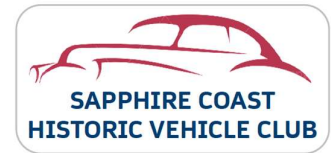


NEWSLETTER

No. 5 - February 2025

www.schvc.com.au



Reminders

"Cars & Coffee" meet up is on again this coming **Thursday at 10am at Candelo Store Cafe.**

Get those cars & bikes out & come for a cruise in the beautiful, lush Bega Valley.

This is our weekly casual catch up for coffee at a local cafe. No bookings required just turn up.

Everyone is welcome.

Italian Run - ending with Dinner at the **Seahorse Inn - Boydtown**

Sunday, 23 February 2025

3:00pm - 8:30pm

Meeting at Craig and Pam's place at Wolumla for an afternoon tea

The Italian Run will again kick off at Craig and Pam's at Wolumla for an afternoon tea at 3.00pm. Please bring a plate to share. The drive will take us back through the hinterland ending up with dinner at the Seahorse Inn, Boydtown.

Craig & Pam's address: 401 Candelo Wolumla Rd, Wolumla (4km from Hwy turnoff, on left 100m before Old Soldiers Rd/Crematorium)

Canberra Rally

Last Saturday and Sundays Classic Rally visitors. A Ford and an Alpha - what more could anyone need?! 🤖 A nice bunch, very appreciative of our breakfast offering and very, very envious of our Club and our facilities. It is nice to be reminded about what we have, something we sometimes take for granted and something we need to ensure we preserve and improve upon as current custodians, following the tremendous effort of many past and current members. Fifty-six enthusiasts showed up with forty-eight actual competitors.



Checkpoint at Nethercote Road – thanks Fred





Morning briefing Sunday



Breakfast Sunday Morning



Robyn's Nest Breakfast 11th Feb



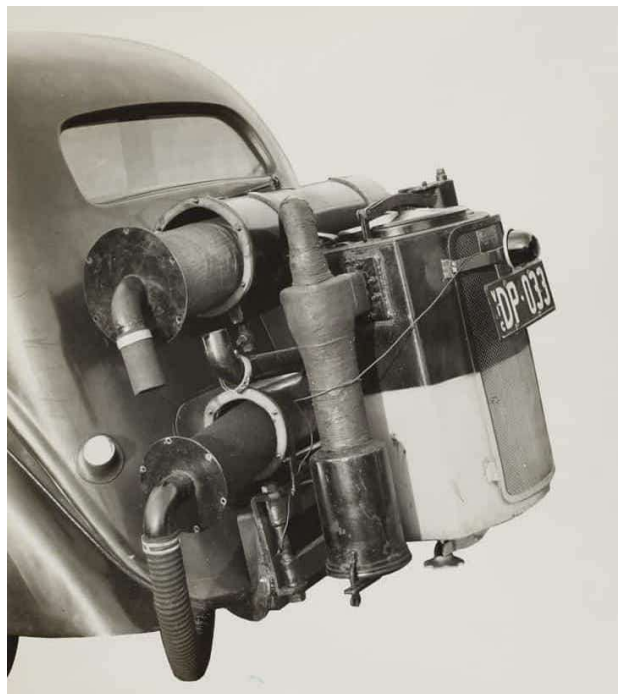
A hearty breakfast at Robyn's Nest was attended by twenty-five of our members. The weather did not hold up too well though, but the food made up for it.



THE VW BUGGY BEING WORKED ON, TYRES HAVE BEEN CHANGED AND INTERNAL FLUIDS BEEN DRAINED OUT OF THE ENGINE. NON-STANDARD SHEETMETAL WILL BE REMOVED SOON AND ENGINE TO COME OUT. GOOD PROJECT FOR THE EMHS STUDENTS

Who needs Electric? Gas fuel from wood or coal

During both 20th century World Wars, petrol and diesel were rationed in warring countries, so alternative fuels were developed. The most popular were gaseous fuels, made by on-board wood, coke or charcoal 'gas-producers,' or supplied from coal-sourced town gas



Victorian-registered gas-producer equipped car.

