

REFER TO US MARINE CORPS MODIFICATION
INSTRUCTIONS MI 00882-35/3

November 1, 1962

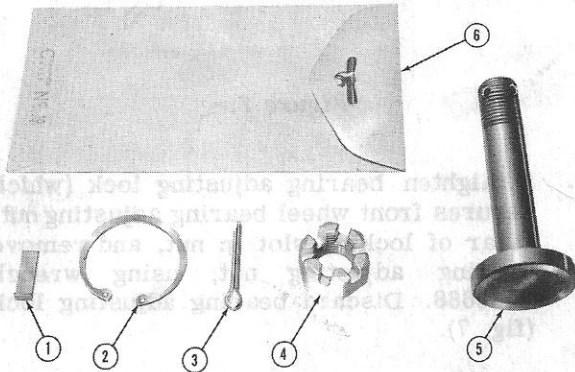
SERVICE bulletin

MM-2

MIGHTY-MITE: TRUCK, UTILITY: 1/4-TON, 4 X 4, LIGHTWEIGHT, M422
AND M422A1

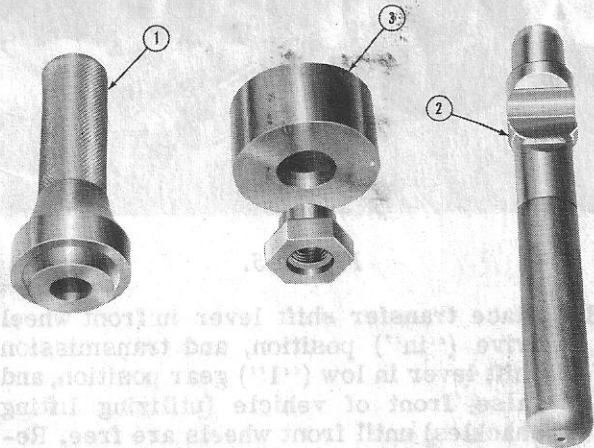
SUBJECT:

Removal and replacement of hub bolts and related components, using kit FSN2520-973-1576.



- 1 - Bearing Adjusting Lock Plate (8757282)
- 2 - Lock Ring (MS16625-145)
- 3 - Cotter Pin (137185(BFAX3))
- 4 - Wheel Hub Bolt Nut (MS35692-1028)
- 5 - Wheel Hub Bolt (10881846)
- 6 - Instruction Bulletin

Figure 1.



- 1 - CV Special Tool #1
- 2 - CV Special Tool #2
- 3 - CV Special Tool #3

Figure 2.

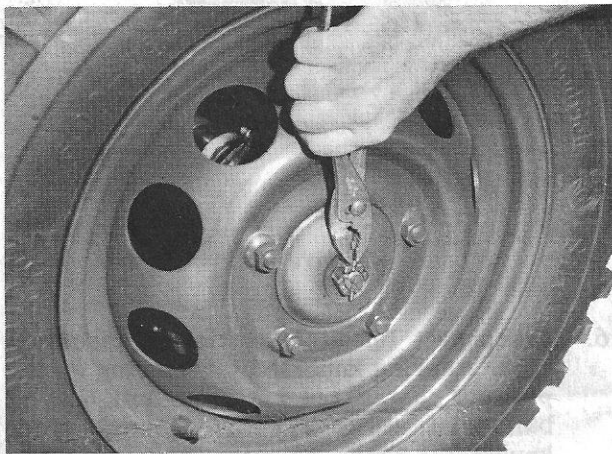


Figure 3.

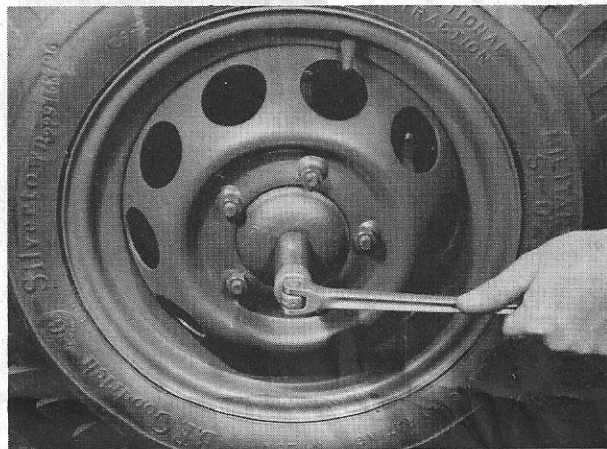


Figure 4.

