

**Valve Clearance Adjustment Tool 303-693 –
3.0 L V6 Engine –
Procedure**MODEL 2000 MY-ON
S-TYPE

VIN L00001-ON

Issue:

Special Tool 303-693 (Illustration 1) provides a method to depress the tappet buckets on the 3.0 Liter V6 engine, allowing the valve clearance adjustment shims to be removed and reinstalled with the camshafts in place.

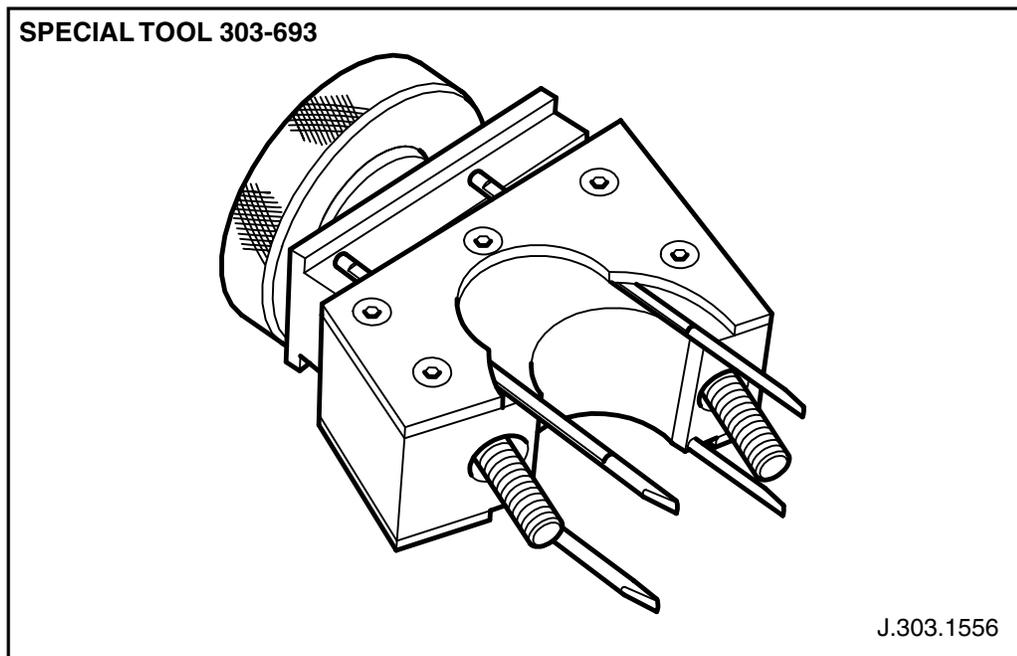


ILLUSTRATION 1

Action:**REMOVING SHIMS**

1. Use paper wipers or lint-free cloths to soak up residual oil surrounding the tappet buckets.
2. Rotate the engine until a pair of camshaft lobes is 180° away from the tappet buckets.
3. Remove the adjacent camshaft bearing cap.

SPECIAL TOOL 303-693 INSTALLED ON ENGINE

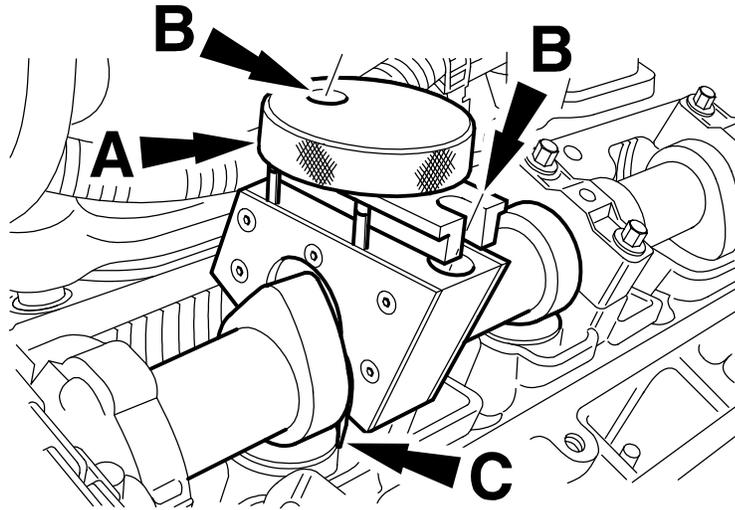


ILLUSTRATION 2

4. Unscrew the thumbwheel ('A', Illustration 2) of the special tool, so that the projecting fingers are at their highest position.
5. Position the special tool in place of the bearing cap. Ensure that the cam lobe does not interfere with the recess in the side plate of the tool. Start but do not fully tighten the two retaining screws ('B', Illustration 2), using a 5 mm hexagon drive key. Rotate the thumbwheel as necessary for access to the upper retaining screw.
6. Ensure that the projecting fingers at 'C', Illustration 2, are correctly aligned with the buckets, so that the cutouts on each finger fit over the edges of the buckets. If necessary, use a mirror to assist viewing.
7. Tighten the securing screws until the tool body is in light contact with the cylinder head.
8. Partly screw down the thumbwheel to depress the fingers against two adjacent tappet buckets. Again check for correct alignment of the fingers with the tappet buckets. Then fully tighten the thumbwheel.

⚠ Warning: The following operations involve the use of compressed air. Always wear suitable eye protection.

9. Surround the working area with clean cloths, to retain any tappet shim that may be blown clear.
10. Use Special Tool 303-590 (Air gun with fan-shaped nozzle) aimed at the edges of the exposed tappet shims, to dislodge the shims from the tappet buckets.
11. Collect the removed shims, ensuring that each shim can be identified to the tappet from which it was removed.

12. Wipe the shims clean of oil. Check the shim thickness and select alternative shims to achieve the required valve clearances.

TO INSTALL SHIMS

1. Ensure that each replacement shim is fully seated in the recess in the appropriate tappet. Unscrew the thumbwheel to release the tappet buckets.
2. Release the retaining screws, remove the special tool, and reinstall the camshaft bearing cap.
Torque wrench setting: 10 Nm.
3. Check that the valve clearances are now correct.
Intake valve clearance: 0.175 - 0.225 mm (0.007 - 0.008 inch)
Exhaust valve clearance: 0.325 - 0.375 mm (0.013 - 0.014 inch)
4. Lubricate the cam lobes, where the shims have been replaced, with engine oil before turning the engine to adjust the next valve clearances by the same process.

Note: Ensure that only **one** camshaft bearing cap is removed from the cylinder head at any time. Reinstall and tighten the bearing cap before removing the next one.

Warranty Information:

This technical bulletin is issued for information only.