SCOTS n' water .....

VOLUME XIV NUMBER 4 APRIL 1972

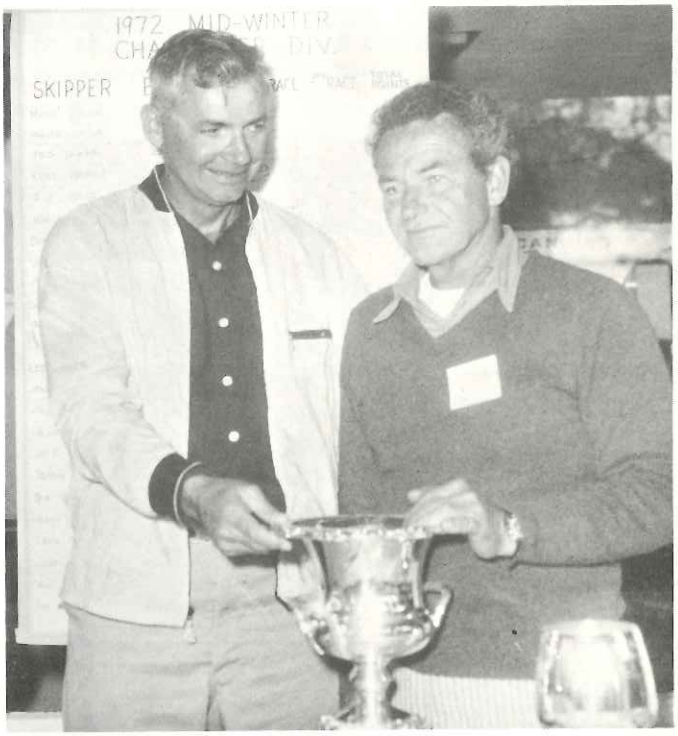
Regattas

April 29-30	Carolina's District Championship Lake Norman, North Carolina
May 6-7	Texas District Championship Dallas, Texas
May 14-21	Fleet 58 Spring Invitational Series Quincy Bay, Massachusetts
May 20-21	Buckeye Regatta Hoover Reservoir, Coumbus, Ohio
May 27-28-29	Fleet 58 Memorial Day Invitational Quincy Bay, Massachusetts
June 4-11-18	Fleet 58 Spring Invitational Series Quincy Bay, Massachusetts
June 10-11	Berlin Yacht Club Regatta Canfield, Ohio
June 16-17-18	Greater New York District Championship Barnum Isle, Long Island
July 1-4	Leech Lake Regatta Walker, Minnesota
July 15-16	Edgewater Yacht Club Regatta Cleveland, Ohio
July 22-23	Ohio District Championship Cleveland, Ohio
August 6-12	Lake of the Woods Regatta Lake of the Woods, Minnesota
August 21-25	North American Championship LaPorte, Texas

Green Bay — Scot Of The Year

June 24-25	Marinette—Menominee
July 29-30	Ephraim Yacht Club
August 19-20	Sturgeon Bay Yacht Club
August 26-27	Egg Harbor Yacht Club

Schreck Makes It Three Straight At Mid-Winters!



Paul Schreck is presented Mid-Winters Championship trophy by donor, Fred Meno

Editor's Note: The following article was written by your Editor who spent the week-end of the Mid-Winters ice boating on Clear Lake in Indiana. The article is based on three articles written for the Panama City News Herald *by Sports Editor, Frank Pericola, notes and Score Sheets prepared by Mary Doolittle and Allen Douglas, and telephone conversations with several of the participants. We believe it to be quite factual.*

Paul Schreck, the Lillian Alabama sailmaker and 1970 North American Champion, won his third consecutive cham-

(continued on page 3)

