

## Factory Pro Shift Kit Install

This thread, and the pdf, have been updated 5/5/2008 to reflect changes. Users have given great feedback that made things easier or problems they encountered so I have incorporated those into this thread. The order of the detent arm, washer and spring was reversed by someone and it was binding so I put that in here. Putting the detent arm on first, per the manual, and then the star made it easier so I reflected that as well.

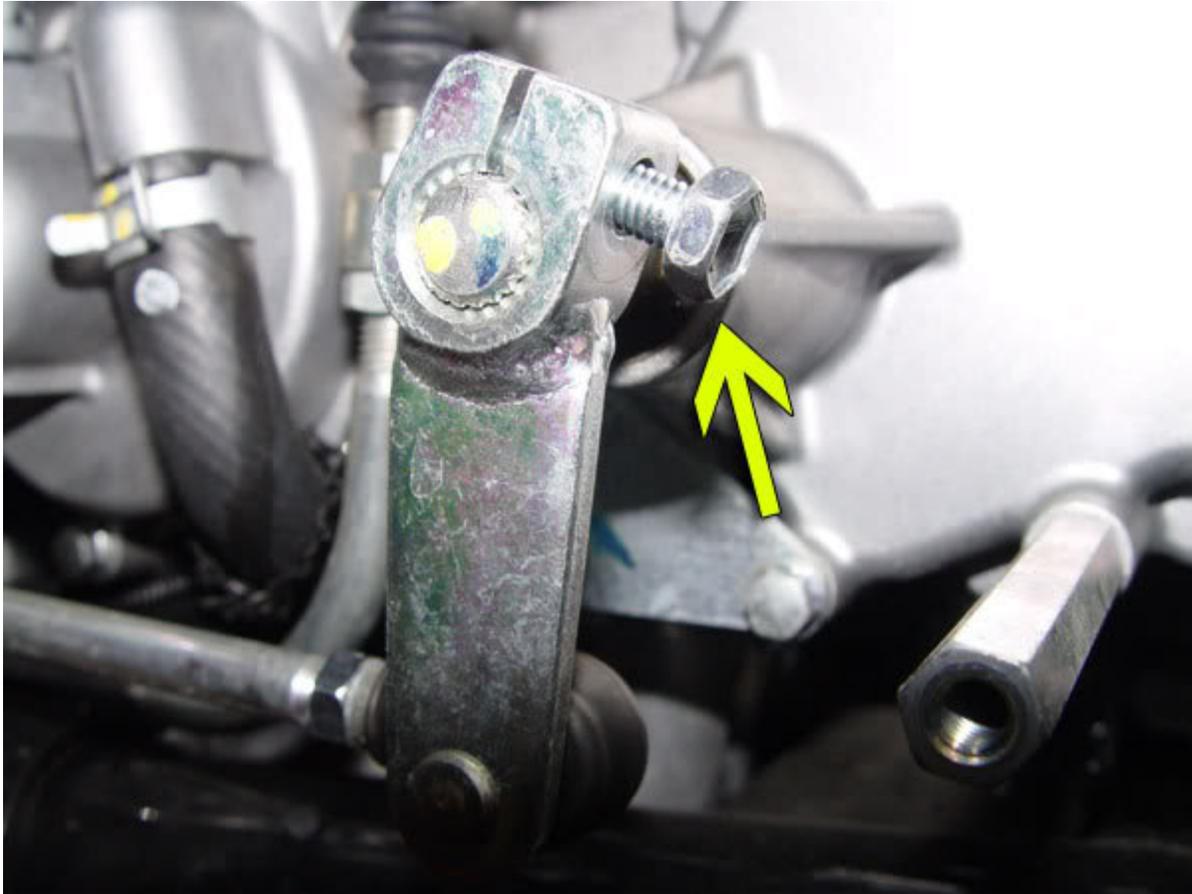
**UPDATE: I had an issue this past weekend where as we left the bike in neutral and because of that it would not allow us to torque down the star bolt as the star was trying to turn. So, I suggest you leave the bike in first gear when starting this mod.**

