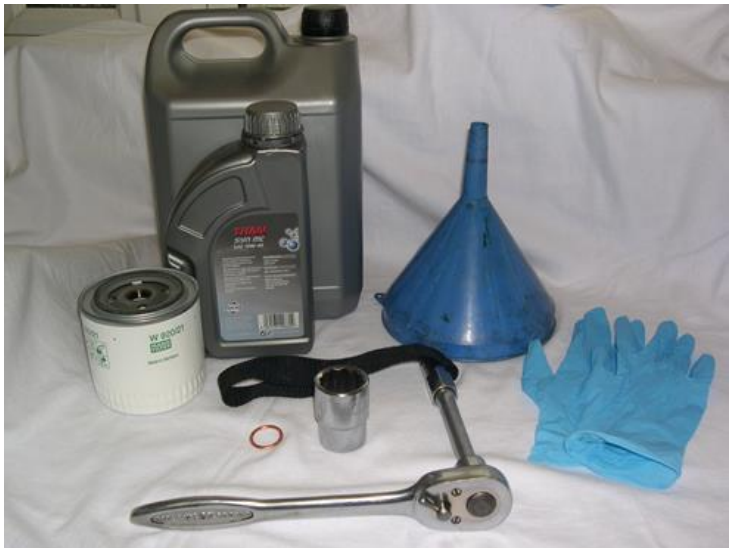

Image 1: Tools & Materials

Conducting a routine engine oil and filter change on an MG RV8

This article was written during the Covid-19 epidemic of 2020 when Government travel restrictions and personal shielding requirements during this period may have caused owners to defer routine vehicle servicing with their regular provider and some will be worried about the consequences and considering possible alternatives. The safety related aspects of servicing must not be overlooked and the regular inspection of brakes, tyres, suspension, steering, etc should be resumed as soon as possible. In this article Jim Livingstone seeks to address the less safety critical consequences of deferring an engine oil change. It was originally written for the MGBGTV8 and has been revised by John Anthistle to reflect the differences of the RV8.

What are the consequences of extending the oil change interval?

As most owners will know, the products of combustion in a petrol engine are primarily CO_2 and H_2O plus a complex mix of chemicals, some of which find their way into the engine oil. Filtration will remove most of the particulate matter but the acidic chemicals remain in circulation. One of the purposes of regular oil changes is to remove those residues. Apart from its frequency, the timing of oil changes can be just as significant. For many RV8s nowadays, winter is a time of inactivity and in such circumstances contaminated oil will have a detrimental effect on the life of the engine – the acid contaminants will attack the bearing surfaces and the particulates will settle to form sludges. For such vehicles the author would recommend an autumn oil change to give the engine an internal coating of clean oil for the winter months.

The RV8 is a relatively straightforward vehicle to service but its engine lubrication system has some peculiarities worthy of note. As owners will be aware the oil filter is located remotely under bonnet on the right-hand inner wing panel. A cartridge filter is employed and with a suitable strap wrench this can be removed relatively easily. The oil pump has the relatively rare distinction of being driven by the distributor and not vice versa. This feature allows the pump to be rotated by an external source (e.g. a power drill) once the distributor is removed - this is only necessary if the engine has been rebuilt or has been lying idle for an extended period.

The main considerations when undertaking an oil and filter change at home are:

- Do you have access to the relevant data?
- Do you possess the necessary equipment and facilities?
- Are replacement parts and materials available and are there facilities for safe disposal of the used materials?

The purpose of this article is to provide enough information for an owner to tackle this task with confidence.

Data, Tools and Materials

Data

- Capacities: Engine (including filter) 5.5 litres (filter approx. 0.75 litres).
- Oil grade: Semi-synthetic 10W/40 viscosity oil - preferably to AECA A3 or API SL specification.
- Sump plug torque: 45Nm.

Tools and equipment – see **image 1**

- Disposable oil resistant gloves.
- 11/8 inch (29 mm) AF wrench (hexagon socket preferred).
- Filter removal tool – see **image 2**.
- Funnel.

