

turer for applying lubricant. All leaf springs bend under tension as in the lower detail in Fig. 2 and on nearly all cars more than 10 years old the springs are of the type shown at A in Fig. 3, the ends on all the leaves except the top leaf, Fig. 7. On later-model cars, and on some light trucks, the leaf springs either are fitted with steel covers as at B in Fig. 3, or are of the nonlubricated type detailed at C. On the older-type springs, Fig. 3,A, it may be necessary to loosen the rebound clips and pry the leaves apart in order to apply lubricant between the leaves. Whenever such springs are lubricated always make the checks detailed in Figs. 4, 5 and 6. If measurement from the top of the spring to the lower side of the frame varies more than  $\frac{3}{4}$  in., check the low spring carefully for a broken leaf or excessively worn shackle bolts. Renew faulty parts, as otherwise lubrication of the spring may increase leaf deflection and result in breakage of adjacent leaves. If possible, use the lubricant specified by the manufacturer of the car. Otherwise use chassis grease to which a small quantity of powdered graphite has been added, or use penetrating oil. Don't forget to give the spring shackles and spring clips the same care and lubrication.

Lubrication of covered springs is easily done, without removing the metal cover, by the use of the special spring-lubricating fitting detailed in Fig. 8. On some of the late-model cars the need for lubrication of the leaf springs has been eliminated by the use of waxed fabric liners between the adjacent leaves, detail C in Fig. 3. On others, rubber "buttons" are placed under the tips of the spring leaves. The only service required on springs of this type is replacement of worn liners or buttons. This is done by jacking up the car body to take the weight off the springs. Then the leaves are pried apart with a screwdriver or a special spring-spreading tool, and the worn liners or buttons are removed from the depressions in the leaf tips and replaced. On some liners, only the worn ends are renewed. This is done by wedging the leaves apart and cutting off the worn portion of the liner with a hacksaw blade. Replace with new end sections of liner fabric. When the rebound clips are removed for any reason, be especially careful when replacing them to see that they fit with the correct clearance, Figs. 5, 6 and 9. This clearance is important as it allows the main leaf to twist when the car or truck is driven diagonally across a low culvert or onto a ramp.