Combustible 'wood-gas,' derived from the partial combustion of wood, coal and other carbon-based materials, dates to the mid-1880s, but these systems were large and designed for static applications.

However, when wartime constraints were imposed on some countries – notably France, Germany, Great Britain, USA, and Australia – designers got to work producing compact gas-producers that could fit on cars and trucks.

Parallel with those developments, other companies developed systems to allow on-board-vehicle storage for town gas. The most usual form of on-board storage was a huge, rubberised fabric gas-storage bag that sat on a frame above the vehicle.



This type of town gas storage bag was also often used by wood-gas-fired vehicles, to increase their performance, by ensuring adequate gas supply and to improve driving range.

Although these enormous roof-top bags looked ponderous the weight involved was minimal, because wood-gas had about the same specific gravity as air and town gas was only half as dense as the atmosphere.

Wood-gas was composed of around 50-percent atmospheric nitrogen (N_2); 27-percent carbon monoxide (CO); 14-percent hydrogen (H_2); 4.5-percent carbon dioxide (CO_2); three-percent methane (CH_4) and less than one-percent oxygen (O_2).

Coal (town) gas was composed of hydrogen, methane, and carbon monoxide.

Both these forms of alternative fuel suffered from the same problem. They produced competitive combustion heat per kilogram, when compared with liquid fuels, but had poor combustion heat per cubic metre, unless compressed: ideally, into liquid form.

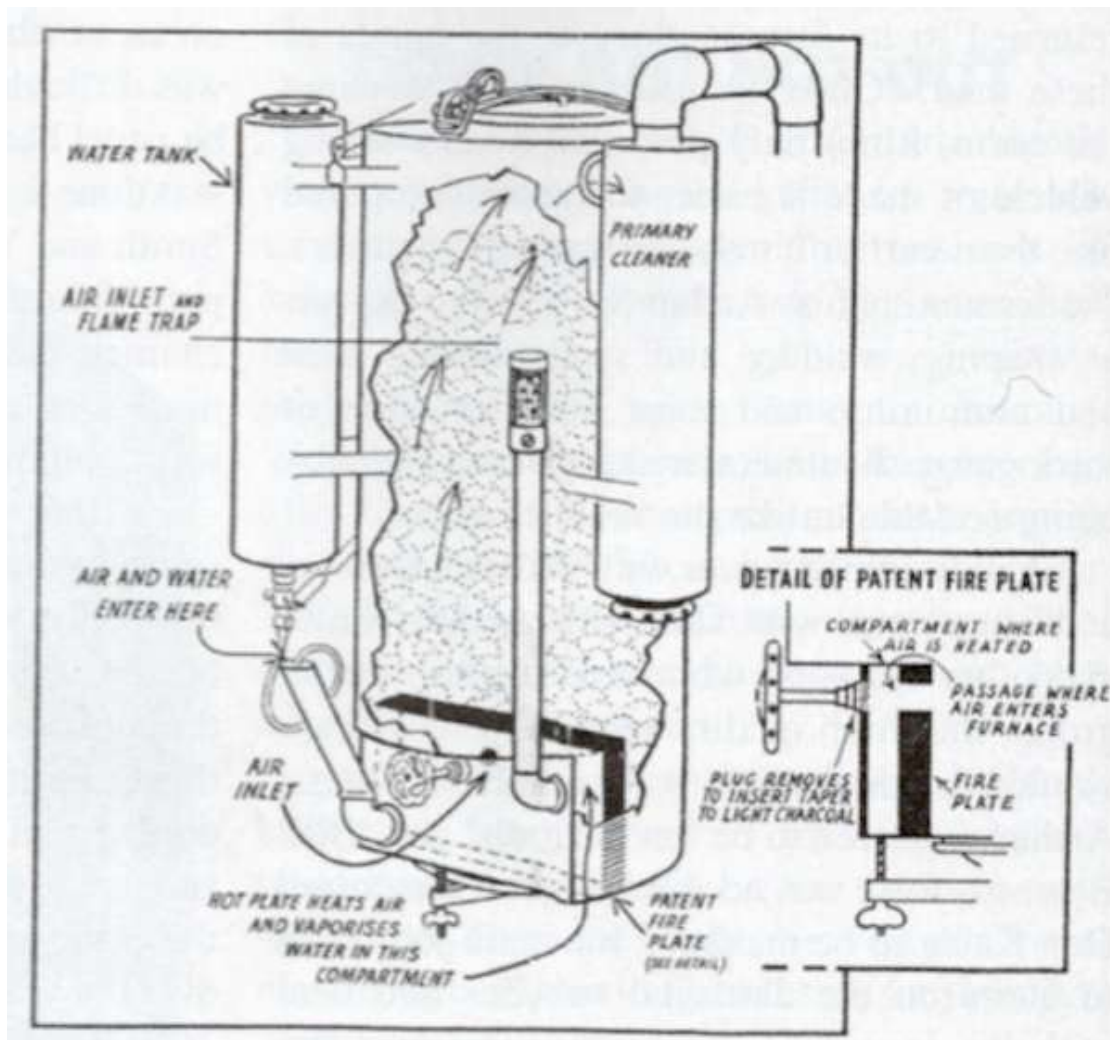
The technology to compress these gases in steel tanks was not problematic, but wartime conditions prohibited the diversion of steel for other than military-vehicle fuel tanks. However, some French WWI civilian vehicles had compressed-gas rooftop cylinders.



