

Leyland Torque

No.34 - WINTER 2006



THE MAGAZINE OF





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EDITORIAL

As the year 2006 draws to a close we can reflect on another excellent year for the Leyland Society, with more good and informative publications, another Fleet Book to our range, and a very friendly and enjoyable Gathering. The AGM at Coventry was better attended than previous years and it finished with a slide presentation, which had been prepared by Martyn Griffiths (of Multipart) on the Chorley Factory which closed in October. With the information he has put together and our own records and photographs we will hopefully be able to prepare an in-depth history of the buildings and activities at Chorley in due course.

We have a good stock of articles and material for future issues, so please be patient if you wish to see your work in print, but I would add that we are always looking for new material however long or short, so please, do keep sending in your contributions. I am at present putting together some material for an article on the Leyland "Lionness Six" and "Tigress" models, so if anyone has any information or pictures, they would be much appreciated.

You may like to know that we have been carrying out some detailed research into the Leyland-built engines of the 20 year period 1926 to 1945, and much detail has started to come to light relating to the development of the various engines. My original notes and findings have now been passed on to a number of experts, notably Alan Townsin, Richard Perry, Peter Geliot and Neil Steele, and together it is hoped that we can produce a larger article/series of articles at some time in the near future describing these developments, particularly the "T" series, which was the most important of them all. Leyland built railcars also had an important role to play in the engine development, mainly powered by the 10 litre oil (and petrol) units connected to the Lysholm-Smoth hydraulic torque converter. Anyway, there is more to come and the article on oil engines in the last issue was just for starters.

Mike Sutcliffe

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LEYLAND SOCIETY NEWS

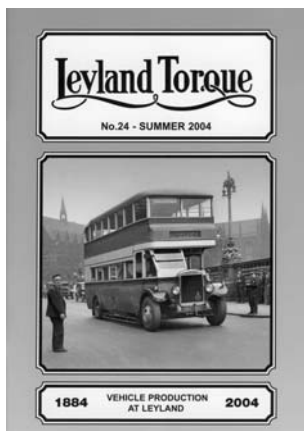
2007 Gathering - from Neil Steele

We intend to hold a Gathering again next year on Sunday July 8th, at the Leyland Trucks site at Leyland. Confirmation of this event will be given in the Spring edition of Torque; once again we are indebted to Leyland Trucks for their kindness in allowing the use of their car park and for sponsoring the proceedings. We also look forward to offers of assistance from members to organise the smooth running of the day by volunteering to do some marshalling at the site.

This coming year sees the 100th anniversary of J.Fishwick & Sons, the bus (and one-time truck) operator from Leyland, and a parallel event is being organised on the same day (July 8th) in conjunction with the Ribble Vehicle Preservation Trust, with an "Open Day" event at Fishwick's premises. There will be a service of vintage buses to give rides to the public, linking Leyland Vehicles' car park, the Fishwick event, and the British Commercial Vehicle Museum. Write the date in your diary for 2007 now!

This year's Gathering memento was a miniature Leyland Atlantean badge 38mm wide, which comes in a presentation box and is priced at £7.00 including post and packing. There are a few remaining from the limited number produced. If anyone would like one of these, they should contact David Bishop (address inside front cover) enclosing a cheque payable to the Leyland Society Ltd.

BACK ISSUES Special Offer



for a limited period we are promoting
a Special Offer on back issues of
Leyland Torque, Nos. 10-25.

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WORDS AND PICTURES

Cover Pictures

On the front cover is Leyland PD3/6 LHG 537, originally new to Burnley, Colne & Nelson No.234, but seen here after sale to Lancaster City Transport No.537 in April 1974, at the same time when Lancaster took over the neighbouring system of Morecambe & Heysham Corporation. See also "Tailpiece" for a further interesting picture of Lancaster City Transport.

The rear cover depicts a B.U.T. trolleybus. This is the 34th edition of Torque, but very rarely have Leyland-built trolleybuses been mentioned in our pages. The article on page 33 explains the origins of British United Traction, the company set up jointly by AEC and Leyland when the two firms were independent of each other to market railcar equipment and trolleybuses.

The vehicle on the rear cover was originally London Transport No.1839, but is seen after sale to Tranvías de Zaragoza in Spain. After some years in store, it entered service with T.Z. and is seen on the short Barrio Jesús route, crossing the River Ebro bridge which was shared with tramcars. Note the front badge (made in Zaragoza) that shows "B.U.T.English Electric." Both photographs by Ron Phillips.

Leyland-National - "The Buzz"

The picture below shows ex Southdown No. 40, (RUF 40R), chassis no.04261, parked in Ludlow earlier this year. It has been slightly modified by the fitting of a centrally-placed off-side emergency door. All side windows are blacked-out, and the only indication as to its present use is the display of the logo "The Buzz" on the side windows and front indicator. Both original front and centre doors are retained on the nearside. Amazingly the vehicle, which appears to be in very good condition, is decked out in immaculate NBC leaf green and white livery. Can anyone tell us who the present owners are, and to what purpose the bus is put ?



Ex Southdown
RUF 40R seen
in Ludlow in
October 2006.
It carries NBC
leaf green and
white livery
and is very well
looked after.
See the item
above.

(Ron Phillips)

EARLY HISTORY OF LEYLAND

Mike Sutcliffe's history of the Company – Part XVII

The Class F under-type steam wagons

Following our resumé of the Class H steam wagon, first built in 1905, it is appropriate to look at the Class F wagon. Chronologically the Coulthard steam wagon should be next following the acquisition of T. Coulthard & Co. Ltd in 1907, but that will be the subject of a separate future chapter. There was of course the brief excursion into shaft-driven steam wagons with the KX and KW models, of which only two and seven respectively were built between 1909 and 1911, but these were covered in detail in the Leyland Society Journal No.3 "Leyland's Shaft-driven Steamers", described on pages 21-26. In the series of the "Early History of Leyland" that article should be regarded as Part XVI.

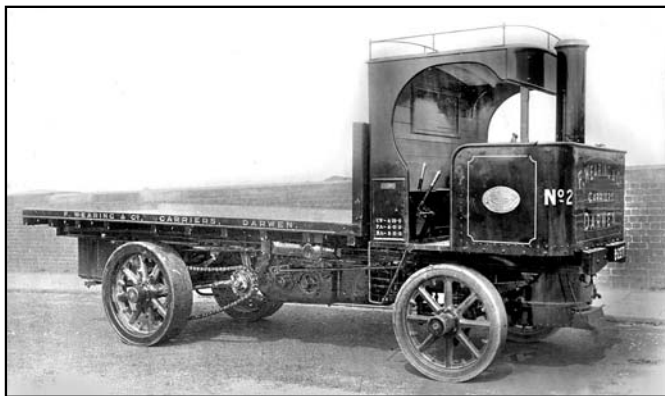
The Class F Wagons

Class H wagons were not superheated although some are known to have been rebuilt later with superheaters, however by 1911, the superheater was beginning to win general acceptance and in that year Leyland went into volume production with a wagon so fitted - the Class F, rated initially at a carrying capacity of 6 tons (this was opposed to the 5 tons of the Class H), 10 tons with a trailer. These worked at the higher pressure of 250lbs.psi. and had a two-cylinder double-acting simple engine with poppet-valves, both of the cylinders having a bore of 4½in and stroke of 6in. The gearbox part of the engine was the same as the Class H, but the camshaft now ran in line with the wagon over the top of the cylinders, being driven by a skew gear at the front of the engine, and actuated the valves through rocking levers. Forward and reverse motion was achieved by moving the camshaft backwards or forwards, rather than by a lever on the offside front of the engine as with the Class H.



Joseph Sumner, Chorley, had what was presumably an experimental Class F wagon, B 2148, new 1908, Works No. F2.343, built 3 years before volume production began.

The standard wheelbase of the 6 tonner was 10ft 0in, with a frame length of 19ft 5in and overall width of 7ft 2in. The platform was 13ft 6in x 6ft 6in. However by 1914, when the Class H was replaced by the Class F, the range was expanded to cover a 5 tonner, 5 ton tipper, 6 ton wagon and 8 ton Special Wagon (for Liverpool or Colonial customers), all with dimensions similar to the later F2 models, listed elsewhere in this history. Various tank wagons, vacuum tanks and municipal hand-tip and tank wagon bodies were also offered. The fuel used was ordinary gas coke, however hard Welsh coal, when obtainable, could be used with excellent results. The standard pattern cab, probably best described as a canopy, was mounted on seven posts with a strongly boarded top with rails, suitable for storing several bags of coke. A "petrol pattern cab" could be supplied at an extra cost of £5.



Wearing's B 2271, Works No. F3.573, was the first production Class F in 1911, complete with internal-combustion pattern cab (extra cost of £5).



Wagon F4.583, B 2285, was delivered to W. Simpson & Co., Walkden, seen here loaded with mineral waters. (Mike Sutcliffe Collection)

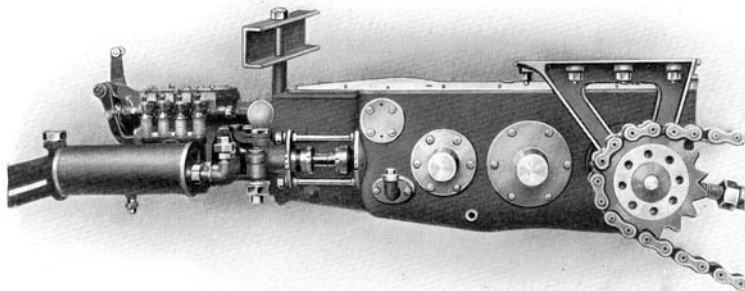
F3/573 was the first in 1911, delivered in the Spring, being new to F. Wearing & Co., Carriers, Darwen, No.2, registered **B 2271**, and this was probably the first Leyland steam wagon to have a cab as opposed to posts and a canopy. This wagon was followed by a further 5 Class F wagons which were built alongside 9 Class H steamers in 1911. F2/343 had been built three years earlier, in late 1908, for Joseph Sumner & Co., Steam Flourmills, Chorley, No.3, registered **B 2148**, and indeed the Class F wagon had been offered for sale in the 1908 catalogue described as “a special extra-large wagon, Class F, designed to meet the requirements of our Colonial friends, with a larger boiler than usual, an engine with two high-pressure cylinders and a pressed nickel steel frame with stronger springs, able to carry 8-tons”. The F was not included in catalogue No.12 of 1910 (the KX and KW were then “all the rage”) but it again appeared in catalogue No.13 of 1911 as being a 6-tonner.

To date I have not been able to trace the first Class F wagon, with works “line” number F1, despite having amassed a large collection of photographs of most of the Leyland steamers. It could of have been a very early experimental wagon, probably designed, if not built, just prior to the Class G as early as 1903. Model classifications for the petrol driven vehicles started at Z and went backwards through the alphabet in sequence reaching Q prior to the First World War, and there is no reason to doubt that the steamers were in sequence commencing at A (though I have never seen the letter A used). Classes B, G and H were clearly Leyland wagons. I have already commented on letters C, D and E, and will do so further when we reach the Coulthard episode, but I have yet to discover what letters I and J where used for - possibly nothing, as the letter K for the shaft-driven wagons may also have been derived from a Coulthard engine design. There must surely have been a Class F proposed, even if not built, at a very early stage!

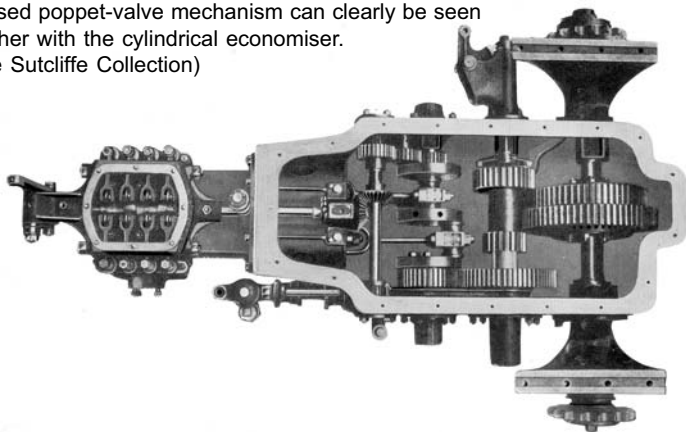


John Ashworth, a carrier from Fenisowles, took delivery of F6.606, B 2293, in 1911 and is photographed at the goods yard at Leyland Station.

