

QUEENSLAND

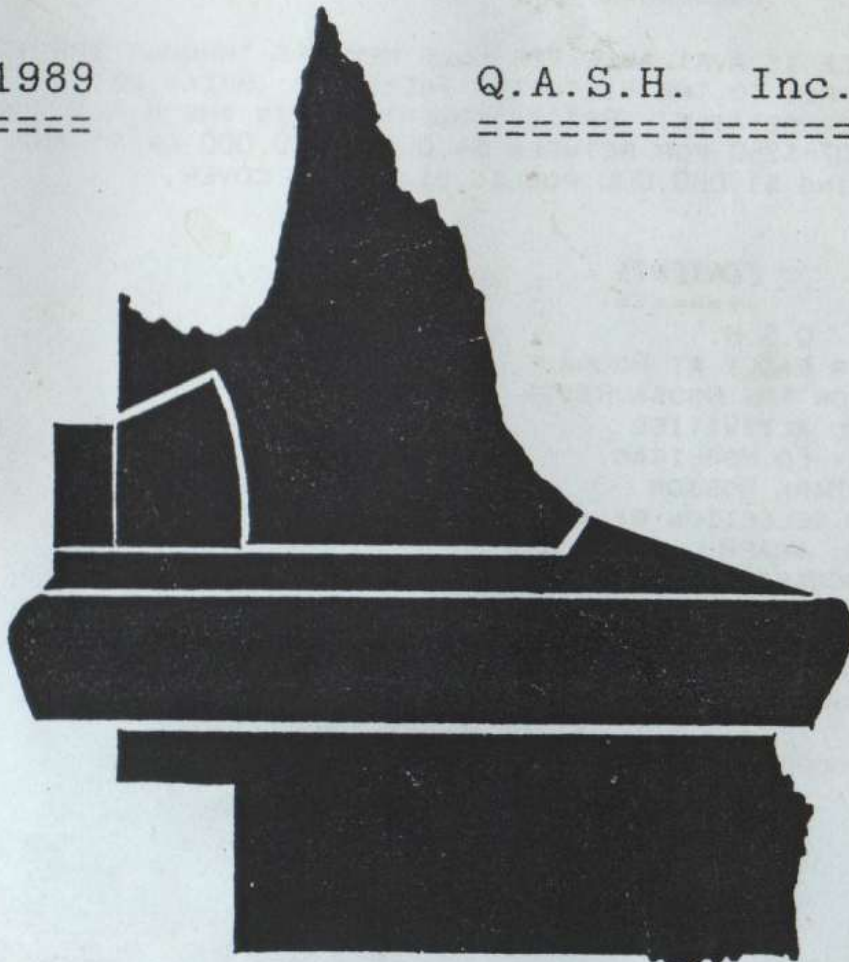
SPORTING HOVERCRAFT

APRIL 1989

=====

Q.A.S.H. Inc. 23rd EDITION

=====



Q.S.H.

QUEENSLAND SPORTING HOVERCRAFT

C/O 52 UTRECHT ST.,
LOGANHOLME QLD. 4129

COMMITTEE OF MANAGEMENT.
=====

PRESIDENT : MARK DOBSON 15 DAISY HILL RD., DAISY HILL 4128
PH 8084395
VICE PRESIDENT : DES GOSS 43 LUPRENA ST., MANSFIELD 4122
PH 3499743
SECRETARY : STEVEN ODGAARD 52 UTRECHT ST., LOGANHOLME 4129
PH 2098498
TREASURER : JOHN RUSSELL 10 BRODIE ST., HOLLAND PARK 4121
PUBLIC RELATIONS : POSITION VACANT
CHIEF RACE MARSHAL: KYLE KERR PH 2072653
CRAFT SCRUTINEER: PHILLIP AUDSLEY PH 071 459268

YEARLY MEMBERSHIP \$30-00 ASSOCIATE MEMBER \$15-00

QUEENSLAND EMBLEM ON FRONT COVER DESIGNED BY JOHN RAPLEY.

INSURANCE
=====

PRIVATE INSURANCE IS AVAILABLE FOR CLUB MEMBERS THROUGH THE VICTORIAN ASSOCIATION. APPLY TO THE VICTORIAN TREASURER; BRIAN WATTS PH 03 7231964 FOR DETAILS. PRICES ADVERTISED IN THE H.A.V. NEWSLETTER VARY BETWEEN \$107-\$250 FOR BETWEEN \$4,000 - \$10,000 CRAFT AND TRAILER COVERAGE INCLUDING \$1,000,000 PUBLIC LIABILITY COVER.

CONTENTS
=====

NEW CLUB NAME Q.S.H. PAGE 1
REPORT ON EASTER RALLY AT POONA PAGE 1
HOUSEBOAT TRIP ON THE NOOSA RIVER PAGE 2
CLUB PROMOTIONAL ACTIVITIES PAGE 2
SUNSHINE - BY ED HOOLIGAN. PAGE 3
RACING NEWS BY MARK DOBSON PAGE 3
FAN BLADE PITCH SELECTION BY JOHN RUSSELL PAGE 4
THRUST VS R.P.M. GRAPH PAGE 7
SERIES ON HOVERCRAFT SKIRTS NO 6. PAGE 8
NEXT MEETING PAGE 9
ADVERTISEMENTS PAGE 9
HOVERCRAFT CLUBS OF THE PLANET EARTH PAGE 10
VINTAGE AIR CUSHION VEHICLES INSIDE BACK COVER
NOOSAVILLE WHERE IS IT ? BACK COVER
=====

QUEENSLAND SPORTING HOVERCRAFT

Dear Air Cushion Vehicle enthusiast,

The name of our club " Q.A.S.H. " an acerbic acronym, as described by the club's founding secretary - Peter Morero, was put through the wringer at our last meeting. The reason for the change is due to the conflict between our amateur status and possible sponsorship for racing. We heard quite a variety of suggestions such as:

- Q.H.A. Queensland Hovercraft (Hotel) Association
- H.A.Q. Hovercraft Association of Queensland
- H.C.Q. Hoverclub of Queensland
- Q.S.H. Queensland Sporting Hovercraft
- Q.S.H.A. Queensland Sporting Hovercraft Association
- Q.A.S.H. Queensland Association of Sporting Hovercraft

The name agreed upon was Q.S.H.

