ALTERNATOR

REMOVAL AND INSTALLATION

Disconnect battery ground cable.

From inside rear luggage compartment, remove engine compartment access panel.

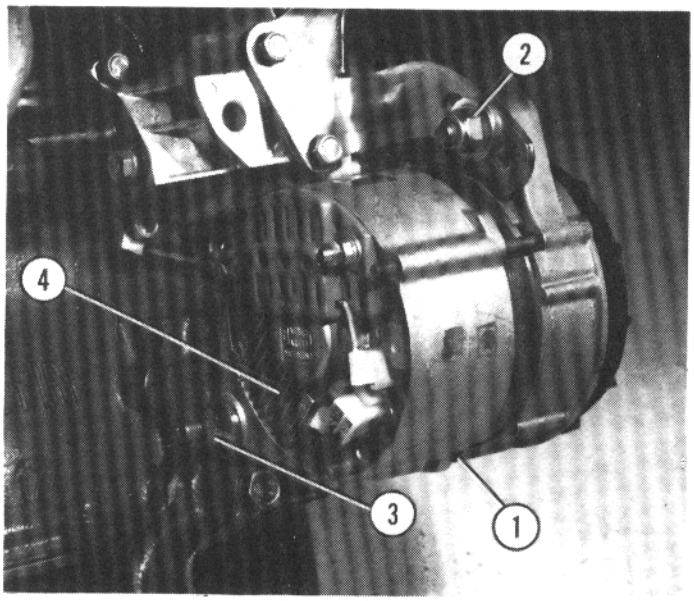
Remove three nuts to remove rear shield. On Bosch alternator, remove cooling duct.

Mark to identify, then disconnect electrical leads.

Remove bolt and nut (2). Remove nut (3), lockwasher, washer and bolt to remove alternator (1).

Install in reverse order. Adjust belt tension. Refer to 101.15.

1. Alternator 2. Nut 3. Nut 4. Integral voltage regulator



DISASSEMBLY AND REASSEMBLY (MARELLI)

Disconnect electrical plug and remove two screws to remove voltage regulator (15) (if equipped with integral voltage regulator).

Remove screw and washer to remove brush holder (13).

Remove nut, lockwasher, pulley (1), fan (2), spacer (3), key (6), and spacer (4).

Remove three long bolts, lockwashers, and washers, then carefully separate front frame (5) from rear frame (11).

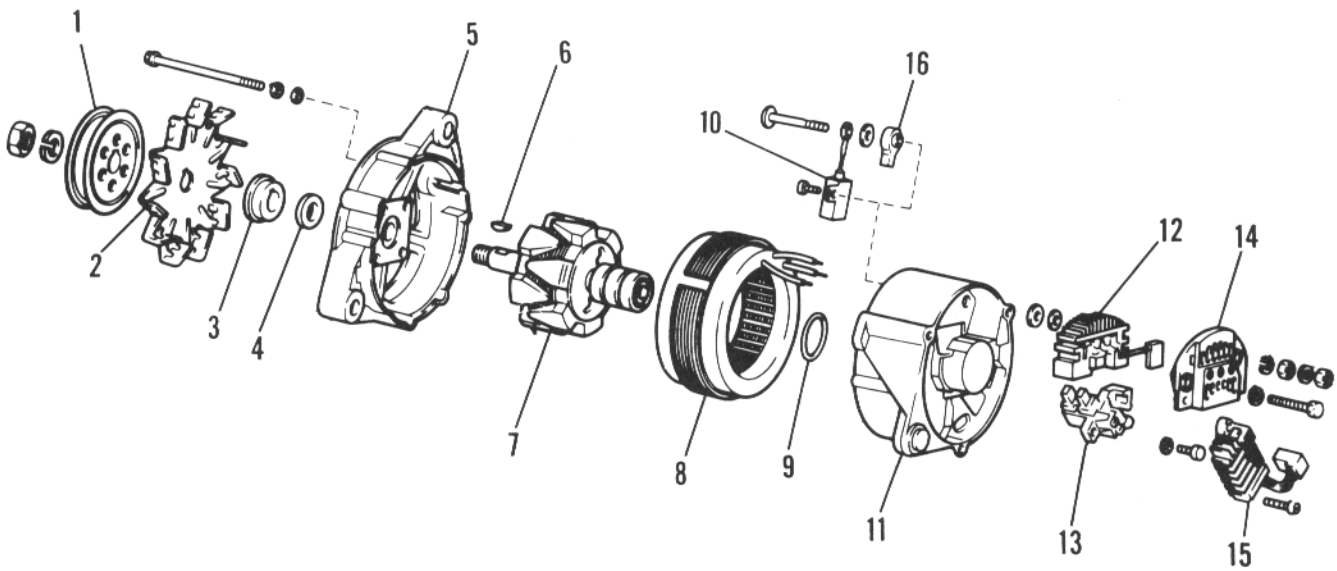
Remove rotor assembly (7) from rear frame by pulling rotor out.

