

Trolleybus

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August 2021



The magazine of the British Trolleybus Society



Dual Mode "All Service Vehicles"

Dual -Mode in Seattle

Herbert 'Obus' Wöber

TROLLEYBUS

The magazine of the
British Trolleybus Society

No. 721 August 2021

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B T S NOTICE BOARD

BTS MEETINGS – BY ZOOM!

Meetings will continue to be held by Zoom on the first Friday of the month until the end of the year. We are expecting to restart meetings at the Oddfellows Hall in Reading with effect from January 2022, and an announcement will be made nearer the time.

Friday 3 September A presentation by John Parkin, who will take us to a wide variety of trolleybus systems in the UK and overseas. John promises "Very much a mixed bag, perhaps with a few surprises!" Join the meeting from 19.15 and the presentation will start at 19.30.

Use this link to join the meeting:

<https://us02web.zoom.us/j/86593498831?pwd=azhXWkp0ejlwMm5kK202MXkrzJ0UT09>

MONTHLY PRIZE DRAW

July Winners

£70 **R H Munday**, Reading

£50 **B R M Wollaston**, Painswick, Glos.

NEW MEMBERS

We are pleased to welcome the following new members to the Society

Ian Montgomery, Thorgumbald, East Yorkshire

Shaun Mattocks, Thorne, South Yorkshire

BTS AGM AND MEMBERS' DAY

The Society's Annual General Meeting will be held in Burntwood on Saturday 16 October. This will be followed by a buffet lunch and trolleybus rides at the Trolleybus Museum at Sandtoft, which will open specially for BTS members and friends.

Would you like to help run the BTS by joining the Society's Committee? Contact Andrew Barton for a nomination form or contact me for more details of what is involved. (Contact details may be found in the panel left).

The formal notice of the AGM and further details of the event will appear in the September edition of *Trolleybus*.

On The Cover

D900, the GM All Service Vehicle which PSCT of New Jersey tested in 1950, two years after ASV services had ended, seen at Bell Street Loop with its poles on the rewiring pan.

Motor Bus Society collections

TROLLEYBUS 721



BTS Weekend at Sandtoft

Celebrate the Society's 60th anniversary with us at the Trolleybus Museum at Sandtoft over the August Bank Holiday weekend, 28 – 30 August.

Trolleybus Services

Several members of the BTS trolleybus fleet will be in service and it is hoped to have other trolleybuses associated with the Society's history in use. The restrictions imposed because of the pandemic have not allowed some of the developments we would have expected to have completed by now but we will have greater certainty by the time the BTS News & Events email newsletter is published on 20 August and so more details will be published then.

Cinema Shows

Dave Hall has prepared some special shows which he will present regularly in the Regal Cinema throughout the weekend. These will be:

The Cedes replica sets off at midday on 20 June, to be followed by Bradford 746, as the Trolleybus Museum at Sandtoft commemorated the 110th anniversary of the inauguration of trolleybus services in the UK. See the report in Museum & Preservation News.

The BTS Story (the history of the Society);
Our Fleet (the stories of all our vehicles);
The History of the Trolleybus Museum at Sandtoft

BTS Sales will be there so come and say hello (and support the Society by buying something!) The Museum's other attractions will be open, including the Toy Museum, which has many additional exhibits this year, the Sunbeam Cycle Shop and the 1950s Prefab. For families with young children the Family Room has reopened.

Volunteers Wanted!

It takes a lot of volunteers to operate a Trolleyday and all offers of help will be welcome. Please contact Stewart David at sdavid@sandtoft.org

The August Bank Holiday Trolleydays will celebrate the Society's 60th anniversary and then our 2021 Members' Day will be held at Sandtoft in October (see panel opposite).

D G Chick



Book Review

Public Service of New Jersey's All Service Vehicle:

A Dual-Powered Vehicle Before Its Time by John D Wilkins and S David Phraner

A4 hardback, 168 pages, profusely illustrated

Published by 4th Lake Publishing, 245 Deer Path, Meyersville, NJ 07933, USA

ISBN 978-0-9986748-1-0

American tramway operators faced a crisis in the 1930s, with patronage decreasing as competition from buses and private cars increased. Some co-operated on a new design of tram to retain custom while others converted their systems to bus or trolleybus operation.

The story of how Public Service Coordinated Transport (PSCT) in New Jersey came to adopt a system that was not used anywhere else in the world is thoroughly documented in this new work.

The key figure in devising and implementing the concept of the All Service Vehicle (ASV) was the company's General Manager of Plant, Martin Schreiber, who presented a conference paper in 1933 in which he quoted the Chairman of the newly-established London Passenger Transport Board, Lord Ashfield, "The solution

of the tramway problem appears to be in the direction of the trackless trolley vehicle of equal capacity to that of the tram-car, free from the rigidity imposed upon it by the necessity of running on rails". As Albert H Stanley, Ashfield had been General Manager of PSCT's forerunner. Schreiber proposed adding poles and a controller mechanism to petrol-electric buses to create a vehicle which could operate either as a trolleybus or a motor bus.

