The 1901 Locomobile Long Wheelbase Runabout
Locomobile
STEAM CARS

LOCOMOBILE STEAM RUNABOUT
Has gasoline capacity for 125 miles Extra long wheel base All conveniences

Many people early last summer bought gasoline runabouts, but sold them later on to buy Locomobile Steam Cars. If you want a powerful and strongly constructed runabout, you can not do better than to purchase a Locomobile. Easy in operation; easy to control and has wonderful hill-climbing powers.

Write for descriptive booklet showing many styles and giving list of records and victories.

The Locomobile Company of America
GENERAL OFFICES: BRIDGEPORT, CONN.
BRANCH OFFICES: CHICAGO, 1324 Michigan Avenue
                  BRIDGEPORT, Factory at Seaside Park
                  LONDON, 39 Sussex Place, So. Kensington

Members of the Association of Licensed Automobile Manufacturers.
A few Facts so you do not need to read the rest of the Pamphlet

- Made June 1901 by Locomobile in Bridgeport Connecticut USA
- Designed by the Stanley twins of Stanley Steamer fame
- Last used in 1906
- One of two long wheelbase runabouts known, the only one believed to be in working order
- Appeared in 1977 after over 70 years “storage”
- Complete and “completely worn-out” when found
- Almost totally original
- Fitted with many period “performance” accessories
- May have competed in the New York to Buffalo Endurance race of 1901
- Restored from January 1998 to date
- Steam powered, nominally 5.5 horsepower
- Fired by liquid fuel: petrol, paraffin, lamp oil or kerosene
- Carries 30 gallons of water and 4 gallons of fuel
- Boiler works at 200 pounds of steam pressure
- Max speed about 35mph, in very short bursts (if you are brave enough)
- Should maintain about 15mph on good roads
- Uses about 1 gallon of water per mile
- Does about 15 miles of fuel to the gallon
- You sit over the boiler
- The boiler sits on the burner (about 2,500 petrol blowlamps)
- Single brake on differential
- Chain drive to rear wheels
- Tillers steering, with a Gong to warn others
- Three different pumps to put water in the boiler
- You start the “fire” with a blowlamp or hot poker
- Original boilers copper and wire wound
- Often fitted with a wicker whip holder
- Will go almost as fast in reverse as forward
The car is now complete and obtained an MOT on the 29th June. I will try to illustrate the history of the car, as we now know it, and what has been done during my period of ownership.

Restoration has been hampered by the very limited information on long wheelbase runabouts available. I have used personal contact with the Stanley Museum in USA, Art. Hart USA (professional steam car parts supplier and restorer), Dick Gasparotti (DG) in the USA (multiple Locomobile owner, in his late eighties) and Donald Ball USA (author of the Locomobile Genealogy) to supplement the many people in UK and Australia who have helped with information. I used mainly the following as a guide:

1. Some American light steam carriages “An English Engineering Appraisal of the Stanley/Locomobile”
   W Worby Beaumont, Motor Vehicles and Motors (J B Lippincott 1900/1902)
2. Self propelled motor vehicles
   James E Homans (Audel & Co) 1902
3. Floyd Clymer’s Steam Car Edition
   Clymer (Pub. Clymer) 1940’s
4. Genealogy of the Locomobile 1899-1904
   Donald Ball (Stanley Museum 1994)
5. Steaming through New England with Locomobile
   Villalon & Laux (Journal of Transport history vol.5 1979)
6. New York to Buffalo Endurance Run 1901
   Horseless Age September 11th & 18th 1901
7. Locomobile Sale brochures 1902, 1903

PREAMBLE

I believe that the correct identification is that of a Long Wheelbase Runabout (LWR), based on the wheelbase of the chassis (75 inches in my car and 75 inches in the LWR) and also by using computer aided design I have measured the LWR from catalogues and from pictures of the only other survivor (a 1903 version, pictures enclosed). The results show, using wheel diameter as the standard measurement (28 inches) the body dimensions rear of the front box match exactly, for example rear main body 42 inches, other cars around 35inches. The front box has been spliced in and according to respected restorer of carriages pre dates the car by about ten years or so. Dick Gasparotti (DG) tells me that LWRs were made from the middle of 1901, they appear in the 1902 catalogue, and one was entered as car No.39 in the New York to Buffalo endurance race in September 1901 (See ref. 6) The car entered as No39 by Locomobile would be about the same weight as mine, I have been unsuccessful in obtaining further information or pictures. Early LWRs had only two seats; some of the later cars had a seat in the front box.
HISTORY