The first of the Fs had the larger of the two sizes of fire-tube boiler as fitted to the Class H, and the design followed H type practice except for the introduction of a superheater, which was placed at the top of the firebox directly above the fire. Two of the fire tubes were of 1¼in diameter in order to pass the superheater tube down to and up from its coil in the firebox. It was made of one length of 7/8in. o.d. solid drawn steel hydraulic tube. The superheater was carried on two rods, which passed through the tubes and were welded to the coil in the firebox (the process of acetylene welding had become more widespread at about that time - Leyland quoted in their catalogue "this new process dispenses with all the dead metal which may become overheated and crack, giving the whole boiler a better chance to expand and contract"). Probably because the rods frequently burnt off the coil, the whole superheater was later moved to the smoke-box where it not unnaturally lost much of its preternatural effectiveness. Some insurers seemed to have doubts about the F class boiler though there is no reason to think that these doubts had any foundation. Nevertheless in some, the working pressure was reduced to 200lbs. psi., and in some cases the two firebox shells were "stayed", in locomotive fashion.



The rear portion of the gear casing of the Class F engine was similar to the Class H, however the cylinders with exposed poppet-valve mechanism can clearly be seen together with the cylindrical economiser. (Mike Sutcliffe Collection)





This compressed air van was supplied to an operator in Brazil (Rio de Janeiro) on a Class F chassis in 1912. The works number is not known.

(Mike Sutcliffe Collection)

The eight poppet valves were alongside the cylinders and were operated by scroll cams, which were rotated by a horizontal longitudinal set above the centre line of the engine. Nine cut-off positions each side of the middle were provided on the reversing quadrant (making the Fs competent for scientific driving) the lever being again on the driver's right, together with the gear lever. As usual, 2-speeds were provided and the layout of the engine was similar to the Class H wagon, with the traditional four-shaft layout being retained. The feed arrangements resembled those on the H except that the feedwater heater (also called the "economiser", with internal coil) was moved from the front nearside corner of the chassis to a position by the nearside cylinder. The feedwater heater drain entered the ashpan at its extreme rear, and the pressure from it was sometimes sufficient to blow burning embers out ahead of the wagon!

Little is known about B 5658 of Lober of Accrington other than it was supplied in 1913. Records at Companies House list an interesting fleet of petrol and steam vehicles owned by Lober in the First War, and it would be good to know more about this interesting operator. This wagon was later sold to H. Viney & Co.



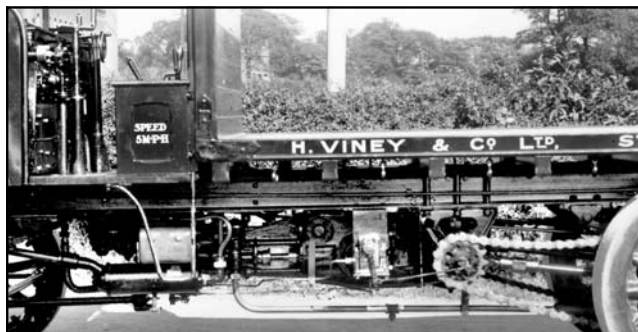
Water tube boilers

At some time before 1914 the water-tube boiler began to appear, possibly because of the likely cessation of the supply of composite boiler tubes from Germany in the event of war. Details of the development of the water tube boiler are rather obscure, but in its final form it consisted of an inner and an outer shell with a central stoking chute, with the superheater coil around its upper end. "U" tubes projected from the inner shell into the firebox. There were 16 small tubes, 16 intermediate and 16 large tubes.

An early example of a wagon with a water-tube boiler was Viney's No.17, **B 5717**, built in early 1914. It was a very "odd-looking" and probably experimental machine. A close examination of its engine shows that it was more akin to the F2 type engine with covers over the inclined poppet valves and a more rectangular engine casing. Its front axle was nearer to the front of the chassis and the cab deeper from front to back, giving the wagon a very ungainly appearance. Unfortunately, the wagon must have gone by 1921 as it does not appear in the Lancashire C.C. registration records, so it is not possible to determine the works number – it was certainly not F2.1 being the first F2 (see later), but it may have been a prototype for the F2 wagon. Here again we see the close association between Viney's and Leyland Motors. Viney had a large fleet of Class F wagons of which we will see further details in a forthcoming chapter.



Viney's experimental 1914 wagon, B 5717, with water tube boiler. Rather an ungainly looking wagon, with its deeper apron and front wheels further forward than normal.



Close examination of the engine of B5717 reveals that it was possibly a prototype for the Class F2.

Production of the Class H wagon continued in parallel with the F until it was discontinued early in 1914 with a total of about 167 Class H wagons being built. By this time works “line” numbers for the Class F wagon had reached just over F30, and this had increased to about F60 when war was declared in August 1914. The highest recorded number is F76 though there may have been three or four wagons built after that – in any event production of the last few wagons had been halted with the outbreak of war, only to be resumed when steam wagon production and parts were moved to the newly acquired Chorley Works, with most of the wagons not being completed until late 1915/early 1916.



Seen outside Chorley Works in late 1915 is this Liverpool type, B 5891, one of the last Class Fs built following delayed production due to the War (Works No. unknown).

Works/Chassis Numbers and Order Numbers

Some explanation is needed regarding the chassis/works numbers of Leyland vehicles, particularly of the steam wagons just after the First War, as they are rather confusing! As has been explained before, up to the outbreak of the First World War, and from about 1904, the chassis/works number comprised two sets of figures. The first was the line number (sometimes called frame number) denoting the class of vehicle and the class sequential number. This was followed by a full stop or stroke and then the sequential chassis number - so, for example, Garlick, Burrell & Edwards, Bootle, Class F wagon registered **B 5838**, had works/chassis number F58.1541 - this was the 58th Class F wagon and the one thousand five hundred and forty-first chassis (incl. both steam and petrol) produced by Leyland since 1896. In 1913 it became the practice to sometimes add the sales order number to the chassis number, and as an example of this I quote a Class S petrol vehicle; S608/1691/945 - in this case Sales Order number 945 (S.O.No.945). The sales order numbers were then stamped on the front cross member of the chassis frame in addition to the chassis number. From April 1916 the Leyland War Office Subsidy model A became a standardised product (called the "War Office Subsidy Class A, type 5000") and a new chassis number series was started at 5000. At this time the line numbers were discontinued (until 29 years later in 1945 when they were reintroduced) and the sales order number was always added after the chassis number when stamped on the vehicle.

The highest Class F wagon number that I have recorded is F76.1886, registered **B2040** (a reissued registration number) new probably in 1916. The number 1886 would have been in the normal sequential chassis number series allocated in late 1914, but with production delayed two years because of the War and the move to the Chorley Works.

Turning to the Class F2 wagons (that is from 1919 onwards) a typical works/chassis number would be quoted as F2.6.1677. This would be the sixth F2 wagon built, and the 1677 would now be the sales order number - for some strange reason these order numbers continued for the F2 wagons right up to 1923, the last of which I have recorded being for wagon F2.109.1806. Possibly this was a block of order numbers (16xx to 18xx) allocated to Chorley Works where both steam wagons and fire engines were built; there are too many numbers available in the series for steam wagons alone and some of the gaps may have been fire engines. There is also good evidence to suggest that these were order numbers as the same number frequently applies to a group of wagons, eg. F2.24/28/67/68/71/72 - all of these were wagons for Fairrie & Co., Sugar Refiners, Liverpool, and had sales order number 1682. Henry Tate & Sons Ltd., Liverpool had the next order number to this, 1681 with wagons F2.22/23 - possibly these firms were connected as early as 1920, and this was a group order? I am currently preparing a list of works/chassis numbers of Leyland steam wagons and this should be available soon after the end of this series on the steam wagon side of my "Early History of Leyland". The Class F2 wagons will be reviewed in the next chapter.

NOTE: All photographs from the BCVM Archive, except where stated.

Norman Keen of Weston-super-Mare recalls being sent to Southern National's Taunton garage to fit a fuel pump to one of Midland Red's own-build SLR coaches, 50 of which entered service in 1937 with BMMO petrol engines and English Electric bodies. The entire batch received Leyland 7.4 litre oil engines in 1947/48 supposedly, says Norman, on the basis that the standard BMMO diesel would not fit the chassis. Can anyone confirm this as the true reason, or was BMMO too busy with its postwar fleet replacement programme to build spare engines at this time? Note that, as shown in Torque No. 33, page 15, these engines had their own uniquely-numbered starting handle! Before 1952 BMMO was not a prolific Leyland user, and even its 9 "unfrozen" Titan TD7s lost their Leyland 8.6 litre engines later in life in favour of BMMO "K" types, so why were E181s chosen? How was Leyland in a position to supply 50 spare engines when it surely needed all it could build for new deliveries?

Partly in answer to the last point, Ron Phillips points out that engine production easily outstripped chassis production in numbers at both the Leyland and AEC factories. Both firms sold engines to other manufacturers for road vehicles, railcars, excavators, mobile cranes etc. Leyland continued to build new "T type" 8.6 litre engines until the early fifties, and supplied many engines to Belgium, Holland and Scandinavia for use in buses and lorries. DAF, of course, was an early post-war client and eventually went on to develop their own version of the O.680 series.



A photograph from the archives of J.Fishwick & Sons, who celebrate 100 years in transport in 2007. The picture shows 5 Leyland Tigers, 2 Leyland Lion PLSC1, and 10 Leyland Lion PLSC3 buses lined up in the yard at Tuer Street Garage, which is still the main garage of the company today. The original print now hangs on the wall of the company's office.
(J.F.& S.)

LEYLAND CABS and BODIES

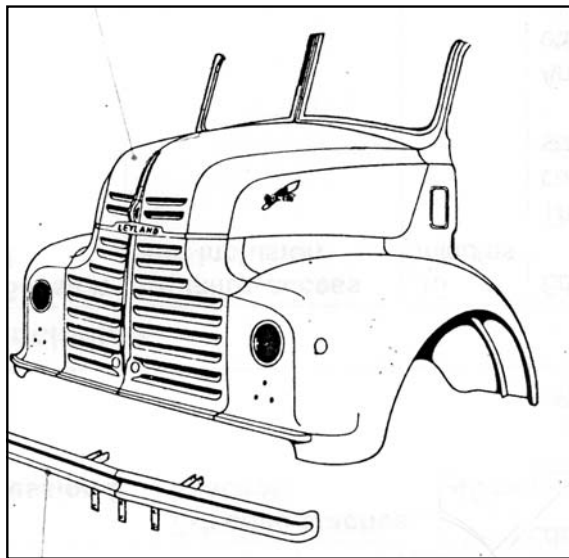
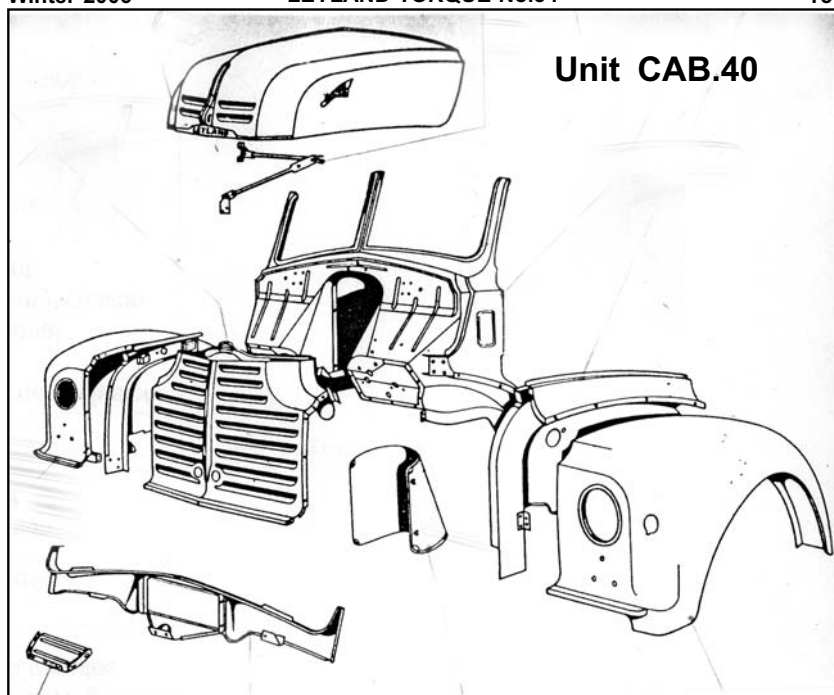
Feature edited by Ron Phillips. All correspondence to Mike Sutcliffe

The recent clearance of old paperwork from the Chorley Works site has shed new light on post-war Leyland lorry cab production. The Chorley spare parts supply operation needed a complex behind the scenes reference system that could locate the parts required by a customer whether or not the customer knew the part number of the piece(s) he required. For instance "I want a new window winding mechanism for the off-side door on a Comet 90" would be quickly found by reference to the Parts List for a Comet 90 model. It might be a series of separate parts, or a "unit" consisting of all the separate parts needed.