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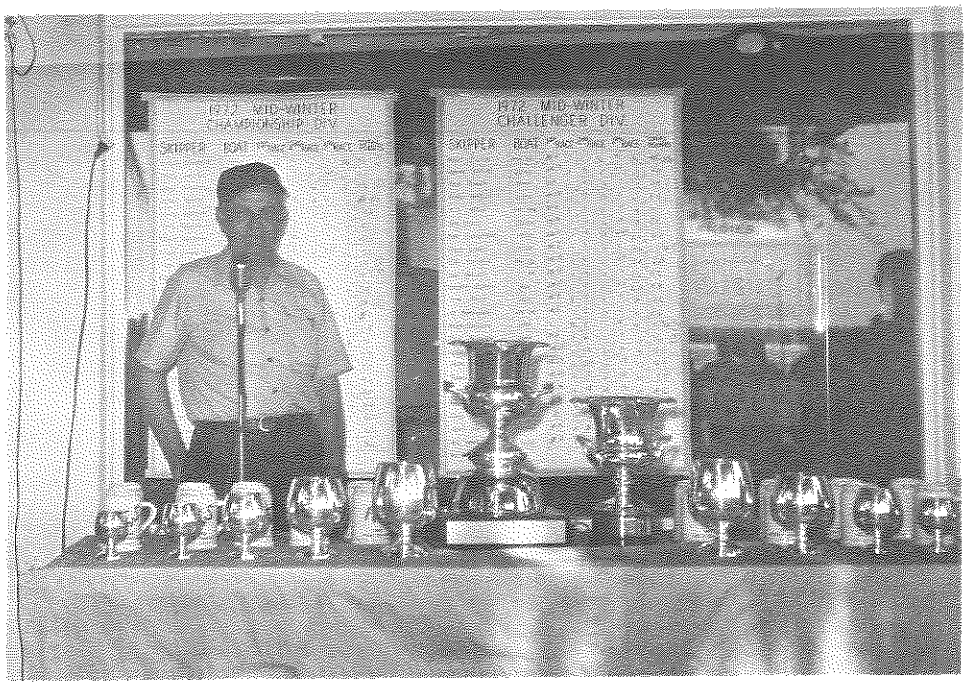
SCOTS N' WATER ®

Registered Trademark
Published monthly except Oct., Dec. and Feb. by the FSSA
Published and Postage Paid at Fremont, Ind.
Deadlines—15th of month preceding issue
Advertising rates upon request
Subscription $4.00 per year.
Postmaster: Please send form 3579 to FSSA, 531 Jenks Blvd. Kalamazoo, Michigan 49007.

Scenes From Mid-Winters Championship



Commodore Allen Douglas with trophies.

Fleet gets off to good start.

Schreck Takes Mid-Winters . . . *(from page 1)*

pionship in the 6th Annual Mid-Winters Regatta sailed on St. Andrews Bay, Florida on March 3, 4, and 5. Woody Stieffel of Bay St. Louis was second. Vince DiMaio of Customflex in Toledo, Ohio won first place in the Challenger Division.

Flying Scot Fleet 75 and the St. Andrews Bay Yacht Club hosted the event which saw 46 Scots representing nine states and twenty fleets answer the starters gun for the first race. Allen Douglas, Commodore of St. Andrews and a former District Governor served expertly as Regatta and Race Committee Chairman. After two qualifying races on Friday, the fleet was divided into a Championship Division competing for a permanent trophy donated by Fred Meno of Columbus, Ohio and a Challenger Division competing for a trophy donated by Buddy Pollack of Pensacola, Florida, the current Gulf District Governor. The number of entries was by far the largest in the six year history of this series and the largest to compete on St. Andrews Bay. The quality of the skippers was equal to that of a national championship.

The two qualifying races were sailed back-to-back on Friday afternoon in a mild N.NE. wind of 8-12 mph. Schreck took a first place in his division in each race. In the first he had a come-from-behind victory but in the second he led from the start. On completion of the two qualifying races the fleet was divided into two divisions of 23 boats each. All scoring started anew for the final three races in both Championship and Challenger Divisions.

The first race of the final series was sailed Saturday morning with the wind again N.NE. at 12 mph. Schreck elected to be conservative at the start but passed Rick Whitehurst of Pensacola, Florida and went on to win by 200 yards. Fred Meno was third. Fred came down with the flu following this race and was forced to drop out of the competition. Jessie Borthwick a student at the University of West Florida was first in the Challenger Division.

