



Valve clearance adjustment



DANGER

- The adjustment operations are described for cylinder N° 1, but they apply to all cylinders
- Turn the crankshaft clockwise to bring the piston of cylinder N° 1 to TDC on the expansion stroke (intake and exhaust valves closed).

N° of CYLINDERS	FIRING ORDER
3	1-3-2
4	1-3-4-2
6	1-5-3-6-2-4

Adjustment for 2-valve engines

Using feeler gauge to measure the clearance, turn adjusting screw (1) of intake valve rocker (2) to obtain the specified clearance.



IMPORTANT

Clearance: 0.20±0.05 mm (0.008±0.002 in.)

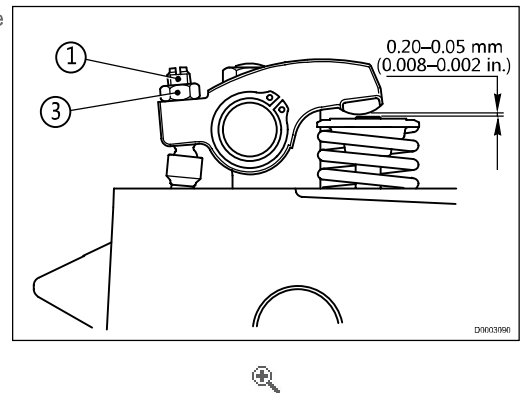
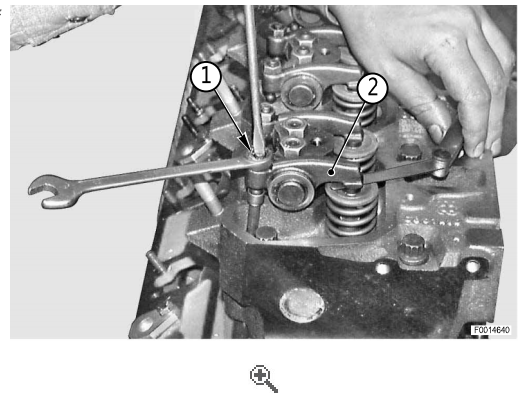
Repeat the procedure to adjust the exhaust valve clearance.



IMPORTANT

Clearance: 0.20±0.05 mm (0.008±0.002 in.)

- After adjustment, hold the adjusting screw (1) in position and tighten the locknut (3).



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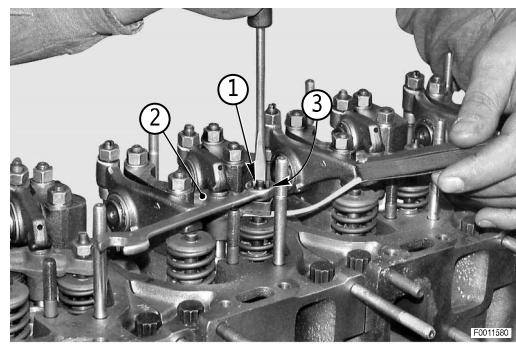
Adjustment for 3-valve engines

Apply pressure to cross-head (2), measure the clearance with a feeler gauge and turn adjusting screw (1) to obtain the specified clearance between the screw and the intake valve stem.



IMPORTANT

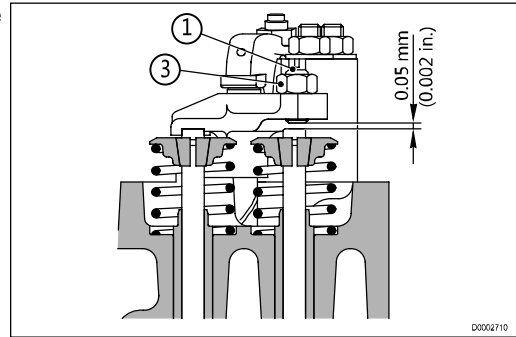
Clearance: 0.05 mm (0.002 in.)



1.

After adjustment, hold the adjusting screw (1) in position and tighten the locknut (3).

- o Nut: 21 Nm (15.5 lb.ft.)