The term "unit" could be a collection of small pieces or, indeed, a complete cab, an engine, a clutch, or just a badge. A bank of filing cabinets contained all the "Unit Specification Cards", large cards 11½ inches wide by 9½ inches deep. Some units were described by one card, but the larger ones took up to 25 cards (or 50 sides). The above verb "describe" means "to give a list of each constituent component, together with its part number, description, the number required, the material (steel, brass, fibre etc.) and where applicable, the number of the part which superseded the original, used if the basic material had been changed etc. These cards were prepared by the draughtsmen in the Drawing Office, who were required to send out the Unit Specification Cards for all models in production.

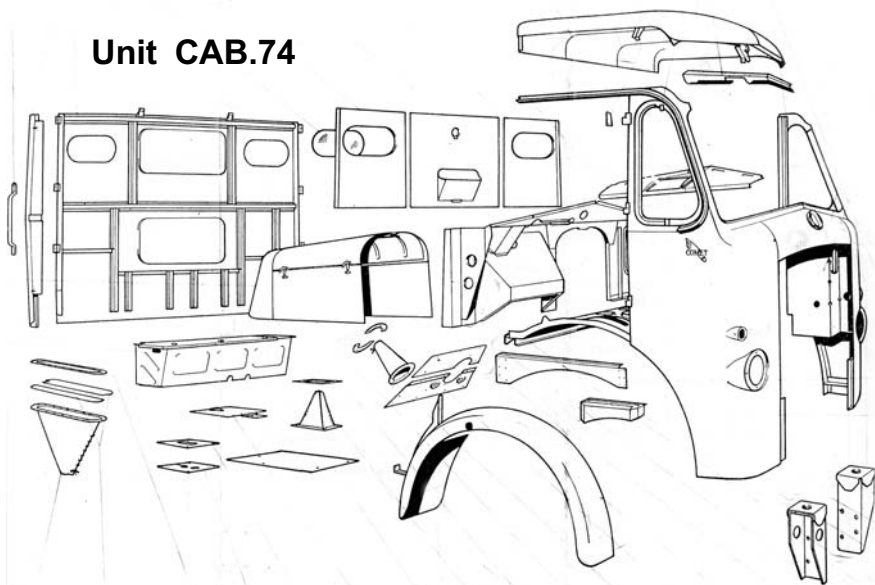
To make some sort of order out of potential chaos, from about 1930 Leyland issued prefixed numbers to all units. The prefix letter always gave some idea of the nature of the unit to which it referred, for example E for engine, F for frame and C for cab. As time went by, changes might be made to a complicated unit like a cab, perhaps because of a change in legislation (e.g. position of marker lights) or improved designs (e.g. replacement of semaphore signalling by flashing lights) or for developmental reasons (e.g. incorporation of improvements suggested by users). A minor change would be signalled by the addition of a number....e.g Cab C.40 could be changed to C.40/1, C.40/2 etc. A series of changes introduced by production would see a suffix letter added to the designation; C.40A, C.40B etc.

Let us quote some real examples. The early bonnetted Comet, as illustrated opposite, was C.39 and C.40. Two numbers were used, as the Comet front was produced in full cab and bonnet and scuttle form. C.42, C.48, C.52 and C.55 were other versions of the same basic design (which was, of course, not actually manufactured by Leyland). Heavy Goods Cabs, post 1954, and made at Leyland (the "mouth-organ" grille) were C.56A and C.56B, whilst the forward-control Comet version of the same cab was C.74. As Comet production and variety of models increased, the L.A.D. cab version had a series of unit numbers C.96 for the 12/14 ton Comet rhd, C.97 for the 12 ton overseas lhd version, C.99 for the 12/14 ton tanker version, and C.109 for the 14 ton overseas lhd. The intervening numbers C.106 and C.107 applied to heavy goods L.A.D. cabs built by an outside contractor (106) or by Leyland itself (107). At some future date, we hope to tabulate all the cab designs and their variations. It is a



Exploded drawings were provided to illustrate Parts Lists, Service Manuals, Drivers Handbooks etc. and above and left are the illustrations for the cab & scuttle of the early Comet (from 1947 onwards).

Unit CAB.74



very complex subject, one design having well over 100 variations!

The Parts Lists for each model were substantial loose-leaved books made up by a special dedicated department at Leyland Head Quarters. There would be a section for each main unit in the book, and the office clerks would make up these books to order. Clearly the O.600 engine section would be used in all the manuals for the four basic models - Beaver, Steer, Hippo and Octopus, but each would have a different section for the frame (F) and many other components. Illustrations, such as those opposite and overleaf, were interspersed in these books to assist the search for part numbers. The pictures we are showing here have been modified by the removal of a number of arrows pointing to various items.

It should be apparent to the reader that the documentation for the Leyland range of commercial vehicles was vast. As well as the standard models, certain important customers, in particular the oil distributing companies, required special features such as firewalls and improved braking systems, which required further documentation. Some foreign countries preferred to add some local content to trucks they imported, and this required Leyland to make special changes to the chassis. Hence the Hippo 20H/17R for the home market differs from the 20H/17L "with Brossel Frères cab".....in this latter case the Belgian manufacturer was to add a locally built cab. Some export customers took completely built up vehicles, some took chassis/cab or chassis/scuttle variations, some took completely knocked down vehicles and others took just sets of running units. Included as a "part" in the latter two categories was an instruction manual on how to erect the vehicle in question. We shall return again to this subject, and possibly illustrate a series of Leylands with foreign built cabs.

FOOD FOR THOUGHT

Feature edited by Wilf Dodds. All correspondence to Mike Sutcliffe

126. Crossley-bodied Hippo Lorries (Torque Nos.32, 33)

Neil Steele writes "the reference to Hippos I believe should read 'Martian' - this was a Leyland built and designed vehicle to meet 3 main military applications. The 3 types were; F.V.1110(A) Truck 10 ton 6 x 6 C.T. (Combat Type) Cargo (18ft), 17ft. 9in. wheelbase: F.V.1103(A) Tractor 10 ton 6 x 6 C.T. Medium Artillery, 14ft. 6in. wheelbase and F.V.1119(A) Tractor 10 ton 6 x 6 C.T. Recovery Heavy, 14ft. 6in. wheelbase. The F.V. 1119(A) Heavy Recovery Tractor was a total Leyland product, the equipment being built at the M.o.S. Factory. Both the F.V.1110(A) and the F.V.1103(A) had part wooden bodywork but the article refers to 'Cargo Lorries' and if accurate, I think this must refer to the F.V.1110(A) which had an 18ft x 7ft 3in. cargo body with 4ft high sides with hoops for a canvas cover. The bodywork for these was contracted to Edbro-B. & E. Tippers Ltd., Bolton, Lancs., and Park Royal Vehicles Ltd., Park Royal, London, NW 10. Park Royal may have subcontracted their part of the contract to Crossleys. The bodywork for the Medium Artillery Tractor went to Park Royal Vehicles Ltd., and Mann-Egerton & Co. Ltd., Norwich.

The Martian was designed to operate over severe cross-country terrain hence its C.T. designation. It was powered by an in-line 8 cylinder 6,500cc Rolls Royce B81 petrol engine rated at 215bhp @ 3,750rpm (governed speed). Torque nett: 305lb.ft. @2,400rpm. Drive was via a twin plate clutch to a 4 speed synchromesh gearbox then through a 3 speed transfer box to two differentials, then to all three axles. Top ratio was 14.9:1 and bottom 190.4:1. Footbrake was air pressure and the handbrake was by disc type transmission brake. Steering was by cam and roller with hydraulic assistance and suspension was by transverse semi-elliptic at the front and semi-elliptic rear. All versions were fitted with 15.00-20 cross country tyres and 98 gallon petrol tanks. All the Martians were 8ft. 6in. wide.

At the time this information was published (1956), Crossley were involved in the development of the:- F.V.601(C) Armoured Car 6 x 6 (Saladin) Mk2 for Alvis, Holyhead Road, Coventry, and F.V.2821(G) Trailers 5 ton 4W/2L Control Room F.C.E.3 with Park Royal Vehicles Ltd., and Revo Ltd., Tipton, Staffs. They were also engaged in building bodies for; F.V.11002 Tractor 10 ton 6 x 6 G.S. (AEC chassis) M/HAA and for F.V.2502(A) Trailer 2 ton 4W/2L Woodworking Mk2, the chassis for the trailers being built at Sentinel (Shrewsbury) Ltd. with the equipment supplied by Mickleover Transport Ltd., Park Royal, London. Can anyone throw more light on who Mickleover Transport Ltd. were?

Was it just a coincidence that they were located at Park Royal or was there a tie up with Park Royal Vehicles Ltd.? Mickleover Transport Ltd., were awarded the contract to build the Q type Signals Body Mk1 on the 10 ton 6 x 4 Leyland Hippo.



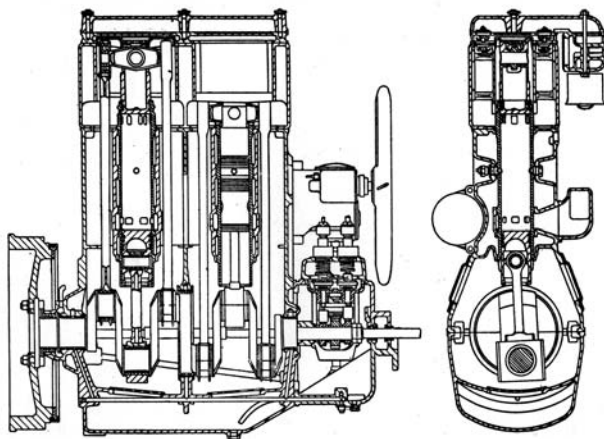
128. Late Titan TD1 chassis (Torque Nos.32, 33)

John Manvers of West Ewell identifies the third 'alleged TD2' GX 2602 as being in reality a TD1 by reference to an Omnibus Society photograph reproduced in the Venture publication *Classic Leylands 2*, again noting that the front springs are shackled at their front ends, rather than at the rear as on the TD2. It would seem, therefore, that it is the Motor Tax documents for these that are in error.