The next race was sailed Saturday afternoon. The wind had shifted to S.SE. and increased to 12-15 mph. Schreck ran third through much of the race. He caught the third place winner Rick Whitehurst but Woody Stieffel finished first ahead of Schreck by three boat lengths. Marc Egan of Bay St. Louis won the Challenger Division race with Jessie Borthwick coming in second.

The fifth and final race, sailed on Sunday morning was a "howler". The wind had shifted back to N. NE. and increased to a gusty 25-30 mph. Four boats capsized and one boat had equipment failure. Three of the capsized boats were righted and continued to race. Schreck again played it conservatively and held off on flying his chute. When he saw the other lead boats could not break through his lee the spinnaker remained in the basket. Tom Eman, Jr. a student at the University of Michigan, gave Paul quite a battle but finally had to settle for second by 60 yards. Scott Barrett of Gulfport, Mississippi sailed his best race and finished third. Vince DiMaio, an old hand with heavy air, took first in the Challenger Division. Greg Smith of Mobile, Alabama finished second.

The finish in the Challenger Division offered more excitement than the Championship. At the end of two races, Jessie Borthwick led with 2¾ points over Harry Chapman with 7 points and Greg Smith with 9 points. Jessie went in the tank with a ninth place in the final race to finish third over all. Vince DiMaio trailed Greg Smith by one point going into the last race and his first place permitted him to edge Smith by ¼ point.

Thus, in the five race series, Paul Schreck finished first in four races and second in one. Frank Pericola of the *Panama City News Herald,* wrote of Schreck: "If consistency is a virtue, which it most certainly is, then Paul Schreck ranks with Ceasar's wife." Schreck's score for the Championship Division was an exceptionally low 3½ points. Stieffel scored 17¾ and Whitehurst scored 19 points.

An Olympic-type course of six legs and a total length of five miles was used throughout the series. The contestants included a fair sprinkling of teenagers and young sailors. Schreck's number two crew, Jim Stite, is only twelve. Three young ladies from the St. Andrews Club composed the only completely feminine crew. Jane Allen the skipper had Lynn Smith and Nell Ennis as crew. They didn't win a prize but then they didn't capsize in the "howler" either.

Participants and visitors were high in their praise of the handling of the Regatta on land and sea by Allen Douglas, Buddy Pollack, the St. Andrews Bay Yacht Club and the members of the several committees. Chick Lamphier, Captain of Fleet 85 in Montgomery, Alabama has written: "No place have I seen more genuine hospitality". Several of our experienced skippers said the lines were excellent, marks well identified by large stake boats and the clock work was flawless.

Mid-Winters Leaders and Points

Championship Division

1.	Paul Schreck, Lillian, Alabama	3½
2.	Woody Stieffel, Bay St. Louis, Florida	17¾
3.	Rick Whitehurst, Pensacola, Florida	19
4.	John Morrow, Panama City, Florida	23
5.	Tom Ehman, Jr., Pickney, Michigan	24
6.	Jack Laird, Panama City, Florida	24
7.	Buddy Pollack, Pensacola, Florida	24
8.	Dick Lundquist, Pensacola, Florida	31
9.	Alfred Schurr, Pensacola, Florida	36
10.	Floyd Davis, Panama City, Florida	40

Challenger Division

1.	Vince DiMaio, Toledo, Ohio	10¾
2.	Greg Smith, Mobile, Alabama	11
3.	Jessie Borthwick, Ft. Walton Beach, Florida	11¾
4.	Harry Chapman, Bay St. Louis, Florida	12
5.	Paul Blonski, Independence, Ohio	16
6.	Tom Jolly, Grand Lagoon, Alabama	22
7.	Tommy Meric, Mobile, Alabama	25
8.	Lee Borthwick, Ft. Walton Beach, Florida	26
9.	T. J. Wills, Pascagoula, Mississippi	31
10.	John Lee, St. Andrews Bay, Florida	32

Two More Fleets Added

Again this month we are pleased to announce the chartering of new fleets. Fleet 97 has been organized in Bethesda, Md. and will sail on Chesapeake Bay. Bay St. Louis, Mississippi has been assigned number 98. The fleet will sail on Bay of St. Louis.

