



Beta
motorcycles

Service Tech Tip

Cam Chain Tensioner Update

Part # AB-14001

2010-2011 RR and RS Models

We have created a kit to update the 2010 and 2011 RR/RS model's cam chain tensioner to the 2012 design. This new style cam chain tensioner is quieter than the earlier model especially during cold start-ups.

This kit consists of a new tensioner assembly, rear chain guide, oil pump cover plate, oil spray pipe, ignition cover gasket, oil filter, and lower chain guide. The kit can be installed in about one hour. All parts should be replaced as a kit.



This is an update kit designed to enhance the sound of the 2010-2011 engines and is not covered under the Beta warranty.

Please note: 2011 350 RR models already have these parts installed.

We have included instructions to change out these parts on the following pages.

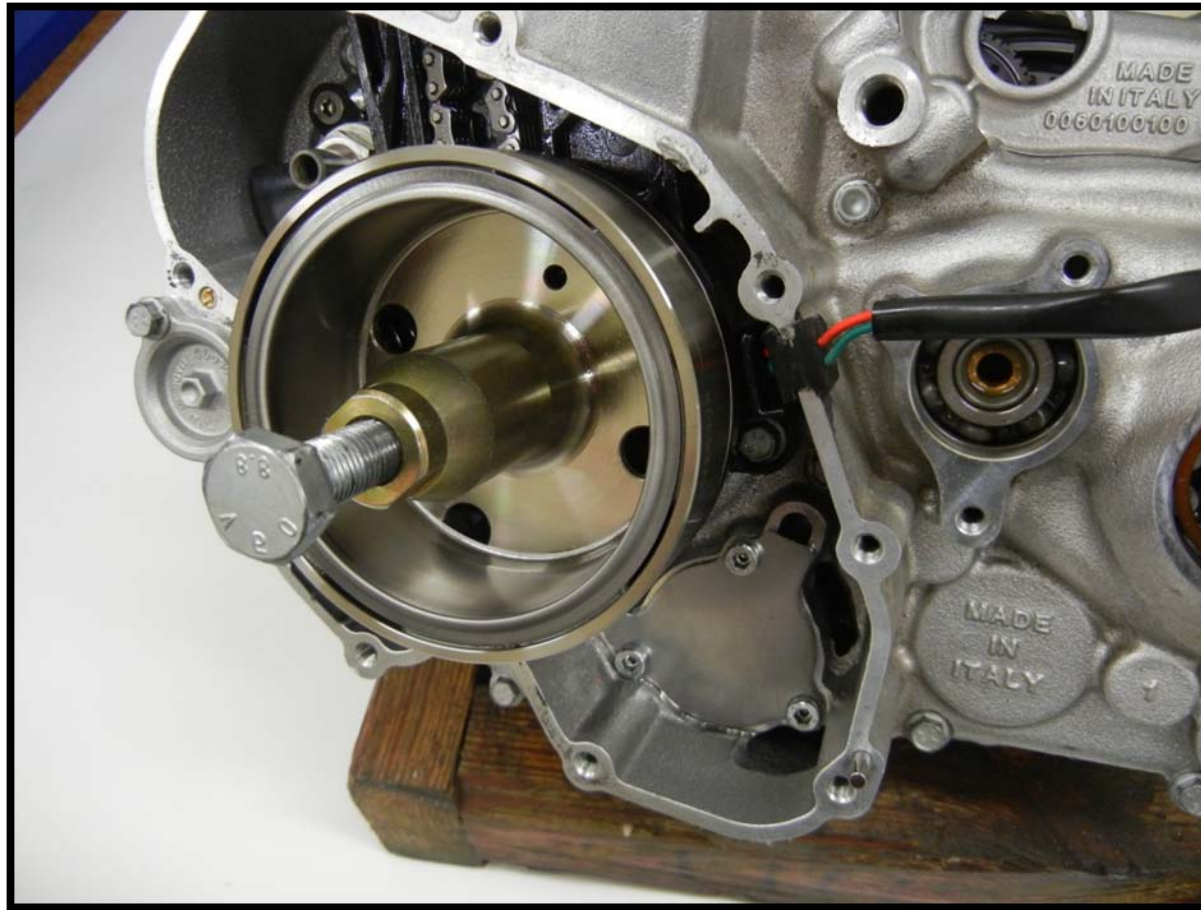
Drain the Engine Oil. Remove left-side ignition cover, sparkplug, and cam cover. Rotate engine until at top dead center on the compression stroke.



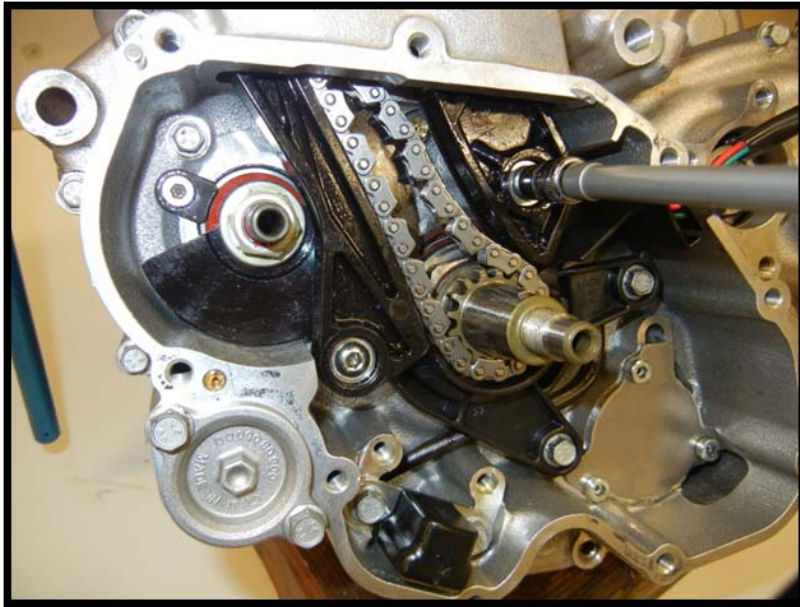
Remove engine lock bolt, take off the washer, and reinstall into the groove in the crankshaft to prevent engine turning. Note, this is the bolt roughly six inches in front of the engine oil drain plug. If a spring and check ball come out, you have removed the wrong bolt!