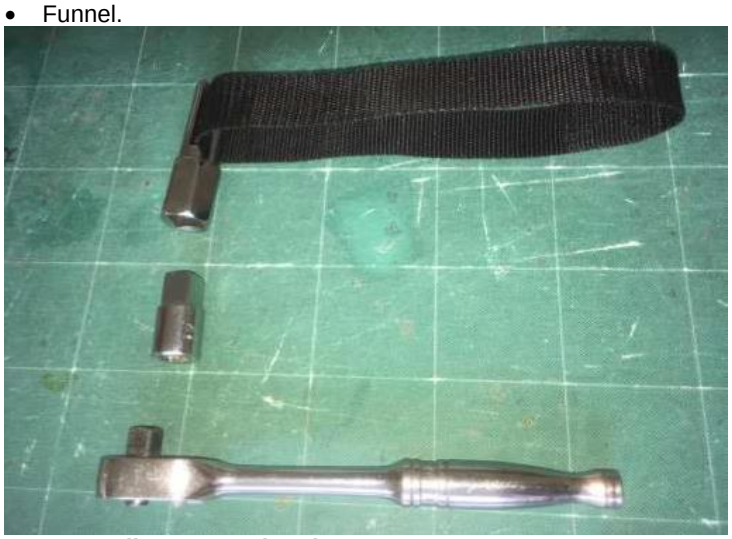

Image 2: Filter removal tool

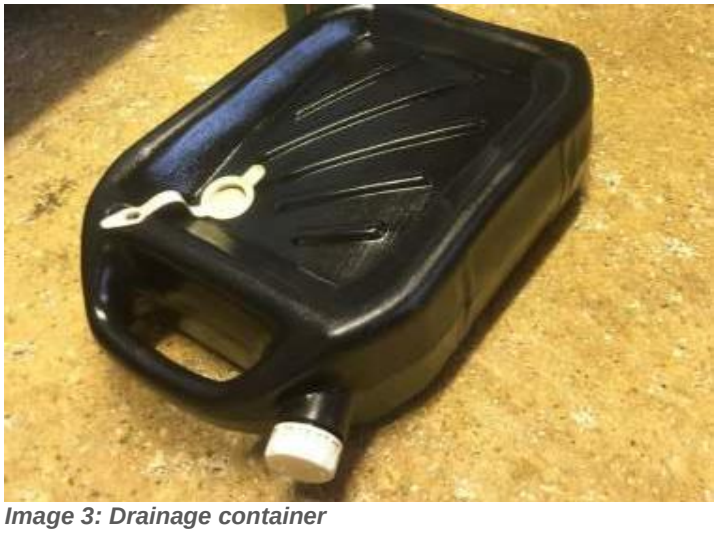

Image 3: Drainage container

Parts and materials

- Drainage container – see **image 3**.
- Low rise ramps or jack and chassis-stands.
- Oil filter, part no: **GFE121** or quality branded alternative..
- Sump plug seal, part no: **213961**.
- 5.5 litres of semi-synthetic 10W/40 engine oil.

If purchasing online it is more economic to procure several filters and sump plug seals at a time as the charges for post and packing are only marginally greater.

Procedure

1. Warm up the engine to get the particulates into suspension and reduce the oil viscosity. A brisk drive of up to 5 miles should be adequate.
2. Check that you can reach the sump drain plug. It is located at the left side rear of the sump **(see image 4)** and is most easily accessed from behind the left front wheel. The small ground clearance of the RV8 makes this difficult and it is therefore advisable to raise the front of the car, either on ramps or by jack and stands under the front suspension cross-member. NEVER rely on a jack only for support.

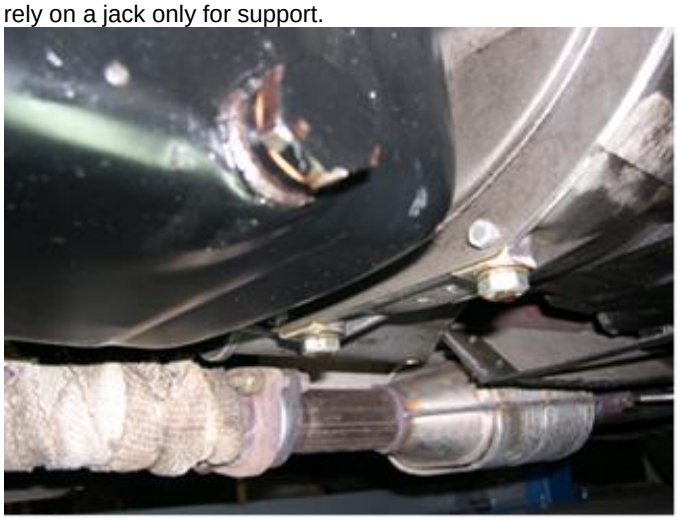

Image 4: Sump Drain plug

3. Place the drainage container under the sump, wipe clean the surrounding area and carefully remove the plug.
   Caution
   - A gallon of hot oil will exit rapidly. Ensure that you are protected from contact as it will burn bare skin and also contains harmful carcinogens.
   - The surrounding area should be covered with disposable sheeting.
   - The drain plug will be difficult to retain but will be recoverable from the drainage container once the oil has cooled.
4. Leaving the sump oil to drain, attach the strap wrench to the oil filter canister and rotate clockwise when viewed from above **(see image 5**). A spray of light oil (e.g.WD40) on to the top seal may help.
5. The canister will contain 0.75 litres of hot oil and should be kept upright to prevent spillage. It can be extracted upwards through the gap between the inner wing and engine. It is advisable to check the gap with a new filter beforehand. Some disposable sheeting under the filter and its extraction route will reduce the clean-up required.
6. Empty the oil filter canister into the drainage container.
7. When the oil has drained fit a new sump plug seal, insert the plug and torque to 45Nm. If a torque wrench is not available, ensure that the new seal is fully compressed, use a medium wrench (eg 3/8" socket driver) and tighten firmly.

