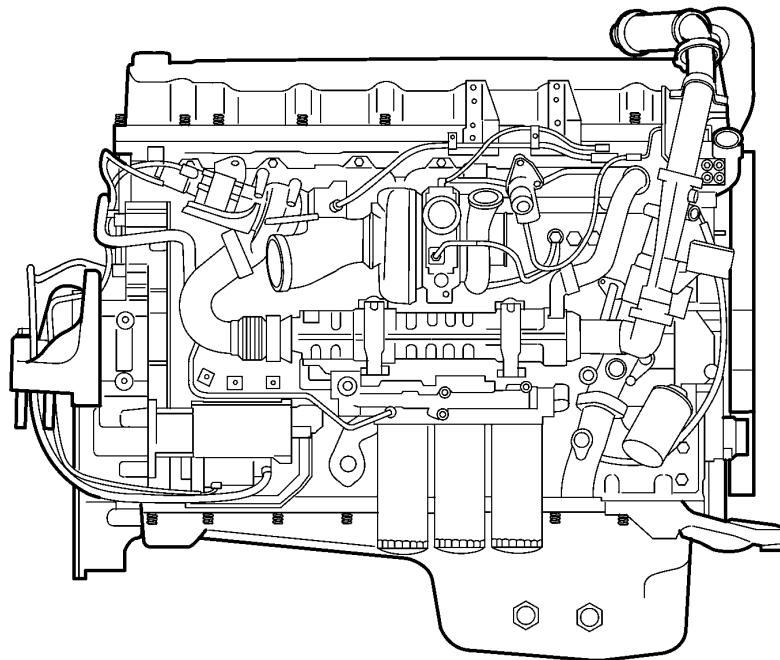


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Rocker Arm
Checking
D13F

Rocker Arm, Checking



W2005779

This information covers procedures for checking a rocker arm on a Volvo D13F engine.

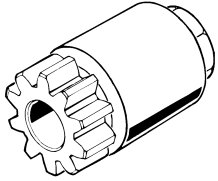
Contents

- "Special Tools" page 2
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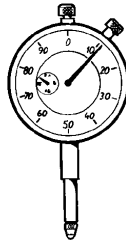
Tools

Special Tools

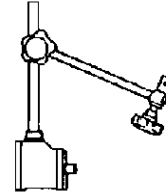
The following special tools are used to replace or repair components. The tools can be ordered from Volvo; please refer to the specified part number when ordering.



T0012612
88800014
Flywheel Turning Tool



T0010127
9989876
Dial Indicator



W0001790
9999696
Magnetic Stand

Service Procedures

2145-06-02-01

Rocker Arm, Checking

You must read and understand the precautions and guidelines in Service Information, group 20, "General Safety Practices, Engine" before performing these procedures. If you are not properly trained and certified in these procedures, ask your supervisor for training before you perform the procedures.



CAUTION

Make sure to follow all safety recommendations to ensure the engine does not start during this procedure.

Special tools: 88800014, 9999876, 9989696

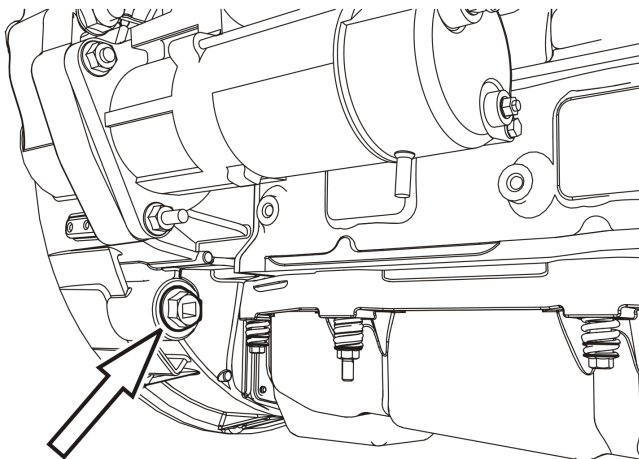
Rocker Arm Bushing

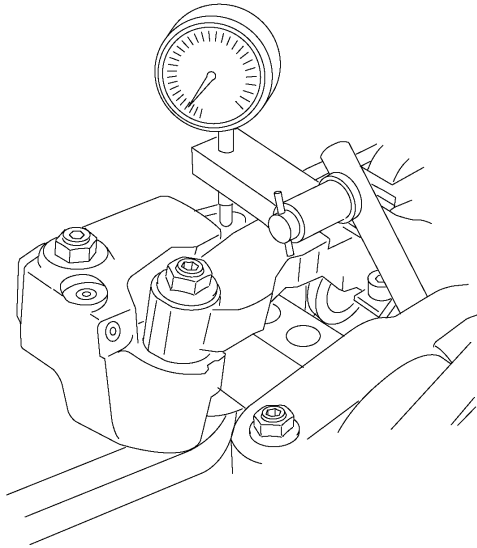
1

Install the flywheel turning tool and turn the engine until the camshaft is in a position where the rocker arm roller is on the base circle of the camshaft lobe.

