

Electric Boat News

The Journal of the Electric Boat Association

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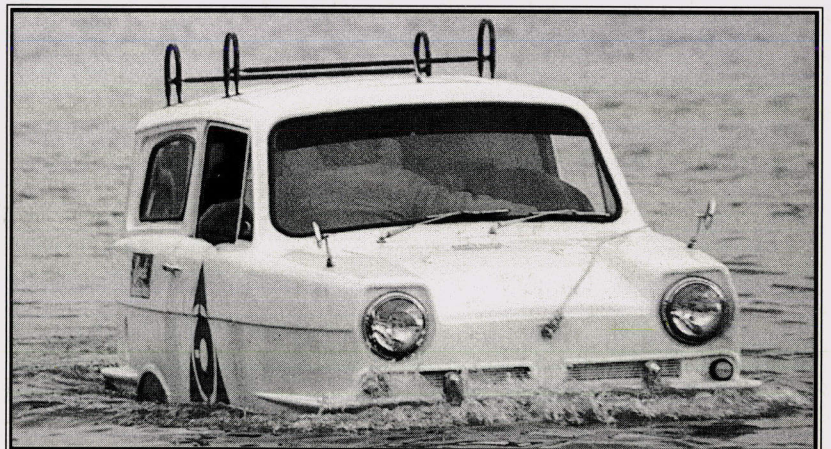


London Boat Show Report

EBA's TV Coverage

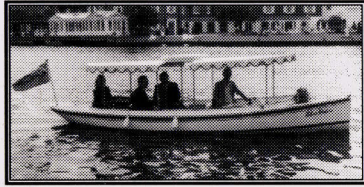
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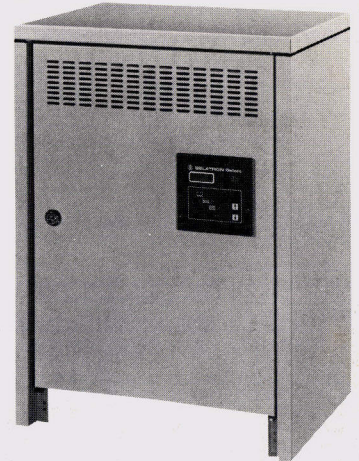
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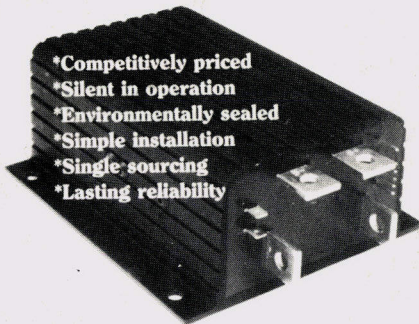


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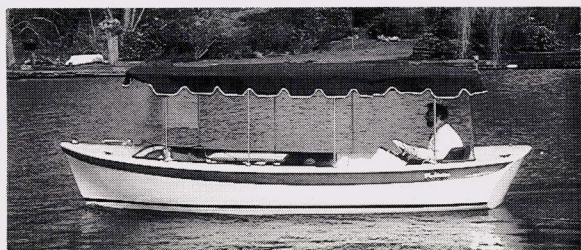


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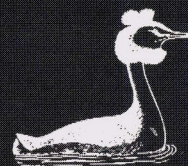
EBA CALENDAR 1993

- MAY 29-31** WA National Trailboat Rally, Chelmsford
Everyone welcome, with or without boat.
- MAY 20-23** Inland Waterways Boat Show Nottingham
Many electric boats on the land and water
- MAY 26-27** Move Electric, Trentham Gardens,
Stoke-on-Trent.
Free entry to exhibition.
Electric vehicle and boat rides.
- JUNE 13** Sixth Wargrave Electric Boat Rally
Boat-owners and non-owners welcome
- JULY 8-12** Hampton Court Flower Festival
Sail-past of electric boats
- JULY 17** EBA SUMMER MEETING, Hambleden.
Talks - "What's new in electric boats"
Association affairs
Presentation of Emsworth Trophy
Try-a-Boat
- AUGUST 28-30** IWA National Waterways
Festival, Peterborough
- SEPTEMBER 4** Cookham Regatta.
Parade of electric boats
- SEPTEMBER 10-18** Southampton Boat Show

Notice of other events to: Edward Hawthorne, 0628 521606

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Electric Boat News welcomes contributions from readers and members.
If you have anything you think might be of interest, please send it in.
Bear in mind however that due to circumstances sometimes beyond our
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may occur to this material.

Items of interest include letters, reports on rallies or events, reports of
particular cruises or trips, articles or advice on building or running
electric boats, and reports on items of equipment. We also welcome
manufacturers reports on new items of equipment or boats.

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The Journal of the Electric Boat Association

Volume 6 No.2 April 1993

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Treasurer/Membership Secretary: Fraser Brown, Mouse Hole, Abbey Road, Knaresborough. HG5 8HX

Users' Group Chairman: Edward Hawthorne, Waters Edge, Riversdale, Bourne End, Bucks. SL8 5EB

Cover pictures: Our main cover picture shows the impressive display of electric boats on the pool at the London Boat Show, alongside the EBA stand. Small picture: Is it a boat? Is it a car? No it's River Robin - the all re-cycled Reliant Robin, powered on the water by a Combi electric outboard, and seen on national television, will also be appearing at many water events this year.