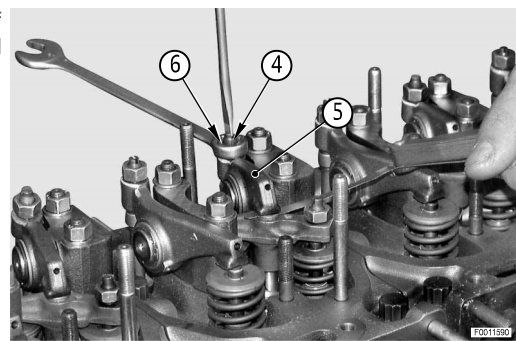
2.

Using feeler gauge to measure the clearance, turn adjusting screw (4) of intake valve rocker (5) to obtain the specified clearance between cross-head (2) and rocker (5).



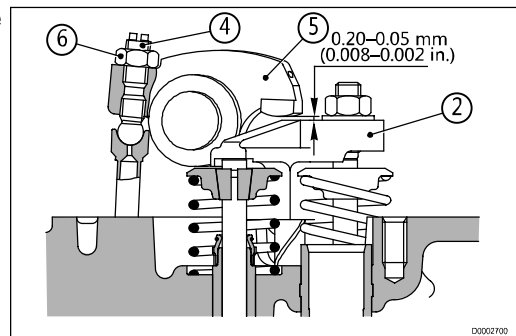
IMPORTANT

Play: 0.20 ± 0.05 mm (0.008 ± 0.002 in.)



3.

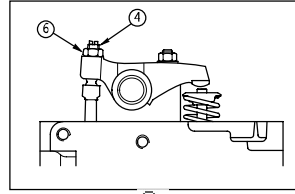
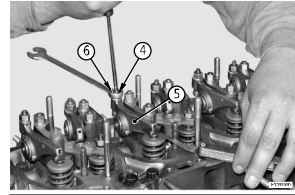
After adjustment, hold the adjusting screw (4) in position and tighten the locknut (6).



4.

Repeat steps 3 and 4 for the exhaust valve.

Repeat the clearance adjustment procedure for the valves of the other cylinders.



5.



Valve guides check and renewal

Valve guides check

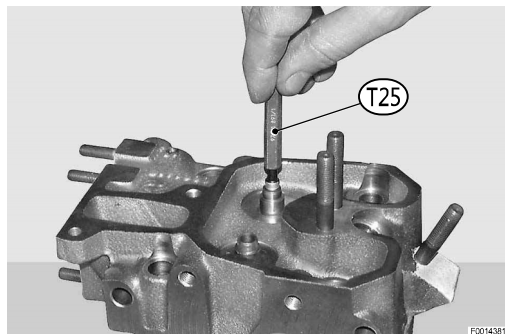


IMPORTANT

1. The operations described are for 2-valve engines.

Check the valve guides for possible signs of seizure.

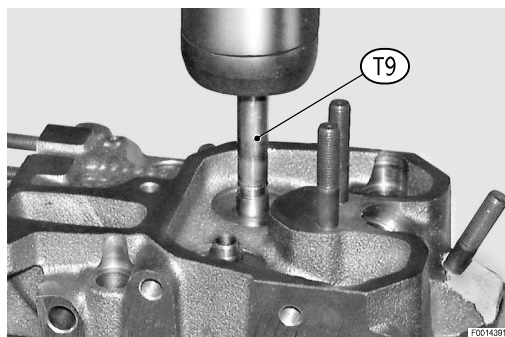
Check the diameter with bore gauge T25 (code 5.9030.020.0); if the NP side of the gauge is able to enter the guides, renew the valve guides.



- 2.

Renewal of the valve guides

Position the cylinder head under a press on a perforated plate; use driving tool T9 (code 5.9030.850.0) to remove the valve guides.



- 1.