Yet another issue was that hydrogen posed a leakage problem and compressing it made that situation worse, so it was judged better to leave light gases at ambient pressure in a larger container. (Proponents of modern

hydrogen-combustion vehicles are discovering the same leakage issues in the 2020s, because highly compressed hydrogen can leak through tank walls; let alone pipes, valves, and fittings.)

Wood-gas generators



Australian Pederick gas-producer – Cheney's in Melbourne was a distributor.

The wood-gas generator was an airtight vessel into which was placed a charge of wood, charcoal, or anthracite coal. Heat was applied to the fuel, either internally or externally, to initiate self-sustaining gasification of the fuel, in an oxygen-restricted environment.

The resulting wood-gas was piped into a reservoir, or in the case of small engines, directly to the engine's carburettor. Larger-engined vehicles required gas reservoirs to compensate for gasifier output that was less than the gas consumption rate of the engine. Hence the size of roof-top bags on taxis, buses, and trucks.

After WWI ended, petrol availability ensured that gas-producers were surplus to requirements, except for some remote-area applications and for farmers and enthusiasts looking to be self-sufficient; or so, because most gas-producers needed some petrol for initial startup.

In the between World Wars period there were gas-producer equipped trucks, agricultural tractors, buses, and small vessels operating successfully in India, Myanmar, China, Rhodesia, Syria, Latvia, and Russia. Many outback Western Australia farmers relied on gas producers, as well.

In 1933 two one-tonne vans made a journey from Haifa through Damascus, Baghdad and Tehran to Kabul, the capital of Afghanistan; fuelled by gas generated from charcoal bought in villages along the route.



For the UK's RAC Bournemouth Rally of 1934, an unmodified motor car was fitted with a producer-gas plant and completed 1600km, burning 300kg of charcoal and twenty-two litres of petrol. Some RAC Rally tests required petrol-only consumption: hence the high petrol usage.



VW Kübelwagen with gas-producer mounted in front of the axle.

The use of gas-producers increased dramatically during World War II; particularly in Germany, where some half-million vehicles were so equipped. European countries and Australia also had thousands of wood-gas vehicles.

This charcoal burning, gas producing power unit is on display in the Australian War memorial, in the ACT.