If your Factory Pro box says "M109" on it then you have the right gasket. If not, you may not have the correct gasket and you would need to order one from your dealer. The part # should be 11485-48GOO

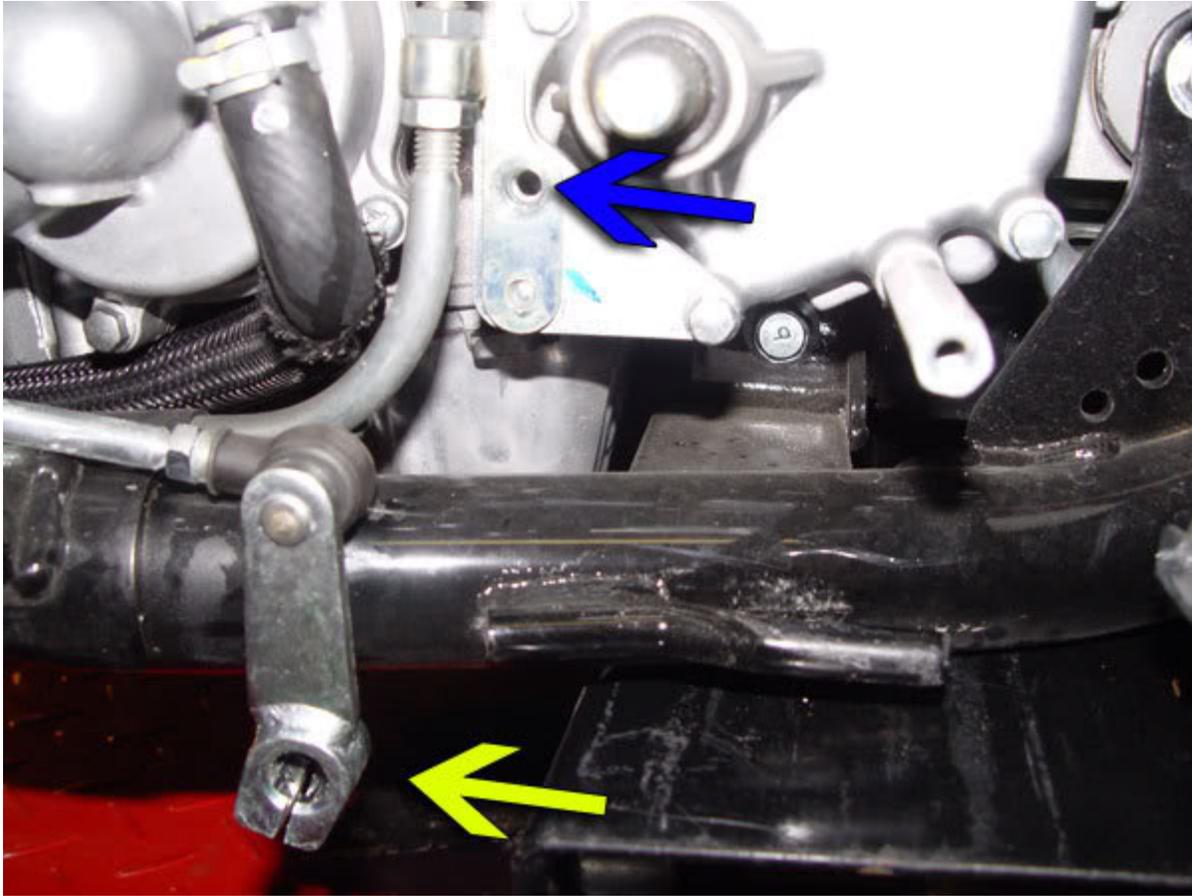
First thing....DRAIN YOUR OIL.



