

# Leyland Torque

No.28 - SUMMER 2005



THE MAGAZINE OF





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### MEMBERSHIP

Subscription levels are £20 per annum (family £23), £24 for EEC members, £28 (in Sterling) for membership outside the EEC. Anyone joining after 1st April and before 31st July will have their membership carried over to the next 31st July, i.e. up to 16 months. This is good value for money and new members are welcomed. The new application forms are available from David J. Moores, Membership Secretary - address above.

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## EDITORIAL

When delving through archive material at the British Commercial Vehicle Museum, I have come across references to a Works film, which was made in 1932. Copies of the film were given to the Institute of Automobile Engineers, the S.M.M.T. and Empire Marketing Board, along with supplies to schools and technical colleges. Clearly several copies of the film were made and it would be very interesting to obtain a copy should any survive. Would any member know how we could get our hands on a copy which we could then make available to members? Still on the subject of films, there were probably other films made more recently, including the television adverts for the Roadrunner, (on two wheels!) and the introduction of the Roadtrain, designed to recover Leyland's fortunes (remember the slogan "Had you no faith....."). How could we get hold of some of these?

It is very sad to report the death last month of Bill Richardson from New Zealand, a very important man in the preservation movement, who had collected 160 lorries for his private museum including some Leylands. It is only about two or three months ago since he last telephoned me from NZ to discuss early Leylands - he had done so much to preserve our heritage and will be impossible to replace.

Finally, please come along and support our Leyland Gathering on **Sunday 10th July** in Leyland and if you have a T45 please do enter the vehicle and bring it along to celebrate the 25 years of this model. As usual the event promises to be a must for anyone with Leyland badged vehicles, and of course the spectators,

*Mike*

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# LEYLAND SOCIETY NEWS

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## **From Keith Watson (retiring Treasurer)**

Keith Watson has resigned as Leyland Society Treasurer due to commitments at work. He writes:

'Nearly seven years ago or more I was proud to be in Leyland to be part of the beginning of The Leyland Society. I have met many good friends through the Society all being very individual with their own personalities, but with one common interest, our Leyland Society and the love of Leylands. I'm sad because I'm leaving the committee and relinquishing my directorship status, but I hasten to add that I'm not leaving the Leyland Society and indeed when I return from my new employment I fully intend to reapply for a committee position.

'It has been a joy to see how from the acorn the mighty oak has flourished and grown, and long may it do so. It has been an honour for me to have been Treasurer for such an organisation which I believe is the envy of the commercial vehicle club and society scene. I would like to wish you all individually and the Society every success for the future and I hope that the Society continues to thrive; with its current credentials it cannot fail.'

## **Appointment of Treasurer and Webmaster**

At our March Committee Meeting held at Rugeley, it was agreed that David Berry, our Vehicle Registrar, should take over the function of Treasurer. At the same time we confirmed the appointment of John Woodhouse as Society Webmaster.

## **From Neil Steele - Society Gathering 2005**

As this note for Torque 28 is written (early May 2005) I am waiting with bated breath for my colleague Paul Sennant to report a sudden rush of Gathering Entry Forms dropping through his letterbox! Up to now response has been rather slow but I would urge anyone wishing to bring a vehicle to our Gathering to complete an entry form and send it in as soon as possible to ensure inclusion in the programme. Entry forms are available from myself (address inside front cover) and Paul Sennant, 177 Almond Brook Road, Standish, Wigan, WN6 0SR on receipt of a SSAE.

May I just add that if you are one of the band of good people who have volunteered to Marshal at the gathering you should by now have received a letter outlining the day's duties - if you have not please get in touch with me as soon as possible.

The Society Sales Stand will be in attendance at the Gathering and we hope that the 2005 edition of the Leyland Society Journal will be available for collection on the day. We look forward to seeing and speaking to as many members as possible.

## **2005 Annual General Meeting of the Society**

Notice is hereby given of the Annual General Meeting of the Leyland Society Limited. This meeting will take place at the Museum of British Road Transport, Hale Street, Coventry, on Sunday 6th November 2005, 12.30pm for a prompt 1.00pm start. Resolutions from members to be received by the Hon. Secretary at the Company's Registered Office no later than Saturday 24th September 2005.

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## WORDS AND PICTURES

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### **New technology for Torque**

Earlier this year, the Society obtained some new computer software and hardware for use in the quarterly production of this magazine. We have had a number of problems caused by the incompatibility of our PC systems with the printer's system over the years. Once we had identified and countered one problem, we were faced by another. Although many of the problems were of a minor nature, usually involving fractions or punctuation marks, hardly an edition went by without the editors (and now and again the members) being annoyed by something.

From this edition we hope these matters will be a thing of the past. You, the reader, may notice the slightly different look to the layout of the pages in Torque from this edition, although the changes are minimal to retain the general house style. The new system should eliminate totally any typographical technical hitches, and a slightly revised system of proof-reading should help eliminate other errors.

### **Cover pictures**

On the front cover is a picture of the Leyland Cheetah "Committee Coach" of Doncaster Corporation. New with a Roe body in 1938, this vehicle was not intended to carry fare paying passengers, but to convey members of the Transport Committee or other Corporation officials on visits of inspection in and around the town. In a way, it was the nineteen-thirties equivalent of an "executive jet."

On the rear cover is a view taken in 1964 of roadworks in Leyland. A Hippo of Lancashire County Council is seen at work on a new road junction, with the gas holder in the background. The crew of XTD 469 have attached a label below the windscreen reading "Z CARS" which was then a popular new police programme on television.

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## RENEWALS & PAYMENTS

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Members are reminded that once again it is time to renew their annual subscription to the Society. Included with this issue of Torque is a Renewal Slip, and David Moores, our Membership Secretary, would appreciate a prompt reply. You may, of course, renew in person at the Gathering at Leyland on **Sunday, 10th July**.

Overseas Members who do not have bank accounts in the UK will be pleased to know that we intend to set up an arrangement whereby they can pay subscriptions electronically (by credit card etc.) They will receive further information on this with their renewal forms. This will mean a slight adjustment to Overseas Subscriptions to cover administrative and postage costs.

We may extend this facility to UK members in due course. You will find more details of this in the next edition of Torque, and also on our improved Website. If you are online you can visit us at [www.leylandsociety.co.uk](http://www.leylandsociety.co.uk). Our new Webmaster, John Woodhouse, will be updating this on a monthly basis. The new method of payment can also be discussed with us at the Gathering.

## 4 EARLY HISTORY OF LEYLAND

### Mike Sutcliffe's history of the Company PART X – THE CLASS B COKE-FIRED WAGONS

*Part IX, in the last issue, referred to Bill Sumner's Ride to York and there was some confusion over the year in which the Royal Agricultural Show was held there. Bill Sumner quoted 1901 but your editor thought that this could not be right and that it should be 1900. Roger Warwick has kindly provided us with the actual dates of the Royal Show held at York: it was between 18th -22nd June 1900. (The 1901 Royal Show was held in Cardiff.) Thank you, Roger.*

Following the success of the 3-ton experimental Deakin Wagon at the Belmont Bleach Works, orders for "Leyland" coke-fired wagons came flooding into the works of the Lancashire Steam Motor Co., at that time still a partnership between Henry Spurrier Snr., Arthur Spurrier and Henry Spurrier Jnr. James Sumner (William Sumner's Brother) was the Works Manager. Production levels reached approximately 25 wagons in total for the first two years, 1900-1, followed by approximately 30 in each of the years 1902, 1903 and 1904, and reducing to 21 in 1905, with a total of approximately 137 class B wagons manufactured. Although the wagons basically looked the same there were continual improvements throughout this period of just over five years.

In the last chapter we looked at the wagons built with curved front aprons - approximately 11 coke fired-wagons (including the Deakin wagon), and 3 oil-fired wagons with similar engines to the class B wagons were built. The front apron was then changed to a flat fronted type with "rounded square corners" which enabled 2 coke bunkers to be fitted and this increased the fuel carrying capacity by 60% over the previous design. In late 1900/early 1901, 8 or so wagons were built to this design, still with the fabricated engine casing made by the foreman boiler-maker Thomas Williamson. One of these wagons, built in 1901, was to the order of T. C. Greensmith & Co, Millers, Burton Mill, Burton-on-Trent and it was registered FA 32 after the 1903 Motor Car Act. It had an exceptionally long life, being rebuilt by Leyland in 1908, then again in 1914 when a canopy was added, and yet again in March 1920. Fortunately photographs of the wagon when new and in all its rebuilt stages exist in the BCVM Archive. It was last licensed in December 1921 but was still recorded as running in 1926, probably off-road, giving a useful life of 25 years - a remarkable achievement for such an early wagon.

The Lancashire Steam Motor Co entered an under-type coke-fired wagon with a load of 5 tons in the 1901 Liverpool Trials, one of the 8 wagons mentioned above, and it was awarded the Gold Medal, the highest award. After the trials it was sold to Mr. William Birtwistle on the 14th August 1901 for use in one of his companies, T.&R. Eccles, Cotton Manufacturers of Lower Darwen, where it was later registered in Blackburn, as CB 2. Mr. Wm. Birtwistle was an early "Leyland" enthusiast and employed several of their wagons in his three companies. This 1901 "Trials wagon" was, strangely enough, rebuilt by Leyland with a curved front apron and canopy in June 1909. A report in *Motor Traction* on 17th June 1909 describes the rebuild when the wagon was fitted with Shrewsbury & Challiner solid tyres after doing 100,000 miles and at which time its tare weight was quoted at 4 tons 2cwts. 2 qtrs.

One of the six Class B Liverpool Corporation wagons, registered in the series K 1502-1507. It is seen collecting household refuse in the era when refuse (mainly ash) was carried to the cart in shallow baskets. There seems to be a crew of at least eight men. These wagons enjoyed a long life.

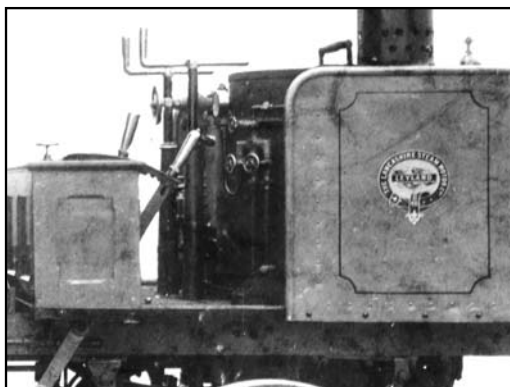
(Liverpool City Engineer)



A close-up of the controls on a B type steam wagon. On the transfer on the side plate, the inscription reads:

"The Lancashire Steam Wagon Co.. Leyland, Wagon No. B48."

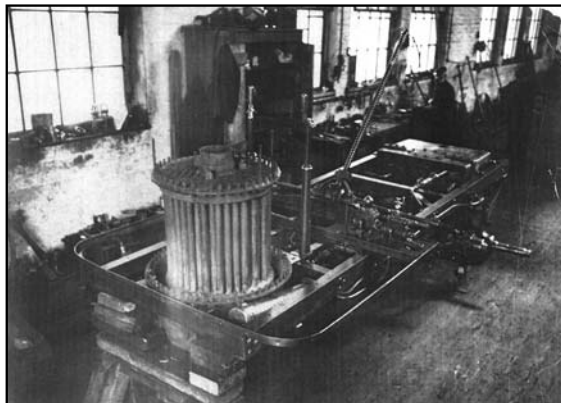
(BCVMA)



One of the Liverpool tipping wagons seen at the LNWR station in Leyland. Note the cast engine casing with horizontal web near the front and the change-speed striking rod which passes through the centre of the second motion shaft.

(BCVMA)





A Liverpool Class B wagon is seen here undergoing overhaul in the engineer's workshop. These early wagons had channel frames, with the flanges pointing to the inside.

(Liverpool City Engineer)



An evocative picture of an early Class B wagon, possibly oil-fired judging from the tank resting behind the boiler. What a shame it went to the scrapman.

(J. Mullett collection)



George Reed & Son took delivery of this Class B wagon (later to be registered AJ 56) in June 1903. It has the old style artillery wheels made of wood. Note the horizontal flange on the engine casing.