RECOMMENDED SERVICE:

1. Remove cotter pin from left and right wheel hub retaining bolts (fig. 3).
2. Loosen castellated nuts on left and right side but do not remove (fig. 4).



Figure 5.

- Place transfer shift lever in front wheel drive ("in") position, and transmission shift lever in low ("1") gear position, and raise front of vehicle (utilizing lifting shackles) until front wheels are free. Remove loosened castellated nuts from front hub retaining bolts and remove front wheels (with attached hubs) from vehicle (fig. 5).

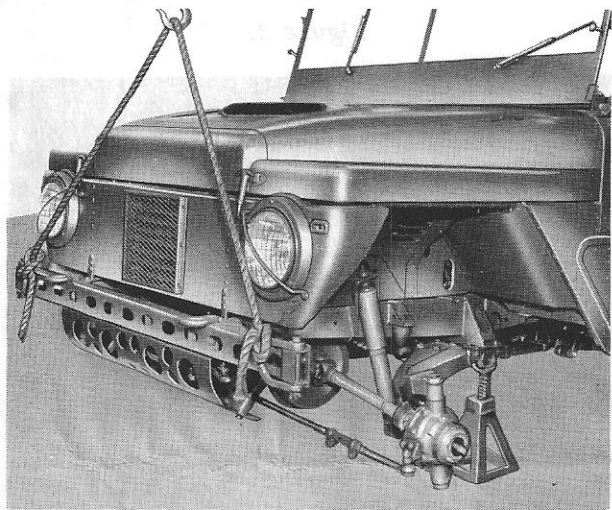


Figure 6.

- Resume raising vehicle to bring underside to a convenient working level. Utilize safety stands and/or blocks as required (fig. 6).

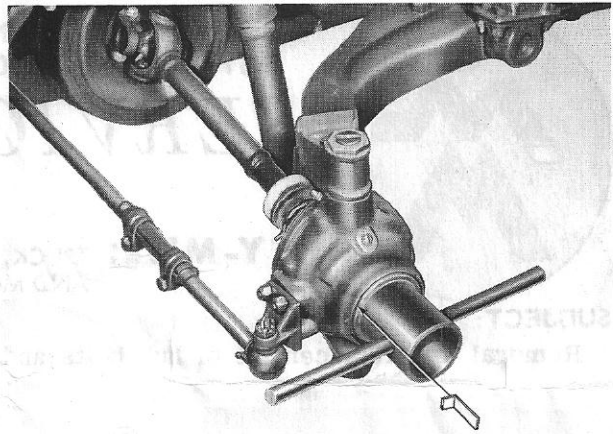


Figure 7.

- Straighten bearing adjusting lock (which secures front wheel bearing adjusting nut) clear of locking slot in nut, and remove bearing adjusting nut, using wrench 7083688. Discard bearing adjusting lock (fig. 7).

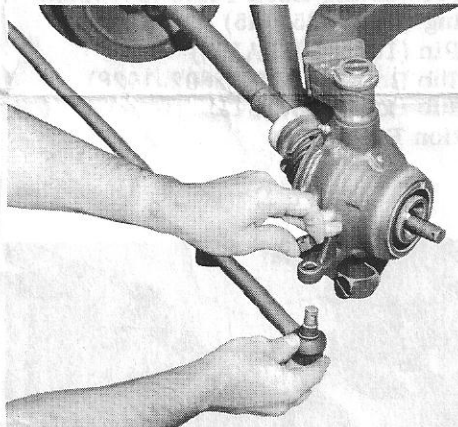


Figure 8.

- Disconnect left steering tie rod assembly from steering knuckle by removing cotter pin and castellated nut from left tie rod ball joint stud. Pry or tap stud from knuckle. This permits both steering knuckles to be moved independently and provides better access (fig. 8).

Note. If stud does not slip off by prying and tapping lightly, re-install castellated nut and strike nut firmly.