Exciting times for the EBA

The past few months have been exciting times for the Electric Boat Association, and for electric boating in general. The most significant event was our stand at the Earls Court Boat Show, together with the wide selection of electric boats on display. This is reported later in more detail, but suffice it to say here that we generated large amounts of coverage in the media, including national television, radio and press, whilst at the same time introducing many visitors to the show to what electric boats have to offer.

The continuing interest of the electricity companies is encouraging new boatbuilders to produce electric craft, while the water authorities are gradually adding their support with charging points and facilities. Further help has been provided in the form of sponsorship by Southern Electric of the Guide to Electric Boating, a superb colour production that we would not have been able to afford ourselves, but one that will do an excellent job of getting the message across to the uninitiated, while our own EBA News is able to maintain its high quality thanks to further support from Eastern Electricity.

Future events coming up this year include the Inland Boat Show at Nottingham in May, which will feature many electric craft, with several being available for demonstrations on the water. This is a good move forward, as an actual trip is the only way to really convince people of the benefits of electric boating. This will be closely followed by Move Electric, a biennial event at Stoke-on-Trent that features every type of electric vehicle, with again a good presence of electric boats. To these are added a full programme of EBA events, including rallies and meetings, which should give all members the opportunity to keep up



One of Seeboard's Creature Comforts in front of the Voltaire 18 that was displayed at the Ideal Home Show

with developments, and meet fellow enthusiasts. Even if you do not presently have a boat, you are most welcome to attend all of these events.

However, amongst all this excitement, we should not lose sight of the fact that electric boating is still very much a minority activity in the UK. The mainstream boatbuilders do not yet see it as a practical proposition, while government still does not see the environmental benefits it can bring. Other countries in Europe are forcing the issue by declaring some waterways electric only, with the result that the necessary motors and boats are quickly developed to fill the demand. Sadly the UK is once again bringing up the rear in this respect.

We at the EBA must not lose sight of this fact, and it is essential that all members do their bit to spread the word. An invitation to your neighbour to take a pleasant cruise in your craft to fully appreciate the delights of silent boating is one way we can all help the cause, while at a group level, we should organise trials for the major boatbuilders and dealers on existing electric boats, to show them that the necessary technology is well-tried and already in place.

By the time you receive your next issue, the summer will be well advanced, so we wish you all a pleasant season's boating.

Letter from the chair

Dear Members,

First of all many thanks to those of you who helped out at the highly successful London Boat Show extravaganza. Our special thanks to Eastern Electricity and SEEBoard whose generous financial contributions made our presence so formidable and professional. Southern Electric kindly financed our excellent new publication "An Introduction to Electric Boating" which will be sent to you on renewal of your subscription this April.

With regard to the latter our committee voted to increase the private user subscription to £20 annually which will cover the full cost of our quarterly magazine. Hopefully you will benefit from the increase through free access to our information leaflets and more financial aid for any local events you would like to participate in on behalf of the association. Corporate membership will increase to £200 p.a.

We have a full calendar of events planned for the coming year. Their success depends on your participation so please make sure to attend as many as possible.

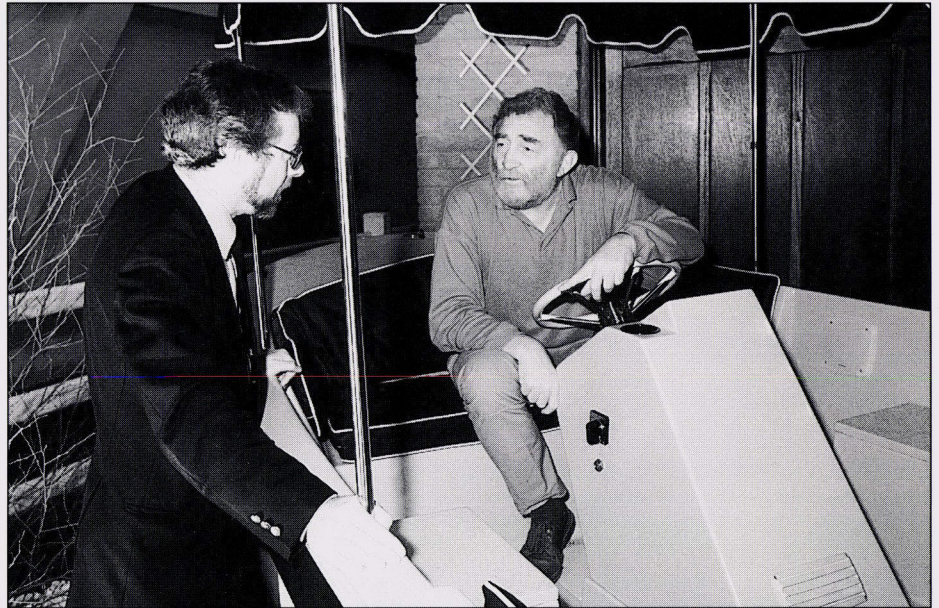
Wishing you all a good start to the Season,