(BCVMA)



It is interesting to note that, prior to the 1903 Act, the unladen weight of steam wagons was restricted to 3 tons. Most of the Class B wagons when photographed ex-Works were sign written "Tare 2.19.3" i.e. one quarter (28lbs) less than 3 tons - quite a coincidence! - and considerably lower than the 4.2.2 quoted above for virtually the same wagon. As had been previously recorded by the Liverpool Corporation City Engineer there was no way that these wagons could have been built with an unladen weight of less than 3 tons and it is quite clear that 2.19.3 was regarded as a "painters' weight" - in other words, if the signwriter wrote the weight on the vehicle, who was to dispute it? There can't have been many weighbridges in those days! The Heavy Motor Car Order of 1904 increased the maximum unladen weight for "heavy motor cars" (ie, exceeding 2-tons unladen) to 5 tons, (6½ tons with trailer), as from the 1st March 1905. This signalled the end of the Class B wagon, as it was now possible to build a larger wagon with 5-ton carrying capacity within the new weight limits, and this led to the development of the Class H wagon - more on that later.

Towards the end of 1901, Mr. Williamson was relieved of the necessity to fabricate engine casings as it had now been found possible to have these cast, possibly in cast iron or gunmetal. These cast engine casings are easily identified on the Class B wagons as they have a horizontal web on each side of the front half of the casing. Further confirmation of a Class B can be had by a view of the offside of the engine where it can be observed that the striking rod for changing gear passes through the centre of the second motion shaft (rather than above it as on the Class H) which is situated just in front of the chain sprocket wheel. The other lever, right at the top front of the engine casing, is for operating the Stephenson Link Motion to give forward, reverse and expansive working.

The Class B wagon was built for a carrying capacity of 4 tons, plus 2 tons on a trailer. The platform, 12ft 6in long by 6ft 5in broad overall, of the ordinary lurry type stood 3ft 6in above the ground under a full load. The wheels were as the Deakin wagon, that is of the military (artillery) type, 16 spoke, with steel naves, oak spokes and ash felloes. The drive was taken on the felloes thus taking any strain away from the spokes and the front wheel diameter was 2ft 10in, (tyres 4in wide), with hind wheels 3ft diameter, (5 in wide), the steel tyres being rolled, weldless, and put on by hydraulic pressure. William Norris, Engineer and Company Secretary of the Lancashire Steam Motor Co. Ltd. from 1903 to about 1906, wrote in his excellent book *Modern Steam Road Wagons* in 1906 that the boiler and road wheels presented the biggest two problems when designing reliable steam wagons. (*This book, which was reprinted by David & Charles in 1972, is well worth obtaining - Editor*)

The boiler was of the vertical fire-tube type, designed by Henry Spurrier Jnr. in 1900 with seamless steel tubes. Two sizes were apparently fitted, the smaller having an outer barrel of 2ft 6ins, 105 tubes and a heating surface of 76 square feet. The larger, and possibly later boiler, had an outer barrel of 2ft 10½ ins, 132 tubes and 81 square feet of heating surface was available, and the coke bunkers held sufficient gas coke for an ordinary day's work (50 miles in a day of 12 hours on reasonable roads). The working pressure was 200lbs. psi (tested to 425lbs psi). Fuel was either coke or

hard Welsh coal, using 12lbs. of coke per mile, and 6½ gallons of water was consumed per mile.

The horizontal engine was a 2-cylinder double-acting compound, reversing engine with piston valves driven by Stephenson's Link Motion. The cylinders were 3½in. bore for the high-pressure cylinder and 6½in. (W. Norris says 6¼in.) for the low-pressure cylinder, x 6in stroke, and running at 420 rpm it produced 25hp. The bore and stroke dimensions are frequently reported differently but I have taken the above from a description of the wagon prepared by the Lancashire Steam Motor Co. around 1901, so it should be the correct version; however the machine shop followed the practice of leaving cylinders at "best finishing size" so that nominally identical wagons might be delivered with cylinders measurably different in diameter.

The transmission was again of the 4-shaft 2-speed type with steel gearing throughout and a differential lock (the lever to operate this can frequently be seen above the engine casing). The 2 speeds were: - up to 2.6mph in low gear, and 5.2 mph in high gear, with ratios of gearing between the engine and road wheels being 10.8 and 21.6 to 1.

Some of the orders for the Class B wagon included Liverpool Corporation, who took 6 refuse tip-wagons in 1901/02 numbered 2 to 7 (later registered K 1502 - 1507). These included Works No. B48 and either B46 or B49, and this implies that there were no line numbers in use at the time, with the wagon number merely being the model description followed by a consecutive works number, starting with the first wagon. Only a few of these numbers are known and some Class B wagons did not carry any model prefix. The Road Carrying Co. of Manchester and Liverpool is reputed to have had 11 Leylands in use by December 1902 and there is an account of a journey on one of these in the *Motor Car Journal* dated 3rd January 1903 (more on this in a later issue). The Road Carrying Co. operated Coulthard steam wagons too. The Manchester Motor Transport Co. took 2 class B wagons, Nos 58/59 in 1902 and these were probably the first of a fleet of many Leyland Wagons. Manchester Motor Transport was formed by Mr. C. Basil Nixon (later to become a Director of Leyland Motors Ltd.) but this company failed financially on at least 2 occasions. In 1903 the Lancashire Steam Motor Co. was successful in obtaining an order from E. Nuttall & Co, Contractors, Cape Town, South Africa for 8 tip-wagons and another major customer was Mann, Crossman & Paulin who had a fleet of 12 Leyland Class B steam wagons - these were described in *Leyland Society Journal* No. 5.

Due to the interpretations placed on the vehicle regulations by the various Registration Authorities being so diverse, trade associations and the technical press were advising buyers to require the makers to register wagons before delivery, so that they could be assured that the vehicles would be acceptable under the Regulations. This is why the majority of Fodens had Cheshire registrations (M), Garretts had the Suffolk mark and Ellis wagons the Kent letter - likewise Leylands were registered 'B' in the Lancashire County Council series, initially in the plain numerical sequence, but from 1905 in blocks starting at B 2001 for Heavy Motor Cars (see the *Leyland Society Journal* No.2, page 40).

## LANCASHIRE STEAM MOTOR Co., LTD.

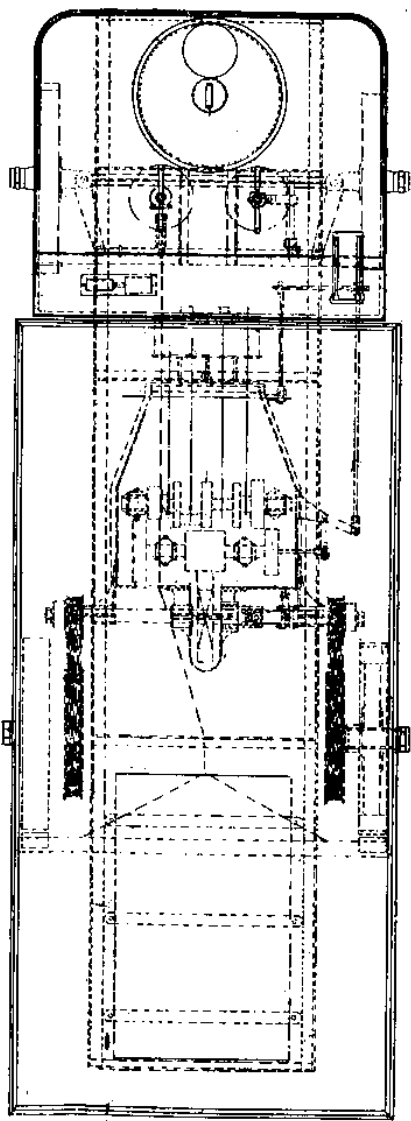


Fig. 43 is a general view of a 4-ton wagon. It will be seen by reference to the illustration that the boiler is placed in front of the fore axle, the engine and transmission gear between the two axles, and the water tank behind the hind axle.

*Engine and transmission* - The engine is of the compound link reversing type, having high-pressure cylinder bore  $3\frac{1}{2}$  in. and low-pressure cylinder  $6\frac{1}{4}$  in., both with 6 in. stroke. Stephenson's link gear is used with block piston valves working in renewable liners. An arrangement, operated from the driver's seat is provided for working both cylinders with steam direct from the boiler, with independent exhaust from each cylinder. No keys are used, all wheels being put on flanges.

Facsimile of original diagram of Lancashire Steam Motor Wagon.



Joseph Pike took delivery of CK 42 (which was later reregistered as CK 418) on the 24th November 1904. It had the new hind wheels, chassis frame with flanges pointing out, and the revised engine casing with flywheel on the nearside end of the crankshaft. Note the dreadful condition of the road surface, whose ruts would be increased by the passage of wagons such as this one. (BCVMA)



LEFT - The original type of wooden artillery wheel with sixteen spokes, ash felloes and steel naves. The drive sprockets were fitted around the felloes.

RIGHT - Spurrier's patented composite wheel, introduced in 1901, with twelve cast steel spokes bolted to the felloes and the drive sprockets were now fastened to the spokes. It was not until mid-1903 that they were used regularly for the hind wheels of new wagons. (BCVMA)

The design of the Class B remained virtually unmodified until some changes were made in the summer of 1903. The most visible was in the chassis frame which being made of channel section steel, was turned so that the flanges faced outwards. This gave it a slightly untidy appearance due to the visibility of various nuts and bolts and strengthening tubes, and the first wagon to have this feature appears to be the Mersey Docks & Harbour Board wagon No. 4. About the same time the hind wheels were changed to a composite 12-spoke pattern, of larger dimension than before, and of a design first produced in 1901. A variation could of course still be the Colonial all-steel wheel. Another change was the design of engine casing, which now had a fly-wheel showing on the nearside.

For its day the Class B wagon was very successful, the Road Carrying Co. ran them regularly from Liverpool to Lancaster or Blackburn and back, and many lasted for several years. However, the wearing of the ringless piston valves, aided by the unsatisfactory lubrication methods of the day, was a source of waste of steam and loss of power. It is interesting to note that Leyland do not seem to have modified the engine by fitting slide or ring piston valves, instead they undertook the design of an entirely new engine for the larger Class H wagon, whilst leaving the general lines of the vehicle virtually unchanged - more on this in a later chapter.



B 2041 was delivered to Leyland Motor Transit with steel Colonial wheels, but is seen here outside the then nearly new North Works with Spurrier patent non-skid hind wheels. Could that be Henry Spurrier's bicycle on which he rode to York with the experimental Deakin wagon? (BCVMA)

# LEYLAND CABS and BODIES

Feature edited by Ron Phillips. All correspondence to Mike Sutcliffe

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This magazine has a regular feature, *Odd Bodies!*, on the subject of unusual bodywork mounted on Leyland bus chassis. Up to this point (our 28th issue) little has been published about Leyland built bodywork on goods chassis, apart from the odd letter or photo feature. Hence this present item, compiled with the help of Neil Mitchell and Neil Steele. There will be several parts covering the thirties, the immediate post-war period, and the sixties and seventies. Reader response will dictate whether the series will be extended. Like all good serial stories, we shall begin in the middle.

## **Leyland lorry cabs 1945-1955**

Leyland adopted all-metal construction for its bus bodies in 1933, but cabs and bodies for lorries continued to be of composite (timber and metal) construction right up to the outbreak of war. By 1939 the standard Leyland built cabs were looking very old-fashioned, and new models with lower-set cabs were about to be introduced, but the war brought an end to that and only a small run of TSC18 type Beavers emerged in the early forties. They could be described as the equivalent of the “unfrozen” bus chassis: vehicles whose parts were in stock and whose assembly was authorised by the Ministry of War Transport. In pre-war days the Cub and Lynx chassis were built at Leyland’s Kingston factory. The Lynx was a model especially developed to fall into the class of vehicles which had an unladen weight of less than two and a half tons, and which could legally travel at 30 m.p.h., as opposed to the maximum speed of 20 m.p.h. imposed on heavier vehicles. The need to reduce weight led to some thought being given to cab design, and the Lynx DZ series were equipped with Kingston made cabs using a minimum of timber and of utilitarian appearance. A light-weight all-metal cab was also available from an outside firm, and there was also a prototype forward-control Lynx (SDZ type) which had a cab similar to the TSC18 Beaver.