Factors that must have influenced his thinking were that from the mid-1920s PSCT had built up a large fleet of petrol-electric buses and the franchise requirements under which the tramways operated were not transferable to motor bus services, but it was comparatively easy to enact a new law to permit conversion to ASV operation. The electricity infrastructure was



owned by PSCT's parent company. The authors make the point that in none of the literature was the environmental advantage of electric operation a factor.

In 1935 PSCT introduced its first ASV services and withdrew from The Electric Railway Presidents Conference Committee which was designing the PCC car, which would influence tramcar design around the world.

The company converted 226 of its petrol-electric buses dating from 1926 and 1928 to become the first ASVs. By 1938, 581 ASVs were in service, including 355 built new.

After the end of the Second World War the company decided that the ASVs, prematurely worn out because of the extra requirements of the War, should be replaced by diesel buses, an objective that was completed on 10 June 1948.

This was not quite the end of the story, though. The Essex County tram routes were yet to be converted and consideration was given to introducing standard trolleybuses, although that idea "quietly faded away". The idea of a new generation of ASVs led to an order being placed with GM. This vehicle was very different as it was equipped with a diesel engine that acted completely independently of the electric drive. It was tested between June and August 1950 but thoughts of introducing a new fleet were abandoned.

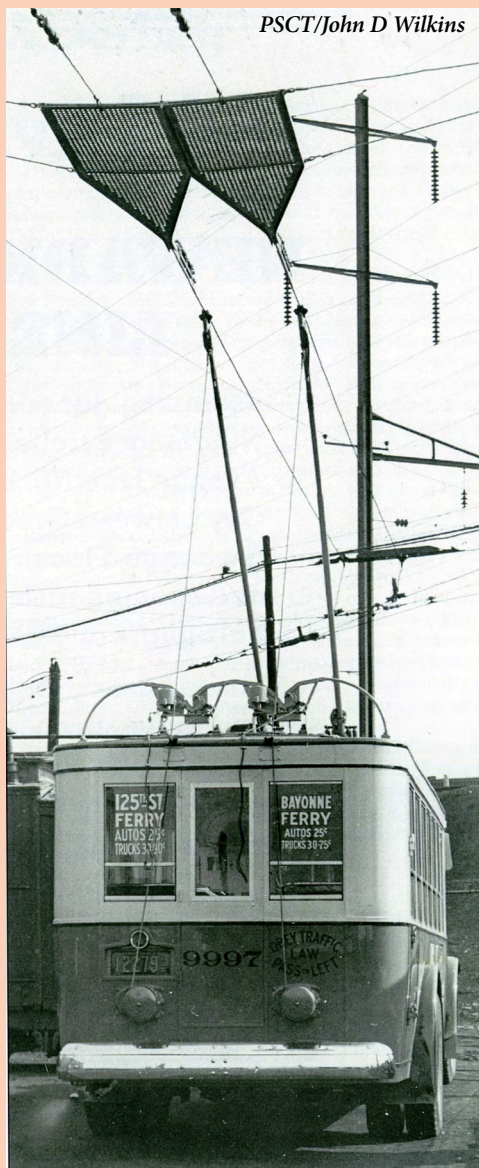
This fascinating book also includes several appendices containing a wealth of information as well as many maps and a large number of archive photographs.

DGC

Thanks to John Wilkins for permitting publication of the PSCT photo and to Jim Gilligan, Chairman of the Motor Bus Society, for assistance with the two MBS photos. MBS collects and publishes information about the history and development of the bus industry in North America. www.motorbussociety.org

Opposite: 9124, a 1935 Yellow Coach/GM, alongside a converted 1928 Yellow Coach at the Roseville Carhouse layover location in 1947.

PSCT/John D Wilkins



When rewiring, ASVs would be placed under the rewiring pans in petrol mode, the driver pressing a button to raise the booms then driving forward before switching to overhead electric power. 9997 was built by Yellow Coach as a petrol-electric in 1926 and in 1934 was the first to be converted to an ASV.

A British “All Service Vehicle”

*New Jersey’s system was innovative
but there had been a precursor in the UK.*

The principle of using a petrol engine to drive a dynamo had been demonstrated in the late 19th century. Tilling-Stevens of Maidstone became an important supplier of buses using this method of propulsion from 1911 and built its first trolleybus in 1923, for Wolverhampton.

In July 1924 Teesside Railless Traction Board placed in service a Tilling-Stevens vehicle that remained unique throughout the history of trolleybus operation in the UK. Designated PERC1 (Petrol Electric Railless Chassis 1) it could operate from the overhead or independently, using its petrol engine to drive the dynamo. Commercial Motor included a lengthy report on the vehicle in its 16 September 1924 edition and said that “long-delayed extensions have now been made possible at a moderate outlay” with services envisaged to Redcar, Middlesbrough “and even farther afield”.

This did not come about and many histories state that the vehicle was withdrawn in 1926, when TRTB introduced motor buses, but in his history of Tilling-Stevens (The Local Transport History Library, 2019), Roger Cox states that it was rebuilt to forward control

and remained with TRTB until 1936. Also published by The Local Transport History Library, in 2017, *Tees-side Railless Traction Board 1919 – 1968* by David Mitchell, Donald Hudson, John Kaye and Mike Beamish similarly states that it remained in service until 1936.

