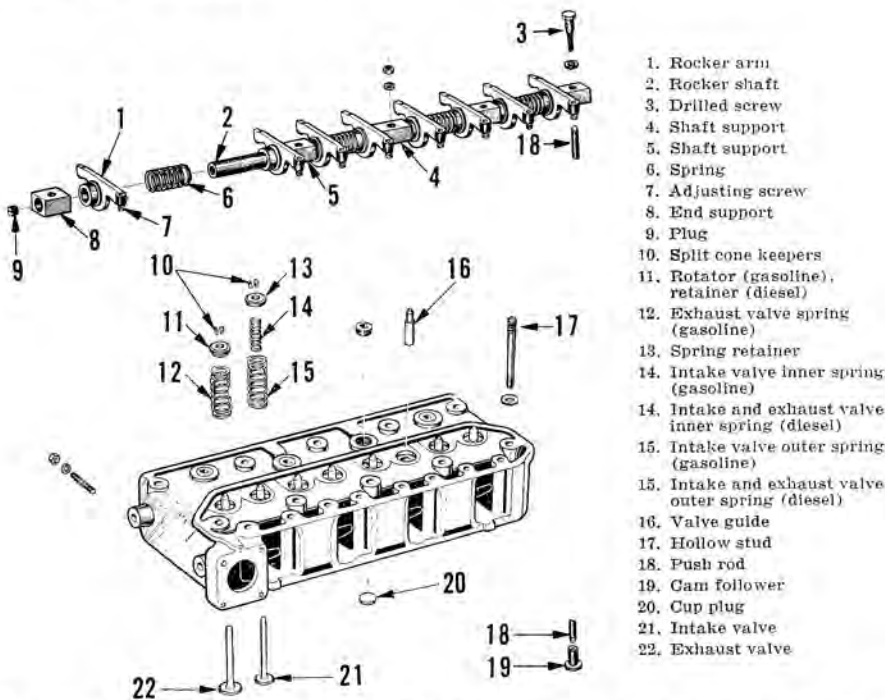


## Paragraphs 50-51



**Fig. CS396**—Exploded view of series 550 non-diesel cylinder head, rocker arms and valve mechanism. The six cylinder series 570 non-diesels are similarly constructed, except a two-piece rocker shaft is used. For the purposes of this illustration, the diesel models are similar except for the obvious differences in head construction.

To remove the tappets, it is necessary to remove the camshaft as outlined in paragraph 72. Adjust the valve tappet gap to 0.010 hot.

### ROCKER ARMS

#### Non-Diesel and Diesel Series 550-570

50. An exploded view of the rocker arms and associated parts is shown in Fig. CS396. All rocker arms are interchangeable and contain self-locking adjusting screws. Lubrication to the assembly is supplied through the hollow stud (17). If oil does not flow to



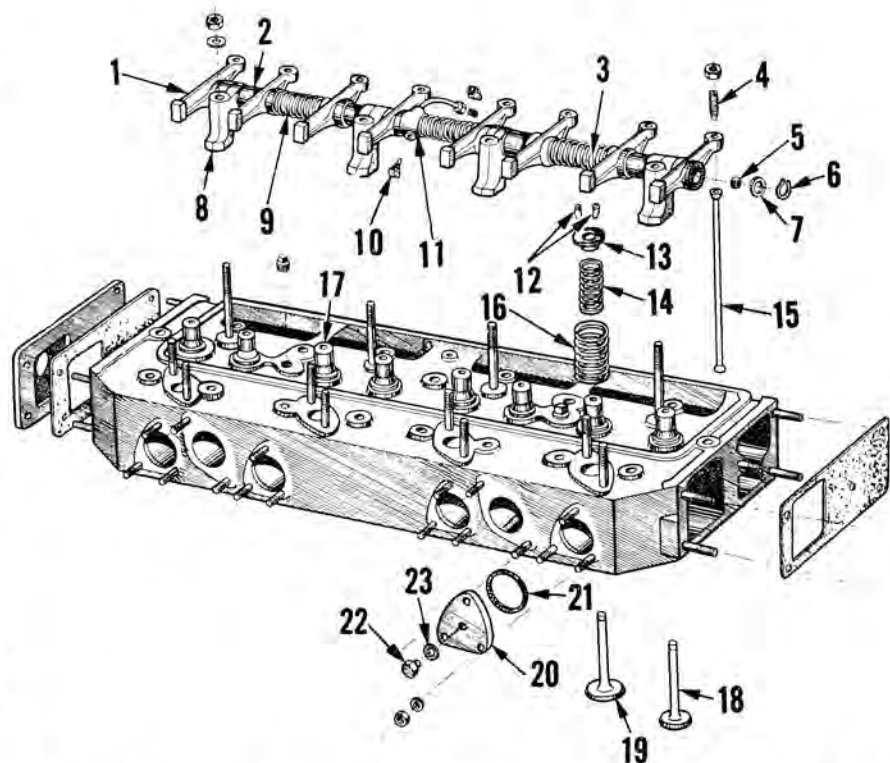
**Fig. CS397**—Insufficient oil flow to the non-diesel and diesel series 550 and 570 rocker arms can be caused by foreign matter in hollow stud (17) and/or screw (3).

the rocker arms, check for foreign material in hollow stud (17), screw (3) or the internal oil passages. Refer also to Fig. CS397.