Production by Leyland for the civilian market ceased in 1942. Military lorries of the Lynx WDZ, Retriever WLW and Hippo WSW types also ceased production, and for about two years Leyland made nothing but armaments. In 1944 production of military Hippos was resumed, and when the war ended and the military orders were curtailed, materials acquired for the Hippos were released for construction of the Interim Beaver 12 I.B., of which 400 were made in 1946. (*see Torque Nos.11-12*)

The all-metal cabs fitted on the Interim Beavers were an adaptation of the War Office specification cab fitted to the Hippo. Post-war models were on the drawing board and on the floor of the experimental shop from 1944-45. The first new models were passenger vehicles and the first post-war truck (a Beaver) did not emerge until the last quarter of 1946. The new Leyland built cab is now seen as a classic, with good proportions and smooth external lines, and in its production run of eight years there were two revisions of external design relating to the embellishment. In 1954 it was replaced by the similar-looking but structurally different all-metal “Improved Cab” (or “mouth organ” cab). Whilst the earlier design was for heavy goods chassis only, the 1954 design was also adapted for the medium weight range (Comets).



A Leyland Lynx DZ of the immediate pre-war period shows the basic mainly metal cab which helped to reduce the unladen weight of this model to below 2½ tons. Typically this house to house delivery truck of Corona, the soft drinks company, has the U.W. of 2-9-2 painted on the side of the chassis.

(BCVMA)



This scene of floods was taken in the West Country just after the War and shows a Lynx petrol tanker in wartime Pool livery. Note the small nearside headlamp. Can anyone tell us what type of cab it carries, it is clearly a very basic metal construction. This vehicle is registered EXW 854, an immediately pre-war London issue.

(H.A.Cooper)



An Interim Beaver of 1946, GTF 245 shows an unladen weight twice that of a Lynx at 4-19-3. The all-metal cab is clearly derived from the Hippo military truck, and its simple lines are not enhanced by the unusual headboard for B.I.C.C. This vehicle was equipped to haul a draw-bar trailer.

(BCVMA)

To replace the Lynx, Leyland introduced the Comet in the autumn of 1947. It was built at Leyland in a separate factory from the heavy goods production line, and embodied a bought-in engine and cab structure. Briggs Motor Bodies of Dagenham had been engaged by Ford to manufacture a cab and bonnet structure for its "Thames" range of trucks, and Leyland followed suit in 1947, whilst two years later Dodge also adopted a similar design. The O.300 engine (and P.300 petrol-powered version) fitted in the early Comets was built by Napiers, but had been designed by Leyland; it was later developed as the O.350, production of which was undertaken at the Leyland engine plant. The Briggs cab lasted for the production life of the normal-control Comet, and when a forward-control version was introduced the new 1954 style Leyland cab was adapted for this model. It was, of course, different in its internal fittings to suit Comets, had different radius cut-aways for the smaller diameter wheels, and the wings projected less, but from the outside is almost identical to the heavy goods cabs.

In 1954, to the regret of many, Leyland ceased production of bus and coach bodies at the South Works in Leyland, in order to increase cab production. Now that the Comet (a more prolific model than the O.600 engined goods range) was to have a Leyland-built cab, it made economic sense to the Company to abandon bus body building which was seen at the time to have an uncertain future and, in the case of the then current Leyland designs, in need of much new development. On page 17 is a table of the production at the South Works in 1955, the first full calendar year without bus body building. Five elements of production are cabs or part-cabs for goods vehicles, namely "home" cabs, "export" cabs, Comet cabs, (all to be mounted on chassis in the factory), ckd cabs (all packed in the South Works for export and assembly abroad) and front-end structures which were mounted on goods chassis sent to outside bodybuilders. The sixth item listed is front-end structures for the Titan PD2/20 and PD2/22 models, and not included in the chart are 290 sets of parts supplied to Liverpool and Edinburgh for modifications to PD2/20 fronts on buses already in service. Also excluded is the manufacture of 68 distinctive "Liverpool" style fronts for PD2/20 chassis. Further work done at South Works included jigs for Leyland assembly plants in South Africa and India, and the construction of certain prototype cabs and cabs for a small number of military vehicles.

As can be seen by the figures, production of cabs in the South Works grew progressively during the year. In 1954, construction of Comet cabs was slow, and to cover the launch of the new forward-control version it was arranged for cabs to be supplied by another manufacturer. As seen in the advertisement on page 22 of *Torque No.25*, Messrs. Bonallack built all-steel cabs in a style not dissimilar from Leyland and incorporating the new grille. They (Bonallack) referred to this as the "standard cab" for the new Comet, but it was soon replaced by Leyland's own product. It is said that 500 of these cabs were supplied, but we have not as yet verified this.

If you have found this item of interest and would like to comment or add some more information, please write to the Editor. Also, if you have pictures of other types of cab than those mentioned here which were fitted to Leyland lorries of the period described above, please send them (with details) for possible publication.





An early Comet, and in this case a left-hand drive example seen when newly delivered to the Canary Islands. GC.6808 carries a high sided body for carrying agricultural produce: many Spanish Leyland Comets were so fitted and the model was both numerous and long-lived, many giving over 25 years of service. In the austere post-war times, even this export version has only one widscreen wiper on the Briggs Motor Bodies cab.

(BCVMA)

An interesting photo found in the Leyland collection! This Dodge with a cab by Briggs is fitted with an O.600 engine, although it is not mounted beneath the bonnet, but it is coupled to a pumping unit at the rear, and was supplied to Bangkok airport in 1952.

(BCVMA)



These 2 forward control ECOS2/2R Comets of 1954 are fitted with the Bonallack made all-steel cabs. They carry the registrations nos. NGA 6 and NGA 5 with Jaegar System Concrete.

(BCVMA)



The first post-war heavy goods cab, seen here on one of the first O.600 engined post war Beavers to be built. (BCVMA)



The same cab with revised trim, as produced 1949-1952. Steer 15.S/1 GFH 479 worked for Thomas Robinson & Co. of Gloucester. (BCVMA)

## SOUTH WORKS PRODUCTION JANUARY-DECEMBER 1955

	Home	Export	Comet cabs	CKD	Front Ends	PD2/20
January	68	23	38	17	78	12
February	62	24	44	4	88	36
March	64	22	56	4	97	51
April	86	30	71	35	113	57
May	83	37	61	20	107	26
June	88	28	44	37	101	20
July *	76	15	35	28	75	nil
August	86	13	26	36	78	10
September	109	23	54	40	66	12
October	99	25	72	32	47	20
November	105	26	69	68	90	24
December	130	29	97	66	118	58 **

Note \* Production in July was affected by the annual holiday break.

Comet cab production was reduced in July - August after it became necessary to alter the design of the cab floor after weaknesses had developed in vehicles in service.

Note \*\* In addition to the standard "BMMO" style fronts listed, 68 "Liverpool" fronts were produced during this period too.

The Liverpool front was designed to be flush with the cab windscreen, and was a more straightforward design. No provision was made for any Leyland badges, but a city coat of arms appeared above the detachable grille.



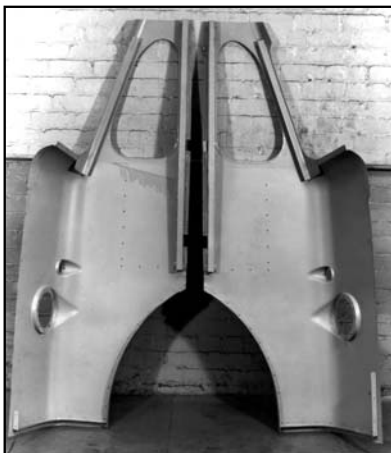
The final form of embellishment (1952-1954) coupled with a set of wheel-nut guard rings enhances this Rhodesian Railways Octopus, whose rear bogie churns up the dust. B 20931 was fleet number 175 in the R.R. fleet. The mechanical direction arm by the cab door was of little use with this over-width load. (BCVMA)



The new 1954 cab introduced for the heavy goods range, seen here on an Beaver chassis. Compare this picture with the one of a Comet below. It seems remarkable that single wipers were still standard at this time.

On the right is one of a series of Leyland photographs taken of the various metal components which combined to form the 1954 type of cab. Depicted are left and right-handed front side panels for heavy goods vehicles.

(All photos on this page from BCVMA)



The 1954 cab as fitted to a Comet shows that the only way to spot this model from the outside was the smaller and less protruberant wheel arches and the winged Comet badge attached below the forward side window.

# FOOD FOR THOUGHT

Feature edited by Wilf Dodds. All correspondence to Mike Sutcliffe

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## **89. Body construction to Leyland design** (Torque Nos.18-26)

Alan Townsin agrees that the body on Green's LT5 DE 8942, does look "Leylandish" at first glance, due to the curved-top windows, but points out that there are "six-and-a-half" rather than "five-and-a-half" windows, also other details don't look quite right. However, Massey did build to Leyland design, conforming closely on various Titans for Wigan, suggesting the use of Leyland pre-cut timber. (Massey Bros. certainly built at least 2 bodies on LT5 Lions for Green's, and undercut Leyland on price just at a time when Leyland had reduced body prices to save losing orders, so it seems more likely that they were "copies" of the Leyland body rather than using timber cut by Leyland.

## **101. Olympian designation** (Torque Nos.22-25,27)

Nothing further by way of clarification of the Olympian's true breed, but John Howie has submitted a photograph of the plate affixed to Ribble's Olympic DRN 122 (coincidentally with engine number 122). Can anyone now provide an equivalent for (or, at least, the details from) the plates on Olympians of Western Welsh (47), Jones, Aberbeeg (ex-demonstrator TPH 996), Trinidad Omnibus (4) or Fishwick (6), of which ex-Fishwick 521 CTF (see photo in Torque No.22, page 22) is still in preservation.

## **108. Left-hand Drive Tigers** (Torque No.26)

Alan Townsin has written a letter on this subject and it has been incorporated in the article on page 34 of this issue.

## **111. 8.6 litre engine power output** (Torque Nos.26,27)

Alan also writes 'the pot cavity engine was excellent in its general refinement, and in the early days I think its 'softness', and hence kindness to bearings etc, may well have saved Leyland from the kind of mechanical failures which plagued some of its competitors in the early days. I have also heard it suggested that the excess air had a useful cooling effect, and I've no recollection of ever seeing a Leyland engine of that era overheating (nor indeed an AEC of the 8.8-litre pot type using the same combustion system built under licence for London Transport and others in 1938-40 or so).

'As explained by Richard Perry in Torque No.27, the process of fuel and air mixing was not as effective as in toroidal engines, so the power produced was not all that good in relation to size. However, I do not share his rather cynical view on Leyland's output figures as published in its leaflets or the trade press at the time. The evidence is that they were very honest, tending to be more so over the years as improvements occurred. Leyland made no attempt to hide the big difference with say the AEC 8.8 litre in Ricardo head form, which gave an equally honest 130bhp at 2,000rpm, but was thirstier.

'The original Leyland 8.1 litre (4 $\frac{3}{8}$  in bore) engine as first revealed as a prototype in September 1931 was quoted at only 85 bhp at 2,000 rpm. By November 1933, this had changed to 87 bhp at 1,800 rpm, so clearly efficiency had improved a bit, allowing a slight increase in power despite a more conservative governed speed. Even

so it was evidently thought not enough, hence the increase to 4½in bore and the familiar 8.6 litre swept volume. This was being quoted at 94.5 bhp at 1,900 rpm in April 1937, up to 98 bhp at the same speed in May 1939. The 1900 rpm governed speed was the fastest being quoted for a direct-injection engine of comparable size but consistent in all references to the 8.6 during the mid- to late-1930s that I have seen. The slight changes in bhp seem very likely to be genuine figures reflecting slight improvements made by continued development.

