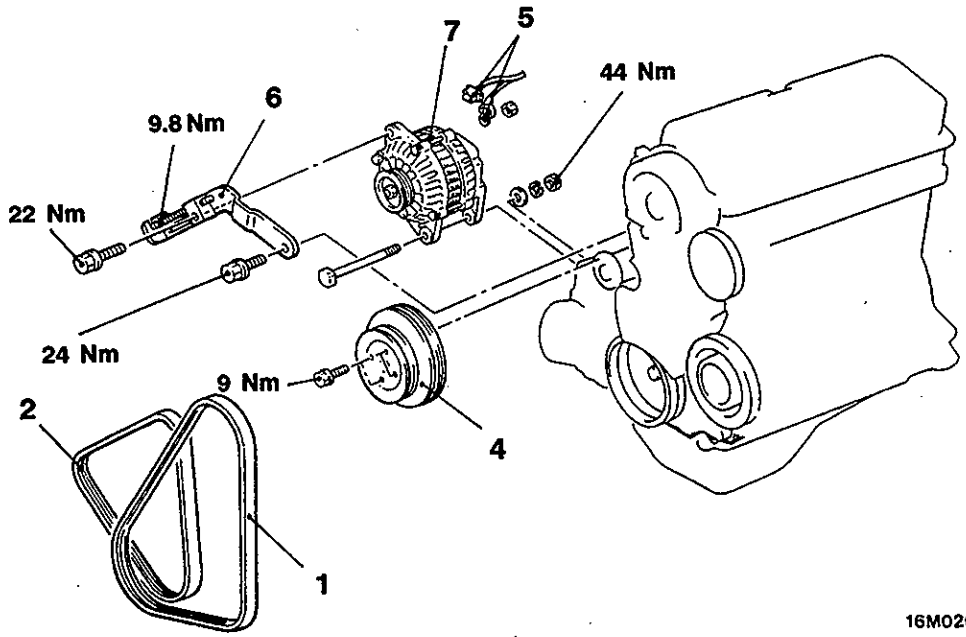
ALTERNATOR

16100140163

REMOVAL AND INSTALLATION

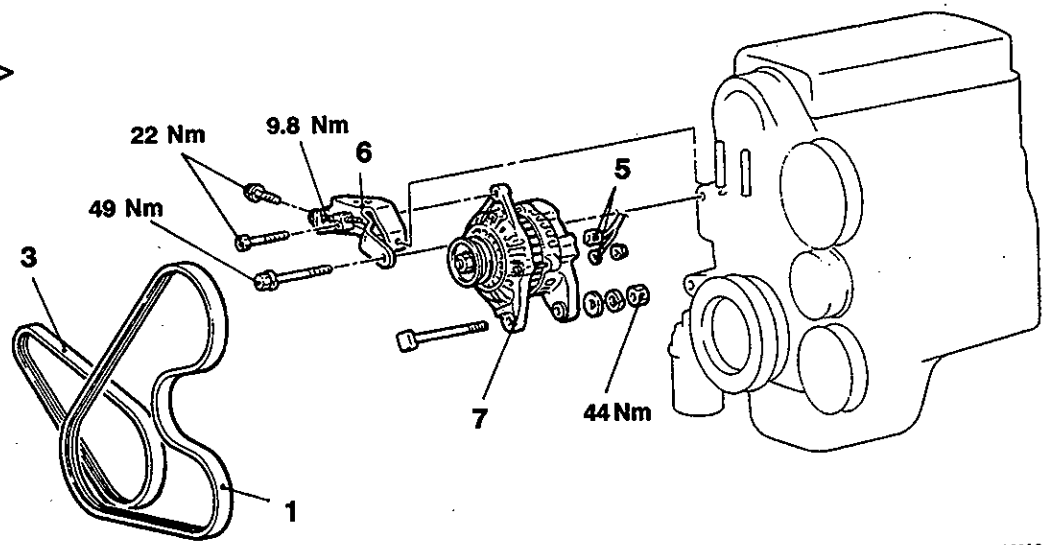
Post-installation Operation
- Adjustment of Drive Belt Tension (Refer to GROUP 11 – On-vehicle Service.)

