

2CV OILS AND MAINTENANCE ADVICE FROM BURTON

Revision 6



Graeme Dennes

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Background

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 events? 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 only question was who was going to do the rebuild work.

There were two options considered by the writer. The writer could purchase the required parts and undertake the rebuild work, or purchase fully reconditioned (overhauled) engines from the Burton Car Company in the Netherlands, which sells reconditioned 602cc (and 652cc) 2CV engines with a two-year warranty. Mechanically, Burton's engines are brand new, with a full life expectancy ahead of them. More follows. After comparing the costs, the risk of requiring multiple parts orders from Europe (more shipping costs and more time) and the likely final cost and turn-around time, two new engines were ordered from Burton.

The writer subsequently fitted the Burton engines to the 2CVs.

Purpose of Article

The writer contacted the engineering group at Burton in *October 2019* to obtain information and advice on a 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, oil and filter change intervals, etc, as well as the engine running-in requirements.

The purpose of this article is to present **Burton's** advice, and it's presented here with Burton's permission. (Please note - this is **not** the writer's advice!)

The writer contacted Burton again 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.

The following is Burton's advice to the writer.

Fuel

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

Gearbox Oil

Burton's 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 become 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's 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 stated 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's advice: "Keep the figure at 0.2mm."

Running-In Reconditioned Engines

Burton's 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 periods of his two 2CVs. The 1500 Km running-in period was conducted over four days for each 2CV, in country areas with undulating, changing roads. Perfect running-in conditions!

Details about the Reconditioned Engines

After obtaining approval from Burton, the writer unashamedly presents the information below (text and photo) 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:

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

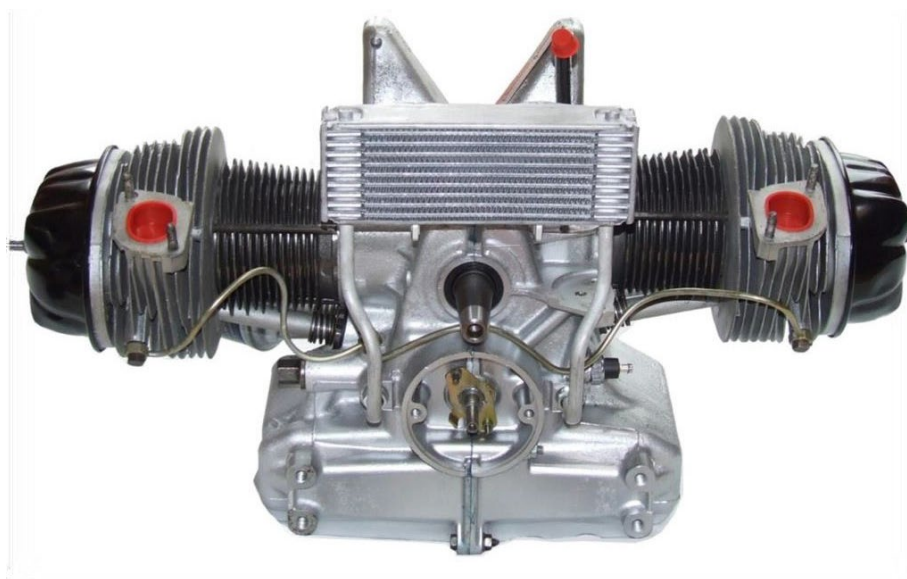
When we receive old engines, they are completely disassembled and thoroughly cleaned. All components are tested separately and measured to make sure they meet Citroen tolerances.

A lot of components are always renewed, including bearings, valves, valve guides, pistons and cylinders, piston rings, oil cooler, oil lines, 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

Disclaimer.

The advice above is advice received from the Burton Car Company. It is not the writer's advice.

Should a reader disagree with any of Burton's advice above, the reader is encouraged to discuss their concerns directly with Burton via email at info@burtoncar.com or by telephone at +31 (0)575-546055. Should Burton subsequently amend their advice above, the writer would be most grateful to know and will amend this article accordingly.

The writer has no association with the Burton Car Company.

LIST OF ARTICLES BY THE WRITER

The articles written by the writer, listed below, may be freely downloaded from either of the following club websites by clicking on the adjacent links and locating the articles. Both websites maintain the latest revisions of the articles. Before using the articles, please ensure the latest revisions are being used, as the articles are updated on an as-required basis by the writer and given new revision numbers.

Citroen Classic Owners' Club of Australia: [Technical Articles](#)

Citroen Car Club of Victoria: [Tech Tips](#)

1. 2CV 40-Litre Fuel Tank
2. 2CV API GL-4 Gearbox Oil
3. 2CV Battery Charging Circuit
4. 2CV Battery Problems Solved
5. 2CV Brake Saga
6. 2CV Buyer's Questions
7. 2CV Carburettor Cover Screws
8. 2CV Carburettor Jets and Adjustments
9. 2CV Engine Problems
10. 2CV Fuel Filter
11. 2CV Fuel Gauge and Battery Meter
12. 2CV Gearbox Output Hubs
13. 2CV Gearbox Unwinding Debacle
14. 2CV Hard Luck Stories
15. 2CV Headlights Improvement
16. 2CV Ignition Coil
17. 2CV Knife Edges Replacement
18. 2CV Low Oil Pressure Beeper and Lights On Beeper
19. 2CV Maintenance - Part 1 of 2
20. 2CV Maintenance - Part 2 of 2
21. 2CV Oil Breather
22. 2CV Oils and Maintenance Advice From Burton
23. 2CV Points Ignition Reinstallation
24. 2CV Roof Rack
25. 2CV Secondary Choke Butterfly Adjustment
26. 2CV Spare Parts to Carry
27. 2CV Valve Clearance Adjustment
28. 2CV Workshop
29. Better Fuel Hose Clamps – **applies to all vehicles**
30. Better UHF CB Car Radio Performance – **applies to all vehicles**
31. Ignition Coil Ballast Resistors – **applies to all vehicles**

FINAL STATEMENT

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