129. Early Leyland Diesel Engines (Torque Nos.32, 33)

Neil Steele comments that the table produced on page 23 of Torque No.32 was comprehensive but missed out Kerr-Stuart of Stoke on Trent who built a 6ton semi-forward control diesel lorry in 1928/29 using engines supplied by McLaren. First a 4 cylinder McLaren-Benz engine of 60hp was fitted but this had to be started using a single cylinder JAP petrol engine, so McLaren supplied a 6 cylinder 45hp Helios engine (from bankrupt stock purchased by McLaren) which could be started by hand. However this engine was not reliable and the 4cylinder 60hp McLaren-Benz engine was reinstalled along with its JAP starter. It was claimed to be the first "All British Diesel Lorry". The model designated KS4 had a unique rear spring arrangement which consisted of two elliptical springs mounted transversely and centrally to the chassis width and was given the name Kerr-Stuart 'enharmonic' springing. Five KS4's were supplied to customers, but due to financial problems series production was cancelled.

Nothing further has been mentioned about the Junkers two stroke engine noted in the aforementioned list, but members may be interested to learn that the early version of this engine was described as a 'double three cylinder two-cycle engine', this design of engine had a very good power to weight ratio, and it was ultimately developed into an aircraft engine by Junkers. This opposed piston design of compression ignition engine was to be developed by Leyland in the 1960s for the L60 opposed piston multi-fuel tank engine built for the MoS.



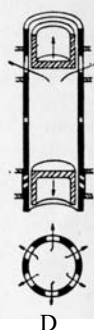
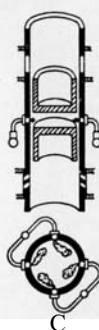
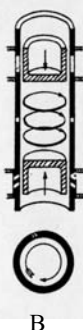
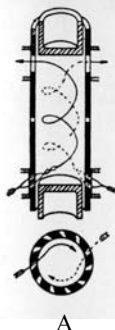
LEFT
The *Automobile Engineer* drawing of the Junkers 2 stroke double 3 cylinder engine.
RIGHT
Diagram showing the sequence of operations in the 2 stroke engine.
A - Scavenging
B - Compression
C - Injection
D - Exhaust

We have had no response as yet, so Mike Sutcliffe has added a couple of photos to remind readers and added some further comments from his own memories. The photos enable a comparison between a Leicester City Transport PD1 and PD2/1. Note that the slope of the cab appears to be little different but the front edge of the mud-guard appears to be at least 3 or 4 inches further back on the PD1 – is this an optical illusion? Other differences between **most** PD1 and PD2 Leyland bodies include the front upper deck windows, with recessed window pans on the PD1 versus flush glazed windows on PD2s (some exceptions being Scout's BRN registered PD1s, Blackburn's last batch, Central SMT? and PD2s fitted with half drop front windows). This does not appear to be merely due to the fact that the PD1s were generally earlier than the PD2s – Todmorden Joint Omnibus Committee's first PD2s of early 1947 had flush upper deck front windows, with the drip moulding at the top, whereas several later PD1s had recessed window pans. It was almost as though the "PD1 Leyland body" was a slightly different design from the "PD2 Leyland body" – with a few exceptions. The same may be correct for the lower deck platform window which was wider on the PD1; the panel beneath it was split with a horizontal beading on the PD1, just above the number plate, but was split vertically down the centre on the PD2. Were there any other differences? (This just shows what was on the mind of a young impressionable boy in the 1950s – quite sad really! – Ed.)



Leicester PD1
(left) and PD2
(right).

(M.A.Sutcliffe)



132. Leyland lorry cabs (Torque No.33)

Gerry Bixley of Woking endorses Bob Kell's thoughts on the dated appearance of pre-war Leyland lorry cabs and reckons the Leyland scuttle dictated matters up to a point, and this remained so up to 1939. He also notes that he has repeatedly been told that Leyland did not build lorry cabs, but doesn't believe this as they advertised complete vehicles - chassis, cab and body. (*Yes, Leyland did most certainly build cabs and complete bodies though the customer could have the chassis, or chassis with cab, without bodywork - Editor.*) Gerry's interest is in making scale drawings of vehicles and coachwork and, having taken measurements of a number of pre-war Beavers, Hippos and Octopuses and found that the measurements differ greatly, would be interested to learn the whereabouts of other TSC type Beavers.



(Photo by Chandler, Deptford)

Mike Sutcliffe responds to say that the “archaic” structure on the above Butler vehicle is **not** a Leyland cab, though it looks a bit like one. The lorry is clearly older than it looks and dates originally from about 1919-1921 – probably originally a bus or charabanc model “O” and with bevel drive back axle. It has been rebuilt as a lorry with new cab and body c.1928/29 and fitted with the high GH type radiator and late 1920s bonnet. It has acquired a radiator protection bar and towing hooks, and also 38 x 7 pneumatics on the front (replacing 720mm solids and thereby making the front end much higher than it should be). Also, the Pullman bracing beneath the frame is another giveaway. If only we knew its registration! (*Note – the photograph shown here is held over from the last issue of Torque due to a lack of space. Editor*)

133. Leyland Llama PSV (Torque No.33)

No responses yet regarding Llamas in general or the Robertson (Golden Shred) vehicle in particular, but its registration was XS 3001. Does no-one have a photograph of this – as van or a coach?

134. Cannon of Northern Ireland

Mike Fenton asks whether the PSV chassis built by Cannon are simply based on Leyland-DAF lorry chassis, or is the forward control "Softline" model actually a complete Leyland-DAF lorry passed off as a Cannon?

135. Thames Valley Cub lorry

Paul Lacey has been told that a Cub lorry, registered WO 9157, acquired by Thames Valley Traction Co Ltd. as a service vehicle, had originally been a bus, but invites comments. The vehicle was first licensed in February 1935 and was later sold to Goodey, a scrap merchant, who used it for a short time in the mid 1950s.

136. Leyland Lion PSR1/1

A recent edition of *Buses* magazine included a photograph of a PSR1/1, still running as a mobile home in New Zealand. The model was intended for the North American market, but most were supplied to Iran and Australia. Does anyone have a list of Lions built (between 1960 and 1965 according to *Leyland Bus Mark 2*)?

137. Newcastle Titan TD1s

Bob Kell asks 'Newcastle Corporation received three 'unknown' Titan TD1s in January 1931, licensed in February 1931 as VK3839-41 (chassis 71849-51). They were bought for a mileage agreement with Tyneside Tramways and, it is believed were always operated by TT and in their green livery. As TT were operating them, they presumably asked NCT to buy TD1s instead of AEC Regents or Daimlers. Contrary to published information they were numbered in the Newcastle fleet for a time and were always Newcastle-owned buses. Withdrawn in 1938 when the large batch of TD5/ECW arrived they went to Barton where one was photographed with a new Duple front entrance body. This is the only known photo of the batch unless there is one in BCVM when new (*is there?*, *as Newcastle did not buy Leylands, then surely this was a minor coup for Leyland - except that if they were in TT livery of course!*) A minor oddity is that the batch are not recorded as being with Barton until 1941- a long time for three relatively modern vehicles to hang around in times of shortage.

138. "Mystery" Tiger



The Tiger on the left appears to be owned by the Armed Forces, and is seen at an airport somewhere in Britain. Can anyone tell us more about UK based rhd Tigers like this? There were also lhd Tigers with British Forces in Germany.
(Photographer unknown)

THE LEYLAND SITE AT CHORLEY

As described on page 13 of Torque No.33, the factory site at Chorley once used by Leyland Motors for the manufacturing of vehicles, the repairing of vehicles and supply of spare parts was closed in October, and will soon be vacated. The buildings have latterly been used for storing and supplying parts only, and since early 2005 the parts service for the products of Leyland Trucks (DAF and Foden) has been done by Paccar Parts from the Leyland Trucks' factory. Therefore, of late, all connection with the former Leyland Group has been severed, except that parts for the LDV van range are held by the current owners, Multipart.

The Multipart name was adopted by the Leyland Group when it was decided to merge the parts supply service for Leyland, AEC, Guy, Daimler and BMC on one site. A massive new warehouse was built on the Chorley site, fronted by an administration block containing offices and canteen and conference facilities, facing onto Pilling Lane. As years passed and the supply requirement for the constituent companies was reducing, the Multipart service was extended to include non-Leyland Group items, and following the dramatic reduction in the number of vehicles produced in Great Britain, spares for imported vehicles were also stocked. The picture below shows the Pilling Lane administrative block, with the low rise but massive warehouse to the left. The RAC name figures prominently on the nameboard here, because prior to the sale



The view across the main entrance (in modern times) in Pilling Lane. We are indebted to Martyn Griffiths for the photographs here, opposite and in the centre of this issue.

of the operation to South African interests, the RAC owned the business through its Lex connection. The current trading title of the business, which now operates from another site at Chorley, is Multipart Supply Chain Solutions.

In September, the Committee of the Leyland Society visited the Pilling Lane premises and toured the site. Product Manager Martyn Griffiths presented a slide show of various historical views of the site, and we were pleased to be able to repeat this at the Society's Annual General Meeting at Coventry in November, with Martyn's permission. Two pictures are reproduced here, as well as that across the centre pages of this edition of Torque.

The aerial view shows the vast spread of the warehousing. In the lower left is Pilling Lane. The rectangular building on the far left is the existing Grime Street block, seen from the rear, and once the administration block for workshops which came towards the camera over the site of the first warehouse. The larger B.L.M.C. built warehouse and extension fills the centre of the picture, with the new office block facing onto Pilling Lane. The curved row of conifers marks the line of Sandgate, with its separate entrance to the site. The final building, with car park behind for the warehouse staff, began life in the 1950s as the Leyland Motors Repair Shop, but had latterly been used as an extra warehouse facility. The low added-on block on the left front of this building was recently used as an archive store for B.L.M.C. material, some of which has now been transferred to the British Commercial Vehicle Museum.



The original (1914) office block in Grime Street in 2006the arch in the centre gave entry to the workshops, which were demolished some time ago to make way for the Leyland spares warehouse.



From left to right: the Grime St. building, Parts Warehouse replacing original Leyland works, Parts Warehouse fronted by admin.block (Multipart), and former Leyland Repair Shop of 1956.

ODD BODIES!

Edited by Bob Kell. All correspondence to Mike Sutcliffe

With responses from John Bennett, Allan Condie, Maurice Doggett, Mike Fenton, Peter Greaves, Philip Greenwood, Paul Lacey and Malcolm Wilford. Many thanks to you all, and particularly John and Mike for a host of new items.

Barton, Leyland Lion LT5A, ARR 178/9 (Torque No. 31-3)

John Bennett notes that both the bodies shown on ARR 179 and GE 7221 appear to be 1932 Eastern Counties coach bodies from North Western Road Car Leyland Tiger TS4 chassis (DB 9478- 9500, JA 2201-2) – see TPC NWRCC book of 1980. In 1936 nine of these bodies were fitted to new Tiger TS7 chassis (JA 5709 -5717) which were in turn rebodied by Harrington in 1939. The remaining ten TS4s were rebodied by Burlingham in 1943. There were thus 9 ECOC bodies available in 1939 and 10 in 1943. How the two bodies got to Red & White is unknown. Whether ex Glasgow Titan TD1 GE 7221, which arrived in Chepstow in December 1940, was lengthened for the body to fit, or whether another chassis is masquerading as GE 7221 is also not known. (It was photographed in 1950). It has been recorded as a Starkey body, but possibly Starkey rebuilt or fitted the body, but they certainly did not build it. Can anyone identify the ‘odd’ radiator on ARR 179 – was it a Leyland lorry radiator?

Leyland Tiger TS7, BFC 675 (Torque Nos. 32/3)

Paul Lacey fills in the details of this vehicle. It was South Midland no. 34 (Tiger TS7, chassis no.6060) and was delivered as one of a pair with no. 35 (BWL 349), a TS7 chassis no.6061) which were delivered with Harrington bodies (the proprietors of South Midland being friendly with them). Unusually the two vehicles were different, no.34 (licenced in April 1935) was front-entrance and no. 35 rear entrance with a seven bay body. Surviving records do not indicate any rebodding and the photograph shown indicates that the original body was still carried in September 1950 when the bus passed to Taylor, Enterprise Coaches, of Newbury. However records under Red & White ownership of the firm in wartime are not complete and, as seen above, ‘things could happen’ in this period. Another two correspondents support the Burlingham attribution for BFC 675 however.