Disqualification Of Tears Upheld

In a March 10 decision the Detroit River Yachting Association Appeals Committee upheld a Jan. 13 decision by the 1971 NAC Panel of Judges which disqualified Fred Tears of Dallas, Texas in the second and third races of the 1971 North American Championship.

Tears was declared champion following the series last August. Subsequently, J. Richard Lundquist filed an appeal claiming Tears should have been disqualified as requested in his protest filed during the regatta but on which protest the Judges did not rule. This time the Judges ruled in favor of Lundquist and disqualified Tears.

The Tears appeal, filed on March 3, was lengthy (8 pages) and included 28 pages of exhibits. In it Tears requested a reversal of the disqualification decision. He contended there were 11 counts of improper procedure, 6 counts of inadmissable evidence, and 3 counts of subjective bias on the part of the Judges.

In handing down the decision which upheld Tears' disqualification the Appeals Committee stated – "to allow Mr. Tears relief would violate the spirit of the class rules and specifications."

Wanted – An Editor

By: Bob Hanna

In November we will have served as Scots 'n Water Editor for three years. We have concluded that its time to pass this pleasant assignment along to someone else. Accordingly we have asked Bearns Smith to find our replacement.

So, dear readers, you can help our President by suggesting likely candidates. Please send him your suggestion together with a description of your candidate's qualifications. This should be done promptly so that final action may be taken at the annual meeting in Houston.

Unnumbered Scots Offered For Sale

P. I. T. Fibreglass Co. Inc., Wichita, Kansas, is advertising the manufacture and sale of Flying Scots along with other class boats. This firm is not a licensed builder of Flying Scots and therefore, the boats sold by this company would not have an official number nor a certificate of registration. The FSSA by-laws do not permit unregistered boats to compete in sanctioned events such as District, Regional and North American Championships. Sandy Douglass has informed Scots 'n Water that in view of the fact "Flying Scot" is a copyrighted name, it is his opinion the boats being offered for sale by P. I. T. are not Flying Scots.

Fleet 41 – Crystal, Michigan

The Fleet's Progressive Sail Around has been announced for June 17. To encourage competition an A and B series is under consideration.

Sam Tellschow has been elevated to Life Membership in the Crystal Lake Sailing Club in recognition of his many hours and years of devoted service to the club.

Doug Sansom Wins Mid-Winter Warmup

By: Buddy Pollack

Former PYC junior sailor, now commodore of the Pensacola Junior College Sailing Team, Doug Sansom won the mid-winter warmups held at Pensacola Yacht Club with an almost flawless performance.

Doug's finishes were 1st, 6th and 10th to edge Toledo boat builder, Vince DiMaio for top honors. Last year's winner Fred Meno of Columbus, Ohio finished third. Henry Payne led the series going into the last race but a 24th place finish permitted four boats to pass him and he finished fifth.

Some 29 entries participated in the three race series sailed on beautiful Pensacola Bay. Skippers got a dose of all types of weather from the heavy breezes in the first race to a light, almost drifter in the last race accompanied by a shift that saw positions change as rapidly as pigeons falling off a fence.

The first ten finishers and points were:

1.	Doug Sansom, Pensacola, Florida	16¾
2.	Vince DiMaio, Toledo, Ohio	18
3.	Fred Meno, Columbus, Ohio	22
4.	Jessie Borthwick, Ft. Walton Beach, Florida	23
5.	Henry Payne, Pensacola, Florida	27¾
6.	Rocky Hanson, Pensacola, Florida	29
7.	Buddy Pollack, Pensacola, Florida	30
8.	Alfred Schurr, Pensacola, Florida	32
9.	Paul Blonski, Independence, Ohio	33
10.	Scott Barrett, Gulfport, Mississippi	34

Schultz To Defend Carolinas Championship

Dr. Dick Schultz will be on hand to defend his 1971 Championship when the Carolinas District is held on Lake Norman April 29 and 30.

