MITSUBISHI ALTERNATORS

Arrow
Colt
Courier
Mazda

▸ CHANGES, CAUTIONS, CORRECTIONS

▸ *BATTERY INSTALLATION, BATTERY CHARGING, OR USING A BOOSTER BATTERY FOR ENGINE START* – Reverse polarity or excessive voltage will result in extensive damage to alternator system. Note the following to prevent damage:

Battery Installation – Negative battery terminal must be connected to ground (negative ground system) and positive battery terminal must be connected to starter. DO NOT reverse battery leads.

Battery Charging – If a Quick Charger is used, both battery cables must be disconnected from the battery. DO NOT use a Quick Charger to provide starting voltage.

Circuit Interruption – Battery must NEVER be disconnected when alternator is running.

High Voltage – DO NOT use a high voltage source to test diodes.

Booster Battery (For Engine Start) – Booster battery must be connected with negative lead to negative battery terminal and positive lead to positive battery terminal. DO NOT reverse battery leads.

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	Part No.
Arrow & Colt	
1600cc	AH2045K1
2000cc	AH2045G1
Courier	①D47Z-10346-A
Mazda	
RX-3, 808 (1300cc)	1011 18 300
RX-4, Cosmo	8735 18 300
808 (1600cc)	0453 18 300A
Rotary Pickup	057118 300A
GLC	0483 18 300

① – Ford Part Number.