Remove nut, washer, nut, lockwasher, bolt and washer to remove cover (14).

Remove rectifier assembly (12) by first disconnecting three stator wires. Carefully separate stator assembly (8) from rear frame.

Remove screw to remove condenser (10). Remove screw, washer, and insulator (16).

Reassemble in reverse order of disassembly.



1. Pulley
2. Fan
3. Spacer
4. Spacer
5. Frame
6. Key
7. Rotor
8. Stator
9. Seal
10. Condenser
11. Frame
12. Rectifier
13. Brush holder
14. Protective cover
15. Voltage regulator*
16. Insulator

*Some vehicles with Marelli alternator are equipped with a non-integral voltage regulator.

ALTERNATOR MARELLI A125-14V-55A

DISASSEMBLY AND REASSEMBLY (BOSCH)

Disconnect electrical plug and remove screw and lockwasher to remove condenser (7).

Remove two screws to remove voltage regulator/brush assembly (8 and 9).

Remove nut to remove pulley (1), fan (2), spacers, and key (13).

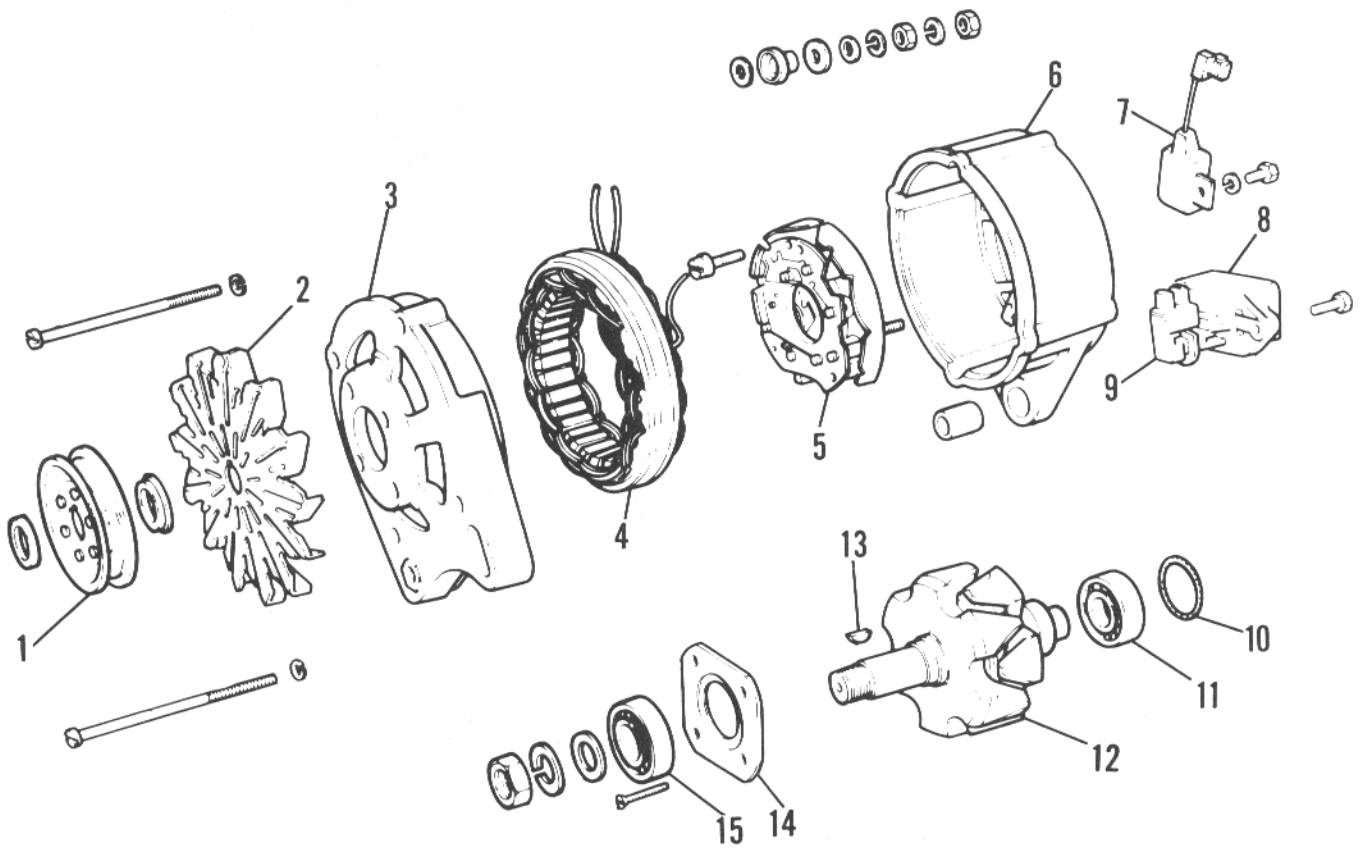
Remove four short screws on front frame (3) to free bearing retainer (14).

