

YAMAHA MONOCROSS SWINGARM MOD

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We took a trick right out of the Penton/KTM book. Phast Patrick here holds a 250 KTM swingarm. You can see where the swingarm needle bearings are lubed by squirting oil in through two threaded oil filler holes, and when the swingarm axle housing gets full of oil, an appropriate bolt is screwed into each hole to seal it up . . . needless to say, you lube it with the swingarm still on the bike, nothing gets dismantled, just pull the bolts and add oil.

The Yamaha monoshockers have swingarms mounted on caged needle bearings. These bearings need a lot of lubing with something like, say, 90-weight gear lube to keep them free and unfrozen which leads to a problem: You see, Yamaha in their infinite wisdom didn't provide any means to get the gear lube to the bearings. Oh sure, you can pull the swingarm axle and pour the gear lube all over the appropriate places and then reassemble the whole dripping mess . . . but what a hassle!

We solved the problem by drilling and tapping two holes in the swingarm axle housing and fitting them with a couple of bolts with rubber washers, and using the holes to fill the swingarm axle housing full of gear lube every now and then, thereby lubing the needle bearings (just like the Penton does). Hey presto! No more how-do-we-lube-this-sucker hassle. When it's time to do so, you merely take out both bolts, and with an eyedropper or spouted oil

can you put the 90-weight gear lube in one hole . . . the other hole is to let trapped air escape. When the housing is full of oil, put the bolts back in. That's it.

Even so, you still gotta pull that son-of-a-gun apart every now and then and inspect the bearings, swingarm and axle for signs of wear and tear, but never again do you have to pull it merely to lube it.

HOW TO DO IT

1. Get a clean bucket, Tuff Tub, or something to put all the loose parts in.
2. Put the bike up on your favorite milk crate or bike stand.
3. Remove the seat, side panels, and rear wheel.
4. Unbolt the shock absorber from the swingarm.
5. Remove the swingarm axle nut, and, with a hammer and a wooden-dowel punch, tap out the axle. Sometimes these dudes get frozen and it takes a couple of sharp raps to get it

started . . . be careful here, and to avoid screwing up the end of the axle, you really should use the appropriate-sized wooden dowel as a punch.

6. Pull the swingarm and, using a real punch, mark the place where you are gonna drill. You are going to drill two holes about two inches apart on top of the axle housing; each hole should be about one inch away from the middle. The dimensions are not critical, just get 'em on top and stay away from the needle bearings.

7. Select the appropriate drill bit, and drill and tap two 8/32, or 10/32, holes. (An 8/32 hole should be drilled with a 1/8-inch bit, and a 10/32 hole should be drilled with a 5/32-inch bit.)

When you drill and tap these two holes, you'll naturally create some metal shavings, a few of which'll get into the inside of the swingarm axle housing, where, if you are not careful, they'll get into the needle bearings unless you take precautions. One way to avoid the problem is to place half of a thin

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cardboard or paper tube (one that's been split lengthways) through the housing before drilling and tapping; the half tube acts like a "gutter" to catch all of the shavings that fall in. Another way is to let them go ahead and fall in and then use a magnet (like a magnetic screwdriver) or a sticky stick (say a pipe cleaner coated with wheelbearing grease) to carefully remove the debris without letting it get into the bearings. Of course, you can remove the bearings before you start drilling, if you have the wherewithal.

CAUTION: *If you are drilling with a hand drill, to avoid dinging the far side of the interior of the axle housing when the bit breaks through, place a wooden dowel inside the housing so that when the drill bit punches through the metal, it'll be caught by the wood.*

8. To assure a good, oil-tight seal, slightly file the axle housing flat over the end of each hole so that the rubber washer has a portion of flat surface to mate with (rather than a curved one). Be careful not to file a lot—you need all the threads you can get in this fairly thin-walled housing. After filing, run the tap back through to clean up the edges. The filing and retapping will create more metal particles which'll fall into the housing; use the same techniques described in step 7 to get rid of this metal and avoid crudding up the bearings.

9. Slip a rubber washer over each 1/4-inch-long bolt. (Incidentally, for ease of future use, choose stainless steel socket-head cap screws . . . otherwise known as Allen-head bolts. A standard stainless steel hex head is a good second choice.) Thread the bolts into the holes and check the fit: each bolt, when snug, should be long enough to have all threads engaged, yet short enough so that the end is reasonably flush with the inside surface of the housing and does not intrude into the interior. If it's too long, add another rubber washer, or shorten the bolt with a grinder/hack-saw/file/whatever . . . if you shorten it, run it into a regular nut before threading it back into the housing so that dinged threads on the bolt'll be straightened out before they get a chance to screw up the tapped holes.

CAUTION: *Do not overtighten . . . you don't want to strip either one of these babies, they're in a critical place . . . of course, epoxy works wonders to correct heavy-handed mistakes.*

10. Reassemble everything and, using a spout-can or an eyedropper, fill that dude up with 90-weight gear lube. Remember, fill at one hole while letting trapped air out the other.

11. Put the bolts in, fire that Yamaha up, and have an easy-swinging good time. ●

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We applied the same trick to this Yamaha monoshock swingarm that Team Bengt Phorks' own Phast Patrick is holding. Now lubing the needle bearings is a no-hassle thing.