

ALTERNATOR & REGULATOR

1995 Volvo 850

1995-96 STARTING & CHARGING SYSTEMS
Volvo Alternators & Regulators

850

NOTE: Some Volvos are equipped with a Nippondenso generator. Testing information on these generators is not available from the manufacturer.

DESCRIPTION

Bosch generators are a conventional 3-phase, self-rectifying type. Bosch 55-amp through 75-amp generators have 3 positive and 3 negative diodes connected to stator windings to rectify current. Bosch 80-amp through 120 amp generators have 14 diodes. All generators use 3 exciter diodes connected to stator windings. These diodes turn off the generator indicator light and supply power to voltage regulator while engine is running. Voltage regulator is transistorized.

ADJUSTMENTS

No adjustments or maintenance is required on generator or voltage regulator.

TROUBLE SHOOTING

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

ON-VEHICLE TESTING

WIRING CONTINUITY TEST

1) Connect a voltmeter between generator B+ terminal and ground. Voltmeter should indicate battery voltage. If battery voltage is not indicated, check wiring between generator and battery.

2) Turn ignition on and ensure generator indicator light comes on. If light does not come on, check wiring between generator and warning light.

VOLTAGE DROP TEST - POSITIVE SIDE

1) Connect a voltmeter between positive battery terminal and generator B+ terminal. Start engine and run at 2000 RPM. Turn on headlights, rear window defogger and heater blower.

2) If voltage drop is more than .2 volt, check circuit between generator B+ terminal and starter for corroded or loose connections. Also, check circuit between starter and battery positive terminal.

VOLTAGE DROP TEST - GROUND SIDE

1) Connect a voltmeter between negative battery terminal and generator housing. Start engine, and run it at 2000 RPM. Turn on headlights, rear window defogger and heater blower.

2) If voltage drop is more than .2 volt, check battery

terminals, chassis grounds and engine grounds for corroded or loose connections.

