# MZ - MZ_BK_350_Manual_de_reparatie

BK Engine Overhaul

Some motorcycles enjoy a reputation for very high durability and robustness. The MZ-BK is one of them. Nevertheless, it is inevitable that the engine will need an overhaul after a certain period of operation. All the work required to replace the crankshaft and main bearings will therefore be explained here.

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(Image 1) At the same time, all special tools will be described. So, anyone with some manual skill will, after reading this description, be able to remove, overhaul and reinstall the engine of his BK.

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We start with the engine removal. The four screws of the Hardy disc are not loosened on the BK, in contrast to the Simson, where it is necessary. First, the exhaust manifolds are loosened and the Bowden cables of the carburetors and the clutch are unhooked. Now the carburetor housing cover can be removed, and the cover of the alternator is also unscrewed. After that, we can remove the carburetors, which also presents no difficulties if you have removed the starter slide beforehand.

Finally, we will unscrew the cables from the alternator. Before we remove them, however, we put a small strip of adhesive tape around each end to be loosened (Image 2) and label it. This makes assembly easier. Since the regulator sits on the alternator, we only have three wires to remove, namely from Repair Manual for BK 350 Engine - Miraculis http://www.mz-b.de/miraculis/aw/mz/text/bkmotr/bkmo tr.html
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the terminal 15 (remove both wires at the same time); then terminal D+ from the pole housing and terminal 51 from the regulator (Image 1). The individual numbers are marked on the alternator with punch marks. After we have also loosened the wire of the neutral indicator light at the terminal strip on the left of the gearbox, we can remove the two engine mounting bolts. The front one is above the alternator housing, the rear one also holds the footrests. Now we lift the engine a little at the front and push it forward until the splined piece of the cardan shaft falls out. Now the engine can be lifted out of the frame to the rear left, even if it is a bit tight. For the inexperienced, it is advisable to reinstall the alternator cover beforehand to avoid damage to the alternator. Installation is later carried out in reverse order.

To remove the gearbox, the air filter, the two rubber plugs from the air filter cover and the four screws that hold the cover are removed with a good screwdriver (Image 2). Then the cover can be removed. If the gasket on the gearbox has also lifted off, the gearbox is covered with a very clean cloth, and now the slotted screws of the air silencer - if present - can be removed. The sheet metal insert

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(Image 3)

(Image 4) is pulled out to the rear. It is not yet present in the old 15 hp version. Once you have removed the four nuts from the gearbox holding bolts with a 14 mm socket wrench, the gearbox can be pulled off the engine.

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All we need now on the workbench is just the engine. The armature retaining screw (wrench size 11 or 14) and the mounting screws of the pole housing are now removed. The centrifugal governor is levered out of the armature (Caution, do not damage the armature!), and the pole housing can be removed after loosening the cable 1 from the breaker.

A screw M 10x60 with continuous thread is now screwed into the thread of the armature and the armature is pulled off the crankshaft (Image 3). The complete alternator is carefully stored.

Now the engine can be turned over so that the clutch is on top. The locking plates are bent away from the screw heads, and the 6 or 12 screws (the old version still has 12 screws) are removed. Two opposite screws are loosened evenly last to avoid tilting of the clutch. After we have removed all the clutch parts including springs and spring cups, we can prepare for loosening the flywheel. For this purpose, we trim a strip of sheet metal 4 to 5 mm and drill it so that a holding device is created that is supported against the housing. You can see in Image 4 how to do it.

Now we take a 22 mm socket wrench and loosen the screw (rectangular thread) that holds the clutch (Image 5). Before that, we had bent the locking cap away from the screw head. The screw is very tight! If you have a very solid two- or three-arm puller, you can use it to pull off the flywheel. Otherwise, we have to make a puller as shown in Image 6.

To prevent the pressure screw of the puller from damaging the crankshaft, we only unscrew the flywheel screw by about two turns, so we let the puller act on the screw head. Here, too, great forces are often necessary to pull off the flywheel. Only now do we remove the cylinders and pistons and remove the six nuts of the engine housing from the clutch housing (Image 7), after the locking plates and also the two slotted screws, which are located on the housing under the cylinder base, have been loosened. The front housing half can now be removed (Image 8). The crankshaft is removed with a rubber hammer blow on the rear crankshaft journal after the light metal cover (four screws) has been removed and the parallel key has been taken out of the groove of the journal. You can also put a well-fitting piece of round material into the thread all the way to the bottom and knock the shaft out with a normal hammer. The small sheet metal cover in the front is unscrewed, the entire housing is thoroughly cleaned and the sealing surfaces are carefully cleaned with nitro thinner. On the bearings are front and rear shims and rear also a wave washer. These washers are kept well separated and safely stored. The rear housing half is now heated with a soldering lamp until the old bearing falls out to the rear. With the same heat, the new bearing is now pushed into the housing from the rear. But you have to be careful that it does not tilt! If it sits cleanly on the snap ring, the rear oil seal cover can be put on with a new oil seal and a new gasket (Image 9). Before that, however, the previously re-

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(Image 7)
(Image 8) moved shims must be put back in and the wave washer must also be placed on the bearing. If the bearing inner ring is warmed up (if necessary, reheat it slightly from the inside), the thick journal of the crankshaft can now be rubbed with some beef tallow and quickly and carefully pushed into the bearing until it stops. The two connecting rods must be in the correct position.

When inserting the crankshaft, never work with the hammer! From the front roller bearing we now remove the inner ring and warm it in hot oil, brush the crankshaft journal again with beef tallow and push the bearing inner ring with the collar side first onto the journal until it stops. The roller cage and the outer ring are now placed over the inner ring (Image 10), the clean sealing