Gillian

Boat Show

and Ideal Home Show Successes

Electric Boats had a major presence at London's two largest public shows this year. At the Earls Court Boat Show, not only were there several stands displaying electric craft, but the EBA had its own stand by the side of the central feature pool, with four electric boats moored alongside. The EBA was able to have its own stand largely due to the generous sponsorship of the



The Editor talks to David Bellamy about the benefits of electric power at the Ideal Home Show

EBA

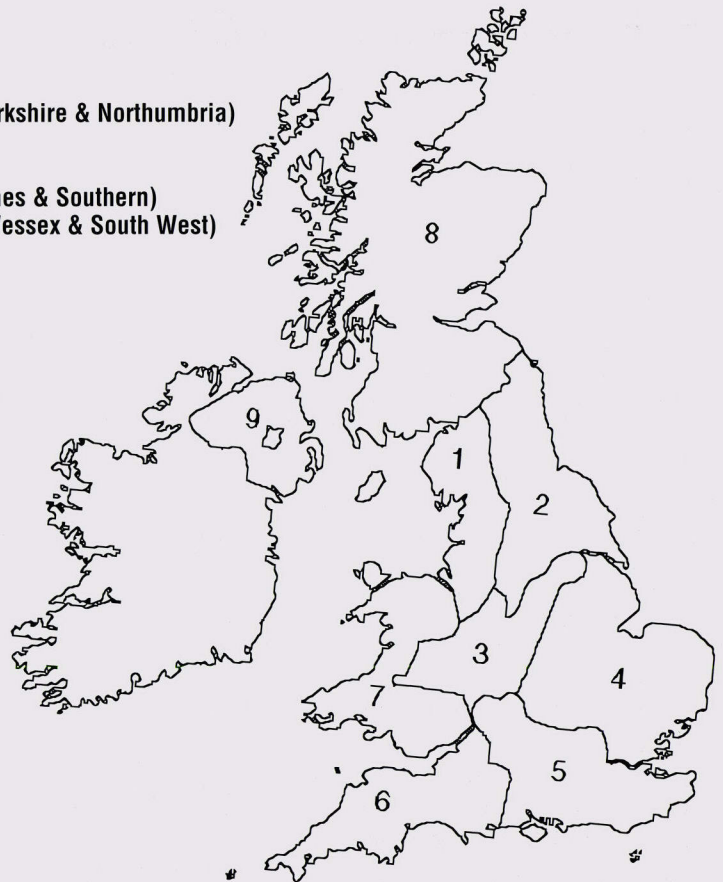
Regional Policy

The general policy of the EBA is to encourage the growth of local activities; such as rallies, social and technical gatherings and local member contact. The function of the central body is to co-ordinate national activities and publicity and, through the participation of interested Industry Members, organise EBA representation at major events, such as the London Boat Show. As both industry and user membership of the Association grows, there is an increasing need to spread the load and encourage the emergence of regional centres, around which local activities can coalesce and through which contact can be maintained between members, regions and the centre.

By far the largest concentration of members has been in the Thames and South East area. But electric boating is now growing in strength in many places; the Broads, the Lakes, parts of the Waterways and the West Country. We are therefore aiming to establish focal points in the following areas, which roughly correspond to river catchment and Water Company regions (where more than one, shown in brackets):

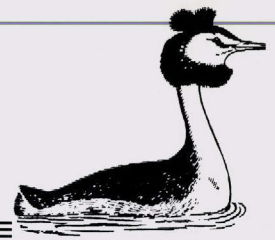
Region

1. North West
2. North East (Yorkshire & Northumbria)
3. Severn Trent
4. Anglian
5. Thames (Thames & Southern)
6. South West (Wessex & South West)
7. Wales
8. Scotland
9. N. Ireland



This is your association so, if you are a member of the User Group, now is the chance to help encourage electric boating in your locality. You would be the contact and co-ordinator in your region, co-operating with your local industry members, receiving support and some financial help from the

centre for local rallies and other activities, and act as correspondent reporting on local interests for inclusion in the EBA News. Just drop a line to, or telephone: Edward Hawthorne, Waters Edge, Riversdale, Bourne End, Bucks SL8 5EB. Tel and Fax No. 0628 521606.



Electricity Council. Two electricity supply companies, Eastern Electricity and Seeboard brought their own boats along, and there were in addition a STELCO Deltic, and Colin Facey's Broads Hire Cruiser tied up.

Having our own stand enabled the EBA to invite the media and interested parties along to better appreciate the advances the movement has made. At our press launch on the second day of the show we scored notable successes, with environmentalist David Bellamy on hand to give the ecological benefits of electric boating, and he was able to provide interviews with a broad cross section of the media. As a result of this we gained coverage on national TV and radio, local TV, and national and local press.