Graves Coaches, Leyland Tiger TS4, BU 7180 (Torque No.33)

This, apparently, is a TS4 (chassis 496) with a Burlingham C32R body, (although one correspondent suggests Cravens of Sheffield and another Strachan) and was new to F Walker of Oldham in April 1932. The ‘Graves’ turns out to be C. F. Graves & Son of Redhill, Surrey who bought it in December 1935 and with them, after being rebodied by Strachan in 1948/49, it completed 25 years of service with a 1957 withdrawal date.

Monks of Leigh, Leyland Tiger TS7, JP 1353 (Torque No.33)

My suggestion of Beadle for the body on this Tiger TS7 (8922) has been firmly dismissed with the information that the coachwork is by Santus of Wigan and the vehicle was registered in March 1936. It was photographed in Chester beside the Roman walls there.

Simonds of Botesdale, Leyland LT5B, YG 6600 (Torque No.33)

This is an LT5B (4489) which was new to F. Oades & Son of Heckmondwike, West Yorks with C32R body. Correspondents quote April 1934 and March 1935 as the date of first registration. It later moved to Calver (Seagull) of Gt Yarmouth (5/39) to E. F. Long, Glemsford, Suffolk (3/41) and finally ten years with Simonds from July 1943. The builder of the rear-entrance coach body remains unknown, though it is suspected that it was the original body rebuilt with Burlingham-ish features.

New Items – Postwar Leylands**Dawson's Reliance, Leyland Tiger PS2, OEH238**

Thirty-foot long Tiger coaches were not all that common in the 1950-52 period and the bodywork on this one is not quite familiar. The Virol advertisement seen in the chemist's window brings back memories of my grandmother's regular administration of this sweet glutinous concoction to assorted grandchildren in turn.

**Ivor Davies of ? Leyland PS Tiger JAX659**

Again, a smart coach on a late-model PS Tiger, but the bodywork is a puzzle to the writer.



The Orcadian, Leyland Tiger, BJV 689

Perhaps a raised eyebrow or two when this extraordinary device turned up (no doubt as a special treat) for the Women's Institute trip. How did this Grimsby-registered coach get to the Orkney Isles?



D Jones, Carmarthen, Leyland Comet CPO1, FTH 456

By chance, I found my copy of the PSV Circle listing of normal-control Comet psvs recently, at the same time as this photograph of FTH 456 (chassis 493703). Coachwork is listed as Associated Coachbuilders (ACB) of Sunderland. But this body does not resemble any other ACB Comet. I suspect that another coachbuilder had added ACB-type mouldings to his product, but who? Is 'Overland Jones' a trading name or a subsequent owner? (Photographer unknown, courtesy J. Purvis collection.)



While on the subject of Comets, the Journal of the Tramway Museum Society reports that a group of members visited the Danish Tramway Museum at Skjoldenaesholm which includes buses. The members rode on a preserved normal-control Comet bus K32-329.

And finally, here is an “Odd Body” that may not have been on a Leyland chassis, but who can tell? It was photographed in Cumbria circa 1970, and it most certainly has a solid front bulkhead! Can anyone say what make of bodywork this annexe carries, clearly it was a rear entrance single dek bus. Photograph by Ron Phillips.



A “Letter to the Editor” from Roy Marshall of Burnley has been transferred to this space as it raises an interesting issue concerning unusual arrangements regarding bus bodywork. Roy writes:

‘During the war I travelled extensively throughout the Midlands, Yorkshire, and parts of Lancashire, recording vehicles I saw with particular interest in the development of the utility body. I extended my coverage post-war, visiting Southport for the first time in 1951. I joined the Department in 1958. Alas, I never investigated the 1936 Vulcan bodied Titans, nor the Massey bodied ones of 1937- they were to English Electric design. Does that mean that Vulcan completed them ? I cannot believe that a team of coachbuilders were employed to build them from scratch, bearing in mind that they were the only ones to be built for some time.’

Roy’s letter concludes with a comment which is proved by the Ribble Motor Services’ dislike of Atlanteans. ‘The Chief Engineer and I both thought that Atlanteans would be beneficial to cope with some loadings, but the boss (Jackson Hoggard) was told by Mr.Bottomley of Ribble that they were too troublesome.’



Troublesome or not, the Southport undertaking did buy Atlanteans that were fitted with bodies by Alexander to the ‘AL’ Liverpool design with Southport features. Here No.84 (VWM 84L) is seen in the pristine condition expected of Southport buses.

(Ron Phillips)

CHARLIE ALLEN'S TWIN TIGERS

by Mike Bennett

Leyland PS1/1Tigers GAY 170 - GAY 171 were new to Allen's Motor Services, Mountsorrel, Leicestershire in the Spring of 1950. They were built alongside a batch of Leyland Tiger PS2s for Stratford Blue Motor Services (JUE 348-351) and a similar batch of PS2s for Hebble Motor Services (BCP 825- 830). The difference in the chassis designation was essentially in the type of engine fitted, the Allen's pair having the 7.4 litre power unit. The bodywork of the three sets of vehicles was very similar, the culmination of a series of developments of a Willowbrook design first seen in 1946. The Stratford vehicles had the ramped floor which was also a feature of the Allen's vehicles, but the destination screens appear to have been identical to the Hebble ones. The livery application of the Allen's blue and cream and the very similar Stratford colours was the same, and the similarity extended to the style and position of the fleet numbers and the "garter" emblem on the sides of the vehicles. The Hebble vehicles had what is often described as a "reversed" livery of mainly cream with red trim. The seating of all three owners vehicles appears to have been identical and was of the Willowbrook "dual purpose" design; the Hebble vehicles seating 33, the Stratford and the Allen's 35. Older pictures of these vehicles show that the Allen's and Stratford buses had wheel nut guard rings with ten holes.

GAY 170 and GAY 171 joined two other post-war Willowbrook bodied Leyland Tigers in Allen's fleet, FUT 7 a PS2/5 model new in 1949, built with a batch for Yorkshire Woollen District Transport and EJU 439, a PS1 of 1947. All of these buses were employed on the service from Loughborough to Leicester via the Forest, that being Charnwood Forest, and including the substantial villages of Quorn, Woodhouse Eaves and Thurcaston. This service had been introduced by Allen's in 1927 and operated on an hourly frequency seven days a week. Allen's other services were the main road route from Loughborough to Leicester, shared with a number of other concerns and worked by double deck vehicles, and the group of town services in



The twin Tigers at Mountsorrell, 1959. No.42 (GAY 170), on chassis 495009 and 43 (GAY 171) on chassis 496186 show off their smart Willowbrook 35 seat coachwork. (M.A.Sutcliffe)

Loughborough operated with a fleet of Bedford saloons.

The “dual purpose” features of GAY 170 and GAY 171 meant that they were ideal for the prestige Allen’s route, from Loughborough and Leicester to Skegness, which operated daily from Easter to the end of September each year. The significance of Skegness to the population of Leicestershire may need some explanation to those not familiar with the county. Skegness was synonymous with holidays; and entire families “removed” themselves to Skegness for the “industrial fortnight” during the first two weeks of July and “Skeg” would usually be the first and often the only destination considered for a day out to the seaside. Even today, although its role is much diminished, Skegness remains a popular excursion destination.

Charles Allen died in 1955 and the business was continued by his widow. The Loughborough town services had been sold to Trent Motor Traction in 1953 and the remaining services (Forest and Main Road) passed to Midland Red in August 1955. The rivalry between Allen’s and the “Red” was such that the fleet name, vehicles and the Skegness licence were retained by Mrs Allen and afterwards passed to her brother-in-law, Greg Preston, who had worked with Charles Allen from the earliest days of the business. Most of the vehicles were sold, notably to Barton, but GAY 170 and GAY 171 stayed together in the Preston fleet until 1963, latterly working mainly on school contracts. They were widely known and fondly remembered vehicles; a mention of them in the local weekly newspaper the “Loughborough Echo” in 1995 brought forth numerous stories and recollections of them.

The two vehicles were destined to stay together and move to Staffordshire to join the fleet of Stevenson’s of Spath as fleet numbers 21 and 28 respectively. Their employment here was very varied, but one of the pair appeared each weekday evening on a contract operation to the Derby suburb of Chaddesden, usually a few minutes before the van carrying the copies of the “Derby Evening Telegraph” I was waiting to deliver. The pair, having spent their entire lives together, were both withdrawn in June 1972, and for the first time went their separate ways. The fate of GAY 170 is not recorded, but Bloor’s scrap yard at Spath seems a possible destination whilst GAY 171 had the rear doors removed and a towing bracket added, along with a structure on the roof for tree cutting, the latter, amazingly, held in place by ropes passed through the bodywork via the sliding windows!

GAY 171 was rescued for preservation by an enthusiast in 1977, but after many years of open air storage it finally, after some changes of ownership and long and intense negotiation, arrived at the Ibstock premises of Colin Simmonds, owner of the “Country Hopper” fleet. Colin, who has already completed the restoration of a former Leicester Corporation Leyland PD3 and is well on the way to completely rebuilding a very well known Duple bodied Bedford OB (HTC 661) has worked tirelessly to secure ownership of GAY 171 and finally achieved his ambition in October 2005. GAY 171 arrived at Ibstock on the back of a “low loader” and was eased into the workshop, only losing a few parts of the rapidly deteriorating bodywork in the process.

During the succeeding winter the bodywork has been carefully assessed and some considerable research commenced to secure the parts and materials necessary

for the complete restoration of the bus. The floor of the bodywork is remarkably sound and quite strong enough to allow the roof to be “propped” from it whilst the sides of the bodywork are rebuilt. At the time of writing the offside framework has been completely renewed, along with that of the drivers cab and progress is now being made across the front and around the passenger door. The chassis is still very sound and all of the mechanical parts are present, but the bodywork is too fragile to risk attempting to start the engine. New front “wings” and headlamps have already been obtained.

A number of minor mysteries remain and any relevant advice would be most welcome. Samples of the blue paint from beneath the Stevenson’s yellow have been analysed, but opinions differ as to the exact shade of blue and of cream used by Allen’s. Stevensons had removed the doors to the luggage boot at the rear of the bodywork and thus the pattern for these and also the bottom edge of the bodywork, along with any “trim” is proving difficult to establish, as is the style and wording of the lettering used on the doors. The frame and glass of the front destination screen is also missing and whilst working from enlargements of photographs is possible re-creating the frame from actual measurements or a template would be much less difficult. Most of the windows are intact as are the sliding ventilators, but all of the interior light bulb covers are smashed; these are not glass, but an opaque plastic material. In due course access to a copy of the Leyland manual for the Tiger PS1 would be helpful, not least to establish why the vehicle has battery frames on both sides of the chassis and access “flaps” on both sides of the bodywork.



GAY 171, ex Allen’s No.43 is seen with Stevenson’s, equipped for tree cutting duties. After years of disuse, this vehicle is currently being restored. (M.Bennett Collection)

THE B.U.T. STORY

by Ron Phillips

Leyland and AEC both built trolleybuses and railcars during the thirties, but ceased to do so during the 1939-1945 wartime period. Once the return of peace made it possible to plan ahead, the two rivals decided to pool resources for production of two types of vehicle for which there was at the time a perceived market limit. Thus British United Traction Ltd. was set up in 1946 and construction of trolleybus chassis commenced at Leyland's Kingston on Thames factory. It was envisaged that AEC would design and produce parts for home market trolleybuses, and that Leyland would design and build trolleybuses for overseas customers, although as a look at the table overleaf will show, some chassis built by AEC did go abroad to customers who were requiring British style double deckers.