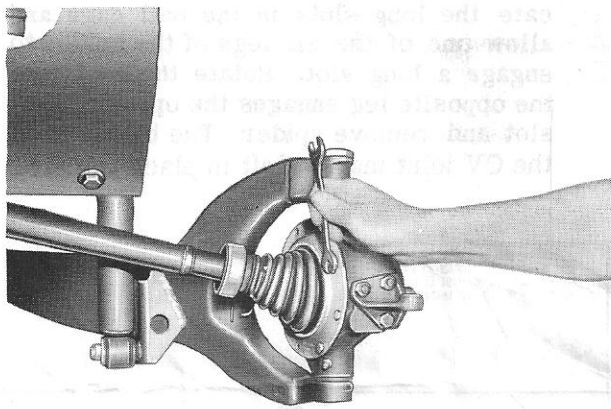


Figure 9.

- Remove (8) screws from inside face of hub assembly to release retainers (fig. 9).

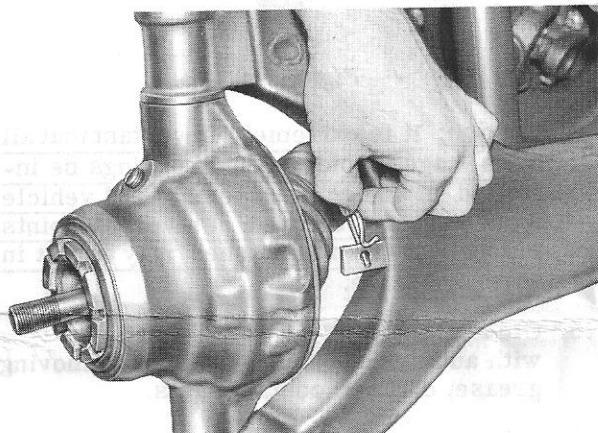


Figure 10.

- Remove boot sleeve anchor (spring wire pin) (fig. 10).

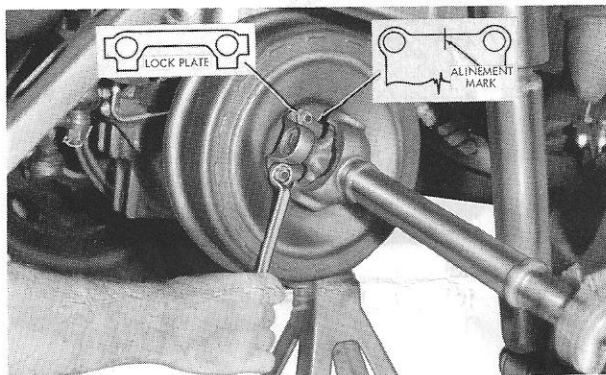


Figure 11.

- Remove (4) lock nuts securing front wheel drive shaft assembly to front differential

flange studs and mark drum for proper alignment upon installation (fig. 11).

Note. On vehicles so equipped it is necessary to straighten locking plates holding nuts to studs.

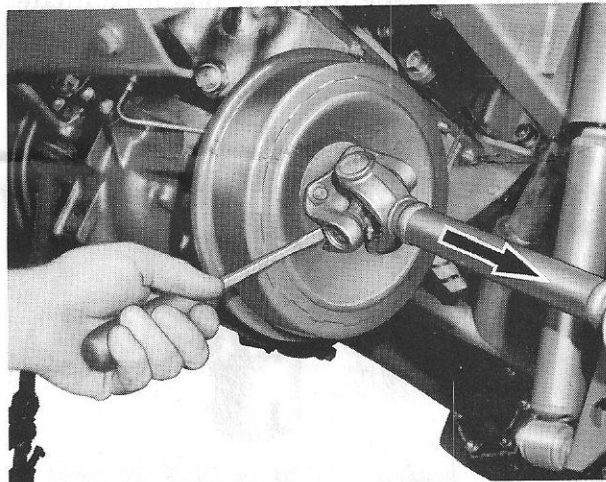


Figure 12.

- Telescope drive shaft into hub assembly to obtain clearance at differential studs. Remove axle drive shaft with bellows and sleeve assembly (fig. 12).

Note. If clearance is not sufficient for easy removal of drive shaft, remove nut and washer and the lower end of shock absorber from bracket. This will provide additional clearance for removal of axle drive shaft.

