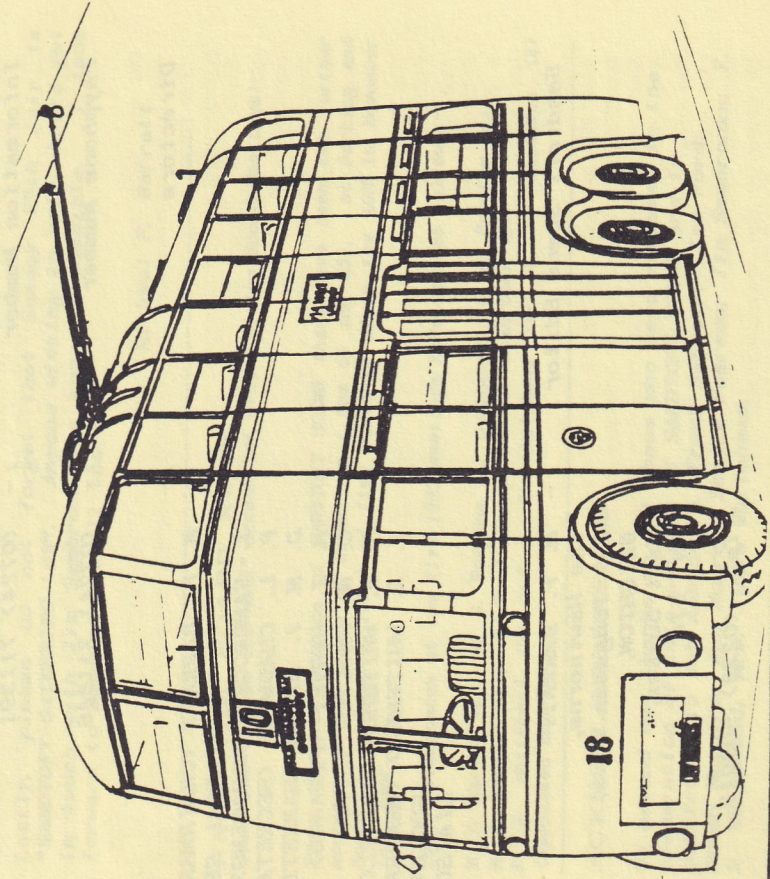

SANDTOFT SCENE

No. 23

SUMMER

1993



THE

SANDTOFT TRANSPORT CENTRE

MAGAZINE

Editorial Address : See Opposite Page

EDITORIAL

I am pleased to write that I have been overwhelmed with articles and reports for this Edition; so much so that many authors will be disappointed not to see them in print. Regrettably we cannot afford, at the moment, to increase the size of "SANDTOFT SCENE" but this is under consideration. To do so would, however, mean a necessary increase in subscriptions. Therefore, some of the information and articles have been submitted to "TROLLEYBUS" for publication in that journal.

Members are asked to note that important messages appear in "Vehicle Owners' Corner" (a new section) on Page 4 and in "Company Notice Board" on Page 8. Members are also reminded that we are looking for a new Director of Finance to take over from Martin Harvey with effect from November.

Lastly, please do not forget that Sunday 25th July is "SANDTOFT GATHERING '93". Anyone wishing to help should get in touch with Jim Sambrooks as soon as possible. I look forward to meeting you all there.

Michael F. Barratt

FROM THE BOARD ROOM

(Your own "fly-on-the-wall" account of events at the Board Meetings)

Since the last edition of SANDTOFT SCENE there have been two further meetings of the Board of Directors (Nos 64 and 65), at Dorking and Doncaster, making a total of five meetings since the AGM in November last year.

Total attendances at the five 1993 meetings have been as follows: -

- M. J. Harvey (4); R. D. Rampton (2) (resigned); C. M. Proctor (4); M. F. Barratt (4); D. M. J. Brown (4); J. Sambrooks (3); F. R. Whitehead (5) and J. R. Whitehead (4); P. L. Chadwick (2) (appointed mid-term)

ACKNOWLEDGEMENTS

We extend our thanks to all those who have assisted in the preparation of this edition of SANDTOFT SCENE and in particular to Bob Ashton; A. Frank Barratt; Jan Ford; Brian McGuire; Ann Murray; Sheila Pearson; Jim Sambrooks; F. R. Whitehead; Mrs. Julia Whitehead.

We do need more articles and news so please do send your contributions to the Editor without delay.

SANDTOFT TRANSPORT CENTRE LIMITED INFORMATION

Sandtoft Transport Centre Limited is a company limited by guarantee and is a registered educational charity.

