

ELECTRIC BOAT *News*

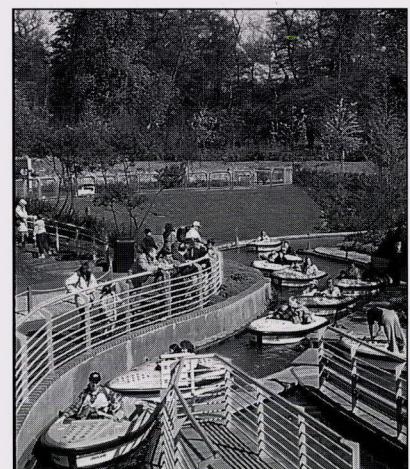
The Journal of the Electric Boat Association

Volume 10 Number 2 Summer 1997

ISSN 0969-031X



VOLTA CHALLENGE
USER GROUP NEWS
EPSILON ODYSSEY
U. S. RACERS



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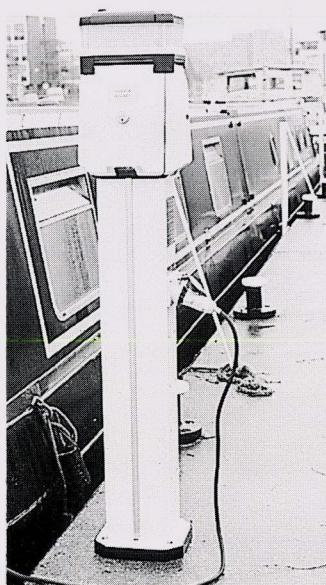
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ELECTRIC CHARGING PILLARS

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Hawkins Electrical Ltd has spent considerable time working with the British Waterways Technical Services Department in developing the charging pillar which is being used for the provision of power on inland waterways for the charging of boat batteries and providing power for general use.

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**Type 3: 1x16a and 1 x 63A
Socket Outlets**

Type 4 2x16A Socket outlets

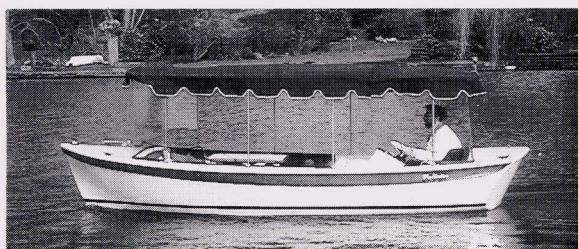
For more information about this project and other services we provide, please contact our sales department.



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EBA CALENDAR 1997

Some of the events which may be of interest to EBA members. The EBA may be present at some of the events, perhaps with its own stand.

1997

JUNE 7 1997 General Meeting of the EBA, Upper Thames Sailing Club, Bourne End, Bucks.

JUNE 8 Wargrave Rally

JUNE 28 Reading Water Fest, Blake's Lock, Reading.

JULY 2-6 Henley Royal Regatta

JULY 19-20 Thames Traditional Boat Rally, Henley.

AUG 22-25 National Waterways Festival & Inland Boat Show, Henley-on-Thames.

AUG 30 Cookham Regatta.

SEPT 5-7 ECO Boat, Oulton Broad.

SEPT 13-21 Southampton Boat Show.

OCT Laying-Up Supper.

1998

JAN 8-18 London Boat Show.

FEB 14-22 National Boat, Caravan & Leisure Show, Birmingham.

For further details of any of the above, or notice of other events, please contact the Secretary.

UNIQUE OPPORTUNITY FOR EBA MEMBERS

John Williams offers what will probably be the final opportunity to purchase a bare hull moulding of the 29ft Replica Edwardian Steam/Electric Launch (Frolic) at the bargain price of £2,500 plus VAT (ex works). The offer is available to members of the EBA only and is for DIY completion (not commercial fit-out). £100 will be paid by John Williams Boats to the funds of the EBA for each hull ordered and delivered.

Contact John Williams Boats at the Willows Boatyard, The Staith, Stalham, Norfolk NR12 9DA. Tel: 01692 80953

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Electric Boat Association.

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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 control, we cannot be held responsible for any damage or loss which 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.

Printed by: Headley Brothers,
The Invicta Press, Queens Road, Ashford, Kent.

The Journal of the Electric Boat Association

Volume 10 No. 2 Summer 1997

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Cover pictures: *Main picture: The Haines 29, STELCO's 645 Frolic, "Shiel Water" and "Jasec" were among the many electric boats on show at Val Wyatt's Open Weekend.*

Smaller picture: The fleet of Bossom's electric boats being put to good use at Legoland (see E. B. News Summer 1995).

THE EBA CROSS-CHANNEL VOLTA CHALLENGE IMPORTANT NEW DEVELOPMENTS

In our last issue we announced that the EBA was challenging any battery-powered electric boat to beat the return Cross-Channel record of 8 hours 5 minutes set by "Volta" in 1886.

Responses are still coming in and the matter was discussed again by the EBA Committee at its recent meeting.