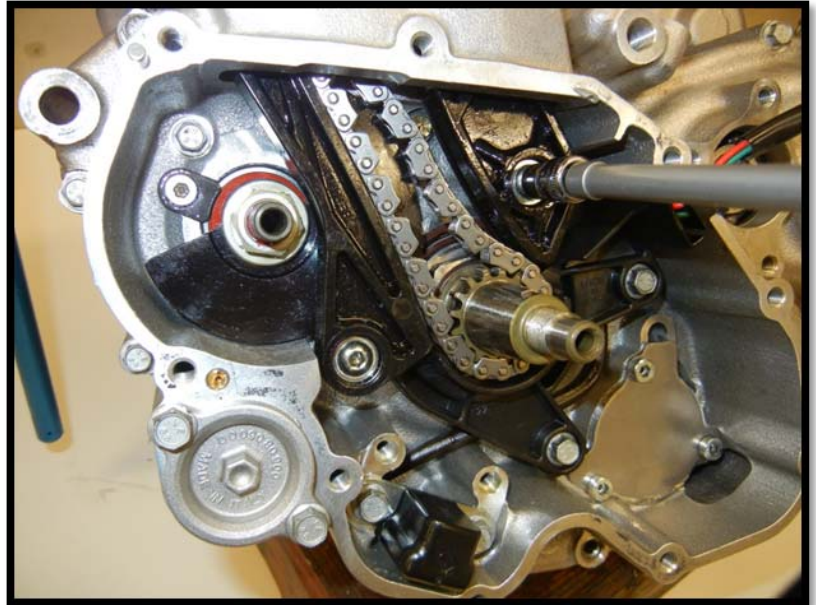
Remove the flywheel, cam chain tensioner assembly, and intake camshaft.



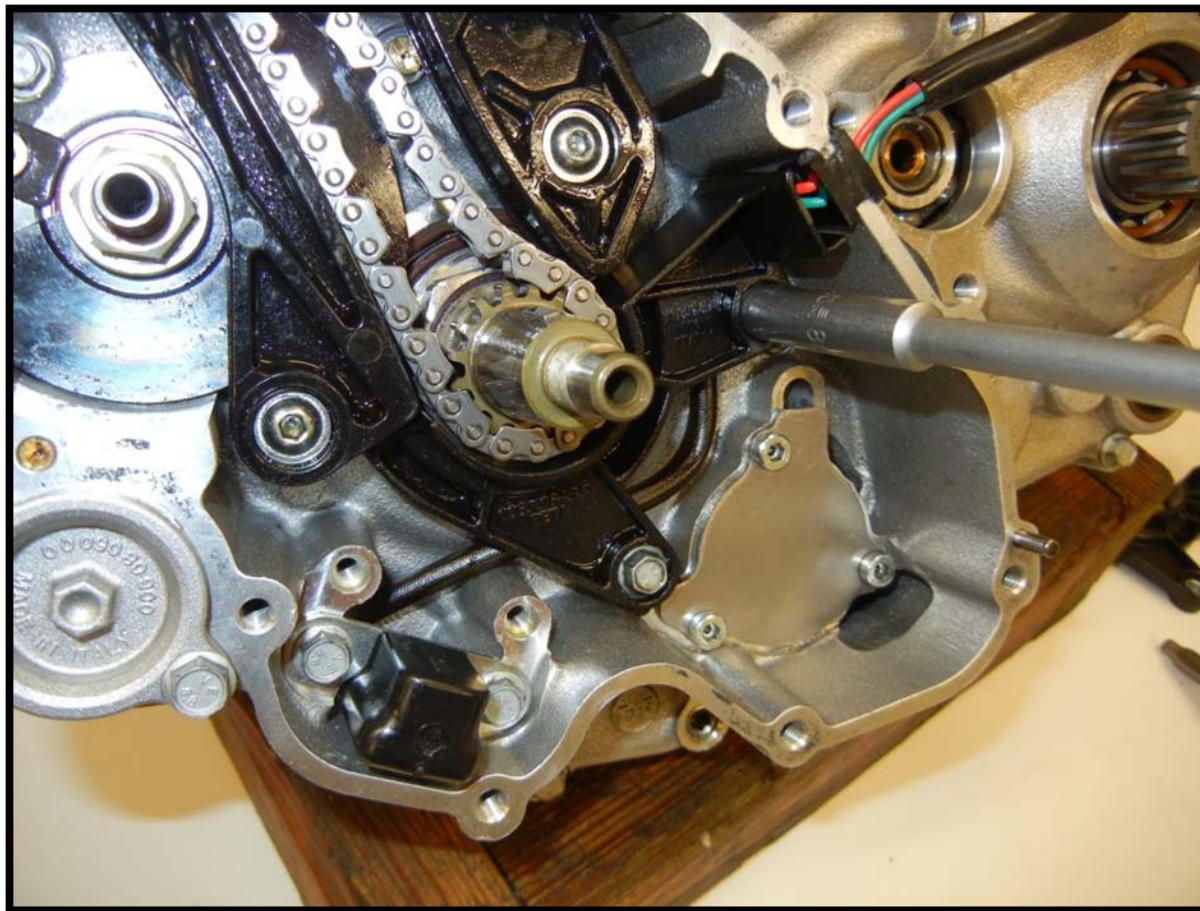
Remove the old-style cam chain tensioner assembly and rear cam chain guide.