Remove four long screws to separate front frame from rear frame (6).

Remove rotor assembly (12) from rear frame by pulling rotor out.

Remove stator assembly (4) and rectifier assembly (5) as a unit by removing three screws. Remove three stator wires from rectifier to separate rectifier.

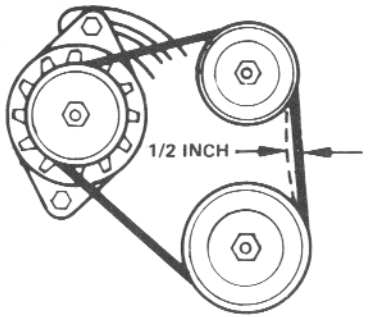
Reassemble in reverse order of disassembly.



1. Pulley
2. Fan
3. Frame
4. Stator
5. Rectifier
6. Frame
7. Condenser
8. Voltage regulator
9. Brush assembly
10. Seal
11. Bearing
12. Rotor
13. Key
14. Bearing retainer
15. Bearing

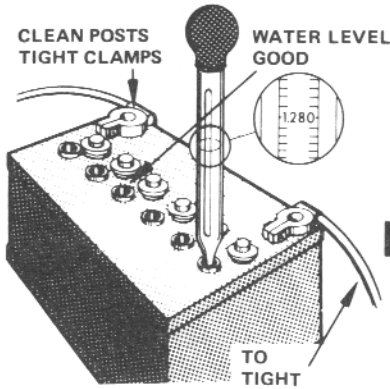
ALTERNATOR BOSCH K1-14V-65A-21

BELT TENSION



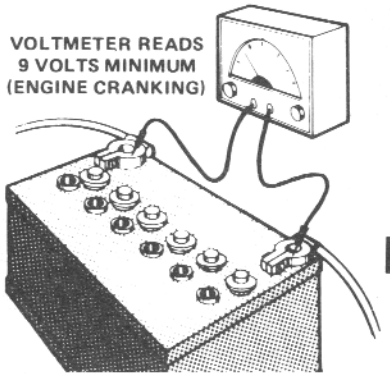
- Check belt tension. Adjust as required. Refer to 101.15.

BATTERY CHECK



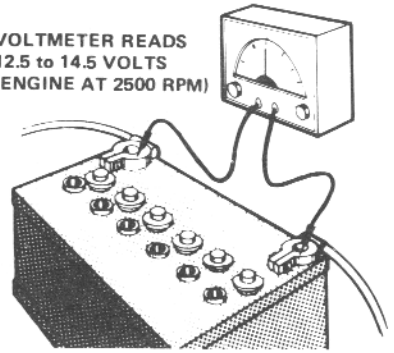
- Check battery condition, water level. Use load tester or hydrometer. Charge if required.
- Check that battery posts are clean.
- Check that cables are in good condition with tight connections on both ends.

ENGINE CRANK TEST



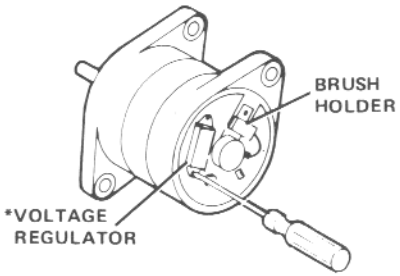
- Disconnect distributor connector. Do not disconnect high voltage cable from coil.
- Connect voltmeter to battery.
- Crank engine 3 to 4 seconds. Note voltmeter reading.
- If voltmeter reads less than 9 volts, check for faulty battery.
- Reconnect distributor connector.

VOLTAGE TEST



- Set engine at 2500 RPM. (Low beam lights on, heater fan on high speed.) Note voltmeter reading.
- If voltmeter reads greater than 15 volts, remove alternator for repair.
- If voltmeter reads less than 12.5 volts, stop engine and proceed to next step.

MOUNTING CHECK

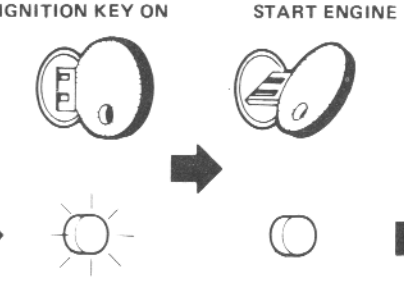


• CHECK FOR CLEAN AND TIGHT MOUNTING SCREWS

- Remove shield at alternator rear (10 mm hardware).
- Check that mounting screws for voltage regulator and brush holder are not corroded, and are tight.

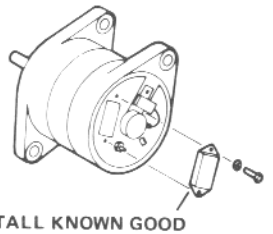
*Some vehicles with Marelli alternator are equipped with a non-integral voltage regulator.