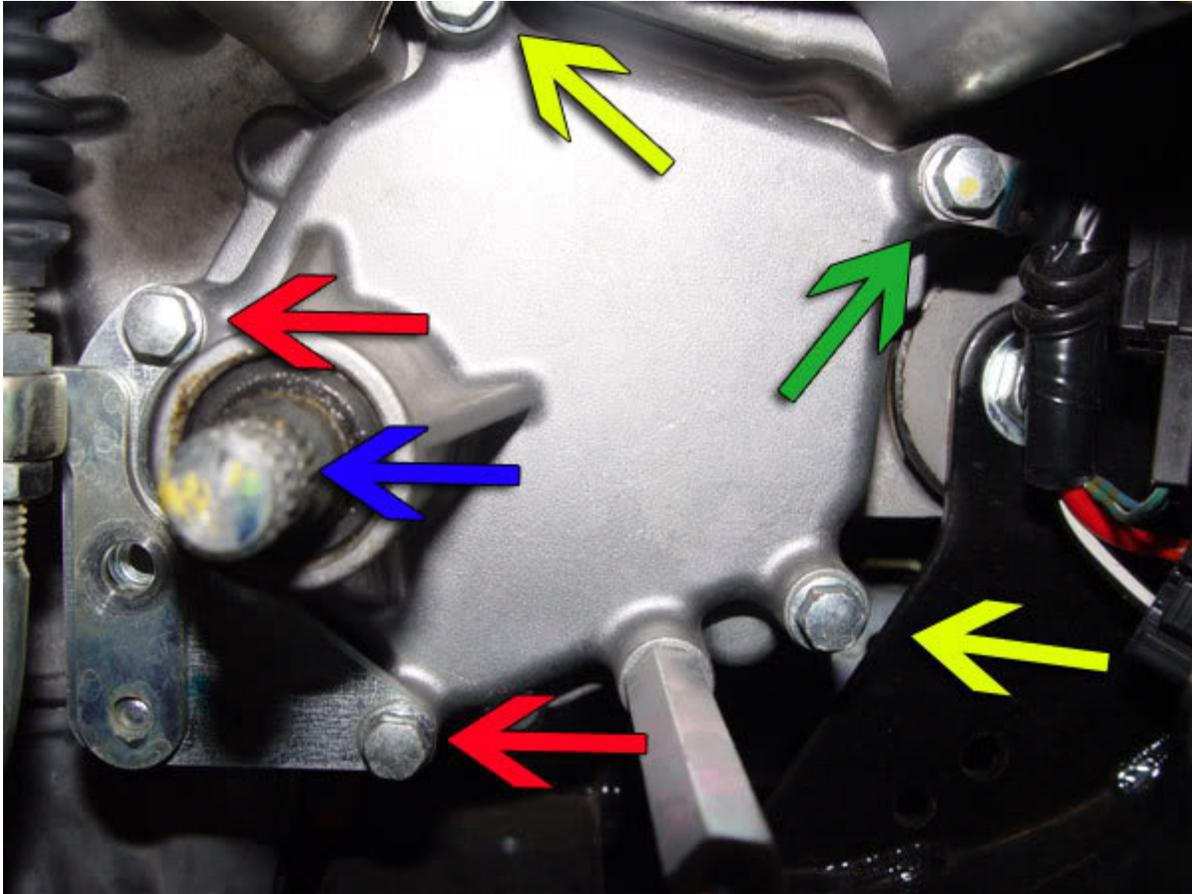
This is the only chrome cover that you will need to remove. There are 3 bolts that need to be removed.



You need to remove this 10mm bolt and then gently separate with a screw driver. You just need to rock this back and forth and push in the center and it will easily come off. Remember, if you pry this apart, you may need to use a big pliers and gently squeeze back together when you reinstall it later on so the bolt can go through.



After this comes off the shaft, just set it down and out of the way. You will notice that the shift lever is loose so you can put this where you want to be out of your way. The blue arrow points to another 10mm bolt. We first took that bolt out but realized shortly after that it can stay in as that whole bracket comes loose when you remove the 5 bolts to the cover.