The stand also gave an opportunity to all members of the EBA to come along and talk to committee and trade members, and to see the latest developments at first hand. Volunteers from the Association manned

the stand on a rota basis, and we are most grateful to them for their support. The actual organisation of the stand was supervised by our Chairman, and her presence and efforts before, during and after the show earned her the praise of all who visited the event.

The actual companies exhibiting at the Show included the Thames Electric Launch Company, with their Voltaire 18, Electric Ranger 13, and Combi electric outboards. The Steam & Electric Boat Company had 21 and 31ft Frolics, plus the 21 Deltic, while Bossoms had their 12ft Suzanna. The newest boat present was Colin Facey's 21ft Silent Poppy, described in more detail later.

The show also provided the opportunity for the awarding of the St David's Trophy for the most significant achievement in electric boating in 1992. The winner was Eastern Electricity for their initiative in connection with the installation of charging points on the Norfolk Broads. Mike Cooper-Read of Eastern Electricity received the

trophy from Lady St Davids.

The second major show at Earls Court this year was not one where you would expect to find a boat. However, the Thames Electric Launch Co proved that it is possible to appeal to the general public by displaying one of their Voltaire 18s outside one of the four Show Houses. The house, built by Custom Homes; was sponsored by Seeboard, as an energy efficient, all electric home. What more appropriate to have outside on the drive but an environmentally friendly electric boat. Seeboard approached TELCO, and they provided a Voltaire to give the final touch to the house. The boat gained considerable interest from visitors to the house, 300,000 of whom filed past during the course of the four week show. The media again took up the message, with David Bellamy again on hand to provide the facts in his own inimitable style, while Seeboards TV stars, the Creature Comforts added their own colour.

Historic electric boat lives on

Built about 1903 by E. Andrews and Son of Maidenhead, the electric launch "Eel" was probably one of the last of the line of electric launches coming from the Andrews yard. Being a professional fisherman, Ned Andrews named his boats after fish, e.g. Dace, Chubb, Pike, Bream. The pride of the fleet was, of course, the "Angler" which, on Ascot Sunday 1904, was used by Queen Alexandra for a short trip from Taplow Court to the Fisheries and back.

The "Eel" was bought by Jacobs of Windsor prior to the 1939-45 war by which time it would have been converted to petrol or diesel. When Jacobs took her over the varnish was black with age and so he painted her blue. Following several years of tripping after the war, the inner skin was turning



Eel, built in 1903 and electric powered, now steam, and named Woodland Lily

powdery and some of the outer planks were in a bad state. Jacobs laid her up and, in 1966, she passed to Lawrence Weaver who carried out some restoration, converted her to steam and renamed her "Woodland Lily".

In 1971, H. Orr-Ewing acquired her and commissioned Michael Dennett as Harris' Boatbuilders Ltd., Chertsey, to replace the mahogany hull and build a new one in carved iroko. The owner himself re-fitted the

steam plant.

"Woodland Lily" is 41ft.6in. in length, LWL of 37ft., beam 7ft., and draught of 2ft.9in. Clipper bow and counter stern, with aft saloon fitted with two berths, and a canvas canopy over the foredeck. Speed 7 knots.

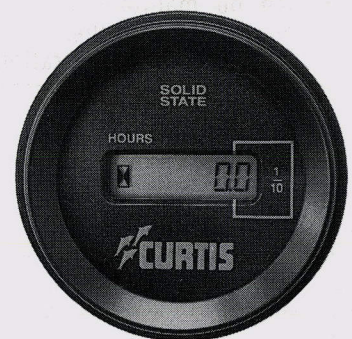
If you know more about "Eel" or "Woodland Lily", or any other old electric boats, please contact Edward Hawthorne on 0628 521606 for inclusion in our archives.

Curtis

count the hours

Curtis are best-known for their electronic controllers, that are fitted to many of our electric boats. But the company's origins were in the field of counters and timers, and they have recently launched a range of electronic hour-meters designed specifically for marine use. The new

instrument features all solid-state electronics, with an LCD display that will read up to 99,999.9 hours, making it suitable for monitoring the use of an engine or generator for its entire lifetime. Waterproof, with terminals in stainless steel, it will withstand the marine environment, and its 52mm round case will match all commonly-found ranges of instruments. The excellent price of around £16 means that it could be used to monitor battery usage and motor life, simplifying servicing procedures on frequently-used boats.



Electric cruising on the Broads becomes a reality

The first steps

Back in July, when Eastern Electricity began the installation of a network of electric recharging points in the Northern rivers of the Norfolk Broads, it was hoped that this initiative would see the start of electric cruising as a viable commercial activity on the Broads. The move was welcomed, not only by electric boaters but also by environmental groups, the local press, and very importantly the Broads Authority itself which had been working with Eastern Electricity on the scheme for a number of years.

When charging points were installed there were a number of private electric day boats

operating on the Broads but, as yet, no electric weekly hire cruisers. One point of view is that there were no weekly cruisers because there was no way of recharging them, but on the other hand there was no reason to design and install electric charging points if there was no demand for their use. The chicken and egg situation was solved by Eastern Electricity taking the lead and installing the first of six charging points in July 1992.