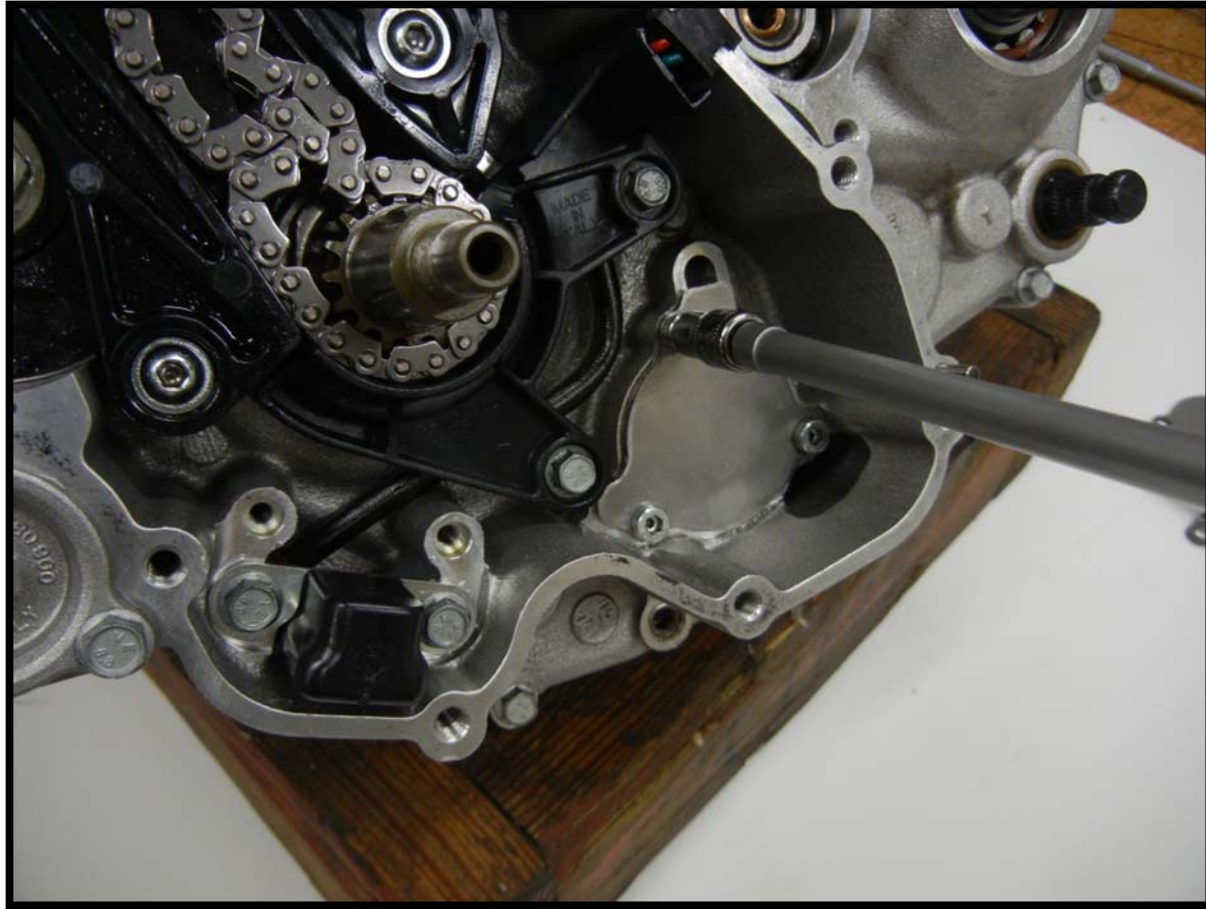
Install the new style rear cam chain guide. Note that you will need to remove the spacer from the bolt as the new guide is supplied with one. Be sure to apply red loctite to this bolt! This new guide has a built-in steel support designed to work with the new tensioner.



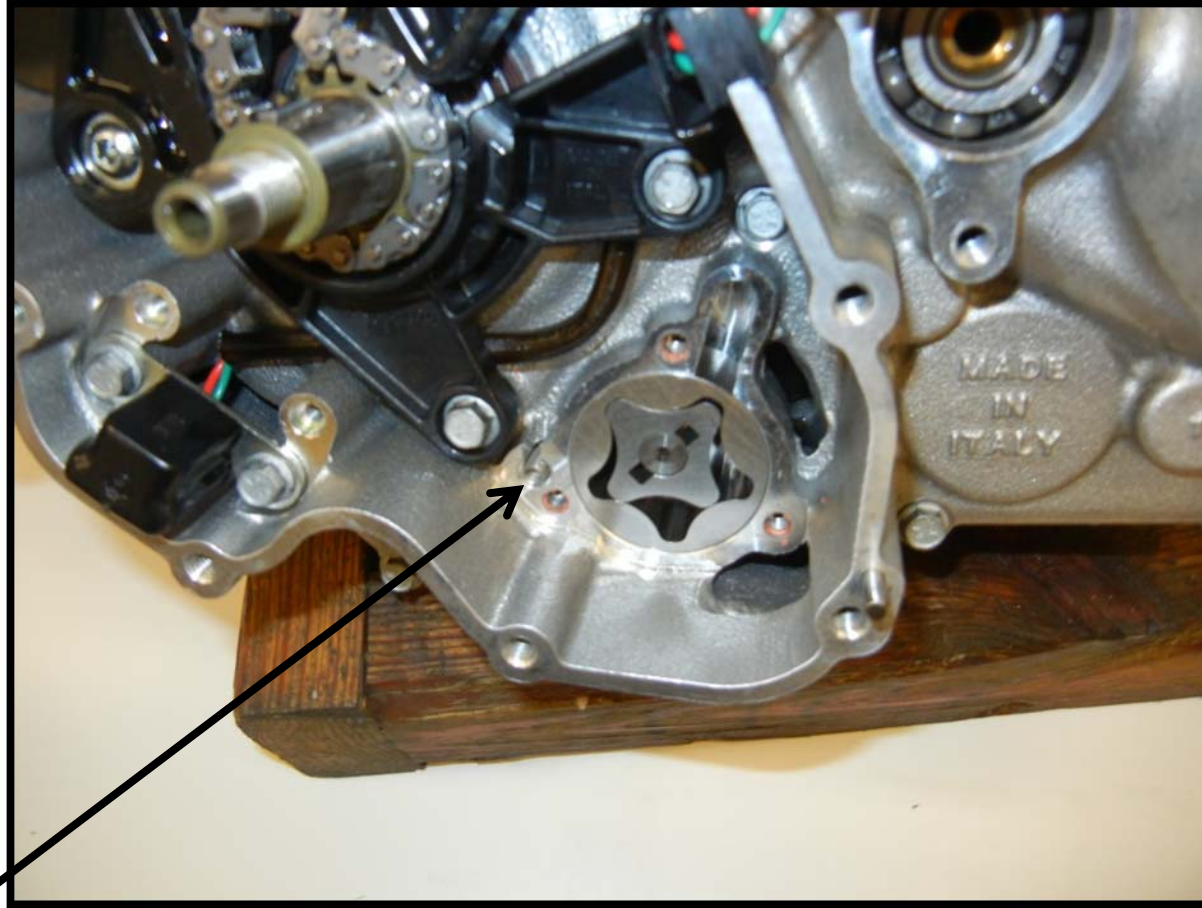
Remove the lower cam chain guide and replace with the new one supplied in the kit. Use red loctite on these two bolts! Make sure the pick-up coil wires are routed under the guide properly. You will notice the new one has a provision for the new oil spray pipe.



