Newsletter

No. 54 June 2008

The Roads and Road Transport History Association www.rrtha.org.uk

Clarkson Ltd.

Roy Larkin of successful Public Service in The third year England. These Cars have no Change Gears and no Clutch. They have Direct Drive at all Speeds, hence the characteristic smooth and swift movement. Paraffin Fuel is used. CLARKSON LTD. helmsford. Advert from Commercial Motor, 1906

> These proved too expensive in a marketplace swamped with cheap war surplus motor lorries and few were sold. The last known activity of Clarkson Ltd. was in 1925.

Clarkson & Capel Steam Car Syndicate Ltd from Dalston, East London first produced a vehicle for the 1899 Liverpool Trials. In 1902 they moved to Chelmsford, Essex, became Clarkson Ltd. and built their first steam bus in 1903 for Torquay.

A double-decker was exhibited at the 1905 Olympia Motor Show and by 1907, some 47 paraffin fuelled steam buses had been sold to the London fleets.

Their main customer, the London Road Car Company, ran 7 of the 11 Clarksons in London in 1906.

With petrol becoming the preferred fuel choice, Clarkson began operating his own fleet, the 'National', in 1908 to maintain production and sales. With garages at Nunhead, Poplar and Putney the fleet peaked at 173 double-deck buses by the Great War.

The fleet survived the 1914-18 war, with some running on coke as paraffin became scarce, and the last was withdrawn from service in 1919. The last known Clarkson running was on the Isle of Wight and withdrawn in 1921.

Clarkson withdrew from the National Group in 1920 to concentrate on building steam lorries.

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Editorial

Welcome to my first newsletter - I hope you all enjoy it.

My first duty must be to thank both Roger Atkinson and David Harman on behalf of the members for all their hard work over the last few years.

Roger has worked tirelessly to produce the newsletter that has been a credit to the Association and well deserves his retirement.

David was responsible for the design and production and it's through his efforts we have a newsletter to be proud of. On a personal note, I'd like to thank both of them for their continued help in this transition period.

My second duty is to be blunt. It is your newsletter. Empty pages don't fill themselves, so your contributions are essential in maintaining the variety and standard.

A new column starts on page 12. How successful it is depends entirely on input from members.

Tell me what you like, don't like or would like. Don't suffer your newsletter in silence just because it comes through the door.

Association Matters

New Members We extend a warm welcome to new members Kevin Williams of Bournemouth and Bob Smith of Peterborough.

Autumn Meeting

Our autumn Members' Meeting will be held at the Coventry Transport Museum at 11.00am on Saturday 27th September 2008.

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Members' Meeting - April 2008

Reg Davies opened the meeting with his presentation *Southern Railway Response to Road Competition 1918-1939.* He reminded us that among the flood of railway literature, there is little to record how during this period the railway companies found difficulty in realising that road transport was no longer an ancillary to the railway but a competitor in its own right. Like the other grouped railways, the Southern needed to apply much management time in amalgamating the various systems which perhaps led to the question of road competition being neglected.

Unlike the other grouped railways, freight was comparatively unimportant to the Southern, with three-quarters of its business derived from passengers. Coach competition between London and coastal resorts had made its presence felt early on but electrification and road congestion protected the London commuter traffic.

In the course of his talk, Reg posed some interesting questions: Was there a definite strategy to deal with road competition or was it regarded as outside its control? Did the background and attitude of the Southern directors and chief officers have a negative effect on a competitive strategy and particularly what influence did Dudley Docker have on the financial policies of the Southern?

Kevin Hey then spoke to us on *Geddes: the man and his shadow.* He gave us a brief biography of this well known name, but rather less well known personality. Eric Geddes was a railwayman, firstly in India and then with the North Eastern Railway where he rose to the position of Deputy General Manager. Becoming a member of Parliament during his war career at the Admiralty, he became the first Minister of Transport when that Ministry was formed in 1919. He was also the first President of the newly formed Institute of Transport. His philosophy of co-ordination was reflected to a greater or lesser degree in Transport Acts of Parliament from 1921 until as late as 1968 and Kevin concluded by emphasising the need for Geddes' influence on transport policy and professional thinking to be given greater prominence in literature.

Finally, Grahame Boyes spoke to us about the Railway and Canal Historical Society (R&CHS) which, despite its title is a corporate member of the R&RTHA. We were reminded that our Association was in fact formed as a consequence of an initiative by that society. The R&CHS originated from a letter in Railway World in 1954 expressing the view that there was a need for a society 'specialising in the serious study of railway history'. That was a time when the opening up of British Transport Historical Records had created interest and new opportunities, yet the existing railway societies, though not excluding history, were mainly concerned with the current scene. In 1950 Charles Hadfield had started to open up the history of canals and it was decided that the new society should combine both subjects which are historically so closely linked.

More recently, member surveys had revealed that many members were also interested in other forms of transport and the society's Articles of Association were widened to embrace the study of the history of all forms of transport but with particular reference to railways and waterways. This has led to the formation of Special Interest Groups in addition to the Geographical Groups which operate through programmes of lectures and visits.