Some interested parties have questioned the condition that the Challenge must be made in a battery-powered boat. Stefan Sachs, for instance, wrote from Germany to say that he hopes that the rules of the Challenge will be amended to include solar-powered boats. "Running from a battery only is the technology from 111 years ago", he says. Malcolm Moss, builder of the Solar Pichola, is of the same view.

On the other hand, from the USA, Gary Crane, Vice President of the Duffy Electric Boat Co., says that their new (battery powered) Duffy Voyager [see page 6] will be brought to Europe in 1998 and they are looking at the Volta Challenge with great interest.

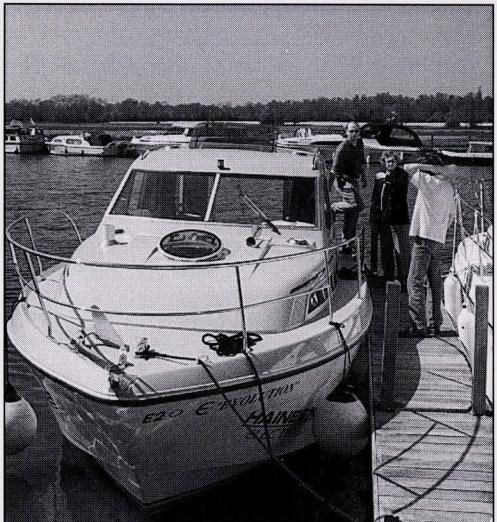
The rules of the Volta Challenge specified battery power because the object of the exercise was to beat Volta's record - and that was set using batteries. However, the Committee has taken account of the representations made to them and has decided to promote a separate, parallel event to be known as the

EBA Solar Cross-Channel Challenge.

Apart from the power source, the rules will be the same as for the Volta Challenge. A solar boat would not be able to claim Volta's record so, in effect, the first successful solar return crossing would itself set a record for others to challenge later.

There is no timetable for either of the Challenges. Boats are expected to make their attempts as and when they can: there is no time limit; it is not a race. There is no reason why attempts should not be made this year and others next year. For both events, the EBA may offer financial assistance to support a British attempt and will put up a trophy.

Potential competitors should contact Paul Jackson at the address above.



Gavin Seward shows the Haines 29 to Lynn Lewis of Nauticalia, the Shepperton-on-Thames marine accessories suppliers.

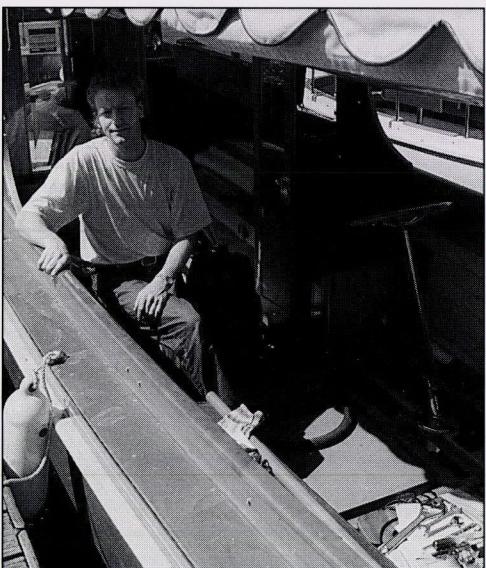


An array of electric craft waiting to be put in the water included launches from John Williams and canoes from Creative Marine.

Val Wyatt's May Bank Holiday Open Days



EBA Secretary Barbara Penniall explains the advantages of membership to a visitor.



Visitors watched David S. J. Graham, builder of "Shiel Water", (see E. B. News, Winter 1996), installing larger battery packs to give a greater range.



John Williams 21 Cabin "Jasec", brought to the show by owners Anne and Stuart Cliff from their moorings at Phyllis Court.



STELCO's 645 Frolic, offered at £17,925 plus VAT.



Barbara Penniall and Emryhs Barrell put up the canopy on TELCO's Voltaire 18 before taking your editor on a delightful trip up the Thames



THE RACING BOYS ARE STILL GOING STRONG!

JOHN PARAMORE REPORTS FROM THE U.S.A.



This past racing year saw a season-long catfight between Brad Boddy and Steve Cloud. In race after race we saw the front runners deck to deck at speeds of 70 to 80 mph, with as many as seven lead changes per two-lap heat. In the end, Brad Boddy won the national championship by a mere 113 points. If someone had told me in 1992 that it would come to this in 1996, I'd have thought him to be hallucinating.

When we started racing electric boats, I had visions of hordes of "pontoon" boats powered by trolling motors - and I wasn't disappointed. By the time the sponsoring electric authority gave up though, a nucleus of reasonably fast boats had formed, and we were able to initiate electric boat racing as an American Power Boat Association special event class in 1994. Head to head competition soon produced speeds capable of raising the E-boat speed record to 55.9, and then, in 1995, to its current 70.597 mph. [E. B. News Spring 1996]

In the end, getting from troller canoes to relatively fast E-boats

turned out to be limited only by imagination ... something most of the players had in abundance. Initial competitors came from the ranks of electric vehicle enthusiasts such as Burton Gabriel, Dave Cloud and Fred Saxby. These were folks who understood how to get power from an electric motor and who were frequent competitors in electric vehicle events. Others such as Bill Paramore and Norm Boddy came from a boat racing background.

