

ALTERNATOR & REGULATOR - MITSUBISHI

1993 Nissan Sentra

1993 ELECTRICAL
Nissan Alternators & Regulators - Mitsubishi

NX, Quest, Sentra, 240SX, 300ZX

NOTE: If vehicle is equipped with Hitachi alternator, see
ALTERNATOR & REGULATOR - HITACHI article in the ELECTRICAL
section.

DESCRIPTION

Conventional 3-phase, self-rectifying Mitsubishi alternator
contains 6 diodes (3 positive and 3 negative). Diodes rectify current.
Regulator is inside alternator.

ADJUSTMENTS

BELT TENSION

ALTERNATOR BELT ADJUSTMENT

Application	(1) Deflection In. (mm)
NX & Sentra	
1.6L	.28-.35 (7-9)
2.0L (With A/C)	.28-.31 (7-8)
2.0L (Without A/C)	.31-.35 (8-9)
Quest	.26-.29 (7.5-8.5)
240SX	.28-.31 (7-8)
300ZX	.28-.31 (7-8)

(1) - Deflection is with 22 lbs. (10 kg) pressure applied midway on
the longest belt run.

TROUBLE SHOOTING

NOTE: See TROUBLE SHOOTING - BASIC PROCEDURES article in
GENERAL INFORMATION.

ON-VEHICLE TESTING

NOTE: Before testing, ensure alternator wire harness connections
are secure, drive belt tension is okay and battery is fully
charged. After starting engine, wait at least 30 seconds
before measuring voltage. Terminals "B", "E", "L" and "S"
are marked on the alternator's rear cover.

Alternator Test

1) Turn ignition on. If charge indicator light on instrument
panel comes on, go to step 3).

2) If light is off, disconnect alternator connector
(terminals "L" and "S"). Ground terminal "L". If light comes on,
repair or replace alternator and/or replace regulator. If light
remains off, replace indicator bulb, reconnect alternator connector
and retest.

3) Start and run engine at idle. If charge indicator light is

dim, flickers or remains on (bright), repair or replace alternator. If light goes off, run engine at 1500 RPM with headlights on. If light comes on, repair or replace alternator.

4) If light remains off, measure voltage at terminal "B" with engine running at 1500 RPM. If more than 15.5 volts are present, replace regulator. If voltage is 13-15 volts, alternator and regulator are okay. Ensure alternator output amperage is as specified. See ALTERNATOR OUTPUT AMPERAGE SPECIFICATIONS table.

ALTERNATOR OUTPUT AMPERAGE SPECIFICATIONS

Application	Output Amps @ RPM
NX & Sentra	65 @ 2500
Quest	85 @ 2500
240SX	60 @ 2500
300ZX	65 @ 2500/90 @ 5000

BENCH TESTING

Rotor

Connect one ohmmeter lead to each rotor slip ring. If about 2-3 ohms resistance is present, rotor is okay. If about 2-3 ohms resistance is not present, rotor is defective. Connect an ohmmeter lead to any slip ring, and connect remaining lead to rotor core. If continuity exists, replace rotor assembly.

MINIMUM SLIP RING DIAMETER

Application	In. (mm)
All Models	.87 (22)

NOTE: To test stator or diodes, separate them by unsoldering connecting wires. Use just enough heat to melt solder. Excess heat will damage diodes.

Stator

Using ohmmeter, check continuity between stator core leads. If continuity is not present between leads, replace stator. Connect one ohmmeter lead to stator core. Connect remaining ohmmeter lead, in turn, to each of the stator leads. If continuity is not present, stator is good. If continuity exists, stator is grounded. Replace stator.

Diodes

Using an ohmmeter, check continuity of all diodes in both directions. Continuity should exist in only one direction. If continuity exists in both directions, diode is shorted. See Fig. 1. If continuity is not present in either direction, diode is open. If any diode is defective, replace entire diode assembly.