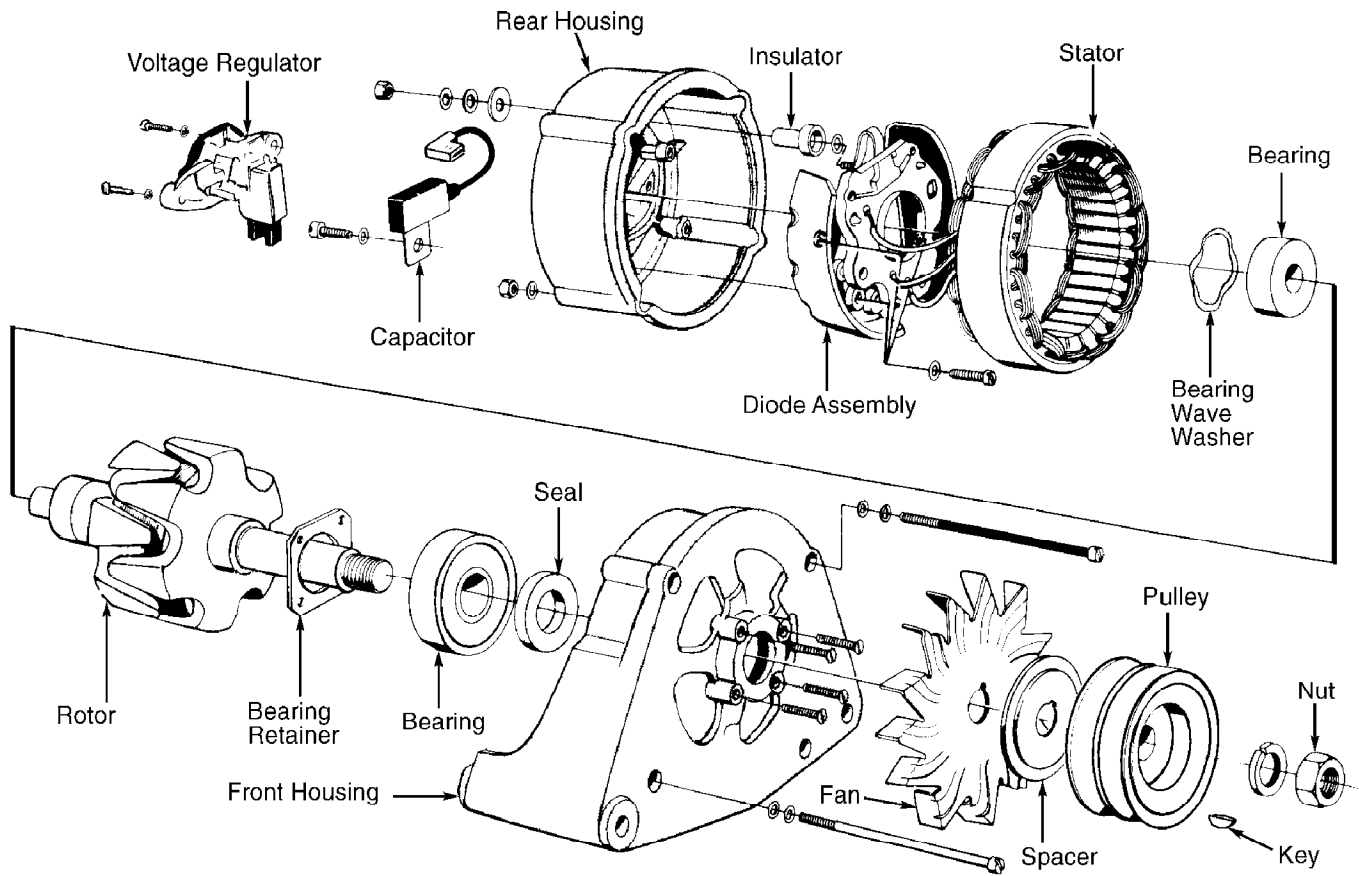
OUTPUT TEST

1) Ensure connections at battery, generator, and starter are clean and tight. Ensure generator, engine and body are properly grounded. Ensure generator drive belt is tight and in good condition.

2) Connect ammeter following manufacturer's instructions. Connect voltmeter leads to battery terminals. Run engine to 2000 RPM. Adjust carbon pile on tester until voltmeter reads 12 volts. Generator output should be 49-55 amps. (55-amp generator), 63-70 amps (70-amp generator), 31-80 amps (80-amp generator), 81-90 amps (90-amp generator). If generator output is low, replace generator.

OVERHAUL

NOTE: Use illustration for exploded view of Bosch generator. Illustration of Nippondenso generator is not available from manufacturer. See Fig. 1.



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Fig. 1: Exploded View Of Bosch Generator (Typical)
Courtesy of Volvo Cars of North America.

GENERATOR SPECIFICATIONS

GENERATOR SPECIFICATIONS (BOSCH)

Part No.	Amps
0 120 213 007	100
0 120 411 577	80
0 120 465 006	120
0 120 465 012	100
0 120 465 018	100
0 120 468 010	100
0 120 468 016	100
0 120 469 787	80
0 120 469 789	80
0 120 469 793	80
0 120 469 935	80
0 120 469 993	80
0 120 469 995	80
0 120 469 997	80
0 120 488 131	55
0 120 488 230	65
0 120 488 231	65
0 120 488 260	55
0 120 488 262	65
0 120 510 348	120
0 120 510 423	100
0 120 545 002	100
0 123 213 006	100
0 123 310 017	80
0 123 310 030	80
0 123 500 004	100
0 123 545 001	100
0 123 545 003	120

GENERATOR SPECIFICATIONS (NIPPONDENSO)