The success

Nine months later, the gamble has already paid off and the UK's first electric weekly hire cruiser Silent Poppy, built by independent boat builder Colin Facey, starts its first-ever season from 3rd April onwards.

The locations of the recharging points at Coltishall, Hickling, Horning, Ludham, Potter Heigham and Stalham have been determined by the overall need to mirror the typical route taken by a weekly cruiser on the North Norfolk Broads and provide battery charging points which are evenly and conveniently located. Each recharging point caters for two boats and the current infrastructure, which will be extended as demand grows, will support about 20 boats.

Many holiday-makers will now get the opportunity to experience the joys of electric cruising for the first time, and will quickly realise the advantages of a boat that runs almost silently, causes no pollution at the point of use and has a hull design which reduces wash and helps alleviate bank erosion.

Those booking Silent Poppy for a week's cruise on the Norfolk Broads will be able to get closer to the wildlife without scaring it off with the noise of the engine, smell

nothing but the sweet fresh smell of country air, and know that they are doing as much as they can to help retain the natural beauty of the area. For confirmed electric boaters this is nothing new, but for those who have only been able to get access to diesel boats for their annual holiday "messing about on the water", the Silent Poppy will come as a revelation!

Silent Poppy

Silent Poppy is a 21 foot glass fibre electric cruiser powered by 24 Chloride Motive Power batteries.

Holiday-makers who rent the boat are not expected to go without any basic comforts either. A fully fitted galley with a large sink and drainer and a cooker with an oven are included in the four berth boat, as well as the essential toilet and shower. All the seating is well cushioned and, just in case the English weather forgets that it is meant to be a summer holiday, there is a fully folding canopy with removable side sections which will protect the pilot and any passengers on the upper deck from the elements. But if they want all the comforts of home, all they have to do is link up directly to a charging point and a standard 240 volt AC supply is available from which to run microwaves, televisions and even the stereo!

Colin Facey has been involved in the transport industry for many years and started his boatyard in Horning in 1982. In just ten years, his family-run business has grown to become one of the largest independent boat builders in East Anglia. He is now firmly behind the electric boat crusade, and thankful for the Eastern initiative that made it all possible.



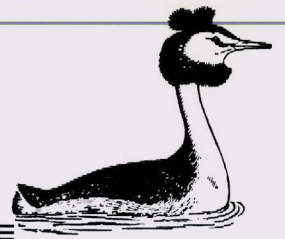
The Electric Lady of the Lake

Hot on the heels of our story on above about the Silent Poppy Broads hire cruiser comes news of a second electric-powered hire boat on these waterways. Just to be completely different though, Camelot Craft's Electric Excalibur is in fact a sailing boat, with the electric drive providing auxiliary power, replacing a previous diesel engine.

The 25ft 9in (7.85m) yacht has been fitted with one of the first production versions of the Lynch electric motor, whose high efficiency and low weight have contributed

to a remarkably low power package. The motor runs at 12V, and uses just 480W to push the 4500lb (2050kg) boat at its 3.5mph cruising speed. This means that an 800Ah battery pack will give the boat a 20-hour range, more than sufficient for a normal week's hire. The characteristics of the Lynch motor mean that if the boat hits head winds, the power output will tend to rise, matching the extra demand. The low rpm of the motor mean that a large diameter propeller can be fitted, further improving efficiency.

The boat is being placed as part of the yard's normal hire fleet, and already customers are commenting favourably about the smooth silence of its performance as opposed to the rattle and thump of the diesel. The only problem will come if they stop using the sails altogether and demand even greater battery capacity!



Mike Cooper-Reade of Eastern Electricity plugs in the new electric Broads hire cruiser

The safety angle

Because the holiday-makers who will be hiring Silent Poppy are all likely to be complete novices at electric boating, Eastern Electricity has been working closely with Colin Facey and the Broads Authority in order to ensure that the charging operation is completely safe and there is no danger either of any accidents, or of holiday-makers being stranded because the battery has run flat.

Eastern Electricity has developed recharging points specifically for use in proximity to water. The recharging point uses a card meter which is programmed to accept electric boat charging cards and incorporates a number of safety features in its design:

The power cable can only be connected and disconnected at the charging point. This prevents the live end of a cable from being dropped into the river.

The plug on the power cable also forms part of an electric interlocking system which ensures that the boat cannot be driven away until the cable and plug are safely stored away on board the boat.

If the boat drifts away from the charging point while the power lead is still connected, the plug will be automatically released from the socket.

Removal of the plug from the socket will automatically cut off the power to the socket.

If any electrical fault occurs on the boat, resulting in the electricity shorting to earth, the power to the socket is automatically cut off.

An active earth loop monitoring system is fitted to continuously monitor the earthing system. This ensures that if the earthing arrangements are damaged or interfered with, the supply is automatically cut off.

A sensitive 30 milliamp residual current circuit breaker is also incorporated to automatically cut off the supply in the event of personal direct or indirect contact with the live conductor.

