

TT270 – October 4, 2006

V-Rod Camshaft Surface Inspection Guidelines

Due to calls from the field concerning V-Rod cam lobe surface questions we have developed guidelines to help determine whether to replace the cams or return them to use.

Please be aware these guidelines are in the 2007 V-Rod Service Manual on page 3-28. These guidelines can be used on all model year V-Rod motorcycles.

A copy of these guidelines is on page two of this Tech Tip for your convenience.

CAMSHAFT INSPECTION

During a normal engine rebuild, camshafts should be replaced, however if engine is low mileage and apart for another reason, be sure to inspect camshafts for wear. The following details different types of cam manufacturing and wear to be considered during inspection VRSC camshafts.

NOTE

It is not necessary to remove camshafts for this inspection. Camshafts are removed for photo-clarity.

Lobe Surface Finish

There are two styles of surface finish found on VRSC camshafts. The first is called *camground* which can be seen in [Figure 3-26](#). This lobe appears very smooth. The second finish is called *micro-stoned* which can be seen in [Figure 3-27](#). This lobe will have horizontal finish marks on the lobes from the finishing stone used in the manufacturing process. Both are acceptable finishes on VRSC camshaft lobes.

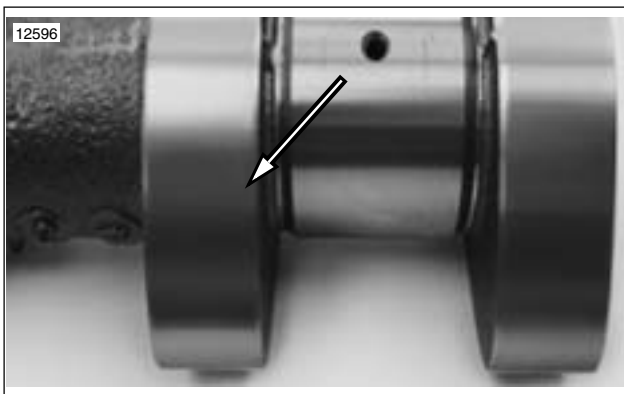


Figure 3-26. Camground Camshaft Lobes

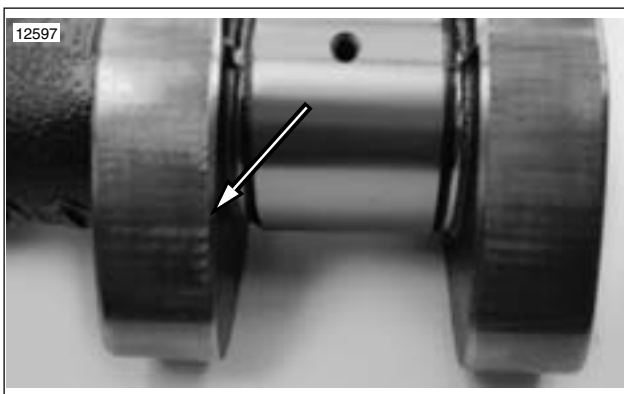


Figure 3-27. Micro-Stoned Camshaft Lobes

Camshaft Spalling

Camshaft spalling can occur on either the heel, toe or ramp of the camshaft lobe. If within the following guidelines, the spalling is considered within specification.

1. See [Figure 3-28](#). This figure shows camshaft spalling within and acceptable specification on the toe of the camshaft lobe.
2. See [Figure 3-29](#). This camshaft shows spalling on the camshaft heel at an unacceptable level as the spalling extends across the entire camshaft lobe.

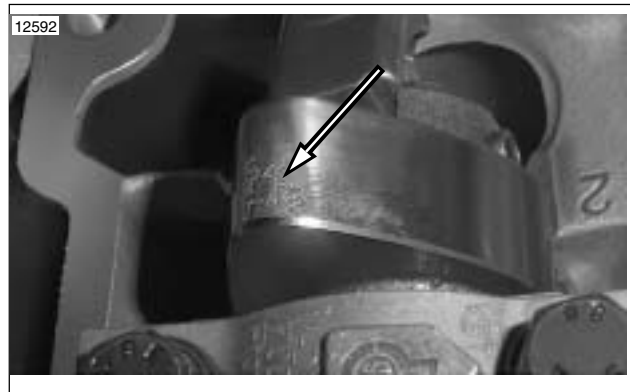


Figure 3-28. Camshaft Toe Spalling

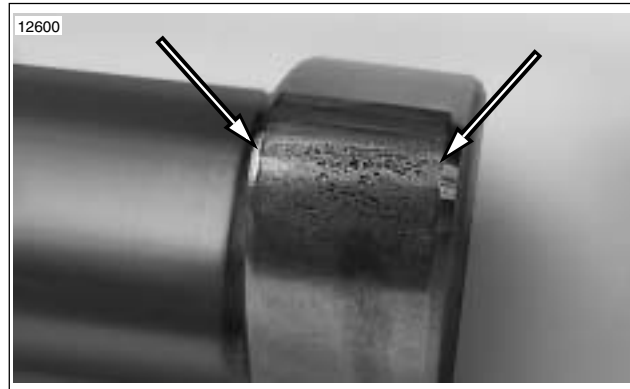


Figure 3-29. Camshaft Heel Spalling

NOTE

If camshaft lobe exhibits spalling that extends fully across the width of the camshaft lobe or extends past 15 mm beyond the toe of the camshaft lobe in either direction of camshaft travel, replace camshaft.

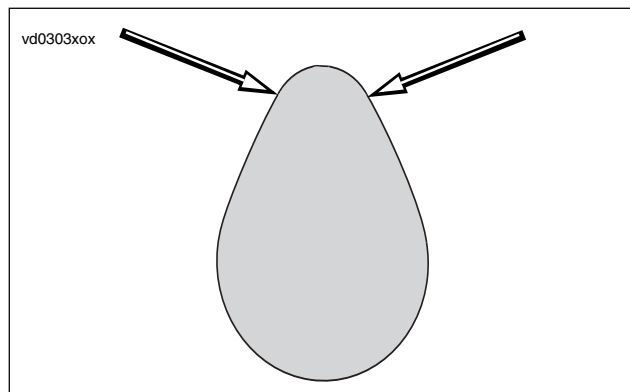


Figure 3-30. Cam Lobe (typical) showing 15 mm from toe of camshaft lobe on each side of lobe