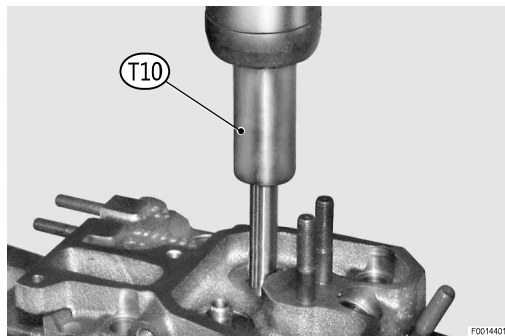
Clean the valve guide seats carefully, lubricate the guide external surfaces and fit the guides using driving tool T10 (code 5.9030.852.0).

- o Valve guide: engine oil



IMPORTANT

The insertion depth is determined by the tool at its full stroke position. (See "TECHNICAL DATA AND DIMENSIONS").



- 2.



Inspecting the rocker arms and rocker shafts

Measure the inside diameters of the rocker bushes and the diameters of the rocker shafts.

Use a dial bore gauge and a micrometer.

If the wear exceeds the tolerance limits indicated in "TECHNICAL DATA AND DIMENSIONS", renew the bushes and shafts.



NOTE

When renewing rocker bushes, take great care to ensure that oil holes and grooves are correctly oriented (see "TECHNICAL DATA AND DIMENSIONS").



Cylinder heads

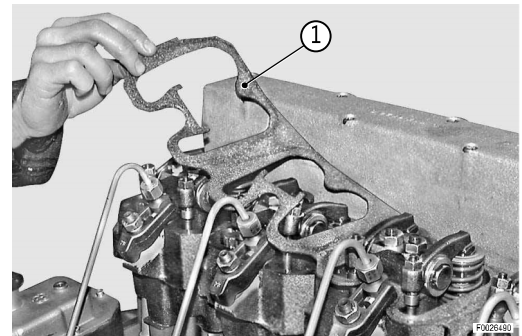
Removal

Remove the valve cover gasket (1).



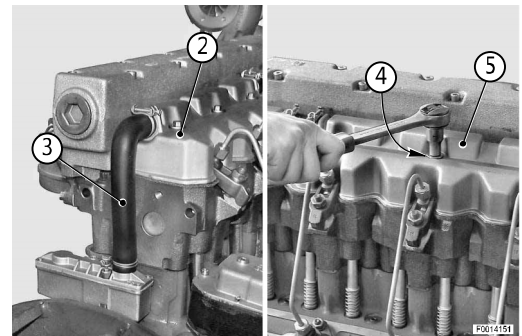
IMPORTANT

Renew the gasket every time it is disturbed.



1.

6-cylinder version with electronic actuator and some 3-4-cylinder versions
Disconnect oil mist separator connection pipe (3) from rear valve cover (2).
Remove retaining screws (4) of valve covers (2) and (5).



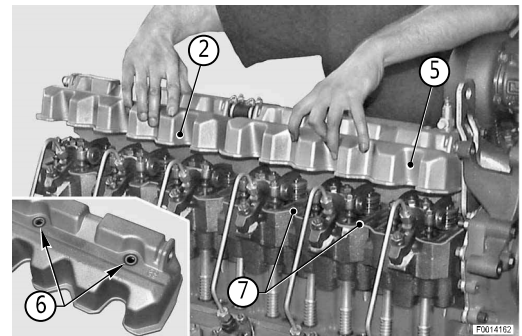
2.

6-cylinder, 2-valve version
Simultaneously lift both valve covers (2) and (5) and remove them.



IMPORTANT

Carefully inspect O-rings (6).



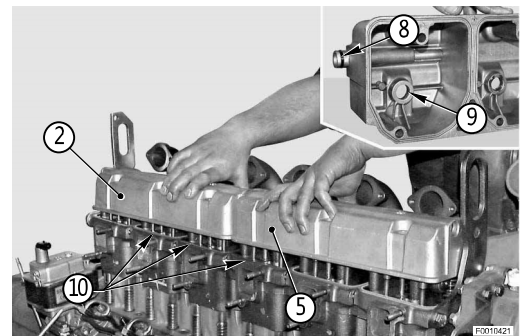
3.

6-cylinder, 3-valve version
Simultaneously lift both valve covers (2) and (5) and remove them.



IMPORTANT

Carefully inspect o-rings (8) and (9).



4.

WT - WTI versions

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