



S.T.G

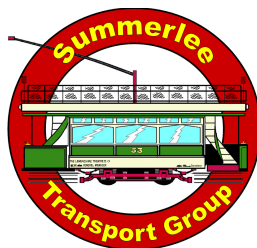
TROLLEY

Summer 2016



The Magazine of Summerlee Transport Group





SUMMERLEE TRANSPORT GROUP

OFFICE BEARERS 2016-2017

President.

Bob Connor

Committee Members

Chair.

David Craig

Secretary.

George Murray

Treasurer.

Harvie Milligan

Membership Secretary.

Ronnie Maclean

Restoration Group.

Charles McAloon

Members Nomination.

George Drain

Members Nomination.

Robert Davidson

Other non committee office bearers

Trolley Editor.

Ross Fulton

Depot Supervisor.

Alexander Craig

Workshop Co-ordinator.

David Craig (Chair)

Message from the Chair

Can I take this opportunity to again thank all our members for electing me as your chair and the other members of your committee for another year. A year in which I look forward to seeing the group build on the work undertaken over the last few years in particular a year in which the restoration of 1245 will move rapidly forward. I also wish to thank our membership for their continued support large and small both of the museum and the continued operation of the tramway service. Without this support the group's volunteers would not be able to continue providing the necessary crewing and servicing of the tram fleet along with the restoration work on 1245.

At the AGM in March one of our longstanding members advised that he, as a result of work and other personal commitment, would not stand for re-election to the committee. Can I once again thank John Kennedy for his support and input to the group and it's committee and wish him well in his business ventures. Also at the AGM you re-elected the committee members who stood for election and voted Robert Davidson onto the committee to fill the vacant position. Highlights of the business undertaken at the AGM are included later in this edition.

Building on the work undertaken in the last two years in developing the groups working relationship with both the museums management team and Culture NL several meetings have taken place and progress on the following items has been made which support both the objectives of the group and the provision of services within the museum.

Along with the museums heritage technician the group have supported the development of a service programme for all trams and tramway items. We have been asked to provide input too by the museum. Once completed this will identify,

to the museum management team, the short and long term financial and other support required to provide the tramway service all year round and become part of the budget build for the museum over the next few years.

The museum have advised that they are now able to provide a tram assessor who will be able to certify drivers for operational duty within the museum. This now allows the group to offer specific training programmes and testing dates for trainees something that has not been available over the last few



years. See notice later on in the magazine.

Detailed work has been undertaken and discussed with the management team at the museum of the future requirements for the restoration programme on 1245. This has resulted in several opportunities being identified to either apply for direct funding or support in the provision of materials and or services. Watch this space for more detailed information on the development of this project in future magazines.

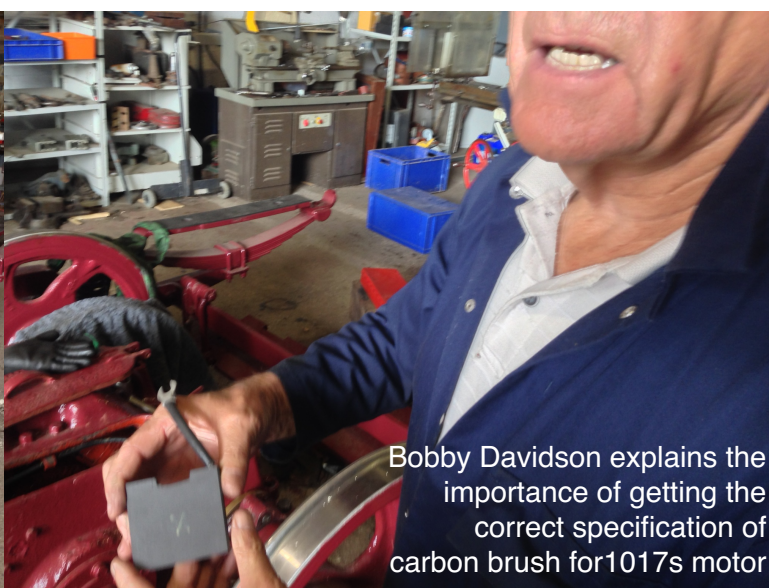
As part of our ongoing project to raise the profile of the group and it's volunteering work with the museum they have offered to provide both a short term display case for highlighting the work being undertaken in the museum by the group and also a longer term display case for highlighting the restoration programme of 1245. Again details of these are contained further in this edition.

Finally can I once again highlight the groups need for volunteers to help with both the day to day services we provide and the repairs and servicing of the operational trams. This is one of the many positive ways in which you can contribute to the work of the group and all members and volunteers are welcome along any Thursday evening to join in these activities and meet other members to share your experiences with them.