Registered Company Number :- 1747475

Registered Charity Number :- 514382

Registered Office :- The Museum Premises, Belton Road, Sandtoft, South Humberside.

Information Number :- (0724) 711391

Payphone Number :- (0724) 711846

Directors

- M. F. BARRATT (CHAIRMAN & LEGAL SERVICES)
- J. SAMBROOKS (MANAGING)
- P. L. CHADWICK (SECRETARY)
- D. M. J. BROWN (MARKETING)
- M. J. HARVEY (FINANCE)
- C. N. PROCTOR (SITE)
- F. R. WHITEHEAD (DEVELOPMENT)
- J. R. WHITEHEAD (MEMBERSHIP & SOCIETY LIAISON)

Sandtoft Scene Editor

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COVER :- Grimsby Corporation 18 (JV 5006) a 1936 AEC 663T with English Electric equipment and a Roe H34/24CD body. Withdrawn at the time of the amalgamation of this fleet with Cleethorpes in 1957 No. 18 did not survive the cutter's torch else it would have made a strong local exhibit at Sandtoft today. A very advanced vehicle for its day.

VEHICLE OWNERS' CORNER

By the time you read this, the annual consideration of depot allocations should be well in hand, if not settled. Most vehicle owners completed, ready for the 1992-3 allocation, a Vehicle Detail Form. A minority did not return their forms and have recently been asked again for full details of their vehicles. This will ensure that we hold accurate information from which marks can be allocated, which in turn will enable the depot allocation to be made.

With approaching 75 vehicles to be considered, the task of allocating marks is obviously quite formidable, (but eased by the provision of the information on those forms); add to that the complication of mixing "long" and "short", 7'6" wide and 8'0" wide (or wider) vehicles, runners and non-runners, etc., and it becomes a nightmare!

We would prefer not to have to make decisions such as which vehicles can have depot spaces - we would like them all inside: whatever vehicles have to remain outside will give rise to criticism, for each and every vehicle at Sandtoft, be it trolleybus, tower wagon, motorbus or Vauxhall Velox (not that we have one of those!), is at the museum for at least one good reason - its owner thinks it is worthy of preservation.

We all have our own thoughts on the matter, with some of us liking trolleybuses but not Leyland Atlanteans or Daimler Fleetlines, and some vice versa; some people like two axle trolleybuses, but some prefer three axles; some people like all the colours the 'buses are painted, but some don't like blue; some people like Vauxhall Veloxes. We all have our prejudices, but as we all participate in the museum's activities to enjoy Sandtoft in our own way, it is important to respect the next person's feelings and let him/her enjoy it also. That way the museum can develop broadly and successfully, in a way that a wide cross section of the visiting public will appreciate.

The decision earlier this year to accept a number of Bradford trolleybuses for outside storage at the museum has come in for criticism, if not vigorous discussion, in some quarters. The reasons for the board's decision to store these vehicles are complex, and space will not permit a full explanation here. Briefly, it has been the policy of successive boards (and of the Management Committee in the days before the Company was formed) for Sandtoft to act as a short term storage facility for worthy vehicles whilst other storage arrangements are sorted out. It is also the general policy of the Company to liaise with its members and its Contributing Societies on matters of mutual concern. The board concluded that, being the largest trolleybus museum, it was reasonable to assist the BTA and its vehicle-owning members who faced en-mass a storage crisis. The other option open to the BTA was the scrapyard - which would have lost the vehicles and the equipment they contain for ever. Some of the vehicles concerned had passed to new owners (BTA Members), so consideration had to be given to the desperate position they were in. (How would you feel if you were in a similar position with your vehicle?) Notwithstanding all this, the directors are also aware of the image problem that so many poor-condition vehicles pose. Some of these Bradford trolleybuses are only at Sandtoft on a temporary basis, with conditions attached to their stay. The intention has been for these vehicles to be separated from the public with fencing, and for them to be cosmetically smartened up at the front with a coat of paint to improve the first impressions of visitors. The situation is under constant review. Similarly, should ANY vehicle, particularly of local interest, require similar help, the board would consider how and to what extent it could assist.

CURRENT AFFAIRS (OR HOW THE MERCURY ARC RECTIFIER WORKS)

by A. Frank Barratt

Now that the Museum's electricity supply is on mains, from Yorkshire Electricity, members less technically minded might be interested to understand (in the simplest terms possible) how the Museum is able to convert ordinary AC domestic supply from the Power Station to the specialist DC supply needed to operate trolleybuses by means of the mercury arc rectifier (that strange piece of equipment languishing at the back of the depot giving off an eerie blue glow as though it belonged to a Doctor Who story). This article aims to do that.