The most recent membership survey revealed that the age profile of R&CHS members is increasing. In 1976, 50% of the members were under 36; now it is less than 1%. Unlike many societies, however, there was not yet any decline in membership which indicates that new members are joining at a later age, perhaps when other personal commitments cease to take precedence.

2008 Workshop

Following the success of our 2007 Workshop, *Leaving no Stone Unturned*, which was held in Leeds last year, a similar Workshop for the south of England is now being arranged. This will be held at the Leatherhead Leisure Centre on 18th October 2008 and we hope that as many as possible will be able to attend. Details and speakers were being finalised as we went to press and will follow under separate cover if not included.

Voie Sacrée Roy Larkin

Mention roads that have become part of transport folklore and The Silk Road, Great North Road, Route 66 and the Trans America Highway will almost certainly get mention. It is unlikely that the N35 will be included in this company.

Think of great transportation triumphs and the evacuation of Dunkerque and the Berlin Airlift come to mind. Again, the N35 is unlikely to be considered.

The N35 prior to WW1 was a quiet, minor road winding through the countryside of the Lorraine region of Eastern France. Today, it is a minor road, beginning at St Dizier and ending at its junction with the N3 trunk road some 9km east of Verdun.

Serving a largely rural community, it starts nowhere and ends nowhere, but in 1922 its importance as a transport route was recognised when it was inaugurated as a National Monument by the French Government; Voie Sacrée.

The German assault on Verdun began on the 21st February 1916. For 300 days and nights the bloodiest battle of The Great War was fought in the belief, on both sides, that if Verdun fell so would France. Defence of the Verdun salient was dependent on the constant supply of ammunition, provisions and men.

With the fortress town under attack from the north, east and south, the only supply lines were

As the threat of attack grew, a meeting had been held on 19th February to determine the use of the N35 road, which ran almost parallel to the 'Meusien'. The result was that on February 20th the Commission Regulatrice Automobile (CRA) was formed at Bar-le-Duc to regulate and assure all transport to Verdun.

On February 20th the first motor transport groupings were requisitioned from St Dizier, Vitry-le-François and Châlons-sur-Marne. These comprised 3 and 2-ton White lorries. On February 24th the Collot reserve grouping, based at Beauvais, was withdrawn from forestry work to assemble at Bar-le-Duc and on the 25th the Parisse grouping brought the total to 175 motor sections. 3,900 motor lorries, 300 officers and 8,500 men were assembled at Bar-le-Duc. This total did not include vehicles of the 3rd Army's 'Service Automobile' or the vehicles of the 2nd Army R.F.V. (Region Fortifiée Verdun).

It was decided that the Meusien would carry all the food it could, whilst the motor transport would carry munitions, engineering materials, men and the surplus food from the Meusien. All the munitions were carried from Baudonvilliers station, near St Dizier and some 16km south of Bar-le-Duc from where the rest of the supplies were loaded.

At midday on 22nd February the first lorry set out from Bar-le-Duc on the start of what was to

the normal gauge railway from Paris and the narrow gauge railway from Bar-le-Duc, some 70km south-west of Verdun and 20km north-east of the railhead at St Dizier and the N35.

Within days the Paris line was broken, leaving just the N35 and the narrow gauge 'Chemin de Fer Meusien'. This single track railway, capable of transporting just 800 tons each day was never going to be sufficient if Verdun was to be defended.



French Renaults en-route to Verdun

become an heroic feat of transportation.

The scale of the operation made it obvious that tight control and organisation was required. The road was restricted to traffic supplying Verdun, with all other traffic, including military, banned except for crossing points at minor roads. Known as 'The Route Gardée' or commonly just 'The Route', it was at the exclusive disposal of the Commander-in-Chief (Direction de l'Arrière). The name, Voire Sacrée, wasn't coined until after the war by writer and politician Maurice Barrès.

The 70km of The Route between Bar-le-Duc and Verdun was divided into 6 sections, or cantons. Canton 1 was essentially the loading yards at Bar-le-Duc with Canton 2 beginning on the town's outskirts. The Chef de Canton was responsible for controlling and maintaining the flow in his section. A written report was required to be sent to the CRA every day.



+ + + + + Chemin de Fer Meusien

Route and cantons of the N35

To assist, he had 1 officer, 2-4 NCO's and 10-20 guides or pilots. The number of pilots was determined by the number of posts placed along the canton. The number of posts being determined by the terrain and number of side roads crossing The Route in a particular canton.

The side roads were constantly used by horse drawn transport and foot soldiers as well as the local population. Keeping the side roads flowing freely without delays while crossing The Route was as important as The Route itself.

The pilots, usually with motorcycles but sometimes small cars, controlled the speed of the convoy to allow traffic to cross The Route or negotiate stricken vehicles or road damage. By controlling the speed, the flow was maintained without ever stopping. This is possibly the first time that the concept of the rolling roadblock was used to create road space and time to clear obstacles.

Officers, naturally with larger touring cars than the pilots, patrolled ceaselessly to detect and deal with any problem before it could create the gridlock

that would have been inevitable with the volume of traffic.