EXCITOR SYSTEM CHECK



- Turn on ignition. If battery charge indicator (on dash) does not light, check for faulty indicator, wiring or alternator brushes. Repair and repeat Voltage Test.
- If indicator lights, start engine. Check that indicator goes out.
- If indicator does not go out, check for possible short in excitor system wiring.
- If indicator goes out, stop engine and go to next step.

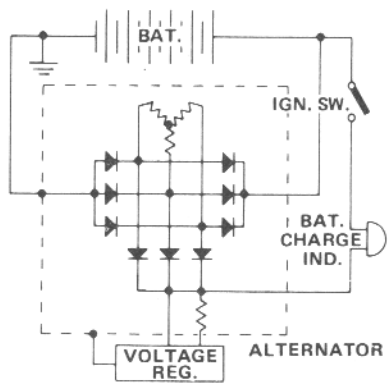
REGULATOR/ALTERNATOR CHECK



- Disconnect battery ground cable.
- Remove voltage regulator from alternator.
- Install a known good voltage regulator.
- Connect battery cable, then repeat voltage test.
- If voltage is within specifications, the original voltage regulator is defective.
- If voltage is below specifications, repair or replace alternator.

*Some vehicles with Marelli alternator are equipped with a non-integral voltage regulator.

RETEST



- After repairs are made, repeat Voltage and Current Tests.
- Remove test equipment.
- Reinstall alternator shield (10 mm hardware).

CHARGING SYSTEM CHECK

ALTERNATOR COMPONENT CHECKS

With alternator disassembled, the following components may be tested.

Rotor Short-to-Ground Test

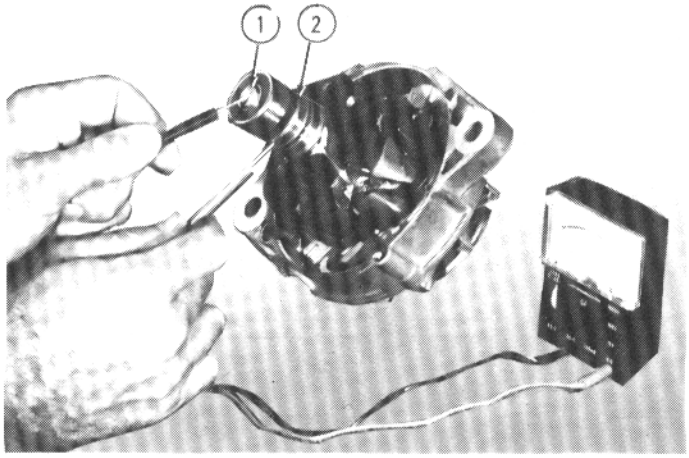
Set ohmmeter to x1000 scale.

Hold one test lead on rotor shaft (1) and other lead on either slip ring (2). Note ohmmeter reading, then put test lead on other slip ring.

In both cases, reading should be infinity (no needle movement). If not, check soldered connections at slip ring and that excess solder is not grounding rotor coil.

Replace rotor if damaged.

1. Rotor shaft 2. Slip ring



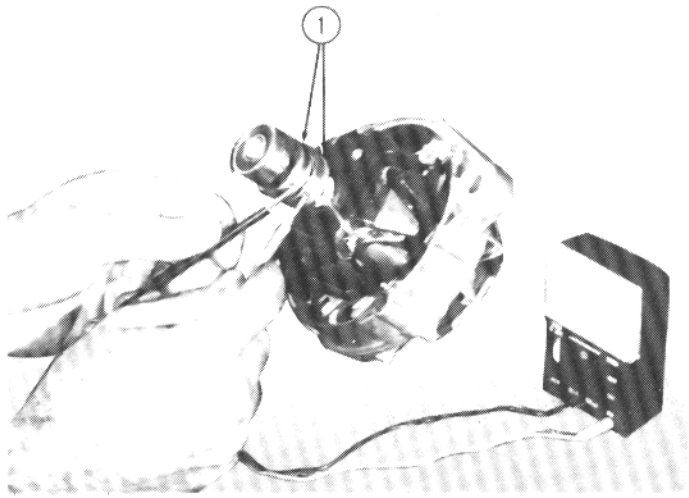
Rotor Open Test

Set ohmmeter to x1 scale.

Hold one test lead on one slip ring and other test lead on other slip ring. Reading should be 3.0 to 3.7 ohms. If not, rotor is open.

Replace rotor.

1. Slip rings



Stator Short to Ground Test

Remove stator leads (1) from rectifier board.