When we started head to head racing in 1994, the typical E-boat was a runabout of some sort. The simplest was Fred Saxby's 14ft Glastron ski-boat powered by a Prestolite forklift motor atop an Evinrude lower unit. In the middle of that first season Don Crabtree converted an ancient Marchetti hydroplane and won his initial race with it, proving that enough air lift could be generated to get all that lead off the lake. Norm Boddy then commissioned Bill Blackwell to design and build an electric-specific hydro for 1995. The result was a 14ft composite outboard that ran 5 mph over Norm's existing E-boat

record on its first test run. Next up was a Dave Cloud designed and built composite hydro that went on to raise the record to its current 70 plus.

At another level, Bill Paramore and Fred Saxby decided to see just how *little* you needed to make a proper racer. They went racing at 48v to provide some of the more interesting shows of the summer. The typical 48v racer is a "C-stock" petrol hydroplane powered by a 12v forklift motor and four car starter batteries. Currently these boats run as fast on 4 batteries as the first E-boats did using 10 to 12.

Races are really simple affairs. Boats are set out and lined up at a dock or adrift and flag-started for a two-lap sprint. E-boats are usually scheduled first and last, giving them plenty of recharge time.

The setup on these boats is really simple. Any decent hull with enough room for the "fuel" will do. Motors are generally low-voltage industrial DC or surplus aircraft starter/generators powered at up to four times nominal voltage. To date, motors have been run "as-is", unmodified. Additionally, these motors produce enormous torque, which shows not only in the weight they can move, but in how quickly they can get under way. In a flag-started two lap heat, getting a fast start is most important. A 144v boat can accelerate to 70 mph in 300 feet.

E-boat rules are kept simple and aimed towards safety and keeping exotic technology at arm's length until it's affordable and available to all. Voltage, for example, is limited to 144v DC at the top. Mandatory kill switches are made up of a small bus-bar tethered to the driver which, when removed, disables the system and cuts power into packs no greater than 72v. Batteries are restricted to commercial lead/acid only. They're plentiful and fairly inexpensive, and present no toxicity problems.

Six race meetings are scheduled between May and August this year. Reports are available via e-mail from wizprodj@eskimo.com

A NIGHT OUT FOR TWO FOR A COUPLE OF QUID

In the Summer 1995 edition of *E. B. News*, Kevin Desmond challenged all e-boaters to beat the record he set in 1986 when, with Rupert Latham, he covered 101 miles in a non-stop 24-hour trip in a *Frolic 21*. After some abortive attempts to set up an endurance competition on the Broads, Kevin's challenge was firmly taken up last autumn by father and son Colin and Gavin Seward in their *Brimbelow E-Drive*-powered *Frolic 21* "Epsilon" [see *E. B. News*, Autumn 1996]. Did they beat the record? Here is Colin's account.

When the 25 mph wind caught the bow of our *Frolic*, we knew that we had not chosen the best time for an endurance run. The timing was dictated by the date of "Silent Sensations", the annual Broads e-boat rally. We planned to cover our 100 miles in 24 hours' continuous running then, after charging batteries, to arrive triumphant at South Walsham having established a new distance record.

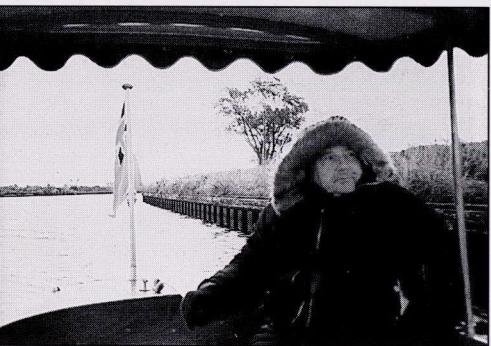
Mother Nature had other ideas!

Within a few minutes of leaving our starting point on Hickling Broad, we, and most of the contents of *Epsilon*, were soaked. Heading directly into an uncomfortable chop and a bitterly cold wind, we immediately had to reduce speed.

We had planned to achieve a steady speed through the water of 4.6 mph using 9 amps from the battery. Trials had shown that this was the most economic cruising speed and should have given a total distance of 100 to 110 miles in around 20 hours. A check on speed across Hickling showed that we were making only 3½ mph and using more current than planned.

When we reached Candle Dyke we could escape most of the wind effect by cruising close to the reeds. A fine drizzle which set in as we crossed Hickling turned to drenching rain and confirmed that we were in for an uncomfortable night. The elegant canopy of the *Frolic* had obviously been designed to ensure that no matter where you sit in the boat, there is no way of avoiding drips going down your neck.