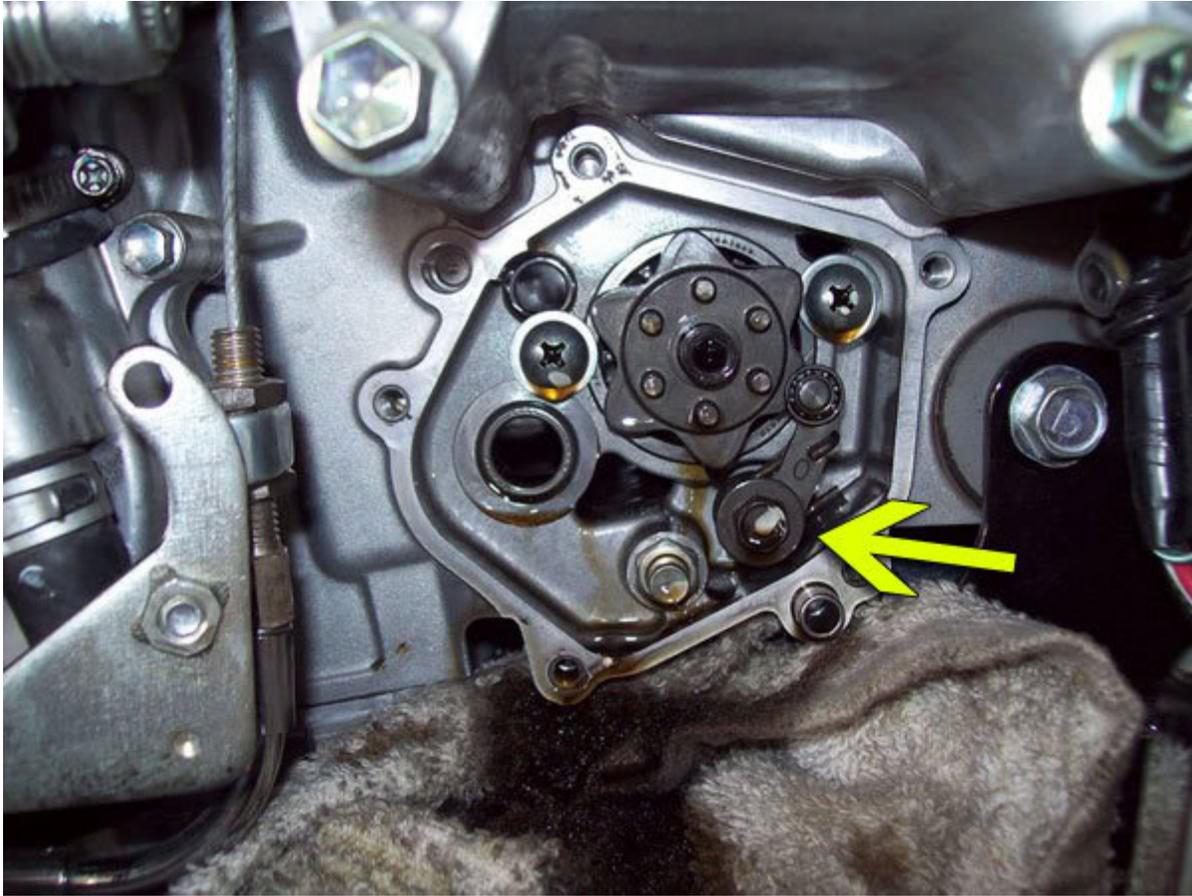
Don't freak out by all the colored arrows but I felt the need to point a few things out to make life easier. These all use a 8mm socket.