Part No.	Amps
100 211-8370	80
100 211-8620	100
100 211-8630	100
100 211-8960	80

WIRING DIAGRAMS

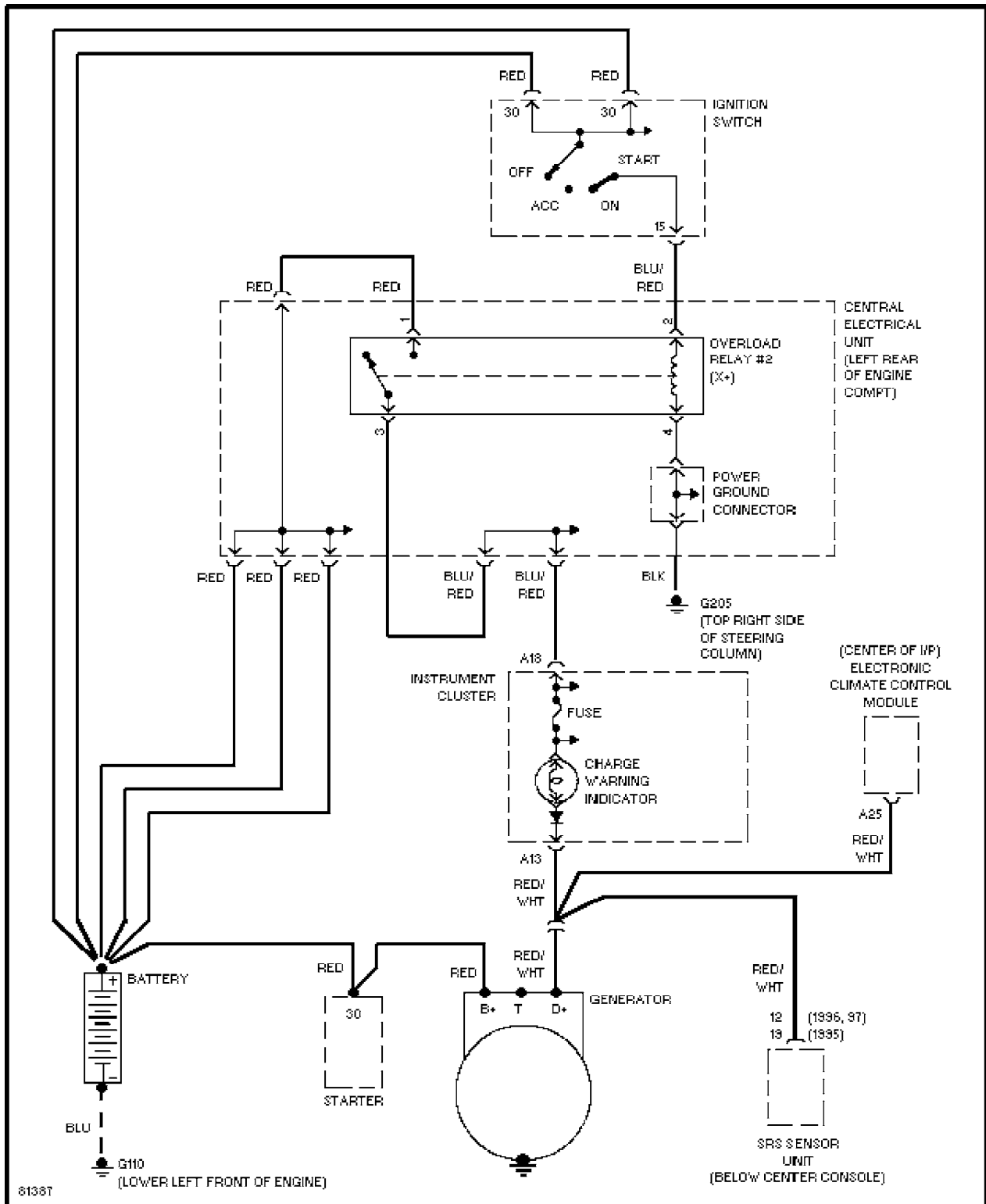


Fig. 2: Charging System Wiring Diagram (1995-96)