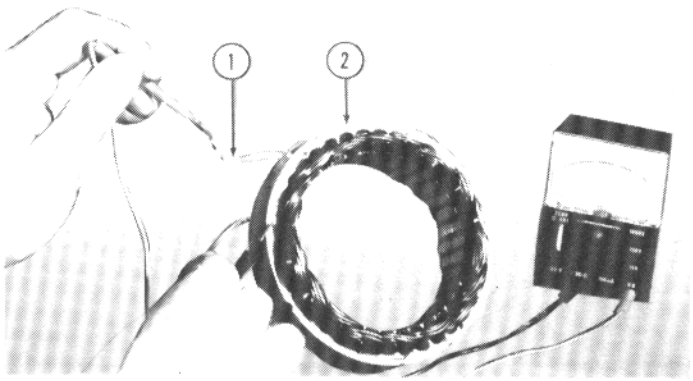
Set ohmmeter to x1000 scale.

Touch one test lead to stator core (2) bare metal and other test lead to any stator lead.

Reading should be infinite (no needle movement). If any needle movement is shown, stator is grounded.

Replace stator.

1. Stator lead 2. Stator core



Stator Continuity Test

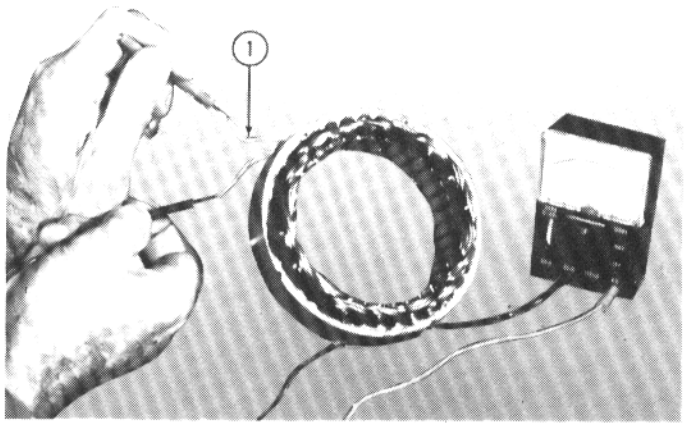
Set ohmmeter to x1 scale.

Touch one test lead to any stator lead (1). Touch other test lead to any other stator lead. Note reading. Repeat at all pairs of test leads.

Equal readings should be obtained at each pair of stator leads. A reading of infinity indicates poor connection at neutral junction.

Repair connection or replace stator.

1. Stator lead



Diode Test

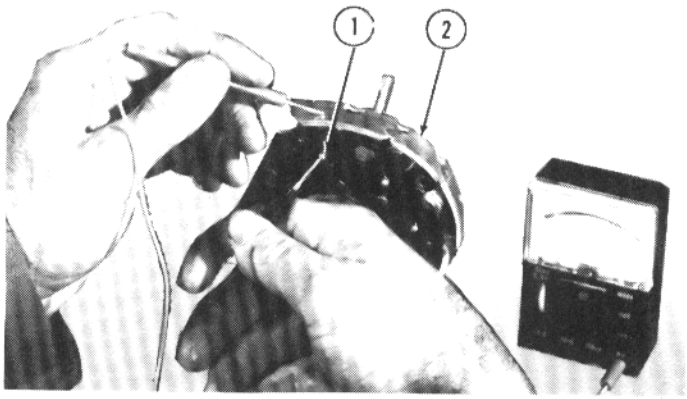
Remove stator leads from rectifier board.

Set ohmmeter to x1 scale.

Touch one test lead to a diode junction (1). Touch other test lead to heat sink (2). Note reading. Reverse test lead positions and note reading. Repeat for remaining diodes.

One high and one low reading should be obtained for each diode. If proper readings are not obtained, replace diode plate.

1. Diode junction 2. Heat sink



HEADLIGHTS

REMOVAL AND INSTALLATION

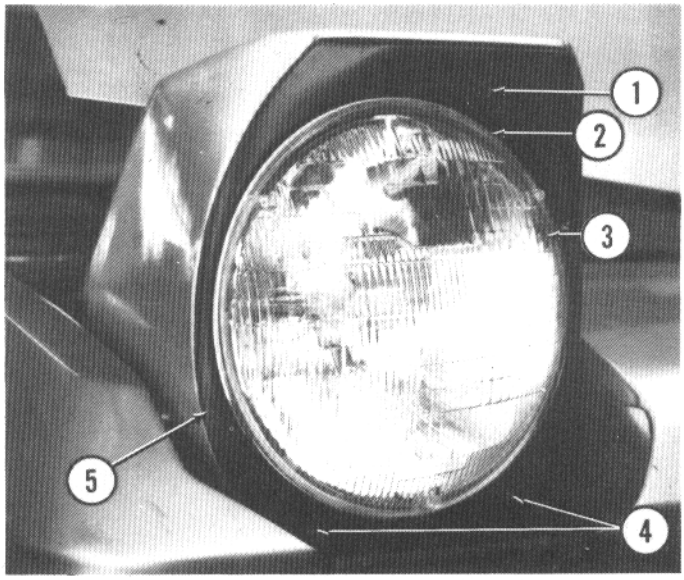
Remove three screws (1 and 4) holding trim molding (5) to body and remove molding.