**2 yellow arrows**, just normally take those bolts out.

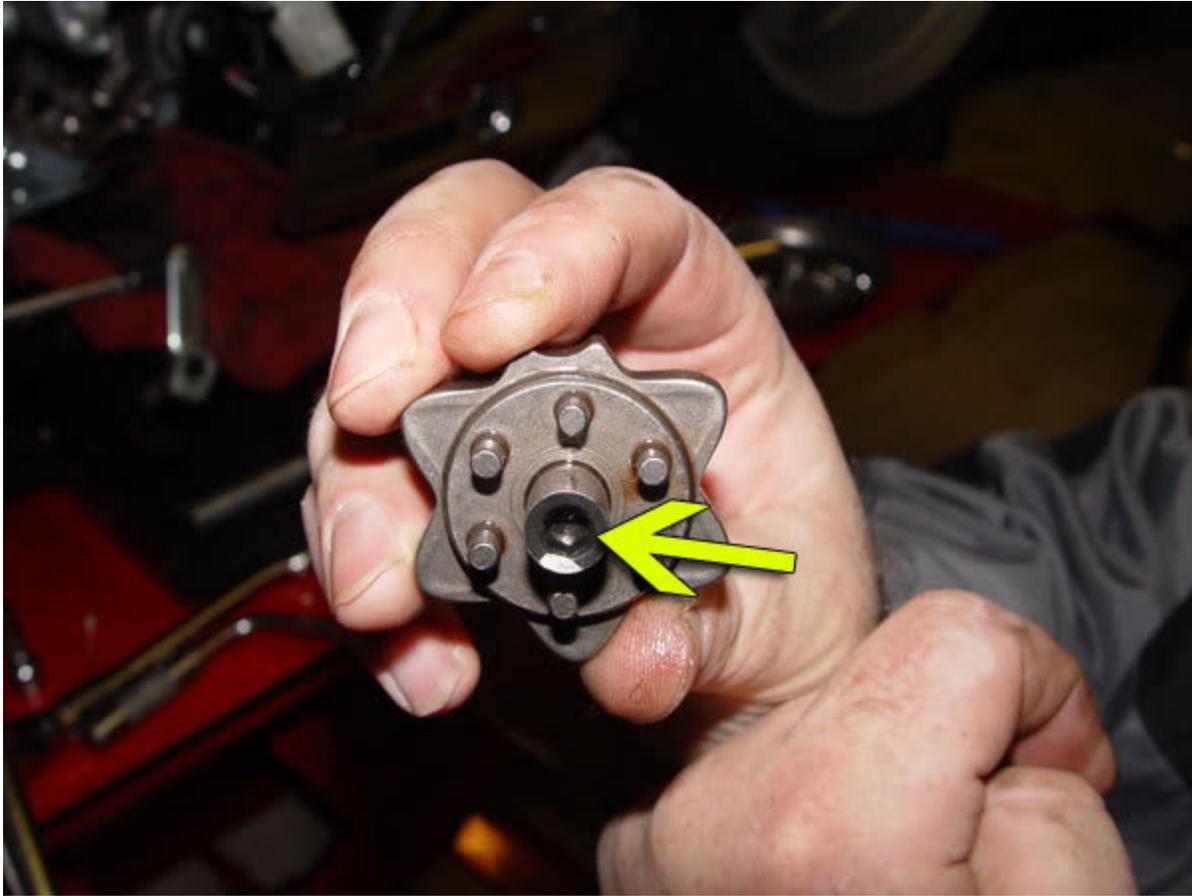
**1 green arrow**, has a cable with a connector that the bolt goes through. Remember to put that back on when you reinstall cover.

**2 red arrows**, remove both bolts and take the whole bracket and slide it out of the way towards the left.

**1 blue arrow**, this is the shaft that will come out and stays attached to the cover.



Use a 10mm socket and remove the screw. The spring and the arm will slide right off. Be careful as there is a washer on the bottom of the arm where the bolt goes through.