The Regatta which is open to all FSSA members regardless of location, will be hosted by Fleet 48 and Fleet Captain T. Curtiss Torrance.

William Singletary, Carolinas District Governor reports that "Dick Schultz is the winning'st Scot skipper I know". Here is his 1971 record:

1st	Carolinas District Flying Scot Regatta, Kerr Lake, N. C.
1st	Fleet No. 27 Seasonal champion.
1st	Carolina Sailing Club Scot season champion, Kerr Lake, N. C.
1st	High Rock Yacht Club Scot season champion, Lexington, N. C.
1st	Lake Norman Yacht Club Annual Regatta, Charlotte, N. C.
1st	High Rock Yacht Club Labor Day invitational Regatta
1st	Shanghi Memorial Trophy Regatta, Morehead City, N. C.
2nd	North Carolinas Governor's Cup Regatta, Kerr Lake, N. C.
3rd	Oriental Sailing Social Regatta, Oriental, N. C.

Of the fifty races (averaging 13½ starts per race) sailed in he was first in twenty-six. His places in individual races were:

1st	26 races
2nd	7 races
3rd	6 races
4th	6 races
5th	1 race
6th	2 races
8th	1 race
10th	1 race
	50 races

TWO VIEWS ON ONE-DESIGN

ONE BY A FLYING SCOT OWNER – HERBERT A. SWAFFORD, DALLAS, TEXAS

Sandy Douglass, in his article "One Design or One Design?", seems to be a bit naive, especially when he refers to 2,000 plus sailors following the "spirit" of the specifications. Some sailors, whom are driven by a strong competitive drive will try to gain a small advantage in boat performance through small changes in their hull, rigging and sails. If the class specifications do not specifically prohibit these changes, those sailors do not feel that they are cheating. On the contrary, they feel they are just a little smarter than their competitors.

Mr. Douglass knows that the 2,000 plus Flying Scots were not, and never will be, one design in the true sense – the "spirit" to which he so often refers – as they rolled out of the factory.

Some examples are:

1. The first 300 or so boats have a mast up to 10 pounds lighter than all boats produced after that magic number when Mr. Douglass changed to a new supplier for aluminum masts. Mr. Douglass stated the change was an improvement, but the fact remains that 10 pounds less mast weight is a definite advantage when encountering certain wind and wave conditions.
2. My Flying Scot, No. 984, produced by Lofland has a centerboard slot that is 1/8" wider at the bottom and 3/8" wider at the top than Douglass and Customflex produced Scots I have measured. My centerboard bangs around quite a bit and I feel this has a detrimental affect on windward performance of the boat.
3. There is a wide variance in the weight of rudder heads between wood and fiberglass.
4. There exists a wide variance in the weight of hulls and centerboards.
5. Mast step locations have been as much as 2 inces off from that stated in the specifications.
6. Rudder blade lengths vary as much as 5 inches.

There certainly exists a preponderance of evidence that points to the fact that our class has a loose set of specifications for the convenience of the builder and Mr. Douglass wants it to be one design by constant reference to that nebulous word "spirit" in the class specifications.

If the owners of Flying Scots really want a one design class, let them bring pressure to bear on Donald C. Hott to write up a simple, straight forward set of specifications with no changes allowed to any part of the hull, rigging, or sails. The weight will then fall on the builders to build *One-Design* Scots to the class specifications. The result would be a *frozen* design. If one wants *really* one design racing in its' true "spirit", that is the only solution. I question that specifications of this type would ever be passed because they would not suit the convenience of the builders.

Most of the "Establishment" wants their cake and wants to eat it too. Each of us knows this is not really possible. If we let conditions exist as they are now the "Tears Incident" at the 1971 N. A. C. can happen again and again and we, as a class, will lose both good sailors and stature. I do *not* like to lose!

