

## FIELD REPAIR INSTRUCTIONS

Before attempting any electrical repair disconnect the battery.

The only additional tool you will need other than the tool kit from your car is a SHARP ¼ inch or smaller chisel.

Remove generator from car. Place unit on solid work surface. Remove the two through bolts, found on the electrical terminal end, with a screwdriver. If your unit has electrical terminals on the end of the unit remove the nuts from the terminals. If your electrical terminals are on the side of the unit this step is not necessary. Remove the oil wick with a screwdriver. Remove both end plates from the main housing. The armature will come out with the pulley end frame. Sit the main housing on its end with the electrical connections facing up. Place the brush end frame on top of the housing with the brushes facing up. Remove the brushes from their holders by holding the springs back far enough to slide the brushes out of their holder. Brushes can be replaced at this time by removing the screws holding the leads in place. Inspect the bushing and armature shaft for wear. Both may be worn. The bushing can be replaced while the end frame rest on the housing by inserting the ¼ inch (or smaller) chisel between the brass bushing and the wall of the end frame and tapping downward to collapse the bushing inward (see picture 1). Take care not to score the housing wall or the lip of the housing at the bottom where the bushing stops. If this happens smoothing of these surfaces may be required in order that the new bushing will fit properly. Remove the old part and wipe out the hole. Install the new bushing by placing the new bushing in the end centered to the hole. Insert a screwdriver, handle up, as a guide in the bushing. Tap the end of the screwdriver handle with a hammer. Tap the bushing down until it is flush with the surface of the end plate or it reaches the bottom retaining lip. Reinstall the brushes in their holders and assemble unit. This should get you on the road again. If the armature shaft is worn you can replace it when you have access to a bench vise.

### Replacing armature and ball bearing using a bench vise

Remove unit and take apart as above. Hold the armature body in a vise being careful not to damage it. With a wrench remove the nut, pulley, fan, spacers, woodruff key, and the split ring near the winding of the armature. Inspect the pulley end of the shaft for wear. If this end is worn while the unit is unassembled replace the ball bearing. To remove the bearing unscrew the four nuts that hold the bearing retainer to the end frame. If the retainer is riveted to the end frame place the end frame on the housing as above (inside up) and using a small drift punch tap the rivets out (see picture 2). Remove and replace the bearing. Replace the retainer. If the rivets are not reusable hold the retainer in place with nut and bolts. Re-assemble the unit using replacement armature.