Loosen three screws holding ring (2). Turn ring counterclockwise and remove ring.

Disconnect plug from headlight (3). Remove headlight.

Install in reverse order.

1. Screws 2. Ring 3. Headlight 4. Screws 5. Trim molding



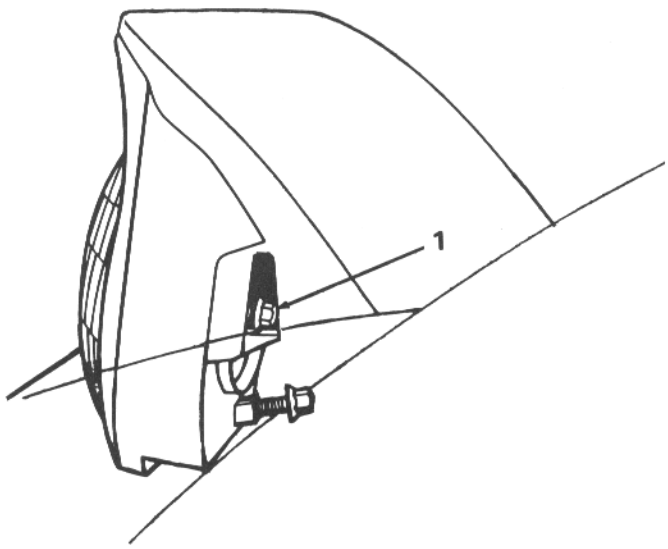
ADJUSTMENT

All headlight adjustments should be made with the car unloaded at 16 ft. (5 m) from the screen. When using headlight alignment equipment, refer to instructions provided.

Turn headlights on low beam.

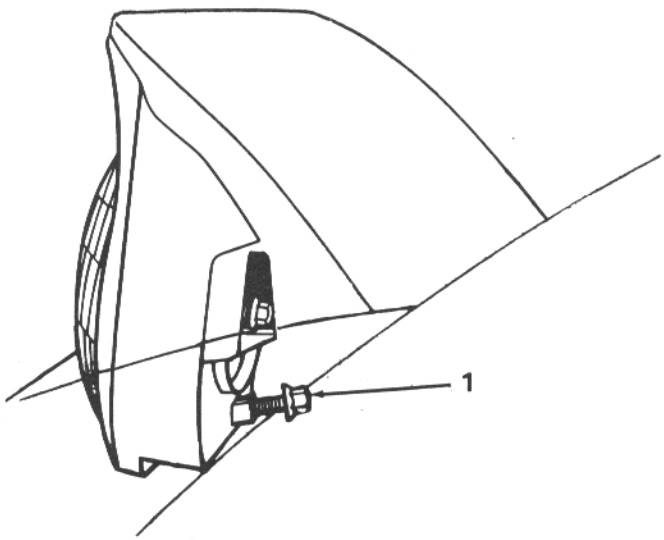
Adjust horizontal alignment by turning screw (1).

1. Horizontal adjustment screw



Adjust vertical alignment by turning screw (1).

1. Vertical adjustment screw



HEADLIGHT MOTOR

REMOVAL AND INSTALLATION

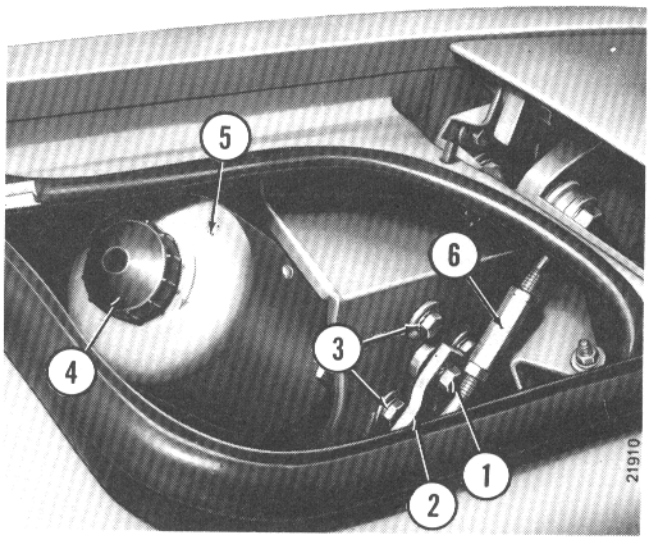
Remove bolt (1) holding arm (2) to motor shaft.

Remove three bolts (3) and washers holding motor (5).

Disconnect electrical connector. Remove motor.

Install in reverse order.