Fish and chips picked up at Potter Heigham Bridge lifted our spirits. We had covered 4.3 miles in just over an hour. It became apparent as we shot the bridge that the tide had been helping us, but we knew that this would be short lived. In forty minutes when we reached Thurne Mouth, we would have both wind and tide against



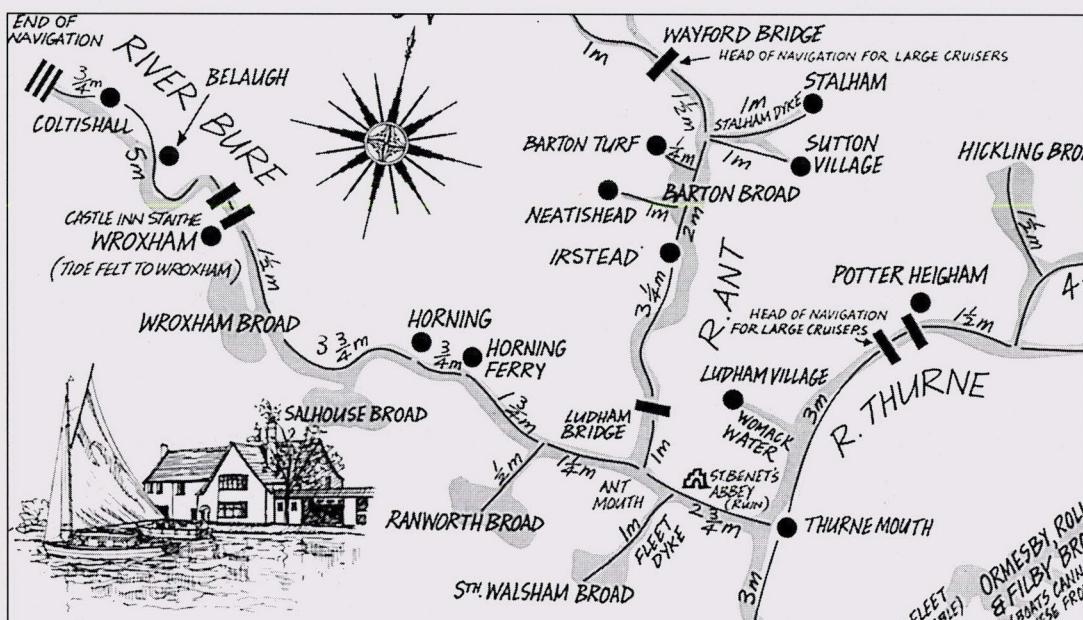
Is this Colin or Gavin? Even they are not sure!

us. Using whatever shelter we could find and hugging the inside of bends, we continued for the next two hours. The rain had eased and we caught a glimpse of the full moon. Suddenly, as we were passing the ruins of St. Benet's Abbey, there were two vivid flashes across the marshes in the general direction we were heading. We speculated whether this was someone trying to tell us something or a fellow electric boat enthusiast having a few problems. We later found it was an electrical sub-station blowing up in Norwich!

We left the exposed marshes and entered the more sheltered reaches on the approaches to Horning. After 4½ hours' running we passed the Swan, the waterside hotel at Horning. The lights looked welcoming and it was clear that all inside were having a good time. The temptation was unbearable. We compensated with a good slug of hot brandy and ginger wine and concentrated on trying to guess which way the river went in the pitch darkness ahead. We passed Wroxham Bridge and moved into more tranquil conditions, reaching our turn-point at Coltishall at 11.12 p.m. having covered 23½ miles at an average speed of 4.04 mph.

We were 40 minutes behind schedule.

With no wind and only a gentle purr from the motor, we convinced ourselves that things would be better on the return run. By this time we were very cold. A combination of rain down our necks and condensation inside our waterproofs had



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Charging Points

'Charging Points' will appear regularly in *E. B. News*. This list of points on the Upper Thames has been compiled by Paul and Pauline Jackson in good faith from various sources. If any member is aware of any additions/deletions/corrections, please call (leave on answerphone) or fax Pauline Jackson on 01628 828256.

CALL AHEAD FOR RESERVATIONS! We suggest you enquire locally for appropriate accommodation.
Technical enquiries are best directed to EBA Committee Member Jim Keating on 01494 510770