‘The 7.4 litre E181 engine’s figure of 100 bhp at 1800 rpm reflected the toroidal engine’s greater efficiency, yet I quite accept Peter Roberts’ comment that it tended not to seem as powerful, as judged on the road. Post-war buses were usually a bit heavier than their predecessors but I think part of the effect was due to the 8.6’s smoothness and general lack of fuss, especially at the top end of the speed range. Drivers could and did use that freely up to the governed limit whereas the 7.4’s harsh-sounding ‘clack-clack’ made occupants painfully aware it was working hard. Slow gear-change on the PD1 and PS1, as compared to say a TD5 or TS8, didn’t help.

‘I must have made hundreds of journeys in buses with the 8.6 and it was almost always a delight. Still sticking in my mind were trips in fully-laden Ribble TD4 or TD5 buses, by then rebodied and a bit heavier than originally, climbing over the old tough Shap climb on the A6, when there would be a long spell in the musical third gear before going down to second, and perhaps briefly even first over the worst bit, the engine working hard but never becoming harsh.

‘As to maximum speed calculations, a factor to be born in mind with diesel engines is the degree of run-up of the governor under relatively light load. In the days when I was doing press road tests in the 1960s -1970s, it was often found that the actual top speed was well over that arrived at by calculation, finding that an engine governed to say 1800 rpm would actually reach a full 2000 rpm or so in top gear on a level road. For example, when testing an Atlantean PDR2/1 with O.680 engine, laden to just over 15 tons and with quite an upright-fronted Park Royal body, for *Bus & Coach* (June 1969 issue) we reached 45 mph on the level track at MIRA whereas speed calculated from the governed engine speed, 1,750rpm in that case, was 39.1mph.

‘A notable exception to this pattern was the Gardner, whose engines governed at 1700 rpm would give the rated power at that speed yet cut it off completely before reaching 1800 rpm. On the other hand, one could get a situation when a vehicle was very high-g geared and it proved incapable of reaching governed revs in the highest gear. In the same issue of *Bus & Coach*, there is a road test report of a Bristol LHL6L, with 51-seat Plaxton coach body, loaded to 10 tons 12 cwt, equivalent to full passenger load. It would have reached 68mph in fifth if its Leyland O.400 had been capable, when in that gear, of reaching the 2400 rpm at which its full power of 125 bhp was developed - in practice it couldn’t get beyond about 63mph on level ground.

‘Speedometer error is another factor (and something we always checked for on tests) and, in arriving at the gearing for the speedo drive, I can recall it being standard practice in most drawing offices to aim at readings of 31mph or so when actually doing 30mph to avoid the risk of drivers inadvertently exceeding the speed limit. In

the car world, some makers became notorious for deliberately optimistic readings aimed at 'massaging' the true top speed capability.

'The speed capabilities of conventional petrol engines are less precise. Engines intended for bus or goods vehicle use often had fairly small carburettors with the aim of giving a brisk air flow across the jets at low speeds but quite deliberately 'throttling' of output at high revolutions to reduce risk of over-revving. I don't have many precise figures for Leyland petrol engines of this era, but the E36 unit of 4¼ in bore and 5½ in stroke (7.67 litre) quoted as the 1933 "T" type, and I think the standard engine in the TS6 and TS7, was quoted at a very modest 96bhp at 2200 rpm (certainly another case of honesty in publicity material) but, interestingly, maximum torque of 328 lb ft at an amazingly low 600 rpm. Just for comparison, the 8.6-litre oil engine torque figure was 304 lb ft at 1220 rpm.

'I had quite a few enjoyable rides in petrol-engined Tiger coaches of that era, and in practice that too was a superb engine for such applications. I recall one war-time trip as a passenger in a Ribble TS7 coach over almost deserted roads, leaving Preston very late and arriving in Lancaster very early. I worked out the average speed overall to have been 36mph despite a slow start and finish within those towns. I reckon we were doing not far from 60mph for some distance and if the gearing of 1175 rpm being equivalent to 30mph mentioned by Peter Roberts applied, that would have represented 2350 rpm, only a little over the speed of power peak. (As to worries about torsional vibration at a say 2000 rpm mentioned in Richard Perry's notes, even the original "T" type petrol engine of 1927 reached that speed at maximum power and as there was no governing I feel sure there would have been plenty of margin beyond that, that whole family of engines, including the oil engines retaining the same stroke and basic form). Such fast running was all highly illegal of course when buses or coaches were not supposed to exceed 30mph anywhere, but very exciting for one then teenage passenger! Yet that type of engine was as near as silent at tickover as any motor vehicle engine and fully comparable to a Rolls-Royce of the same era - I can recall several occasions in petrol Tigers when I thought the engine had been turned off, only to find the driver engaging a gear and softly moving off'.

### **113. Titan PD1 chassis designations** (Torque Nos.26,27)

Paul Wotton, who owns 1949 ex-Manchester PD1/3 JNA 467, comments on the suggestion (derived from PSV Circle publications) that Line Numbers for Titan PD1s above 1802 were unprefixd. His own vehicle displays its Line Number D1874 clearly at the front nearside of the chassis! He believes that this PD1 is the sole survivor with a Line Number above 1803. Can anyone confirm or refute this?

### **114. Ribble White Ladies** (Torque No.27)

Peter Greaves partially answers his own question, having spoken to Harold Peers of Bradford, in that Harold is of the opinion that the PD1/3 White Ladies were fitted with high ratio axles. Presumably the later PD2/3s were similarly equipped?

### **116. Leyland Overseas** (Torque No.27)

Malcolm Wilford has supplied some information regarding Ashok Leylands, whose models began to appear in the main Leyland chassis production lists in the mid-

1960s:-	ALB1/1 and ALB1/2	(taken to be Ashok Leyland Beaver)
	ALH1/1 and ALH1/2	Ashok Leyland Hippo
	ALPS1/1	Ashok Leyland Tiger

the most numerous being the Hippo. The first chassis numbers and dates they left the factory appear to be:-

ALH1	L41892	25/6/65
ALB1	L42150	6/8/65
ALPS1	L42387	6/8/65

but there is no indication in the chassis records as to whether these were shipped as complete vehicles or ckd. Malcolm can provide individual chassis numbers up to the end of the 1969 production year, but has no information at all as to whether the other overseas plants and depots built their own chassis.

(Ron Phillips adds: Certainly the South African Leyland plant at Elandsfontein produced its own models such as the Voortrekker, and the Australian plant engaged in "mix and match", using elements from different models and even different makes within the extended British Leyland organisation.)

## PICTURE GALLERY

In his article on early steam wagons in this issue, Mike Sutcliffe comments on the short service lives of some of these early wagons. Longevity increased as time went by, and the picture below shows a Leyland still in service after more than fifty years. Originally registered in Malta as 3280 after acquisition from the UK, but seen here as Y-0716-M in August 1986, this pre-war Titan or Tiger was working the route from Valletta to Mellieha, which includes a long and steep zig-zag climb. Ventilation for the engine has been improved by removal of the grille. Cooling liquids for the driver and passenger are freely available at Valletta bus stand. Photo by Ron Phillips.





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## OSLO WORLDMASTER

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Probably Leyland's most eye-catching and successful badge was the one put on the front of the Royal Tiger and its successor the "Royal Tiger Mark II," better known as the Worldmaster. Many Royal Tigers and Worldmasters were exported, and many enjoyed long service lives, particularly those in Australasia. Illustrated on this page is an example from Norway, Oslo 720, one of 130 LERT2/1 type chassis which were bodied by several Norwegian coachbuilders for Oslo Sporveier between 1956-1964. The bus illustrated has a B31+55D body originally built for operation with a seated conductor, but shown here lettered for one man operation, introduced from 1968. The body was by VBK (Vestfold Buss og Karosseri).

LEFT: The Tiger still roars on the front of Oslo 720, withdrawn in 1977 and now in preservation.

BELOW: Now safely housed in a museum, Oslo 720 carries the former silver and blue livery of the Oslo city bus fleet.

(Photos Richard Capper)



The Worldmaster lived up to its name, with examples exported to five continents. In its first decade, well over 5000 were built, and that is not counting the "chassisless" version, the Leyland-MCW Olympic which had mechanical units built by Leyland installed in a Metro-Cammell body shell. Leyland also supplied the Worldmaster running units to Denmark (DAB), Holland and Belgium, as well as Bus Bodies S.A. in South Africa. A very successful product for some 30 years. **RP**





The ABC Regent Cinema in Leyland was involved in a fire in March 1949 which necessitated the attendance of a Pump and Pump Escape from the recently formed Lancashire County Fire Brigades' Leyland station. It also necessitated the attendance of a Limousine Pump from the County Borough of Preston, RN 8850 (Chassis No. FT4A/100146) which was new in March 1939 and is seen here leaving to return to Preston. In the immediate background is the County attendance, a Leyland Cub ETJ 962 (Chassis No. FK8A/100523) that had been new in September 1941 to Walton-le-Dale U.D.C. Behind the Cub is an ex N.F.S. Fordson 7V Heavy Unit. The picture showing at the Regent at the time was the controversial *No Orchids for Miss Blandish*, which was considered somewhat "hot" - it is thought that this was not the cause of the fire!  
(Text by Neil Steele, BCVMA photograph digitised by Colin Balls)

## ODD BODIES!

Edited by Bob Kell. All correspondence to Mike Sutcliffe

*Replies this time from John Bennett, Wilf Dodds, Mike Fenton, "Windy" Gale, Peter Greaves, Anthony Holdsworth, Roy Marshall, Ron Maybray. Alan Townsin and Derek Parsons. Please note that we are running short of new items for Odd Bodies, so please send in some more puzzles to keep this popular series going.*

### **Scottish Aviation DFR 362** (Torque No.24)

Peter Greaves states that DRN 562, body type FB32F, was a TS6 (TS6c, with torque converter as Oldham BU 8255).

### **Leyland Tiger FTJ 818** (Torque No.26)

Tony Holdsworth identifies this chassis as United Auto AT192 (later AT81) NG2292, a Tiger TS4 new in 1932 with an ECOC B32R body. It was the last of a batch of 25 and went to the WD in 1939. In May 1946 it was sold and re-registered by W. Simm & Son of Standish, Wigan who ran a number of ex-WD coaches. The coach passed to Scutt of Owston Ferry by 1953. John Bennett considers that the body could be Duple but no history is known. While not wishing to doubt the records, this represents a considerable 'makeover' for a fourteen-year-old vehicle.

### **Lincolnshire Road Car Leyland Lion TL 4315** (Torque No.27)

Members clearly establish the history of this vehicle. Two LT5A Lions (TL 4314/5) were bodied by Bracebridge in April 1935 for Joseph Bland of Grantham and these handsome coaches were among the last bodies built by Bracebridge. A year later they were sold to Lincs. Road Car (nos. 447/8) and carried 'Super Pullman Lounge' lettering and TL 4315 was named 'Lincolnshire Princess'. (The front dash and integrated mudguards show a high degree of panel-beating craftsmanship). The chassis appear to have been overhauled in 1939 and the coach bodies disappeared as no further use is recorded. In March 1939, LRCC purchased a batch of new Tiger TS8 buses, AFU 836-843, with standard BEF/Weymann B34F bodies and two further bodies (Weymann Nos.C5335/4) were added to the contract for the Lions. Two of our members give Brush as the builder of the latter two. Ron Maybray gives us the welcome news that the PSV Circle is preparing a full fleet history of 'Road Car'.



**Leyland Tiger MRE 910** (Torque no.27)

John Hunt's 1951 photograph very much pleased a number of members who identified the operator as W. Noakes of Pensnett (again a known operator of ex-WD buses), but see later. The coach was new to Shearing of Oldham in April 1936 and was a Tiger TS7, chassis 8380, registration BU 9302. The coachwork fitted is clearly one of Shearing & Crabtree's bizarre efforts (see Torque Nos.10/11). In c10/39, the coach went to the WD (No.1262989) and then was reported scrapped at Central Ordnance Depot, Chilwell, Notts in October 1946, but it turned up with Noakes in March 1947. However Peter Greaves has it passing to Box, Gornal from late 1947 until 1951, in which case the vehicle was with Bert Box at the end of its life when photographed. Clearly the S & C body remained on the vehicle until 1951 and the Burlingham sightings must be mistaken. Mike Fenton notes that MRE 907-910 were all Leylands re-registered (by a dealer?).