1. Bolt 2. Arm 3. Bolts 4. Knob 5. Motor 6. Turnbuckle



FRONT PARKING/DIRECTIONAL/ HAZARD LIGHT

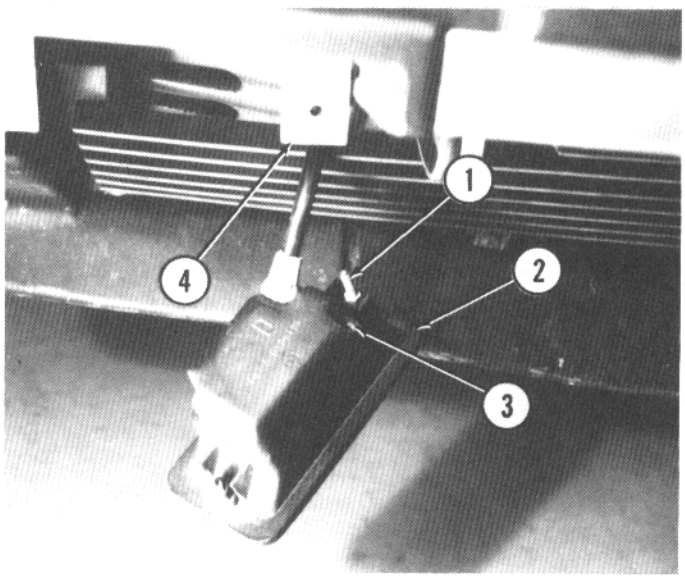
REMOVAL AND INSTALLATION

Remove two screws holding lens and remove lens.

Remove two nuts and washers from studs (1). Remove light assembly (2) from bracket (4).

Remove two screws (3) holding reflector in housing and pull reflector out of housing.

1. Stud 2. Light assembly 3. Screw 4. Bracket

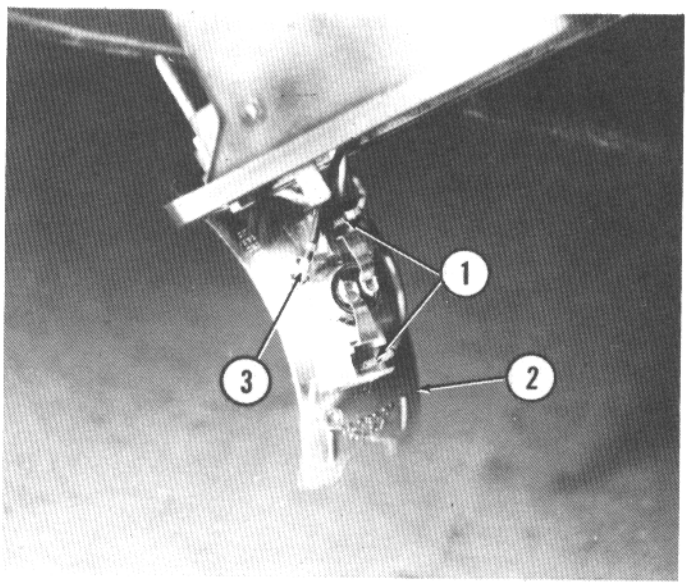


Disconnect electrical leads (1 and 3) from back of reflector (2).

Pull wires out of housing.

Install in reverse order.

1. Electrical leads 2. Reflector 3. Electrical lead



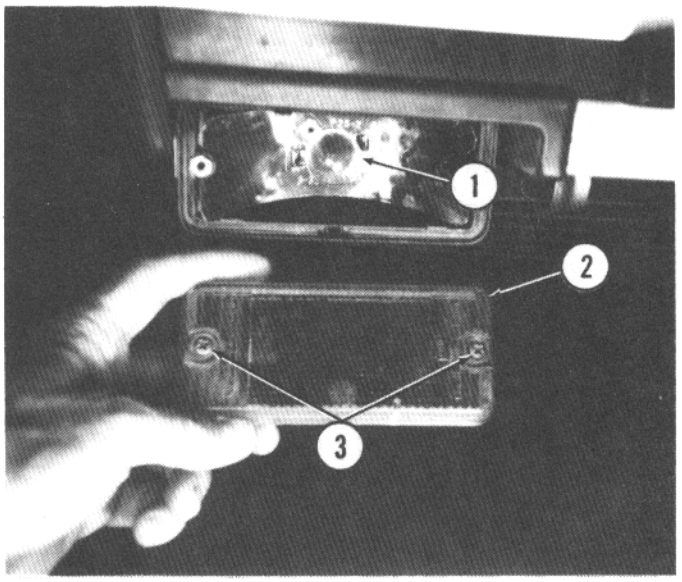
BULB REPLACEMENT

Remove two screws (3) and remove lens (2).

Remove bulb (1) by twisting out.

Install in reverse order.