Upper Thanes Charging Point	Miles from Teddington	Telephone No
Molesey Lock*	3	0181 979 4482
Shepperton/Nauticalia	10	01932 244396
Chertsey/Penton Hook Marina	14	01932 568681
Old Windsor Lock	19	01753 861822
Windsor Marina	26	03753 853911
Bray/Oakley Court Hotel*	27	01753 609988
Bray/Monkey Island Hotel	28	01628 23400
Bray Marina	28	01628 23654
Bray/Waterside Inn	29	01628 771966
Cookham Lock	32	01628 20752
Bourne End Marina	35	01628 22813
Bourne End/Edward Hawthorne	35	01628 521606
Marlow/Compleat Angler*	38	01628 484444
Temple Mill Island/Derek Chamberlain /Paul Jackson	39	01628 823427
Wargrave/Swancraft*	47	0118 940 2577
Wargrave/Val Wyatt	47	0118 940 3211
Shiplake Lock	48	0118 940 3350
Reading/Caversham Boat Services*	56	0118 957 4323
Streatley/Swan Hotel* (#4)	65	01491 873737
Goring Lock*	66	01491 872687
Cleeve/Thames Electric Launch Co.	66	01491 873126
Moulsford/Beetle & Wedge*	67	01491 651381
Sheridan Line Boatyard	68	01491 652085
Benson Lock	73	01491 35255
Abingdon /Upper Reaches Hotel	85	01235 522311
Sandford Lock	89	01865 775889
Sandford/Four Pillars Hotel* (#3)	89	01865 334444
Binsey/Bossoms Boatyard (#1)	95	01865 247780
Bablock Hythe/Ferryman (#2)	103	01865 880028
Newbridge/Rose Revived	107	01865 300221
Shifford Lock	110	01367 870247
Lechlade/Trout Inn*	123	01367 252313
Lechlade/St John's Lock*	123	01367 252309
Lechlade/Riverside Marina*	124	01367 252229

Those places marked with * do have accommodation either there or close by.

(#1) B & B Osney Lock 01865 247050

(#3) Opening July 1997

(#2) Slipway available

(#4) £10 per night if not eating or staying at hotel

British Waterways at Gloucester have advised us that there are charging points for electric boats at Gloucester Docks, Victoria Docks (off Gloucester main dock) and at Purton on the Gloucester & Sharpness Canal - please let us know where there are charging points so that a comprehensive list can be compiled.

Volunteers are required to compile lists for other regions of the country.

Thames Electric Launch Co
PO Box 3, Goring-on-Thames, RG8 0HQ

Tel: 01491 873126

Electric Boats, Electric Motors, Electric Outboards. We will sell you a new boat or convert your existing craft to electric power.

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The Electric Boat Centre - All your electric requirements. Agents for Stelco Electroyacht, Creative Marine, John Williams Boats, Haynes Evolution, Minn Kota Outboards, Stelco & Brimbelow Drives.

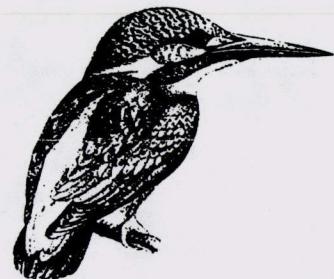
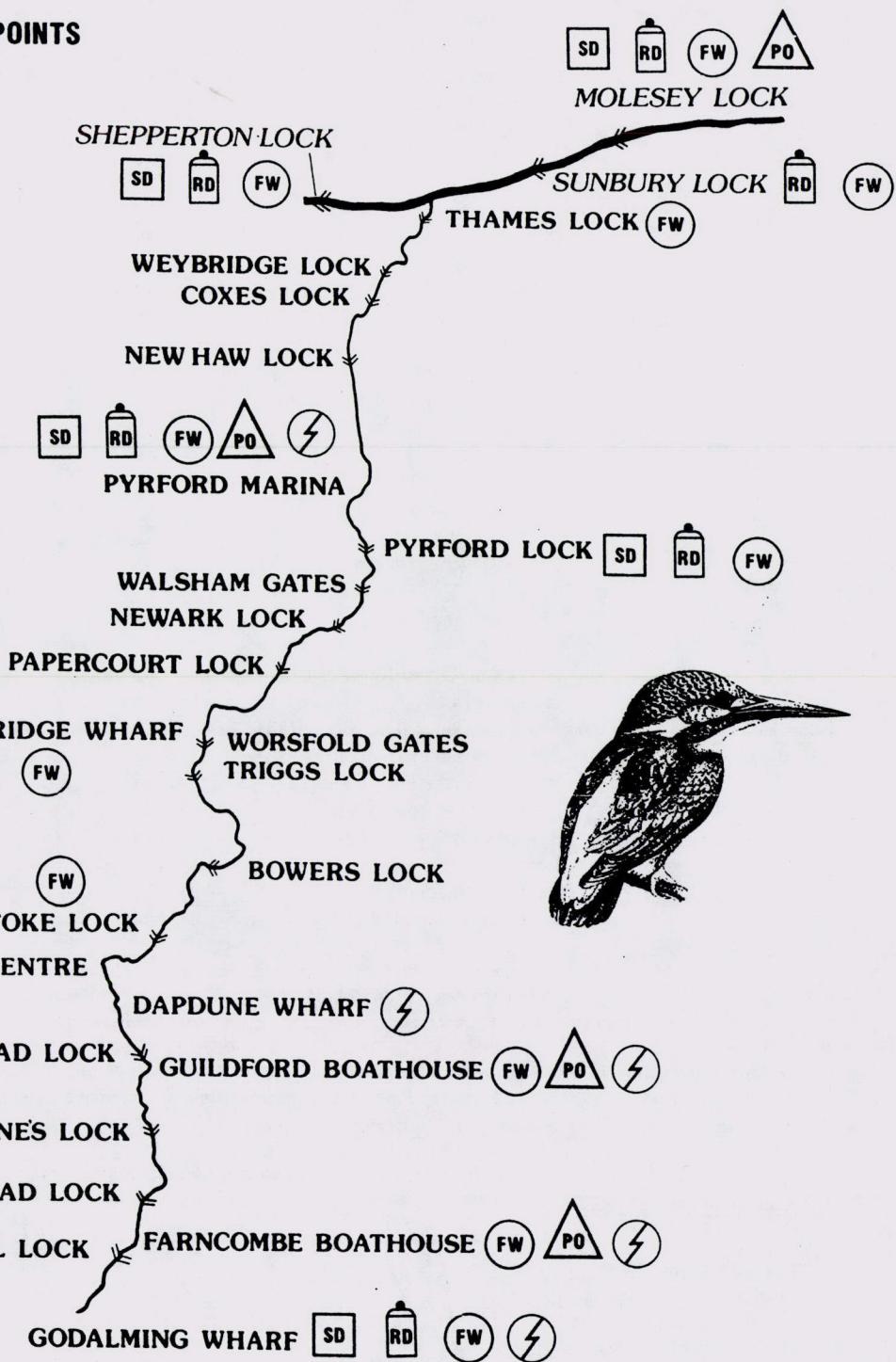
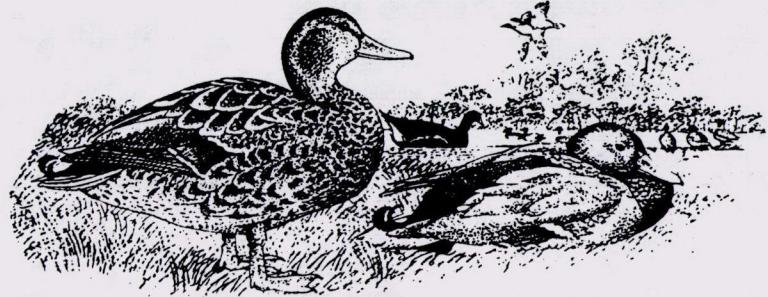
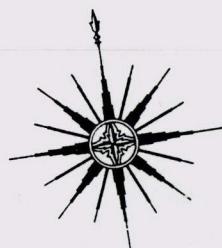
Wey Navigations Information