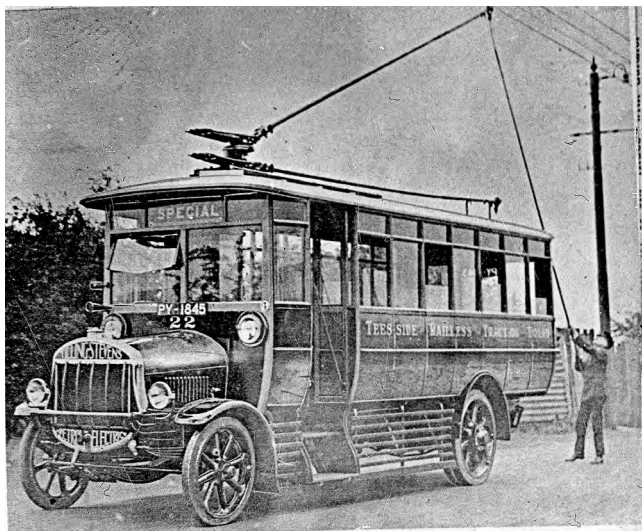
After being renamed T S Motors in August 1930 the company built a new combined petrol-electric and trolleybus chassis and tested it on the Maidstone system before exhibiting it at the Scottish Motor Show from 7 to 15 November that year. Late the

following year it was sold to Turin, Italy after conversion to left-hand drive and being bodied by Short Bros.

1980s

Sixty years after the Tees-side operation, the principle was used again with South Yorkshire 2450. The Dennis Dominator received an auxiliary air-cooled Dorman diesel engine which acted as an alternator to power the traction motor. It was used on a test track on Sandall Beat Road near Doncaster Racecourse, crossing the dual-carriageway

Teesside 22, the dual-mode Tilling-Stevens, possibly being demonstrated when new.



Leger Way from Leicester Avenue depot under power. The fleet of new trolleybuses it was hoped to introduce in Doncaster and Rotherham would have been similarly equipped, as was happening elsewhere in the world by this time.

A team of volunteers at Sandtoft is actively trying to return 2450 to working order.

Diesel generator trailers

Preserved trolleybuses have sometimes been powered using a diesel generator trailer. Possibly the most significant example of this use was also in connection with planned reintroduction of trolleybus services, this time in West Yorkshire.

On 24 June 1986 Bradford 844 ran from Thornbury Depot yard carrying politicians, PTE Officers, and the media on a journey to Bradford Interchange. It was MOT-licenced as a private car and the final move under power that day and on the public highway was from the bus station into the underground garage, with Bob Tebb driving.

Attempts had been made twelve days earlier to use 834, under the powers of the Act, from Thornbury to town (although its auto-accelerator control and more powerful traction motor led to a 'stall' trying to enter the Interchange on its second run round -- and hence the late decision to use PTE-owned 844).



Top to Bottom:

A 1985 photograph shows South Yorkshire PTE 2450 under power, crossing Leger Way in Doncaster, with the overhead on Sandall Beat Road visible to the right.

2450 at Leicester Avenue depot after receiving the livery it still bears today.

Bradford 844 with Bob Tebb at the wheel on 24 June 1986.

All: Bob Tebb

Dual-Mode in Seattle

When Seattle introduced a fleet that could run in trolleybus or diesel mode, JOHN M DAY unwittingly provided the solution to the problem of how to raise and lower the booms automatically, as he recounts here.

Most of us reading this journal would have to fall into the classification of “enthusiast”, even though some, the writer included, may have spent some of our careers involved with trolleybuses in one way or another. Enthusiasts’ endeavours are mostly for their own gratification, perhaps sharing our photos with friends and fellow club members, and perhaps hoping that our photographs will end up in some archive, preserved for posterity. Few of us imagine that one day, a series of photos would have a major impact on a trolleybus system 5,000 miles away, but that is what happened to me.

In 1972 I was a participant in a British Trolleybus Society tour to The Continent, which included a stop at Rheydt, then an independent German municipality, but since 1975 a borough of the city of Mönchengladbach. Rheydt’s novel trolleybuses had some off-wire autonomy, thanks to a small Volkswagen engine for propulsion and an elaborate mechanism for remotely lowering and raising the trolley booms without the driver having to leave the cab. This allowed the small system’s trolleys to negotiate level crossings of the electrified Deutches Bundesbahn. The overhead catenary system of the DB was

Seattle 656, a 1944 Pullman originally numbered 1006, was the testbed prior to a large order being placed for dual-mode vehicles, as described in the accompanying item.



Michael Voris



Stadtwerke Rheydt: 58, a 1952 Uerdingen-Henschel ÜHIII/Kiepe on one of the railway crossings under auxiliary power. The board in the windscreen indicates that it was on hire to the BTS.

mechanically and electrically incompatible with trolleybus wiring, so this innovative approach had been taken.