An alarm sounds when the battery runs low, giving ample time for holiday-makers to find their way to the nearest recharging point. If this is ignored the boat will continue until it reaches a point at which the engine will cut out. This is to ensure that the battery will never be run completely flat. At this point, an over-ride key from the boatyard will allow the boat to start up again and be driven to the nearest charging point.

The recognition

In recognition of the year's hard work, Mike Cooper-Reade, Eastern Electricity's environment business manager, was recently awarded the St. Davids Trophy by the EBA for "a significant advance in the field of electric boating" by Eastern Electricity in 1992. The presentation was made at the Earls Court Boat Show by Lady St Davids on behalf of the Electric Boat Association.

The trophy is a silver cup originally called the "BP Challenge Trophy" which was won by Fiona, Dowager Countess of Arran in an off-shore power boat race and has been donated by her in memory of Viscount St Davids.

More information from Mike Cooper-Reade, Eastern Electricity,
Tel: 0473 688688. Fax: 0473 553250.

They're Off!

We thought we were doing well when we got a fleet of 27 electric boats at last year's Wargrave rally, but the Duffield Electric Boat Company of California regularly get 50 or more craft to their annual rally, all from the same make. However when you discover that there are more than 600 Duffield boats in the Newport Beach area alone, you realise that it is not surprising that they get a good turn out. The rallies also seem somewhat livelier events than ours, with treasure hunts, handling competitions, and what looks from the picture like a waterborne Calgary Stampede. Boat sizes in the fleet range from 16ft, 18ft and 21ft, and they are sold in the UK under the Voltaire name.



New approach to battery charging on boats

Recently considerable discussions and technical appraisals have taken place on the subject of safe charging of batteries on electric boats, with particular reference to the possible hazards associated with ac mains power on board. The main thrust of the approach has been to incorporate safeguards against possible faults in the wiring or mains-powered equipment on board, to avoid electric shocks to the occupants or their neighbours. However, it could be possible to charge the batteries without the need for high-voltage mains electricity to be taken aboard. The Inductran system is already used in industrial applications. In this article the makers examine the feasibility of adapting the technology for use on boats.

Electric power for boats has many advantages, however serious consideration has to be given to the fact that electricity and water do not mix and one of the greatest shock risk areas is when recharging the batteries.

The use of conventional charging methods require the charger to be connected to the mains electrical supply by the use of plugs, sockets and cables all of which are vulnerable to being dropped into the water or allowing water to seep into the live contact parts.

Fortunately there have been many advances made in the area of Residual Current Circuit Breakers (RCCB's) and Earth Loop monitoring circuits. These systems provide the means to automatically check

the integrity of the earth path of the total system prior to the connection of the supply and a fast reliable means of disconnecting the supply should an earth leakage be detected. However, it is possible to go one stage further along the safety route, and eliminate the direct connection of the boat to the shore completely.

The advantages of inductive charging

The Basic Principle

The transfer of energy from the mains electrical supply to the mobile recipient, (in this case a battery powered boat), is achieved by the use of electro magnetic induction.

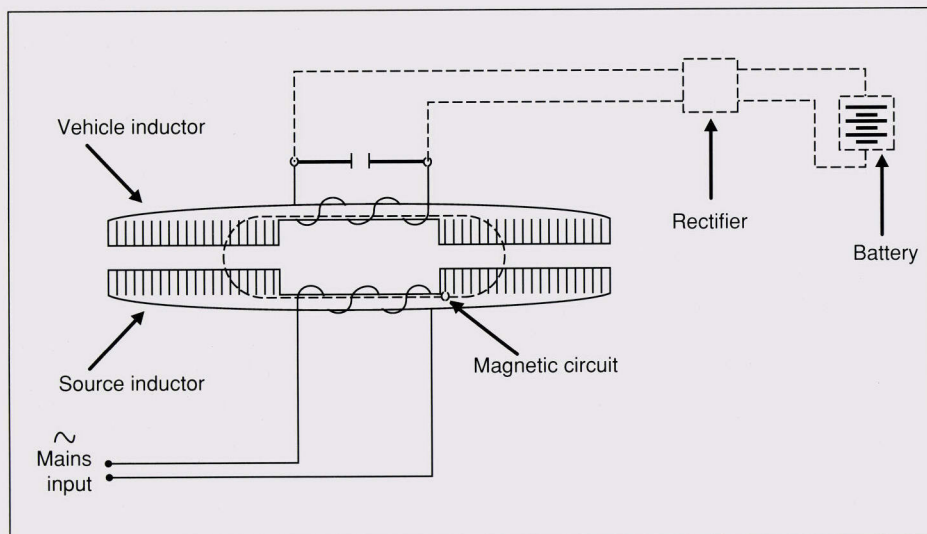
An inductor which is connected to the mains supply provides the source power for the system, (source inductor). A corresponding mobile inductor, (boat inductor), is then placed adjacent to or on top of the source inductor. The transfer of energy from the source to the boat is then via the air gap between the two inductors and the output from the boat inductor is then rectified and used to provide the charge potential for the boat batteries.

