MITSUBISHI ALTERNATORS

Chrysler Corp. Imports
Arrow & Colt (2600 cc)
Arrow & D50 Pickups
Champ, Challenger, Colt Hatchback & Sapporo
Courier
Mazda

DESCRIPTION

Mitsubishi alternators are conventional three-phase, self-rectifying type units containing six diodes (three positive and three negative) which are used to rectify current.

APPLICATION

Model	Type or Part No.
Arrow, Challenger, Sapporo	
2600 cc	AQ2250G1
Challenger, Sapporo	
1600 cc	AQ2250K1
Colt Wagon, D-50 and Arrow Pickup	
2000 & 2600 cc	AQ2245G1
Colt, Champ (Front Wheel Drive)	AQ2245K1
Courier	①D47Z-10346-A
Mazda	
GLC	483-18-300A
RX7	8871-18-3000
626	8173-18-300B
B2000 Pickup	571-18-300A

① – Ford part number. (Check number stamped on housing for individual application.)

SPECIFICATIONS

Nominal Output at 2500 RPM

Application	Amps.	Voltage
AQ2250G1	41-50	13.5
AQ2250K1	41-50	13.5
AQ2245G1	34-37	13.5
AQ2245K1	34-37	13.5
D47Z-10346-A	35	14.5
483 18 300A	30	14
8871 18 3000	40	14
8173 18 300B	45	13.5
571 18 300A	30	14

Coil Resistance (Ohms)

Application	Rotor	Stator
Arrow, Challenger, Champ, Colt, Sapporo, D-50	①	①
Courier	5-6	①
Mazda	5-6②	①

① – Test must show continuity, no given value.
② – 3.6 ohms±10% for 626.

Brush Wear Limit – To limit line, .22" (5.5 mm), or when one third of original length has worn away, whichever is greater.

Brush Spring Pressure – Standard tension should be 12-16 oz. Replace if less than 8 oz. or if springs are corroded.

TESTING

NOTE – *Some testing is done as part of Overhaul procedure.*

ON CAR TEST

CAUTION – *DO NOT short across any alternator terminals nor run vehicle with any wires disconnected.*

Output Test – With ignition switch off and battery ground cable disconnected, connect ammeter between alternator terminal "B" and cable. Connect voltmeter between "B" (+) terminal and ground. Connect ground cable and observe battery voltage. Start engine and turn all lights on. Run engine to produce alternator RPM specified and check ammeter for specified output.

NOTE – *Alternator RPM is approximately twice engine RPM.*

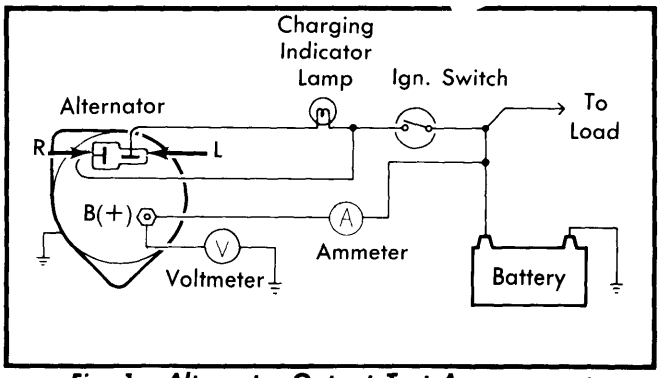

Fig. 1 Alternator Output Test Arrangement

OVERHAUL

DISASSEMBLY

1) Remove brush cover and through bolts. Separate diode end housing from drive housing by tapping front bracket lightly with a soft mallet.

2) Place rotor shaft in padded vise, using caution. Remove pulley nut, pulley, fan, and spacer. Remove rotor drive end housing by lightly tapping end housing with a soft mallet.

3) To separate stator from diode end housing, unsolder three negative diode leads and connections between diodes.

TESTING

Diode Assemblies – Disconnect heat sink and check each diode with tester on continuity in forward or reverse direction. If the diode shows large resistance in one direction and small resistance in other direction, diode is normal. If it shows small resistance in both directions it is shorted. If large resistance is shown in both directions, diode is open.

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MITSUBISHI ALTERNATORS (Cont.)

CAUTION — *If excessive temperature is allowed, diode will become inoperative.*

Rotor Field Continuity — Check continuity across field coil slip rings. No continuity indicates broken wire. Rotor must be replaced.

Rotor Field Coil Ground — Check continuity between individual slip rings and rotor core/shaft. If there is continuity, coil or slip ring is grounded. Rotor must be replaced.

Stator Coil Ground — Check to ensure no continuity between stator coil leads and stator core.