David Craig
Chair STG



Alan Taggart fitting an axle-box thrust plate



Bobby Davidson explains the importance of getting the correct specification of carbon brush for 1017s motor

Workshop Report

As a result of the failure of the axle box on 1017 in September the main focus within the workshop has been the repairs to not only the axle box but what has turned out to be a major overhaul of the truck including refurbishment of the motors and the brake mechanism and replacement of all four axle boxes and re profiling of the tyres. Further investigation during this period has revealed bearing failures on the motors and body work damage all of which has been undertaken by the restoration group members along with the museums heritage technician. This commitment by the team has resulted in the delay of the planned work on 1245 and limited the resources available to the team for continuing the minor replacement of parts of this tram.

Not with standing this other work has been undertaken to maintain the remaining operational trams within the fleet and these are detailed below.

Glasgow 1017

As indicated at the AGM several issues relating to the operation of this tram were discovered during September last year. Along with the need to replace the damaged axle box and sourcing a suitable supplier of the castings several other issues were discovered during the in depth investigation which also contributed toward the failure. The failure was primarily due to impact damage creating cracks in the side wall of the axle box. However there may have been an inherent weakness due to its original machining where steel wearing plates were inserted on either side of the housing in the belief that the metal was required at a critical support point in the



The fiddly job of reinserting one of the new carbon brushes



1017s motor. The shiny commutator the only visible sign of the complete refurbishment of the motors by STG volunteers

casting. These cracks were in an area of the casting which was not accessible and hidden by the steel wearing plate insert and all four of the boxes were found to have similar characteristics. As a result of these findings it was decided that all axle boxes should be replaced as the major cost of the repairs was in the manufacturing of the pattern used to cast the boxes. While this work was being undertaken the motors were removed from the truck and bearing failure and other electrical issues were highlighted and these were also included within the work to be undertaken at this time. As the truck had been stripped of its major components work on re-profiling the tyres was undertaken by a specialist contractor and this has restored the tyres to an acceptable condition. As we near the completion of these works on the truck additional issues have been

identified on the main body of the truck, in particular deterioration of parts of the sub frame timbers and some upper body work which have increased the work requiring to be completed before this tram can be put back into operational service.

Lanarkshire 53

Whilst this tram has not seen as much service as would have been anticipated due 1017s ongoing repair work, weather issues and a lack of trained crews being available, it has had several outings, particularly during event weekends at the museum.

Having a similar Brill truck to that of 1017 and having identified areas of common installation further inspection of the truck has been undertaken to identify any potential failure points as identified on the other truck. These inspections have not identified any observable issues of concern however these were only superficial inspections with limited access to areas of potential failure. Notwithstanding this no obvious failures similar to those experienced on the other truck were highlighted and a regular inspection regime has been developed to identify any early signs of failure.

Work has been put in place to ensure that when access to the service pit is available a more in depth investigation will be undertaken along with the replacement of the brake shoes which is now due to be undertaken. During this period the opportunity was taken to replace the damaged trolley pole with the spare pole previously acquired for this purpose. Revised advice has been provided to the crews on how to leave and enter the depot and while crossing the frog on the main line.



Charlie, Bobby and Alan nearing the end of the refurbishment of 1017s truck.

**PASSENGERS ENTERING
OR LEAVING THE CAR
WHILE IN MOTION
DO SO AT THEIR OWN RISK**



Düsseldorf 392

As will be understood by members this has become the main provider of the tram service not only during the winter months but for most of the period since September while 1017 has been unavailable. However it has not been without its own operational problems. Issues with the hand brake and both controllers have resulted in remedial works being undertaken on these items. The remedial works have resulted in allowing the tram to provide service over this period with little loss of service. A full programme of inspection and servicing has been prepared for when 1017s reintroduction to service will allow 392 some well deserved time off.



1245 at East Anglia Transport museum

Glasgow 1245

Whilst only a small amount of the planned work on the restoration has been able to be completed as a result of transferring the groups resources over to the repairs on 1017 this does not mean that it has not progressed in other areas of the restoration. Team members have been in dialogue with suppliers of replacement control systems for heritage trams and a preferred option has been developed that will allow the restored tram to operate using its original analogue controls but with a different digital interface. More on this development in future issues of Trolley. Work has also been undertaken in developing a detailed and costed programme of works for the restoration and meetings held with both the museum management and CultureNL staff to take forward funding application for the future works costs of the project.