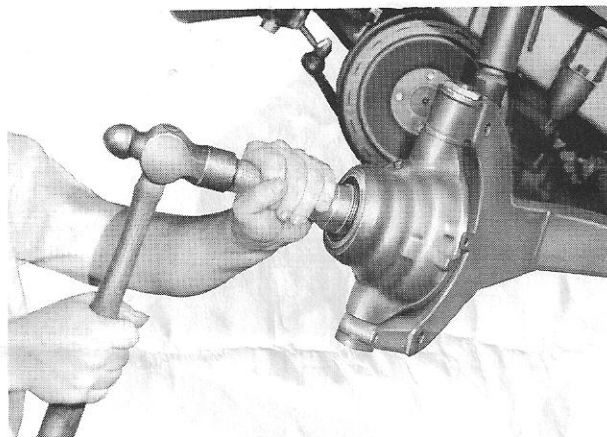


Figure 13.

- Install special CV tool #1 on front hub retaining bolt, screwing it handtight against CV joint (Universal Joint Assembly FSN

2520-765-4799). Tap tool with hammer until joint (with large wheel bearing cone assembly) comes free of steering knuckle housing. Bearing should be retained on joint. Tag joint to identify specific vehicle and side from which removed (fig. 13).

- Remove grease from CV joint to facilitate disassembly.

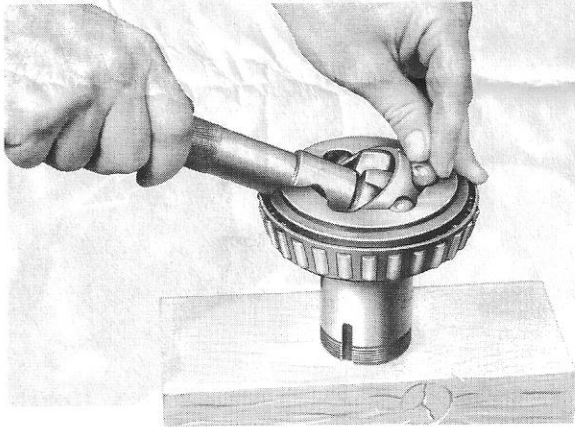


Figure 14.

- Disassemble CV joint in the following manner:

Insert CV joint with hub retaining bolt into a 5/8" hole drilled through a suitable board or block. Insert into center of splined axle drive shaft hole (spider) the special CV tool #2. Use tool #2 to rock spider of CV joint, removing the 6 balls one at a time. Set tool aside until required for re-assembly (fig. 14).

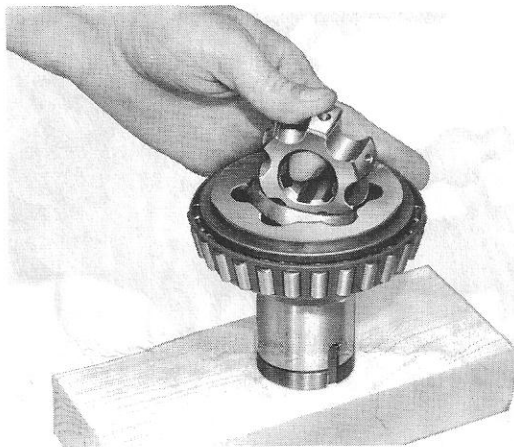


Figure 15.

- Hold slotted ball cage in place and rotate the spider so that the splined axle shaft hole is at a right angle to the cage. Lo-

cate the long slots in the ball cage and allow one of the six legs of the spider to engage a long slot. Rotate the spider so the opposite leg engages the opposing long slot and remove spider. The ball cage of the CV joint may be left in place (fig. 15).

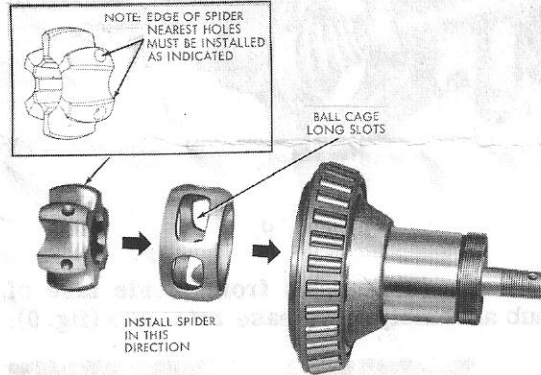


Figure 16.

Caution: It is extremely important that all balls, cages, spiders, and bearings be installed in the same assembly and vehicle from which removed. Universal joints which become mismatched may result in severe damage.

- Clean CV joint and installed large bearing with authorized cleaning solvent, removing grease, dirt and contaminants.