A telephone system was installed to allow communication between the cantons. This allowed the Chef de Canton to alert neighbouring cantons of any problems in his section. Trained telephone operators manned the phones constantly and used standardised phrases to help avoid confusion. Each call would start with the canton identifying itself and then the canton it was calling. All the cantons would monitor the communication and record it, but only the canton called would reply. This gave the opportunity to adjust the flow of traffic over a wider area and help ensure its continual running.

Each canton was responsible for the signage along its stretch. These signs were unique to The Route to prevent them being followed inadvertently by users of the side roads. The signs were made from boxes covered in white canvas with black inscriptions. At night, they were illuminated with candles inside the box. It

was the Chef de Canton's responsibility to ensure there was sufficient signage and that they were obeyed. The signs identified The Route and warned of corners, gradients and speed limits on particular sections. The Chef de Canton was responsible for adherence to speed limits and spacing within his section. Speed limits were set at 15kph for lorries, 20kph for sanitary lorries and ambulances and 30kph for touring cars.

During normal running the speed of the convoy, or 'noria', was below the 15kph in order to reduce wear and tear. However, in times of need as the battle intensified, speeds of up to 25kph were maintained.

Lorries were not permitted to overtake the one in front, unless it had stopped. Touring cars, sanitary cars (although not sanitary lorries) and ambulances were permitted to overtake. This permission could be retracted by the Chef de Canton when road conditions dictated, either through obstruction, state of road surface or when The Route was running at full speed.

Every tenth lorry was fitted with red discs to the rear and the following lorry was not permitted within 50 metres of it. This was to allow overtaking by cars, easier crossing of The Route by traffic on the side roads. It also made passing stricken vehicles and regulating the flow of the convoy by the pilots easier.

Drivers were strictly forbidden to stop for any reason other than breakdown or under direction from the pilots. If a lorry broke down and was not able to start again before the following one passed it, it was hitched to it and towed to a wider spot to be abandoned, or towed to its destination. It was strictly forbidden for any other vehicle to stop to render assistance. employed 14 officers and 1,430 drivers and mechanics. Those drivers are in addition to those employed driving the lorries on The Route. An additional 'parc' was at Aulnay l'Aître, employing 10 officers and 571 men. These were essentially repair and overhaul facilities and additional facilities existed at Troyes should they be needed.

All the efforts to ensure the efficient and constant running of the convoy would have counted for nothing if loading and unloading could not be facilitated in order to keep the convoy moving. Loading and unloading centres were set up at Bar-le-Duc and close to Verdun.

The centre at Verdun was outside the battle area with transport from there to the front lines continued with horse and waggon or light lorries. To have run the convoy into Verdun was deemed impossible as the narrow, war damaged streets would have created too much congestion. There was higher risk of fire and discovery by the Germans than in the countryside where camouflage was used to disguise the unloading centre.

The centres were built alongside the road and consisted of 3 yards with turning circles between them. Each yard was wide enough for 3 vehicles to be unloaded side by side and 400 metres long. The capacity of each yard was 40 lorries. The speed of unloading was such that as each lorry arrived at a yard, it was marshalled to the space left by a leaving lorry. At no time was The Route stopped while lorries waited to be unloaded.

Any vehicle damaged beyond towing was cast to one side instantly to maintain the flow of traffic. Immediately a stricken lorry was mobile again, it rejoined the convoy.

Thirty mobile workshops constantly patrolled the length of The Route, repairing any stricken vehicle they found. Eight mobile tyre workshops replaced tyres torn from rims. Vehicles deemed too bad for repair at the roadside were recovered to one of the 'parcs' for overhaul.

The main 'parc' was at Bar-le-Duc, which



Unloading yards at Verdun

Two thousand men were employed at Verdun centre, working 8 hour shifts, 7 days a week. While they were filling a yard, another yard was being emptied by transport from the front. As each yard filled the convoy was directed to another yard and using this system the yards were constantly being filled and emptied in rotation. Immediately each lorry was emptied, it was turned round and returned to Bar-le-Duc empty or reloaded for return.

Returning lorries evacuated the workshops of the Meusien, engineering factories, the Verdun lorry 'parc' and thousands of local inhabitants along with wounded or sick soldiers.

Normal traffic flow on The Route was 1,750 lorries per day in each direction, or one every 25 seconds. When the intensity of the battle increased, so did the flow of traffic and at times the traffic nearly doubled to one every 14 seconds.

air, The Route was lined with anti-aircraft and machine gun posts. Seven Escadrille Americaine fighter squadrons using the Nieuport 11 fighters were based at Vadelaincourt, alongside the N3 at its junction with the N35, and at Bar-le-Duc. These flew constantly along the length of The Route in a determined effort to keep the road protected from the air and flowing at all costs.

The Escadrille Americaine squadrons were largely made up of volunteer American pilots and were formed into the Lafayette Escadrille squadron in April 1916 with 38 American and 5 French pilots.

> Every day the station at St Dizier received 21 trains of food, 7 of ammunition, 9 of materials, 2 of troops for onward transport to Bar-le-Duc and onwards to Verdun. Every day, on average 6 trains left St Dizier with casualties, all of whom had travelled back down The Route from Verdun.