THE OTHER BY BOAT BUILDERS – VINCENT DIMAIO AND GORDON K. DOUGLASS

As builders of the Flying Scot we realize that we are not immune to complaints and criticisms. We cannot hope to please everyone, try as we may. We agree that a publication such as the SCOTS 'N WATER should present all points of view, even though some of it may be critical of us and our product; and if the criticism is justified we most certainly will make every effort to correct what is wrong.

On the other hand, we do not like carping, unjustified criticism, innuendo, and mis-statement of fact, and we believe that when there is misrepresentation, for the good of the Flying Scot Class we should make an effort to present the facts as they really are. In particular, we think that in recent issues of the S & W there have been printed some pretty wild and irresponsible statements about lack of uniformity – such as, "I measured centerboards and trunks and no two were alike", or "centerboard trunks are not anywhere near uniform". Such statements give the impression that Flying Scots are being built in all sorts of ways. What is the truth? The centerboards and trunks all come from identical moulds and are alike, as nearly alike as is humanly possible; and the "great variation" turns out to be that one trunk slot may be 1/8" wider than that by a different builder. Does this make *any* difference in performance? If so, which is better?

How alike is "alike"? Hardly any two things made by man will be found to be *exactly* alike in all respects. A product such as the Flying Scot, made up of many bits and pieces, cannot be expected to be exactly alike. Materials vary, working conditions vary, people vary. For example, the balsa we use is classified in the 6-8 lb. range per cubic foot. One shipment may be 6 lb., another 8 lb. Mahogany varies from 30 lbs. per cubic foot to 45 lbs. Moulds do change, it is true. But how much? It is a fact that when we have to make a serious repair we find that a boat ten years old fits perfectly into a current mould. How much have the boat and the mould changed? A few thousandths? It has been shown many times that a good skipper can win in any well-kept Scot, as was so well demonstrated by Paul Schreck when he won the NAC in a chartered boat at Milwaukee.

We think this talk about "differences" is loose and unfounded. The Flying Scot is as "one-design" as it is feasible to build her, and we maintain that what little differences there may be are well within any reasonable tolerances, so small as to be purely academic. Let's get down to some cases and see what is behind these statements.

In the March issue of S & W, page 8, Bob Jefferies implies that Scot hulls and moulds go out of shape. Do they to any significant degree? We have seen boats abused, stored out of doors for the winter uncovered, ending up with a ton or more of water and ice to the top of the centerboard trunk. In such cases we might expect some distortion. But does the boat which is properly maintained go out of shape?

In the same issue, page 10, Stu Dowling seems upset because "centerboard trunks on Scots are not anywhere near uniform. In our fleet, one boat's trunk is so tight that the board is constantly jambing, while the trunk in my boat is so loose –". Not anywhere near uniform! 1/16" more clearance would correct the one, and 1/16" less would correct the other. If it is

so serious, why has he waited 8 years to complain about it? It is easily corrected. " — and it is impossible to point with other Scots." Nonsense! Ask Paul Schreck to race the boat some time. And Dr. Dowling does *not* have to invest $75.00 in Harken blocks in order to compete. They will not make his boat go one bit faster. We always have followed the policy of using the best hardware we can find, but have not once changed the basic rigging.

Now we come to the letter from Herb Swafford in this issue. Here we find a concrete example of one of the two basic philosophies mentioned (we hope Stu Dowling will forgive it!) in Sandy's article, ONE-DESIGN or ONE-DESIGN on page 4 of the Jan.-Feb. issue: "Some classes operate on the principle that anything not expressly forbidden by the rules is permitted, while others follow the idea that no change is permitted unless it is so stipulated. The Flying Scot Sailing Ass'n. always has operated on this latter principle, that the boat is one-design as it leaves the builder and that no changes are permitted in the basic design and rigging." Mr. Swafford obviously does not subscribe to the Flying Scot philosophy when he writes that those who look for loop-holes "do not feel they are cheating. On the contrary they feel that they are smarter than their competition." If this is his approach to one-design competition he might well be happier sailing in some other class. But, we take exception to some of his statements as not being true, and object strenuously to his implying that the builders, selfishly and deliberately, are not turning out one-design boats. Let us examine his statements.