Tram depot and tramway track

Work is ongoing in the depot to prepare it for visitor access and replacement of the display material located within it. The museum have commenced the remedial repairs to the tram track and setts in particular the repair to the poor joint at the cottage end of the track on the points between the main track and the depot lye. Further work in this area is planned to be undertaken in the latter part of this year in areas where setts or track joints have been identified as requiring repair or replacement.

David Craig
Workshop Coordinator

Highlights from 2016 AGM

Once again members support for the work of the group was demonstrated by their attendance at this years AGM held in March. At the meeting members heard updates on various issues in which the group have been involved in during the year and discussed areas of concern and opportunity. The main point are noted below.

At the meeting the election of office bearers was undertaken and the existing committee members and other office bearers were reelected with the exception of John Kennedy who was not seeking re election to the committee. Robert Davidson was elected into the vacant position.

The committee now consists of the following members

David Craig (chair), George Murray (secretary), Harvie Milligan (treasurer), Ronnie McLean (membership secretary), Charles McAloon (restoration group), George Drain and Robert Davidson (members nomination)

Other office bearers confirmed in post at meeting.

Ross Fulton (trolley editor), Alex Craig (depot supervisor), David Craig (workshop co ordinate).

Members also heard reports on various areas of work undertaken by the groups members and it's committee. Some items are detailed fuller in other parts of this edition.

An update was given on the repairs to 1017 and the support provided to the museum towards the financial costs and volunteer labour. As investigations developed further issues arose which had turned a major repair into a major refurbishment project and unfortunately this has resulted in more time being invested in the work than was originally envisaged.

As a result of the commitment to return 1017 back into service the impact on the restoration work of 1245 has been substantial however members were encouraged to hear of the work being undertaken in the background on the controls and funding by the restoration group members.

Discussion on the future development of the groups website took place and it was left to the committee to take this forward possibly through the establishment of a working group to develop the structure and contents of the pages.

Members were advised of the ongoing development of its awareness plans resulting in the encouraging attention being shown in the group by other organisations, in particular through its membership of the Heritage Railway Association and other similar organisations.

The treasurer reported that the groups finances had returned a surplus for the year but cautioned that this would change as a result of its support towards the repairs to 1017 and restoration works.

The chair asked the membership to consider becoming more involved with the groups onsite activities and encouraged them to come along to one of the work evening nights

David Craig

2018 Anniversary Events

At the AGM it was indicated that 2018 will be the 30th anniversary of both the museum and the group and it is intended to celebrate this with both a display within the museum highlighting the achievements of the tramway service at Summerlee and the contribution to it's provision made by the group. To ensure that the groups contribution is fully recognised I require to provide details to the curatorial staff of the work undertaken by the group and in particular the establishment of the service and the restoration of the trams in the early years. To do this I require the assistance and support of our members, in particular those members who were involved in the early years of the group and ask if they are able to provide either details of personal experiences of what the group was doing over these years or photos or articles from earlier trolleys.

If you are able to assist and support this milestone for the group could you either email copies of them to me on chairstg@gmail.com or send them to myself c/o Summerlee Museum. As it is the intention to create a history of the tramway and group with potential publication of some of the details or photos in a booklet for sale can you advise if the articles contributed are provided with copyright for publication by the group.

Many thanks for any assistance and support you can provide in this project.

David Craig

STG Chair



1017 during original restoration at Summerlee - just painted

Sidetracked

Yes you can

No not "Bob the builder" but yes you can drive a tram or offer the experience to someone either as a present or gift. The group are now able to offer a drive a tram experience on any Thursday evening during the year. So if you wish to do it yourself or know someone who would like to experience this then contact STG.inbox@outlook.com for more details. Also if you purchased a tram driving experience for someone in the previous years and it has not been used please contact us so we can arrange your tram driving experience. The vouchers were originally just valid for the year but we have now changed this.



Peter Kinnear takes control of 392 and 53. Ronnie presents Peter with driving certificate and booklet



Community display at Summerlee

The group have taken up the offer of the provision of the community display case at Summerlee to highlight the work done by the group in support of the tramway service and the restoration work undertaken by them, in maintaining the service throughout the year. The display will run throughout the months of July and most of August this year and many thanks to Alex Craig in providing the museum with the material used in the display. I trust that as many of you will visit the museum to view the display.

Christmas night out

Yes you are not mistaken in the middle of summer we are talking about Christmas. As this will be the only opportunity I will have to contact all members before the winter edition of Trolley could any members who may be interested in getting together with other members for a night out at Christmas contact me on chairstg@gmail.com or drop me a note c/o Summerlee Museum. If numbers permit I would expect the night out to be held early in December on a Saturday evening in Coatbridge.

It's been a few years since these nights has been held and we now have a number of new members who may enjoy a night out with other members. Remember the night is not only restricted to members. Why not bring along a partner or friend to join in the evening.