Every day, in addition to that carried on the Meusien, 15,000 troops, 6,400 tons of materials and 1,500 tons of munitions were despatched from Bar-le-Duc. Every day 200,000 litres of petrol, 20,000 litres of oil and 2 tons of grease were consumed by the convoy with each lorry averaging 135km during

Paris buses on the Voie Sacree

However, those numbers only relate to the supply lorries. In addition there were 800 ambulances, an undetermined number of sanitary lorries and 200 Paris buses carrying troops and fresh meat. At peak times, it is recorded that 4,000 vehicles in each direction filled The Route, needing 300 officers and 8,500 men.

To combat deterioration of the road, 700,000 tons of limestone were used to constantly repair the surface. Quarried from as close to The Route as possible, 20 men per kilometre constantly threw broken stones under the wheels of passing traffic. 10 cubic metres per kilometre per day were used. 16 lorries and 30 horse-drawn waggons were needed per kilometre to maintain supply from quarry to The Route.

The Route wasn't only at risk from the heavy traffic. To protect it from German attack from the an 18 hour day.

With both The Route and the Meusien running at full capacity and Verdun by no means secure, work began on a standard gauge railway between Nettancourt and Dugny. Started from both ends in March 1916, it was completed in June 1916 and was able to relieve the strain on The Route.

With the increase in motor lorries available in the Verdun area rising from just 31 in December 1915 to over 3,900 by February 1916 it is inevitable that the initial Whites were joined by a variety of makes. Although Renault and Berliet were the most common, other makes included Aries, Barron-Vialle, Cottin Desgouttes, Delaunay-Belleville, De Dion-Bouton, Buick, Latil, Luc Court, Packard, Panhard, Peugeot, Pierce Arrow, Rochet-Schneider and Vermorel.



There is the suggestion of British involvement. Army Service Corps archives, which provided most of the information so far, include handwritten notes regarding British fuel use in comparison to the French. Revigny, though there is no mention in the French archives of how those supplies bridged the gap from Revigny to Bar-le-Duc.

Coincidentally, the mileage quoted by the British is the distance between Revigny and

Bar-le-Duc. Hopefully at some point in the future more information will be uncovered to confirm or deny British involvement in the defence of Verdun.

Throughout the 10 months of the Battle for Verdun, traffic on the N35 never stopped.

The defence of Verdun was a watershed for motorised road transport. It was the first time that the motor lorry had been tested in such a huge logistics operation. Although the Somme and Ypres salient were wider Fronts served by many more

roads, ASC records show that the British largely followed the French model for convoy operations.

The Verdun operation proved beyond all doubt that the motor lorry was a viable alternative to rail transport. It was the experience gained at Verdun and subsequently, coupled with the availability of cheap war surplus vehicles that led to the rapid growth of road transport in the early 1920s.

Redundant army men and machines became the modern road transport industry.

The Companion to Public Road Transport History in Great Britain and Ireland

Corinne Mulley

The preparation of the Companion is under the auspices of the Roads and Road Transport History Association.

The rationale of the Companion is to provide in one volume a succinct reference source of the emergence and development of the industry. By doing so, provide information on a wide variety of subjects of industry importance, with sufficient reference to encourage follow up interest.

The entries are to be from people knowledgeable in the area so as to capture essential elements. The period covered by the Companion is from circa 1830 to around 2000. The Companion is being compiled by an editorial team. We are now within sight of the end of what has been an enormous task – and have been enormously helped by a number of contributors.

We are now asking for any members of the Association who could, or know someone who could, write an entry on the following topics.

If so, we would be enormously grateful if you could contact the Editor, Corinne Mulley, at <u>corinne.mulley@ncl.ac.uk</u> or 18 Beverley Gardens, Cullercoats, North Shields, NE30 4NS.



Chain-drive Commer Car of the Army Service Corps

Fifty lorries are recorded as running 20 miles per

day, qualified as 10 miles out and 10 miles back, used 225/250 gallons of petrol, 20 gallons of oil and

The journey itself is not recorded. It might be that

that supplies were received through the railhead at

these are purely comparison figures, though it is

curious that daily mileages are quoted and the number of lorries used. A simple note comparing

French and British mpg figures would have sufficed if that was the only intent. It is known

. 28lbs of grease.

She will send you information on house-style and indicative word length. All entries will be between 250 and 800 words long.

We hope that harnessing the knowledge of the members is the way to completing the Companion with authors more knowledgeable on these topics than the editorial team.

Thank you for reading this and please volunteer!



Alder Valley Bristol Lodekka - Ken Swallow

Accidents and disasters	Labour recruitment	Staff buses
Accounting Practice	Liveries	Stagecoaches
Airport services	• Midi-buses	Timetables
Airside buses	Minibuses	Town planning issues
Bus Stations & Bus parks	Platform staff	Trade Associations
Bus stops	Publicity	Transport Planning
Coach Stations	• Rotas	Uniforms
Drivers	Route indicators	Vehicle Nicknames
Free bus services	Safety incl. RoSPA	Works buses
Industry Standards	Scheduling	
Intermodal Competition	Sightseeing services	

Tools for a Midland Red Fitter

'Norman'

The Birmingham & Midland Motor Omnibus Co. Ltd. (Midland Red) for many years designed and built its own buses. It also created a set of tools so that fitters could maintain and repair them. Whether some of them were assembled in the company's own workshops I do not know.