The subject was spurred on by the club president - Mark Dobson and recorded in the minutes as Moved by Peter Venn and Seconded by Daniel Venn.

I intend to submit a letter to the Justice Department with the appropriate forms as soon as possible and if approved, our treasurer, John Russell will change the name of the club's bank account in time for the A.G.M., which will be held in August or September.

Our Easter rally at Poona was marred by breakdowns with both cars and craft, in fact of the 7 craft that participated, not one escaped the clutches of Murphy's Law - what can go wrong will go wrong. Despite these problems, the average hovercraft owner is, by necessity, a highly trained bush mechanic and by Sunday all broken fans had been reassembled, stripped frame fixings retapped, carburettors tuned, trailer tyres patched, and burnt out Holden voltage regulators replaced.

Ricky Leask who lives along the Tin Can Bay Road came along on the Friday with his white Turbo 240 for his first club rally and found out how 3 less fan blades produces extra thrust. John Russell had a good camping weekend with his family, Des Goss showed off his new colour scheme, Mark Dobson resurrected his Turbo 240, Phillip Audsley the club scrutineer, had a field day picking out craft faults, Geoff Perry-keene practised his dozer driving abilities in exchange for some machining to his Turbo 240 engine frame and my Scarab 2 sounded more like a V8 ski boat when one of the end caps fell out of the dual exhaust system. The Great Sandy Strait was infested with fish but they just weren't hungry, that's all.

QUEENSLAND SPORTING HOVERCRAFT

This month's rally will be held on the Labour Day long weekend and the venue is the Noosa River and Lake Cootharaba. The sleeping and cooking accommodation will be for 14 people aboard two houseboats; the River Belle and the Princess. Following a lot of phone calls and head counting we are confident of filling both vessels. The bond of \$400 has already been paid and we will need to confirm numbers and collect the balance at Wednesday's meeting. The fee is \$100 per person and this includes the houseboat hire, houseboat fuel, food and bond. The bond minus fuel cost will be proportionately refunded to members at the May meeting or in the following newsletter mailing. Suggestions for a food menu will need to be discussed on Wednesday night.

Details are as follows:

RIVER BELLE 8 Berth		PRINCESS 6 Berth	
Price	\$ 480.00	Price	\$ 400.00
Bond	\$ 200.00	Bond	\$ 200.00
-----		-----	
SUB-TOTAL	= \$ 680.00	SUB-TOTAL	= \$ 600.00

FUEL COSTS TO BE DEDUCTED FROM BOND
 (Estimated fuel cost for both houseboats - \$ 120.00)
 Total Houseboat cost - \$ 1280.00 - \$ 91.43 each
 Money available for food - \$ 120.00 - \$ 8.57 each
 Fee - \$ 1400.00 - \$100.00 each

 Estimated bond refunded - \$ 280.00 - \$ 20.00 each

Club Promotions.

From time to time, opportunities arise for the club to promote itself by inviting members to participate in exhibitions or community service programs and this topic was discussed at our last club meeting. The consensus of opinion seemed to be that the club should focus its activities on providing enjoyable social activities such as cruising excursions and race meetings for the benefit of the private owner who has quite understandably outlaid a lot of time and money on buying or building and maintaining a safe operational hovercraft. It would not be right for the committee to expect members to support the club in promotional work, but nevertheless I will continue to advertise every invitation despite poor attendances at past displays.

1. Ipswich Mall Static Display

Date and time to be arranged.
 Contact : Wayne Summerhayse ph 2812668

QUEENSLAND SPORTING HOVERCRAFT



"SUNSHINE"

Well that intrepid explorer come landscape gardener has done it again, whilst having a leisurely swim in a gorge at a local dam with his mate Paul and a couple of the fairer sex, they swam back to his craft to find a crater in the side of the craft which was the result of quite a large rock falling from the cliffs above. That's the story we got anyway.

We have two items for the BELIEVE IT OR NOT file this month. Firstly, during the Poona trip a Turbo 225 actually towed an adult skier more than once and there were witnesses. Secondly, a very well put together Quatro Ventura was said to be having her maiden voyage at our time of publication.

Some Mexican news for those that are interested, Grandad Brian and Uncle David seem to have got the blue and pink watchamacallit going well, but can Uncle David handle all that horsepower. And if you have not yet heard, Gavin must have got something going too.

RACING NEWS by Mark Dobson

FROM WEDNESDAY 19th APRIL ANYONE WISHING TO RACE MUST REGISTER AND BE LICENCED WITH THE CLUB.

WHEN REGISTERING PLEASE NOMINATE WHICH FORMULAE YOU INTEND PARTICIPATING IN SO AS THE CORRECT NUMBERS CAN BE ISSUED.