**Howarth Leyland Tiger FV 360** (Torque No.27)

This vehicle had an involved lineage. It was a Tiger (TS1 in Motor Tax records but TS2 in Leyland Sales ledger), chassis 60541, new 7/29 to Jos (not Joseph) Bracewell, t/a Chas. Smith, Blackpool (Chas. Smith sold out to Bracewell in 8/28). In 1936 it moved to Standerwick as No. 24 and then on to Dewhurst, Blackpool (dealer) 1/37, and to G. Tynan of Shaw, Oldham in June 1937 (as C31.) along with FR 9794. In May 1949 it passed to textile manufacturers Howarth Bros, of Heywood, Lancs with whom it was advertised for sale in 10/50 (one of the notices in the window) when photographed (in darkest Royton?, not Blackpool) and a showman bought it. The last licence expired 31/12/50, last owner being Mrs. Honora Ross, 99 Egerton St, Oldham. But what of the body? - No information other than that it resembles that on a Dennis Falcon CHR 178.

**Rowe of Cudworth, Leyland OD 2290** (Torque No.27)

This Devon General LT5 Lion, chassis 552, new 2/32 (Weymann B33F) passed to Valliant Direct in London (1948?) but was not operated and moved on to Rowe in August 1949. The body shown is almost certainly by Wilks & Meade to a style used for Wallace Arnold rebodies, and almost certainly was commissioned by Rowe.

**Morrell's Leyland Cub KP3 AUC 144** (Torque No.27)

John Bennett says that he nearly choked on his toast when he saw this picture, and informs us that the Cub has a very interesting history indeed. Its owner, Morrell of London WC.2 turns out to be a property developer who built a housing estate through which L.T. could not or would not run. He then acquired the Cub in 1933 to run a service (PSV or free?) for the residents. Eventually L.T. introduced a replacement service, 138, Hayes Station to Coney Hall Estate.

Neville Gale adds - 'The coach was operated/hired by Morrell to convey new householders and their families from Hayes (Kent) Station to their new estate at Coney Hall. The village of Hayes itself was fairly new, having been only a dozen houses and some farms up until 1930, when the wealthier local landowners started selling off their estates to developers such as Henry Boot and Morrell in an effort to repay death duties etc. in the aftermath of the First World War. These large areas of land were

being turned into housing estates for people moving out of London now that the railway had been electrified. There was only one bus route locally, the 119 from the late thirties, that went anywhere near the new Coney Hall estate which was to the west of the village of Hayes and to the south of the village of West Wickham. This left most people with a long walk from their new houses to the bus, so Morrell laid on their own bus service using AUC 144. What is not known is whether they owned the Cub themselves or whether they hired it from another bus operator. I have been trying to read the wording on the side of the Cub without much luck except for the word, "Kent" and also "For Coach". The service today is part of the London Buses 138 and 314 routes, worked by Metrobus and Stagecoach respectively. The photo is taken at the top of Station Approach outside the "New Inn" public house which was badly bombed during the war and replaced by a later "New Inn" after the war. The spot looks almost identical today, and is directly opposite the entrance to Hayes Station.'

The coachwork on the Cub is not clearly established. Grose is a possibility but Plaxton is also suggested.

### **Furness/Ribble Leyland Tiger TS2, TF 1555.**

A member requests a photograph of this vehicle. It saw later service with Rowe, Cudworth and Premier Travel and acquired an Alexander body to replace the original Leyland body. When was it rebodied, by which operator and what was the donor vehicle?

### **WD vehicles**

Alan Townsin comments that most vehicles which were re-registered must have lost their identity and documents in WD service. Their identities presumably could not be traced by clerks handling the return of vehicles to their original owners. Referring chassis numbers to Leyland Motors would have no doubt been too time-consuming. The question that then arises is how the vehicles were disposed of by the MOD. Were they auctioned without identity and log book, but with 'proof of purchase' to be used to register the vehicle, or did they pass to dealers who authenticated the new identity? Ron Maybray has listings of Noakes of Pensnett and other re-registrations.

### **New Items -**

#### **Bert Box, Leyland Cub SKP, AWB 831**

Quite a handsome coach-bodied SKP Cub, but who built this half-canopy body? Is this operator the Box of Gornal mentioned in relation to MRE 910 above? Photo from Mike Fenton's collection)



**Stockton-on-Tees C.T. 112-123, JUP 147-158**

In 1949 Stockton bought a batch of twelve 8 ft. wide Leyland-bodied Titan PD2/3 double-deckers, Nos.112-123. They were Stockton's first postwar Titans and were very well regarded and influential in that only PD2 double deckers were subsequently purchased until 1964. So why were they odd? Eight half-drop windows per side plus half-drop front top-deck windows (did any other UK Leyland bodied double-deckers feature this?) appears to be an excessive specification for Stockton's far from sub-tropical climate. Were these export models and if so, why weren't they delivered?

**Taylor, Ideal Service, Leyland Tiger PS, JWU 839**

At first glance, this appears to be a Plaxton coach body, but is it really so? The vehicle is fairly laden but that rear end is very close to the ground. It is also odd that the driver hasn't pulled into the kerb to collect the young passenger. (Dr M.A.Taylor)





# ODD BODIES – Special !

BIRCH BROS. by Roger Barton and Mike Sutcliffe

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The publication of the photograph of the Birch double-deck Lion in Torque No.26 has aroused much interest in the unusual Leylands of this operator. Recent research by Roger Barton led to the notes below, particularly relating to the queries about BLO 975 and the PS1/4, and these are accompanied by an assortment of photos mainly from Mike Sutcliffe's collection.

Leyland Lion LT7 BLO 975 was new in 4/35, one of 14 Lions (K36-49) with Birch 'Airflo' FC39C bodies, four LT5A and ten LT7 chassis. These were followed in 1936/7 by six three-axle Tigers (K50-5) (two TS7T, i.e. single axle drive) and four TS7D (both rear axles driven) with 43-seat centre-entrance full-front Birch 'Airflo' coach bodies. Many of the 20 bodies were rebuilt during the War to half-cab layout, to improve visibility in the blackout, or for ease of maintenance.

During the War there were considerable and complicated changes to this fleet. Unfortunately these are not very well recorded in the PSV Circle History PN3, as will be seen from the photographs here, and the record needs to be put right. The recent book *Birch Bros. on the Move*, whilst good on the history of the company and its routes, is very inadequate when it comes to the description of the vehicles. BLO 975 was given a new Birch double-deck body, L21/27F, in 1944 and renumbered K142, later to become a breakdown tender in 1951. Of the six-wheel TS7 Tigers, four (K50-2/5) were rebodied with Birch double-deck H64F bodies in 1943/4, being renumbered K150-3, and two (K53/4) were almost certainly heavily rebuilt rather than rebodied by Birch with B43F single-deck bodies in 1945/6.

LT7 Lions K40 (BLO 973) and K49 (CLA 105) were rebodied with front entrance Birch 'ECW-look-alike' B35F bodies in 1947/8 and these appear to be the last bodies to be constructed by Birch Bros, who had been building bodies since the horse bus era. Why did Birch copy the ECW design? Was it to maintain a common appearance with their ECW bodied PS1 Tigers, or were they wanting to expand their coachbuilding activities, trying to interest the Tilling Group as did Strachans with their 'ECW-look-alikes'? From 1949 there were further body exchanges between chassis involving the 'Airflo' Lions, other Lions, Cheetahs and PS1 Tigers. As an example, CLA 105 then acquired a 'real' 1947 ECW body (the Birch 'ECW' transferring to K34, HE 6329) and yet again, a Thurgood C35F body before sale in 1952. Four bodies in Birch ownership!

Four Leyland Tiger PS1/4 chassis were given double-deck Willowbrook FH53F bodies (K220-3, LXV 220-3) and with similar Guy Arabs (K210-5) formed the 'Marlborough' class of double-deckers. These unusual Tigers are quoted as having chassis 494838,504555-7, entering service in June 1951. There is also the puzzling record that K223 "exchanged chassis frames" with Titan PD1 HLY 487 (K187) in 1956. Given the wheelbase differences, this appears a nonsensical thing to do as K187 had its original Birch L53F body replaced by a new Metro-Cammell H56R one. Any comments please?

What a striking appearance this Birch "Airflo" bodied Lion LT5A has, it must have impressed their passengers – until they climbed aboard to find 39 seats crammed in to the body; however it must have been economical to operate. K38, AYH 297 had chassis no.4494.



K41, BLO 974, LT7 chassis 6554. was another Birch "Airflo" 39 seat Lion shown here in original condition, and in the cream and lime green livery.



BLO 975, Lion LT7, seen as L21/27F, on chassis 6551 of 1935 with the prototype front-entrance lowbridge Birch body built in 1944 to replace its original "Airflo" body.



K53, DXE 873, was a Tiger TS7D, with Birch "Airflo" coachwork. Compare the shapes and sizes of the windows with the picture of it in rebuilt form.

(J. Higham)







Here is DXE 873 in rebuilt form with 43 seat front entrance bus body. Note the uneven pillar spacings some of which have been re-positioned on rebuild. This also received a 7.4 litre oil engine.



What monsters these highbridge Birch rebodied six-wheel Tigers were! This is K150, CYU 406, TS7T chassis no. 11168 with its H34/30F body built in 1943. It was fitted with a new 7.4 litre Leyland oil engine after the War.



Many of the "Airflo" bodies were rebuilt to half cabs during the War, as was K49, CLA 105, seen here, either for maintenance accessibility or perhaps better vision from the driver's seat.

(The Omnibus Society)



K47, CLA 103, was another LT7 Lion, chassis 8912 of 1935 which received an ECW B35R body (No. 1576, Series 2), new in 1947 and having originally been fitted to a Tiger PS1 which itself was rebodied Windover C33F in 1949.

(Roy Marshall)

K34, HE 6329 was a Lion LT5A, purchased from the Yorkshire Traction in 1945, and fitted with an "ECW-look-alike" front entrance body, built in the Birch Bros workshops about 1947.

(Roy Marshall)



K170, GGT 184, was one of two Titan TD7 highbridge front entrance double-deckers bodied by Birch, and new in 1940/41. Shortly after the photograph was taken the body was destroyed by fire in 1946, and it was rebodied in 1949 by Barnard with a lowbridge body.

(The Omnibus Society)



Ten Titan PD1s arrived in 1946/47, all with lowbridge forward entrance (almost centre) L28/25F Birch bodies. Most if not all had glass centre parts to the dome and the batch was quite unique.

(Dr. M.A. Taylor)



Numerically the last of the full-fronted Willowbrook dds K223, LXV 223 is seen here after the front end had been rebuilt (with Leyland lorry grille of the type introduced in 1954). It was named "Malplaquet". This is the PS1/4 which is supposed to have exchanged chassis with PD1, HLY 487.

(Dr. M. A. Taylor)



Most of these photographs are from Mike Sutcliffe's Collection and photo credits have been shown where photographers are known.

# EXPORT TIGERS

## Right and left hand drive export bus chassis

In the period immediately after John Rackham resigned from his post as Chief Engineer of Leyland in 1928 to join the AEC there began an era of intense rivalry between the two manufacturers who were destined to become leaders of the British bus market. After the break caused by the War, the rivalry was resumed and extended into the export field.

AEC introduced its new post-war range of single and double deck buses in 1946-7, (the Regent III and the Regal III) and developed a left-handed version of its post-war 9.6 litre engine to cater for the needs of several major customers in Europe, Asia and South America. The latter market was of great importance for several years before political and monetary problems caused it to shrink drastically. The promise of large sales in Latin America prompted AEC to construct "mirror-image" versions of its Regal single deck chassis, and these formed the 0963 (later 9631) series, equipped with the A207 (subsequently the A217) left-handed engine. Over 1300 of the former were constructed between 1947-1951, and over 1700 of the latter between 1950-1960. These 3000 or more engines did not all power buses, as AEC also supplied countries which drove on the right with A207 and A217 engines in lorries as well, probably for reasons of standardisation and convenience. A significant number of the 0963 and 9631 chassis were modified to take double deck bodywork, and in such cases carried "Regent" rather than "Regal" on the radiator. The majority of the left-hand drive export Regals and all the Regents had half-cabs and exposed radiators.