<4G1>



16M0204

<4G9>

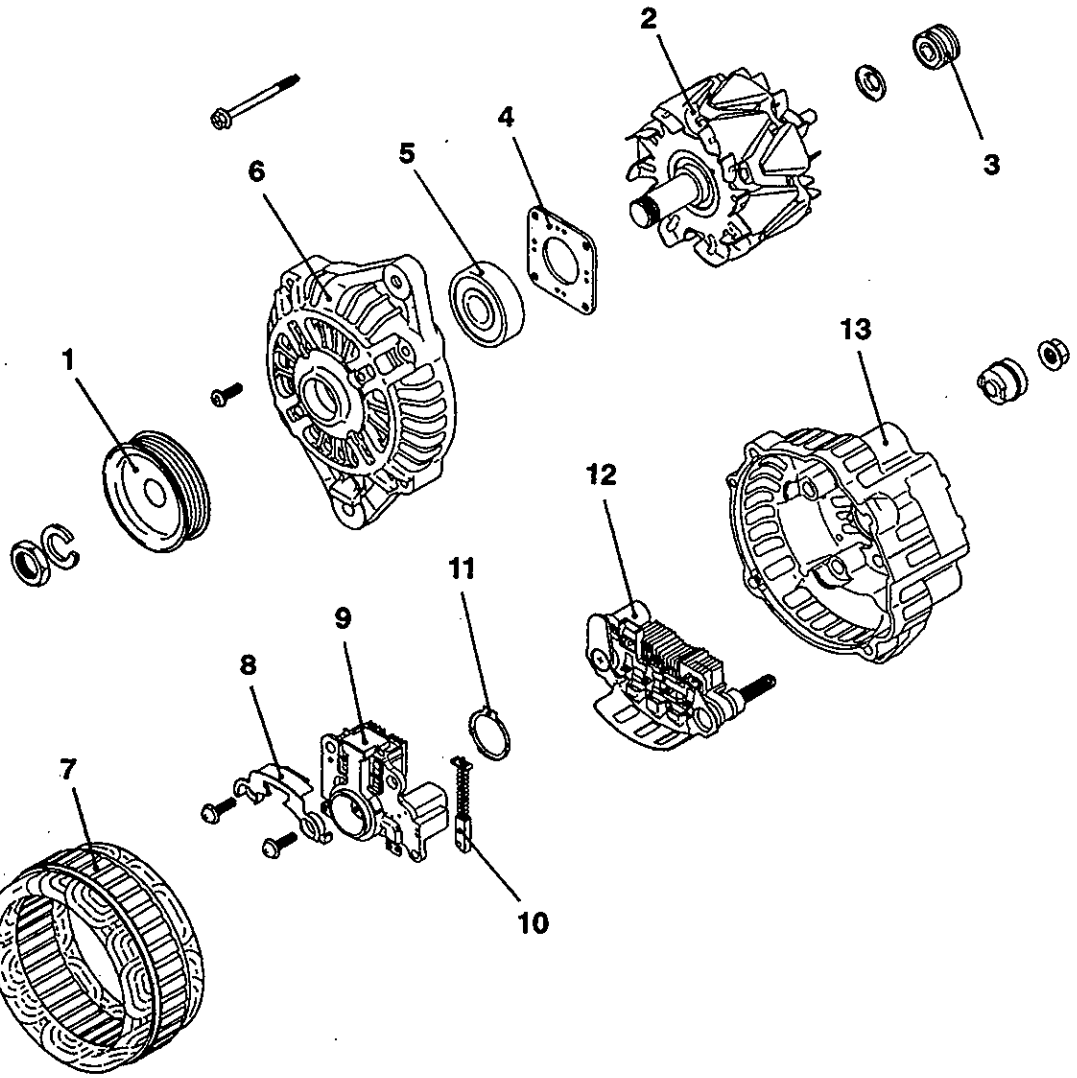


16M0205
00004497

Removal steps
1. Drive belt (Air conditioner and power steering)
2. Drive belt (Alternator and water pump) <4G1>
3. Drive belt (Alternator) <4G9>
4. Water pump pulley <4G1>
5. Alternator connector
6. Alternator brace
7. Alternator