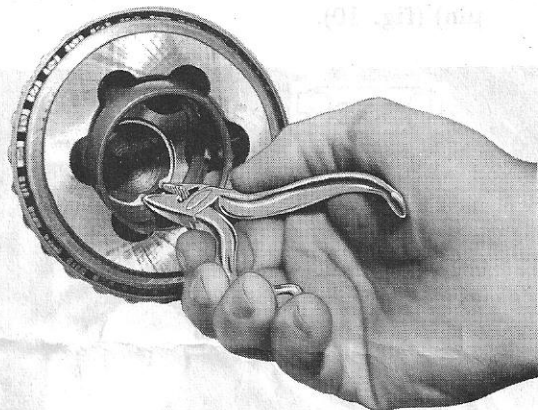


Figure 17.

- With CV joint hub retaining bolt in 5/8" hole (as in Steps 13 and 14), remove lock

ring which secures hub retaining bolt, using lock ring or needle-nose pliers. Discard old lock ring (fig. 17).

Note. On CV joints equipped with lock ring with plain ends, the use of pliers is not recommended for removal of ring. Instead turn CV joint so smooth surface is down on a substantially supported surface and with heavy hammer, strike the threaded end of hub retaining bolt with sufficient force to distort the lock ring which will facilitate removal. Discard old lock ring.

17. Remove old hub retaining bolt. Old bolt should be mutilated (by hammering threads) to prohibit reuse, and discarded.
18. Install new front hub retaining bolt in CV joint and secure with new lock ring provided.
19. To be sure bearing cone is fully seated against shoulder of CV joint, tap with punch on edge of bearing cone race.
20. Install spider and balls of CV joint in reverse order of that described in Steps 14 and 13.
21. Hand pack bearing cone and CV joint with lubricant GAA.
22. Using brush or rag, clean interior of steering knuckle with authorized cleaning solvent and apply light film of lubricant (GAA) to all surfaces.

Note. Inspect small bearing inside knuckle and replace or repack with lubricant (GAA) as required.

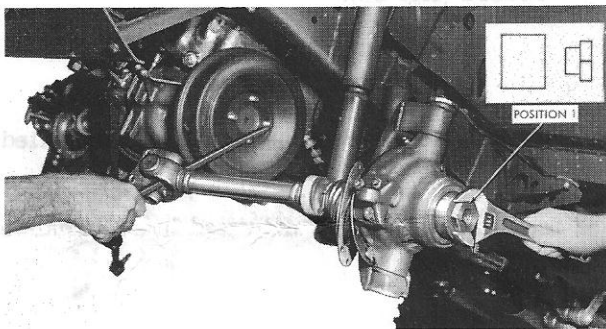


Figure 18.

23. Insert modified CV joint into rear of steering knuckle and attach special tool #3

as shown. Install axle drive shaft into joint and tighten nut of special tool.

Note. Wedge a bar between the axle flange and the differential studs to facilitate tightening as shown.

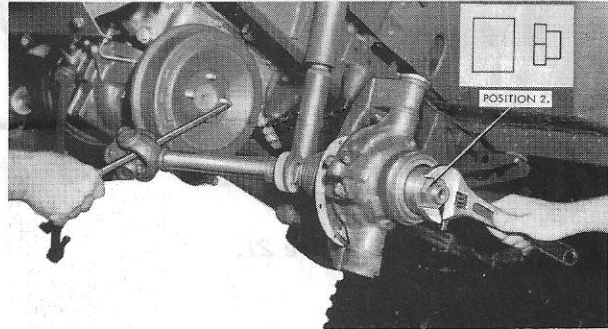


Figure 19.

24. Reverse nut as shown in figure 19 and continue drawing the joint into the steering knuckle until fully seated.
25. Attach axle flange to front differential in the same position as when removed. Re-install bellows retainer and sleeve anchor removed in Steps 7 and 8.

Note. If vehicle was equipped with axle flange lock plates, they must be re-installed prior to attaching the (4) nuts, and the tabs bent flat against nut to prevent loosening.

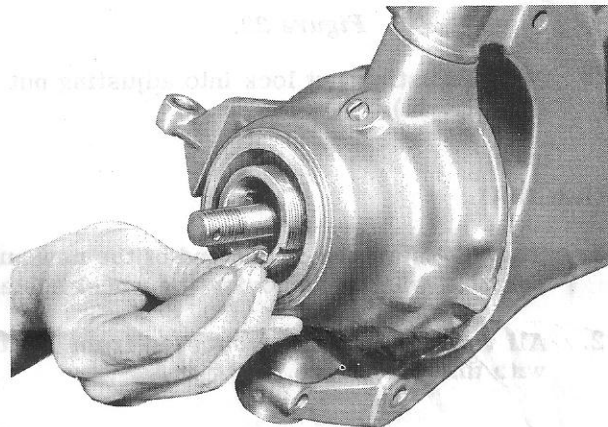


Figure 20.