Leyland, it seems, did not consider it necessary to design a special version of the post-war O.600 for use in the Tiger and Titan. After introducing the "home" PS1 and PD1 using the E.181 7.4 litre engine, export markets were provided with the OPS1 and OPD1 models, eight feet wide and powered by the 8.6 litre engine which remained in limited production at this time. The reason, it was said, was that overseas customers and agents were familiar with the pre-war engine, and would not welcome building up a stock of spares etc. for the E.181 as this was only to be a stop-



AEC was quick to see a market for left hand drive bus chassis after 1945. Barcelona 401 is seen on test in 1948, with Spanish built body.<sup>45</sup> were like this, and 25 had more austere open back platform body work.

gap until the introduction of the O.600 range. With few exceptions overseas customers for the OPS1 Tiger in countries which drove on the right fitted full fronted bodywork. The equivalent OPD1 Titans, of which 186 examples were built, were all of half cab configuration, and were supplied to customers in Australasia and Africa who drove on the left, and to Madrid, already accustomed to pre-war right-hand drive Titans and AEC Regents. (See *Leyland Society Journal No.6*)

As early as February 1946, the Leyland management authorised the building of what was referred to as an "LHOPS2": this turned out to be an extended chassis of 19ft. 6ins. wheelbase to the 30ft length not yet permitted on British roads, and with left-hand drive. This chassis was completed by June 1946 and took the chassis number 461095, and it is significant to note that the next similar chassis dates from almost a year later with chassis 470754. In 1946 the new 9.8 litre engine was not yet fully proved, and until full production of the PD2 and PS2 series got underway in 1947-1948, the overseas customers were left with the right hand drive models only (OPD1 and OPS1) at a time when AEC were sending the 0963 out in increasing numbers. In January 1947 the figures for post-war bus production at Leyland were as follows:

PD1 904 built, 117 to be completed in January.

PS1 870 built, 120 to be completed in January.

OPD1 186 built, no more to be constructed.

OPS1 321 built, 36 to be completed in January.

Although no more OPD1s were to be built, the number of OPS1s was to double before production ceased.

It was intended to commence production of the LOPS3/1 in April 1947, but the severe winter of that year hampered progress and there were delays. There were to be about 170 built in the years 1947-1948, far fewer than the equivalent AEC chassis with its "handed" engine. There was also a lesser number of shorter LOPS2/1 made, some of which were converted before export into LOPS3/1. The main customers were in Argentina, Uruguay, Poland and Norway. Most had full fronts rather than half-cabs although they were supplied with exposed radiators.

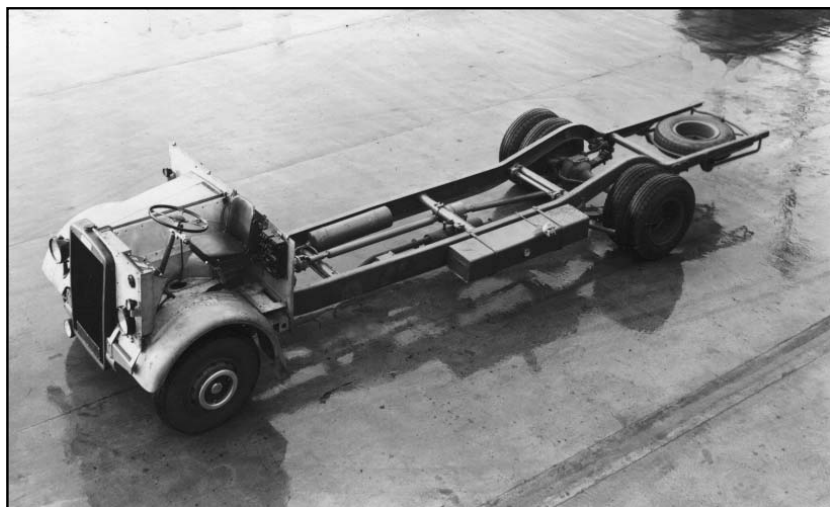
A Tiger OPS1 in Montevideo. In the pre-war period a fleet of AEC Regents and Tigers had been put in service. Post war deliveries were of rhd OPS1s, and after a few rhd Regal 0661s a fleet of lhd 0963 Regents. All had half cab bodies.

(N.N.Forbes)



The illustration on this page shows a left-hand drive Tiger chassis outside the Leyland factory. The engineering required was mainly in regard to the sheet metal, with a revised bulhead, bonnet top and front wings. Of course the controls had to be moved across, with revised linkages for the pedals. That left two main problems: the gearbox and access to the engine. AEC fitted the majority of its Regal/Regent model 0961/9631 chassis with preselector Wilson type gearboxes, but Leyland retained the usual manual transmission on the Tigers. As the position of the engine and gearbox within the chassis remained unchanged, the left-hand drive version of the Tiger had a complex linkage which increased the effort (and necessary skill factor) of the driver when making gearchanges. Fortunately, few l.h.d Tigers seem to have been deployed on city services, most being bodied as inter-city coaches. It is curious that Leyland did supply pre-selective Wilson gearboxes on contemporary OPD2 r.h.d. chassis supplied to Australia (the operator in Sydney, which also used AEC Regent IIIs, demanding that these be fitted.) At the time, Leyland was involved in the design and building of the London RTL and RTW chassis too, for which such gearboxes were specified by the customer. There seems no reason, therefore, why a pre-selective version of the l.h.d. Tiger could not have been built.

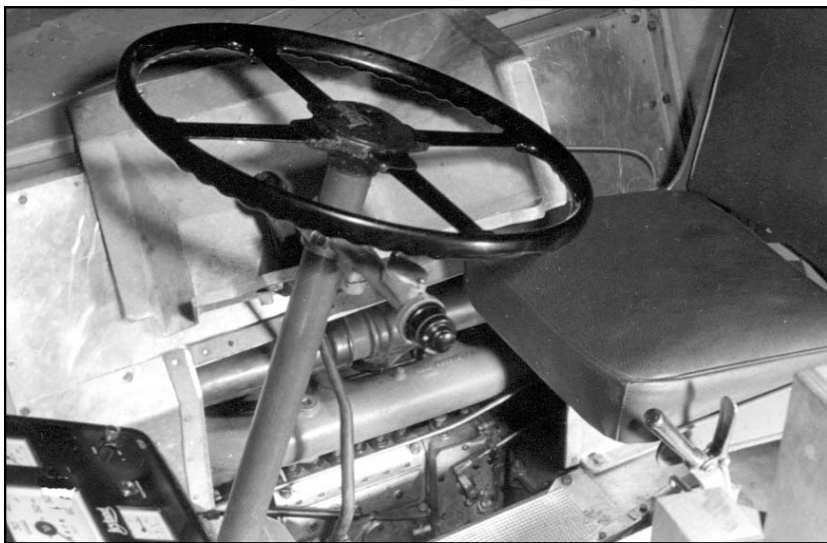
Engine access remains the final problem. Did Leyland argue that it was not worth while developing a “handed” engine because most overseas operators preferred full-fronted bus and coach bodywork anyway, and as a consequence had learned to cope with difficult access to the engine compartment? Or is the answer to be found in



A birds-eye view of a Tiger LOPS2 at the factory shows the re-arrangement of the front end and retention of the exposed radiator and half-width bonnet. Few LOPS chassis seem to have operated with exposed radiators, and it is presumed that most were delivered without the front-end metalwork. (BCVMA)

what else Leyland was planning at the time? Although it did not appear on the road until 1949-1950, the new “integral transit-coach” was on the drawing board by 1947 and the new O.600 engine was being developed in a horizontal form for mounting beneath the floor on this (which became the Olympic series) and the PSU series to be named Royal Tiger. Leyland had employed American ideas in the design of the new single decker, and envisaged the Olympic as the export bus of the future, which it was to a certain extent. So the left-hand drive Tigers may have been thought of as only a necessary “stop-gap” to fulfill orders until the new transit single decker was ready. Of course, AEC matched the introduction of the Royal Tiger with the Regal IV, but did not follow Leyland by building an integral single decker at this time.

The picture below was taken to show the internal arrangements of the cab area, and the hatch in the engine fire-wall to give access to the fuel pump on the O.600 engine. As stated on the previous page, the majority of the l.h.d. Tigers were put into service with full fronts and were probably not provided with bonnets etc. as shown, but a significant number of r.h.d. export Tigers were built, and, as we shall see, the Indian and South African markets continued to have half cab single deckers for at least a decade after the Tiger had been withdrawn from the British market. Two surprising developments were a normal control and a double deck version of the OPS series chassis, but these were constructed to special order and were not “catalogue” models. The next edition of Torque will continue the story, and will show how the overseas plants owned by Leyland played a part in evolving “spin-off” models.



This photograph of the prototype LOPS is dated 26th November 1946, and is entitled “Accessability of Fuel Pump LOPS,” showing that the engineers were aware of the need to allow for easy (?) routine maintenance on this model. (BCVMA)

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## LETTERS TO THE EDITOR

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### From Neil Steele, Cheadle

Following Alan Townsin's Letter in Torque No.27, I would like to add some further comments. Having been interested in Leyland fire engines for a very large proportion of my life I did have the opportunity and luck to meet Leyland men in the 1960s who had worked on such fantastic pieces of machinery, and their knowledge of the product and the pre-war management were indeed an eye-opener. Based on their opinions, memories and subsequent research there is no doubt in my mind that if the company had not been led by a small nucleus of dynamic personalities, then fire engines would have been dropped from Leyland production in 1930. These people knew that fire engines gave the company a "kudos" that their main rival AEC could not lay claim to. Leyland did lose orders for buses to AEC and others, even so there was always a chance of selling that particular Town or Corporation a Leyland fire engine! Ironically this role was to be reversed in the post-war period when Leyland reluctantly decided it could not return to full-time fire engine manufacture, and AEC took the opportunity to provide chassis to Merryweather.....the AEC Merryweather marque was to become as famous post-war as Leyland had been pre-war!

Fire engine design was very much customer led - not only was there resistance to improved engine and chassis design, there was much mistrust in pneumatic tyres. Even in the early 1930s when pneumatic tyres had become the standard fitting for PSVs and goods vehicles some Chief Officers still preferred "solids". A case in point was the TLM for Coventry which was fitted with solids on ten stud detachable wheels (see p.28 of *Leyland Fire Engines 1930-1942*) and the Braidwood style body was still the only type acceptable to a large number of Chief Officers despite the large number of injuries resulting to firemen from riding on this type of body! With regard to the Tiger style of radiator, this stayed with the FT and TLM models right up until the end of production. I have always thought what a stylish radiator this is and of course for fire engine application it was manufactured in brass which would be highly polished, or chromium plated which was at extra cost initially!

With regard to working on the "T" type overhead cam engine, and speaking from some practical experience, I can understand the reluctance of some brigade Motormen/Engineers to tackle the job of valve grinding - whether this was actually necessary on such an advanced design of engine at this time I cannot say - but I would suggest that their reasoning was based on past practical experience with older types of engine and the poor quality fuels and lubricating oils then available which led to valve problems. The cylinder head on a 6 cylinder "T" type engine is extremely heavy and requires a block and tackle to lift it safely and a deal of precision is required when refitting the cylinder head, the correct meshing of the helical timing gear which drives the camshaft is essential. As the Leyland "T" type engine evolved so did the quality of lubricating oils and fuel, the need for valve grinding on a regular basis disappeared and became part of the recommended 10,000 mile or annual docking maintenance procedure.