DISASSEMBLY AND REASSEMBLY

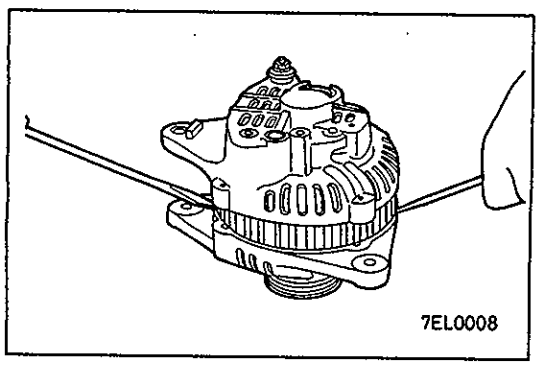
16100160121



Z6EN0878

Disassembly steps

◀A▶ 1. Alternator pulley
▶A◀ 2. Rotor assembly
3. Rear bearing
4. Bearing retainer
5. Front bearing
6. Front bracket
◀B▶ 7. Stator
8. Plate
9. Regulator and brush holder
10. Brush
11. Slinger
12. Rectifier
13. Rear bracket

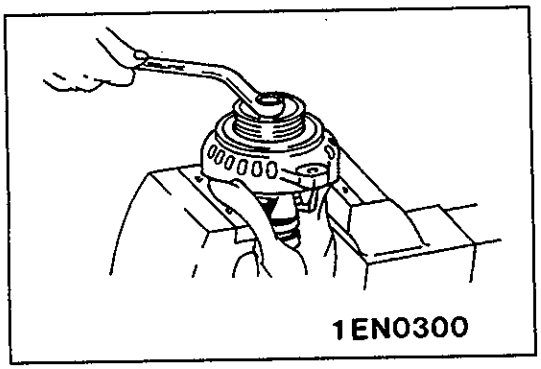


DISASSEMBLY SERVICE POINTS

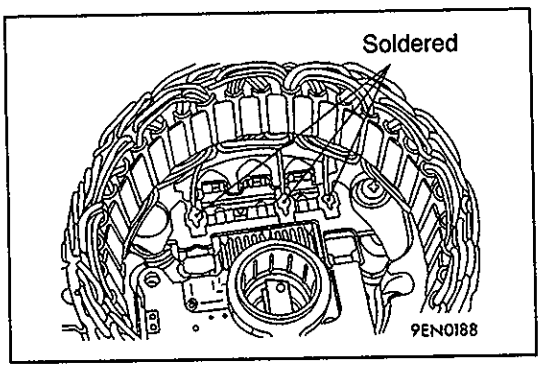
◀A▶ ALTERNATOR PULLEY REMOVAL

(1) Remove the bolts.
(2) Insert a flat-tipped screwdriver between front bracket and stator core and pry downwards.

Caution
Do not insert a screwdriver too deep, as the stator coil will be damaged.



(3) Clamp the rotor in a vice with soft jaws.
(4) After removing the nut, remove the pulley and front bracket from the rotor.

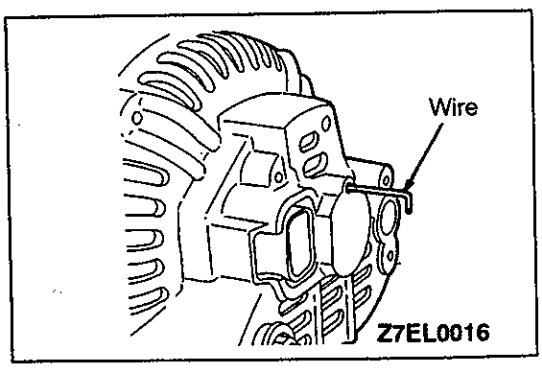


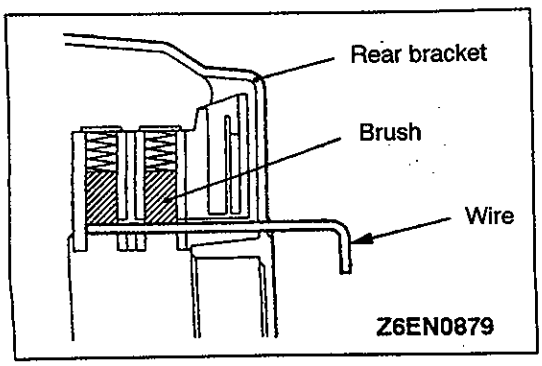
◀B▶ STATOR REMOVAL

(1) When removing stator, unsolder three stator leads soldered to main diodes on rectifier.
(2) When removing rectifier from brush holder, unsolder two soldered points to rectifier.

