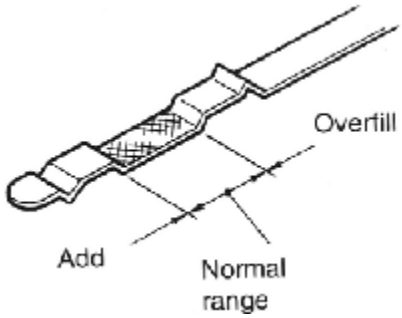
MG Car Club
Washington, D.C. Centre

Too Much Oil?

by Jim Lunson

I had a recent inquiry about the amount of oil their MG should have in the crankcase. Keeping the proper level of good, clean oil is probably the most important thing one can do to keep the engine running at its best for as long as possible. The answer is not quite as straightforward as one might think and can be the cause of expensive damage if not maintained properly.



The first and most obvious answer is that the proper amount of oil in the engine is at a level between the MAX and MIN marks on the dipstick. This is correct but may not as easy as one would think. This oil level range has been set by the engineers that designed the engine. It is a combination of how much oil is taken up by the oil pump as it circulates oil throughout the upper engine, the valves and rockers on the top, the cam shaft, cam lifters and bearings, across the timing chain, out through the oil cooler in the front, and up through the oil filter; yet maintaining a correct level in the pan to allow lubrication for the main crankshaft bearings, the piston rod bearings and the cylinder walls, the most critical components of the whole engine. The oil pump takes oil up, while the oil still left in the pan provides the most important lubrication of all. That is why the proper level is so important.

Oil for the main crankshaft bearings, the piston rods and cylinder walls relies on a simple system where small indentations and grooves in the crankshaft and piston rods scoop up oil as they rotate below the oil level and then throw it up on the bearings and cylinder walls as they rise upward above the oil while spinning. This system has to be seen in motion to properly visualize, but does the job perfectly. Having too little oil in the pan does not leave the level high enough to cover the vital crankshaft bearings. But having the oil level too high means the crankshaft sits too deep and when arising above this higher level it either cannot throw the oil far enough onto the piston walls or throws it in the wrong direction missing the cylinders. This means a high a level of oil results in the most critical parts of all not getting the lubrication they need. So too much oil can ruin an engine just as easily as too little oil.

Only after evaluating all the uses for the oil in the running engine and finding the correct angle required for hitting the cylinder walls and pistons with the proper amount of oil, did the engineers determine where the proper level should be. After

making this determination, they set the level on the dipstick markings, and that is all we need to follow. Simple enough.

The first main concern is to insure that your engine has the proper dipstick. They all look pretty much alike on MGs, but each has been calibrated for the precise markings based on the engine it is intended to be used with. To use the wrong dipstick, an aftermarket dipstick, or just end up with an incorrect one due to swapping engines, blocks, heads, etc. can mean a serious change in the level designation and result in the improper oil level. For example, there are four different dipsticks for the various MGB 1800 engines used during the cars production. All yield a different level of oil. So first check to see if you have the correct one for your engine. This is not easy and requires either checking the part with the catalogues and service manuals, or comparing it to other cars with the same engine type. This is important, especially if you don't know the entire history of your engine, or have done some modifications to it over the years. Make sure you have the correct dipstick.

The next step is to determine how much oil is required to hit the levels marked. This quantity can vary greatly from any specifications or manuals due to any changes made to the engine. There are taller filters that will fit the MGB, there are conversion kits to change the filter element type canisters to the simpler spin-on type, and there are various sizes of oil coolers available to help engine cooling. Plus changes to the head, cam, or other internal parts all change the amount of oil required to hit the dipstick level which remains constant despite these modifications.

Another problem in getting the proper oil level is in the marketing of oil products. Almost all MGs use 20W50 oil, sold in stores and used by garages in either quart or gallon containers. Most cars take an odd amount of oil to be properly filled. There are no fraction of quarts containers sold. Even bulk dispensers such as used by Jiffy Lube and others don't have 20W50 oil in their tanks and use plastic containers for 20W50. They have it for the more common oils used in today's cars where they can dial them up to as precise as 1/8 quart as necessary, but they use bottles just like you can buy in stores for 20W50 (some even charge extra if they have to use the bottles in lieu of the bulk as it takes them longer to handle them).

So perhaps the proper oil level for your MG requires 3.67 quartsfor a complete change. It is very easy for the mechanic to just use 4 of the quart bottles he has to open and pour it all in. This is opposed to taking the time to try to hit the 0.67 mark on the last bottle, and then have 0.33 left in the bottle to do something with. This is a lot of extra work that usually does not get done. Just dump it all in and go on. The other factor is the use of additives to add zinc or other elements into the oil to

enhance its performance. These also take up volume, meaning the mechanic has to further reduce the amount of oil used to compensate for this change. If this bottle or can of additive is 1/2 quart size, he now only needs to add only 3.2 quarts of oil (3.67-.50). Not likely to get done by any mechanic.

My recommendation is to, either by yourself or working with your mechanic, do the oil change once very carefully, adding new oil and any additive slowly, checking the dipstick often to make sure the MAX dipstick level is reached but not exceeded. At the same time, keep a close and precise accounting of the amount added. Start the engine to make sure the filter and cooler get filled, and all the tubes and passages have gotten recharged by the pump. Then check the level again, adding more as necessary, but still keeping a precise note of how much is being put into the engine. Once the total is established, write it down where you can find it every time you change the oil in the future. Then be sure your mechanic sees this number and pays attention to it on every oil change. If it is an odd number of quarts, make sure you tell the mechanic you want the excess from the last quart returned. You can use it later to top off the crankcase as it burns off during driving (or leaks out as MGs are known to do), but you then know he did not just put it in the engine. It is a bit of a pain, but shows you mean business about avoiding overfilling, and the mechanic will usually comply once he knows you pay attention to this important detail.

So, do some homework on the amount of oil needed for your engine. Then check your oil level often to keep that engine running strong. You will have the confidence that you have the exact correct amount in the crankcase, and remember; too much oil is as bad, or perhaps even worse that too little oil.