The car starts its period of history as known to me in 1977; when it appeared in an advertisement, see enclosed copy. At that time, Art Hart who had just restored a 1902 Locomobile touring model B saw it, and his hand written note is on the enclosed copy. Art saw the car was essentially complete and perhaps was a Stanhope B. The sale however was made to a senior military figure in the Pentagon, and the car lost from public view. The vendor Roman Stegeman was a small time dealer and he died Christmas 1997 just a few days after I bought the car. He son is alive but appears to be in a home.

The next time the car appears it was in a small advertisement in late 1997 in the journal of the Steam Car Club. I viewed the car and purchased it from VCC Member Basil Williams in January 1998. Basil purchased the car from Langtons who I think imported it for him. I have form C&E 386 showing Langtons to be the importers, this shows the year to be 1903, and gives the car number as 4671. This number does not appear on the car, I have searched every part of it. The number 3349 appears on the engine frame and makers plate. I have not been able to find where this number came from; it took me many months to locate the engine number and longer to locate the makers plate. The car remained “un-touched” whilst in Basil’s collection.

After my purchase the car was widely researched for almost a year before work began. That research continues, but at present new information comes in at less than a trickle. Everyone has been exceptional helpful, and the Internet site for my car has received over 5000 unique visitors many of whom made contacted and offered information and support. The only avenue that has been unsuccessful is contact with the Archives held in Bridgeport Connecticut, which is odd as the town historian is a partner in a Classic automobile business with an interest in Locomobiles!

RESTORATION/REFURBISHMENT

My Personal objectives

- To bring back the vehicle to a usable condition
- To alter nothing that cannot be changed back except if it was already “none original”
- To maintain the best standard of historical accuracy commensurate with operating the vehicle safely
- Not to over restore, but present the vehicle in a “used state”
- To keep all parts that were replaced
- To run the vehicle and keep it in the public eye

Condition at purchase

Almost totally complete, missing only the safety valve and the steam automatic. The car was difficult to identify because of the replacement front box. The wooden body was in poor overall condition, but complete. The mechanicals were complete, worn out but relatively unmolested. The boiler was an “Oswego” high-pressure model, a Kelly regulator and Union steam driven water and air pump were both present, as was a Klinger water gauge. The pressure gauge was lined at 400lbs and wooden wheel for 30inch diameter were fitted. I will deal with all the individual items and their fate below.

Identification

The front box caused everyone a problem, as it changed the appearance so much. Eventually I took notice of the 75inch wheelbase and the only match for that was the LWR. I then found as many original advertisements for this model and DG sent pictures of the other survivor. It was then possible to “measure” the car against the pictures using CAD and the dimensions match exactly, except for the front box. The box had been spliced in to the main wooden member, so was not original. Age from engine number of 3349 would be mid 1901, block chain died out about June 1901, the small epicyclic differential was used only in mid 1901 as was the newly developed double acting brake, the water pump is 1901. The Kelly pilot and regulator was a common fitment (Homans 1902) as was the Klinger gauge (available in the US early in 1901). All the cars other features are standard to most Locomobiles.
Speculation

The car has had a hard life; of this there is little doubt. It has been run at 400psi, twice the normal pressure, with a period boiler upgrade. It has the much superior (to Locomobiles’ own) Kelly pilot burner and control. The engine crankshaft had almost 15 degrees of twist in the keyways, combined with the unusual 2:1 gear ratio and wooden wheels suggest high torque and perhaps high speeds. It has the very rare and interesting Union steam driven air/water pump. Homans (1902) describes this “splendid” accessory. The cars steering was set to the driver’s side from the tiller with the passenger side connected with a tie rod. Much speculation has been made in the steam car community on both sides of the Atlantic whether this car was an oval or perhaps an endurance racer.

