

▲ 1.1.1 disconnect battery clamp, negative pole

Explanation

Warning, battery clamp and negative terminal



- Do not disconnect the vehicle batteries until the DEF dosing system has completed the purge cycle.
- Before beginning to remove and/or disconnect any components, wait at least 5 minutes after the key switch is turned OFF for the aftertreatment DEF dosing system to purge DEF from the system.
- The purge cycle is an automatic process and does not require active intervention. The aftertreatment DEF dosing unit creates an audible pumping noise during the purging process.



- Electrical shock hazard: Never disconnect the battery clamp when the engine is running.
- Disconnecting the battery clamps while the engine is running may result in death, personal injury, or equipment damage from electrical arcing or damage to electronic components.
- Turn off the engine and place the ignition switch in the OFF position before disconnecting the battery clamps.
- Do not place any tools or other materials on top of or close to the batteries. This can cause a dangerous high-current short circuit and, in the worst case, a battery explosion. Keep all objects away from the battery terminals.
- Always break the contact between the battery clamp and the negative terminal before working on the vehicle. Working on a vehicle while the battery is connected may result in electrical injury or damage.
- Always disconnect the battery at the negative terminal when performing service procedures.



- Battery acid can cause chemical burns.
- If you come into contact with battery acid: flush your skin with water and/or apply baking soda or lime to help neutralize the acid.
- If battery acid comes into contact with the eyes, flush immediately with water and seek medical attention.
- Wear protective clothing when handling any part of the battery.

M024327 - 05.03.2010

▲ 1.1.6 remove assembly valve cover (Basic assy.)

Explanation

Warning, Opening Engine



- Clean the engine thoroughly before opening the engine or parts of it.
- Dirt or debris entering the engine damages the engine or may cause engine failure.
- Clean the entire engine or the engine compartment where the service will be performed.

M029318 - 07.28.2010

Removing Valve Cover Assembly

1. Loosen the attachment bolts, and remove the valve cover assembly.



Always replace the valve cover gasket.

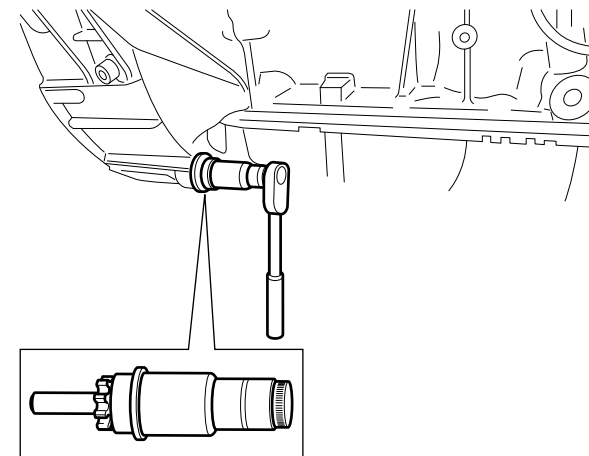
M024406 - 05.20.2010

- ▲ 1.1.8 check and adjust valve clearance (Basic assy.)

Explanation

Checking and adjusting valve clearance

1. Using special tool (1903018), turn the crankshaft clockwise as seen from the vibration damper end (this corresponds to the direction of rotation of the engine).



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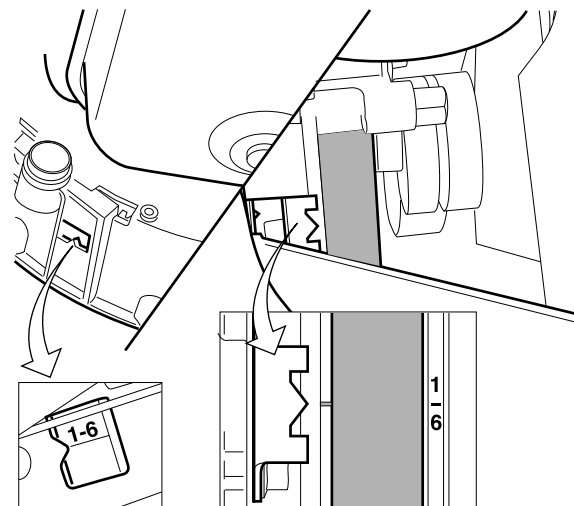


2. Crank the engine until the flywheel is on a cylinder mark, for

instance 1-6.