The 0.859-0.860 diameter rocker arm shaft has a normal clearance of 0.003 in the rocker arms. If clearance exceeds 0.006, renew the arms and/or shaft.

### Series 560

51. An exploded view of the cylinder head, rocker arms and associated parts is shown in Fig. CS398. The procedure for removing and disassembling the rocker arms unit is evident. The 0.6223-0.6238 diameter rocker arm shaft has a clearance of 0.0007-0.0035 in the 0.6245-0.6258 diameter rocker arm bushings. Bushings are available separately for field installation; or, replacement rocker arms contain factory installed bushings. When installing installed bushings, make certain that oil hole in bushing is in register with oil hole in rocker arm and ream the bushings, if necessary, to obtain the desired clearance.



**Fig. CS398**—Series 560 cylinder head, rocker arms, valves and associated parts. Notice that head is fitted with removable end covers. Rocker arm bushings are available separately for field installation.

- |                           |                             |                               |
|---------------------------|-----------------------------|-------------------------------|
| 1. Rocker arm and bushing | 9. Spring                   | 17. Valve guide               |
| 2. Spacer                 | 10. Oil pipe locating screw | 18. Exhaust valve             |
| 3. Rocker shaft           | 11. Oil pipe                | 19. Intake valve              |
| 4. Tappet adjusting screw | 12. Split cone keepers      | 20. Precombustion chamber cap |
| 5. Shaft end plug         | 13. Spring retainers        | 21. Gasket                    |
| 6. Retainer               | 14. Inner valve spring      | 22. Chamber cap plug          |
| 7. Washer                 | 15. Outer valve spring      | 23. Washer                    |
| 8. Bracket                |                             |                               |

After engine is started, if oil does not flow from hole in top of each rocker arm, check for foreign material in the oil supply line.

**VALVE TIMING**

**All Models**

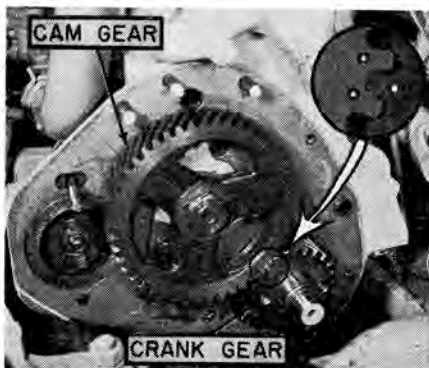
52. On series 540, valves are properly timed when double punch marked space on camshaft gear and single punch marked tooth on crankshaft gear are in register as shown in Fig. CS399.

53. On non-diesel series 550 and 570, valves are properly timed when the punch marked tooth on crankshaft gear is meshed with the punch marked tooth space on camshaft gear as shown in Fig. CS400.

54. On diesel series 550 and 570 equipped with a Roosa Master injection pump, valves are properly timed when the punch marked tooth on crankshaft gear is meshed with the punch marked tooth space on camshaft gear as shown in Fig. CS401.

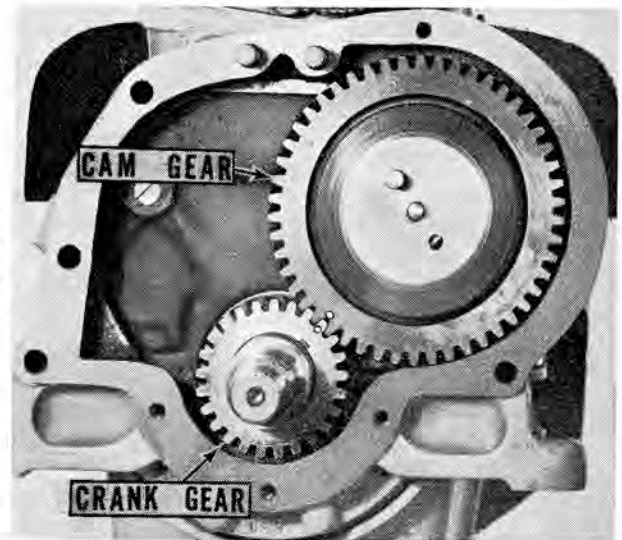
On diesel series 550 and 570 equipped with a Bosch injection pump, valves are properly timed when the punch marked tooth on crankshaft gear is meshed with the punch marked tooth space on camshaft gear as shown in Fig. CS402. Double punch marked tooth on injection pump drive gear must be meshed with the double punch marked tooth space on camshaft gear.

55. On series 560, valves are properly timed when all timing marks are in register as shown in Fig. CS403. Chisel marked line on camshaft must register with similar mark on camshaft gear hub. Chisel marked tooth on camshaft gear must mesh with chisel marked tooth space on idler gear and chisel marked tooth on crankshaft gear must mesh with chisel marked tooth space on idler gear.



**Fig. CS399—Series 540 timing gear train, showing gears meshed with valve timing marks in register.**

**Fig. CS400 — Non-diesel series 550 and 570 timing gear train. Gears must be meshed so that punched timing marks are in register.**



**Fig. CS401—Timing gear train on diesel series 550 and 570 equipped with a Roosa Master injection pump.**



**Fig. CS402—Timing gear train on diesel series 550 and 570 equipped with a Bosch injection pump.**

