## MITSUBISHI

**Dodge Colt**
**Ford 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 connect 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.

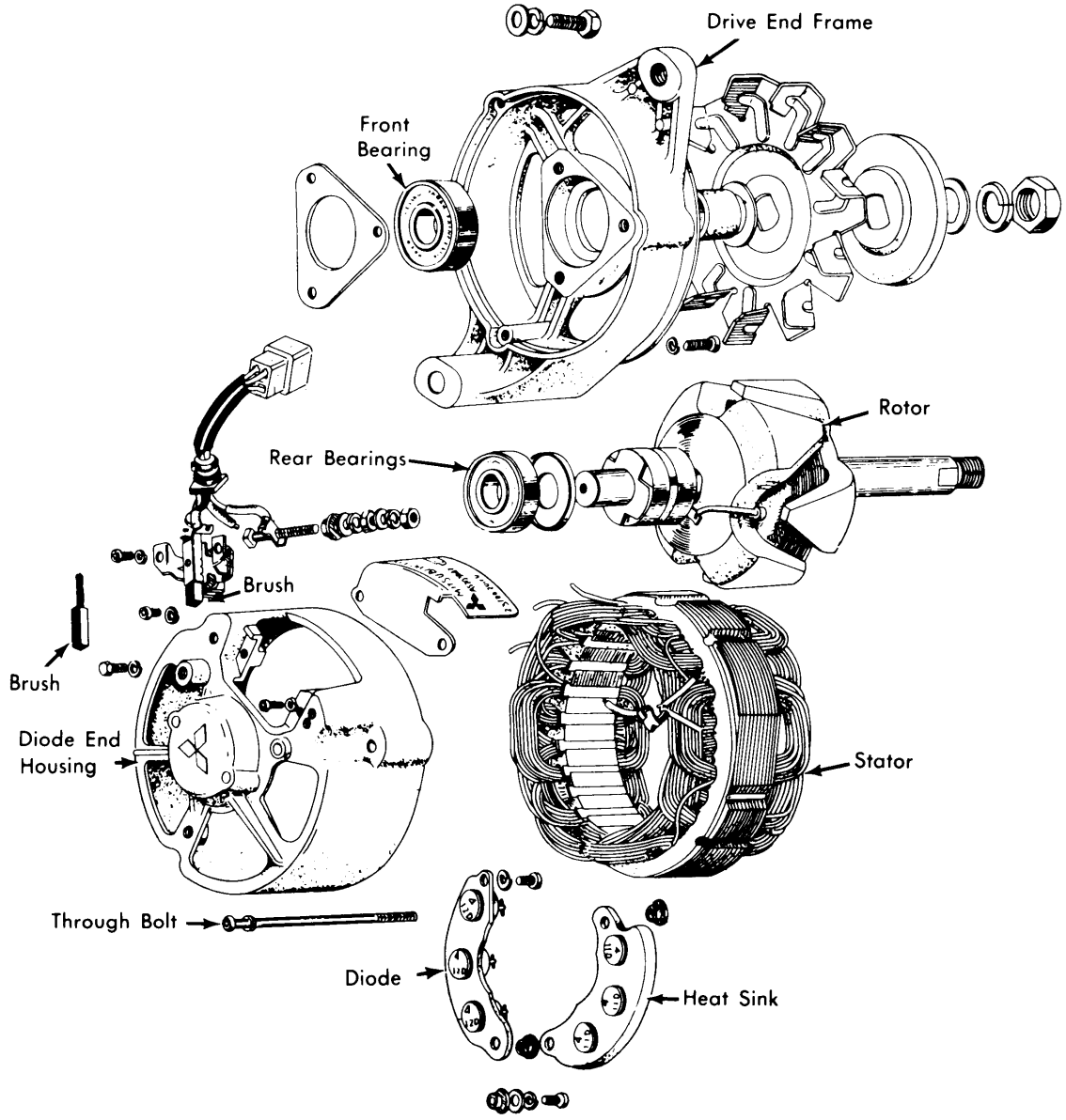


*Fig. 1 Exploded View of Mitsubishi Alternator*

## MITSUBISHI (Cont.)

### APPLICATION

| Model | Part No. |
|---|---|
| Dodge Colt | |
| 1600 cc | AH2045K1 |
| 2000 cc | AH2045K |
| Mazda | |
| RX-3 & Pickup | 1011 18 300 |
| RX-4 | 1757 18 300A |
| 808 | 0453 18 300 |
| B1600 | 0605 18 300A |
| Ford Courier | ①D47Z-10346-A |

① – Ford Part Number.

### SPECIFICATIONS

#### Nominal Output at 2500 RPM

| Application | Amps. | Voltage |
|---|---|---|
| AH2045K | 45 | 12 |
| AH2045K1 | 45 | 12 |
| 1011 18 300 | 40 | 14 |
| 1757 18 300A | 56 | 14 |
| 0453 18 300 | 40 | 14 |
| 0605 18 300A | 28 | 14 |
| D47Z-10346-A | 35 | 14.5 |

#### Coil Resistance (Ohms)

| Application | Rotor | Stator |
|---|---|---|
| Colt | 4.7 | ① |
| Mazda | | |
| 808 & B1600 | 5-6 | ① |
| RX-3,RX-4 & Pickup | 4-6 | ① |
| Courier | | |

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

#### 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.

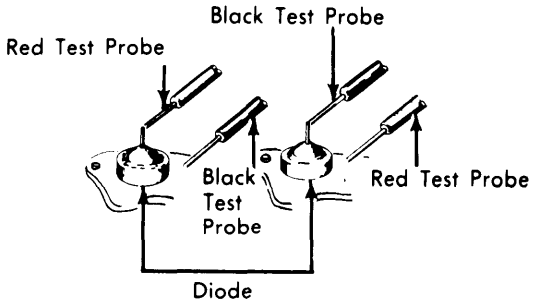


*Fig. 2 Checking the Diode*

**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.

## MITSUBISHI (Cont.)

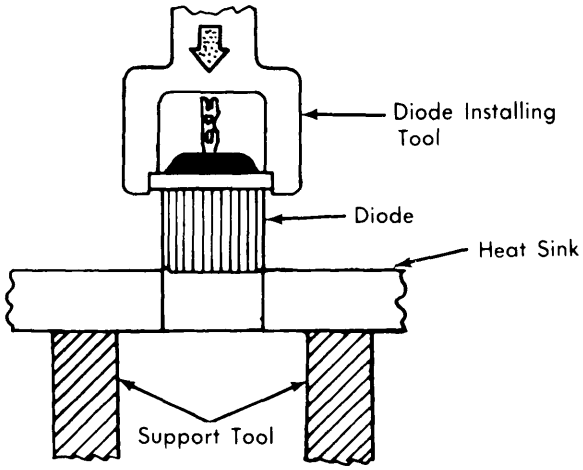


*Fig. 3 Using Special Tool to Install Diode*

### 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.