Some time later, I was exhibiting my slides to a group of friends and acquaintances that included some officials of the newly-formed King County Metro, which operated, among other things, the remains of a once-extensive trolleybus network in the American city of Seattle. Metro's plans included complete modernisation of the remaining trolleybus network, but the Rheydt equipment was of interest for another reason. Details were taken, photos were borrowed, and before long, a complete set of the Rheydt trolley poling/depoling equipment was on its way

to Seattle. This was fitted to 1944 Pullman trolley No. 1006, which was numerically the last trolley purchased for the original system, and which had become an experimental test bed.

The experiment was judged a success, and the remote control equipment

(considered a novelty in its day, but quite commonplace nowadays) was factored into a design for the Downtown Seattle Transit Tunnel. The tunnel was conceived as a mixed use tunnel for rubber-tyred and rail based vehicles: for its opening in 1990, Metro acquired a massive

After crossing, 58's booms are rising towards the overhead pans. The Rheydt tour was organised by Gert Aberson, seen on the right.





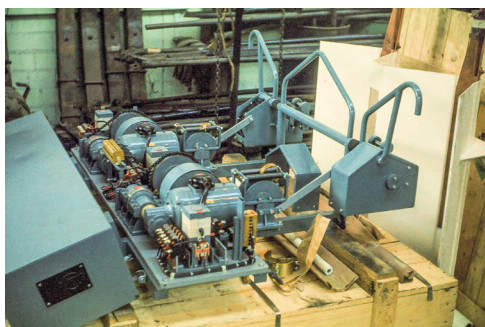
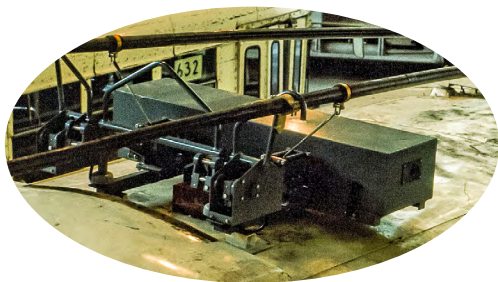
Left: A rear view of 58 showing the remote trolley gear. A soggy Trolleybus editor stands on the left. Rheydt's system operated from 18 May 1952 until 16 June 1973.

Below left: The pole retractor equipment uncrated in Seattle after arrival from Rheydt.

Below right: The ex-Rheydt equipment after fitting to Pullman testbed 656.

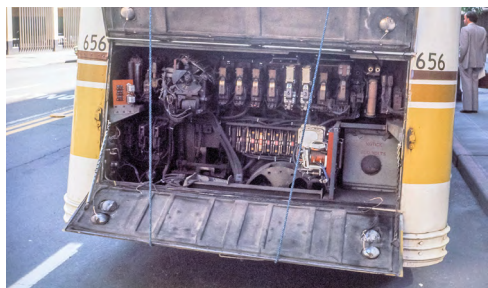
total of 236 dual-mode (trolley/diesel) vehicles from Breda. Their function was not to work on the urban routes (which had been re-equipped in 1979 and received an infusion of MAN articulated trolleys in 1986), but for routes extending well out into the suburbs. These buses ran mostly in diesel mode, but upon entering the downtown tunnel, switched to electric mode. Trolley poles were raised and lowered by using the devices directly descended from the Rheydt design. So, I feel that, in some small way, I made a contribution to a major transit infrastructure project – and the British Trolleybus Society deserves some credit, too, for running the Bank Holiday weekend trip way back in 1972.

As a footnote, the Bredas were not particularly successful and even the replacement diesel/hybrid buses no longer use the transit tunnel, which is exclusively used by light rail trains now. But 59 of the Bredas were converted between 2004 and 2007 to pure trolleybus mode, lasting until 2016. They did not use the automatic rewiring equipment in this mode.



Right: 656's control cabinet.

These three photos by Michael Voris.





Left: A rear view of Seattle 656 after the Rheydt equipment had been fitted

Below: Newly-installed rewiring pans.

These two photos by Michael Voris

Bottom: Seattle Tunnel opening day, 15 September 1990, with Breda 5053 and Pullman 1005.



John M Day



Above: Seattle's Bredas had a diesel drive to the back axle with the electric drive operating on the centre axle. 5011 is seen on the tunnel opening day.

Below: A 1994 view of Breda 5199 in the tunnel.



Herbert “Obus” Wöber

1927 – 2021

Gunter Mackinger pays tribute to the man who was probably the last surviving trolleybus enthusiast whose interest was inspired by seeing a Mercédès-électricité-Stoll operation.

A few weeks before his 94th birthday, Herbert Wöber died on 8 June. He was not only a transport fan, but above all a tireless researcher and writer, not exclusively but essentially, on the history of public transport in Austria in general and his beloved hometown Vienna in particular. With 73 years of service, Herbert was probably Austria's longest-

serving railway journalist and committed himself to thorough research.

Herbert Wöber was born on 17 July 1927 in Vienna Alsergrund. Around 1935 he had his first contact with the first generation Viennese trolleybus operation, the trackless Mercédès-électricité-Stoll line which ran from Pötzleinsdorf to Neustift between 1908 and 1938. This encounter was to shape his interest and activities for a lifetime, ultimately earning him the nickname “Obus Wöber” (Trolleybus Wöber).