Remove the oil pump cover plate

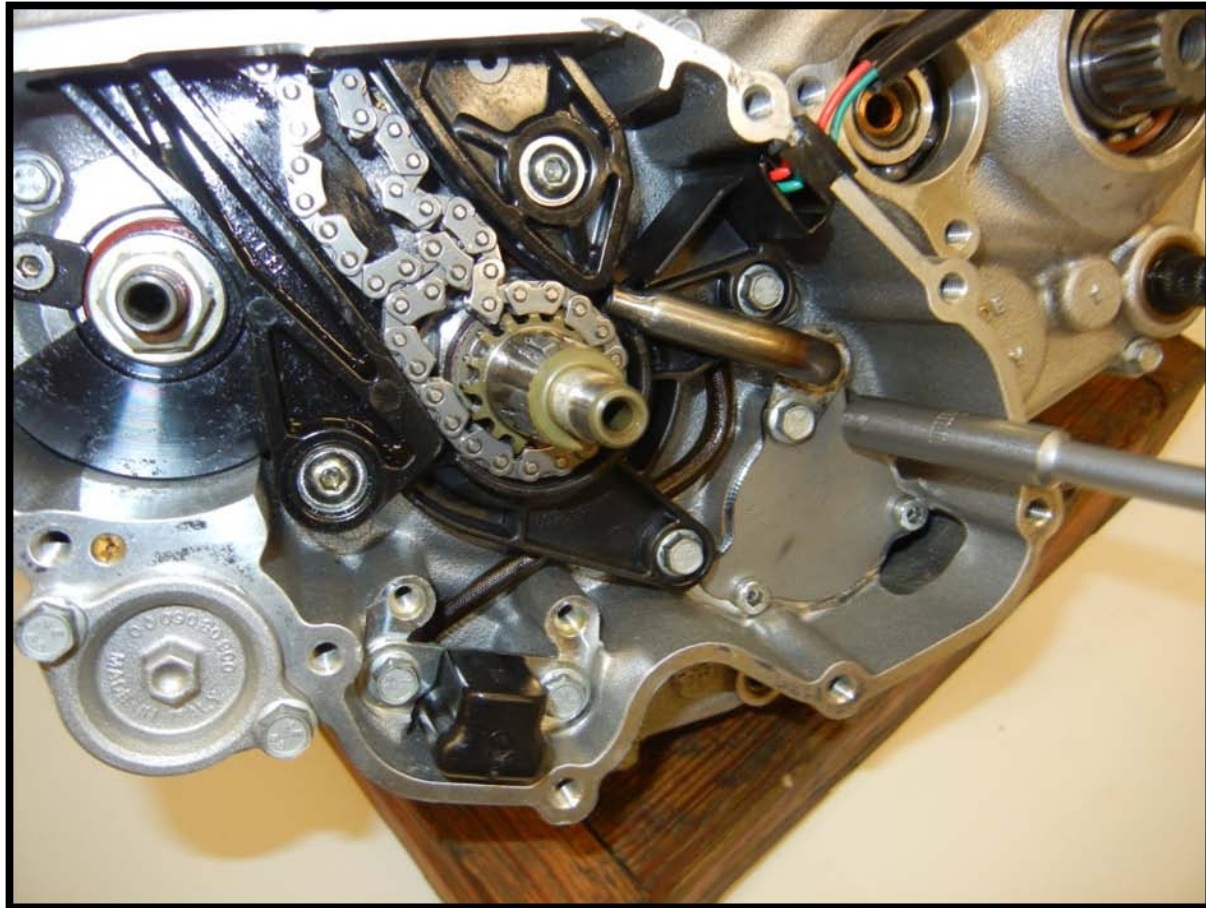


Important note! There is a check ball and spring behind the oil pump plate. Make sure these parts do not fall out major engine damage will result if not installed