BEFORE ANY CRAFT ENTERS FEDERATION SANCTIONED GROUND, THEY MUST, HAVE BEEN SCRUTINIZED IN ACCORDANCE WITH THE RULES.

IF YOU INTEND ON BEING A MARSHAL OR DRIVER, CONTACT ME AS OBTAINING A RULE BOOK MAY COME IN HANDY

ALL RACES WILL CARRY CHAMPIONSHIP POINTS SO FAILURE TO DO ANY OF THE ABOVE WILL RESULT IN NO START AND NO POINTS. IT'S UP TO YOU !

ALL OF THE FOLLOWING RACE MEETINGS CARRY CHAMPIONSHIP POINTS FOR FORMULA 1 2 3 & NOVICE.

Race Calendar.

Sunday	21st May	CARBROOK
Sunday	25th June	"
Sunday	23rd July	"
Sunday	27th August	"
Sunday	24th September	"
Sunday	29th October	"
Sunday	26th November	"
Sunday	17th December	"

PLEASE JOT THESE DATES
DOWN ON YOUR CALENDAR

QUEENSLAND CHAMPIONSHIP FINAL

QUEENSLAND SPORTING HOVERCRAFT

PART 3. Fan Blade Pitch Selection by John Russell.

Well what do you reckon ? This fan thrust business is pretty heavy going; so much information is available on fan combinations giving pressure, volume of air, power absorbed and finally noise levels, however the main issue for our purpose is thrust !!

(with a secondary consideration for acceptable lift.)

Nothing seems to be readily available and the little that is around seems to be contradictory.

Furthermore manufacturers specifications are confined to the lower rev ranges of the fans instead of where we operate them.

The graph in this issue showing estimated thrust obtained verses fan R.P.M for the 800mm ducted fan is derived from the Cyclone Hovercraft Ltd tabulation. This is similar to the precise graph drawn for the 740mm duct with a 9 blade Multiwing hub and blades. The thrust values stated are much higher than the figures measured in practice, however it must be remembered that a considerable portion of most of our duct is being drawn for lift pressure as well as our not having stators etc. There are still several different combinations of blade angles and numbers for both the 9 blade and 12 blade hubs that don't appear on this tabulation. One combination I have yet to try is working back from the maximum pitch (ie 45 degrees) rather than working up to it. By this I mean that a motor that won't pull 12 blades at 40 degrees might and often does easily pull 6 blades at 45 degrees which also gives more thrust anyway. From here it might be worth trying 3 or the whole 6 blades at a minimum pitch (20 degrees) simply to improve or keep the lift pressure. It is bound to be a noisy combination but it would be interesting to see if lift was improved and whether thrust was actually increased or declined (due to fouling of the clean bite of the blades at 45 degree). Please let me know if anyone has tried this and what the results are. The concluding issue next month will have a graph showing manufacturers maximum recommended speeds against fan diameter.

ESTIMATED DUCTED FAN PERFORMANCE

Fan dia.	Make	No.blades	Type	Pitch	RPM	2000	2500	3000	3500	4000
600	Multiwing	5/10	3	40	hp	2.3	4.5	7.7	12.1	18.4
					lb thrust	27	42	60	82	108
600	Multiwing	5/10	3	45	hp	2.9	5.7	9.9	15.7	23.5
					lb thrust	33	51	74	101	132
600	Breeza	5/10		35	hp	3.5	6.8	11.8	18.7	28.0
					lb thrust	39	59	85	116	152
600	Breeza	5/10		40	hp	4.4	8.5	14.7	23.4	35.0
					lb thrust	43	66	95	130	170

QUEENSLAND SPORTING HOVERCRAFT

Fan dia.	Make	No.blades	Type	Pitch	RPM	2000	2500	3000	3500	4000
630	Multiwing	6/12	3	40	hp	3.4	6.6	11.5	18.2	27.2
					lb thrust	36	56	81	110	144
630	Multiwing	6/12	3	45	hp	4.6	9.0	15.5	24.6	36.8
					lb thrust	47	73	105	143	188
630	Multiwing	6/9	3z	40	hp	3.4	6.6	11.5	18.2	27.2
					lb thrust	36	56	81	110	144
630	Multiwing	6/9	3z	45	hp	4.6	9.0	15.5	24.6	36.8
					lb thrust	47	73	105	143	188
630	Multiwing	9/9	3z	40	hp	3.8	7.5	12.9	20.6	30.7
					lb thrust	38	60	86	118	154
630	Multiwing	9/9	3z	45	hp	5.4	10.6	18.4	29.2	43.7
					lb thrust	49	76	110	150	196
630	Multiwing	3/9	4z	40	hp	3.2	6.2	10.8	17.1	25.6
					lb thrust	34	54	78	106	138
630	Multiwing	3/9	4z	45	hp	4.3	8.5	14.7	23.4	34.9
					lb thrust	42	66	95	130	170
630	Multiwing	6/9	4z	40	hp	4.8	9.3	16.2	25.7	38.4
					lb thrust	45	70	101	138	180
630	Multiwing	6/9	4z	45	hp	6.1	11.9	20.6	32.8	48.9
					lb thrust	55	87	125	171	223
630	Multiwing	9/9	4z	40	hp	7.3	14.2	24.5	39.0	58.0
					lb thrust	52	81	117	160	208
630	Multiwing	9/9	4z	45	hp	9.6	18.8	32.4	51.5	76.9
					lb thrust	70	109	157	214	279
630	Breeza	5/10		35	hp	4.2	8.3	14.3	22.7	34.0
					lb thrust	46	71	102	140	182
630	Breeza	5/10		40	hp	5.2	10.2	17.6	28.0	41.8
					lb thrust	50	79	113	155	202
710	Multiwing	3/9	4z	40	hp	4.6	9.1	15.7	25.0	
					lb thrust	46	73	105	143	
710	Multiwing	3/9	4z	45	hp	6.4	12.5	21.6	34.3	
					lb thrust	58	91	131	179	
710	Multiwing	6/9	4z	40	hp	7.0	13.6	23.6	37.5	
					lb thrust	62	96	139	190	
710	Multiwing	6/9	4z	45	hp	9.0	17.6	30.5	48.4	
					lb thrust	75	118	170	232	
710	Multiwing	9/9	4z	40	hp	10.5	20.5	35.4	56.2	
					lb thrust	73	114	164	223	
710	Multiwing	9/9	4z	45	hp	14.5	28.4	49.2	78.0	
					lb thrust	97	153	220	300	
710	Breeza	6/12		35	hp	8.4	16.4	28.3	45.0	
					lb thrust	73	114	165	225	
710	Breeza	6/12		40	hp	10.6	20.7	35.8	57.0	
					lb thrust	85	132	191	260	

