

Remove the seat and tank. Clean under the tank area well so nothing will fall into the motor in the following steps. Drain and remove the radiators and hoses. Lock the crank at TDC on the compression stroke with the crank locking bolt. Unhook the head oil line from both ends. The lower one can be a pain to remove with the pipes in place but is doable. Remove the valve covers.

Remove the left side rubber tank mount. Remove the waterpump cover and impellar (you may have to work at the impellar a bit to get it off). Remove the decompressor cable. Remove the rocker box cover screws and lift it off. Remove the camchain tensioner bolt (watch for the spring!) and remove the entire tensioner assembly from the side of the cylinder.

There are at three ways to get the camshaft out.

1) The best and recommended method is to split the chain with a tool either from KTM or Motion Pro. Stuff rags around the chain so nothing falls into the motor. You'll need to have a tool to press on the new link and, of course, a new link from KTM.

2) Another way is to get a small 2 armed wheel puller. Slide the WP seal carrier off the shaft first. To do that, lift the camshaft as much as you can and remove the seal. You may have to rotate the seal so that the cut edges are on the sides, depending on the style of seal carrier. You should be able to remove it easily with your fingers. Once it's off, use the small puller to carefully pull the chain side bearing off the camshaft. You'll have to lift the auto decompressor lobe out of the way to get the puller arm under the left side of the bearing. Then work the chain off the gear, it takes some work but it is doable, and then remove the camshaft.

3) The last method is inconsistent and I don't recommend it anymore. It's to get a flywheel puller from KTM and pull the flywheel. You can then take the chain tensioner block out through the flywheel opening and take just a little more pressure off the cam chain. The chain still has to be wrestled off a bit like the 2nd method but it's very, very tight and hard to do.

Once the camshaft it out, I use a small wheel puller to pull both bearings off. I then use sockets to carefully tap the new bearings in place. Use a socket small enough that it contacts the inner race only. Hey, I don't own a press and it works for me. :) If you're using method two, don't put the gear side bearing on until you have the cam back in, timed and the camchain on. Then tap it in place using a deep socket.

The cam gear has two small marks on it for timing. They are very near the teeth and you can't see them easily with the chain on. Those two marks are 180 opposite each other and they should line up equally above the top of the head on either side of the WP seal. You may have to pull the chain off to the side to see them. You don't have to pull the chain off again if it's off timing a bit. Just lift the still loose chain and and kind of roll a link around the gear. NOTE: You should check that those marks are lined up after you pull the chain tensioner, but before you pull the chain, to make sure you locked the crank in exactly the correct place.

Use all new WP seal parts (carrier, 2 seals, 2 orings) and install using the KTM "bullet" tool, KTM part number 590 29 005 010 which is about \$5 from www.cyclezonektm.com . You can also wrap a piece of plastic, etc around the end of the camshaft before installing the seal, too. The point is to avoid wrecking the seal on the sharp groove.

BTW, the inner seals are a VERY tight fit and it's very easy to mangle them trying to install them in the carrier. How do you get it in then? Contact Old Stroker. He has the 'TOOL' and he presses them in for individuals and dealers all over the US. Email him at OldStroker@sbcglobal.net

Reinstall the chain tensioner assembly and then put in the tensioner spring and bolt. Clean all the gasket surfaces and apply a coat of anerobic gasket maker to the top only, like Loctite 515 or other anerobic gasket maker, to rocker box cover and install. Put sealant up to, but not on, the seal carrier opening. NOTE: You might want to practice

installing the cover a couple of times before you actually apply the 515. It's a tight fit but it does work. Here's the KTM bulletin about the 515 sealer:

http://pws.chartermi.net/~jejb/pictures/ktm_515_bulletin.jpg

Set radial/axial play (I've seen it called both by KTM) on rocker arms before tightening the rocker box cover all the way down. Radial play is a little hard to explain but I'll give it a shot. The arms that the camshaft lobes contact ride on pins or shafts that go the width of the rocker cover. Rocker arm shafts, basically. They have allen bolts on the brake side of the engine and one of them, the exhaust side, has the decompressor arm very close to it.

Anyway, there are two bolts that run down through those pivot pins, one per pin, from the top. The rocker arms move a little bit horizontally on those pins or shafts. The radial play is just setting the gap between the end of the arms on the brake side of the inside of the rocker box cover. The arms move a little stiffly since they're under pressure from the valve springs but they do move back and forth a little.

Set valve gaps (see bulletin below) and reinstall valve covers. Put impellar assembly on and install the cover with a new gasket. Install oil line, radiators, etc.

Drain oil and clean the screens after a short ride just to flush anything out of the motor.

You'll need 2 cam bearings (I recommend SKF or FAG 6201 2rs), 1 seal carrier, 2 inner seals, 2 outer orings, decompressor stop nut and bolt (see bulletin below, \$1.50) and a WP housing gasket along with the gasket maker.

See these KTM service bulletins before you start, as well:

http://pws.chartermi.net/~jejb/pictures/ktm_valveclearance_bulletin.jpg

http://pws.chartermi.net/~jejb/pictures/ktm_decompressor_bulletin.jpg

http://pws.chartermi.net/~jejb/pictures/ktm_515_bulletin.jpg

See the links on this page for some pages from the 01 RFS engine service manual that show the radial/axial play, timing marks and tensioner installation:

http://pws.chartermi.net/~jejb/pictures_main.html