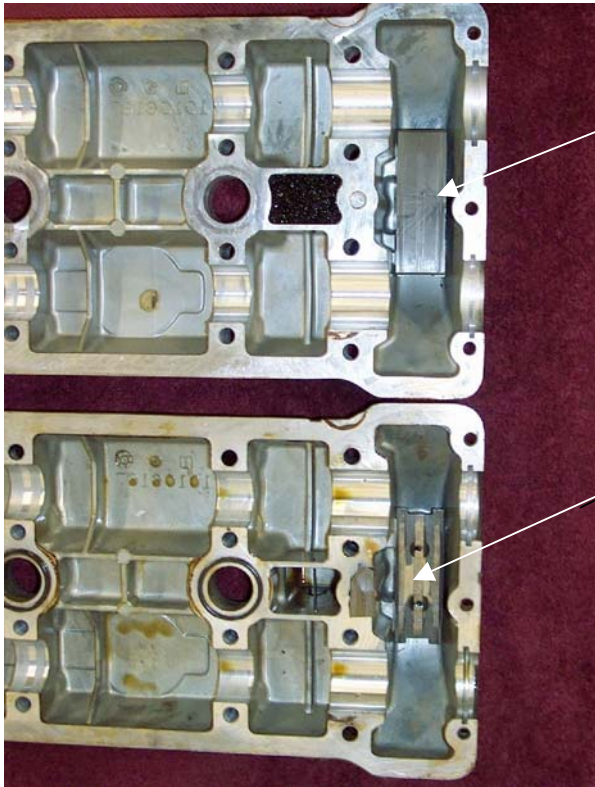


Upper Camshaft Chain Guide Facing Failures

Marc Haibeck

In the past year I have encountered seven failures of upper secondary chain guide facings. This is the plastic strip that is located in the top of the camshaft cover above the sprockets. Three failures were discovered when camshaft covers were removed for service unrelated to the camshaft drive. Three more were found during engine maintenance inspections. One made itself known when a chain failed.

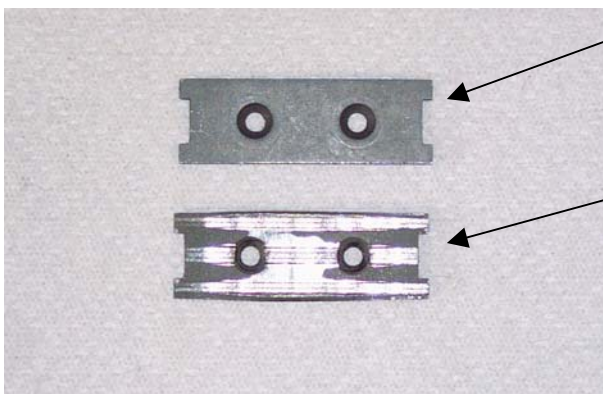


This is the plastic guide facing. It clips onto a metal holder strip. It shows normal wear from the chain's occasional contact with it.

Here the guide facing has detached and the chain has been making abrasive contact with the metal holder strip. Note the grooves that are also cut into the two black fasteners.

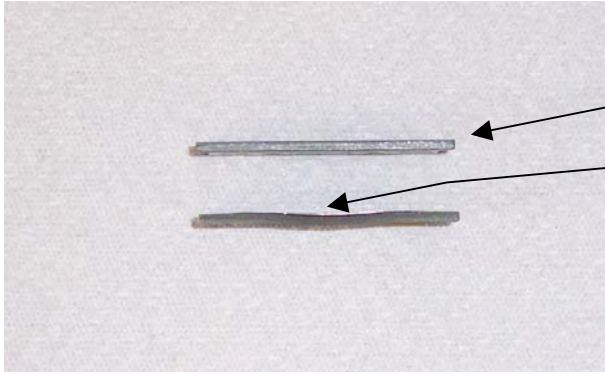
The facing is normally located about 3 mm above the top of the chain. A major problem occurs when the facing is not present. The space above the chain is about 8 mm which is approximately the thickness of the chain. Then the chain can snag in the gap and break.

After the tab breaks off, for a short time, the facing will float around on top of the chain. It may be observed hanging off toward the front of the engine. If the engine continues to be run the facing will get abraded by the chain, or the chain can get stuck in the space between the tops of the sprockets and the cover. With more operation the chain may tear the holder off of the camshaft cover, it can go into mesh with the sprockets and break the chain.



This is the normal look of the facing holder.

This is a holder that ran without the facing.



This is a side view of the holders shown above.

The normal one is straight.

The one that ran without the facing has deformed in the center between the fasteners due to the abrasive contact and high pressure. The chain is even more likely to get captured in this cupped area.

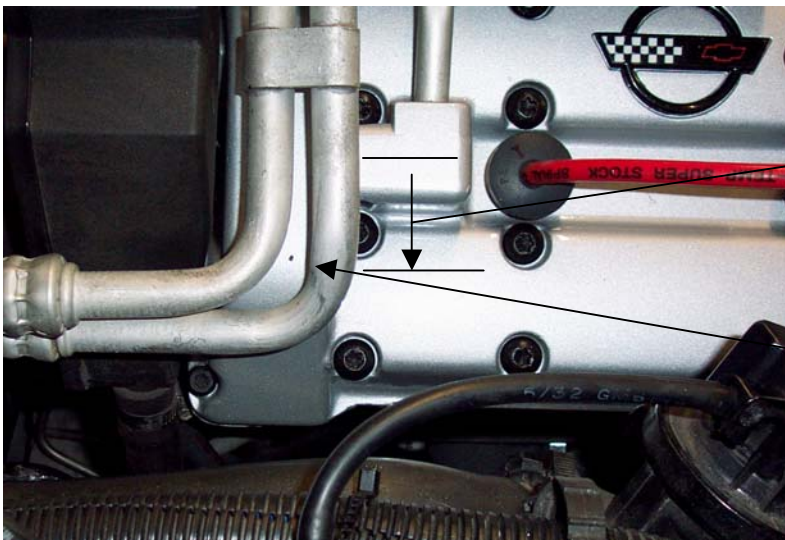
In four of the seven cases described at the beginning of this article, only the right facing failed. In two cases, when we found the right facing missing, an inspection hole was drilled in the left cover and we found that one was also missing. In the seventh case the car came in with the broken chain.

The right facing is easy to observe, it can be seen under the oil filler cap. Normally the top edge of the facing's retainer tab can be seen.



Plastic retainer tab.

The left facing can be inspected by drilling a .161" hole and inserting a small lamp into the hole. The hole should be located 36 mm below the centerline of the camshaft cover.



36 mm below the centerline of the camshaft cover.

Drill here, where the dot is marked.



Number 7219 12 volt lamp.

Fill the hole with a 1 1/64" self tapping screw with a dab of sealer.

The facing is GM part number 10110933. It has been discontinued by GM.
I manufacture a replacement part.