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TECHNICAL REPORT

Clearance valve adjustment in
4D56 Mitsubishi engines



PUROPOSE

To inform about the **procedure of clearance adjustment between valve and rocker cover** in 4D56 engines.

INTRODUCTION

An engine may have in the distribution system either mechanical **tappets** (disc adjustment) or **hydraulic lifters** (self-regulating with the oil pressure); the target in both cases is to **adjust the clearance in the cam system or rocker cover** and the head of the valves.

However, in **old mechanic systems**, we do **not find any regulating component**, so the clearance must be adjusted by the mechanic to get a good engine performance.

In this case, we have the Mitsubishi 8 valve diesel 4D56 engine, which **has a camshaft with a rocker bridge without any lifters**, so clearance between rocker cover and valve must be manually adjusted.

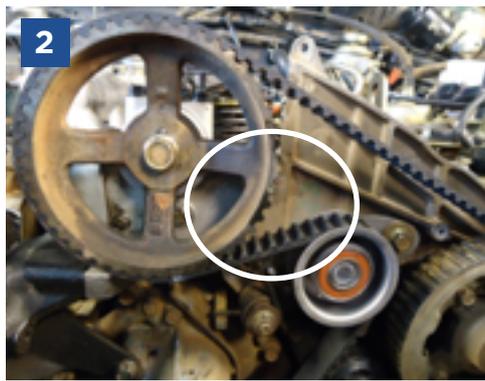
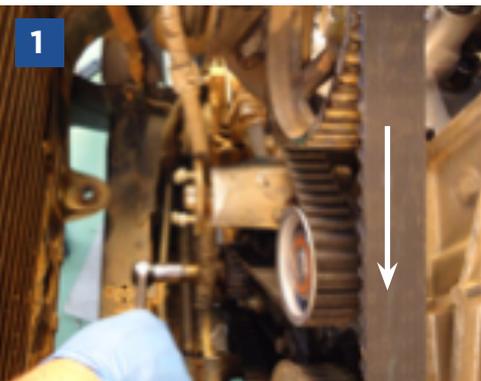
This clearance **must be the one specified by the manufacturer**; a wider clearance might cause the valves not to open completely on time; a smaller clearance might cause the valves to be permanently open; both cases would lead to a wrong performance of the engine and in some cases important break downs.

DEVELOPMENT

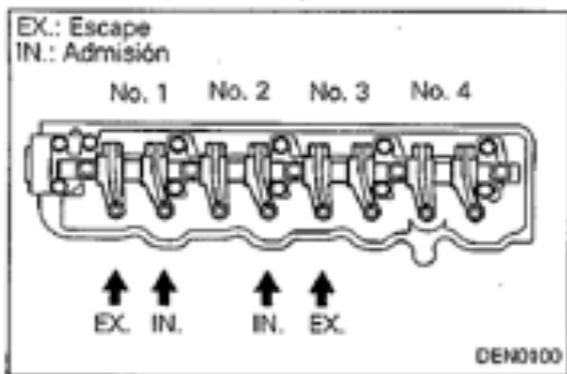
When at the time of repairing this engine you need to disassemble the rocker shaft and the rest of distribution elements, it is essential to adjust the clearance between rocker cover and valve after the re-assembly of these components.

STEPS

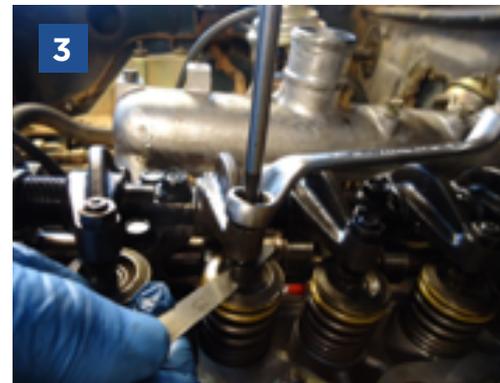
- 1 Turn crankshaft clockwise (1) until the mark of the camshaft pulley is aligned (2); the mark of the crankshaft pulley is also aligned.



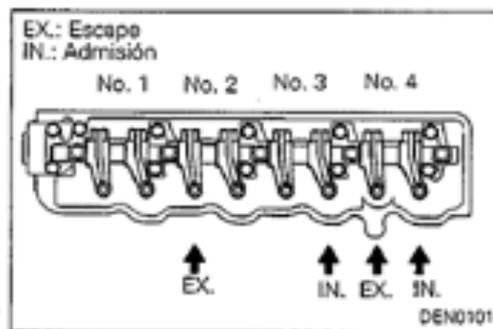
- 2 **Adjust clearance** between **exhaust and intake valves** of cylinder 1, intake of cylinder 2 and exhaust of cylinder 3, which in this point are fully raised, such as in the picture below:



- Loosen the fixing nut at the end of rocker to be adjusted.
- Introduce the gauge specified by the Manufacturer between the end of the rocker and valve; in this case the gauge is 0.25.
- Tighten the screw with a screwdriver until the gauge is pressed, but it can be removed.
- Tighten the nut to fix the screw.
- Check it is possible to introduce the gauge between the valve and rocker and that a thicker gauge cannot be introduced.



- 3** Once all clearances have been adjusted, **turn the crankshaft 360° clockwise** (to match the mark of the crankshaft pulley; the camshaft pulley will not match since it has only turned 180°), then adjust exhaust and intake valves of cylinder 4, exhaust of cylinder 2 and intake of cylinder 3 as in the previous step:



- 4 All valves are adjusted. **Place rocker cover, warm up the engine, remove the rocker cover again** and check the adjustment of all the valves; if it is necessary, repeat the process. In this engine, the check with the warm up engine is done with the gauge of the same thickness (0,25)