TWENTY MILES OF Wey Navigations WITH

- 9** FW FRESH WATER POINTS
- 4** SD SEWAGE DISPOSAL POINTS
- 4** RD REFUSE DISPOSAL POINTS
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(By arrangement)
- 5** ⚡ ELECTRIC CRAFT
CHARGING POINTS

WITHIN 2 Hrs
FROM ANY LOCATION





ELECTRIC BOAT JETS INTO THE BIRMINGHAM BOAT SHOW

Barbara Penniall reports ...

chilled us to the bone. More slugs of hot toddy gave temporary relief but made navigation more hazardous. In spite of the cold, slipping through mirror calm water with only the sound of the bow wave and the occasional screech of an owl made us realise just how different electric boats are. It did not, however, remove the thought that we had another 18 hours to go.

In the rush to prepare for the trip, we had missed the news that there would be a total eclipse of the moon. As we approached the end of the first lap at around 4 a.m., it became very dark and bitterly cold. The thought of doing it all over again was not at all comforting. We had covered 46½ miles in 11 hours, 20 minutes - an average speed of 4.10 mph.

The second lap was much the same as the first. At Thurne Mouth we encountered a foul tide and the wind started to freshen. We reached Wroxham Bridge at 9.30 a.m. and decided that as the battery voltage was down to 70 volts, we would not attempt to go on to Coltishall.

We had used more battery capacity than planned. Any thoughts of doing better than 100 miles were abandoned. Our priority was to get the boat back to Hickling so that it could be prepared for Silent Sensations. This called for reduced speed but fortunately for the first time both wind and tide were with us and the sun was shining. The battery had held up better than expected so the return trip was altered to take in some detours. The trip was completed at 5.30 pm on Friday. The total distance covered was 87½ miles in 24 hours' continuous running.

After taking into account the appalling weather conditions, the experience and the outcome were pleasing. Under normal conditions we would certainly have done better than 100 miles. The battery was still capable of giving almost full power at the end of the run. It was recharged overnight at a calculated cost of £2.20.

Not a bad night for about £1 each!

Colin and Gavin did their run on 29-30 September 1996. 'Epsilon' was powered by a 2kW Brimbelow E-Drive with 180 Ah x 72 volt battery.