Note: Make sure there is clearance between the rocker arm rollers and the camshaft for bushing and roller checks.

88800014





W2005938

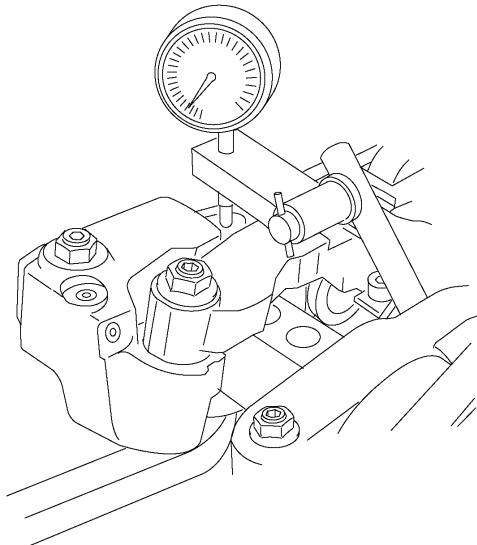
- 2**
Position the magnetic stand and dial indicator so that the tip of the indicator is on top of the rocker arm above the middle of the rocker arm shaft bushing area.

9999696, 9989876

- 3**
Push down on the rocker arm so that any oil film is forced out of the upper side of the rocker arm shaft.

- 4**
Set the dial indicator to zero.

- 5**
Position the pry bar directly under the rocker arm in the shaft area. Pry the rocker arm up and note the reading on the dial indicator. Maximum clearance between the rocker arm and shaft is 0.1 mm (0.0039 inch). If clearance is greater, replace the rocker arm and check the shaft for wear.



W2005938

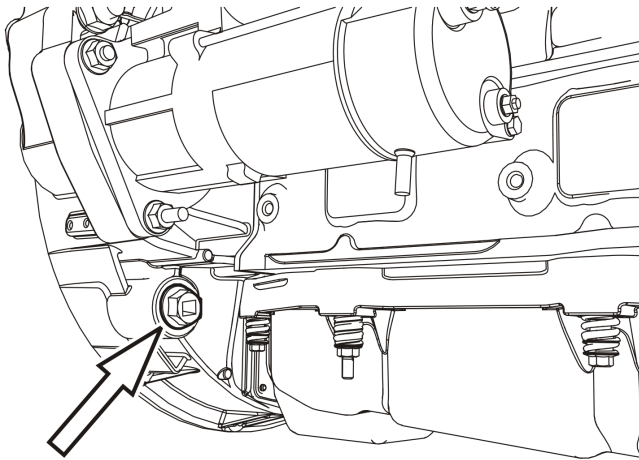
- 6**
Repeat the check on all other rocker arm bushings.

Rocker Arm Roller Bushing

7

Install the flywheel turning tool and turn the engine until the camshaft is in a position where the rocker arm roller is on the base circle of the camshaft lobe.

88800014



W0002368

8

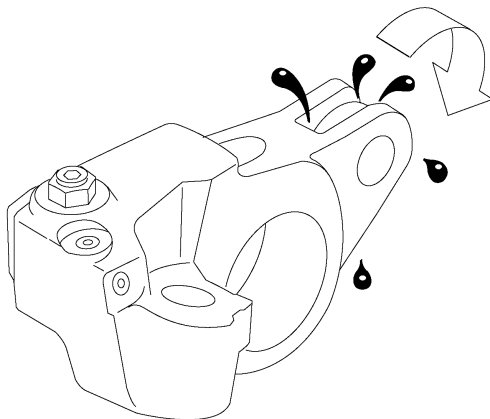
Make sure there is clearance between the rocker arm roller and the camshaft lobe.

Note: To check the injector, the rocker arm roller must be on the base circle of the camshaft lobe and the injector adjusting screw backed off (preload must be readjusted).