QUEENSLAND SPORTING HOVERCRAFT

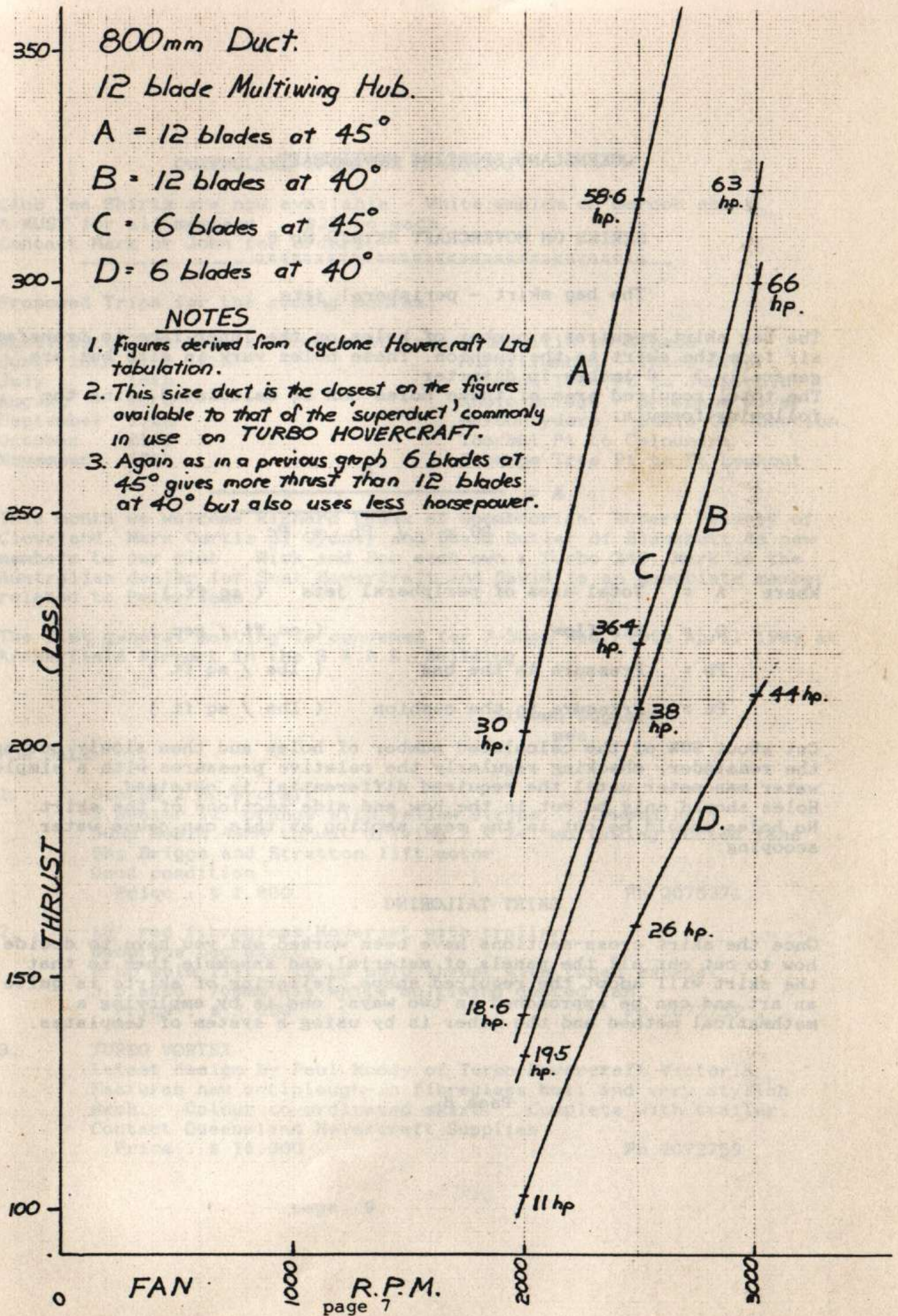
Fan dia.	Make	No.blades	Type	Pitch	RPM	2000	2500	3000	3500	4000
740	Multiwing	3/9	4z	40	hp	5.5	10.8	18.6	29.6	
					lb thrust	51	80	115	157	
740	Multiwing	3/9	4z	45	hp	7.1	13.9	24.1	38.2	
					lb thrust	64	99	143	195	
740	Multiwing	6/9	4z	40	hp	8.0	15.6	27.0	42.9	
					lb thrust	69	108	155	211	
740	Multiwing	6/9	4z	45	hp	10.2	19.9	34.4	54.6	
					lb thrust	82	128	185	251	
740	Multiwing	9/9	4z	40	hp	11.9	23.3	40.3	64.0	
					lb thrust	80	125	180	245	
740	Multiwing	9/9	4z	45	hp	16.3	31.8	55.0	87.5	
					lb thrust	107	167	241	328	
800	Multiwing	6/12	4z	40	hp	13.1	25.6	44.2		
					lb thrust	103	161	233		
800	Multiwing	6/12	4z	45	hp	18.6	36.4	62.9		
					lb thrust	142	222	320		
800	Multiwing	12/12	4z	40	hp	19.5	38.1	65.9		
					lb thrust	133	208	300		
800	Multiwing	12/12	4z	45	hp	30.0	58.6	101		
					lb thrust	203	318	458		
900	Multiwing	4/16	4z	40	hp	15.7	30.7	53.1		
					lb thrust	121	190	273		
900	Multiwing	4/16	4z	45	hp	20.6	40.4	69.8		
					lb thrust	148	232	335		
900	Multiwing	8/16	4z	40	hp	26.2	51.2	88.5		
					lb thrust	186	292	420		
900	Multiwing	8/16	4z	45	hp	37.6	73.4	127		
					lb thrust	221	346	498		