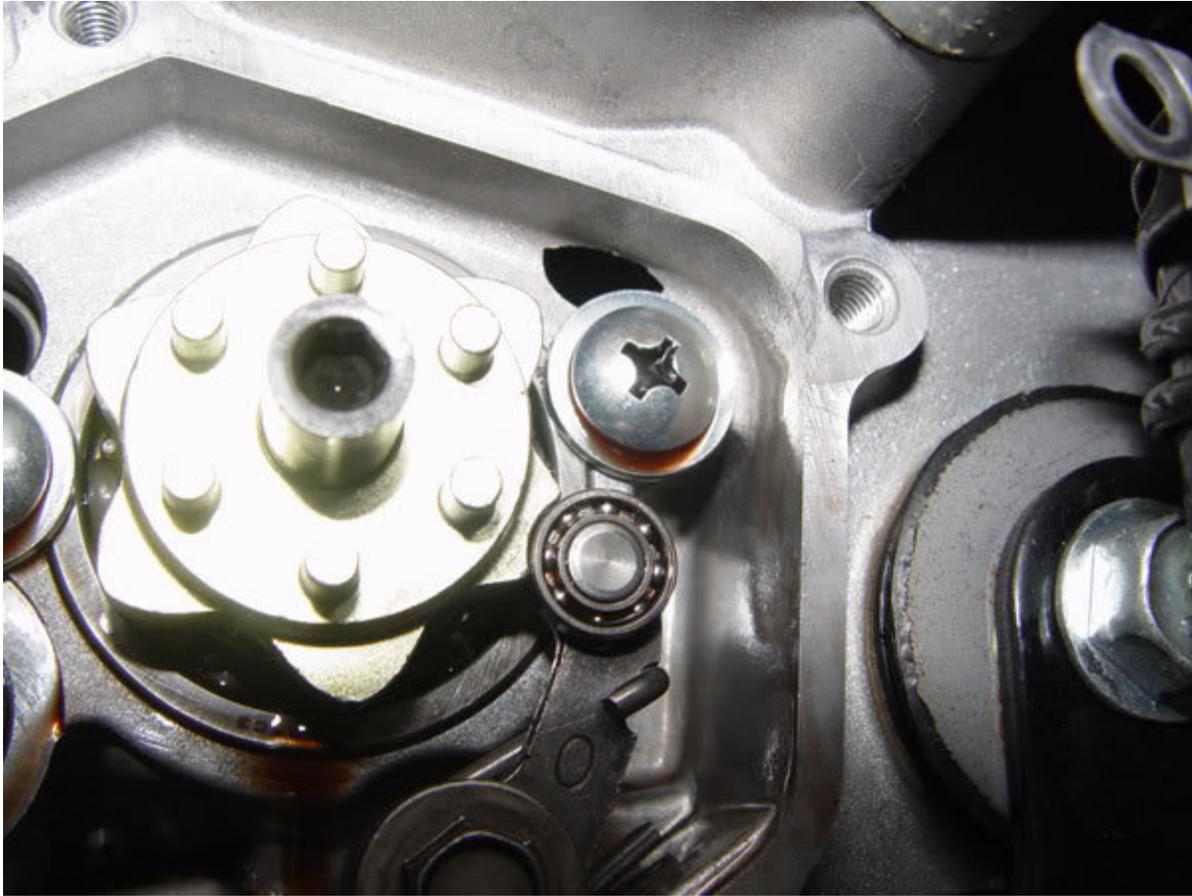
At this point, use a 5mm hex bit socket or an allen wrench and unscrew the bolt in the center of the star. Eventually the star will just come off with the bolt still in it.



If the bolt is in the star when you pull it off, simply tap this bolt out of the star and put it in the new star.



First, put lock tight on the bolt. Assemble the spring to the arm as you can see in the picture. Just in case you are not sure, bolt goes through the detent arm, then the washer and then the spring goes on. Go ahead and bolt this back on the bike with the star out. Torque the bolt to 10 Nm or 7 ft/lb. Check the play in the arm and if moves freely then you are ok, if it feels hard and will not move, back off the bolt just a little until it is not binding.