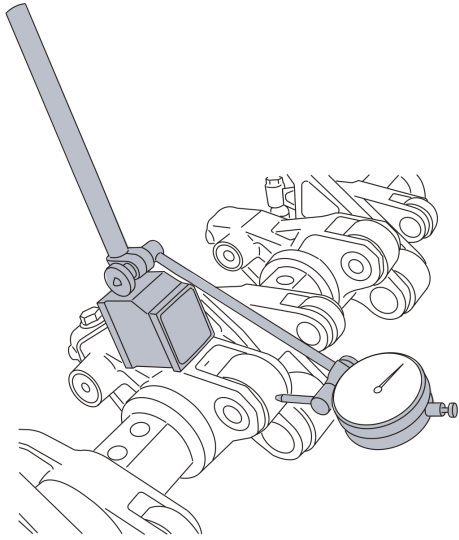
9

Rotate the roller a few turns so that the oil film between the roller bushing and shaft is forced out.

Note: If the roller jams, is sticky or rough, the rocker arm should be replaced.



W2005939



W2005326

10

Place the dial indicator in the magnetic stand as shown. Position the magnetic stand as level as possible on the rocker arm.

9999696, 9989876

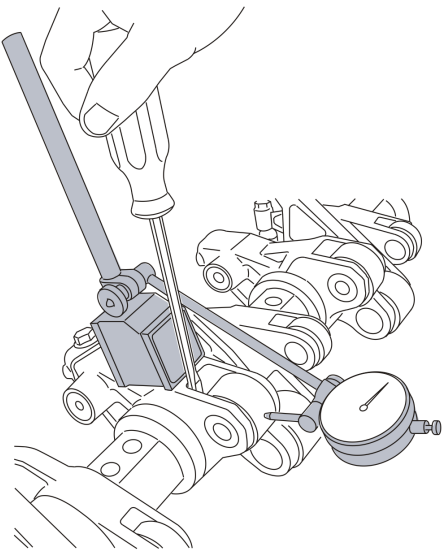
11

Adjust the tip of the dial indicator so that it is horizontal to the center of the roller. Zero the dial indicator.

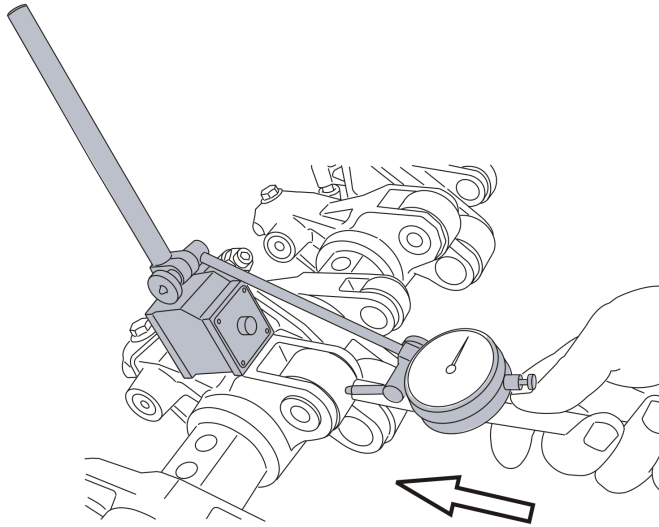
Note: Check that the tip of the dial indicator is pre-tensioned and can move in both directions.

12

Place a screwdriver between the rocker arm and roller. Press on the roller as far as possible and note the value on the dial indicator.



W2005317

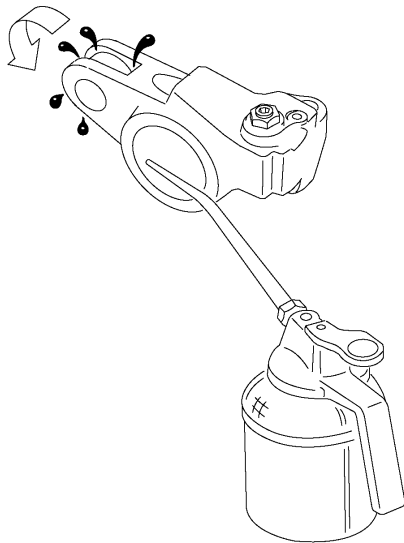


W2005318

13

Use a blunt object and press the roller in as far as possible. Note the reading on the dial indicator. Maximum clearance between the roller bushing and shaft is 0.1 mm (0.0039 inch). If the clearance is greater than this, replace the rocker arm.

Note: Do not damage the surface of the roller.



W2005940

14

When replacing a rocker arm, lubricate the new rocker arm roller bushing with clean engine oil. Use an oil can and insert the nozzle in the oil channel passage. Rotate the roller while lubricating and check that oil comes out on both sides of the roller.

15

Repeat the check on all other rocker arm roller bushings as necessary.