+ The Australian Hovercraft Federation requires a national logo. +
 + Members or friends talented in this area are invited to submit +
 + designs or ideas for consideration. +
 +

800mm Duct.
 12 blade Multiwing Hub.
 A = 12 blades at 45°
 B = 12 blades at 40°
 C = 6 blades at 45°
 D = 6 blades at 40°

NOTES

1. Figures derived from Cyclone Hovercraft Ltd tabulation.
2. This size duct is the closest on the figures available to that of the 'superduct' commonly in use on TURBO HOVERCRAFT.
3. Again as in a previous graph 6 blades at 45° gives more thrust than 12 blades at 40° but also uses less horsepower.



QUEENSLAND SPORTING HOVERCRAFT

SERIES ON HOVERCRAFT SKIRTS No 6.

=====

The bag skirt - peripheral jets.

The bag skirt requires a number of holes on the inner face to transfer air from the skirt to the cushion. These holes vary in size but are generally 3 - 6 inches in diameter.

The total required area of these holes can be calculated using the following formula:

$$A = \frac{Q}{20 \times \sqrt{P_b \times P_c}}$$

- Where
- A = Total area of peripheral jets (sq ft)
 - Q = Air flow (cu ft / sec)
 - P_b = Pressure in the bag (lbs / sq ft)
 - P_c = Pressure in the cushion (lbs / sq ft)

Cut about 90% of the calculated number of holes and then slowly cut out the remainder, checking regularly the relative pressures with a simple water manometer until the required differential is obtained.

Holes should only be cut in the bow and side sections of the skirt. No holes should be cut in the rear section as this can cause water scooping.

SKIRT TAILORING

Once the skirt cross-sections have been worked out you have to decide how to cut out all the panels of material and assemble them so that the skirt will adopt the required shape. Tailoring of skirts is quite an art and can be approached in two ways; one is by employing a mathematical method and the other is by using a system of templates.

QUEENSLAND SPORTING HOVERCRAFT

Club Tee Shirts are now available - White emblem on maroon shirt.
A MUST for all members \$20-00 each.
Contact Mark or John for orders.

Proposed Trips for the coming months:

April 29th 30th	May 1st	Houseboat trip	Noosaville to Kinaba
June 10th 11th 12th			Murwillumbah - Tweed River
July 16th			Cabbage Tree Pt to Jumpinpin
August 19th			Kholo Bridge - Brisbane River
September 17th			Maroochydore - Eudlo Ck Junction
October 21st			Toorbul Pt to Caloundra
November 19th			Cabbage Tree Pt to Pt Lookout

This month we welcome Richard Leask of Goomboorian, Robert Pendrey of Cleveland, Mark Curtis of Sydney and David Butler of Blackbutt as new members to our club. Rick and Bob each own a Turbo 240, Mark is the Australian dealer for Scat Hovercraft and David is an associate member related to Peter Venn.

The 21st general meeting is convened for 7-30pm Wed. 19th April 1989 at Archerfield Airport in the S.A.A.A. building.

Steven Odgaard
sec.

FOR SALE

1. Scarab 2 Hovercraft
2 seater 12' orange with yellow strips plywood hull
50hp Robin 44PM thrust driving 2 x 24" multiwing ducted fans
8hp Briggs and Stratton lift motor
Good condition
Price : \$ 1,800 Ph 2075371
2. 10' red fibreglass Hoverjet with trailer
Neoprene bag skirt
8 hp solo lift 12 hp solo thrust with tuned exhaust
3 bladed 760mm dia white multiwing ducted fan
Price : \$ 3,000 Ph 2072759
3. TURBO VORTEX
Latest design by Paul Moody of Turbo Hovercraft Victoria
Features new antiplough-in fibreglass hull and very stylish deck. Colour co-ordinated skirt. Complete with trailer.
Contact Queensland Hovercraft Supplies
Price : \$ 16,000 Ph 2072759

QUEENSLAND SPORTING HOVERCRAFT

INTERNATIONAL HOVERCRAFT CLUBS, ASSOCIATIONS, SOCIETIES AND FEDERATIONS

AUSTRALIA

Australian Hovercraft Federation Inc.