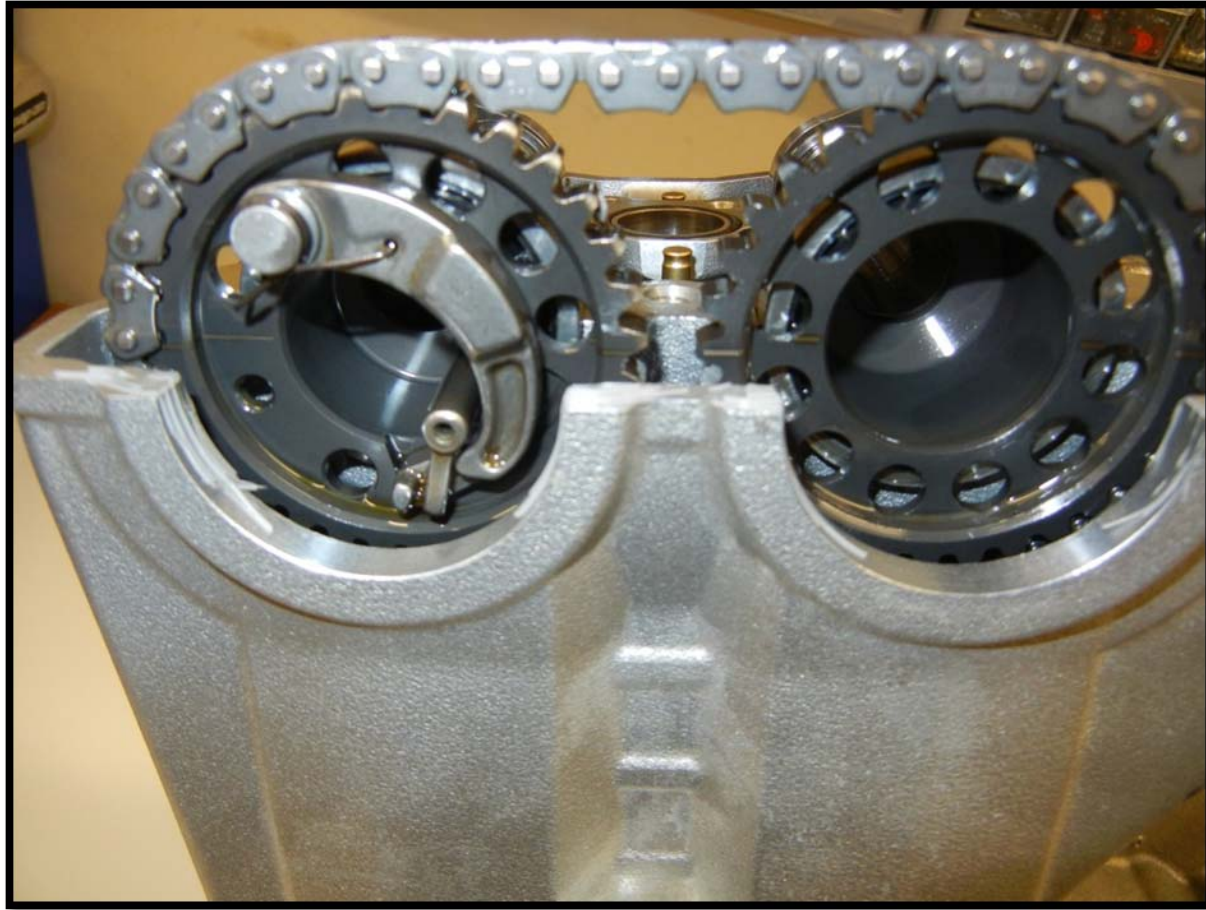


Check ball and spring

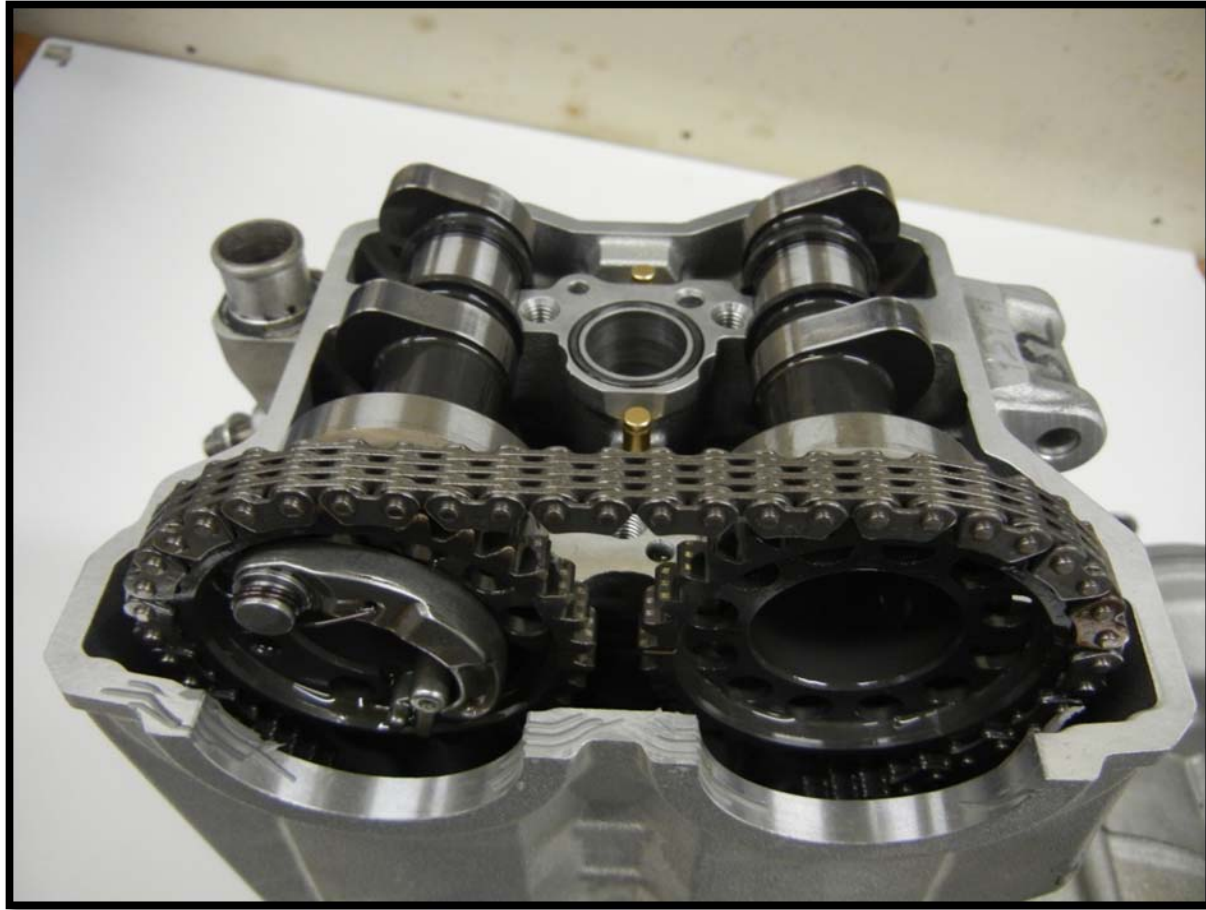
Install new oil pump cover plate, oil spray pipe, and longer bolt as shown. Note the oil spray nozzle will fit into the cutout in the lower chain guide. Use red loctite on these three bolts!



