BMW 6 Cylinder M52TU, M56, and M54 Dual / Twin / Double Vanos Rattle Repair Fix Process Instructions

by **x8rltd** on October 14, 2014

Intro: BMW 6 Cylinder M52TU, M56, and M54 Dual / Twin / Double Vanos Rattle Repair Fix Process Instructions

It is common for the Vanos unit to develop a rattle which can often be heard within the vehicles cabin. This rattle is caused by wear in the variable valve timing gears. This wear allows axial play and causes components to rattle. Removing the Vanos pistons axial play reduces this rattle significantly.

Our rattle repair components allow replacement of the problematic bearing components within the Vanos piston that cause axial play and rattling. Our improved design bearing rings decease the rattle significantly.

BMW 6 cylinder vehicles 1993-2006. Compatible with BMW 6-cylinder engines M52TU, M56, and M54.

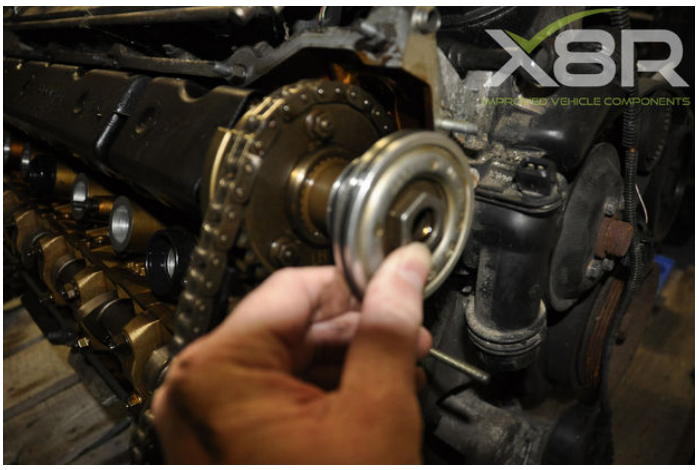
For more info please visit our website.

Step 1: Inspect axial play

This repair is carried out alongside our piston seal repair, please view our other instruction guides for the seal repair, the bearing rings should be installed before carrying out the seal repair.

Fit piston to intake splined shaft with piston mounting bolt (remember piston mounting bolt is left hand thread)

Inspect piston axial play. Hold shaft and try to rock piston and note in/out movement. This is axial play this is what our kit will remedy, please do not confuse with radial play (side to side movement).



Step 2: Remove piston bolt

Remove piston and insert in to vise with soft jaws. Please note using vise without soft jaws WILL damage piston beyond repair. Only use 100% nylon soft jaws.

Loosen 24mm piston bolt with impact wrench, do not push down on wrench and use in lowest setting. Once bolt is removed loosen vice grip.

Step 3: Remove bearing top washer

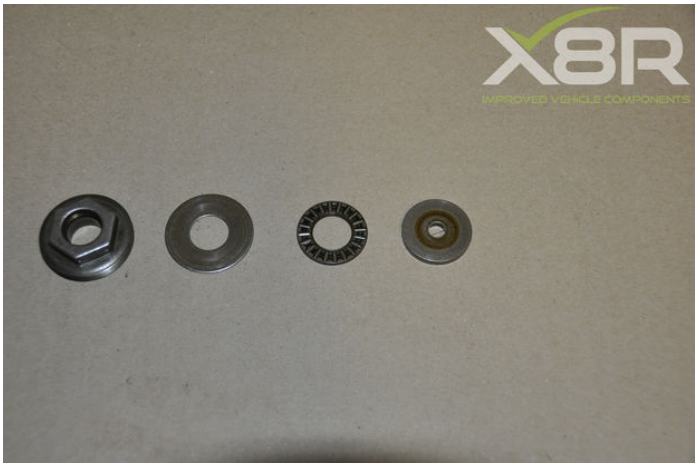
Remove bearing top washer.

Step 4: Remove top bearing

Remove top bearing.

Step 5: Remove center washer

Remove center washer.



Step 6: Remove bottom bearing

Remove bottom bearing.

Step 7: Remove bearing outer ring

Remove bearing outer ring.

Step 8: Remove bottom washer

Remove bottom washer.

Step 9: Reinstall components with new outer ring

Clean all bearing components and interior of piston (brake cleaner)

Reinstall components in order left to right remembering to install our new outer ring.

Step 10: Refit piston bolt

Clamp piston in vice with soft jaws. Refit piston bolt.

Step 11: Refit piston and test

Refit piston to intake splined shaft with piston mounting bolt (remember piston mounting bolt is left hand thread). Inspect piston axial play. Hold shaft and try to rock piston and note in/out movement.

If piston cannot be rotated or doesn't rotate easily axial fit is too tight and adjustment is needed. Disassemble piston again and locate bearing center washer . Place 400 grade sandpaper on flat surface and place washer flat on this. Push center washer up and down lightly for 10 seconds and repeat on other side. Reassemble piston and check axial movement, repeat process if necessary.

If piston rocks and there is in out movement axial play is still an issue and adjustment is needed. Disassemble piston again and locate bearing ring. Place 400 grade sandpaper on flat surface and place bearing ring flat on this. Push ring up and down lightly for 10 seconds and repeat on other side. Reassemble piston and check axial movement, repeat process if necessary.

Once fit is correct spray oil in to piston before refitting.

Repeat process for second piston.