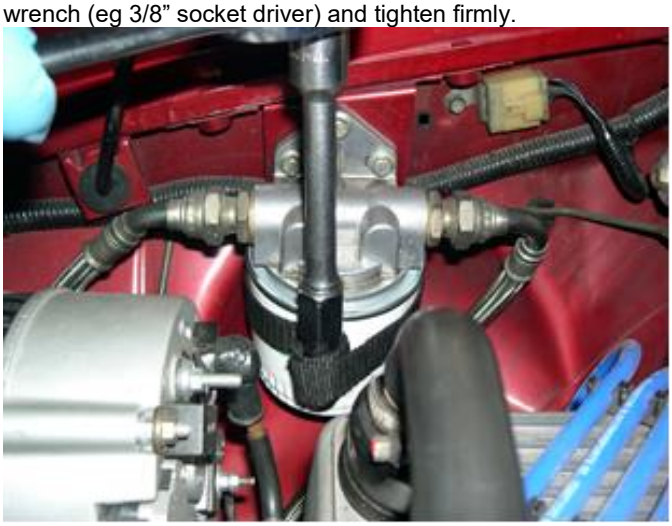

Image 5: Filter Removal

8. Remove and clean the oil filler cap and insert the funnel **(see image 6)**

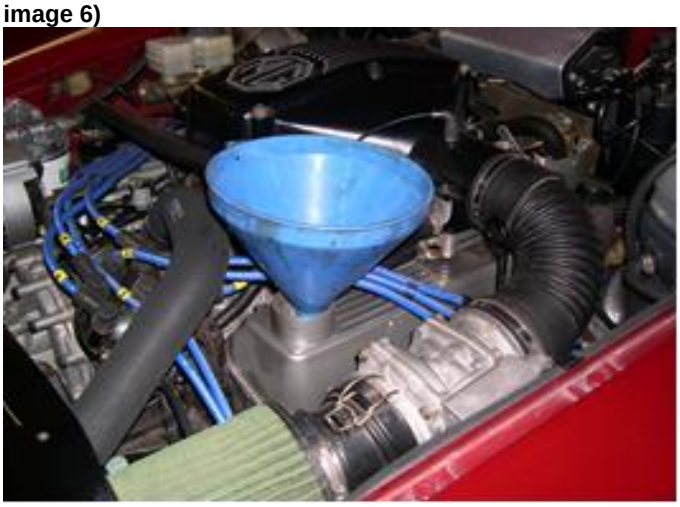

Image 6: Oil fill point and funnel

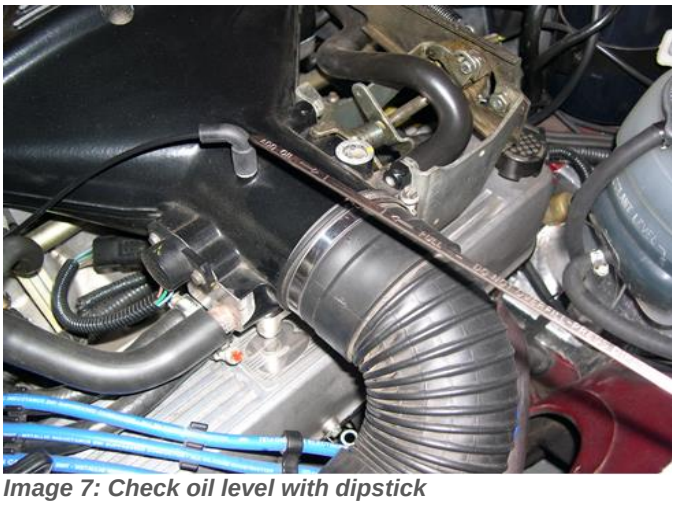

Image 7: Check oil level with dipstick

9. Remove and wipe the dip stick. Refill the engine with approximately 4.7 litres of fresh oil until the oil level registers on the dipstick **(see image 7)**.
10. Fill the oil filter canister with approximately 0.7 litres of fresh oil. This will be a slow process as it takes some time for the viscous oil to permeate the filter medium. The purpose of priming the filter it to reduce the time taken for the oil to circulate through the system.
11. Coat the top seal with fresh oil and refit the canister to the filter head. Hand tighten only – turn until filter just seats then a further half-to-three quarter turn. Do not use any tools.
12. Lower the front of the car before starting the engine to ensure that the pump pick-up is immersed in oil and aeration is avoided.
13. Start the engine and run at a fast idle (1000 – 1200 rpm). Check the sump plug and filter for signs of oil leakage. Tighten as required.
14. Stop the engine, allow the oil level to settle for a few minutes then check and top up if necessary.
15. Periodically check for leakage and level during the first week of running.
16. Dispose of all waste in accordance with local by-laws. Used oil is generally accepted at a council waste disposal centre.

Engine oil choices for the V8 engine
See our earlier articles