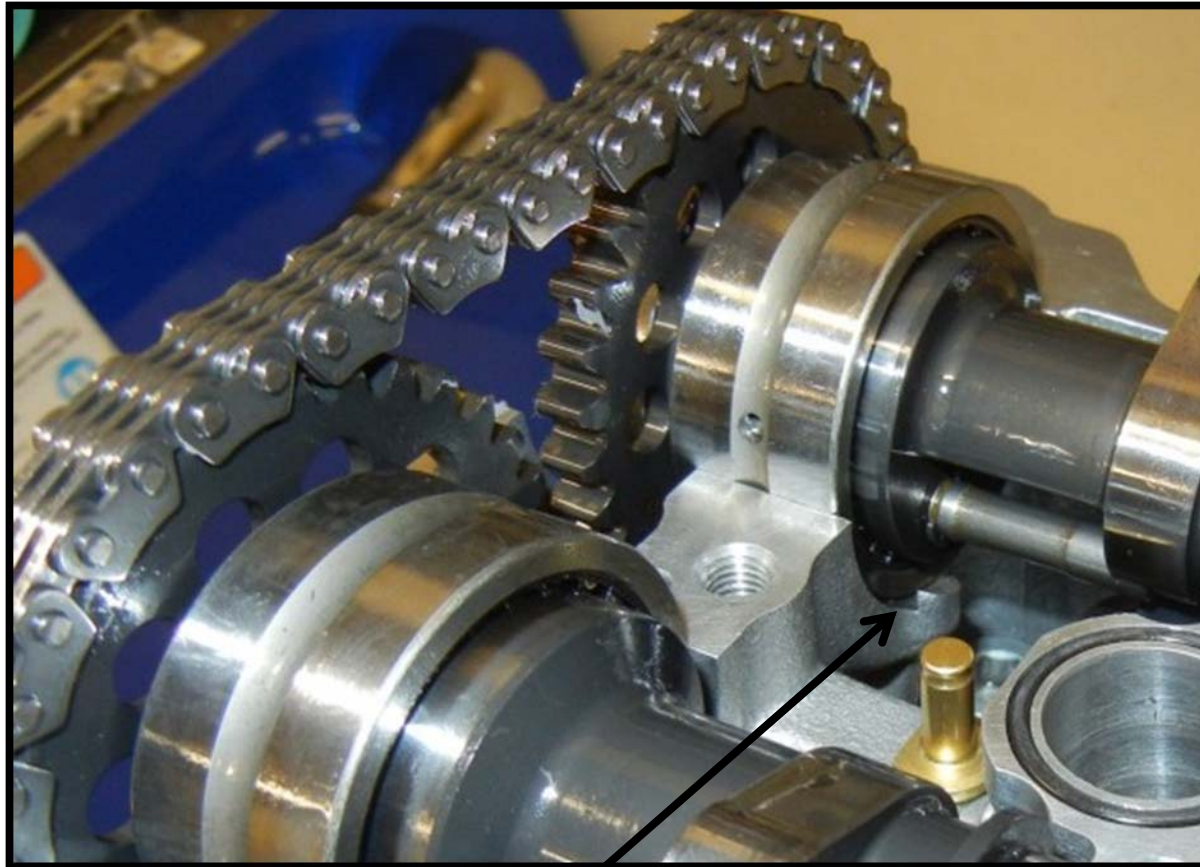
Install the intake cam and align timing marks