When we received the underfloor-engined saloons in 1946, there was a manually operated jack to enable fitters to remove the engine. It had a rectangular base with a castor at each corner, supporting four iron legs holding a threaded pillar. This bore a reversible ratchet whose screw head was about two and a half inches in diameter and about 2 ft 6 inches long. At the top of this threaded pillar was a roller bearing that fitted into a circular plate about seven inches across. This slotted into a recess in a steel cradle formed on one side to fit under the cylinder head. It also bore a corner bracket shaped to sit under the rear corner of the sump. Like the base of the jack this cradle also had a castor at each corner, so that once lifted clear of the chassis the engine could be moved about the workshop.

Manually operated engine jack:

 1 - Engine cradle on four castors, with plates welded to fit underneath the engine.
2 - Roller bearing fitted into circular plate.

- 3 Threaded shaft.
- 4 Approximately 6 inches
- of double thread.
- 5 Base of jack.



There was also a hydraulic truck with a flat platform, on which was mounted a cradle specially designed to fit under an engine. This truck was used for all sorts of things; if we had to go out to change the engine on a Leyland Leopard, sometimes in the open, we could do so without needing to use a pit. I cobbled up a wooden device that fitted under the cylinder heads of the Leopard engine.

For the gearbox there was a specially constructed cradle to fit underneath it. This too could be rolled on its four castors. It could be used on its own or fitted to the top of the engine jack. A system of tubes about 15 inches high, which slid up and down, enabled the gearbox-shaped part of the cradle to be kept level. Later there was a flat type of cradle to accommodate the semi-automatic gearboxes fitted to later Midland Red buses and coaches. A hydraulic jack would not have been

suitable for these jobs because you had to be able to line up the mounting bolt holes.

To remove other gearboxes we had a pulley block and tripod, with a short endless rope. We always put some wire over the pulley block hook and rope to stop the rope jumping off it. The gearboxes of Midland Red's prewar double decks and saloons had to be lifted out by hand, unless you could manoeuvre a Wharton crane jib through the doorway of a frontentrance double deck, and there was not always room to do this. The company built 335 of these buses for its own use between 1933 and 1939.

On later double decks, like the D7 type, introduced in 1953, you could use a pulley block, tripod and rope; the gearbox was bolted to the engine so you had to lower the gearbox into the pit. I cannot remember the post-war D5 double deck chassis; I think they used the same method as the earlier postwar saloons. I cannot remember whether there was a floor trap over the gearbox, but I think we must have used a jack and cradle to lift the front of the bus so the gearbox could be taken out under the front axle; otherwise you would have had to manhandle the gearbox through the lower saloon to the rear doorway. There was no special device for changing differentials. On Midland Red vehicles the crown wheel and pinion was in two parts, so you could change them on your own. To do this you had to remove the handbrake disc first; otherwise they would have been too heavy. With the disc attached it took two people to lift them. On single decks these differentials were fitted with side shims, plates of various thicknesses, which always remained on the same axle. Midland Red double decks had a worm drive underneath the crown wheel.

The first underfloor-engined single decks also had worm drive, but with the steel pinion drive on top of the phosphor bronze crown wheel. The teeth on the crown wheel could wear right down, and you had to use brute strength to lift them and ease them into place. On the saloons they could be lifted out by hand much more easily.



Engine showing positioning of lifting ropes - Kitkead Trust

On front-engined buses, there were lifting eyes on the power unit so it could be lifted clear of the vehicle. There were special brackets for the D5 and D7 types. We also used the eyes to lift cylinder blocks off the pistons of six-cylinder engines, or to drop them back into place. You had to use a piece of wood to stop the engine turning at all while you replaced the cylinder block. There had to be someone on a Wharton crane who did exactly as you said; women were best at this. You had to watch out for your fingers. You had to line up six pistons into position, then place the piece of wood, before you could guide them into the block. There were five rings on each piston, three compression

rings, two scraper rings.

On the four-cylinder QL saloon of 1928 there were two cylinder blocks and on the six-cylinder MM type, of 1930, there were three. We would hold the block while guiding the two pistons in, but on the MM the centre block did not leave much room to guide the pistons in, so it needed more muscle.

We also had a device like two tables on castors, each like a large scissor jack, to fit under larger and heavier engines. I refused to work with only one scissor jack because there was no guide under the table to ensure that the engine would come down level on to the truck. You had to use blocks of wood to make sure that no part underneath the engine was bearing the weight of the whole unit.

One thing I remember was the curse of cylinder head gaskets. On all pre-war diesel engines, and the post-war D5 type, water passed from cylinder block to cylinder head by means of four pipes. The petrol engines of the QL and MM saloons had water plates that bridged between cylinder and cylinder head. Water passed from the cylinder block into one side of the cylinder heads and out of the other side to the radiator. We had to use asbestos string under the holding bolt washers.

On the later petrol-engined buses there was a single six-cylinder block, which had water ports straight out of the cylinder block to the cylinder heads, then out of the cylinder heads through two separate castings to the radiator.