Secretary Brian Watts 5 McIlraith Court Croydon Vic 3136

Member Clubs:-

Hovercraft Association of Victoria Inc.

Editor Peter Djurovich 33 Bungalook Rd Bayswater Vic 3153

Hovercraft Club of South Australia Inc.

Secretary Kevin Dixon 16 Fitch Rd Fulham SA 5024

Queensland Amateur Sporting Hovercraft Inc.

Secretary Steven Odgaard 52 Utrecht St Loganholme Qld 4129

BELGIUM

Hoverclub and Association of Belgium

Bld St Michel 78 1040 Brussels Belgium

CANADA

Canadian Air Cushion Technology Society (CACTS)

Canadian Aeronautics and Space Institute

Chairman R MacEwen 222 Somerset St West Suite 601 Ottawa Ontario
K2POJL Canada

EUROPE

European Hovercraft Federation

Member Clubs:-

Sporting Hovercraft Organization Belgium

Claude Feremans 15 Av de L'Avenir 1640 Rh St Genese Belgium

Hoverclub of CSSR

Ing Villiam Tepy Jesenskeho 12 81102 Bratislava Czechoslovakia

Federation Francaise des Clubs d' Aeroglisseurs

Louis Le Chavalier 12 rue Beranger F 92100 Boulogne BT France

Hoverclub von Deutschland

Cylla Berndt Lechfeldstrasse 2 8905 Mering Federai Republic of Germany

Hoverclub of Great Britian HCGB

12 Mount Pleasant Bishop Itchington Warickshire CV330QE England

Hoverclub of Holland

Hans Peerenboom

Uiterdijksehof 5 Nederhorst Den Berg Netherlands

Italian Hoverclub Via Medail 87 10052 Bardonecchir Torina Italy

The Hoverclub of Sweden

Manfred Schneider Ollonvagen 17 S18400 Akersberga Sweden

FRANCE

Federation Francaise Motonautique Aeroglisseurs

49 rue de Boulainvilliers 75016 Paris France

Member Clubs:-

Club Francais des Aeroglisseurs

President J Beaudequin 41/43 rue A Briand 45130 Meung-sur-Loire Fr

QUEENSLAND SPORTING HOVERCRAFT

Aeroglisseurs d'ile de France

President M Soulabail 15 rue de Vaugirard 75291 Paris Cedex 06 Fr

Aeroglisseurs d'oc

President G Ackerman 51 avenue L Abric 34400 Lunel France

Anjou Aeroglisseurs

President J P Godicheau La Grosse Pierre 49200 Le Lion D'Angers Fr

Aeroglisseurs Val De Metz

President M Lallier 18 rue des Pres Argancy 57640 Vigy France

Club D'Aeroglisseurs D'Aquitaine

Les 3 Fontaines Ste-Eulalie 33560 Carbon Blanc France

Club Aeroglisseurs de Touraine

President J Lallemand 10 rue d'Enter Limeray 37400 Amboise France

Greca Section Aeroglisseurs

President P Cannone 2 rue Emile Eliot 76360 Barentin France

Aeroglisseurs Berry Club

President M Donnay La Chaume du Poids de Fer 18320 Jouet S/Aubois F

CSC Briare Loyre

President J Noel B4m Edouard Detaille 92100 Boulogne-Billancourt Fr

Aero Loire

President A Romero 23 bis Venelle des Vaupulents 45000 Orleans Fr

Picardie Aeroglisseurs

President J Boulton 32 rue Voltaire 02100 St Quentin France

Aeroglisseurs Du Bassin D'Arcachon

President P Lautard

25 avenue du General Leclerc 33260 La Teste de Buch France

Club Aeroglisseurs de Morbihan

President B Andre 26 rue General Frebault 56100 Lorient France

Aeroglisseurs de Provence et de Cote D'Azur

President J F Berry

117 Chemin de Forgentier Pont-de-Bois 83200 Toulon France

Aeroglisseurs de Loise

President B Ratnal 15 place des Hortensias 60610 La Croix St Ouen F

Aeroglisseurs Midi-Pyrenees

Cedex 3045 Lot Roc Bellevue 31240 Saint Genies France

FEDERAL REPUBLIC OF GERMANY

Hoverclub of Germany

c/o Helgrel Ruft AM Clockenbach 10 D8000 Munich Fed. Rep. of Germany

JAPAN

Hoverclub of Japan

Senior Director Masahiro Mino Aerodynamics Section Nihon University
at Narashino 7-1591 Narashinodai Funabashi Chiba-Ken Japan

NEW ZEALAND

Hovercraft Club of New Zealand

Secretary J J Morgan Mill Rd RD2 Pukeohe Sth Auckland New Zealand

QUEENSLAND SPORTING HOVERCRAFT

SWEDEN

Svenska Svavarklubben

Treasurer Manfred Schneider Ollonvagen 17 s-18400 Akersberga Sweden

UNITED KINGDOM

The Hoverclub of Great Britain Limited.