1. Bulb 2. Lens 3. Screws



TAIL LIGHT ASSEMBLY

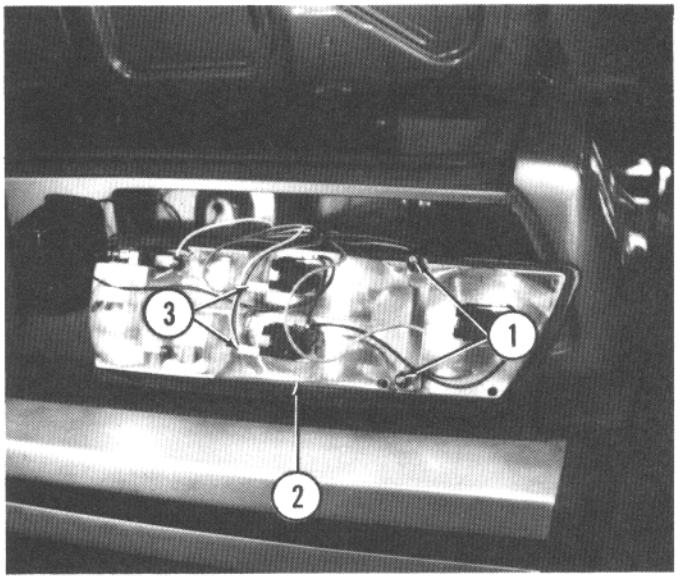
REMOVAL AND INSTALLATION

Working inside trunk, remove four nuts and washers from studs (1).

Pull tail light assembly (2) out of body and disconnect eight electrical leads (3).

Install in reverse order.

1. Studs 2. Tail light assembly 3. Electrical leads



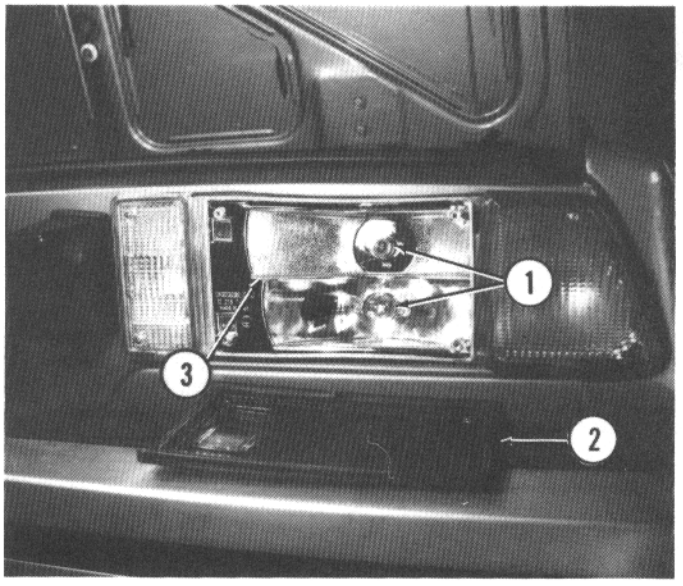
BULB REPLACEMENT

Remove screws and lens (2) covering defective bulb (1).

Remove bulb by twisting out.

Install in reverse order.

1. Bulbs 2. Lens 3. Reflector



LICENSE PLATE LIGHT

REMOVAL AND INSTALLATION

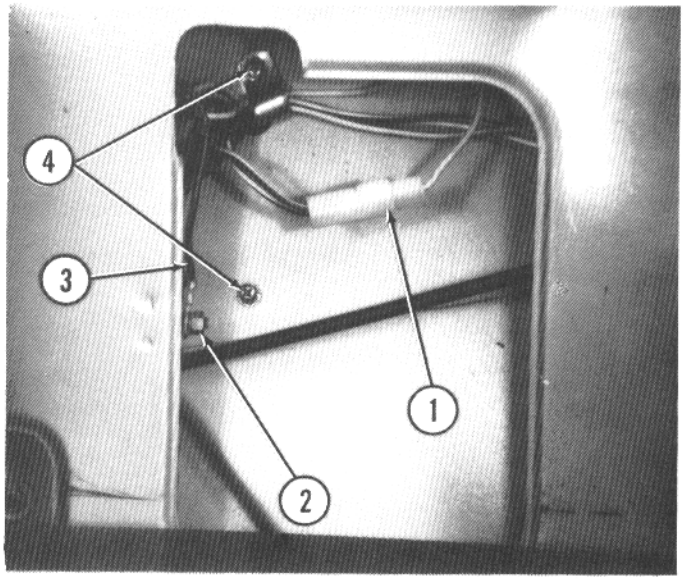
Working inside rear luggage compartment, disconnect electrical connector (1).

Remove nut (2) holding ground wire (3) to body.

Remove two screws (4) holding license plate light to body and remove light.

Install in reverse order.

1. Electrical connector 2. Nut 3. Wire 4. Screws



BULB REPLACEMENT

Remove screw (2) holding lens (3) to housing (1).

Remove bulb (4) by twisting out.

Install in reverse order.

1. Housing 2. Screw 3. Lens 4. Bulb