26. Install new bearing lock as shown in figure 20.

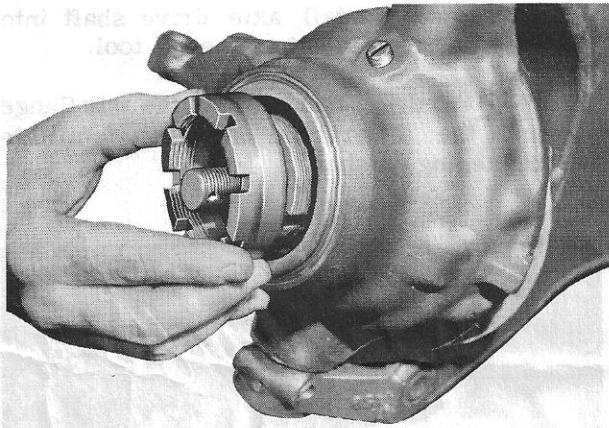


Figure 21.

27. Adjust wheel bearing by tightening nut, using special tool 7083688 until bearings are seated. Back off nut until slot aligns with bearing lock.

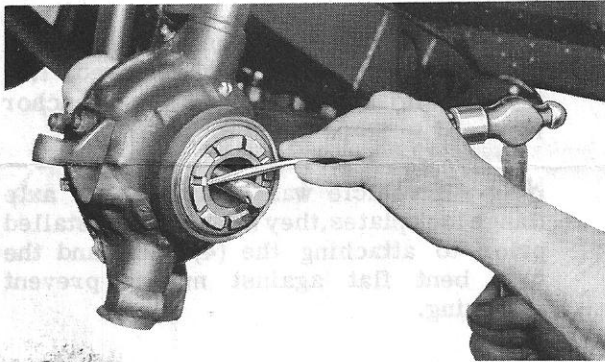


Figure 22.

28. Bend adjusting nut lock into adjusting nut slot (fig. 22).

GENERAL:

1. The "X" stamped on the end of the new hub bolt will provide a means of identifying modified vehicles without removing the wheel hub assembly.
2. All vehicles serially numbered from 101 to 3582 inclusive, are to be modified in accordance with this procedure.

29. Attach left tie rod ball joint stud to steering knuckle, using castellated nut and cotter pin removed as shown in Step 6. Re-install shock absorber if removed in Step 10.

30. Mount wheel and hub assembly.

31. Attach new wheel hub nut provided in kit and **TORQUE TO 130 FOOT-POUNDS.**

32. Lower vehicle, drive at least one (1) mile and readjust hub nut torque as required to maintain **A MINIMUM OF 130 FOOT-POUNDS AND NOT TO EXCEED 180 FOOT-POUNDS** when aligning a nut castellation with hub bolt cotter hole.

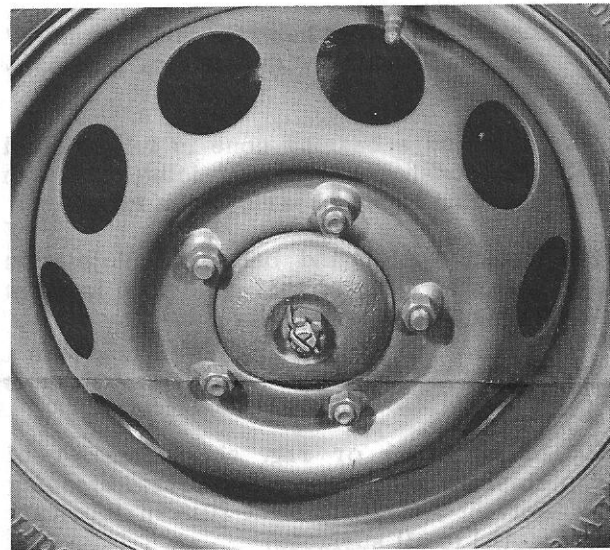


Figure 23.

33. Install and bend over new cotter pin as shown. Record modification in vehicle record (fig. 23).