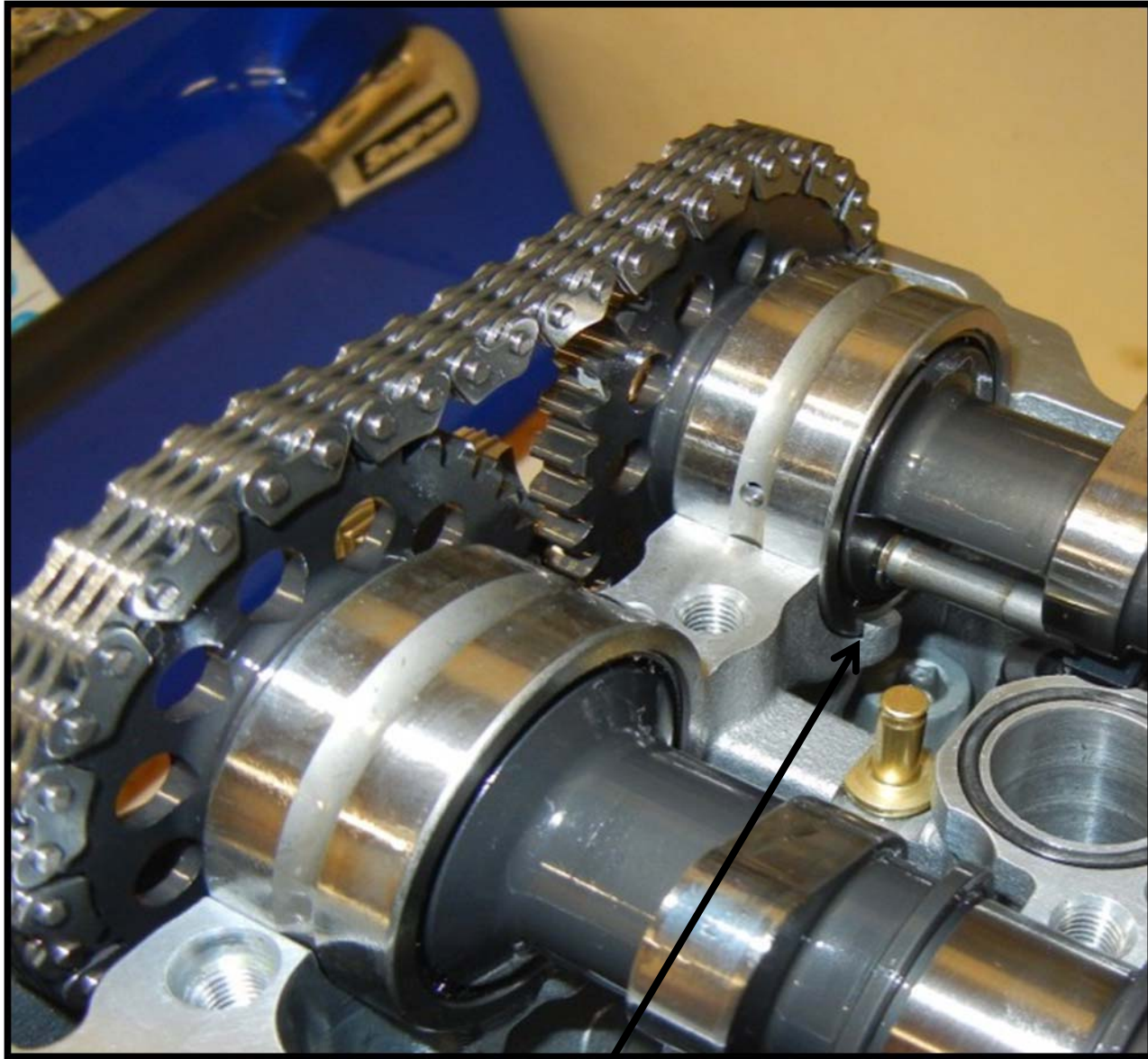
When cams are correctly timed, lobes will be in a 10:00 and 2:00 position with the timing marks aligned.



Important! Make sure the camshaft bearing housing is mounted against the lip in the cylinder head and there is no gap between them.



Incorrect!



Correct, No Gap

Assemble the new cam chain tensioner by installing both c-clips into the two grooves inside the housing.



Apply a small amount of engine oil on the outside of the piston sleeve and install it into the back of the tensioner with the cup (hole for spring) facing towards the rear



Install the assembly with oring into the cylinder.

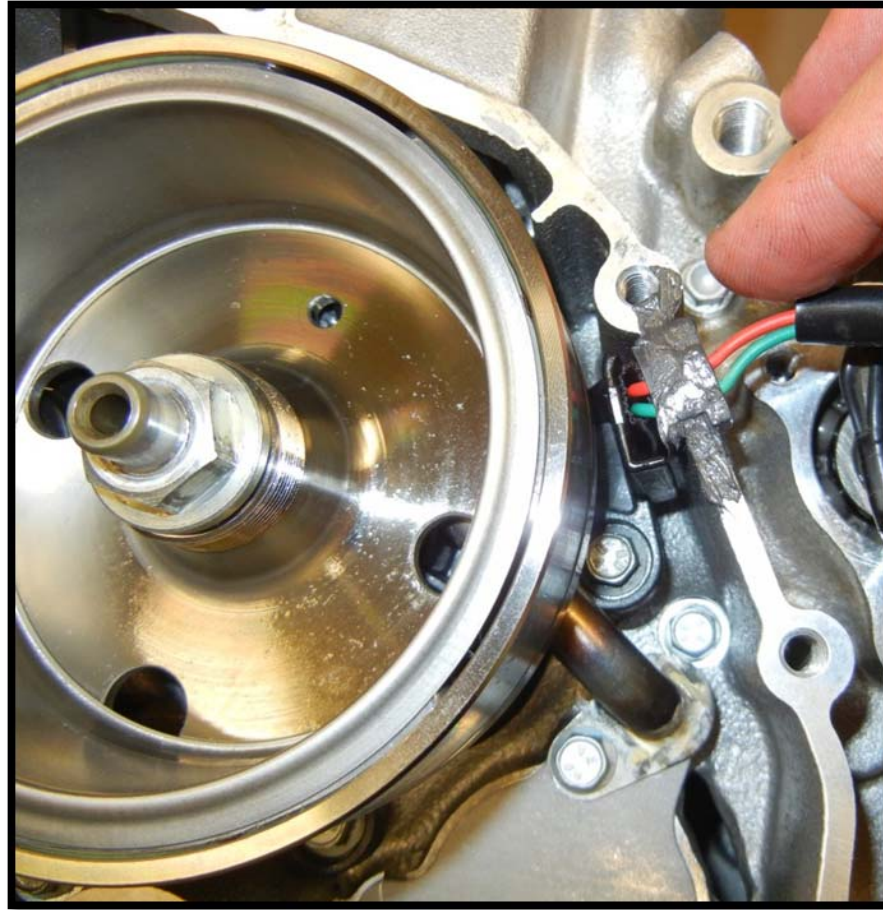


Make sure sleeve is flush with housing

Install spring and outer cap. As cap is tightened, you will hear the tensioner sleeve advancing into the guide. Double check your camshaft timing to insure it is correct.