The National Organization for Amateur Hovercraft

10 Long Acre Bingham Nottinghamshire England

Mrs Dorothy Naylor 12 Mount Pleasant Bishops Itchington

Leamington Spa Warwickshire CV330QE England

UNITED STATES OF AMERICA

Hoverclub of America Inc. PO Box 216 Clinton IN 47842-0216

AIR CUSHION CRAFT

24 COBALT DRIVE, BETHANIA, QLD. 4205

PHONE: (07) 805 1681

SKIRT FAIBRIC AVAILABLE

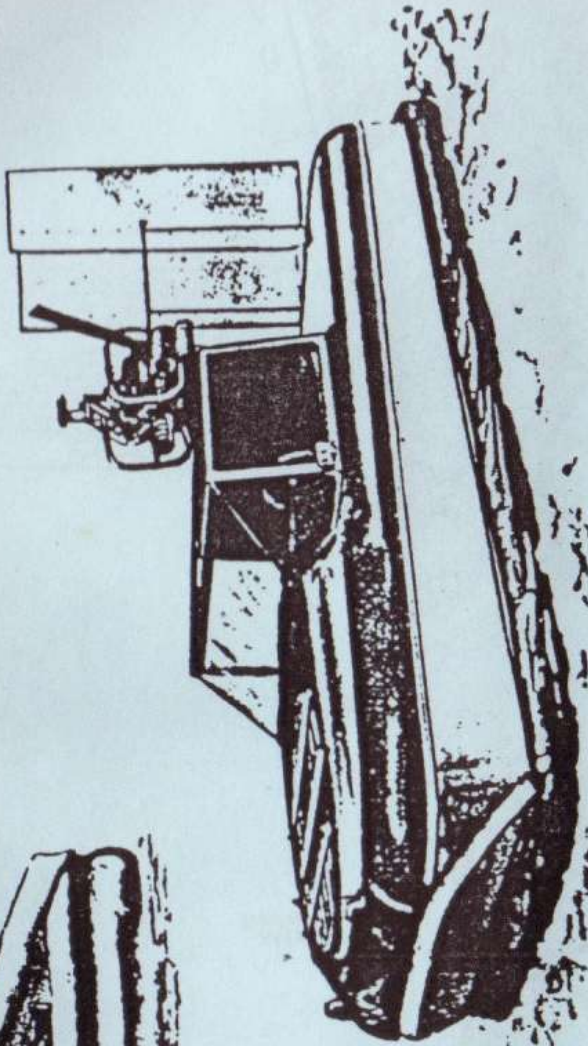
SKIRTS MADE / REPAIRED

ROTAX - ENGINES

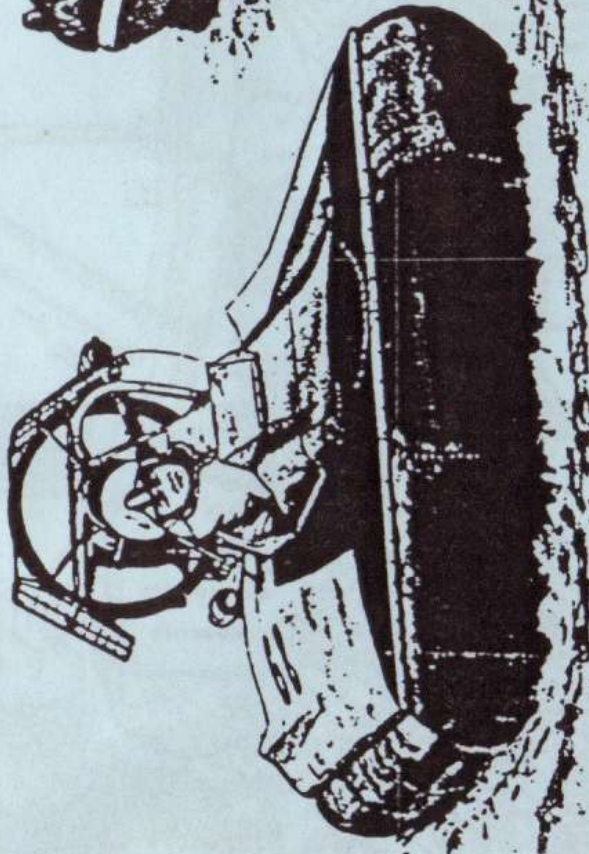
HOVER-SPORTSTERS I



Below: Built in Canada by Gordon Komar, the Aquaterra 65T has achieved 60 mph over ice.



Above: Wasp an ultra light runabout built by Light Hovercraft Co.