In order to understand the mercury arc rectifier readers should, firstly, understand a little about electric current. There are two types of current in use today: Alternating Current (AC) and Direct Current (DC). The former is most widely used and applicable to most domestic appliances. The latter is rather specialist and used, primarily, for electric traction.

AC reverses itself 50 times in every second (see Fig 1 below). The shaded portion as shown in this figure represents "Positive" and always flows in the same direction. "Negative" is below the sine line and flows in the reverse direction.

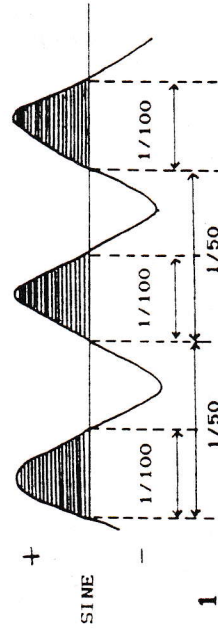


FIG. 1

As can be seen from this diagram only part of the AC output is of use and a very jerky current is produced. Accordingly, if the unshaded parts, or "Negative", were fitted into the troughs, better use could be made of the current and a more steady flow would result. This movement of the bottom part of sine gives a more steady flow and since the top and bottom of the sine are moving in the same direction the current now becomes DC. (see Fig. 2 below)

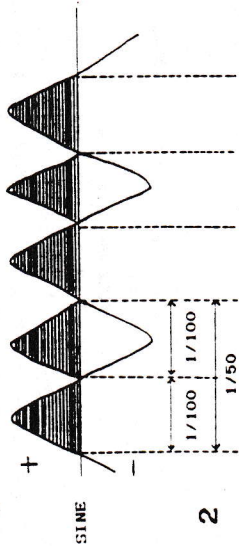


FIG. 2

The job of the rectifier, therefore, is to change AC to DC by taking out the jerks and reversing the "Negative" part of the AC causing it to flow in the same direction. This is known as "full wave" rectification. Unlike motor generators and rotary converters there are no moving parts in rectifiers, but instead, it relies on chemical reaction. This is performed in a large valve containing two anodes and a cathode heater. Glowing with that eerie blue colour this valve is the heart of the conversion process from AC to DC and looks a very impressive sight indeed.

Below is shown an electrical diagram of a simple rectifier (Fig 3):-

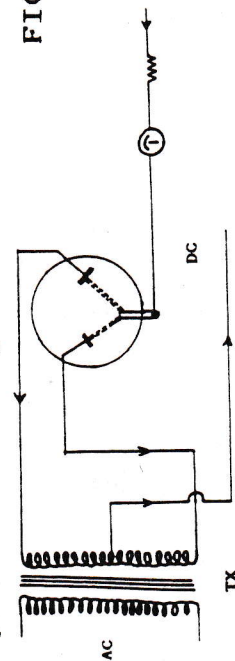


FIG. 3

The "full wave rectifier", as shown in Fig. 3, depends upon the "electronic" theory for its application and the fact that some metals give off electrons easier than others.

The bulb is made of glass with all the air removed (similar to a light bulb) and into this is placed a heater coated with a thermionic metallic oxide (cathode). This heater gives out electrons. Above this are two carbon blocks, the anodes. The equipment also comprises a transformer which incorporates two windings the second of which is tapped in the centre and the two outside wires are connected to the anodes in the valve.

The action in the rectifier is, thus, that the AC first flows in one direction to the anodes (positive current now since the cathode gives off negative electrons). These are attracted to the two anodes giving a current flow round the coil to the central tapping and onto the output. The return side of the supply goes through a variable resistance to the ammeter (which measures current flow) and then back to the heater coil. Since it is AC the flow of positive electrons is in the reverse direction and with the other anode, having positive electrons on it, an attraction takes place. The current flow goes around the other half of the secondary coil to the centre tapping which now goes to the supply through the resistance, ammeter and back to the cathode.

This action is repeated over and over again. It can therefore be understood that the jerks have now been taken out of the AC and the troughs have been filled in giving a more steady flow in one direction, which can be utilised for the provision of electric current to overhead traction lines which powers the trolleybus using a boom to collect the current and a boom to return the current via the rectifier to the mains supply.

NB. A. Frank Barratt, who is the Editor's father, is a retired Yorkshire Electricity Electrical Engineer.