Leyland were reluctant to claim any superior brake horse power rating for the "T" series engines used in fire engine applications - such claims in the past had been exaggerated by all the major manufacturers. While Leyland noted what the other manufacturers were saying the Lancashire company went down the road of letting the product speak for itself and the "T" type petrol engines broad torque band did this



There is no mistaking the Lioness pedigree of the FT series fire engine. This picture shows the first FT2 chassis at Chorley, which on completion went to Portsmouth City Fire Brigade. (BCVM Archive, dated 31/3/32)

admirably! From my researches the "T" type engines used for fire engines were basically a standard unit but with dual ignition, the block was tapped to take two spark plugs per cylinder and the magneto was supplemented by a Delco-Remy distributor and coil operated from the vehicle battery, the distributor was mounted high up on the timing case and was driven by skew gears from the front of the camshaft. A little more attention was given to the engines when being run in on the bench and they were fitted with a larger diameter cooling fan. Engine performance was enhanced by fitting larger main and compensating jets in the carburettor - the aim being to give better performance from cold and better "snap" acceleration which in turn gave a much better overall engine performance. Although more thirsty than with the standard settings, fuel consumption was not a concern with a fire engine. Further improvements came in around 1935 by fitting a CAV-Bosch BJR6 type magneto (the Simms SRM6 could still be specified but in fire engine applications this had been prone to seizing up due to high operating temperatures). First experiments with the BJR6 magneto were carried out on the  $4\frac{1}{4}$  in. bore 7.6 litre engine with quite noticeable improvements in performance particularly in the mid rpm range. More expensive than the Simms the CAV-Bosch BJR6 magneto was a very well designed and



engineered product with technical advantages over the Simms unit. The Simms magneto with two lobe cam spindle rotated at  $1\frac{1}{2}$  times engine speed whereas the BJR6 had a six lobe cam so that the cam and distributor spindle rotated at half engine speed, both magnetos provided for an advance of 40 engine degrees, the Simms type was totally controlled by hand operation of the advance/retard lever on the steering column. The BJR6 unit had an in built semi-automatic advance which operated in the 0 to 20 engine degree range, a further twenty degrees advance was then available by the use of the advance/retard lever on the steering column taking the advance up to the full 40 engine degrees.

I concur with Alan's comments regarding the Cub fire engine. For saying that the model was very quickly conceived following the introduction of the Cub range in 1931 and for it then to become market leader within three years following its introduction was no mean feat! The natural progression to the "Z" engined FK type Cub fire engine was later to benefit from the development work on the Lynx as more Lynx derived parts were introduced, especially into the FK8A/9A models. There are just a few FKT models in preservation, alas I have not had the privilege to drive one, however, my experience of driving a late model FT leaves me in no doubt of what superb machines the pre-war Leylands were. Incidentally the rather conservative 96 bhp 7.6 litre engines used in the FKT were, like the 8.8 litre units, "tuned" for overall best performance.

It would be of interest to know when Rees-Roturbo stopped supplying electric motors and control equipment for Guy trolleybuses. As far as I am aware Rees-Roturbo only supplied fire pumps to Leyland, and with the loss of Leyland's business in 1934 it must have been a severe blow to a Company who were already by then in financial trouble. I was told many years ago that the German "blue-steel" used for the bonnets on the FT and TLM series came from Krupps and that the remaining stock of this material was used post-war to cover the counter tops at Chorley Service/Spares.

Turning to Malcolm Wilford's informative list to go with Graham Edge's Leyland Octopus book, it is a most welcome addition and I have already attached a copy to my book. Also of interest was the list of "new model" goods vehicles built in the 1939/40 period albeit that the TSC16 was actually given the Bison name not Beaver. Looking at the picture of ETD 551 on the front cover of Torque No.12 one can see that the Leyland coach building department has been very attentive at weight saving. Later pictures of this vehicle clearly show it carrying the legal lettering "Leyland Motors Ltd., Leyland, Lancs." with an unladen weight of 4tons exactly, the power unit was an "L" type 6.2 litre oil engine which drove through a 5 speed gearbox. The "new Bison" was to fill the gap between the Lynx and the TSC18 Beaver.

The mention of the TSW17 and its metamorphosis into the WSW17 plus the item in *Food for Thought No.117* - reminded me that the initial order of 200 WSW17s were to have Gardner 6LW engines fitted, however with the increase in bombing raids, production at Gardners lapsed (was the factory hit?) besides which it was noted that their engines were required to fulfill other military roles, apparently few WSW17s were fitted with the 6LW, the majority having the standard Leyland 8.6 oil engine.

**From Malcolm Wilford, Wakefield**

Regarding my letter on page 39 of Torque No.27, I can add further comments about Leyland Steers – the correct registration number of the Standard Pulverised Fuel vehicle is GWT 742. Many thanks to Neil Mitchell for identifying the registration number of the Press, Bly and Davy lorry, which is EVG 422. This can now be pinpointed as chassis no. 514598 15S/1 line no. 173 delivered new on 9/11/51 to Press, Bly and Davy. Incidentally, does anyone know of that Company's location?

**From Errol Simister, Leyland**

Looking at the superb photograph in the last issue of Torque at Fishwick's garage in 1937 these 4 TD5s bring back many memories for me. Fifty years ago, in April 1955 I boarded one of these TD5s (I don't know which one); this bus took me from Preston to Leyland on my first day of employment at Leyland Motors. Initially they were fitted with 7.6 litre petrol engines. Nos 19,20,21 were fitted with 7.4 litre diesel engines between 1946/47, No.18 had a 8.6 litre unit fitted 1951. All 4 buses operated until 1958.

**From John Thompson, Doncaster**

Fred Boulton quite correctly points out that the caption to the photograph on page 43 of Torque No.26 should not read "during the second World War". As he points out "Spurrier" was not built until after WW2 and the buildings were in fact used for the production of Post War Leyland Tank Engines – the type as fitted to the Chieftain Mark 5 Main Battle Tank (Leyland L60. 2 stroke. Compression ignition. 6 cylinder (12 opposed pistons) multi-fuel developing 750bhp @ 2100 rpm). The Chieftain Tank Mark 5 – first prototypes were in 1959, production from early 70s to 1978. The present building used by TVAC Engineering (where Fire Engine Bodies are built) was the Tank Engine Test House – still complete with Dynamometer equipment. Who can tell us more about Tank Engine production by Leyland Motors, a very interesting aspect of its history.

I enclose a photograph of a Scammell-Unipower S24 spotted at York Historic Vehicle Rally in September 2004. It was fitted with a 400bhp Cummins diesel, Allison RV30 transmission, solid suspension on the rear axles and solid tyres all round. There were no rear brakes and it was limited to 4mph, and was used in a steel works to transport ladles of molten pig iron in a foundry. Its parentage goes back to the Leyland Roadtrain.



**From Wilf Dodds, Nuneaton**

There are a number of items in Torque Nos.23 to 26 which have not, up to now, been covered, so here are some more details. In Torque No.23 (letters page 46) Leyland Titan TD5, DED 95, after leaving Potts passed to W.E.S.Transport Ltd of Hawarden (Flintshire) in November 1952 and lasted until 1956.

In Torque No.25 (letters page 42), BU 1280 was a 35/40hp with chassis number 10469 and Ch30 bodywork, new in 1919 to Preston & Ward Ltd, 38 King St., Oldham. It passed to J & W Kavanagh as Ch28 in April 1927, and to J. Grocock, Sheffield as a 4-ton lorry in April 1929, lasting until December 1931 before being scrapped (by Allsop) in April 1932. Interestingly this photograph provides additions to the PSV Circle Fleet History (PB27: Sheffield United Tours and its antecedents) of a vehicle, fleet numbering and a further address for the Kavanaghs! On page 43, the Fielding & Bottomley details were of my doing, related to a *Food for Thought* item.

Torque No.26 (page 14), Hull Watch Committee Minutes clearly indicate that the whole of the East Yorkshire fleet had Hull licences. Unfortunately the actual licence numbers were not published after 1923 (but 146 had previously been allotted in July 1922 to a horse bus belonging to an operator named Benson). Similarly, the Hessle Minutes show that, in January 1929, EYMS were granted 41 licences bringing their total to 134, clearly enough to cover the entire fleet; licence numbers were not published here at all.

In Widnes the attitude to Hackney licensing is interesting, because Ribble did once appeal to the Ministry of Transport against the refusal of one Borough (I think it was Burnley) to license the entire fleet, insisting that licences would only be granted for the number of vehicles needed to run the services in existence – it seems the Authority was afraid of its own services being swamped. Certainly Ribble vehicles had scope for collecting more plates than mosttest it outoperators, particularly on inter-urban routes, and I have seen a photo of a TS2 tiger with an Edinburgh licence number on its offside, which had been taken to be a fleet number.

**From Chris Swindlehurst, Milnthorpe**

I have come across this photo I took in April 1993 on Sheerness Docks on the Isle of Sheppey. I was loading wood pulp at the time, there was a line of Leylands with bonneted L.A.D. Vista Vue cabs, and would like to know if anyone could throw any light on them, - what models they were, where they were going or coming from and when they were made?



**From John Shearman**

These are extracts from a letter from John – ‘in 1971 I made a brief unofficial visit to the small assembly plant building Leyland trucks in Marsin, Turkey. I think this was a locally owned enterprise and not an overseas investment by Leyland; it would be interesting to find out more about the whole matter of overseas built Leylands as raised by *Food for Thought* item No.116 in the last issue of Leyland Torque. Some of these plants were owned locally and others owned by Leyland, with some only assembling ckd kits from the UK, whereas others manufactured on site.

There has been an interesting history of Leyland single-decker chassis being bodied as double-deckers in the sub-Continent, and a photo of double deck bonneted Comets in Karachi appeared in the trade press at the time. Does anybody know of any pictures of these Comets – it would be interesting to relate the bodying of single deck chassis and lorry chassis as double-deckers, including Worldmaster double-deckers, not only in Bilbao but also in Madras. (There were double deck Badgers and PLSC Lion in India as well - *Ed*)

**From Robin Hannay**

In Leyland Torque No.26, there was an article on the twin-steering Freighter. This would have been a very popular vehicle for multi-drop deliveries if Leyland had publicised it more. It was killed off by ignorance of its existence and also by the new Sales Engineering Department, which was situated in the wilds at Thame instead of being where the vehicles were built at Leyland. Most of the staff there were from DAF and their knowledge of the Leyland product was minimal. In my dealings with them, I had to correct things about Leyland vehicles when I gave them an enquiry. I had one for 20.5-metre wheelbase Cruiser drawbar vehicles, I was told that they could only offer a 5.8 metre wheelbase and were not keen on having the chassis shortened. When I pointed out that there was a 5-metre wheelbase Freighter chassis that could be used, they said it was not suitable. I pointed out that the 5.8 metre frames on the Cruiser and Freighter were identical, so the 5 metre Freighter was to the same dimensions, other than the wheelbase, and could be used for the enquiry. They eventually came back and agreed. Unfortunately the customer had gone elsewhere and ordered by the time Thame reached their decision.

They were built to customers' orders, not as inferred by the article. I sold one to Ryder Truck Rentals for their contract Hire Department and it went to a glass makers in Liverpool. With multidrop work, the loading on the front end increases as the load diminishes and the Freighter twin steer was ideal for payloads of around 15 tonnes. A further enquiry put to Thame resulted in them suggesting a DAF FAT2300, which was heavier than the equivalent Constructor and had lower front axle payload capacity. They would not agree to building any more twin steer Freighters, which were the ideal vehicle for the customers needs.

Roadtrain (Torque No.27) - The new plant to produce the T45s at Leyland was used initially to build Leopard chassis until the Roadtrain entered production. As had been stated in the article it was a completely new vehicle and I still think today, it is not far behind modern vehicles. In general comfort it certainly was a big step forward

in 1980. When vehicles started entering service, Leyland already had stocks of parts at all Distributors and Dealers. Many operators were surprised that when they had a problem in the early days, their vehicle was speedily back on the road. One stupid decision of the B.L. Publicity Department was made around the Summer of 1985 when they announced they were going to stop production of the Guy Big J in the following Spring. This killed all sales and as a result of material commitments the Big J prices did not rise with the rapidity of other B.L. models so it became a cheap 32 tonner and continued much longer than planned. If they had said in the Spring, a few months after the Cummins and Rolls engines had become options in the T45 that, because of the big demand for these models, it had been decided to discontinue the Big J, then many operators would have changed to Roadtrains.