Trailblazer Two, claimed to be the first electric jet boat, was on display at this year's National Boat, Caravan & Leisure Show at Birmingham. Light enough to be transported on a roof rack, yet advertised as being large enough to carry five adults, it is a versatile craft aimed at the recreational market.

We spoke to Tim Bedford, Director of Euromarine Ltd. who has developed the 3 metre clinker style hull in GRP with a jet unit body bonded into the hull. The electric motor is bolted directly to the jet unit making theft virtually impossible. The boat is offered in a variety of two tones; the model we saw had a grey deck with white hull.

With no propeller and a draught from only 11 cms, *Trailblazer Two* can be floated in very shallow water, making it a versatile craft for families and fishermen alike. With a weight of only 178 lbs, it would be feasible for two adults to carry it. Transported on

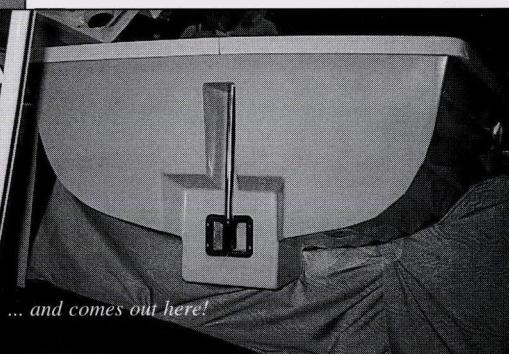
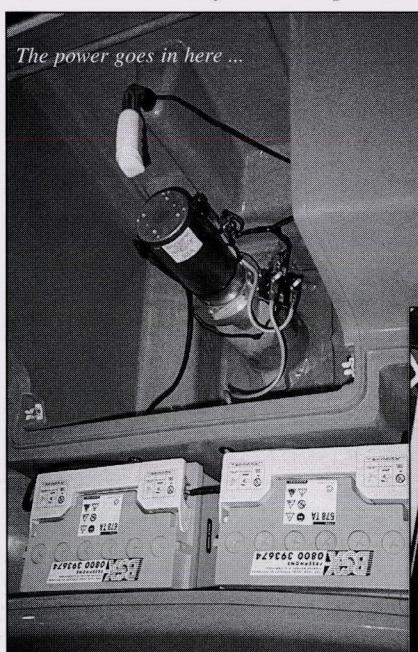


the roof of a car, this boat could be taken anywhere, to any river or canal and enjoyed by the whole family.

The jet propulsion system is powered by a 24v motor drawing 18 amps at 2,000 rpm and giving a maximum speed of 4 - 5 knots. Two 75 Ah batteries will provide up to 6 hours use, which means a whole day's pleasure on our inland waterways can be obtained with a single charge.

The *Trailblazer Two* sells at £1,375 including VAT

For further details contact Euromarine Ltd., Unit 2, Thomas Street, Wolverhampton, WV2 4JS, Tel/Fax: 01902 24005



ASSOCIATION NEWS

USER GROUP GOES LOCAL

As a result of some initial feedback to new Users' Group Chairman Paul Jackson, a network of local representatives/co-ordinators is being established across the country.

Each local co-ordinator will be a member of the EBA Committee (which meets quarterly) and will be responsible for liaising with local members (including manufacturers), organising the local "First Sunday" lunches (see page 7), developing new charging points in their areas and obtaining new and 'old' members.

Each member will be allocated to a particular region (by mooring) and any member should let Pat Davis (Membership Secretary - tel 01628 521189) know if they are misplaced. "Out of port" will be held in a group but if any member wishes to be allocated to a

region, please let Pat know.

The regions so far are:

Upper Thames (above Marsh Lock)

Paul Wagstaffe 01628 524376

Middle Thames (above Bray Lock)

Derek Chamberlain 01628 823427

Lower Thames Volunteer required

East Anglia John Williams 01692 580953

Midlands)

Lake District) Volunteers please

John Williams is already getting things under way in East Anglia. He asks us to announce that on Sunday 1st June he will be organising a gathering around noon in "The Barton Angler" at Gay's Staith, between Irstead and Neatishead on Barton Broad. He will be contacting local EBA members and inviting them "to start the thing off". "Come with or without a boat", John says. He will bring a couple of electric boats anyway.

INTO THE 21st CENTURY

What do you want from your Association? What should be its goals and how should it be organised for the 21st century? These questions are the focus of a joint study by Paul Jackson and Simon Davis, scheduled for discussion and approval at a special meeting on 8 September.

Suggested by Edward Hawthorne at a recent committee meeting, Simon and Paul will consult with members (trade and user) to map out an approach for the EBA to develop and expand the use of electric boating in the UK.

Any comments and thoughts are most welcome. An interim report will be presented at the 9th July committee meeting of the EBA and will be published in the next E. B. News

THE DUFFY VOYAGER

Construction is underway on the Duffy Voyager; a 62 foot battery powered, ocean going vessel. During the summer of 1997, Duffy Electric Boats will attempt to set a speed and endurance record from Newport Beach, California to Catalina Island and back without recharging. The course of approximately 50 miles is through the unprotected high seas of the Pacific Ocean.