For the first few years Kingston assembled chassis with parts from AEC, and by the time Leyland-built machines came on stream (1948) it had been decided to sell off the Kingston factory, so that AEC derived trolleybus production was moved to Southall, and the Leyland derived ones were built at Leyland, with chassis numbers in the main Leyland series. Subsequently, AEC transferred trolleybus manufacture to Crossley at Stockport, after that firm had been absorbed by the A.C.V. Group (a union of AEC, Crossley and Maudslay). After 1958, no further AEC derived trolleybuses were built, and Leyland continued until group reorganisation moved BUT service, spares and construction to Scammell at Watford.



A Leyland-built B.U.T. RETB/1 of Dunedin City Transport, New Zealand. The vehicle is turning at Normanby terminus in 1975. (Ian Lynas)

B.U.T. TROLLEYBUS PRODUCTION using AEC parts**Model 9611T 2 axle double deck chassis 26ft. - 182 built**

Supplied to Brighton (8), Brighton, Hove and District (3), Bradford (20), Cleethorpes (4), Colombo (35), Darlington (6), Newcastle (25), Notts & Derby (15), Nottingham (13), Portsmouth (15), Pretoria (10), Reading (20), and St. Helens (8).

Model 9612T 2 axle double deck chassis 27ft. - 70 built

Supplied to Ashton-under-Lyne (8) and Manchester (62).

Model 9613T 2 axle double deck chassis 30ft. - 90 built

Supplied to Glasgow (90).

Model 9641T 3 axle double deck chassis 30ft. - 561 built

Supplied to Belfast (48), Bournemouth (24), Cardiff (60), Glasgow (30), London Transport (127), Newcastle (70), Nottingham (102), Johannesburg (60), Spain (40).

Model 9642T 3 axle double deck chassis 30ft. - 50 built

Supplied to Johannesburg (50).

Model 9651T 3 axle double deck, left-hand drive chassis - 27 built

Supplied to Barcelona (27).

Model 9711T 2 axle single deck chassis - 55 built

Supplied to Auckland, NZ (55).

Model 9721T 2 axle single deck, left-hand drive chassis - 67 built

Supplied to São Paulo, Brazil (4), Arnhem (43) and Nijmegen, Holland (20).

B.U.T. TROLLEYBUS PRODUCTION using Leyland parts

(only one non-overseas customer)

Model ETB/1 - 2 axle single deck chassis - 435 built

Supplied to Auckland (74), Coimbra (13), Copenhagen (4), Dunedin (79), Drammen (4), Glasgow (21), Hobart (36), Launceston (30), Madrid (1), Montevideo (18), NESAs (Copenhagen) (20), Oporto (26), Wellington (109).

A variety of different types of electrical equipment was fitted on BUT chassis, although AEC generally favoured English Electric and Leyland specified G.E.C. It was up to the customer, however, to choose equipment best suited to the operating territory, and in accordance with existing makes of equipment in the fleet and local facilities for servicing that equipment.

The Leyland ETB/1 chassis was available with three different wheelbases and overall lengths (30ft., 33ft., and 35ft.). The chassis was quite low, allowing a floor height 2ft. above road level, and the front axle was set back to allow a front entrance under the supervision of the driver and a second exit doorway ahead of or behind the rear axle. The single motor was located just ahead of the rear axle, and the electrical contactors were housed in a compartment across the rear of the chassis. This arrangement had been used before the Second World War by both AEC and Leyland on single deck trolleybuses. The ETB/1 designation was prefixed in most cases by L or R to show the left-hand or right-hand driving position, but despite variations in design etc. between batches, the chassis type code never seems to have varied. Only Glasgow Corporation took RETB/1 models in Great Britain, all other ETB/1s went abroad.

The last two batches of ETB/1 trolleybuses, for Coimbra in Portugal and Wellington in New Zealand, were built by Scammell and had chassis numbers S.09901-S.09906 and S.09907-S.09944 respectively. They date from 1963-4, and were to be the last British trolleybuses built. The only other British trolleybus manufacturer to survive into the sixties was Sunbeam, by then part of the Guy Motors business, and this was soon to be acquired by the Leyland Group. In Britain the seventies saw the closure of the remaining trolleybus systems, whilst abroad, for various reasons, some systems carried on. Most notable was Wellington, which was to receive new trolleybuses based on Volvo bus chassis, suitably modified for electric traction. A future article in this series will examine in detail the Leyland-built type ETB/1 trolleybus chassis, spanning the years 1948-1964.

The fall from grace of the trolleybus did not spell the end of British United Traction. The second string to BUT's bow was the construction of the power train and control gear for railcars. Both AEC and Leyland had experience of building railcars during the 1930s, much of the production going overseas or to Northern Ireland, but AEC had one high-profile British success with the streamlined railcars of the late thirties for the Great Western Railway.....in fact AEC had a railcar shop at Southall which was directly connected with the G.W.R. mainline from London to Bristol.

In the post-war years leading to the nationalisation of railways in Britain, there was no opportunity for the production of railcars, but the Great Northern Railway (Ireland) and the Ulster Transport Authority (formed when the N.C.C. subsidiary of the L.M.S. became the property of the government) were customers for railcar engines and transmission/control systems. In Holland, where both AEC and Leyland had much success in the supply of bus chassis and running units, the Allen company constructed railcars for Netherlands Railways and for Portuguese Railways using AEC engines and equipment. British United Traction, therefore, were well placed to meet the needs of British Railways in the fifties when a policy of replacing locomotive hauled passenger trains was introduced, and as the demand for trolleybuses dwindled, the demand for railcar equipment soared. Leyland, with the O.600 and O.680 engines coupled to the successor to the pre-war HTC2 torque converter, enjoyed great success.

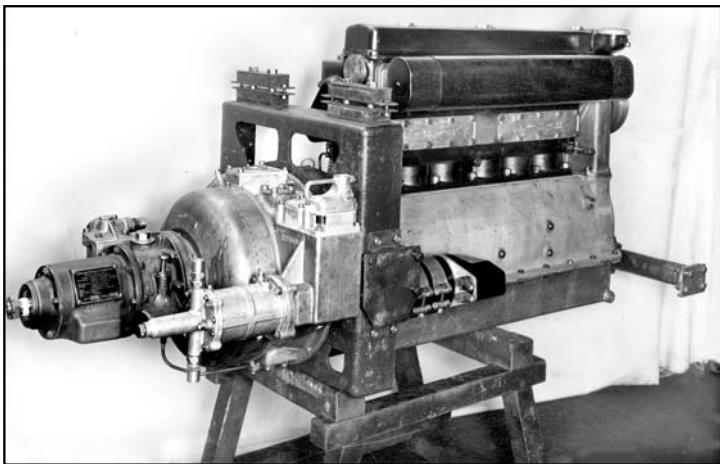


A Leyland-built LETB/1 of 1958, working in Oporto. The body is a Park Royal design built in Portugal at the UTIC factory at Oporto. The height of the trolleybus against the tram shows the low chassis level for the times.
(Ron Phillips)

LETTERS TO THE EDITOR

From Neil Steele, Cheadle

Michael Knowles' article on the LMS Railcar was of interest, especially the picture of the engine on page 42 of Torque No.33. Close examination shows this engine to have an 'L' shaped head which overhangs the block on the nearside (picture the letter L lying on its side). The injectors are fitted at approximately 45° into the overhanging part of the head so that they inject upwards, this necessitates the injection pump being canted over to allow the injector pipework to have gentle curves. Further examination of two other photographs of this engine reveals heater plugs above the injectors and that the air intake is through a long box-like device with a gauze filter on each end which is located on the off-side of the head. When looking at a normal 8.6 litre o.h.c. engine one can usually see the water gallery plates behind the injection pump and exhauster, however, on this engine these are on the off-side, suggesting that the block has been rotated through 180°. What this 'L' shaped head does suggest is an Acro air-cell type of combustion head. The AEC 8.85litre Ricardo head rail-car engine is recorded to have produced 140bhp @ 2,500rpm with low fuel consumption over a wide range of engine load, however, the power setting was revised to 121bhp @ 2000rpm for rail-car use. Research suggests that indirect injection engines can be run at higher speeds giving a wide range of performance. Coupled to a torque converter the higher revs of this type of engine would enhance the acceleration and allow for high speed running in direct drive. I understand the main problem with indirect injection C.I. engines was starting from cold, hence the heater plugs, but apparently these had a short life and the drain on the batteries was very high. which must be considered a disadvantage over direct injection C.I. engines.



This is the offside of the "E.R.E.6" Leyland rail-car engine. (BCVMA)

On page 45 of the same issue, what an interesting letter from Colin Thirwall (prompted by the article written by Fred Boulton in Journal 8) relating his time at Leyland Motors Ltd; also the most interesting picture of an F.V.1200 series vehicle. This prototype, or its sister, was displayed at the Fighting Vehicles Research and Development Establishment, Chertsey in 1956 and was listed as type F.V.1201(A) or to give it its full descriptive title 'Tractor 30 ton 6 x 6 C.T. Heavy Artillery'. It was a monster, 27ft 6in. long, 11ft. high and 11ft. wide with a 16ft. wheelbase! My picture shows some slight differences with the rear body and it may be of the 'other' prototype. I think Colin's picture shows the later style of body, with the same style of rear mudguard fitted as used on the 'Martian' Medium Artillery Tractor.

The design brief for the 30 ton heavy artillery tractor was for a vehicle capable of carrying ammunition, a crew of twelve and tow a heavy gun across severe cross-country terrain. Its power source was a V8 petrol engine, a fuel injected Meteorite 80 No.2 Mk1 which had a displacement of 18,000cc giving a BHP (gross) of 510 at 2,800rpm governed speed. 810 lb.ft of torque was produced @ 1,460 rpm. The two oil bath air cleaners had a throughput of 380cu. ft. of air per minute and the cooling system was of the Morris block pressurised (10-16psi) type. Drive was through a hydraulic coupling and single plate break-away clutch to a 5 speed and reverse synchromesh gearbox which drove through a unit constructed 3 speed transfer box to the front and rear double reduction axles, (the final drive to the rear wheels being via bevel and spur reduction gears to the walking beam centres and then by chain to the wheels). Ratios; Top 10.4:1 and Bottom 107:1. Brakes; footbrake two line air pressure on all wheels, handbrake was mechanical on transmission. Steering was by Lockheed hydraulically assisted Burman recirculatory ball. Suspension; front semi-elliptic, rear walking beam, unsprung, no shock absorbers were fitted. All this was carried on 18.00-24 cross country tyres. The laden weight was given as 91,840lbs (41 Imperial Tons). 250 gallons of petrol was carried to give a theoretical range of 100 miles on road or 40 miles cross country.



An example of the Martian FV1110 (A) fighting vehicle .(FVRDE)

The FV1200 project really began in 1949 when it was decided to look into replacing existing British and American types used for gun tractors, tank transporters and heavy recovery with a designated series of vehicles based on one general design. The contract for the FV1200 project was handed to Dennis Bros. in 1950 which contained the provision for six prototypes (2 x FV1201 Artillery Tractors, 2 x FV1205 Recovery Tractors, 1 x FV1206 Fifth Wheel Tractor for Cross Country Applications and 1 x FV1207 Tractor for Road Use. Why Dennis was given the contract is something of a mystery as they were not renowned for building heavy vehicles never mind vehicles with multi wheel drive cross-country capabilities. This was to become apparent as by 1953 Dennis Bros. had reached the stage of having prepared drawings and scale models of the FV1201 and FV1206 variants, however, they found themselves suffering from material restrictions and a fluctuating specialist workforce. With these problems in mind the Ministry decided to transfer the work begun by Dennis Bros. to Leyland Motors Ltd., who inherited some drawings and a Dennis designed and built five forward and one reverse speed synchromesh gearbox which had a two pedal gear-change with air assistance and a three speed transfer box of unitary construction.