Caution

1. **When soldering or unsoldering, use care to make sure that heat of soldering iron is not transmitted to diodes for a long period. Finish soldering or unsoldering in as short a time as possible.**
2. **Use care that no undue force is exerted to leads of diodes.**

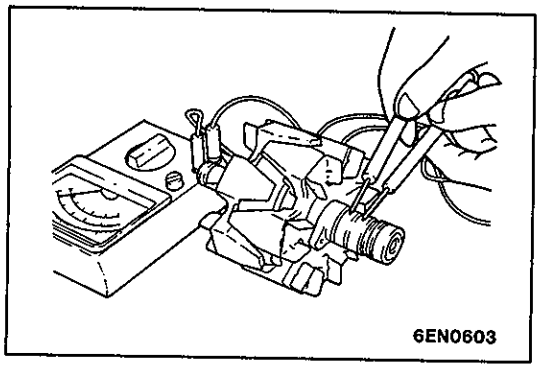


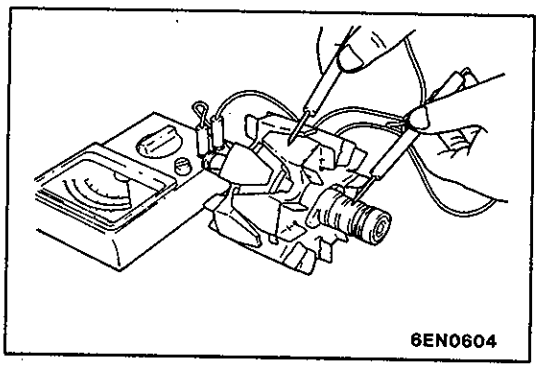


REASSEMBLY SERVICE POINT

▶A◀ ROTOR ASSEMBLY INSTALLATION

Before rotor is attached to rear bracket, insert wire through small hole made in rear bracket to lift brush. After rotor has been installed, remove the wire.


6EN0603


6EN0604

INSPECTION

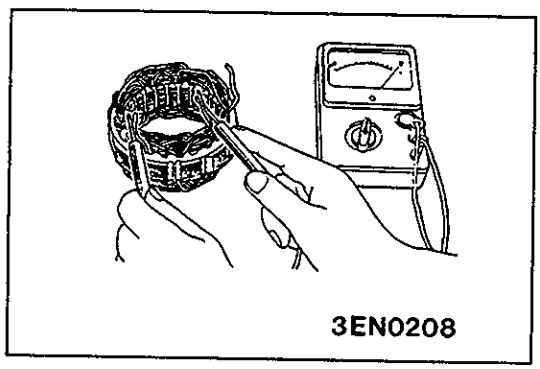
16100170124

ROTOR

(1) Check rotor coil for continuity. Check that there is no continuity between slip rings. If resistance is too small, it means that there is a short circuit. If there is no continuity or if there is a short circuit, replace rotor assembly.

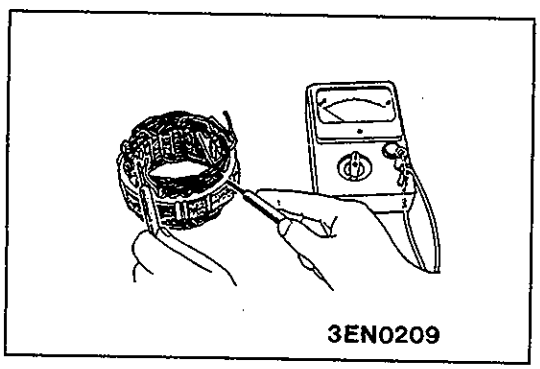
Resistance value: Approx. 2 – 5 Ω

(2) Check rotor coil for earthing. Check that there is no continuity between slip ring and core. If there is continuity, replace rotor assembly.

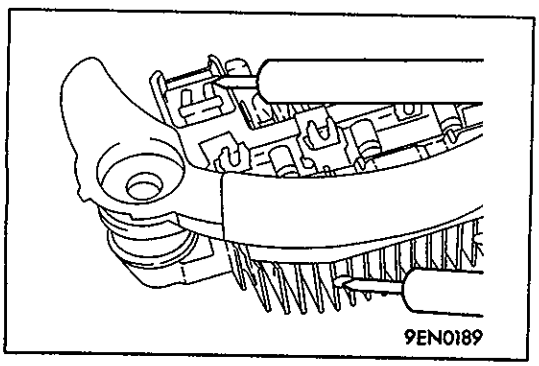

3EN0208

STATOR

(1) Make continuity test on stator coil. Check that there is continuity between coil leads. If there is no continuity, replace stator assembly.