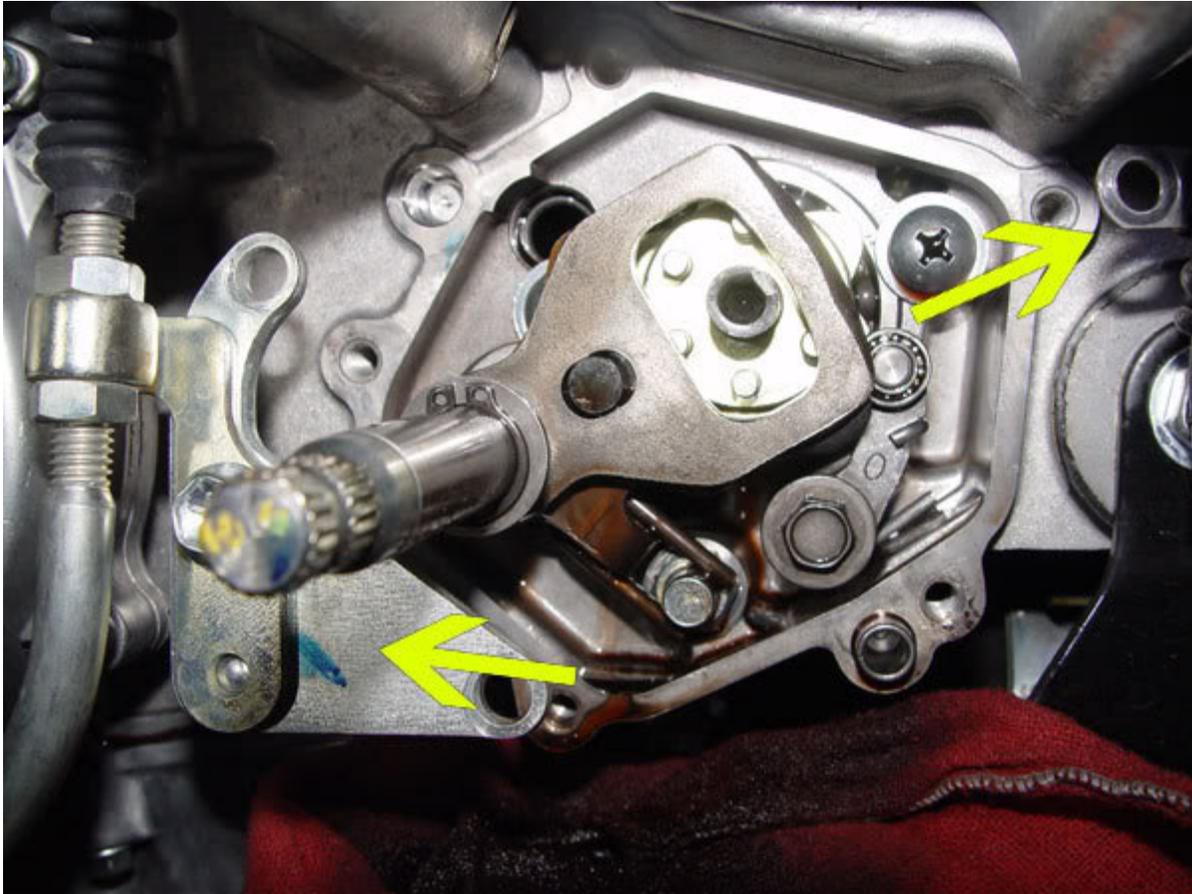


Take a screw driver and pry the detent arm to the right and put the star back on, There is a hole on the back of the star. Make sure you put that on so that it sets in on the pin. Put the bolt in until the star is firmly on and then you can release the detent arm. Use lock tight and also torque the bolt to 13nm or 9 ft/lb.



The cover is now ready to go on. I found the easiest way is to just remove the shaft and put that in first as you can see in the next picture. Now, when you remove the shaft from the cover, be VERY careful as there is a washer on the inside where the shaft goes through the cover. Don't lose it and you have to look for it as it can be covered in oil.





At this time, you should clean the cover with a razor blade and brake cleaner to make sure there is no residue of the gasket on both surfaces. Place the new gasket on and then mount it up to the bike. When you put the cover on, remember to bolt the bracket and the wire connector back in place. The manual did not give torque specs that we could find so we put the cover back on, tightened very snug but not over doing it.