The switching of the mains electrical supply can be totally automatic, by the use of an electromagnet with the boat inductor and a corresponding electro-magnetic switch with the source inductor. This arrangement results in the mains electrical supply only being applied when the boat inductor is present.

Reduced Shock Risk

With the Inductran system there are no exposed contacts or connections. The inductors are totally encapsulated in resin, which give them the appearance of 'plastic slabs'.

There is no requirement to make any plug-in electrical connection and all cable connections can be sealed, made

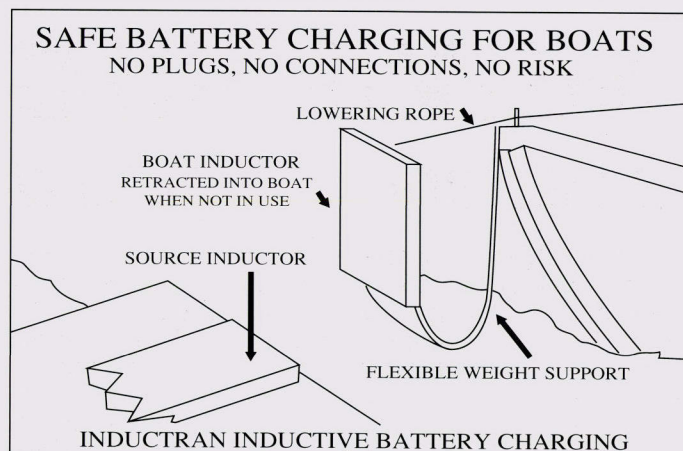
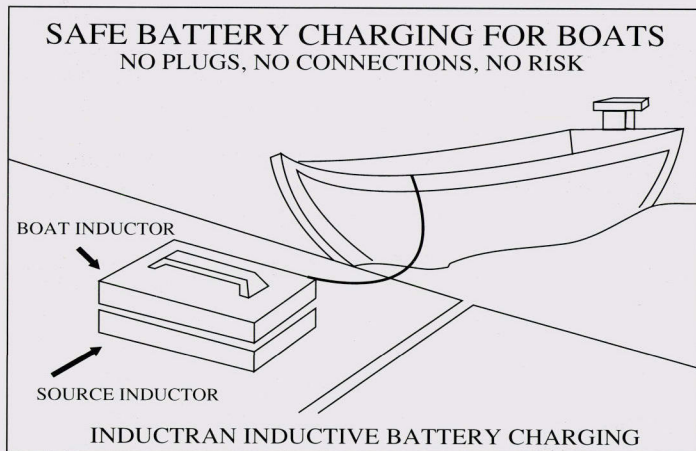
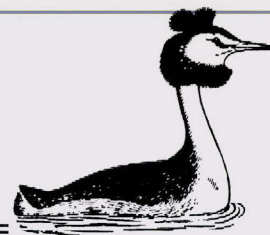


The Inductran charging system, with no direct wire contact between shore and boat

Big Electric Breakfast



EBA members may not be regular viewers of Channel 4's Big Breakfast Show, but the zany early-morning programme is rapidly becoming our best exposure of electric boating. The studios are right alongside Old Ford Lock on the River Lee, and the show is happy to feature waterborne activities whenever possible. Our first success was when the Thames Electric Launch Company took one of Bossom's Tom Tom funboats, fitted with a Combi Electric Saildrive and launched it on the river. Presenters Chris Evans and Gaby Roslin took the boat for a spin, and it now features in the regular evening trailer for the show.



For more information on the Inductran system, contact: Senior Davis Derby, Alfreton Road, Derby. Tel: 0332 41671

waterproof and prevent the ingress of water. The boat electrical system is totally isolated from the mains electrical system by the operating air gap. This prevents contamination of the low voltage boat installation from that of the mains system.

On Board Charge

The Inductran system offers all the advantages of 'on board charging'.

Ideal Charge Characteristics

The charge characteristic of the Inductran system is designed to allow safe full charge cycles or frequent opportunity charges without damage to the battery.

The charge characteristic is mainly controlled by the electromagnetic design of the boat inductor resulting in the simplification in needs of the rectification electronics and size of the enclosure.

Low maintenance

There are no moving parts, plugs, sockets or connections. This together with the charge characteristic, which can result in reducing the frequency between top up times on vented lead acid batteries, and its suitability for charging sealed lead acid batteries can make significant savings in maintenance requirements and costs.

High efficiency

There is no penalty to pay in terms of efficiency for this form of energy transfer. The Inductran system has a proven efficiency of 90% from mains power to battery input.

Charging networks

It is envisaged that networks of source inductors could be distributed along waterways allowing a safe and convenient method of extending the range of battery-powered boats.

Tariff payment

The boat inductor can carry a minute passive radio tag which will carry the unique identity of the boat. The source inductor station will have a corresponding reader unit and energy meter. This will allow the automatic identification and billing for the energy used, and dispense with the need for cash or card transactions.

The practicalities

There are different problems to be solved with the use of Inductran applied to boats as opposed to the traditional wheeled transport. These are principally the fact that boats move in irregular ways when moored,

as a result of tidal rise and fall, or wash.