Leyland began by preparing general arrangement and detail drawings to which was added detail unit drawings. The first prototype FV1201 was handed over to the FVRDE at Chertsey sometime in 1954. Following exhaustive trials a number of problems were identified and modifications and redesigns were put in hand which were also incorporated into the second FV1201 prototype. The main improvements incorporated included a modified design walking beam and a power take-off and winch drive gearbox. At the beginning of 1955 the Ministry looked at the project again and decided to restrict the contract to just two vehicle types FV1201 and FV1205. By the end of the 1955 trials the FVRDE had virtually approved the vehicles design and production numbers were being discussed with thoughts ranging on 200 to 600 vehicles. Costs were estimated at a £¼ million for tooling and projected prices ranged from £20,000 to £23,000 per vehicle depending upon numbers ordered. At this point in time another project being worked on by Leyland had been cancelled after eight years of work this was the FV1000 series. Leyland had been working on; 'Tractor, 60 ton, CT, Heavy, 6 x 6, Leyland'. The FV1000 project was for a series of vehicles which included a 60 ton 6 x 6 tank recovery vehicle which was mooted to be used with a 60 ton power driven cross country trailer as one option and other variants. With the cancellation of this project one of the FV1201 tractors was tried in the '60 ton' tank recovery role and pictures exist showing one of the FV1201 vehicles towing a 'Conqueror' tank in simulated combat conditions. The cost of the vehicles was to be the downfall of the FV1200 project, after all the work designing and building a vehicle which was to the military's liking the War Office decided that a purpose designed and built 'fit for the purpose' range of vehicles was not so desirable after all (a little like the TSR2 aircraft project). Both FV1201 prototypes were eventually scrapped and only photographs remain to remind us of what Leyland had been doing at the MoS Factory in the decade following the Second World War.

From William Kelly, Dublin

I read with interest the article in the Leyland Society Journal, No.8 on the development of the Titan PD Chassis series. As I was an apprentice with C.I.E. from 1948 to 1953 in the old Broadstone Overhauls Dept., I had some experience of Leyland buses and lorries. In total I worked for C.I.E. for 13 years and left in 1961. We did not have any PD1s but we had the overseas model OPD1. They were introduced to the fleet in 1946 and 1947 and there were 20 in total. There was no mention of them in the article and I was wondering where they fitted into the development. I worked on five of them as they passed through overhaul and delivered them to Spa Road.

As far as my memory serves me they were exactly the same as the later OPD2 which followed except for the engine and gearbox. The engine was the 8.6 litre overhead camshaft type from pre-war models, but it had a cast iron crankcase and a heavier flywheel, with a non-synchromesh gearbox. The clutch was similar to the PD2, with the block adjustment. Piping for fuel and vacuum was different and I remember a stand alone right angled vacuum non return valve. This was located somewhere below the autovac under the bonnet. About 12 years ago, I observed a similar layout on a single decker which was part of a private collection in Australia. As far as I can recall it was from the Melbourne fleet and I presume it was the single decker version. They were not the most popular bus in the fleet as they were under-powered for the large 66 seater bodies. They spent most of their working life in Clontarf garage and were on the Dollymount route which was a fairly flat route. I travelled as a passenger on them many times and they were very smooth as changing gear had to be a smooth process. Towards the end of their life they were re-engined with O.600 engines and gearboxes from retired single deckers. They were always referred to as the "Queen Marys" as they were the first 8 feet wide and longer chassis. Sad to say, none of them were preserved.

If some other information is available perhaps it could be included in a future article. Where else besides Dublin and Melbourne had this model? I enjoy reading all the articles and thank you and your colleagues for the hard work in producing Torque and the Journal. All the copies I receive are filed in the Archive of the National Transport Museum in Howth, Co. Dublin.



C.I.E.R271 (ZD 986) with Leyland "look-alike" body built by the operator. The extra length and width are shown by the long forward side window bay, and the thick central pillar of the upper deck. The bus is seen in August 1964, by which time it had an O.600 engine, and the seating was increased by 2 to 68.

(M.A.Sutcliffe)

From Paul Hoskins

I read with great interest the article on the Leyland Tiger by Ron McCulloch which appeared in the summer 2006 edition of the Leyland Journal, and wonder if I could offer the following comment. Ron mentions the revival of the practice of fitting enamelled radiator badges, to the 1980s models. Surprisingly, he makes no mention of the Royal Tiger Doyen badge which adorned the Doyen range. This badge used the 1981 Tiger Head mounted in the centre of a backplate, above a scroll, surrounded by a garland and topped with a crown. Whilst not nearly as common as the Tiger Head, it is nevertheless a well known badge. The Tiger 290 however introduced a second version of the Tiger Head. This was fatter and faced the other way. As far as I can ascertain, very few of these badges were produced, probably as few as four or six, and I believe that only two or possibly three vehicles carried the badge. It is extremely rare and it would appear that not many even know of its existence. Smaller examples were produced for key rings, and these are more numerous.

I have been extremely fortunate in managing to obtain an example of this second badge, thus completing my collection of Leyland Cats. This badge, along with examples of the other two, has been placed on loan to the Museum of Transport, Manchester, and is currently on show at the museum. I am also writing an article for the Museum's Journal, which is only available to GMTS members, giving a rundown of the 290 story and my search for the badge. Manhattan Windsor the manufacturers have been extremely generous in donating the dies for the badge to the museum and these are also on show. It is a condition of donation that they must never be used again to produce any more badges. I wonder if any Leyland Society members can clarify which vehicles carried the 290 head, or indeed can offer or confirm any new information about it. I enclose two photos of the Tiger 290 badge. You can see that there are several differences between the two. I believe that there was a third and probably the initial version of this badge. I suspect that a couple of samples would be run off and submitted to Leyland for inspection and subsequent approval or notice of modification.



On the right is the badge that is on show, and is believed to be an example of the final approved version that went into production. The photo on the left shows a badge that was definitely carried on a vehicle.

From David Hall

Regarding the introduction of the two “Lozenge Shaped” Rear Windows in 1950 Leyland Heavy Goods Cabs, since I bought my 1950 Leyland Beaver 12 B/1, MXV 610, in 1996, I have wondered why in 1950 Leyland Motors replaced the large rectangular rear-view window with two lozenge shaped windows, positioned towards the edges of the cab. In my opinion, the central rectangular window was perfect, especially if the truck was to be used as a flat-bed, and replacing it with two windows that had little benefit, seemed incongruous to me. I have asked the question to a number of well respected Leyland men and nobody knew the reason behind this change.

In August 2006 I visited Alan Earnshaw of Trans-Pennine Publishing, and whilst observing the wonderful railway yard model that Alan has in his office my attention was drawn to some 20 Leyland Octopus models waiting for a load at the ‘rail-head’. These 1950 cabbed models had no windows in the back of the cab and this prompted me to ask the question about the lozenge shaped windows. Alan said he knew why and spent quality time finding the image (below) of the Commer vehicle.



Did this accident affect Leyland cab design ? (British Railways)

Alan advised me that he had recently met Mr Gerald Durrant, who had been the Chief Purchasing Officer for the British Railways Board based at Euston Station. Apparently in 1949 a British Railways Commer Superpoise had an accident, believed to be in Dundee. when a water-pipe came through both the rear-view window and the windscreen, and this was the reason for the change in regarding the rear of the Leyland Heavy Goods cab. It is understood that Leyland Motors was negotiating to provide vehicles for the Nationalised Transport Fleet that included, Road Services, Railways, Canals, Post Office, Water and Electricity Boards. In order to allay safety concerns, for such a huge potential order, two new ‘sighting windows’ were introduced to still allow sight of the load and to let light into the cab. However, why Leyland Motors

didn't just suggest higher head-boards is beyond me. The big benefit I have now is the windows are very distinctive and provide an early warning of my slow moving Beaver to Artic Drivers on the 16 miles of the A34/A303 as I trundle along at 30mph It is comforting to see their headlights moving into the second lane on the Dual Carriage-ways over half a mile behind me. I'm indebted to Alan Earnshaw for his knowledge and perseverance in finding the 1949 image and allowing me to present it in this letter. One person who won't read this article is Gerald Durrant, who sadly passed away in Edinburgh, not long after my visit to Appleby-in-Westmorland.



The rear of the cab on David's Beaver.

(D.E.Hall)

From Graham Martin-Bates, Perth

I was most interested in the mention and photo of Tiger PS1, DGS 625 on page 38 of Torque No.33. I can answer at least some of the questions. The picture was taken after DGS 625 came under Stagecoach ownership – in fact the photo has to be after 1996. In 1996 Stagecoach subsidiary, Bluebird Buses, were granted a Royal Warrant of Appointment to the Queen. This was to acknowledge Bluebird's involvement (including under previous ownership) in providing transport for Royal Household staff between Aberdeen/Ballater and Balmoral Castle. (In 1996 Bluebird was one of only three bus/coach operators in UK to hold the Queen's Royal Warrant!). This warrant allowed Bluebird to use the Royal Coat of Arms. Usually this was applied to the fleet's coaches, but a few other vehicles were also so treated. It was put on DGS 625 as this was a special heritage vehicle.

The use of the Alexander Bluebird on the sides was to signify being in the Bluebird Buses fleet – perhaps to justify the use of the Coat of Arms. DGS 625 no longer carries either the Bluebird or the coat of arms. The length of the vehicle is certainly 30ft. It has a McLennan built body. It was previously thought that this – and my own similar DGS 536 – were PS1/1 lengthened prior to bodying. Several

“knowledgeable” people have examined the chassis and claim there is no evidence of lengthening and therefore, with a wheelbase of 18ft 6in, the chassis of these vehicles should be classed as the rarer **PS1/3**. Both these vehicles - Stagecoach’s DGS 625 and my DGS 536 – are housed at the Scottish Vintage Bus Museum, Lathalmond.

From Alan Townsin, Steventon

How did the term “lowbridge” begin? Looking a bit deeper into this recent subject matter in Torque, as Mike Sutcliffe says in his letter on the Manchester “piano-front” bodies in Torque No.30, Leyland at the time referred to what we would normally call the standard lowbridge body as built for the TD1 as simply the “Titan body”, as well as being the model name for that chassis. Considered from an internal Leyland point of view, this was understandable, as the bodies fitted to all but a few TD1 models built in 1928-9 were of this form.

Then came the first full-height Leyland design for the model dating from the autumn of 1929, given the trade-name “Hybridge”, built in fairish numbers, though still at first a minority, from 1930. The small drawings issued to potential customers continued to refer to “Titan type body” for what we would call the lowbridge, and “standard Hybridge body” for the full-height centre-gangway form, until 14th July 1936, which is the date on the TD4 drawings with the then almost new curved-profile body. However, the equivalent TD5 drawings dated 22nd October 1937 refer to “HYBRIDGE” body and “LOWBRIDGE” body respectively – I’ve used capitals and quotation marks as that is how the words appear on the drawings. *(The earliest reference I have to “Lowbridge” is in the Leyland body specs. “Specification of 53-seat “Titan” type “Lowbridge” body” issued by L.M.L. in April, 1936, which mentions both terms! The previous spec. referred to “52-seat Titan Type “Low-Height” body” in October 1934 (inverted commas as shown in the specs.) - Ed.)*

I think that, at that date, lowbridge was yet to be accepted as simply a word in the bus industry’s language, being regarded by competitors in particular as associated with Leyland. I think it may well first have appeared as a response to “Hybridge”. In conversation the deliberate miss-spelling common when inventing a trade name no longer has any effect. If highbridge was seen as logical term, then so was lowbridge, its meaning obvious. By September 1948, Leyland’s leaflet No.636 on bodywork for PD-series Titans still used “Hybridge” and “Lowbridge”, both written with capital initial letters as if trade names, and I confess that I had thought both had began that way, only querying this quite recently. Can anyone turn up earlier evidence of use of lowbridge by Leyland and of when it was first used in print by others?