COMPANY NOTICE BOARD

SITE THEFTS

It is very much regretted that it is necessary to report further thefts at the Museum site including some fourteen aluminium panels from one of Bill Staniforth's vehicles. Last time, we reported the need for vehicle owners to ensure that their buses were adequately insured against all losses. This includes theft. Indications are that some of the recent thefts have been "inside jobs". All such thefts will be reported to the police. If any member is subsequently charged by the police with any crimes against the property of the Company or another member he will be expelled from the Company and banned from the site without further investigation. The Board of Directors also requests that if any member has any information as to the identity of the person or persons responsible he should inform any Director without delay.

UNAUTHORISED VEHICLE MOVEMENTS

Members are asked to remember that no vehicles must be moved from, to or within the depot without the specific authorisation of the Vehicles' Exhibits Manager, Ian Wilson, or a Director of the Company. It has been reported that people have been moving vehicles without such authorisation and blocking other member's vehicles in. This will not be tolerated and action will be taken against any vehicle owner or member who does not comply with this rule. Such unauthorised movements may also put the Company's insurance in jeopardy.

SCENE AT SANDTOFT

by Jim Sambrooks

The annual testing of vehicles for passenger service has taken place and those given a clean bill of health for the season include Bradford 735 and 834; Huddersfield 631, Maidstone 56 and Teesside T291. Reading 193 has been withdrawn with a faulty traction motor which may have to be removed and overhauled.

Other trolleybuses in the news are Nottingham 506 (bodywork attention), Bradford 847 (new windows installed), Bradford 743 (window pan removed to make a pattern for the fabrication of replacements), Nottingham 493 (rewiring continues) and Cleethorpes 54 which now has a full set of top sliding windows as well as brackets for the catwalk complete with a set of boom hooks for the first time since they were catapulted into a field some thirty years ago whilst on tow.

On the motorbus front Doncaster service bus (206), after passing its MOT, has had some seats re-trimmed to give visitors a much better first impression of the museum. Unfortunately some insurance difficulties prevented 206 being used in the early part of the season and we are indebted to the Felix and Sheffield groups for loaning their vehicles for this duty. A guest vehicle used at Easter was ex-Pontypridd 91, an AEC Regent V with Weymann bodywork (now with Roewville Tours).

Doncaster 94's staircase is now back in position following the platform re-build; Hull 217 has had its destination boxes uncovered and blinds fitted as well as lower nearside panels removed revealing a certain amount of corrosion to the pillar bottoms and stress panels which will require attention before new panels can be fitted.

The ex-West Yorkshire Bristol SU has moved to new pastures, Dewsbury Bus Museum, under new ownership. This move breaks the last vehicle link between Sandtoft and Bill Staniforth. We all hope that we will still see Bill on a regular basis. His ex-Lincolnshire Lodekka has been sold to a buyer in Bath. I am sure all members will join me in thanking Bill for all the work he has done at Sandtoft over the years. Indeed, many will recall that he served faithfully on the Board for a time.

A recent visit to Keighley Bus Museum found the former Regency Hotel (Bradford 82) undergoing very thorough renovation. Most of its offside lower deck framework has been renewed and primed, the front axle had been removed, two new springs were ready for fitting and the chassis had been silver painted. Quite a contrast to how it looked before it left Sandtoft.

Huddersfield 631 suffered a spectacular dewirement when the nearside boom was pulled from its base and landed on the roadway. Fortunately, no serious damage or injury was caused. The incident has been thoroughly investigated and steps taken to prevent a repetition with 631 or any other trolleybus.

oo0oo

In preparation for the new Visitors' Centre a rotary converter from Harton Colliery's electric railway has been purchased for display and this is temporarily located next to the rose garden. (For full details of how a mercury arc rectifier works see A. Frank Barratt's article entitled "Current Affairs" elsewhere in this edition). Some stonework from Doncaster Corporation's Leicester Avenue depot (which is currently being demolished) is also being acquired which will be used to clad parts of the Centre's elevation. Included with this stonework will be some pieces bearing the legend "TROLLEY VEHICLE ENTRANCE", "CORPORATION TRANSPORT DEPARTMENT" and "OFFICES". Other small exhibits to be acquired from Leicester Avenue include a master clock (which will power the Doncaster Corporation clock currently positioned on the workshop wall).

Arthur Wilson, our local haulier, has agreed to transport the relevant pieces of Leicester Avenue to Sandtoft and has also donated some steering tracking gauges. Although they may not be used often these pieces of optical equipment will make wheel alignment easier and more accurate to the nearest 6 thou.

oo0oo

A new steam engine has entered service on the miniature railway, numbered 5006. An 0-6-0 Holmside in 7.25" gauge it represents a National Coal Board industrial tank engine with copper boiler and twin injectors in BRB post-1957 livery. It is accompanied by a driving truck which is a water carrier made completely of steel to look like a railway box wagon. Both have been built over a four year period by SMR members Rod and Clive Bennett. The SMR is currently re-levelling the track and replacing all soft wood sleepers with hardwood.