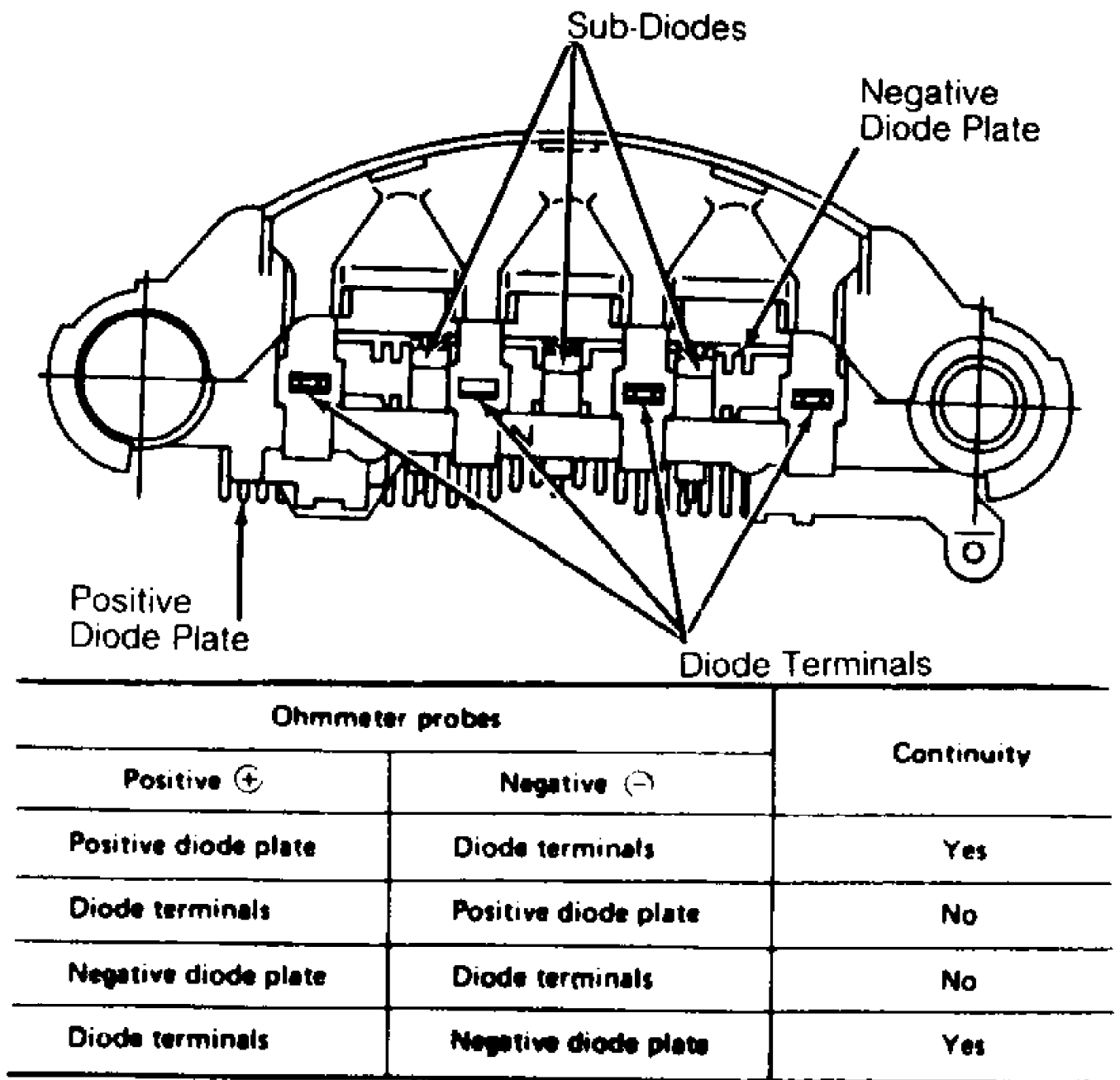


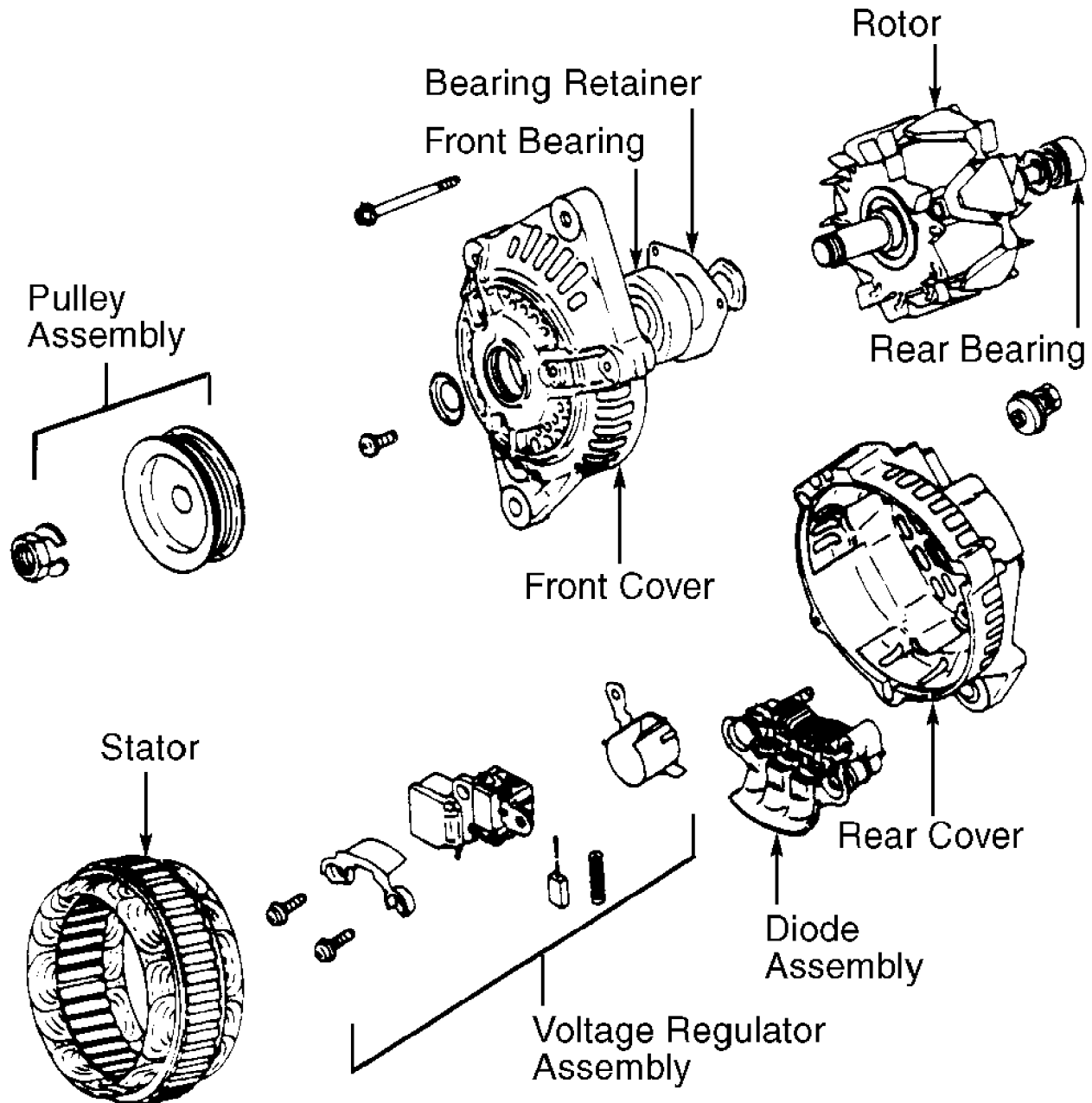
Fig. 1: Testing Diode Assembly
 Courtesy of Nissan Motor Co., U.S.A.

Brushes

Inspect brushes for freedom of movement in holder. Clean brush holder if necessary. Check brushes for cracks and wear. Check brush springs for corrosion or damage. Ensure brushes are at least .31" (8 mm) long.

OVERHAUL

NOTE: A ring is used to lock outer bearing race in alternator's rear cover. It may be necessary to heat bearing housing to remove cover. Use 200-watt soldering iron to heat housing. DO NOT use heat gun, as it may damage diode. For exploded view of alternator, see Fig. 2.



90E09390

Fig. 2: Exploded View Of Typical Mitsubishi Alternator
Courtesy of Nissan Motor Co., U.S.A.

WIRING DIAGRAMS

Proceed to appropriate WIRING DIAGRAM article listed below in
WIRING DIAGRAMS section.

- * WIRING DIAGRAMS (for NX).
- * WIRING DIAGRAMS (for Quest).
- * WIRING DIAGRAMS (for Sentra).
- * WIRING DIAGRAMS (for 240SX).
- * WIRING DIAGRAMS (for 300ZX).