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TECHNICAL REPORT

Adjustment of tappets



REASON

Remember **instructions of mechanic adjustment** in order to **avoid noises and early wear** on cam axis and tappets. For this, we will use a general suggestion for engines XUD7, DW8, DW8B, XUD9TE, XUD9TF.

INTRODUCTION

Evolution in mechanics leads to the widespread **use of hydraulic systems in the adjustment of lobes with valves.**

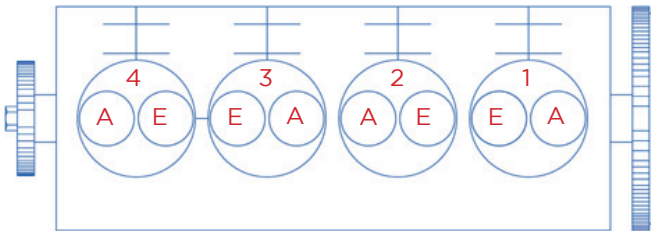
AJUSA offers the **most extensive program of hydraulic lifters as well as camshafts.** In the assembly of camshafts, in case tappets are used, it is necessary to make the **correct adjustment to avoid damages on camshafts** and other contact elements.

VALVE ADJUSTMENT

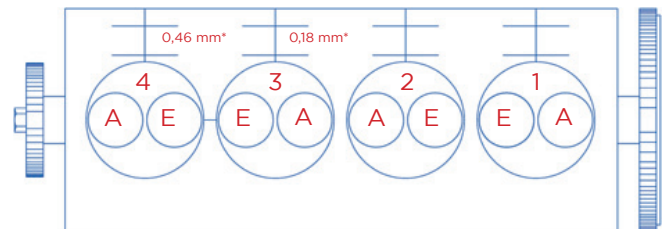
Before disassembly and adjustment, it is recommended **to let the engine cool**, as expansions may affect measures.

Necessary steps for valve adjustment in engines XUD7, DW8, DW8B, XUD9, XUD9TE, XUD9TF:

- **Remove valve cover** as indicated in the manufacturer specs.
- **Draw a diagram of the disposition of valves** in the engine.



- **Turn the engine until you place exhaust valve n° 1 (next to wheel) at its maximum opening;** at this moment, exhaust valve n° 3 and intake valve n° 4 are closed, so we can check the clearance between lifter and lobe with a feeler gauge. Write down the value.



*Measured Value



Check exhaust valve n° 4



Check intake valve n° 3

- Continue checking the remaining lifters, according to the following table:

EXHAUST Valve	INTAKE Valve	EXHAUST Valve
1	3	4
3	4	2
4	2	1
2	1	3

Nominal working values

INTAKE = 0,15 - 0,08 mm

EXHAUST = 0,30 - 0,08 mm

- Calculate **the difference between measured and nominal values**. If the difference is over or under the tolerance, proceed with adjustment, increasing or decreasing thickness of the supplement in the mentioned value.

EXAMPLE

Tolerance = 0,08 mm

Measured value exhaust valve nº 4
0,46 mm

Nominal value for exhaust valves
0,30 mm

Average value - nominal value
 $0,46 - 0,30 = 0,16 \text{ mm} \rightarrow \text{ADJUSTMENT}$
($0,16 > 0,08$)
Shim should be replaced by one measuring 0,16 mm thicker.

Measured value in intake valve nº 3
0,18 mm

Nominal value for intake valves
0,15 mm

Average value -nominal value

$0,18 - 0,15 = 0,03 \text{ mm} \rightarrow \text{NO REGLAJE}$ ($0,03 < 0,08$).

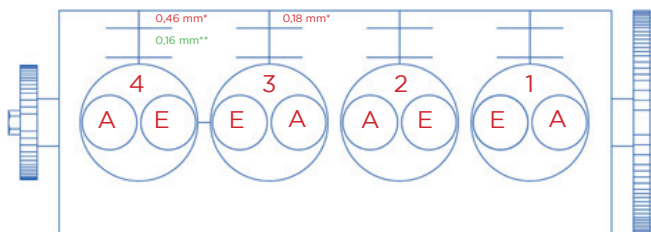
Before adjustment, it is necessary to disassemble the camshaft following the manufacturer specs.

Disassemble tappet and measure thickness of shim. Before measuring a new supplement it is recommended to degrease it.

Write the obtained value in the diagram of disposition of valves.

Obtained value 2,80 mm
thickness of shim

The value obtained between measured value and nominal value must be added or subtracted.



*Measured value
**Measured value-nominal value
***Value of shim

New supplement = $2,80 + 0,16 + 2,96 = 0,08 \text{ mm}$

If no supplement that matched the necessary thickness is available, see tolerances.

recommendations

- Clean and lube all parts.
- First, assemble adjustment supplement in the corresponding housing over the valve stem, and then the tappet.
- Once the camshaft has been assembled, check that all valves have been correctly adjusted.