After primary and secondary school in Vienna Alsergrund, Herbert attended the secondary school in Grottenbachstrasse. There, too, he came into contact with “his” trolleybus. Through the classroom windows Herbert was able to follow the construction



Herbert Wöber at his desk looking through documents on the history of the Austrian trolleybus.

Gunter Mackinger

of the first modern trolleybus line in Vienna, the 22 to Salmannsdorf, with great interest.

Herbert Wöber was not spared the fate of a youth during the war. From July 1943 the whole class was hired as anti-aircraft helpers for the air defence in Groß Enzersdorf, “enjoying” lessons only dur-

ing breaks from the gun emplacements on the outskirts of the city. From September 1944 he served in the fire brigade before being called up as an artilleryman on 23 December 1944. He experienced the end of the war in 1945 during the heavy fighting in the Weinviertel.

Obtaining a high school diploma in the chaos of war was hardly conceivable, but Herbert was able to make up for it in liberated Austria in 1946. He also immersed himself in the railway scene through friendships that ultimately led him to be a founding member of the Association of Railway Friends (VEF) in 1950. From 1946 Herbert tried to travel to the provincial capitals under the most difficult of circumstances to get an overview, especially of the many new trolleybus operations at that time. From 1946 to 1950, Herbert studied electrical engineering at the



Seen at Pötzleinsdorf terminus after the change to right-hand running on 19 September 1938 but before operations ended on 30 October 1938, Vienna No. 4 was built by the Austrian Daimler company in 1922.

Herbert was very interested in the creation of the replicas of this type and had hoped to visit the České Velenice workshops with Gunter Mackinger to see Sandtoft's Cedes replica, but unfortunately he was unable to travel for health reasons.

Vienna University of Technology, before moving to the University of World Trade in 1950, where he graduated with a business degree in 1956, becoming entitled to be called Dkfm (Diplomkaufmann) Herbert Wöber. During his studies Herbert took great pleasure in filming and setting entire films to music.

In the meantime, Herbert was the first editor-in-chief of an Austrian trade journal for traffic amateurs, for the publishing house Natur & Technik, with the launch of *Eisenbahnverkehr*, a specialist magazine produced under the most difficult circumstances, but of

high quality in terms of content. Natur & Technik also published Herbert's first publications such as *Trolleybuses in Austria* and *Bergbahnen in Österreich*. From 1950 Herbert was a regular employee of *Eisenbahn* magazine.

After completing his studies in 1956, Herbert married Luise; the marriage had two daughters. His professional life led him to the top of the association of non-profit building and settlement associations. In times of great housing shortage, railways and transport companies founded their own housing cooperatives to be able to offer their employees

contemporary living space. So, Dkfm. Wöber was in contact with many transport companies which enabled him to look into their archives and thus inspired his spirit of research.

In addition to the trolleybus in all its developments and forms, Herbert was particularly impressed by the history of the Graz Tramway, resulting in numerous publications on this topic and being a founding member of the Tramway Museum Graz.

After retiring in 1988, Dkfm. Herbert Wöber was custodian for the development of a rich and interesting railway department of the Penzing district museum, for which he also worked as an author of high-quality specialist literature until his death.

The Austrian railway scene has lost not only a great expert with tremendously detailed knowledge, but also a "doer" who used his positive energy successfully for a variety of projects. Our condolences go to his family.

All that remains is to say thank you to "Obus-Wöber" for his friendship, his commitment in matters of railways, trams and trolleybuses and for his generous willingness to share his skills and knowledge with many!

MUSEUM & PRESERVATION NEWS

edited by Jody White



The Trolleybus Museum at Sandtoft

On Sunday 20 June at 12 midday the Museum celebrated the opening of the UK's first trolleybus systems, in Bradford and Leeds, exactly 110 years earlier.

Bradford 746 was lined up alongside the Cedes replica. The original Cedes was built in 1911 and the earliest known photograph of it was taken only three months after the Bradford and Leeds inaugurations. In 1913 it entered service in Keighley, which since 1974 has been part of the City of Bradford Metropolitan Borough.

The Cedes replica, which could not carry passengers because of a brake defect, together with 746, paraded round the trolleybus circuit after Commercial Director Chas Allen had broadcast the historical context of the occasion over the public address system.

Some of the first visitors to the Museum after it reopened in May were former Doncaster trolleybus driver Paul Coulman and several members of his family. Paul drove the Corporation's trolleybuses from 1959 until the system closed at the end of 1963.

The family group returned for the 3 July Trolleyday, to celebrate Paul's 84th birthday. An area of the depot had been provided so that the family could gather and watch the trolleybus activity. Bob Ashton set up a screen and gave a presentation about Doncaster trolleybuses.