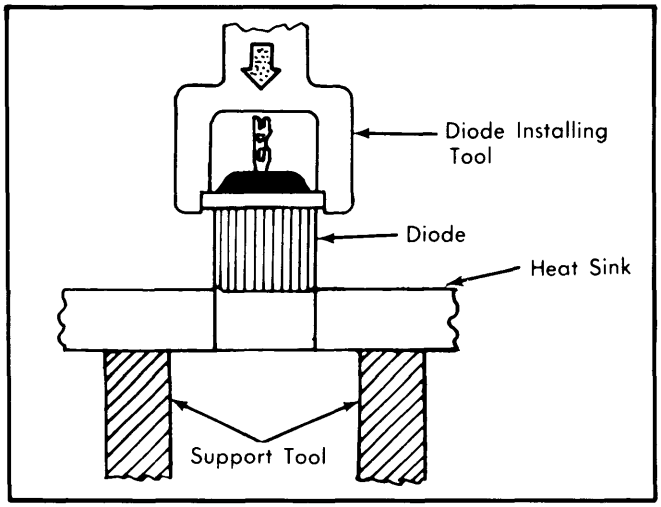

Fig. 2 Using Special Tool to Install Diode

Stator Coil Continuity — Check continuity between leads of stator coil. If there is no continuity, coil has broken wire and must be replaced.

PARTS REPLACEMENT

Diodes — To remove diode, use a suitable tool to support heat sink and remove diode by use of a suitable press. Press out carefully to avoid damaging mounting bore of heat sink. To install diode, support heat sink as in removal. Select correct type diode (positive diodes have red markings; negative diodes have black markings), and press diode into heat sink.

CAUTION — *Do not strike diodes to remove them since shock may damage other diodes.*

Drive End Bearing — Remove bearing retainer by unscrewing set screws and press out bearing, using a suitable press.

Rear Bearing — Remove rear bearing from housing assembly, using a suitable press or bearing puller.

REASSEMBLY

Reassemble by reversing disassembly procedures, making sure polarity of diodes is correct.

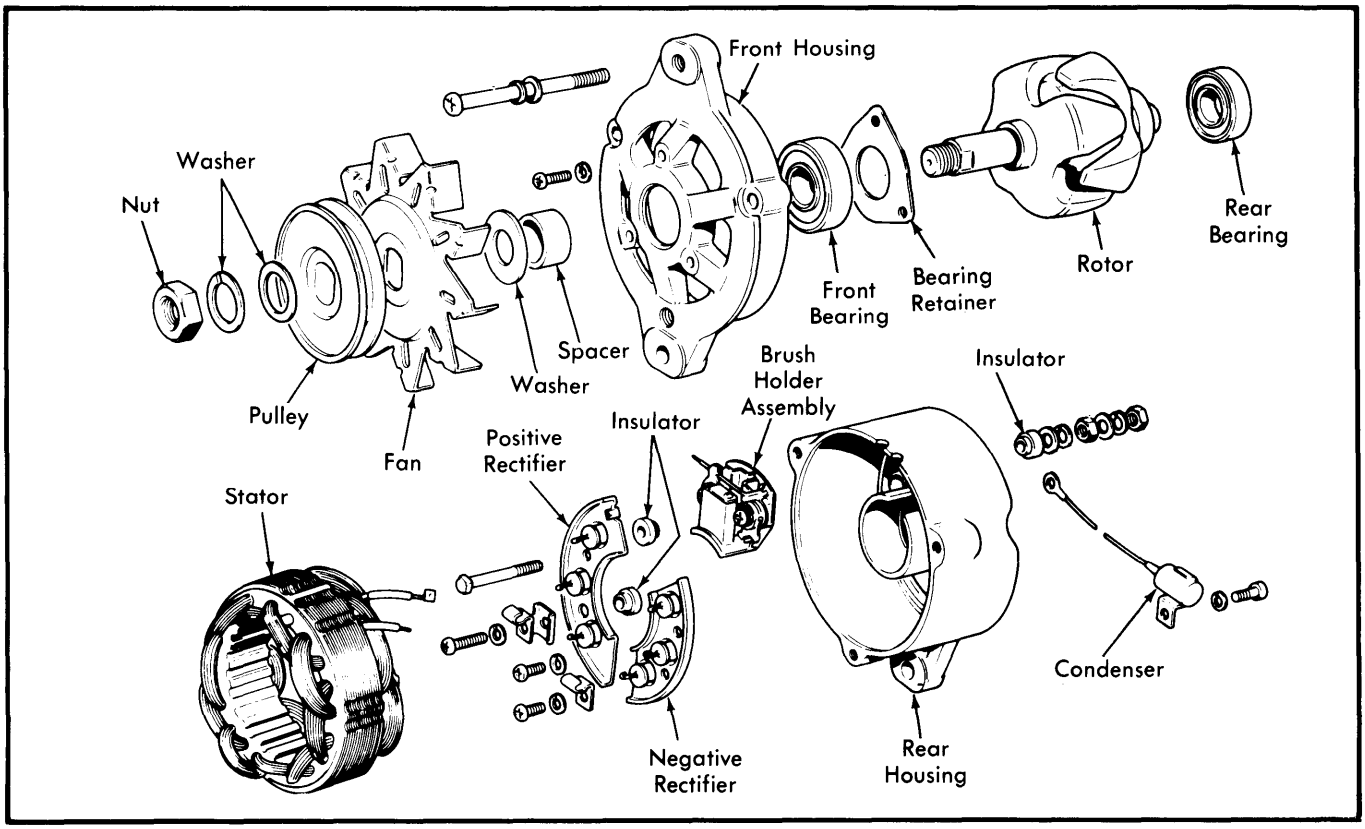

Fig. 3 Exploded View of Mitsubishi Alternator (Courier Application Shown)

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