Details

Chassis

The chassis was generally in good order. The main reach rods that determine the cars length were badly bent. These were stripped to reveal the original brazed gas-pipe tubing, with no additional sections added, confirming the wheelbase to be 75 inches. Both were replaced with strong lightweight tubing, one original has been kept. The rear assembly housing the axles was “inches” out of alignment and much ingenuity, strength and heat was required, but it is aligned now and totally original. The rest of the chassis was lightly blasted, the springs checked and the whole painted. Care was taken to free and grease the rearmost part of the reach rod assembly which articulates allowing the rear of the chassis to flex and twist.

Body Tub

The wooden body was in poor condition, though complete and largely original except for the replacement front box. My original intention was to work with a local craftsman and do some of this work myself (I hate woodwork). My disabilities and lack of a suitable craftsman forced me to place this part of the project with a restoration specialist, David Royle of Co. Durham. We worked closely together, salvaged what was salvageable and they produced an excellent result. The body tub incorporates some of the old timbers; any not used have been saved.

Seats

The seat was completed including some of the leather and the horsehair stuffing. The seat frame was repaired at Royles and is original; the leatherwork was beyond salvage and was only used as a pattern. The old leather and horsehair has been destroyed because of the risk from tetanus spores.
Wheels

The wheels that came with the car were wooden and measured thirty inches in diameter. The Americans feel quite possibly original as they visually match those used by locomobile on the few cars fitted with wooden wheels by the factory. The UK prefers to go for a later post factory scenario. I have stored the wooden wheels and they could be refurbished and be refitted, but felt with the already high gear ratio fitting the standard 28inch bicycle type was the best starting point. These have been fabricated from drawings taken from several vehicles and archive material.

Steering

As a result of whatever traumas caused the damage to the original front box, the passenger’s side front stub axle had been replaced with a rather “blacksmith” effort, the driver’s side was original (now stored) and in very poor condition. These cars suffered poor design of the stub axle using a very small length of coarse thread to hold the stub axle to the upright pivot, locking it with the steering-link arm (also with a short length of coarse thread). Failures were and still are common. We have fabricated copies from blocks of EN8, these are visually identical, but are in one piece so hopefully eliminating this common failure. The tiller and all the rest of the steering is original requiring only cleaning and painting.

Differential/Axle

The differential was intact requiring only cleaning and new bushes making. The outer casing was badly scored from the brake band rivets so a ring was machined, heat-shrunk and keyed to proving a proper surface on which the brake could act. The axle half-shafts required much work so they have been stored in their “used form” copies machined and modern bearings used. All the original “cycle” bearings (shells and balls) have been stored, the whole assembly could be rebuilt with the original parts though it would be too worn and damaged to work. No changes have been made to the chassis part of the rear axle.

Brakes

What fun. The car came with the original double acting brake assembly, and a leather lined brake band. The brake rod was weakened by rust; the brake cross-shaft including foot-stands and brake pedal requiring only cleaning, re-bushing and new clevis pins. All parts except for the rod have been used, but setting the geometry and choosing a lining material was a story in itself. The brake now works well enough to pass the MOT, so I think I have the geometry right, the lining is “Gandi” belting from the days of engines and machines working “on the belt”. Leather either worked or snatched, whilst modern material are too rigid.
Chain

This is a most interesting feature, being a block type and widely believed to have been last used by Locomobile in 1900 on small cars and 1901 on the larger cars. The block chain sprockets are in good condition and the chain itself serviceable, all have been used. I plan to make a new chain over the next few months and retain the original as a spare.

Engine

Complete and with original steam inlet and exhaust fitting and displacement lubricator all in fairly good condition. The engine is a type 5 (see Genealogy of the Locomobile), which is correct for its age and number, introduced early in 1901. The main bearings had seized and their casing split, they have been replaced with modern equivalents to exact size, originals stored. The big ends with their external adjustment were salvageable and refurbished by a professional bearing company. Bores and pistons untouched seemingly protected by tallow in the steam oil. Eccentrics freed up but their arms had bent presumably following various seizures. These took much thought and straitening but they seem to be right and are all the same length give or take a thousandth of an inch!

Piston and valve rods had corroded and have been replaced with stainless steel (originals would have been nickel plated so appearance is the same). All other components cleaned and reused, except for the twisted crankshaft, which was replaced (original stored).

Control gear

Throttle and reversing linkages and quadrants all cleaned and reused. I have resisted the pressure from the USA to copper fill the pitting in these items and rechrome them, just painting them matt black seems to look right.