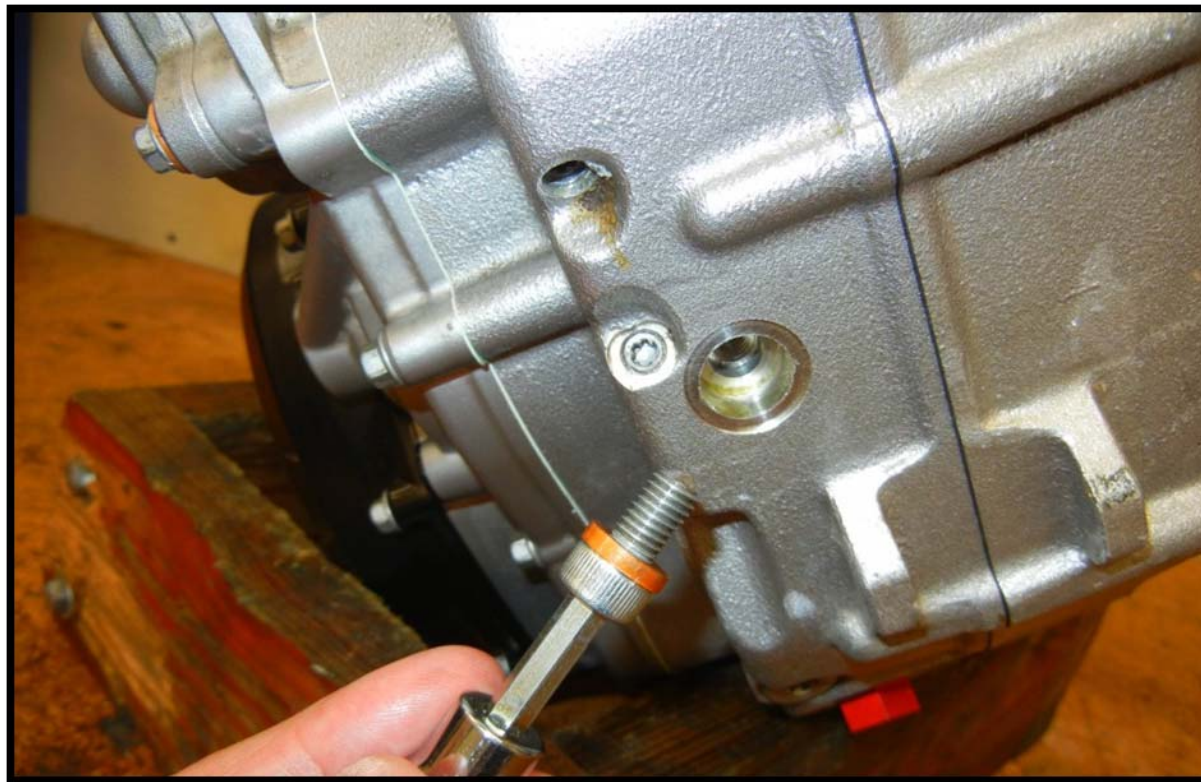
Install flywheel and a new ignition cover gasket. Make sure to apply a small amount of sealer (Ultra Black) on the rubber wire guides for the ignition wires to prevent oil seeping.



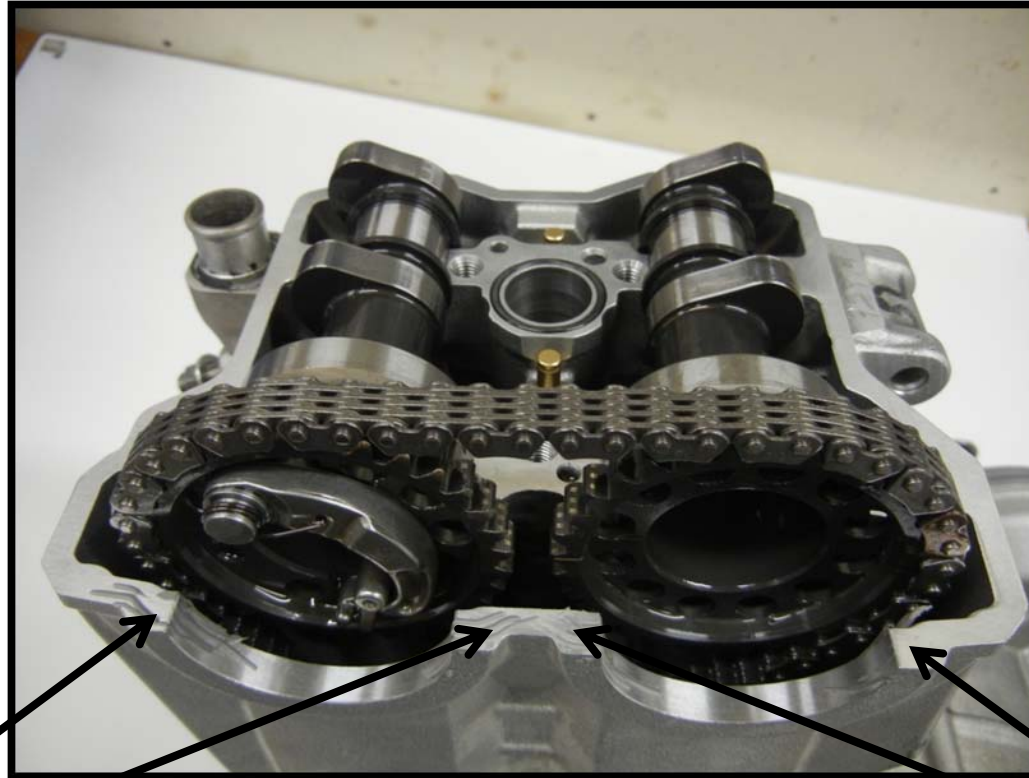
Make sure the copper washer is installed on the top cover bolt as shown.



Remove the engine lock bolt, reinstall the thick copper washer and re-install the bolt.



Before installing the cam cover. Apply a small amount of sealer to the corners of the rubber cover gasket as shown.



Fill engine with 800cc of a synthetic 10w-40 or 10w50 engine oil.