3EN0209

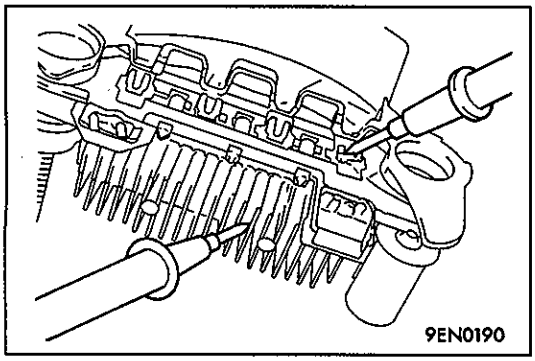
(2) Check coil for earthing. Check that there is no continuity between coil and core. If there is continuity, replace stator assembly.


9EN0189

RECTIFIERS

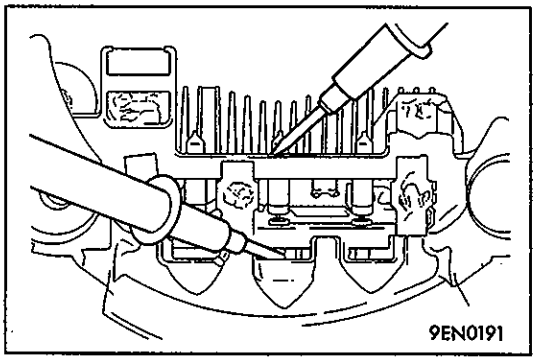
(1) Positive Rectifier Test

Check for continuity between positive rectifier and stator coil lead connection terminal with an ohmmeter. If there is continuity in both directions, diode is shorted. Replace rectifier assembly.



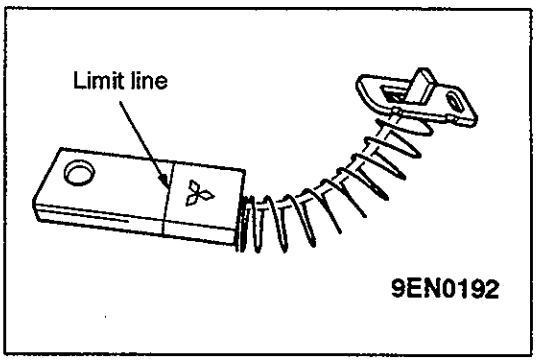
(2) Negative Rectifier Test

Check for continuity between negative rectifier and stator coil lead connection terminal. If there is continuity in both directions, diode is shorted, and rectifier assembly must be replaced.



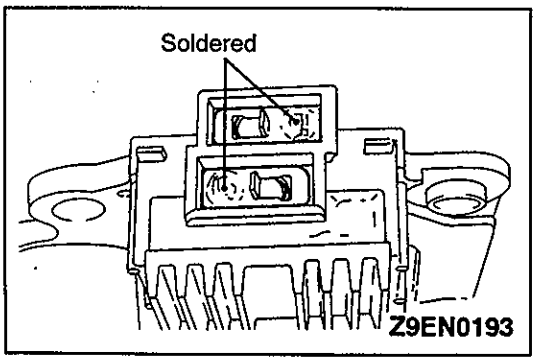
(3) Diode Trio Test

Check three diodes for continuity by connecting an ammeter to both ends of each diode. If there is no continuity in both directions, diode is faulty and heatsink assembly must be replaced.

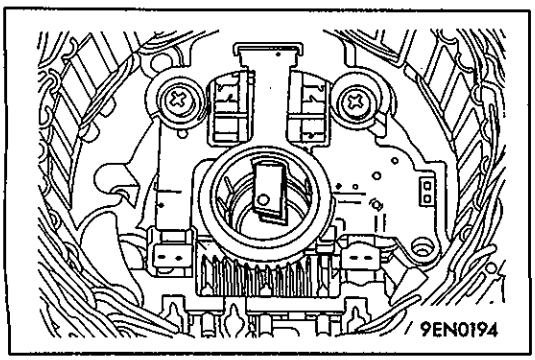


BRUSH REPLACEMENT

(1) Replace brush by the following procedures if it has been worn to limit line.



(2) Unsolder pigtail and remove old brush and spring.



(3) When installing a new brush, push the brush in the brush holder as shown in the illustration, and solder the lead wire.