No Midland Red diesel-engined saloons and coaches had fans, except for the ONC type, built in 1939. Diesel-engined double decks and all petrol vehicles had belt-driven fans. In severe weather we took the fan belts off the diesel-engined double decks, and even AEC-engined saloons had the fan shafts cut off because they were chain-driven.

Midland Red also made a small truck for wheeling the rear double springs under the axle. This consisted of a U-shaped body with two holes in the bottom to accommodate the spring fish plate holding studs. You could not use this truck to drop the springs; it could not be located precisely enough and was therefore too dangerous. The springs, front and rear, had shackle pins at the forward end that had to be screwed into a bracket on the chassis. The front springs demanded more muscle. All the springs had to be lifted into place manually over the axles.

The little truck was also used for changing the rear axles of Daimler Fleetlines, with blocks of wood placed on it to prevent the drums touching the floor.

The C3 coach was an 'oddball'. The first production model in 1954 had Metalastik suspension and a hypoid differential. This type had only two floor traps, about six inches square, to access the clutch rod and brake fluid, which meant that everything had to be done from underneath the vehicle, including clutch adjustment. I never came across another vehicle like this.

On the Fleetlines, with their rubber-mounted rear engines, you had to go inside the vehicle to do jobs



C3 coach. - Kithead Trust

on the engine, the exhaust or the starter motor. On semi-automatic coaches and saloons the gearbox was hooked on to the back of the engine so you needed a floor trap to top up the fluid flywheel. Midland Red's last production doubledeck type, the D9, had a floor trap over the gearbox, which was halfway along the chassis, to enable you to change the gearbox or top up the oil. There was also a trap over the fluid flywheel.

We had a very clever device for greasing wheel bearings. It consisted of two cone-shaped parts; the bottom one was threaded down the centre and the top one had a threaded stud which screwed into it. There was a hole down the middle of the stud, with a grease nipple at the top, and a hole halfway down it to force grease into the bearing.

Member's Forum

We all come across titbits of information from time to time. Little gems that don't relate to a specific project, but are too good not to share. Or, maybe it's something that's sparked some interest and you want to know more?

The Forum will be the discussion board for those titbits and questions. Comment will be published as space allows and forwarded to protect members' privacy.

The variety and interest of this column depends entirely on your input. Answer questions when you can, ask when you need an answer, and share that snippet or it will simply fizzle out.

Chris Salaman writes:

When the Dartford Tunnel originally opened for traffic in 1963, considerable thought was given to extracting any broken down vehicles that may have consequently blocked the through flow of traffic. With a single carriageway in each direction measuring 21ft. in width overall, this presented a formidable problem in turning the recovery vehicle around for exit from the tunnel. The Dartford Tunnel Joint Committee came up with a novel solution to solve this initial problem. For light vehicles they acquired two Scammell Scarab tractor units fitted with 3ton lifting cranes and

towing attachments. Being of three wheel design, turning was no problem at all in the space provided. But heavier recovery presented a far greater challenge. This was eventually solved by acquiring the front end of a massive Euclid earthmover and replacing its earthscraper articulated trailer with a cable operated twin recovery jib capable of lifting ten tons. Once again this was capable of turning in the space in hand as the enclosed photo admirably shows. Does anyone know the maker of the crane equipment and whether in fact it

actually was ever used? As a point of interest, both the Scammells are now in preservation.

Erica contacted me through my website:

Her great grandmother's father was recorded as having the occupation of 'lorry driver' on a marriage certificate in 1886. This was in the Dundee area of Scotland. She wondered if this was right as the date seemed too early. The Shore Porter's Society from Aberdeen have said that they referred to horse-drawn wagons as 'lorries' at that time. Is this the earliest recorded mention of 'lorry driver' and was the use particular to Scotland at this time?

Contributions and Comments to

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Euclid recovery vehicle for the Dartford Tunnel - Chris Salaman

The Horse: Public Transport's Trusty Helper in the Late Nineteenth Century

Thierry Maréchal

(Reproduced courtesy the UITP)

Since its domestication – which, according to the latest findings¹, took place some time around the second half of the fourth century B.C. in southern Ukraine – the horse has unstintingly provided us with multiple services as a packsaddle, stud and harnessing animal.

Before the widespread adoption of electric traction, the horse played a front-line role in pulling the first tramways in our cities and suburbs. In the following few paragraphs, we pay tribute to this most noble of working beasts.

With their unrivalled 'green engine', horses were the focus of attention among tramway operators at the end of the nineteenth century. Studies and reports devoted to horses were a regular feature at congresses and other gatherings, and our archives contain echoes of this from 1886 to 1896, when interest began turning more towards electric traction.

The issues under scrutiny back then varied a great deal, involving areas such as: the composition of feed for horses and the utility of soaking or crushing the oats, barley or corn; average daily mileage and trip speed; the best breeds of horse and the length of their working lives; the average cost of buying and reselling animals; the best shoeing methods... in short, 'benchmarking' ahead of its time.

expected to work?

Some thirty networks replied to this particular questionnaire³, which revealed that a horse was aged usually between 5 and 7 years at the time of its purchase and its average working life was 4 to 5 years, and that horses were not expected to work average distances of more than 25 kilometres.