The project was conceived by Marshall "Duffy" Duffield, President of Duffy Electric Boat Company in Costa Mesa, California.

The Duffy Voyager will demonstrate the company's considerable design and engineering expertise developed over 26 years of electric boat manufacturing. Duffy Electric Boat Company was founded in 1970 and now produces eight production boats ranging in size from 14 to 21 feet in length. The company is the world's largest manufacturer of electric pleasure boats.

The Duffy Voyager features a narrow displacement hull with futuristic "wings" to provide stability. Computer assisted design techniques were used to study the speed and performance of various concepts before finalizing the hull shape. A 1/10 scale model was built in late 1996 and successfully tested in scale seas of up to ten feet.

In January 1997, the construction of the full size hull began. The boat is being constructed using carbon fibre foam composite techniques to yield an ex-

tremely durable yet lightweight boat. The boat will be powered by a series wound DC motor and conventional lead-acid batteries. Duffield says, "We plan to use existing technology wherever possible. We want our customers to see that we use these same parts on our production boats."

For additional information, contact Duffy Electric Boat Company, 670 West Seventeenth Street, Costa Mesa, CA, USA 92627. Phone: 714-645-6812; Fax: 714-645-9206.





Regional 'First Sunday Meets' start in July

The new regional co-ordinators are getting arrangements underway for informal lunchtime meetings (with or without boat) on the first Sunday of the summer months. Out-of-region members are, of course, welcome.

Upper Thames (Paul Wagstaffe 01628 524376)
 Attending: 'The Swan' at Pangbourne - July/September
 'Pipers' at Reading - August/October

Middle Thames (Derek Chamberlain 01628 823427)
 Attending: 'The Flower Pot' at Remenham - July/Sept
 BBQ at Cliveden - August/October

East Anglia (John Williams 01692 580953).
 Attending: Southern - to be advised - July/September
 Northern: 'The Lion' at Thurne - Aug/Oct

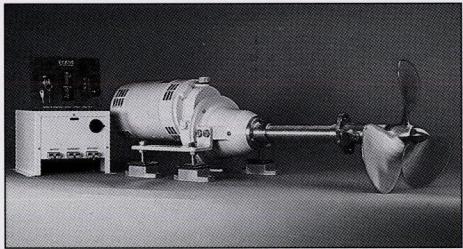
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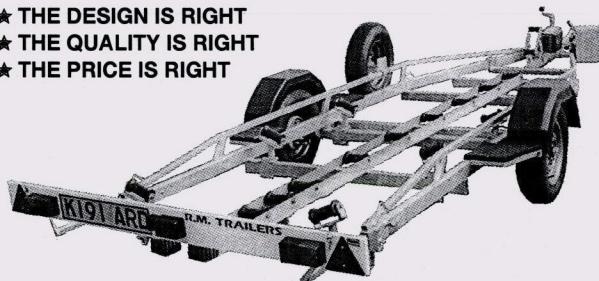
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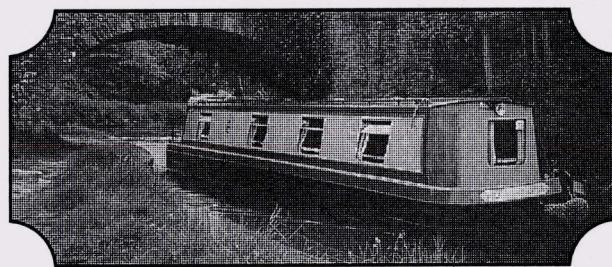
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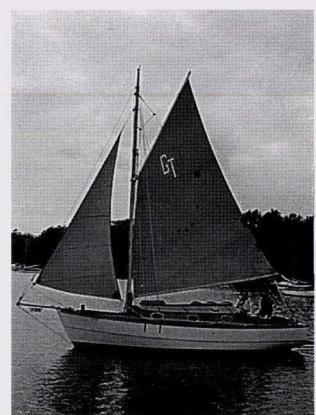
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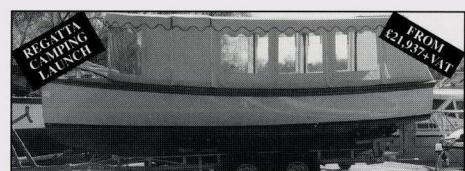
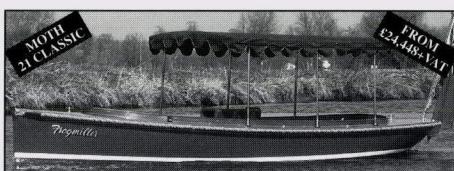
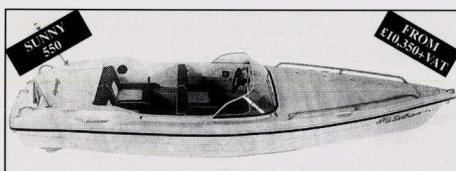
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