

35

TECHNICAL REPORT

Clearance valve adjustment
in 6-cylinder BMW M20
(256K1) engines



PURPOSE

To inform about the procedure of **clearance adjustment between valves and rockers** in BMW M20(256K1) engines.

INTRODUCTION

In the 6-cylinder BMW M20 (256K1) engine, **we find a single camshaft for operating the 12 valves** (two per cylinder) with the help of two rocker shafts for intake and exhaust respectively and 6 rocker each.

This engine type of engine does not have any kind of lifters, whether mechanical or hydraulic, so the **adjust between the cam system, rocker arms and valve heads must be done manually** to calibrate the clearance between said parts.

This clearance shall be as specified by the manufacturer; while **excessive clearance can cause not be carried out valve opening** in time or completely, a lack of this clearance could cause the valves remain open, in both cases leading to an engine malfunction and even major damage.

*“Un excessive clearance can **cause not be carried out valve opening**”*

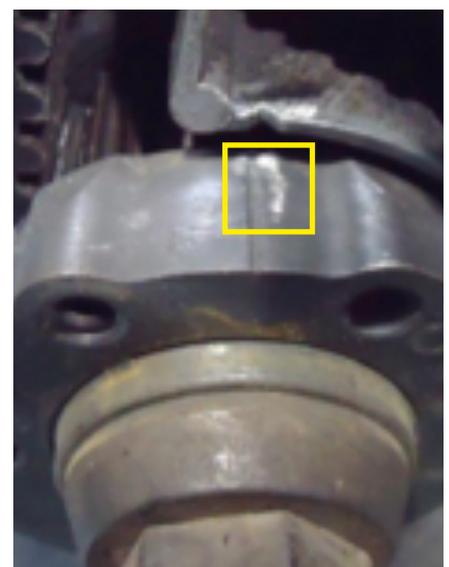
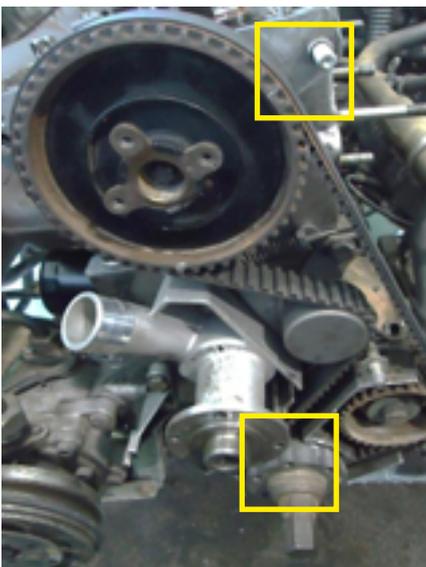
DESCRIPTION

To replace the camshaft in the engine, is needed to **take off the two rocker shafts** and corresponding rockers and remove the camshaft by the side of the cylinder head, therefore, after replacing it, the two shafts must be mounted introducing each of the rockers in its corresponding position. It is advisable to mark the shafts of the intake and exhaust rocker and later fit them in its proper position.

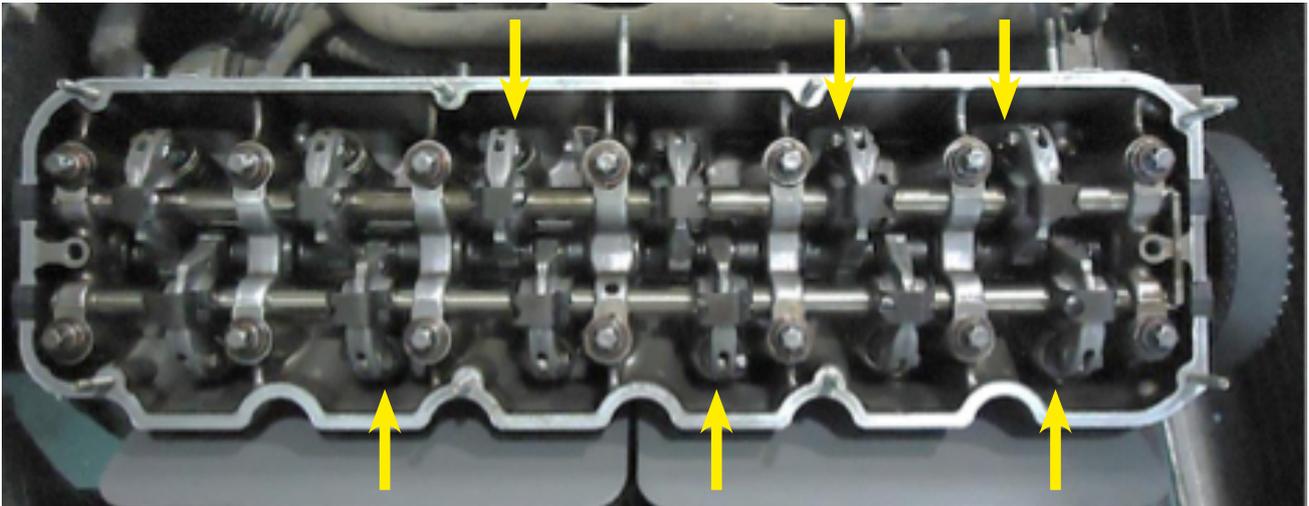
Once installed both rocker shafts, always set the clearance between the rocker and the valve.

