

This TSI Service Bulletin and others in Groups 21 and 33 replace TSI Service Manual 210–600, “Basic Engine, D12, D12A, D12B, D12C” (8.2000), publication no. PV776–TSP142853.

Date	Group	No.	Supp.	Page
11.2001	214	008		1(5)

Rocker Arm D12, D12A, D12B, D12C

Rocker Arm

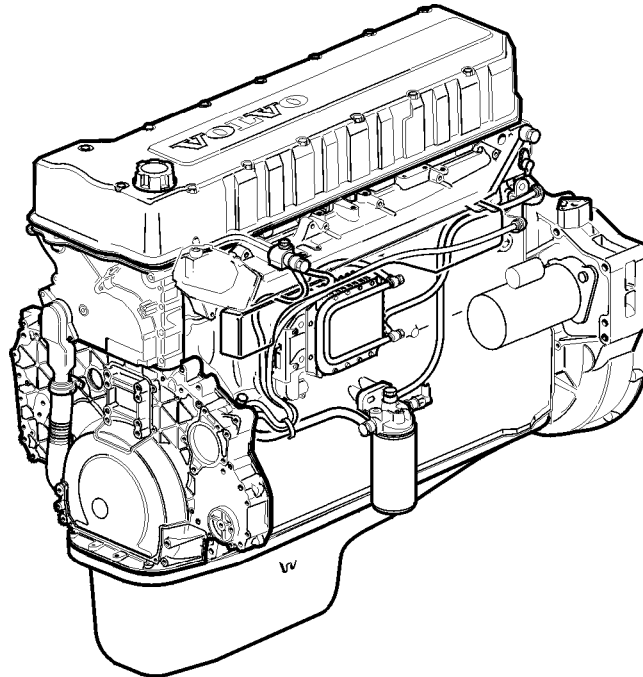


Fig. 1: Volvo D12C engine

W2003244

This information covers procedures for checking and replacing the rocker arm on VOLVO D12, D12A, D12B, and D12C engines.

Contents

- [“Special Tools” page 2](#)
- [“Rocker Arm, Replacement” page 5](#)
- [“Rocker Arm, Checking” page 3](#)

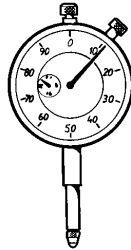
Tools

Special Tools

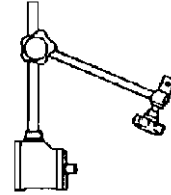
The following special tools are used to replace or repair components. The tools can be ordered from Volvo; please refer to the specified part number when ordering.



9996956
Flywheel turning tool



998 9876
Dial test indicator



9999696
Magnetic stand

Service Procedures

2145-06-02-01 Rocker Arm, Checking

WARNING

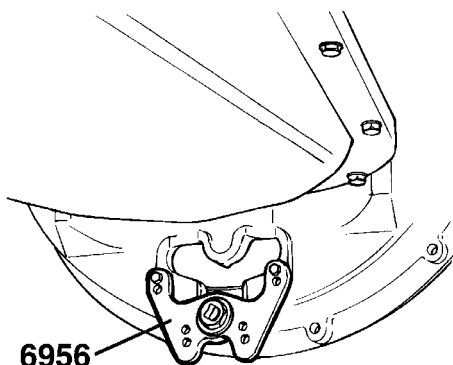
Always wear appropriate eye protection to prevent the risk of eye injury due to contact with engine debris or fluids.

CAUTION

Observe the greatest possible cleanliness when working on the cylinder head. Dirt particles in the fuel and oil channels can cause the unit injectors to malfunction, and can cause the VEB (if equipped) to fail.

Part no.: 9996956, 9999696, 9989876

1



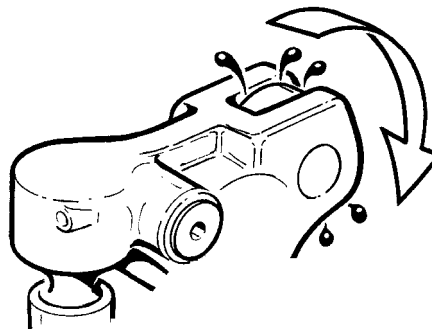
Install flywheel turning tool 9996956 and turn the engine until the camshaft is in a position where the rocker arm's roller is not influenced by any of the camshaft's cams (basic circle).

2

Check that there is clearance between the rocker arm's roller and the camshaft.

Note: To check the injector, the rocker arm cam must be on (basic circle) and the injector adjusting screw backed off (preload will have to be readjusted).