Based on the replies received, the 'top three' in terms of selected breeds of horse (out of a total of 17 breeds) comprised the following:

- 1 Belgian Ardennes (12 replies)
- 2 Danish (11 replies)
- 3 Anglo-Norman (4 replies)

All of which makes for fascinating reading at a time when environmental concerns are such a burning issue.

1 - "Sur la piste du cheval de la Préhistorique â l'Antiquité"; Treignes, CEDARC, 2007.

2 - As quoted from the findings of Major Perk, secretary of the Dutch Union or Local-Interest Tramways and Railways (3rd General Assembly, Brussels, 6 to 8 September, 1888).

3 - Item one – General Assembly, Milan, 29 to 31 August, 1889.

For example²: "for an average-sized horse expected to cover a distance of 22 kilometres a day at an average speed of 9 kilometres an hour (including stops) in operations presenting few specific difficulties, a ration of 8kg of oats and 6kg of hay would appear sufficient." The ultimate in eco-fuel, you might say.

Another very important issue was choosing the right 'engine'. In other words, which breed of horse best satisfied all the combined selection criteria when it came to pulling a tramway vehicle, and under what conditions could a horse reasonably be



Horse-drawn tram, Tunis, Tunisia, 1899. - UITP

TICKETS, FARES & PASSENGERS OF THE DOVER CORPORATION TRAMWAYS

Ken Elks Solo Publications, 80 The Street, Kingston, Canterbury CT4 6JQ ISBN 09551862-4-2 Spiral-bound with semi-stiff covers. 94 pages, copiously illustrated – mainly colour. £20-00 (less 10% for R&RTHA members). Post-free in UK. Cheques to KP Elks

Prima facie a highly specialist book for collectors of tickets, or for those interested in a small town tramway system where the trams ceased running in 1937, an era, as the author admits, 'far removed from today'. Yes, it is a specialist book, but it is an exemplary one that brings out the value of local, painstaking research and is a mine of social history; and it is very well produced.

It has a good, clear colour map of the tramways. For detail of the town centre, an Ordnance Survey map of 1905 is reproduced in black and white. Dover was not a large system and a succinct history is provided at the beginning of the book, with several photographs, mainly postcard-based. But even in the short, basic history, points of wider interest are brought out - the short-sighted (but much practised) diversion of profits for the benefit of Rates, whilst setting no money aside for either track or tramcar renewal. Another example was the failure to recognise that even by the 1920s, electric trams were no longer a novelty, and passenger expectations were growing, so that allowing the original open-top cars of 1897 to continue in use for 33 years did not really redound to Dover's credit.

There follow several pages on Fares and Tickets, very well researched – excellent for a collector of tickets, but perhaps only to be glanced at by the general reader or the local or social historian. Whoa! Do not skip page 11 with its footnote on the Dalrymple Papers at the National Tramway Museum at Crich; nor page 25, on the lessons to be learned from trying to charge double fares for special occasions. Various interesting statistics are also to be found on these 'to be skipped' pages – so skip, selectively.

Indeed, do not skip at all the coverage of the Great

War, pages 32-38. Many histories dismiss both the World Wars, each in a single paragraph, with just a picture of a conductress and a banal comment. Ken Elks has not fallen into that lazy trap; there are aspects of social history to be found on these pages.

But the real gems of social and local history start on page 65 and continue to the end of the book. The author has traced the individual histories of almost all the local shops and traders that advertised on Dover tram tickets. This takes us far from tramways and into many varieties of trade – for example, the fluctuation in price of gutta percha or the terms of lending of the Dover Benefit Permanent Building Society. The destruction of the Granville Gardens and Restaurant by enemy action and the demise of the local brewery, Leneys, after takeover by Fremlins of Maidstone in 1926 will also be found.

Some interesting background (and dating) is given on nationally advertised products, such as Mellin's Food, Swan and Blackbird fountain pens, Wood-Milne Heels and The World's Stores.

This book is 'Kent Trams No.1' in an intended series. Isle of Thanet is understood to be in preparation. Roger Atkinson

A HISTORY OF MOTOR VEHICLE REGISTRATION IN THE UNITED KINGDOM (THIRD EDITION)

L.H. Newall Newby Books, PO Box 40, Scarborough, YO12 5TW. www.newbybooks.co.uk ISBN 978-1-872686-32-5

308pp paperback. £16.95

First published in 1999, this third edition includes an additional section bringing it up to date with the registration changes of 2001.

A detailed history of the issuing of every type of registration marks includes military vehicles, trade plates, diplomatic plates, etc. for the UK and Eire. For the casual reader, there is probably too much detail, but for the serious researcher it is a mine of information. Appendix 2, 'Allocation of Index Marks', lists two letter marks in alphabetical order, making finding the issuing authority a simple task of a couple of seconds.

Appendix 3, 'Registration Marks without year letter by Authority and date', lists the issuing authorities alphabetically.

Each county includes explanatory notes and history, but for looking up a particular registration number, it is necessary to refer to Appendix 2 first. I looked up BLH 21, which entailed first looking up LH and then looking in London CC for BLH.