Can I ask that an expression of interest is sent to myself as soon as possible and by end of August and if interest is sufficient I can circulate details of menus and costs shortly after that.

Membership

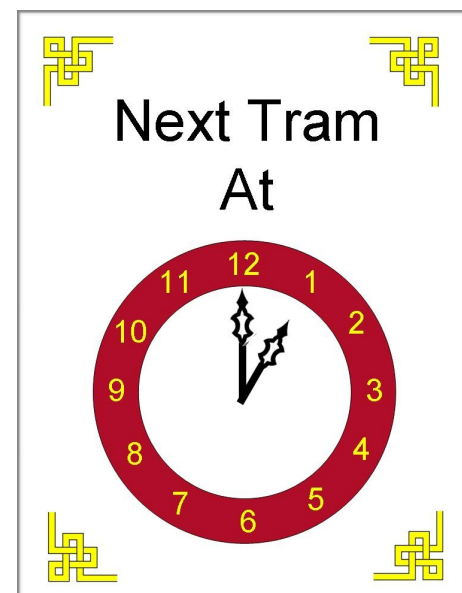
Can I thank all those members who have renewed their membership this year. For those who have not done so can I invite you to do so now and send your membership made payable to:

Summerlee Transport Group C/O 104 Main Road Cumbernauld G67 4AY.

For email only members £6 and for those wishing paper copies £12 plus any donation you may care to include.

I trust you will take this opportunity to renew otherwise this I regret will be our last Trolley to you. If that is the case thank you for your support in the past.

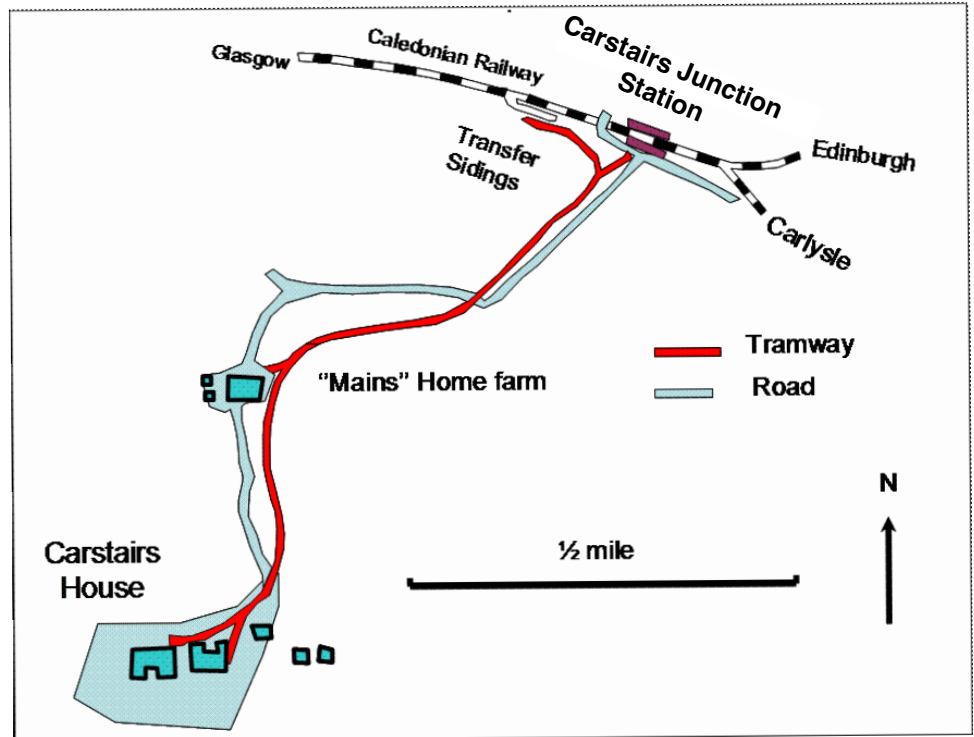
Regards
Ronnie Maclean
Membership Secretary



Scotland's First Tramway

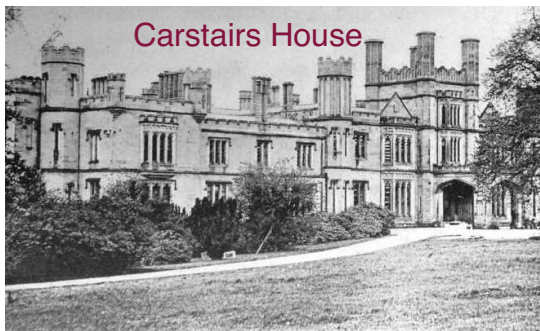
By David Craig

While several experimental electric tramways were developed in the early days of the technology near the end of the 19th century, notably, the system exhibited at the Edinburgh International Exhibition of 1886 which demonstrated the value of electric over horse drawn systems, most of these were of a demonstration or short lived non passenger carrying type. However, in spite of the interest shown in the technology by large municipal councils at the time, it was in the unlikely location of south Lanarkshire that Scotland's first permanent electric powered passenger carrying tramway was installed and became operational in 1889 ahead of any municipally sponsored system.