Warrington PD2/40s – in the article, it asks where these chassis were built as they were “Specials.” They were built on the normal production line. Just because the specification varied, it did not mean that they had to be hand built; Leyland did not churn out thousands of standard vehicles. All the vehicles were built on line to customers’ specifications so that the only real differences were sorted out by the Drawing Office and the new parts were supplied to the line as the chassis were built.

#### **Peter Greaves, by E-mail**

Peter says that the 6-wheeled Tiger on page 2 of Torque No.27 was referred to as EK 7518, whereas it has previously been recorded as EK 7516, which he thinks is correct; the original body was by Santus. The GIC Titan van on page 3, UNU 110, was chassis 531367, new 9/54.

#### **From Peter Davies, Flitwick**

Following the article and letters on PSV chassis with goods bodies, readers may like to see these two pictures of GIC vans which I took many years ago.



110 BRC is on the left, and 130 ERA is on the right.

#### **From Keith Seranage, Edenfield**

On page 27 of the Society Journal No.6., *Transportation of Flour*, the two photographs are separated by 30 years and the shot of the Comet 211 STF is about the time when the engine for this model was improved to increase its potential. It was classified as the O.400 cu ins series and when fitted to the Super Comet motive unit for articulated operation made a big difference. When fitted with the SAE/SMMT fifth wheel the Leyland unit was 14SC/5R, but with Scammell Automatic coupling

gear 14SC/4R. At about this time, I remember a photographic assignment being carried out at the works of a large flour miller. Beautiful results until it was noticed that their greatest competitor's name loomed large in the background.

### **From Alan Townsin, Steventon**

Leyland Torque goes from strength to strength. I owe Mike Fenton, and other readers, an apology over the ex-Orange Bros. AEC Regal in United's fleet which acquired a Leyland body in its later years – he had quoted it quite correctly in his piece in Torque 25 as TY 9605 – somehow the reference to TY 9608 as also sometimes claimed but not having such a body must have caught my eye, so my comment in Torque No.26 was wrong.

Re-registration (also referred to in the 'Odd Bodies' pages). There was quite a spate of this during and immediately after WW2, usually involving ex-military or other vehicles (e.g. Civil Defence) which had been requisitioned at or near the beginning of the war. I think they were supposed to be offered to their former owners, and many were put back into service, but in at least some cases they seem to have been sold off, very possibly having lost their original registration numbers and the relevant documentation. Local authorities seemed to vary in their approach and in both Staffordshire and Durham, for example, such re-registrations were common, although that might have been a reflection that there were many independent operators in those areas and who were the likeliest recipients of such buses.

I doubt if it had much to do with disguising vehicle age (far fewer people were conscious of such things in those days), more the simplest way of coping with a situation which probably left the clerks in question stumped, even though sometimes a little perseverance and appropriate knowledge, of the kind that is food and drink to readers of Leyland Torque but not common in such places, would have solved the problem. A lot of unofficial switches of identity also slipped by at that time, often for similar reasons, though probably illegal and perhaps knowingly so.

CSMT "vee-front" rebody - I feel sure the body shown on the TD4, VD 4434, was built c1937/8 and very likely a further case of those applying to some Ledgard and Middlesbrough Titans where the original had proved so bad that a new one was built, very possibly on a no-charge basis. Leyland bus bodies weren't always quite consistent in their minor details, and a glance through my *Leyland Titans 1927-42* book reveals a few odd cases, although admittedly not quite like this body. In general the 1936-7 version on TD4 chassis had square cornered windows and rather upright rear dome. Then, broadly speaking, the TD5 version got the window pans with rounded corners and the more rounded dome. However, there were evidently still a few bodies with old-style rear domes, either with new-style side windows (e.g. the West Bromwich TD5c) or not (the Sutherland TD5 with platform doors), so the opposite combination is not impossible. I feel sure it is not a post-war body – even the wartime Alexander version (in affect what Leyland would have built in wartime) had window pans. The wartime Daimler with Leyland E181 "and gearbox" (which type?) must surely have sounded much like a PD1.

Thomas Transmission - I don't pretend to be an expert on such things but my

understanding was that Tilling-Stevens petrol-electrics behaved a bit like Leyland Gearless buses or the post-war Crossleys with turbo-transmitter (posh name for a torque converter) when starting from rest, with the engine accelerating almost immediately to fairly high rpm and the vehicle then gradually catching up. Conversely, on hills, I take it that the vehicle slowed down but the engine revs stayed up, which was certainly a state of affairs which gave the illusion of “slipping” and may well have discouraged acceptance of such forms of transmission unless there was also some mechanical gearing providing lower ratios. In effect, the engine and dynamo were acting as if they were the power station for a trolley bus but mounted on the vehicle. Though the Thomas Transmission seems to have been a bit more sophisticated, I imagine it must have had at least partly similar characteristics to work successfully. Had Parry Thomas lived into the 1930s and perhaps picked up his connection to Leyland again, I wonder if his ideas might have born fruit as an option to the torque converter.

London Transport STD - I could write pages on these, especially if we started with the 1937 batch. Incidentally, I'm pretty sure that the original derivation of the class designation was that those buses were a cross between the STL and the pre-war TD class of ex-independent Titans, hence STD. In those days the Tigers also acquired were TR, and of course T signified Regal. The silly thing was the decision to designate the post-war Tigers TD although, in Chiswick language, no doubt it seemed logical enough if one argued that T was the single-deck equivalent of ST then TD would be the single-deck version of STD. But sticking to the PD1 version and starting at ground level, there are the smaller front tyres, 36 x 8, I think, in line with LT's general preference, the aim being to give lighter steering – Leylands tended to be unpopular with its drivers, used to the lower-geared but lighter action given by AEC's worm and nut system and king-pin design. Then there is the exhaust outlet, behind the rear wheel instead of in front of it. The side-lamps are quite different, the cab front one built-in. The skirt panels are split horizontally for ease of repair. In the cab there was LT's type of speedometer and I think no other instrument. There's the destination display, of course, though the omission of any rear display is odd. There is the provision of half-drop windows at the front of the upper deck and the near-side front of the lower deck. The used ticket box was different and the seats had LT standard moquette though the frames weren't of LT pattern. The internal trim was to LT style, with the top half of the pillars in cream and the bottom half in green, I think. The white disc on the rear panel had a particular significance as it was only carried by motor buses and in the blackout conveyed to a trolleybus driver that he could pass such a vehicle without risk of striking its trolley booms. It was evidently felt it was still useful after the War and even early RTs had them, but it was discontinued about 1948.

### **From John Wagstaff, Croydon**

John confirms what Alan says above re the white disc. He also comments on the odd mixture of route blinds seen on the bus in Tailpiece (Torque No.27), and recalls that all 65 post-war STDs were exported to Yugoslavia. He wonders if any of them survive.

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## SALES & WANTS

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### FOR SALE

**Pooks Motorbook Shop** has for sale a number of Leyland Service Manuals and Parts Lists for pre-war models. They include Cheetah LZ2, Lion LT2, Retriever WLW, Tiger TS7 oil, Tiger TS8 oil, Tiger/Titan/Tigress petrol, Titan TD5 petrol, Titan with Torque converter, Lynx WDZ petrol engine, and General Care and Maintenance of passenger vehicles.

Available from (Tel) 0116 2376222 or email: [pooks.motorbooks@virgin.net](mailto:pooks.motorbooks@virgin.net)

**Leyland Society Book Sales** Postal requests for Leyland Society books may now be made from David Bishop, "Sunnyside", Whitchurch Road, Aston, Nantwich, CW5 8DB. Details of current titles may be found on the Society website.

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## CD – REVIEW

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**Golden Years of British Haulage (First Series) CD** costs £15.99 (inc. P&P) from "P.D.Truck Photos", Leyland, 17 the Avenue, Flitwick, Beds. MK45 1BP.

This is a CD containing 100 pictures of lorries, mainly in the 1940s, 1950s and 1960s. They are a selection from 100,000 pictures taken by Peter Davies, and are up to his usual high quality. There is a mixture of colour and black and white, and coverage of a range of many different makes, but there are plenty of Leylands - and especially eight-wheelers, of course! One excellent example is a colour photograph of RTB 879, a Leyland Octopus of Joseph Sumner and Company, Flour Millers, from Chorley....I wonder if this was any relation of James and William ?.....and how nice to see a Leyland registered in its home county.



This picture of a Plaxton bodied CPO/1R Comet with Plaxton C33F body built for Dicksons of Dundee (AYJ 677) appears to be taken at Scarborough. BCVMA)



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# TAILPIECE

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(Photo by Lam Pui Wing)

It is not, of course, a Tiger, but a Singapore Bus Service Leyland Atlantean AN68/2R fitted with a Metal Sections body (SBS1651R) seen at one of the many bus exchanges in that island country. Overall advertising was widespread in the large SBS fleet, but Company policy was to leave the front face of the bus in the corporate colours of red and ivory. The rear engine cover is a modification of the three piece design used on the AN68 series...the sidepieces swing out and the centre section is hinged at the top. However, SBS attached a frame to the central cover into which an advertisement board could be inserted, although in the case of this "Tiger liveried" bus this is not in use. Atlanteans no longer serve the streets of Singapore, although double deck buses are still to be found in the fleet.

RP

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## LEYLAND TORQUE

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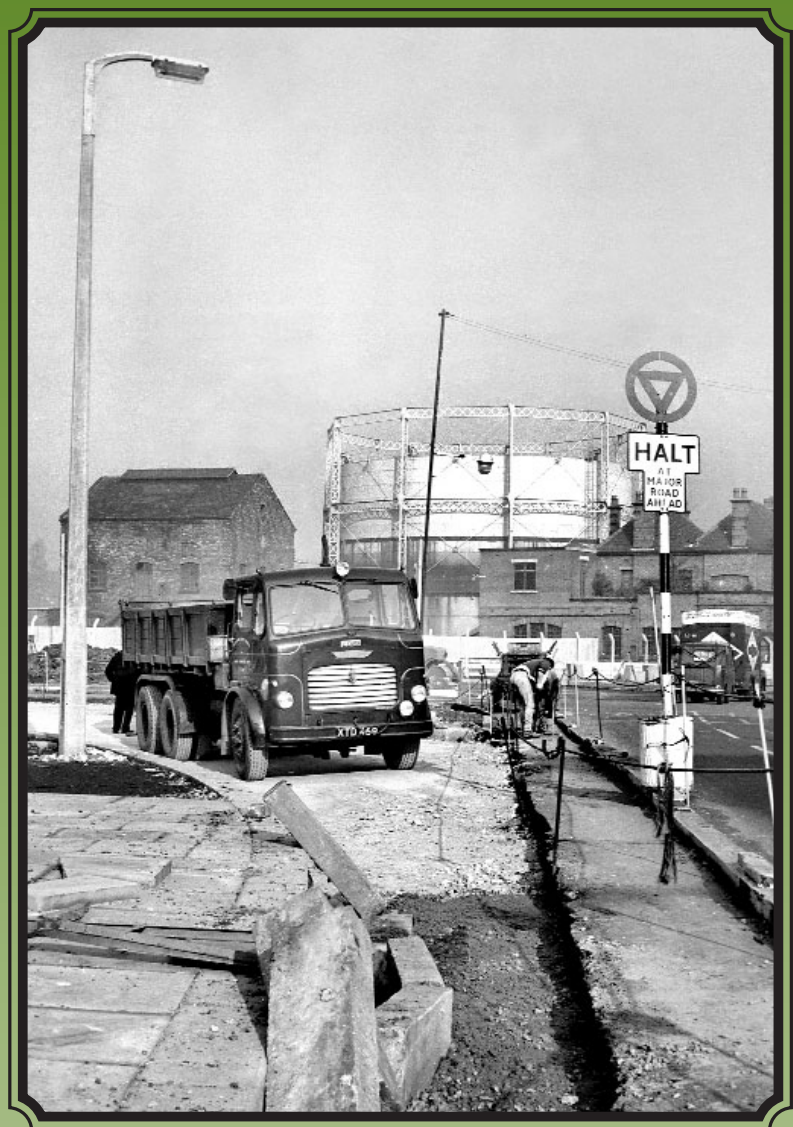
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