-10-

The important, yet enormous, task of grass cutting is under way and an appeal is made to all members to come and assist in this. Bob and Pat Ashton have worked hard on this task to make the garden areas look presentable and we are all indebted to them for their dedication in this role.

oo0oo

My request in the last SANDTOFT SCENE for ticket machines was answered by Bill Brinkley of Doncaster who donated a number of different types of machine which are being prepared for display by Dave Wadsworth. I am still looking for further exhibits so please do not be shy in getting in contact with me.

oo0oo

Sunday 30th May saw the "official" switch on to mains power by M. Gallagher of Enterprise & Silver Dawn Coaches of Lincoln. Mr. Gallagher officiated at short notice after the Yorkshire Electricity official had to decline the honour. The first scheduled trolleybus was driven by the Mayor of Boothferry after he had received a crash course in trolleybus driving earlier in the day. The official party then retired to the Lecture Theatre for tea and a filmshow. Incidentally, the Lecture Theatre has seen much refurbishment including the erection of a permanent interior wall and a renewed entrance door frame. The interior has been completely re-decorated, show cases re-positioned and re-stocked.

oo0oo

Finally, but not least, members are asked not to forget the GATHERING '93 which will happen on Sunday 25th July. The working week will start on Saturday 18th July and continue until Monday 26th July. All offers of help on any or all these days will be quickly and gratefully accepted. It's good fun really!! Leaving aside the hard work there is also a great social side to the week, particularly in the evenings culminating in the Saturday night "bash" in the beer tent.

S'thee,

JIM

-11-

SANDTOFT '93

HOME OF THE TROLLEYBUS

1993 EVENTS

TROLLEYDAYS

EASTER SUNDAY & MONDAY
APRIL 11th & 12th.

MAY DAY HOLIDAY SUNDAY &
MONDAY MAY 2nd & 3rd.

SPRING BANK HOLIDAY SUNDAY &
MONDAY MAY 30th & 31st.

JUNE 27th SUNDAY

GATHERING PREVIEW SATURDAY
JULY 24th.

AUGUST 15th SUNDAY

LATE SUMMER HOLIDAY
SUNDAY, MONDAY & TUESDAY
AUGUST 29th, 30th & 31st.

SEPTEMBER 26th SUNDAY

OCTOBER 24th SUNDAY Yorkshire Day

SANDTOFT GATHERING

SUNDAY 25th JULY

We are always pleased to accommodate coach tours and party visits by appointment.
Resident motorists frequently attend displays locally and nationally.

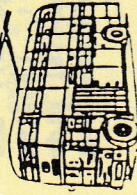
ADMISSION ON TROLLEYDAYS INCLUDES FREE TROLLEYBUS RIDES
Museum Open 12 noon to 6 pm.

FREE bus service from Doncaster Railway Station 1.30 pm on Trolleydays.
FREE CAR PARKING

For further information on Trolleydays, 1993 Admission charges, & other events
telephone the MUSEUM 24 hr. INFORMATION TELEPHONE LINE : (0724) 711391
information updated prior to each event. (Standard telephone charge rate)

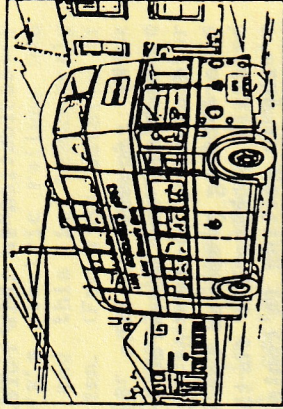
SANDTOFT TRANSPORT CENTRE

Belton Road Sandtoft Near Doncaster South Yorkshire



24 Hour Information Line
Tel: (0724) 711391

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(Registered in England No. 1727215)
and is a Registered Charity (No. 514321)



30 YEARS AGO

**DONCASTER'S LAST TROLLEYBUS No. 375
RAN ON THE 14th DECEMBER 1963
SEE THIS TROLLEYBUS AND MANY OTHER
VEHICLES IN THE MUSEUM'S COLLECTION**

**TROLLEYBUS RIDES
REFRESHMENTS
MUSEUM SOUVENIR SHOP
SMALL DISPLAYS & EXHIBITS
PICNIC & GARDEN AREAS
MINIATURE 7 1/2 GAUGE RAILWAY
AUDIO VISUAL SLIDE SHOWS
TOURIST INFORMATION**

S.T.C. reserves the right to alter or cancel any event or service without notice.