Les Newall devoted a lifetime to researching registration numbers and the result is an extremely detailed history. Whatever you will ever need to know about registration marks, and far more than you ever thought you'd need to know can be found in this book..

Such is the intensity of information, it is difficult to read at length, but it isn't intended for that. It is best dipped into as and when necessary.

A book that should be owned by anybody interested in roads history. My only real criticism is that the book is only available with soft covers and I wonder how it will stand up to the regular thumbing through that I'm sure it will, and has been getting.

Roy Larkin

www.ruralroads.org

David Tighe

The original objective of my site was to outline the issues which surround rural road building in third -world countries. It was intended mainly for local managers and engineers as well as consultants and development agency personnel. At the same time, having often regretted how little engineers actually know about the history of their own profession, I included sections concerned with the history of road management and construction, mainly in the UK and to a lesser extent in France.

At the beginning the site concentrated on roads. However, during recent years people have realised that roads are not enough. If mobility of people and goods is to improve then the conditions of transport must also be examined as well as, given the goal of improving accessibility, the spatial distribution of services. The site expanded to take account of this. but with time similar, sometimes more informative sites came on line as the possibilities to transmit information increased by many orders of magnitude, even in developing countries. In response, I transformed it into essentially a gateway to others and at the same time, following my own inclinations, reinforced the history section, enlarging it to include motor transport and taking advantage of sites using multi-media presentations.

There remains much to be done. The French and Spanish translations have not kept up with site expansion. The very limited but I think potentially useful Vietnamese translation could be extended. About a Chinese version I can only dream. Finally, I would like to incorporate more of my numerous videoclips. All this of course requires lots of time and although I do a lot myself, I am painfully slow compared to specialists.

When the site was designed it was almost unique,

K		EAD ROAD.	
S	Received of the Treasurer of the abo	tre Raud, 630 10s., being one year's Interest on my	1
Web	£20 10s.	Mr. Webb	
B	The Arceipt, when signed, is psyable at the Union B	Bank, Brighton ; or Meyer Johns Lond, and So., London.	

Receipt to J B Webb for one year's interest on his security of £410 due on 31st December 1839.

Using an average earnings calculator, £20.10s is the equivalent of £14,719.00 in 2006, the latest date available.

Letters to the Editor

Children on Buses

I have just seen (and read and enjoyed) R&RTHA Newsletter no. 52 and would comment on your page 1 item.

No, I don't think the term 'Buggy' was in use prewar. Indeed, I don't think it was in general use when such a contraption was needed for conveyance of my children (born between 1954 and 1956). In the late 50's the 'buggy' was a fairly new invention – terminology probably trans-Atlantic – and my children certainly enjoyed sitting up in an old-fashioned pram and being spoken to by their Mother.

One point you overlooked in your article was that a bus as depicted certainly had a conductor whose job it would have been to assist in the embarking and disembarking procedures – although the width of the doorway would probably have precluded putting a perambulator on top of the vehicle.

No, this isn't really a serious contribution. I think the answer to your question is that, pre-WW2, children in their prams would rarely have been taken further afield than their local council owned playing fields.

You also raise, almost as an afterthought, the question of the conditions under which children were carried by various companies, which companies indulged in half fares for children (far from universal outside the UK), what rules applied to reduced fares (children, the blind, war wounded (WW1) and other deserving cases). No, I don't suppose you've time to go into all this. Pity.

Andrew Johnson.

Andrew raises some interesting questions – if anybody can offer some answers, please do so. – Ed.

A Weighty Matter

Dave Bubier's tale (*Newsletter No.51*) of the recorded weight on the side of a charabanc being misread by the light of a candle reminded me of another unladen weight that was not quite what it seemed.

The Gaerwen (Anglesey) operator, T A Milburn, registered a new AEC Regal IV with Yeates 41-seat coachwork, AEY 456, on December 11 1952. I can remember, when I spoke to him soon afterwards, that he confessed – or rather boasted! – that he'd had the unladen weight 'amended' so that, if his passengers were willing to walk across, he could take the coach over Thomas Telford's 1826 Conwy Bridge, which then formed part of the A55.

I have recently checked this recollection against the records kept by the Omnibus Society's John Nye, for unusually amongst vehicle recorders John kept a note of unladen weights. His observation of it on January 17 1953 records an unladen weight of 7-14-3.

Crosland-Taylor, in *State Owned Without Tears*, refers to a 1951 British Road Federation memorandum quoting the maximum total weight of a laden vehicle as 7 tons 15 cwts. John's records of contemporary Regal IVs show those with the heavier Burlingham body tipping the scales at 8-5-0 and above, Windover at around 8-3-0, and only Plaxton coming anywhere near a bare 8 tons.

What is more, two Yeates bodied examples with Blue Bus of Markfield showed 8-3-0.

Nice one Mr Milburn!

Ken Swallow

Editorial Requirements

Contributions by email attachments, on CD or paper by Royal Mail. Photographs accompanying articles should be scanned at 300dpi as jpegs, or

sent for me to scan and return. Members with photographs they'd be prepared to share if needed, please let me know what you have available.