The family brought with them a birthday cake with a photo of Paul standing in front of Doncaster 375 on his previous visit and they kindly gave slices of cake to all the volunteers. *Many thanks to Dave Chick for this update.*

Updates from the Czech Republic

The České Velenice group of enthusiasts of Mercédès-Électrique-Stoll trolleybuses created a replica of the first trolleybus of the type which ran in Gmünd and it was launched in 2016. They were then commissioned by the Trolleybus Museum at Sandtoft to build a replica of the Cedes-Stoll trolleybus which became Keighley 0. Now the group has recreated one of the four crossbench open-sided 'summer trolleybuses' that ran in Bratislava, then known as Pressburg. It featured on the Czech national TV channel 'CT24' on 11 July along with archive film of the Gmünd replica and the 2019 launch of the Sandtoft Cedes in České Velenice.

The Gmünd replica is now owned by the town of České Velenice. *(News from Jan Spousta)*

Ostrava 3902, the second prototype Škoda 17 Tr, has been restored to its original livery of red with a grey roof and was launched on 10 July. All three of the type ended up with Ostrava and all three are preserved, the other two remaining in the blue livery they carried when withdrawn. *(News from Dave Chick)*

Trolleydays at the Trolleybus Museum at Sandtoft

Saturday 14 August, Sunday 15 August
Blues & Twos weekend, with retired emergency services vehicles, demonstrations of firefighting and rescue.

August Bank Holiday - BTS Weekend

See details on page 143

The Long Shop Museum, Main Street Leiston, Suffolk

Garrett 'O' type trolleybus Ipswich 26 returns to Leiston after 95 years!

The Long Shop Museum are pleased to announce the return of a Garrett 'O' type trolleybus to the Museum 95 years after manufacture in Leiston. Monday 12 July 2021 saw the trolleybus travel 27 miles north to Leiston from the Ipswich Transport Museum.

One of 101 trolleybuses built between 1926 and 1930, Richard Garrett and Sons sold 15 'O' type trolleybuses, Works Nos. 273 to 287 to Ipswich Corporation in 1926 for daily service in the Ipswich Town area. These were allocated fleet Nos. 21 – 35.

No. 26 (DX 5629) has Strachans & Brown 31 seat bodywork. Refurbished just prior to World War II and withdrawn from service in 1945, it became a summer house at Pin Mill. Initially



rescued by the Long Shop Museum, since 1995 it has been on loan to the Ipswich Transport Museum where it has been stored outside under sheeting whilst awaiting restoration/conservation by the skilled team of ITM volunteers. However, with their current workload and limited spare capacity for additional restoration, it would be some time before No. 26 could receive attention.

Following discussions

with Ipswich Transport Museum trustees, and the emergence of a volunteer team at Long Shop Museum, the return of No. 26 to Leiston was agreed. The team at the Long Shop are part way through the successful restoration of a 1937 McLaughlin Buick car originally owned from new by Garrett Engineering and are keen to take on the task of preserving one of very few surviving Garrett trolleybuses in the UK.

The Long Shop Museum has been supportive of the Society's project to restore Mexborough & Swinton 34, our 1927 Garrett with Garrett bodywork and we have been in correspondence with the Museum about future co-operation.

Many thanks to Paul Chandler of the Long Shop Museum for information and photographs of 26's arrival at the Long Shop..



WORLD NEWS

edited by Bruce Lake



ARGENTINA Mendoza

Since February, all remaining Marterfer low-floor trolleybuses have been parked up and some of the electrical equipment has been removed. The date of the actual end of trolleybus operation is not known. The overhead network is largely still in place and could sensibly be used in the future for the use of battery-equipped trolleybuses.

AUSTRIA Salzburg

Delivery of the first Hess lightTram®19 DC of the order for seven vehicles was planned for the beginning of July. Another batch of seven similar vehicles has been ordered for delivery in early 2022.

BULGARIA Ruse

On 7 June the operator published a tender for the purchase of 15 new rigid trolleybuses. The present fleet is entirely second-hand, including the 12 NAW/Hess/Saas trolleybuses recently purchased from Lausanne.

BULGARIA Vratsa

The batch of nine new Belkom-munmash BKM-32100D trolleybuses was launched into service on 1 July. The vehicles crossed the border into Bulgaria shortly before EU sanctions against Belarus took effect on 24 June, resulting from the forced landing of a Ryanair flight in Minsk on 23 May.

These arrivals have seen the end of the ZiU-682s, not just in Bulgaria but in the European Union.

Vratsa's ZiUs date from 1988 and have given excellent service, although in recent times their maintenance has been neglected which has reportedly made them look and sound derelict.

CZECH REPUBLIC Pardubice

The operator celebrated 55 years of trolleybus operation on line 5 on 5 July by using two members of the historic fleet on that service, Škoda 9 Tr 353 and Škoda 14 Tr 311.

ESTONIA Tallinn

One Solaris Trollino 12 and one Trollino 18 are to be refurbished, with battery drives added and the interiors updated to make them more attractive for passengers and for drivers. Air conditioning will also be installed. Tallinn transport company (TLT) is seeking quotes for the work and hopes to have the vehicles completed during the autumn.

Dennis Borodič, the director of TLT, was quoted in the press as stating that the time had come to modernise the trolleybus fleet. The installation of battery drives would allow trolleybuses to operate during power failures and would facilitate route extensions without installing additional overhead line.