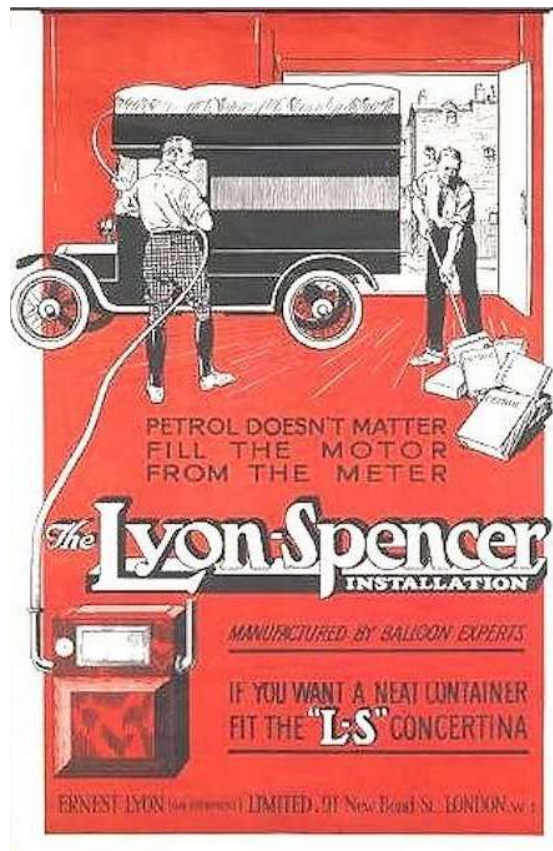
AUSTRALIAN WAR MEMORIAL

RELAWM32956.001

Manufactured by Electrolux in Melbourne as a substitute for petrol engines up to 30bhp. The main components of the unit are a large cylindrical charcoal burner with a circular hinging lid, a generator and a filtering and cooling system.

At the rear of the unit there is a steel mounting bracket, for attachment to a motor vehicle. This unit is a heavy duty up-draft type, advertised by Electrolux as the 'C' or 'Senior' model, which has a water system to enrich the gas produced by the unit, while reducing charcoal consumption. Larger models designed for truck use were also made by Electrolux and several other Australian manufacturers.

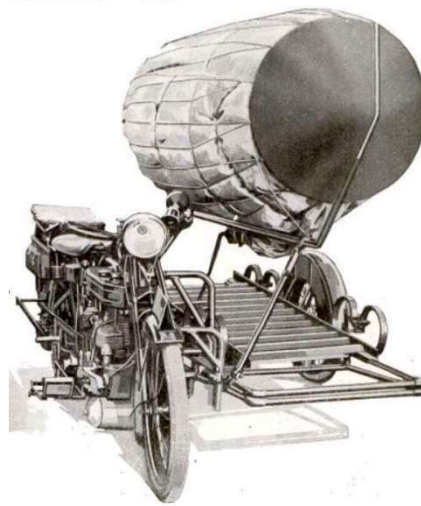
Town gas vehicles



Where town gas was available it was also used as petrol and diesel substitute, using a larger roof-top gas bag than the range-extending type used on wood-gas vehicles. On buses and trucks the bags could have a capacity of around thirty cubic metres.

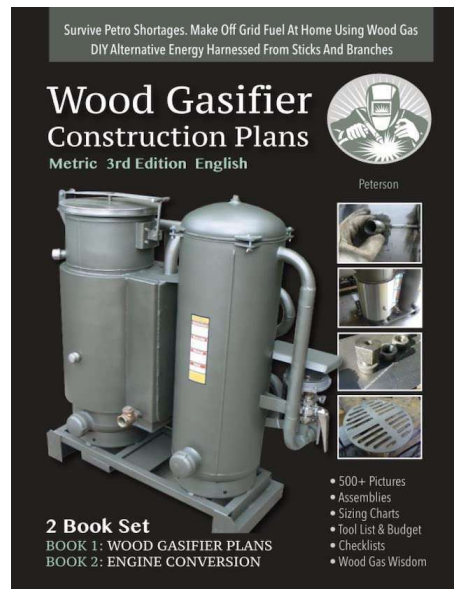
In some instances, the gas bags were filled from household mains and in others there were modified fuel stations with gas outlets.

Several global manufacturers produced kits with rubber hoses, for connecting a household gas meter to the roof-top bag.



Popular Mechanics Magazine sketch

Huge bags on top of cars were precarious enough but pity the motorcycle rider with a gas bag above his head. Imagine the handling in a strong cross wind! Interestingly, the off-grid world could access building instructions for a wood-gas unit, as this 2024 Amazon ad shows:



For more reading on the design, structure and operation of wood-gas, gas producers, we suggest you get onto the Retro Technology Museum and Wonders of the World websites.