With smaller craft the significance of this problem is greatly reduced. For example on many reservoirs there are fleets of small powered craft used for fishing. If these were battery powered, the size and weight of the inductor would allow the boat inductor to be handled with no more difficulty than a two-gallon fuel can.

For larger craft the weight of the inductor may be too large to allow single-handed operation in which case a method of lowering the boat inductor to the source inductor would have to be considered, which would also have to allow sufficient flexibility of movement when the connection has been made.

Conclusion

The benefits of using the Inductran method of charging batteries is well proven in industry. Progress is being made with regard to this technology being used on road-going vehicles. It is therefore a natural progression that this principle be adopted to allow the use of battery power with boats to share the same safe and convenient benefits as an investment for now and the future.

Their next introduction to environmentally-friendly boating came when they featured the River Robin, pictured on our front cover this issue. The Robin consists of the shell of a Reliant Robin, fitted with a watertight bottom, and powered by a Combi 1200 electric outboard. It was put together by the Ecospace Company, to publicise their ecological services, and judging by the fact that it has received national TV and press coverage, they have made a shrewd move. A pack of Chloride Motive Power gel batteries complete the installation, and the Robin will be performing at Move Electric and the Inland Boat Show.

Charging points progress on the Thames

The NRA have announced that they are setting up a programme to install charging points along the length of the Thames. Initially nine points will be installed adjacent to locks, at approximately 15 mile intervals. The points will be to the approved type agreed between the water authorities, and the programme will start in 1993.

Depending on the demand, and the opportunity, additional points will be added at appropriate locations.

The NRA had already foreseen the likely need for charging points, and in recent years when major refurbishment work has been carried out at locks, wherever possible the necessary ducting has been laid under the ground to enable cables to be easily run through. The proposed list of locks that the points will be installed at is:

| | | |
|-----------|----------|-------------|
| St. Johns | Benson | Cookham |
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INFORMATION SHEETS

In response to repeated requests from members and other organisations for technical information on all aspects of building and operating electric boats, the EBA has started to produce a series of Information Sheets. Written by experts in each field, these are between 1 and 5 pages long, and contain much valuable technical information and advice. Seven titles have already been produced, with more on the way, but we are always looking for any other contributions from anyone with experience of the many aspects of electric boats. The Sheets are available for members and non-members, with a price differential to encourage you to join.

The task of collating and dispatching the Sheets has generously been undertaken by committee-member Stephen Thackray of Marechal Plugs and Sockets, and to obtain your copies, send an A4 SAE, plus cheque made out to the EBA, to: Stephen Thackray, Marechal UK, Archway House, Station Road, Chester, CH1 3DW

Existing titles:

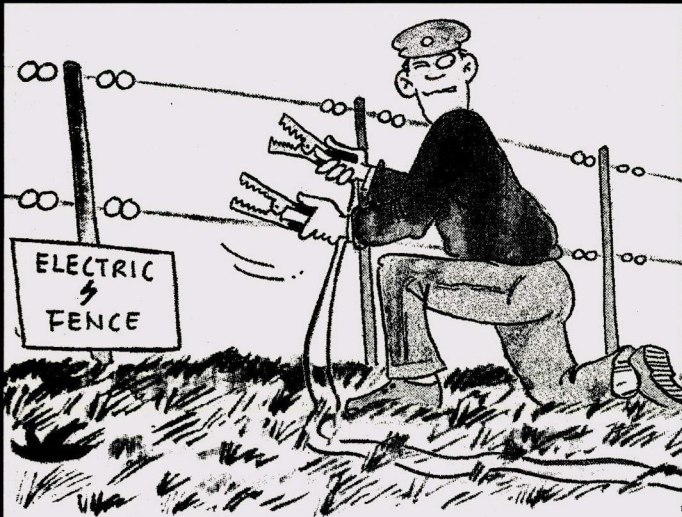
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MOTOR BOATS MONTHLY



For handy hints and tips each month...

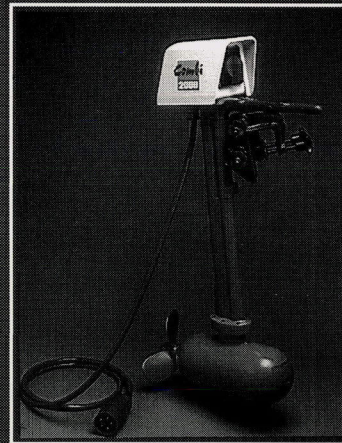
JOIN THE ELECTRIC BOAT ASSOCIATION

The Electric Boat Association is an organisation dedicated to the advancement of electric boating. Its members include owners of electric boats, enthusiasts of the sport, companies involved in building and selling electric boats and associated products, and other organisations with an interest in electric boating. It organises rallies, meetings and boat show stands. It also acts as the coordinating body for a wide range of individuals and organisations involved in electric boating.

The EBA publishes the quarterly Electric Boat News, sent free to all members, and an extensive list of Technical Information Sheets on the various aspects of building and operating electric boats.

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