Škoda 14 Tr No. 307 made a surprise re-entry to service on 30 June, more than four years after the last of the type was withdrawn. No fares were charged and it is understood that it is to make further journeys.

FRANCE St Étienne

Testing of the next batch of Solaris Trollino 12s commenced in Plzeň at the end of June.

GERMANY Esslingen

Esslingen will achieve 100% trolleybus operation from 2024 after launching a tender for the supply of 46 trolleybuses within 30 months with an option of another 10 trol-

leybuses within 66 months. The basic order is for 10 rigid and 36 articulated trolleybuses with the option for another three rigid and seven articulated vehicles. All will be equipped with traction batteries for In-Motion Charging.

GERMANY Solingen

The arrival of new Solaris Trollinos has resulted in the withdrawal of four of the Berkhofs. The renovation of the VanHool articulated trolleybuses continues, but only 12 of the batch of 20 delivered in 2002/2003 are still available for regular service. Since March 257, 258 and 270 have been able to return to regular service after refurbishment.

ITALY La Spezia

On order from Solaris are 14 Trollino 12s and 5 Trollino 18s for delivery next year. They will increase the trolleybus fleet strength and allow the conversion of three bus routes to trolleybus operation.

ITALY Napoli

The long-planned opening of trolleybus line 204 finally took place on 25 June. It runs from the National Museum to Piazzale Cardarnelli via S. Teresa - Amedeo di Savoia - Capodimonte and replaces the previous bus route R4. On weekdays it operates at intervals of 9-12 minutes. The existing fleet of 87 AnsaldoBreda F 19s from 2000-2004 is sufficient to operate the route. The planning for the line was completed 14 years ago, and construction began in 2010.

ITALY Rimini

All nine VanHool ExquiCity trolleybuses ordered for the new METRO-MARE line have been delivered and

are in the depot without markings, but they have received registration numbers RN-511 to 519. The VanHool AG 300T Nos. 36501-506 procured in 2009/11 have the identification numbers RN-501 to 506 and are also in the depot.

Following redesign of the station forecourt, the line 11 stop was relocated 200 m from the exit of the station building and the overhead was completely dismantled, with a funnel now behind stop 7. The overhead at Pz. Kennedy has been reinstated, the line currently only running every 18 minutes.

LITHUANIA Vilnius

The director of the transport company announced on 25 June that the company wished to purchase 160 new battery-equipped trolleybuses, both rigid and articulated. However, he stepped down from his post on 28 June and so the status of the potential order may be in doubt.

NEW ZEALAND Wellington

The removal of Wellington's trolleybus overhead, which began on 1 November 2017, was finally concluded on 13 June 2021. All that now remains are the former traction poles and their identifying plates.

The majority of the infrastructure was removed by contractors by June 2018 leaving the last vestiges in place inside Kilbirnie depot. In recent months it has been in the way of where new cabling and gantries are needed to be put in place for the forthcoming electric bus fleet charging arrangements.

Kilbirnie depot has now been sold but NZ Bus has taken a two-year lease on it while the company looks for a new site.

ROMANIA Ploiești

The first five Solaris Trollino 12s entered service on 28 June.

RUSSIA Chita

A tender for 15 new rigid trolleybuses was announced on 12 July. They are to be financed primarily from the Clean Air section of the federal Ecology programme with the rest of the funding coming from the Zabaykalsky region. This city operates only trolleybuses and decided to invest in new trolleybuses despite the recent arrival of 30 used Megapolises from Moscow, which date from 2012 and 2013. The new solo vehicles, which are to be delivered during the autumn, together with the completion of adapting and commissioning all the used Megapolises, will allow the elimination of almost two dozen of the last vehicles from the 1990s.

RUSSIA Engels

Trolleybus operation between Engels and Saratov was reinstated on 2 July after a gap of 17 years. Since May, work has been underway on the renewal of the approximately 2 km long trolleybus line in Engels, as the local trolleybus network, unlike that in Saratov, is not located near the Saratov bridge.

See under Saratov for more details.

RUSSIA Ivanovo

In addition to 31 recently-delivered Admiral type 6281 trolleybuses a tender has been announced for the lease of eight new trolleybuses.

RUSSIA Novokuznetsk

Novokuznetsk, in Kemerovo Oblast in south-western Siberia, issued a tender for 19 new trolleybuses on 6 July to be financed primarily from the Clean Air section of the federal Ecology programme with the rest of the money to be supplied by the Kemer area.

RUSSIA Rubtsovsk

One Belkommunmash AKSM-321 was delivered in the spring and a second is being ordered.

RUSSIA Samara

At the end of June, delivery was completed of a batch of 22 Admiral 6281 trolleybuses.

They were produced on the basis of a contract with GTLK, the state transport leasing company, with which the operator agreed to cooperate several months ago. The contract was signed in May and the new Admirals were all delivered within one month.

RUSSIA Saratov

Trolleybus operation between Saratov and Engels was reinstated on 2 July after a gap of 17 years.

2.8 km of overhead line was installed on the Saratov Bridge over the Volga River in under three weeks in June and was connected to the networks of the two cities.

