

Preparatory Steps

⚠ WARNING ⚠

Batteries can emit explosive gases. To reduce the possibility of personal injury, always ventilate the compartment before servicing the batteries. To reduce the possibility of arcing, remove the negative (-) battery cable first and attach the negative (-) battery cable last.

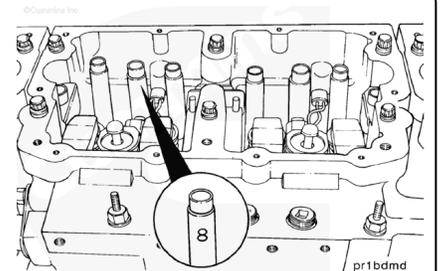


- Disconnect the batteries. Refer to the OEM service manual.
- Remove the rocker lever covers. Refer to Procedure 003-011 in Section 3.
(/qs3/pubsys2/xml/en/procedures/09/09-003-011.html)
- Remove the rocker lever assemblies. Refer to Procedure 003-009 in Section 3.
(/qs3/pubsys2/xml/en/procedures/09/09-003-009.html)

Remove

Remove the push rods.

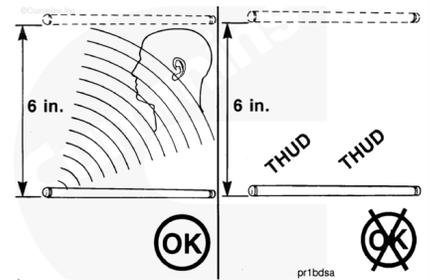
Note : To prevent increased wear, mark each push rod as it is removed so it can be installed back in its original location.



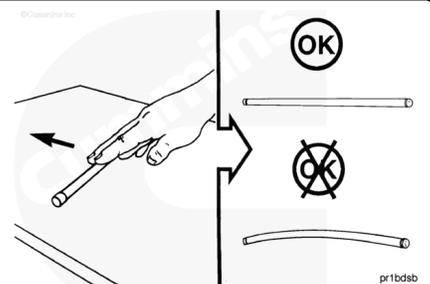
Inspect for Reuse

Inspect for engine oil in the push rods as follows:

- Hold the push rod horizontally and drop it from a height of 6 inches onto a concrete floor or a metal surface.
- The push rod can be used if a ringing sound is heard.
- If a dull (or non-ringing) sound is heard, the push rod contains engine oil and **must** be discarded.



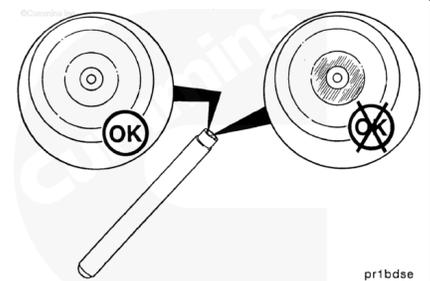
Inspect the straightness of the push rod by rolling it on a level bench. Replace the push rod if it is bent. Do **not** use a bent push rod.



Inspect the socket end of the push rod for uneven wear, scratches, or separation of the insert from the tube.

If a worn push rod is found, the mating adjusting screw **must** also be replaced.

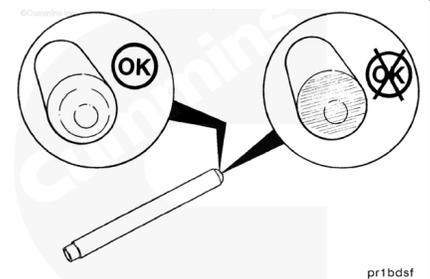
When parallel scratches are found in the contact area, the push rods **must** be replaced.



Inspect the ball end of the push rod.

The contact area **must** show a smooth seating pattern.

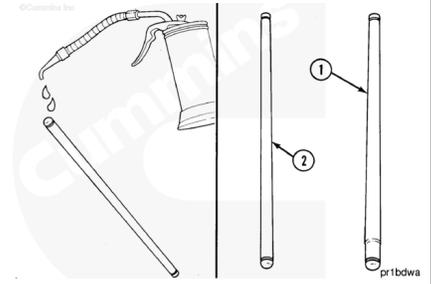
If the ball end of the push rod has parallel grooves and scratches or a nipple in the center, the push rod **must** be replaced. If a worn push rod is found, the mating cam follower socket **must** be replaced. Refer to Procedure 004-001 in Section 4. (</qs3/pubsys2/xml/en/procedures/09/09-004-001-tr.html>)



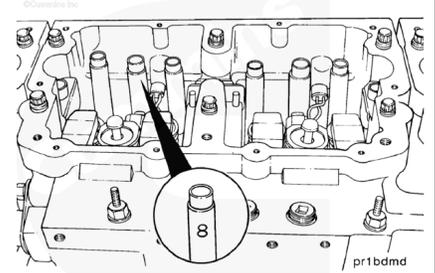
Install

Use clean 15W-40 oil to lubricate the ball end of the push rods.

Note : The injector push rods (1) are larger in diameter than the valve push rods (2).

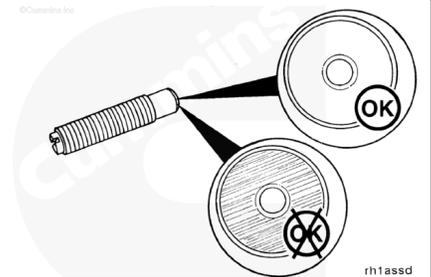


Install the push rods into the corresponding numbered location.



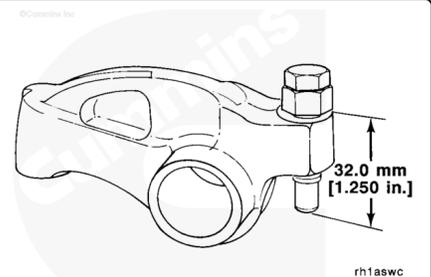
Inspect the adjusting screw. The contact area **must** be smooth with an even seating pattern.

If parallel scratches are found in the contact area, the adjusting screw **must** be replaced. This condition is normally found with worn push rods that will also require replacement.



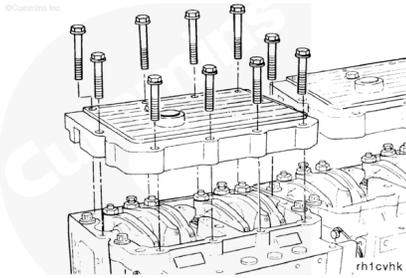
⚠ CAUTION ⚠

If the adjusting screws protrude beyond the maximum listed below, the push rods can be damaged when the housing capscrews are tightened. Do not attempt to install the rocker lever shaft assemblies again without resetting the lash.



Loosen the rocker lever adjusting screws so there is a maximum of 32.0 mm [1.25 in] from the top surface of the lever and the ball end of the adjusting screw.

Install the rocker lever cover gasket. The rocker lever cover gaskets can be used again if **not** damaged.



Finishing Steps

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- Install the rocker lever assemblies. Refer to Procedure 003-009 in Section 3. (</qs3/pubsys2/xml/en/procedures/09/09-003-009-tr.html>)
- Adjust the valves and the injectors. Refer to Procedure 003-004 in Section 3. (</qs3/pubsys2/xml/en/procedures/09/09-003-004-tr.html>)
- Install the rocker lever covers. Refer to Procedure 003-011 in Section 3. (</qs3/pubsys2/xml/en/procedures/09/09-003-011-tr.html>)
- Connect the batteries. Refer to the OEM service manual.