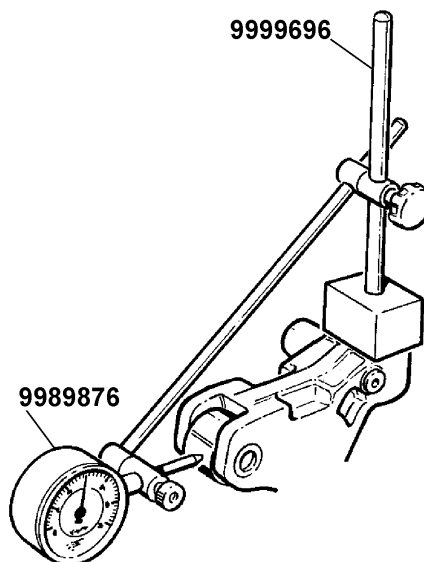
3



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

Note: If the roller jams, the rocker arm should be replaced.

4



Place dial test indicator 9989876 in magnetic stand 9999696. Place the magnetic stand as level as possible on the rocker arm.

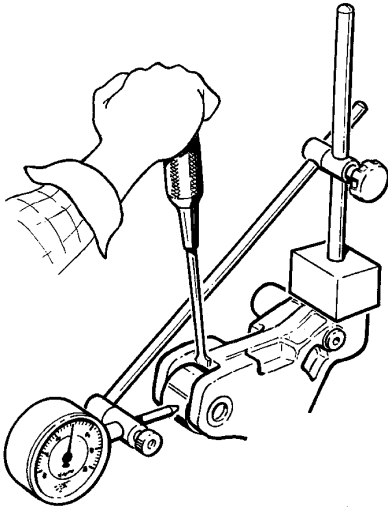
9999696
9989876

5

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

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

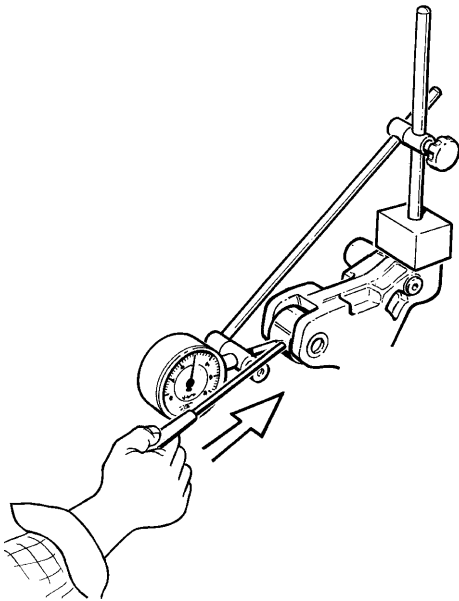
6



T2007950

Place a screwdriver between the rocker arm and roller. Press out the roller as far as possible and read off the value on the dial test indicator.

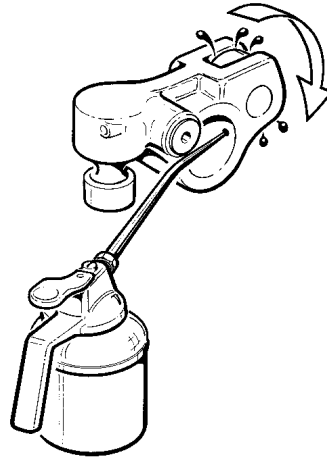
7



T2007951

Use a blunt object and press in the roller as far as possible. Read off the reading on the dial test indicator. Max. permitted clearance between the bushing and shaft is **0.1 mm**. If the clearance is greater than this the rocker arm should be replaced.

8



T2007792

When replacing a rocker arm lubricate the new rocker arm's bearing with engine oil. Use an oil can and insert the nozzle in the oil channel's hole. Rotate the roller while injecting the oil and check that the oil comes out on both sides of the roller.

2145-03-02-01 Rocker Arm, Replacement



CAUTION

Observe the greatest possible cleanliness when working on the cylinder head. Dirt particles in the fuel and oil channels can cause the unit injectors to malfunction, and can cause the VEB (if equipped) to fail.

The following components can be replaced: rocker arm shaft, expansion plugs, complete rocker arms and adjusting screws.

1

Remove the rocker arms from the rocker arm shaft.

2

Clean the parts, paying special attention to the oil channels in the bearing housing and the oil holes for the rocker arm shaft and rocker arms.

3

Check the wear on the rocker arm shaft and ball screws. The threads should be undamaged on ball screws and lock nuts.

Note: If a rocker arm has an overly worn bushing, replace the complete rocker arm.

4

Lubricate the rocker arm shaft with engine oil and replace the rocker arms.

Important: It is extremely important that the rocker arms and rocker arm shaft are carefully cleaned and oiled with engine oil before rocker arms and shafts are installed together.