Instructions

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



2 Proceed to adjust the valve clearance in valves which are not pressed:



1



Loosen the fixing nut of the eccentric washer of the rocker to be adjusted.

2



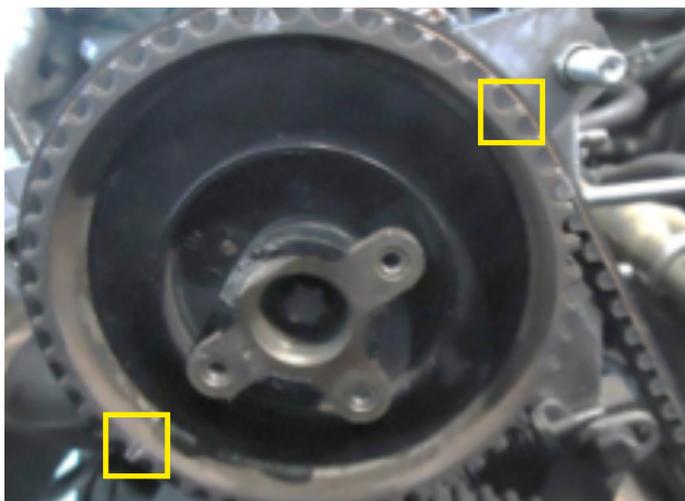
*Adjust the eccentric washer with the valve head by introducing between them a calibrated gauge of **0.25 mm**.*

3

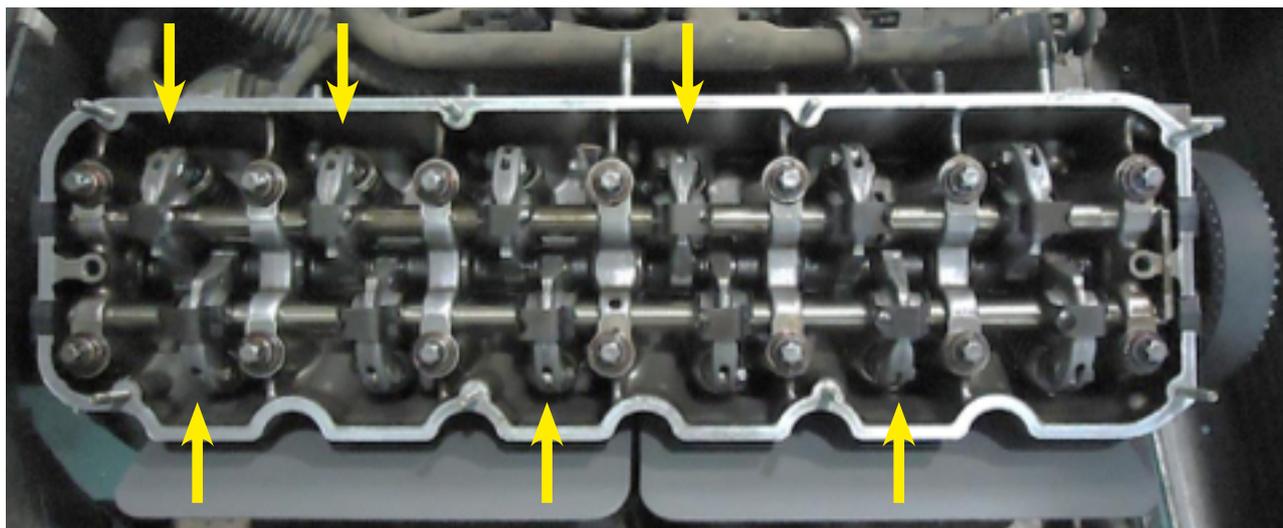


Tighten the nut for fixing the eccentric washer in the correct position while the gauge is introduced between the rocker and the valve head.

- 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°).



- 4 Proceed to adjust the valve clearance in rest of indicated valves.



- 5 After adjusting all valves, proceed to the **assembly of the rocker cover installing a new gasket (11031000)** and perform the specified torque.



Tighten:
0.9 kpm