Service Bulletin

Mazda North American Operations
Irvine, CA 92618-2922

Subject:	**Bulletin No:** 01-042/09
SERVICE POINTS FOR ENGINE REPLACEMENT DUE TO ENGINE NOISE	**Last Issued:** 09/22/2009

APPLICABLE MODEL(S)/VINS

2004-2009 Mazda3

2006-2009 Mazda5

2003-2008 Mazda6 with L3 Engine

2006-2009 MX-5

DESCRIPTION

This bulletin provides guidelines for repairing internal engine noise issues (such as Knocking, Ticking, Tapping, Rattling, Grinding, Squealing, Squeaking, Thumping, Whining, Creaking, Popping, Clicking, Roaring, Loud, High-pitched etc). When engine replacement is necessary, use short block or long block according to following guideline. Do not replace long block assembly if short block assembly or cylinder head assembly will resolve concern.

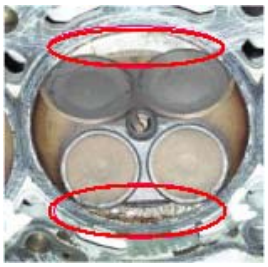
Guideline for Short Engine/Cylinder Head Replacement

<table>
<tr><td colspan="3" rowspan="3"></td><td colspan="2">Short Engine Assembly</td></tr>
<tr><td colspan="2">Is any condition below observed?
– Visible Cylinder liner damage
– Visible damage to connecting rod bearing
– Visible damage to main bearing
– Piston top contact damage</td></tr>
<tr><td>Yes, short engine is No Good</td><td>No, short engine is OK</td></tr>
<tr><td rowspan="2">Cylinder Head Assembly</td><td rowspan="2">Is any condition below observed?
– Cylinder head contact damage
– Cam shaft journal damage</td><td>Yes, C/Head Assy. is No Good</td><td>Contact MASH for authorization to replace long block assembly</td><td>Contact MASH for authorization to replace cylinder head assembly</td></tr>
<tr><td>No, C/Head Assy. is OK</td><td>Contact MASH for authorization to replace short block assembly</td><td>No need to replace engine (Engine itself seems OK, or can be fixed by adjustment / small parts replacement)</td></tr>
</table>

The following service points will assist you in determining correct repair.

SERVICE POINTS TO DETERMINE PARTS REUSEABILITY

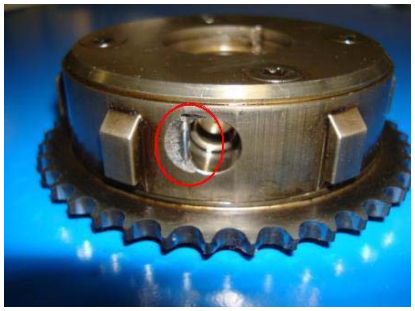
1. Cylinder Head
   Check for contact mark between the cylinder head (A) and piston (B).
   Check for carbon peeling or valve to piston interference.
   - If OK, flush cylinder head (with valves assembled) with kerosene and blow oil passages with regulated shop air.
   - If no good, contact MASH for authorization to replace cylinder head assembly and related damaged components.

	OK	No Good (Carbon peeling or contact mark due to interference with piston)	
A			
B			

2. Oil Control Valve Filter
   Check for any visual damage.
   - If OK, remove foreign material and clean.
   - If no good, replace.
3. Oil Pump
   Check for any unusual resistance felt when turning the oil pump by finger.
   - If OK, Remove foreign material and clean.
   - If no good, replace.
4. Timing Chain and Oil Pump Chain
   Though Workshop Manual suggests reusing, replace both chains because there is a possibility that foreign material may get wedged into links.
   - Replace

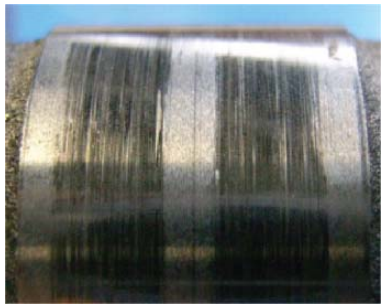
5. Variable Valve Timing Actuator (OCV)
   Check for Damage or cracks near lock pin stopper. Check for a locked VVT at the most retarded position (Refer to TSB 01-002/08).
   - If OK, Remove foreign material and clean.
   - If no good, replace.

   NOTE: If piece of VVT is broken off, locate piece in oil pan or chain area.

OK	No Good (Broken piece)	
		

6. Chain Tensioner
   Check for any visual damage.
   - If OK, remove foreign material and clean.
   - If no good, replace.
7. Oil Filter
   Always replace with any internal engine repair.
   - Replace
8. Oil Filter Body
   Check for any visual damage.
   - If OK, clean and blow oil passages with regulated shop air.
   - If no good, replace.
9. Oil Strainer
   Check for any visual damage.
   - If OK, clean and blow oil passages with regulated shop air.
   - If no good, replace.
10. Oil Pan
    Check for any visual damage.
    - If OK, clean to reuse.
    - If no good, replace.

11. Cam Shaft (journal)
    Check for any visual damage. Cam surface should be smooth.
    - If OK, clean to reuse.
    - If no good, contact MASH for authorization to replace cylinder head assembly and camshafts.

OK (Smooth surface)	No Good (Rough surface)	
		

12. Cylinder Head
    Check for any visual damage. Surface should be smooth.
    - If OK, clean to reuse.
    - If no good, contact MASH for authorization to replace cylinder head assembly and camshafts.

OK (Smooth surface)	No Good (Rough surface)