Other makers avoided terms which seemed to carry any implication of a trade name – the Hall Lewis body first offered on Dennis H chassis of 1928 was described as a “low-height” body. From that I suspect the term “normal height” for the taller version was derived. Incidentally, both of these terms were used in the official specification for the wartime ‘utility’ bodies issued in late 1941. Yet I’m pretty sure “lowbridge” was by then in common use in normal conversation among operators’ and makers’ staff, even in fleets with no such Leylands. Oddly enough more modern double-deckers of varying heights often seem far less clearly defined.

From John Bennett, Loughborough

I enclose a photograph of a Leyland Titan with Norwich Electric Traction Co. on demonstration. What happened to this bus and what was the livery in which it was painted please?



Although not visible in the reproduction above, this bus carries “Leyland Hybridge” on the lower panels, so is clearly in Leyland demonstration livery, whatever that was. Note also the emergency exit doorway in the first main bay of the upper deck.

(J.Bennett collection)

(Whilst on the subject of the Norwich Electric Traction Co.Ltd., later to be the Norwich Omnibus Co., it may be worth illustrating (*opposite*) some of their other interesting Leylands.

XV 3774 (*top*), seen as No.48 in the N.E.T. fleet, was Tiger TS1 chassis no. 60126, new in November 1928 to Palanquin Coaches, London W.3, fitted with a Dodson coach body. It passed to Varsity Coaches Ltd., Cambridge, in June 1930, then to Eastern Counties No. AO139 in August 1933. It was rebodied with a new Eastern Counties H30/26R body in August 1934, and transferred to Norwich Electric Tramways. On rebodding it continued to carry its original Tiger radiator, and therefore appeared to qualify for our “Buses with the Wrong Radiators” (see Food for Thought No.65 in Torque Nos. 13 and 15.) Another TS1 of the same batch, UL 5354, is seen (*centre*) in Eastern Counties’ Norwich garage, again with an Eastern Counties body, but now with a “Bible” indicator and a Covrad radiator fitted post-war. Note the long wheelbase of the TS1, which with relaxed length regulations allowed a body with a total of 56 seats. The bus by now was fitted with a Gardner 5LW oil engine, as was the vehicle in the lower picture, one of a batch of highbridge Leylands supplied probably as a result of the visit of the above demonstrator. - Editor.)

The Norwich Tramways Co. was bought by ECOC in 1933 and 5 Leyland TS1 Tigers, as typified here by XV 3774, No. 48 in the NOC fleet, were re-bodied as 56 seat double deckers.

(ECOC)



Another Tiger of the same group, NOC No.49, later in life is seen as ECOC No.AH 231 (UL 5354). The TS1 long wheelbase is noticeable in this picture.

(J.Higham)



VG 4822 is one of six TD2s with Leyland H48R bodies purchased by Norwich O.C. in 1932. No.37, later ECOC AH224 was fitted with an ECW body in 1950, and lasted until 1961.

(M.A.Sutcliffe)



From Brian Baxter, Reading

I was pleased to receive the latest issue of the Society Journal with the items on Military FKT fire engines as I have been trying to research various aspects of these vehicles for many years. I believe the text by Neil Steele may have been earlier writing since, in the course of correspondence with him, we have concluded that the four FKTs believed to have been for the RAF were in fact additional Army issues. The department described in Company records as the ordering authority 'Deputy Director of Ordnance' did not exist within the Air Ministry according to the RAF Museum at Hendon. But it closely accords with the, then, separate systems for ordering, storing, issuing and accounting for Army vehicles. Those intended for use by Royal Army Services Corps Transport units, and some specialist vehicles such as fire engines were graded 'RASC vehicles' but identical vehicles used by any other branch of the army were graded 'B vehicles'. The RASC had its own storage depots and documentation systems but 'B vehicles' were the concern of the Royal Army Ordnance Corps (RAOC), which issued vehicles to the rest of the Army. This crazy situation was largely rationalised in 1942 when the RAOC took over the whole of the responsibility for the provision of vehicles to the Army. This would account for the four FKTs being separately ordered for Ordnance depot fire brigades most of which were civilian marked and in some cases by the Depot police.

I have photos showing two FKTs at the Central Ordnance Depot Didcot and one at COD Bicester. Which depot held the fourth I am not certain but many of the depots used the earlier six wheeled Thornycroft Merryweather pumps right up to the end of the War. The article suggests that more army FKTs were 'pumps' i.e. carrying extension ladders, with only one pump escape (with wheeled ladder) but nearly all the photos I have of those vehicles show them as pump escapes with the Merryweather 'all steel 50ft escape ladder'. Just occasionally, if an escape ladder was being repaired they ran with a shorter ladder. There certainly was at least one which operated as a pump in Gibraltar and the photo of it I have appears to show that, with a wheeled escape, it would not have fitted into the civilian fire station which was taken over by the Army after most of Gibraltar's civilian population was evacuated during the war.

The magazine 'Fire' used to announce orders for new appliances (before wartime censorship curtailed such information). The November 1938 issue lists a War Department (sic) order for six Leyland fire engines with 600-800 gallons per minute (gpm) pumps, five to be fitted with wheeled escape ladders and one with an extension ladder. The August 1939 issue records that these six machines had been 'commissioned' and a seventh ordered. My main sources of information on these vehicles are copies of wartime ordnance vehicle records but these do not always agree with one another giving two possible totals for Army FKTs of either 33 or 43. The latter figure may include ten ordered by the Ministry of Supply, partly documented by the Army but destined, according to Company records, for Russia. The contract numbers quoted for the total of 43 include one for four vehicles without an allocation of WD numbers. This might be the four for Ordnance depots, which would not have appeared in the original RASC documents. Another contract for thirteen vehicles is shown with no

numbers allocated. Ten might be the 'Russian' machines since various other documents give UK WD numbers for 33 machines.

So far I have found no records to show any fire engines shipped to Russia but, as the designation used for the FKT in some documents is 'Lorry 3 ton 4x2 fire fighting' any bound for Russia may have been lumped together with ordinary trucks. A recent English language history of Russian fire engines states that none were supplied under lend-lease (resulting in the Russians 'converting' many US trucks into fire engines). This may be the case for US sourced vehicles but may not include Britain's Aid to Russia. If the ship carrying the ten mystery FKTs was one of many sunk on route it would account for none of the Russian fire engine historians being aware of any British supplied vehicles during the War. The mystery of the deployment of the fourth Admiralty FKT remains but one, either that one or another, ended up in Rosyth Dockyard in the 1950s rebuilt with an enclosed saloon body. One wonders if the one intended for Bermuda in fact ever left this country. Does anyone have a photo of it there? Also what is the significance of the 'E' in the sign writing? That implies there was either five dockyards or one with at least five fire engines. A few of the major dockyards in the UK had many more than half a dozen fire engines both options seem unlikely.

Other interesting points concerning the Admiralty FKTs are that the rear view reveals four delivery valves whereas the Army versions had only two. This may reflect the recorded outputs of 800-1000 gpm and 600-800 gpm respectively. The Admiralty vehicle appears to be carrying three section steel ladder probably reaching a height of 40ft. It must have been very heavy for the crew to carry. If any readers have the answers to any of these mysteries would they please contact Neil Steele or me, via the Editor.

SALES & WANTS

GENERAL

CLASS 5 MOT TESTS - one of our founder members, Nigel Woodward-Sheath has brought to our notice Mayswood Garage, at Mayswood Road, Wootton Wawen, Henley-in-Arden, West Midlands, B95 6AL. (Telephone 01564 792546).

This garage now carries out Class 5 MOT tests and is sympathetic and understanding when it comes to testing preserved buses, including double decker buses.

FOR SALE

ROYAL TIGER DOYEN - with full PSV test (recently tested) and Road Fund Licence. It is chassis number RTC 0030, and it can be viewed at www.coastalbus.biz Everything works, right down to the hot/cold running water in the kitchen area. Enquiries to David Clarke on 0800 587047 or 07793 505482.

WANTED

K TYPE SPOKED WHEELS - set of six Trilux cast steel wheels with demountable "K" rims as fitted to Leyland Buffalo, Hippo and Rhino trucks in the early 1930s to fit tyre size 38 x 8 or 40 x 8. Please contact Trevor Williams on 01323 487128.

TAILPIECE

MUNICIPAL HIRING



(Ron Phillips)

There was a time when each British municipality had distinctive buses and liveries, and when vehicle shortages occurred and buses were hired in, some very interesting comparisons could be made. The above picture taken in Morecambe, which by then had joined its undertaking with that of Lancaster, shows a Newport bus in its dark green livery (No.163, ODW 299, Leyland PD2/40 with unusual Longwell Green 58 seat bodywork) behind ex Morcambe No.89, 35 MTD, Leyland PD2/37 with front entrance Massey 64 seat bodywork. The date is August 1974. The Newport bus is covered with advertisements for South Wales firms.

As well as distinctive liveries, many municipalities had unique destination names peculiar only to themselves: Morecambe had "Bare" and "Battery", Newport had "Bettws A" and (see front cover) Lancaster had "Hala" !

LEYLAND TORQUE

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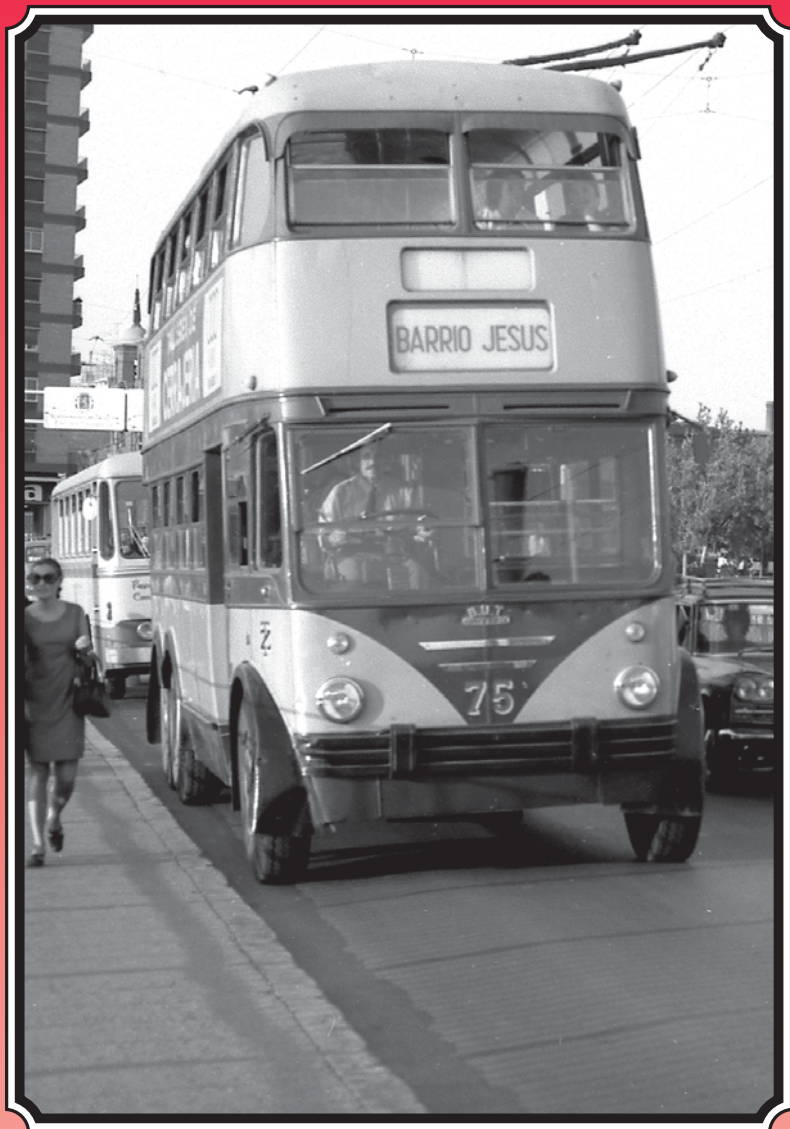
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