The installation at Carstairs House was the first permanent electric passenger carrying tramway in Scotland. It was used to transport both passengers and goods from Carstairs Junction Station, then part of the Caledonian Railway, through the grounds to the home farm and house. While there is no evidence of the tramway in existence today, as most of the installation was sold for scrap in the early 1930's, the hydro generated power station that provided power for the system and house was still in use as a source of power for several small businesses within the area well into the 20th century and the building can still be seen today.

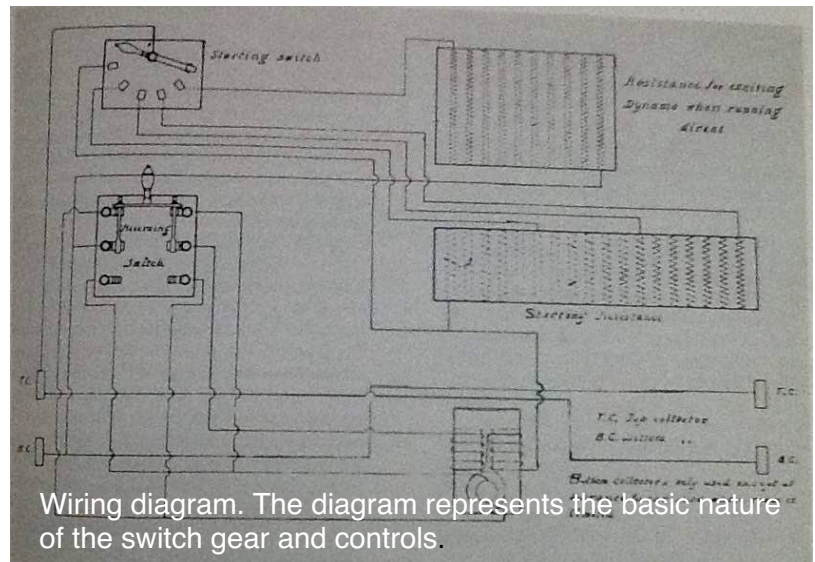
Carstairs House was the residence of the Monteith family and at the time of the development and installation of the tramway and its associated hydro electric power supply was then owned by Joseph Monteith. Contemporary accounts of Joseph show a man who was fascinated by technology and who dabbled in several sciences through experimentation which eventually would produce the electric tramway within the estate.



Whilst at the time several systems were either being developed or had shown to be workable, notably the Volk's Railway in Brighton, from which similar areas of development can be identified in the design for Carstairs. No system had been proposed for permanent installation within Scotland at the time of the Edinburgh exhibition. It is believed that after visiting the exhibition Joseph started to formulate his ideas on how the tramway would operate and could be made to work on his estate.

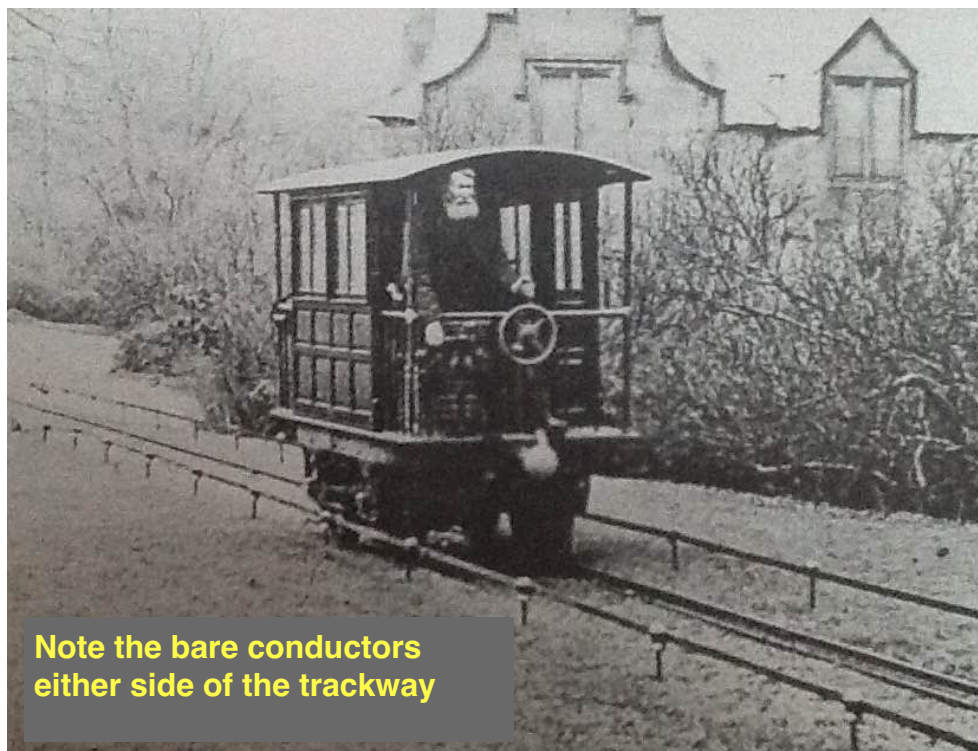
The system design was notionally produced by Joseph himself, however he did employ an electrical design company, Anderson and Munro of Glasgow, a leading specialist in electrical installations of the time to provide the technical support necessary to produce both the power and transmission systems. The plans for the tramway were developed around a gauge of 2ft 6in with a power supply of nominally 250 volts to the track pickup points. The power was supplied from a hydro electric power installation. This was

