

## Oil Change - How to do the "perfect one"

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### THE PERFECT OIL CHANGE

The "Perfect Oil Change" is the easiest thing in the world to do. The problem is that oil changes are often seen as a chore, and the necessary time and attention are often skimmed in the rush to get to something that seems more important. You may well be the first owner of the tractor to do this right.

The first step is to get the motor good and hot. Run it for at least a half-hour, until the cylinder head is too hot to touch and the oil filter can is uncomfortably warm. This ensures that the oil is hot, which makes it flow easier, and it also makes sure that any crud in the oil is fully entrained and will come out with it.

Park it, shut it off, and immediately remove the drain plug on the underside of the engine. Have a drain pan that will hold 6 quarts of oil under the drain. You'll get a hot, oily hand, because the drain hole is big and most of the oil will come out in one big rush.

Once that is draining, turn to the oil filter can, on the left side of the engine. Remove the cap by undoing the big hexagon bolt on the top. Don't remove the filter yet. Next, locate the drain plug for the filter can – it's on the bottom of the can, towards the front. It may have a hexagon head, or it may have a square head – either way, it's usually all boogered up from people using pliers to remove it. Remove it, with a drain pan under the hole – this will allow the oil in the filter can to drain out.

Now – go away and leave it alone. Find something else to do, but leave it to drain for at least an hour, and longer if it suits you. It will drip oil for at least that long. Stop by during this time and pull the oil filter out of the can – there's a cute little folding wire handle on the top that you use to lift it out.

The longer you let it drain, the more completely it will remove all the old oil, and all the nasty stuff that's in it. There are things you can be doing in the meantime.

The first involves the big drain plug you unscrewed from the bottom of the engine. It should have a cylindrical screen of fine wire mesh attached to it. Often, this is missing. If it is, you need a new drain plug. This screen protects the suction intake of the oil pump from nasty particles that will eat the pump in short order. Your tractor has been around for 50 years at least, and I guarantee you that there are bad things lurking in the pan of the engine – sand, even gravel, and other similar nasties. The screen is what keeps those things from eventually being sucked into the oil pump and causing you a large bill. So, if the screen is missing, get a new drain plug.

If the screen is there, clean it off to a surgical standard. The best way to do this is with a volatile cleaner (like carburetor cleaner) and compressed air. Remember that the crud will be on the outside of the screen, so blow it off from the inside.

Next, turn to the oil filter drain plug. These are usually in rough shape, usually because some user couldn't find the right wrench to remove it and resorted to the pliers. If the plug is so battered that you can't tighten or loosen it with a wrench, get a new one. It's a 1/8" National Pipe Taper (Fuel) male plug, it will cost you less than 50 cents, and any plumbing or auto supply store will stock these. Steel, or brass, doesn't matter. While you're there, invest in a tube of pipe sealant, often called "dope", which is marked suitable for oil and fuel systems. I prefer Loctite PST brand, but there are many good brands.

Next, find the oil filter cap. Remove the rubber gasket from the inside of the rim of the cap. There's a new gasket packed with the new oil filter. Clean off the inside of the cap and the cylindrical stem – again, carburetor cleaner and compressed air will do a fine job. Oil the new gasket with a drop of clean engine oil, and press it into the groove on the inside of the cap.

Next, remove the oil filler cap from the fill tube next to the oil filter can. The inside of the cap is filled with a wire mesh material, and this needs to be clean. Some older cap styles are made to be taken apart, so you can remove the wire mesh and wash it clean. More modern styles do not allow this, but either way, wash out the mesh with a solvent like kerosene or carburetor cleaner, then blow it dry.

Once you are happy that all the oil has drained from the motor, replace the drain plug. A thin layer of gasket compound on the plug gasket will help it to seal tight and prevent drips. Next, wipe out the inside of the filter can and remove all traces of oil. Install the drain plug, with a thin layer of pipe sealant on the threads. Drop the new filter into the can (handle upwards!), then fill the can with clean engine oil – this will “prime” the oil system and reduce the time that the engine runs with low oil pressure when you restart it. Finally replace the oil filter cap – don't over tighten it. About a half-a-turn on the nut after the point that the cap gasket seats on the can rim is just fine.

All that's left now is to pour 6 US quarts of engine oil into the filler neck, replace the filler cap, and start the motor. Check the oil pressure gauge as soon as it starts – you will see zero oil pressure for a few seconds (because all of the oil passages are empty), but the gauge should rise to normal pressure within four or five seconds.



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