Boiler

Original boiler looks good, but I don’t think anyone would insure it! A modern insurance approved boiler has been made. The original boiler is stored with the car. Safety valve missing and has been replaced with a modern insurance approved type.
Boiler Fittings

Auxiliary throttle, throttle and the “flexible” steam pipe to the engine are all original and refurbished. Water gauge original but I have had new glass and gaskets made. Locomobile stand pipe and try cocks all original needing only light cleaning and new packing. Hand pump is the correct 1 inch bore type and required only cleaning, re-seating the valves and re-packing. The wooden handle was missing and a new one has been made. The engine water pump is the later “tee” type of ½ inch bore, first introduced in 1901. A new ram and connecting rod were made otherwise the pump was in good order.

Gauges

Both steam and air pressure gauges came with the car, they have been professionally serviced and are totally original.

Steam ancillaries

The main steam ancillary is the Moore patent pump, this was highly thought of in 1901. I enclose the original patent papers for it. It took me many months to get it to work, the main problem being to machine out the steam cylinder and re-sleeve it. Only a couple of examples survive and I believe this to be the only one complete and working.

Pipe work

Nearly all the pipe work was present and made of brass some of which had been nickel-plated. In contact with steam the brass would de-zinify, some of this pipe failed at boiler pressure when tested. After consultation with the boiler inspector, coded stainless 3000psi steam tube was used to replace the brass. The appearance is very similar to nickel-plate. All fittings directly into the boiler are new, as soon as a tap or one-way valve (all original) occurs original fittings i.e. tee, unions and elbows are used. This is a compromise between safety, originality and function. Most of the new fittings are close to the boiler so the characteristic pipe work with its’ narrow shouldered unions and tees is preserved in the visible areas.

I looked at all the components of the system and examined any trademarks if present. I searched the USA trademark web site, finding most of them; all were in use in 1901, the majority out of use by 1903. I conclude that they belonged to the car originally or were added very soon after manufacture.
**Burner and control system**

Only part of the burner tray survived the tin beetle, so a modern copy has been made after the Ottaway design. This has a close resemblance externally to the original Kelly/Locomobile type with a hoped for 40% increase in heat output. I have retained the Kelly controller (the date for this must be prior to 16th July 1901 as it has a plain unmarked casting not showing the patent date) and owe a debt of thanks to Sarah Stanley (Stanley granddaughter) and husband whose design I have followed to mate the Ottaway and Kelly together. I believe mine doubles the number in use! Other taps etc. are all refurbished originals.

**Exhausts**

The steam exhaust is a simple pipe dropping into the conical hole in the water tank, hence warming the tank water, then to free discharge beneath the car. The burner exhaust was a puzzle. The part rusted parts with the car were of the dos-a-dos type and the body had been made to take the side exits. After much consultation it was decided to keep this pattern and a copy was made. No evidence one-way or the other has come to light as to whether this is correct for my particular car.

**Fuel and air tanks**

Original fuel tank remains intact, but was deemed unsafe at pressure test (the working pressure should be 60psi), the test abandoned at 30psi following distressing noises. The tank held a lower pressure, so has been used to store the fuel un-pressurised. The air tank was badly modified (wrecked I think you call it) a new one fabricated and used as an air/fuel reservoir under pressure, fed by hand and engine driven pumps. The external appearance of the tank is little different from the correct Locomobile item, and the pumped system used a few months later by Locomobile anyway. The compromise is safer, allows use of the original fuel tank and is reversible.

**Muffler and heat exchanger**

The external casing was in the same order as the air tank so a new case has been made. The top and the heat exchanger are original and have been retained.
Water tank

Original copper tank with a few patches added over the years. The tank has been enlarged in typical Locomobile fashion by using two top and bottom ribbed pressings to increase the capacity and utilise the extra space in a LWR, these by the factory at manufacture. The tank has been cleaned, made watertight and used as is.

Paint

Coach paint red for the chassis and an antique black for the body. Hand brushed, the finish looks excellent and as close to the original as possible. I have used an antique black (looks brown in some lights) as I understand there were no true blacks until about 1905. Colour scheme is speculative; the car was all black when I purchased it with traces of red on the chassis metalwork. The first post Locomobile “patent battle” Stanleys used this colour scheme.
I have done most of the work myself, with the most able and welcome help from friends and family.

David West

Ormskirk July 2001