Intercity line 109 now connects Saratov Central Station with the Engels Trolza plant.

RUSSIA Vologda

The trolleybus system has been run down over the last decade and did not operate for a while in 2020. However, the council has decided to resurrect the system and on 5 July tenders for three new trolleybuses were announced, with another 32 planned to arrive next year. The three vehicles will be delivered by the end of the summer, on lease through GTLK. Nine ex-Moscow ZiU-682GM1 arrived recently.

RUSSIA Yoshkar-Ola

A tender for 10 fully low-floor rigid trolleybuses equipped with air conditioning was announced in early July. The vehicles will be leased and all are to be delivered by September. The city recently acquired 10 used trolleybuses from Moscow.

There are currently 146 trolleybuses in the elderly fleet, but around 30 are out of service.

SWITZERLAND

Genève

By the end of June 19 of the new Van Hool ExquiCitys had arrived, of which 10 were in regular service, although there are reported to have been reliability issues with them.

The last NAW/HESS BGT-N2, 705, was withdrawn on 1 July.

Because of the summit meeting of Presidents Biden and Putin on 16 June in the villa in the La Grange park on Lake Geneva, between 8 and 18 June lines 2 and 6 terminated at the Merle-d'Aubigné-Pré-Naville final loop -William-Favre in the Eaux-Vives district. This had been the terminus until 14 December 2003, before the extension to Genève-Plage was built to connect the Park + Ride car park established there.

SWITZERLAND

Industry

HESS AG has set up a "chassis wellness centre" in the neighbouring hall of a former glass factory. Its first use will be to apply an underbody treatment to the 33 trolleybuses and electric buses from Bern in accordance with the maintenance contract signed at the time of purchase. It is planned that on Saturdays one of the 14 articulated trolleybuses, 14 double-articulated trolleybuses or five e-buses will be picked up by a towing company in Bern and brought to the HESS AG company in Bellach. The undersides will be cleaned and examined for rust and, where necessary, repaired. Then all cavities will be provided with rust protection and finally a special underbody protection will be sprayed on.

A total of 586 SwissTrolleys have been delivered since 1991, 122 of which are double-articulated. 184 units have a battery pack installed instead of the auxiliary motor previously installed.

SWITZERLAND

Neuchâtel

The new trolleybuses on order will replace Switzerland's last high-floor trolleybuses, which are still in daily service. They are the twelve NAW / Hess / ABB articulated vehicles dating from 1991, which are to be replaced by the end of 2023.

SWITZERLAND

St. Gallen

At the beginning of June, VBSG received No. 140, the last delivery of the 17 Hess vehicles ordered (11 lightTram® 25 DC and 6 lightTram® 19 DC).

In its session on 4 May, the St. Gallen city parliament approved a loan as an option from the contract concluded by the city in October 2019, but this still has to be approved by a referendum planned for autumn 2021. The Hess vehicles are expected for delivery in 2022/23.

SWITZERLAND

Winterthur

On May 19, 2021, the city council released the funds amounting to CHF 24.2 million for the order of 14 trolleybuses from the framework agreement. Ten are to replace the Solaris Trollino 18s built in 2004-05; one is for the extensions planned for the timetable change at both terminal stops of Line 1. The first vehicle for training purposes is to be delivered as early as June 2022, with the remainder to follow in autumn 2022.

UKRAINE

Mikolayiv

A major renewal of the trolleybus fleet is expected this year, as well as a large restoration of part of the trolleybus infrastructure and an extension of the system. The first 40 "classic" (i.e. without batteries) rigid vehicles of the Dnipro-T103 type will arrive by the end of the year, the first eight having already been produced by mid-July. They will mainly be financed using a loan from the EBRD.

The city wants to quickly acquire 20 trolleybuses with batteries that would be financed by the International Financial Corporation.

However, the supply of new trolleybuses is threatened by a deterioration in Belarusian-Ukrainian relations as the Ukrainian supplier TD "Litan" provides vehicles from Yuzmash which are based on the products of Belarusian manufacturer MAZ.

UKRAINE

Yalta

In the early morning hours of 18 June, nearly 30mm of rain fell in six hours. As a result, local rivers burst their banks, including the Huva River, which hit the trolleybus station in Yalta and the adjacent parking area.

The flash flood paralysed trolleybus operation for several days, as many streets were completely flooded and clogged with river deposits.

A storage area holding decommissioned Škoda 9Tr and 14Tr trolleybuses was inundated with river deposits and gravel brought by the floods.

With thanks to: Dave Chick, Aap Haas, George Kennedy, Branimir Pantaleev, Jan Spousta, *Československý Dopravák*, *Trolley:motion*, sustainable-bus.com, *Under the Wires*, *Urban Transport Magazine*, Internet sources

On the Back Cover

Top: On 30 June Tallinn Škoda 14 Tr No. 307 appeared in service, the first time that a Škoda had operated here since 2 May 2017. It is seen at the Ristikü stop on Paldiski maantee.

Aap Haas

Bottom: Ploiești 5925 seen on 28 June, the first day of Trollino service.

TransPloiesti