located near the Cleghorn falls, some three miles from the estate. It used a Goolden type Dynamo operating at 400 volts producing 49 amperes. This was all driven by a Leffel turbine powered by the water sourced from above the falls. Typical for its day, the power was then taken across country to the house by overhead bare conductor wires supported on fluid insulators. The electricity initially supplied power to the house for use in electric lighting. The tramway track ran for approximately 1900 yards from the house to the station with branches at the station and home farm for the haulage of goods. The maximum gradient reached on the track was 1:75 with the rails being supported on sleepers spaced 24 inches apart.



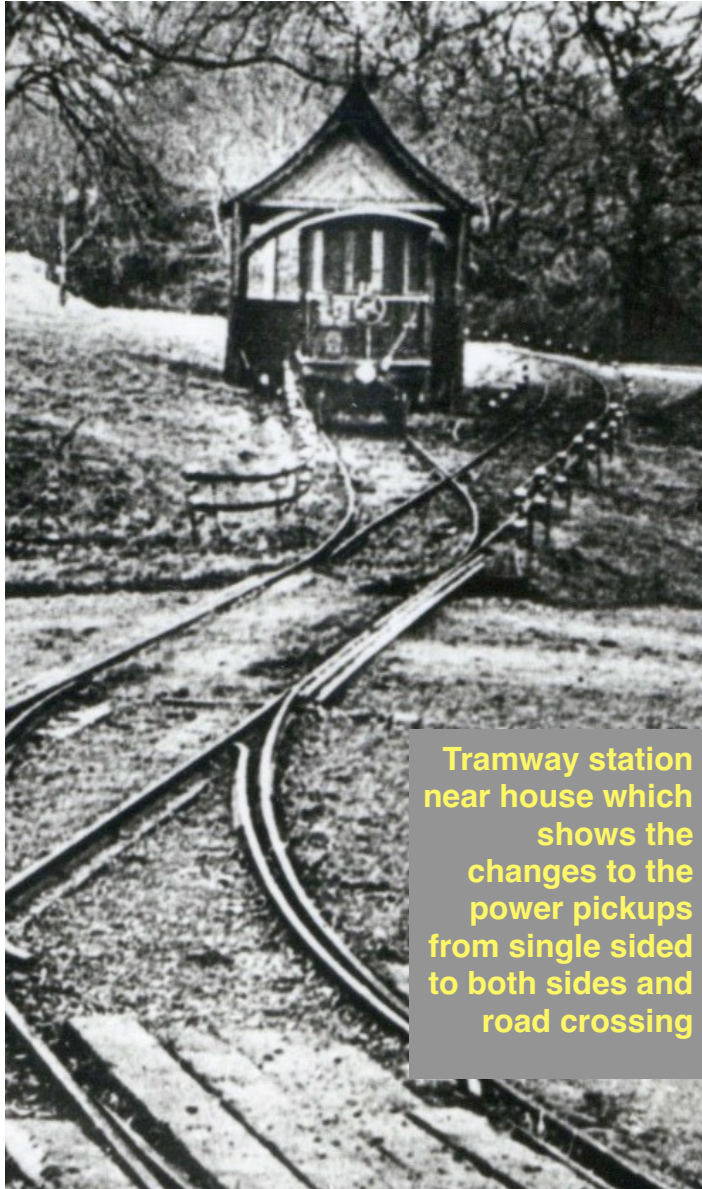
The delivery of power to the vehicle proved to be a more challenging issue. The solution, by modern standards would be considered dangerous, but in its day considered to be novel if not experimental and would be totally unsuited for use in a street environment. To avoid the use of overhead cables supported on poles through the estate the power to the vehicle used a design developed for the Volk's railway. The power to the vehicle was provided by two parallel running bare conductors. With one conductor positive and one negative supported either side of the track on foot high steel poles. The poles were fixed to the wooden sleepers using specially designed insulators to carry the current. Pickup points attached to the