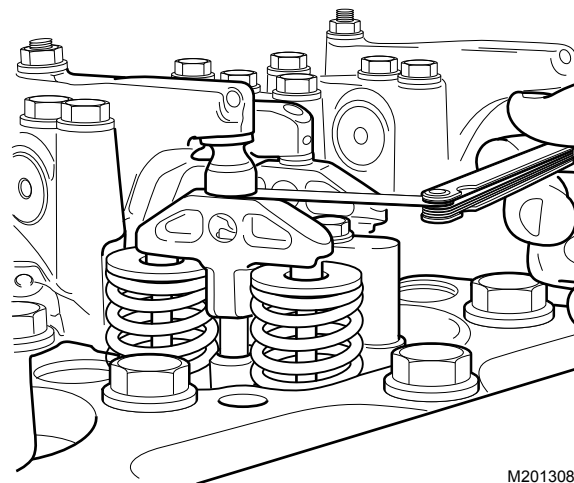
The positions of the pistons can also be read from the vibration damper.



M201436



3. Check in which cylinder all valves are closed, corresponding to the information on the cylinder mark. The valve clearance of this cylinder can be checked/adjusted.
4. Press down on the adjusting screw side of the rocker arm so that any oil present between the push rod and rocker arm is ejected, then measure the valve clearance.



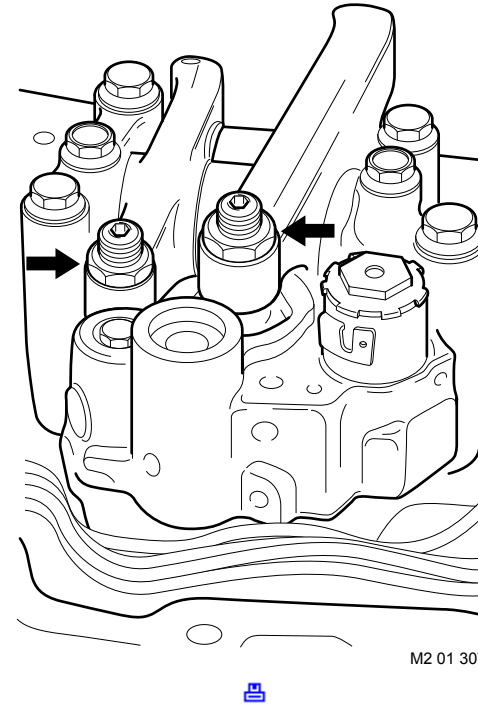
M201308-2



5. Adjust the valve clearance by loosening the lock nut and turning the adjusting screw in the correct direction.
6. By cranking the crankshaft 1/3 stroke each time, using special tool (1903018), the valves can be adjusted according to the injection sequence 1-5-3-6-2-4.



Mark on flywheel or vibration damper	Adjusting valves of cylinder
1-6	1 or 6
2-5	2 or 5
3-4	3 or 4



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M022926 - 02.26.2014

▲ 1.1.10 install assembly valve cover (Basic assy.)

Explanation

Installing valve cover



Always install a new valve cover gasket.

1. Clean the sealing surface of the cylinder head and the recess for the valve cover gasket in the valve cover.



Make sure that the sealing surface and recess are fully dry to prevent leakage.

Only when all the surfaces are dry, fit the gasket in the valve cover.

2. Fit the valve cover complete with valve cover gasket and attachment bolts.
3. Tighten the attachment bolts in the specified sequence and to the specified torque.

M024383 - 10.29.2012

▲ 1.1.15 connect battery clamp, negative pole

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