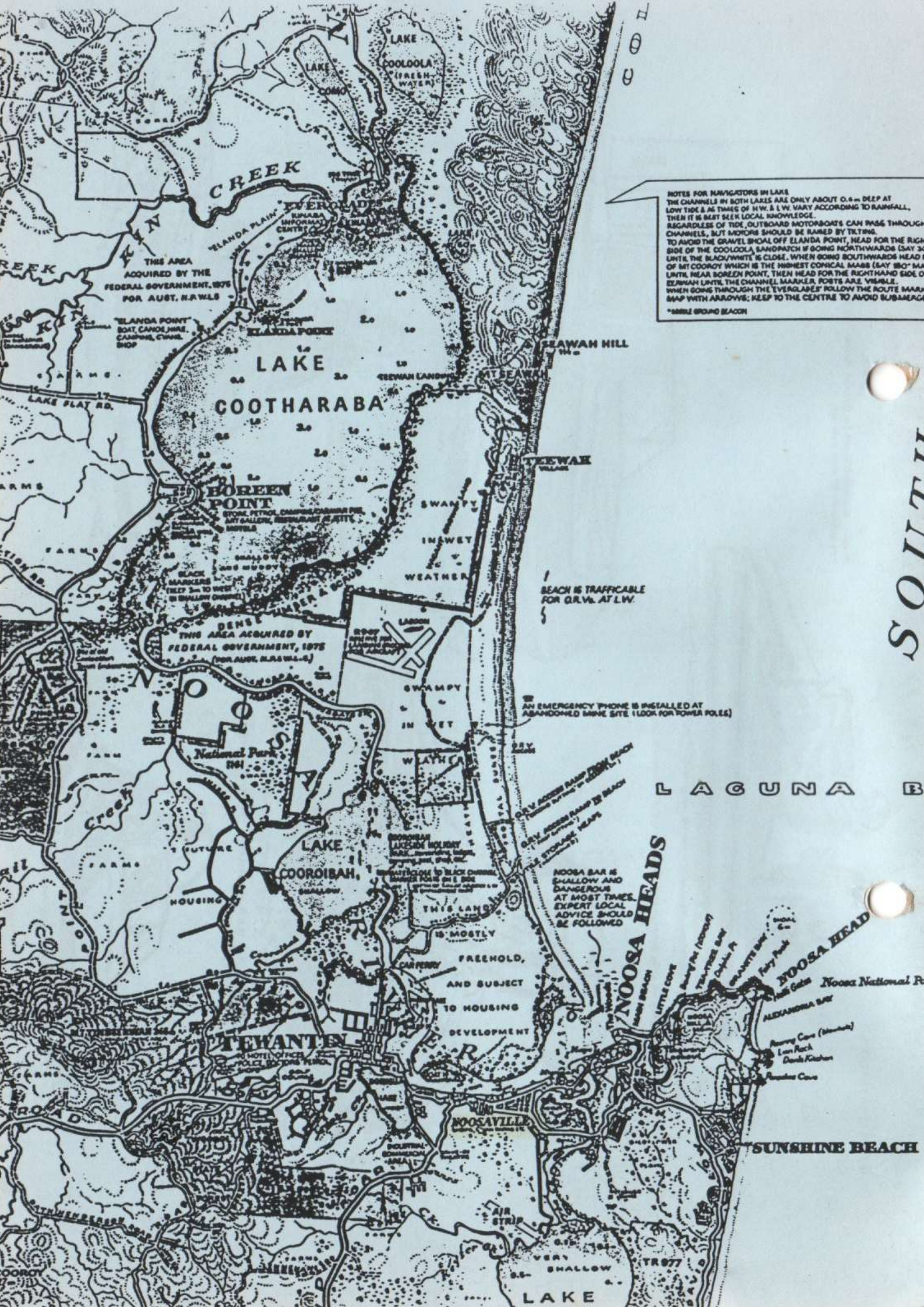
Above: Hoverking's Ranger 1, a 55 m.p.h. single-seater. Winner of the 1973 United Kingdom Hovercraft of the Year Award.



Right: Brazil's first light hovercraft is the FEI VA, a two-seater powered by a Volkswagen engine.



Below: Aero Sabre Mk 1, a high-performance hover-scooter.



NOTES FOR NAVIGATORS IN LAKE
 THE CHANNELS IN BOTH LAKES ARE ONLY ABOUT 0.9m DEEP AT
 LOW TIDE & AS TIMES OF H.W. & L.W. VARY ACCORDING TO RAINFALL,
 THEN IT IS BEST SEEK LOCAL KNOWLEDGE.
 REGARDLESS OF TIDE, OUTBOARD MOTORBOATS CAN PASS THROUGH
 CHANNELS, BUT MOTORS SHOULD BE RAISED BY TILTING.
 TO AVOID THE GRAVEL SHOALS OFF ELANDA POINT, HEAD FOR THE RIGHT
 SIDE OF THE COOLDOLA SANDPATCH IF GOING NORTHWARDS (SAY 30°
 UNTIL THE BLACK/WHITE IS CLOSE, WHEN GOING SOUTHWARDS HEAD
 OF MT COOROY WHICH IS THE HIGHEST CONICAL MOUND (SAY 180° MA
 UNTIL NEAR BOREEN POINT, THEN HEAD FOR THE RIGHT HAND SIDE OF
 ELANDAH UNTIL THE CHANNEL MARKER POSTS ARE VISIBLE.
 WHEN GOING THROUGH THE TYERGLADES FOLLOW THE ROUTE MARKER
 MAP WITH ARROWS; KEEP TO THE CENTRE TO AVOID SUBMERGED
 *SHALLOWS

THIS AREA
 ACQUIRED BY THE
 FEDERAL GOVERNMENT, 1975
 FOR AUST. NAVY

ELANDA POINT
 BOAT CANOE HIRE,
 CAMPING, CAFE,
 SHOP

BEACH IS TRAFFICABLE
 FOR Q.R.V. AT L.W.

DENSE
 THIS AREA ACQUIRED BY
 FEDERAL GOVERNMENT, 1975
 (FOR AUST. NAVY & G.)

AN EMERGENCY PHONE IS INSTALLED AT
 AN ABANDONED MINE SITE (LOOK FOR TOWER POLES)

Q.R.V. MOORING BAY FROM BEACH
 (Tide gauge on pier at all times)

Q.R.V. MOORING BAY BY BEACH
 (Tide gauge on pier)

STORAGE HELPS

NOOSA BAR IS
 SHALLOW AND
 DANGEROUS
 AT MOST TIMES.
 EXPERT LOCAL
 ADVICE SHOULD
 BE FOLLOWED

NOOSA BAY HOLIDAY
 PARK, swimming, fishing,
 tennis, golf, etc.

THIS LAND
 IS MOSTLY
 FREEHOLD,
 AND SUBJECT
 TO HOUSING
 DEVELOPMENT

NOOSA HEADS

NOOSA HEAD

SUNSHINE BEACH

SOUTH