



A Beginner Mechanic's Instruction Guide to Changing Motor Oil

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SECTION 1: OVERVIEW

Changing car oil is vital for the upkeep and maintenance of all vehicles. This guide will supply you with the necessary knowledge to ensure that the job is carried through safely and effectively.

SECTION 2: TOOLS & MATERIALS

Before beginning any type of automobile work, you should collect all the necessary tools and materials. This ensures organization, minimizes over-exertion, and allows the job to be completed in an efficient manner. Granted you have the following tools and materials accessible, you should be able to complete the entire process within a half hour.

You will need the following tools and materials to change motor oil as outlined in this guide.

- **Safety glasses** – to protect your eyes from oil drips
- **Disposable rubber gloves** – to protect your hands from contaminants found in motor oil
- **Rags** – to wipe up oil spills
- **Car jack** – practice using this before
- **Jack stands** – vital for securing the car
- **Drain pan** – will be used to catch the oil from the oil pan
- **Socket or crescent wrench** – to unscrew the drain plug
- **New drain plug washer** – to replace the old washer
- **Oil filter removal tool** – to remove the old oil filter
- **4-6 Liters new engine oil** – to replace the old engine oil
- **New oil filter** – to replace the old oil filter
- **Funnel** – to avoid leaks when pouring through the fill hole
- **Container for used oil** – you may use the container from the new engine oil once empty

SECTION 3: PROCEDURE FOR CHANGING MOTOR OIL

This section will guide you through the procedure for changing motor oil from jacking up the vehicle to disposing of the used oil.

3.1 JACKING UP THE VEHICLE

Before beginning work on any automobile, you must first position the car in a stable location in the garage. This ensures both your safety and reduces the risk of possible damage to the automobile. Upon completion of these steps, you will be ready to begin work on the automobile.

Tools and materials required for jacking up the vehicle: car jack, jack stands

Steps for jacking up the vehicle:

1. Pull the car into the level ground of the garage and allow for enough working area.
2. Jack up the car.
3. Set the stands in place.
4. Apply force by rocking the vehicle to assure it's safe.

3.2: DRAINING THE OIL

Once the motor vehicle has been securely stationed in the garage, you are now ready to begin the first phase of changing the oil. This phase of draining the oil involves recognition of two parts: the oil pan and oil drain plug. In Diagram 1 below you can see the oil drain plug, as marked by the white arrow. This is a large nut or plug located under the oil pan at the bottom of the engine. Use Diagram 1 to locate the oil drain plug.



Diagram 1: Oil Drain Plug

Tools and materials required for draining the oil: drain pan, socket or crescent wrench, rags, new drain plug washer

Steps for draining the oil:

1. Place the drain pan under the oil drain plug. This will be used to catch the oil.
2. Remove the oil drain plug by loosening counter-clockwise using the proper sized socket or crescent wrench. To avoid oil from spraying on your arm, apply inward force while loosening.
3. Allow several minutes for all the oil to drain out of the oil pan.
4. Clean the drain plug and install the new washer.
5. Wipe the drain area clean using a rag.
6. Reinsert the drain plug.
7. Tighten the drain plug.

3.3: REPLACING THE OIL FILTER

The final step required of you before adding the new oil is to replace a crucial component called the oil filter. This filter acts as the vehicle's protection by removing unwanted solid entrants to the system such as dirt, carbon, and metal particles. Changing this part is critical to preventing possible catastrophic failure due to improper lubrication. Use Diagram 2 below to locate the oil filter as outlined in a white circle.



Diagram 2: Oil Filter

Tools and Materials required for replacing the oil filter: oil filter removal tool, new engine oil, new oil filter

Steps for replacing the oil filter:

1. Unscrew the oil filter by twisting counter-clockwise. If you are unable to do this by hand use the oil filter removal tool.
2. Smear the new engine oil on the gasket ring of the new filter. This creates a good seal and ensures easy removal next time.
3. Carefully screw on the new lubricated filter by turning it gently by hand until it "seats" and then give it another three-quarter turn. See additional instructions on box.

3.4: ADDING NEW OIL

Adding new oil to the vehicle is a relatively simple, straightforward process given the completion of prior sections in an efficient and timely manner. Upon completion of the steps outlined below, you will have completed the motor oil changing process with only one final step remaining.

Tools and Materials required for adding new oil: new engine oil, funnel, rags

Steps for adding new oil:

1. Pour new oil through a funnel at the fill hole. To ensure smooth pouring hold the bottle with the spout on top.
2. Replace the fill cap.
3. Ensure there are no loose tools and close the hood.
4. Wipe up any spills as best you can.
5. Start the engine and let it run for 30-60 seconds. Be sure the oil pressure light goes off.
6. Turn off the engine and allow the oil to settle for 5-10 minutes.
7. Open the hood and remove the dipstick. Wipe the dipstick clean with a rag. Accurately check the level after reinserting and removing a second time.

SECTION 3.5: DISPOSING OF USED OIL

The final step in the procedure for changing motor oil consists of disposing of the used oil. This prevents possible contamination with other liquids.

Tools and materials required for disposing of used oil: funnel, rags, container for used oil

Steps for disposing of used oil:

1. Pour the used oil through a plastic funnel into the empty container from the new engine oil.
2. Mark the container "used oil" to avoid possible confusion regarding its contents.
3. Make sure the oil filter is drained.
4. Take the used motor oil to a designated collection site in your area.