

2CV OILS AND MAINTENANCE ADVICE FROM BURTON CAR COMPANY

By Graeme Dennes

Revision 3

(Reaffirmed July 2022)

In the latter half of 2018, both of the writer's 2CVs suffered major engine failures during club runs. The green car failed to proceed after crossing Westgate Bridge from a likely disintegrated big end bearing. Got a lift home with the RACV! The orange car suffered a possible broken oil ring, burning a litre of oil every 80 Km. It managed to get us home. You've seen the large bright-coloured smoke plumes produced by orange flares and red flares at sporting matches? Well, this looked like a blue flare! Yes, an orange car with a huge blue smoke plume billowing behind it is impossible to keep hidden, even when driving on back streets and back roads! It attracted nearly every police officer between Licola and Bunyip on the way home! Could have been from a movie!

As both cars were in otherwise excellent overall condition and had never suffered rust, it made good sense to return both cars back to service. As both engines had given diligent service for a good proportion of their expected lives, it was deemed that full engine rebuilds were necessary.

The two best options were to purchase the necessary parts to totally rebuild the engines or else replace them with reconditioned (overhauled) engines. Burton Car Company in the Netherlands sells reconditioned 602cc 2CV engines with a two-year warranty. Mechanically, these are brand new engines with a full life expectancy ahead of them. More follows. After comparing the costs, the risk of requiring several parts orders from Europe (more shipping costs and more time) and the likely final cost and finishing date, two new engines were ordered from Burton.

The writer contacted the engineering group at Burton in October 2019 to obtain information and advice on an extensive range of general 2CV operating and maintenance aspects such as grades of oils to use in Australia, oil brands, oil certifications, use of synthetic oils, valve clearances, fuel types, engine running-in requirements, oil and filter change intervals, etc. With Burton staff's kind permission, their advice is provided below.

The writer again contacted Burton in July 2022 to seek advice of any changes to their previous information. Burton reaffirmed the earlier advice and added a small proviso regarding the use of ethanol fuels.

Fuel

Burton advice: "Use **95 octane or higher** unleaded fuel.

We strongly advise **not to use Ethanol based fuels**. *If there is no other option, use the lowest percentage of ethanol fuel.*"

Engine Oil

Burton advice: "Any good quality **20W-50 mineral engine oil** may be used. **Do not use synthetic engine oil** because modern synthetic oils don't contain certain elements mineral oils have."

Gearbox Oil

Burton advice: “Any good quality **GL-4 certified** (low sulphur) **75W-80 mineral gearbox oil** may be used. **Do not use GL-5 certified oil. Do not use synthetic gearbox oil** because changing to synthetic oil can result in more floating particles in the gearbox because synthetic oil has better cleaning properties. More particles will get loose and this can result in more damage, so always use mineral oil. In the end this will extend the lifespan of the gearbox.”

Maintenance

Burton advice: “Replace the engine oil and oil filter every 7,500 Km or every year. Ensure the inlet and exhaust valve clearances are set to 0.2 mm every 7,500 Km or every year. Replace the gearbox oil every 15,000 Km or every two years.”

Valve Clearances

Citroen specifies the inlet and exhaust valve clearances at 0.2mm. This figure is also confirmed above by Burton. Over recent years, the writer has noticed numerous comments on the internet suggesting the exhaust valve clearances should be increased to 0.25mm (and even 0.3mm!) with unleaded fuels. The writer presented this anecdotal information to Burton engineering staff.

Burton advice: “Keep the figure at 0.2mm.”

Running-In Reconditioned Engines

Burton advice: “Use a running-in period of 1500 Km for the new engine, with a maximum speed of 80 Kmph in top gear, and proportionally lower in the other gears. Minimise constant road speeds while driving and don't allow the engine to labour. After the running-in period, replace the engine oil and oil filter and ensure the inlet and exhaust valve clearances are set to 0.2 mm.”

The writer used no more than three-quarters throttle during the running-in period. The 1500 Km driving was conducted in country areas with undulating, changing roads. Perfect conditions!

Details about the Reconditioned Engines

After obtaining approval from Burton, the writer unashamedly presents the information below because of the invaluable opportunity Burton provides 2CV owners. Burton sells the 602cc 2CV reconditioned engines as part number A1.4305.

To quote from the Burton reconditioned engine manual available for download at:

<https://manualzz.com/doc/27533923/burton-car-company-s-overhauled-engine->

All of our engines are sold on an exchange basis with a refundable deposit payable on the old engine.

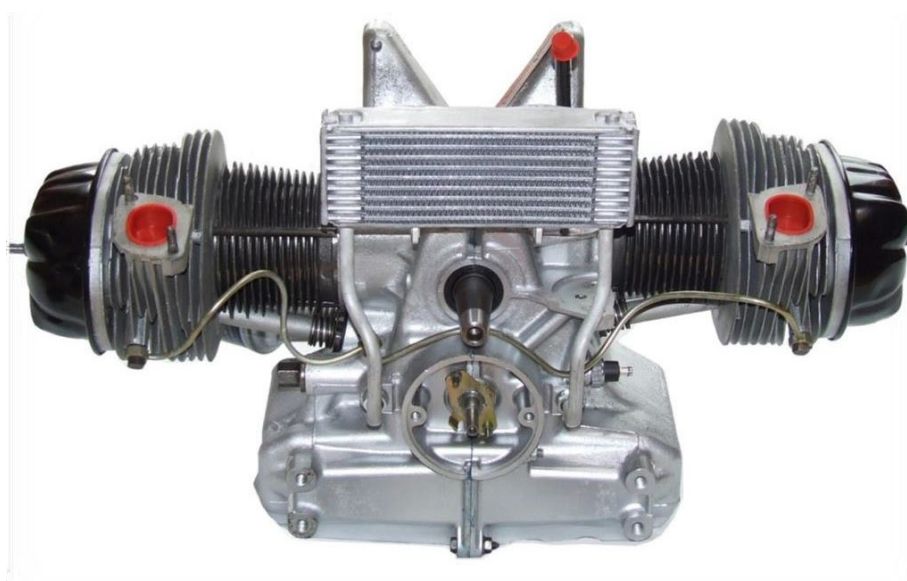
When we receive old engines, they are completely disassembled and thoroughly cleaned. All components are tested separately and measured to make sure they meet Citroen tolerances.

A lot of components are always renewed, including bearings, valves, valve guides, pistons and cylinders, piston rings, oil cooler, oil line, oil tubes, oil pump, seals, gaskets and oil filter. A reconditioned camshaft and crankshaft are fitted. *All overhauled engines are rebuilt for unleaded fuel.*

The crankshaft itself is *completely disassembled and reassembled with new main and conrod bearings via a very specialised process*. When the engine is fully assembled it is run and tested for leaks, vibrations and noises before being shipped.

Our rebuilt engines are, from a mechanical point of view, brand new so you can enjoy it for another 25 years. Due to the fact that modern machinery can achieve a much greater precision than equipment 50 years ago, we can create a reliable product.

Note that even though the 2CV engine is overhauled using the latest machinery, the engine technology remains 50 years old, and thus the engine must be run in. This is very important for the life expectancy of the engine.



Reconditioned 2CV Engine Supplied by Burton

The writer gratefully acknowledges the Burton Car Company for supplying the text and photo above and for agreeing for its use in this article. (The writer has no association with Burton Car Company.)

Before using the information in this document, ensure the most recent revision is being used.

This document may be updated in the future and assigned a new revision number.

Should you have any questions about the document or if you find errors or have suggestions for improvement, please contact the writer at: gdennes@gmail.com

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