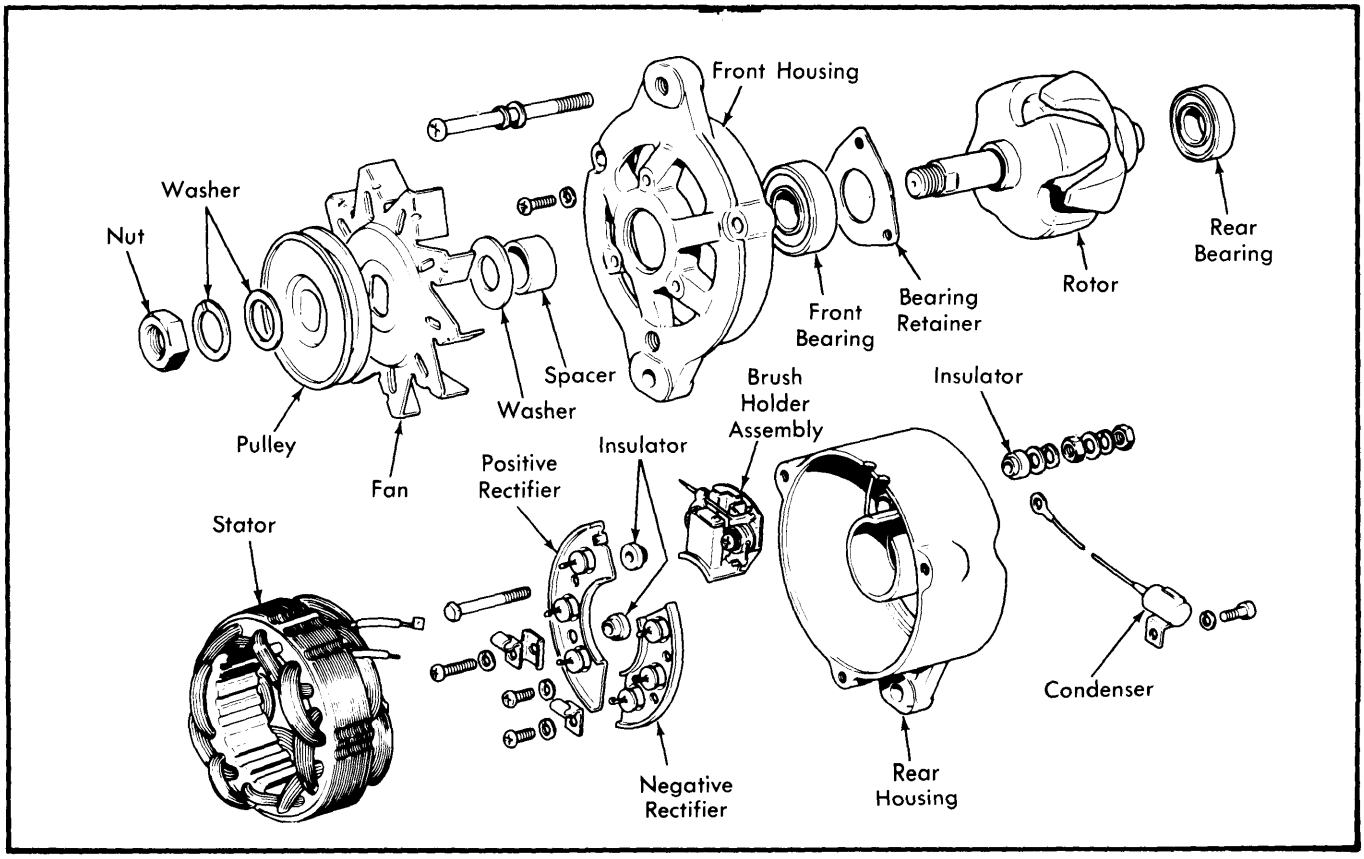

Fig. 1 Exploded View of Mitsubishi Alternator

MITSUBISHI ALTERNATORS (Cont.)

SPECIFICATIONS

Nominal Output at 2500 RPM

Application	Amps.	Voltage
AH2045G1	45	12
AH2045K1	45	12
1011 18 300	40	14
0453 18 300A	50	14
0571 18 300A	40	14
8735 18 300	56	14
D47Z-10346-A	35	14.5

Coil Resistance (Ohms)

Application	Rotor	Stator
Arrow & Colt	4.7	①
Courier	5-6	①
Mazda		
W/1600 cc Engine	5-6	①
All Others	4-6	①

① – Test must show current continuity, no given value.

Brush Wear Limit – To wear limit line (one third of original length).

Brush Spring Pressure – Standard value is 12-16 ozs. If less than 7.8 ozs. replace.

TESTING

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

ON CAR TEST

Whenever battery is discharged and charging rate is low, following test should be made to determine whether fault lies in alternator or regulator. First, place ammeter between "A" terminal of regulator and battery. Disconnect wire at "F" terminal of regulator and touch lead "A" terminal of regulator. If charging rate remains constant, alternator is defective. If current increases greatly, then regulator is faulty.

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.

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

Field Continuity – Check continuity between field coil and slip ring. No continuity indicates broken wire; field coil must be replaced.

Field Coil Ground – Check continuity between slip ring and shaft (core). If there is continuity, coil or slip ring is grounded and must be replaced.

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

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

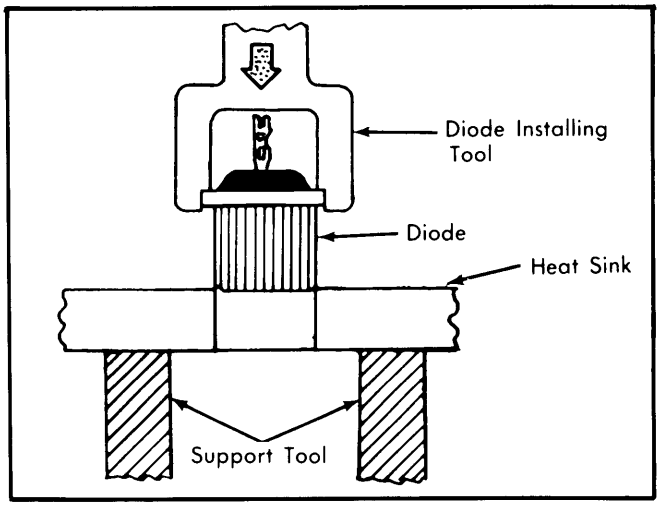

Fig. 2 Using Special Tool to Install Diode

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. CAUTION – *Do not strike diode as shock may damage other diodes.* 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.

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.