vehicle supplied power to the 8 hp motor specially designed for the system using the Gramme principle. At certain points along the tracks length the conductors were removed to allow road crossings, at these points the vehicle was speeded up to allow it to coast over the point. The design also allowed for the conductors to be positioned on one side of the track to overcome local installation difficulties particularly at terminuses. It is reported that during trials of the system speeds of up to 35 mph were achieved. Quite an achievement for what was a technology in its infancy at the time and considering the legal road limit of just 12mph for powered road vehicles was in force.



Note the bare conductors either side of the trackway

The passenger stock consisted of three passenger carrying vehicles with various other vehicles suitable for goods haulage. The initial vehicle is reported to have been built on the estate and consisted of a powered passenger saloon car mounted on a four wheel truck. The driver stood at one end of the car on a platform with both controller and brake mounted on the platform. Also novel for its day interior electric lighting was provided for its six passengers during night use. No steps from the vehicle were provided and, at either terminus, platforms were provided for passengers to access the



Tramway station near house which shows the changes to the power pickups from single sided to both sides and road crossing

compartment without coming into contact with the live conductors.

The line operated electrically until around 1905 when its use was changed to provide horse drawn goods haulage from the farm to the station. Whilst it is believed that this situation arose because the owner Joseph Monteith died from an electric shock sustained while falling onto the live track side conductor, no contemporary reports support this reason. It is more likely that the development of motorised transport at the start of the century was responsible for the change of use and the initial euphoria of this novel system of transport waned as better alternatives became available.

The electric powered vehicles were removed from use and left in storage until the system was finally closed in 1935. Whilst the tramway was still in use during this period it was only during the First World War that it was intensely used to transport from the estate sphagnum moss which was used as a substitute for American cotton and used in the manufacture of munitions. The estate was sold by the Monteith family in 1935 and it was then the system was closed and shortly after this scrapped. Like its electric predecessor the horse tramway succumbed to the advancement of motorised vehicles such as the tractor and lorry.

This ended the life of what was Scotland's first operational passenger tramway and unfortunately the credit for this overlooked by the untimely death of its developer and operator Joseph Monteith. Ironically, shortly after the line opened, proposals were made to

develop a tramway in Lanarkshire using the principals developed by Joseph and to harness the power of the Clyde river at the falls of clyde. Whilst this proposal did not go forward it eventually took place as two separate schemes. The generator station was built by the Clyde Valley Power Company at the falls and the tramway initially developed as the Hamilton, Motherwell and Wishaw Tramway. This was later to become the Lanarkshire Tramway of which the museums No 53 tram is an example.

For those interested to find out more about this system and other systems in Lanarkshire can I recommend reading A W Brochie's book Lanarkshire's Trams for which I am in debt for the source of much of the information contained in this article.

David Craig



The only survivor - the hydro electric installation

Trolley Mini Quiz 2016

Lye 1: Tramway Knowledge:

- 1) What is a “pilot board”?
- 2) What is a “slipper brake”?
- 3) Which area of rail and tram technology does the firm “Brecknell Willis” specialise in the design and manufacture?
- 4) Where would you find “fingers” in a traditional tramcar?
- 5) Why was the term “Canopy Switch” somewhat of a misnomer for the production batch of Glasgow Coronations?



Lye 2: Give the route (Service) number of these tram services (as at withdrawal):

- 1) Edinburgh: Liberton to Stanley Road
- 2) Aberdeen : Bridge Street to Torry
- 3) Glasgow: Airdrie to Anderston Cross
- 4) London : Wimbledon to Embankment
- 5) Glasgow : Clydebank to Duntocher



Pictures of 1245 in service

By George Murray

There were a total of 158 Coronations built at Copelawhill Works (2 prototypes 1141 & 1142, 150 production cars 1143 to 1292, 6 post war cars on ex Liverpool trucks 1393 to 1398). Thus finding specific pictures of our Coronation 1245 amongst the thousands of photos taken over the years is not easy, however fortunately a few have survived including some in colour which have appeared in Trolley in the past. Recently some more have come to light, taken in the last two years of tramway operation, and these are reproduced below by courtesy of the estate of the late George Staddon



1245 on service 29
inbound from
Broomhouse just
going under the
railway bridge at
Mount Vernon.



