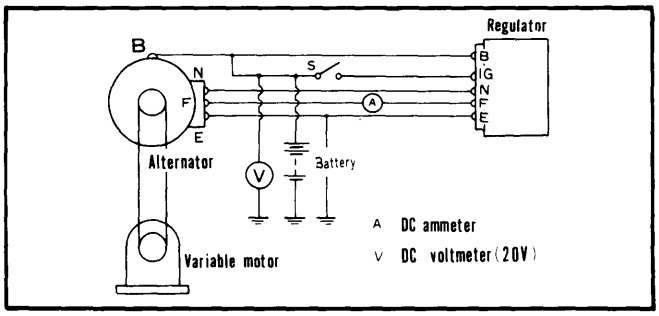

Fig. 2 Test Circuit for Two Element Type

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.

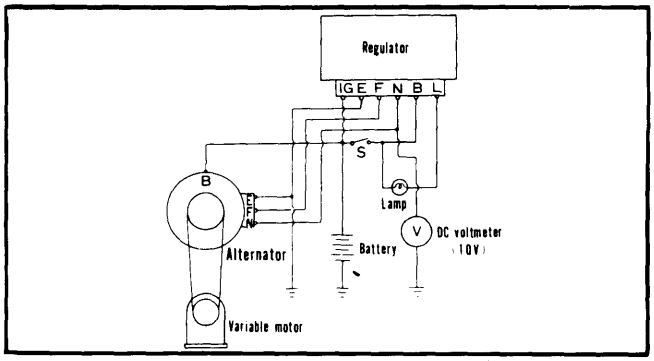

Fig. 3 Test Circuit for Relay-Warning Lamp Type

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.

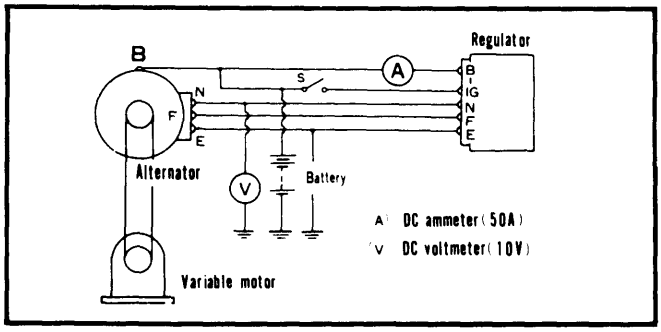

Fig. 4 Test Circuit for Relay-Ammeter Type

NIPPONDENSO REGULATORS (Cont.)

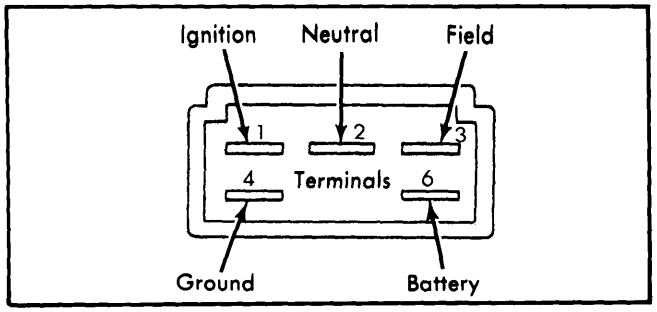

Fig. 5 Terminal Position for Honda Connector P55

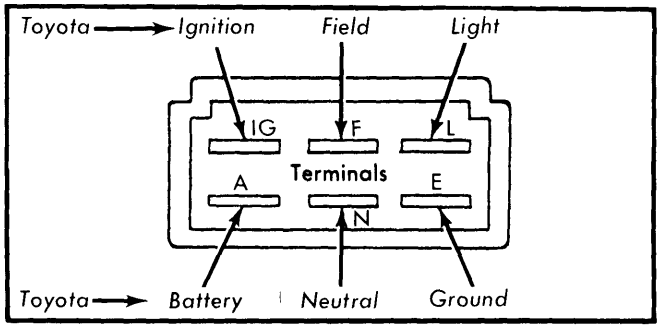

Fig. 6 Terminal Position for 6 Pin Connector (Toyota Indicated in Italics)

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.

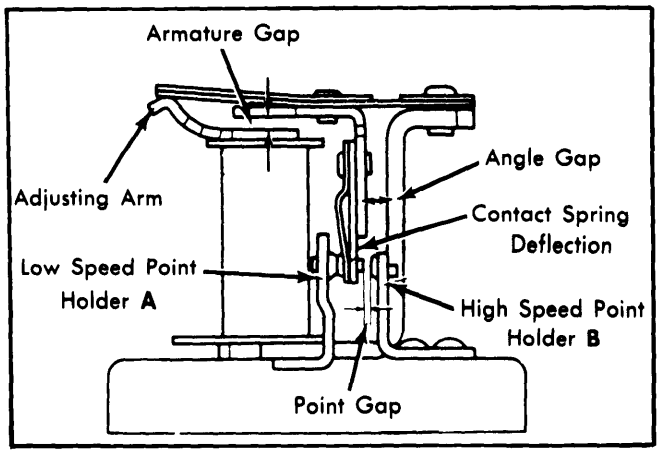

Fig. 7 Adjustments for Voltage Relay

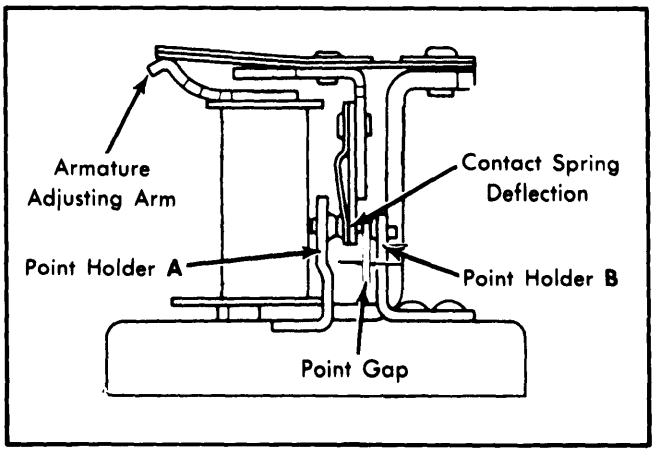

Fig. 8 Adjustments for Voltage Regulator