1245 on service
26 on Dumbarton
Road, Clydebank



1245 on service 9 at Auchenshuggle terminus.

Upper deck interior
note the all leather
upholstery probably
because smoking
was permitted
upstairs.



Lower deck interior note the
moquette upholstery trimmed
with leather.

Trolley Mini Quiz 2016

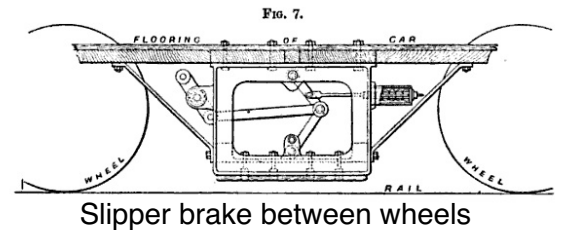
Answers:

Lye 1:

- 1) This is the (normally) timber strong cross mounted board on each end of a tram truck normally supported by curved cast brackets bolted to the end frame of the truck. The pilot board usually supports the lifeguard tray and the return springs of the brake gear. 53 has a particularly obvious set of these but 1017 unusually never had this feature and its lifeguards are supported by angle brackets fixed to the underside of the platform bearers.



- 2) Slipper brake is a term applied to the earliest type of track brake normally used by systems with steep hills. The track shoes were applied by hand with a horizontally mounted wheel on the hand brake column just below the goose neck hand brake handle. Later track brakes used magnetic current applied by the braking notches as with 1017.



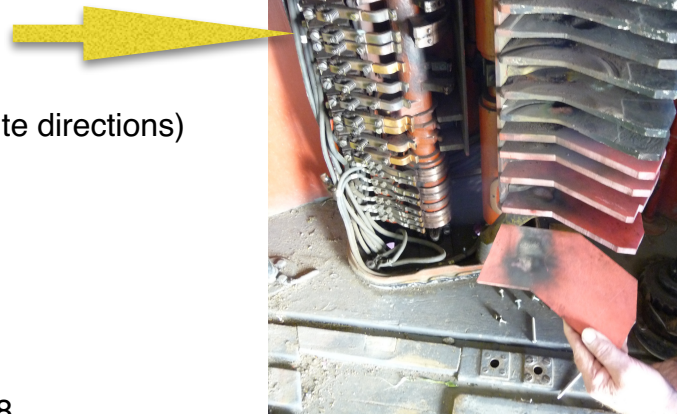
- 3) They make current collection equipment particularly pantographs for heavy and light rail use.
- 4) Inside the controller cover, being the contacts making the connection with the drum contacts.
- 5) The canopy switch is situated under the drivers' seat. Not a very easy to reach or safe location!



Lye 2:

- 1) Route 7
- 2) Route 8
- 3) Route 15
- 4) Routes 2 & 4 (looped round Embankment in opposite directions)
- 5) Route 20

Finger contacts on 53



End of an era - the end of the Melbourne z-class car

Article and photos by Paul Geissler



Fig 1 No 856, a W6 car, on service 35 which is the (free) City Circle route



Fig 2 Z class No202 at East Malvern terminus (Route 3)

The standard tram of Melbourne used to be the W class, latterly the W6. In the 1970s the more modern Z class was introduced but time has passed and the withdrawal of the Z class is now well underway.

Initially the Z class trams were fitted with fixed head trolley poles but these were later replaced by pantographs.

The fixed head trolley required the overhead to be precisely related to the tracks, on straight track to be straight with virtually no deviation. With the pantograph installed the overhead should have been modified to introduce a stagger to prevent excessive wear of the contact strip. However, observation on a recent trip failed to see any stagger.

Paul Geissler



Fig 3 The view from East Malvern terminus towards the city to show the overhead

Events coming up at Summerlee

Victorian Fun Day and Steam Fair.	13/14 August 2016
Model Boat Show	10/11 September 2016
Harvest Festival	24/25 September 2016

Check out Summerlee's Website on www.culturenl.co.uk/Summerlee

Glasgows Last Tram. <http://glasgowslasttram.co.uk>

VOLUNTEERS

YOU
"WANTS"

**Trainee Tram Drivers
and Conductors Wanted**

**Driving Licence and 21 and over for Tram Drivers
Please contact the STG if you or someone you
know would be interested in volunteering**

If you have a story or have some pictures that you would like us to include in a future Trolley please email the editor at stg.inbox@outlook.com