1. Mr. Swafford claims that "the first 300 or so boats had masts up to ten pounds lighter than all boats produced after that number". What is the truth? Our first masts came from the Zephyr Spar Co. of Wareham, Mass. According to their published Specifications, their No. 3 section, ours, weighed 1.38 lbs. per foot, or 34.845 lbs. for the extrusion. Our current extrusions weigh 34.0 lbs. Where are the masts which were 10 lbs. lighter? Today's mast, completed and fully rigged, weighs 40.5 lbs. We have no access to most of the early masts, but find that the mast of No. 115 weights 43.25 lbs., and that of No. 820 weighs 41.3 lbs. In the early days we discovered that the extrusion dies wear more rapidly than we had realized, and some of the early masts were a few pounds *overweight* before we realized this, and *Not* ten pounds lighter. We now have a contract requiring replacement of the dies when they wear, keeping our extrusions at a very nearly constant weight.
2. Mr. Swafford bought his No. 984 from Lofland. If the trunk slots are too wide, why didn't he have Lofland correct the situation five years ago?
3. The "wide variance" in the weight of the rudder heads prove to be as much as four pounds. Mahogany varies that much in weight. Finding glass to be more reliable, although somewhat heavier in general, we now use it. Almost all of the important races are won by boats with glass rudder heads. If this is so, one might even draw the conclusion that the heavier one is faster!
4. "Wide variance in weights of hulls and centerboards." Hulls must meet the minimum weight, and centerboards must weigh between 100 and 110 lbs. to meet Class rules. If they do not, throw them out! Who objects, other than the buyer, if a boat is too heavy?
5. "Mast steps as much as 2 "off specifications." We use jigs and our mast steps do not vary. Could it be that some owners have been trying to gain that little "advantage" Mr. Swafford speaks of and have moved theirs?
6. "Rudder blades with 5" variance." This was duly considered and voted in by the Class, which requires a *minimum* length. Is the longer blade better? If Mr. Swafford thinks so he can make his as long as he wishes.

What it all boils down to, then, is that these claims are ridiculous and not based on fact. The Flying Scot is one-design, perhaps closer to being truly one-design than any other boat Mr. Swafford can name; and it may be that the significant variances he talks about are those created by a few owners, such as he, who "do not feel they are cheating" when they "try to gain a small advantage in boat performance through small changes in hull, rig and sails." These are the ones who are using the loopholes, these are the ones for whom Mr. Swafford would have us change the rules. If we did change the rules, would Mr. Swafford abide by them in a Corinthian manner? Or would he continue to look for loop-holes? As he states in his letter, he does not like to lose.

Greater New York District Championship

Strong, steady winds and competitive sailing will mark this years' GREATER NEW YORK DISTRICT RACES to be held at the Hempstead Bay Sailing Club at Barnum Isle, Long Island on June 16th, 17th, and 18th.

In announcing the selection of Hempstead Bay Sailing Club as this years host, Bob Rich, Governor of the New York District said "this is the first time in the district's history that the regatta will he beld on Long Island."

Ed Stein, Commodore of HBSC, commented that June normally provided great planing winds that would add to the excitement of the weekend. Between 40-60 boats are expected to participate in the five races that will comprise this years regatta.

HBSC also plans cookouts, boxed-lunches and other social activities to make this years Great New York District race a very memorable event. Ralph Manee is defending Champion.

Interested parties should write or call: Mr. Robert Rich, Box 342, Rockville Center, New York 11571. Phone: 516-536-6905

Scots And How To Make Them Sail Fast

Editors Note: This is the second of three articles written especially for Scots 'n Water by three Texas expert sailors — Robert Jefferies, Jr., Robert Jefferies III, and Michael Zuteck

THE PROPULSION SYSTEM

Each of us spend money and time to keep our automobile's engine tuned to give the maximum output for the minimum input . . . fuel economy. Sails are the power plant of our sailboat and must receive considerable care and attention in order that we may get the most out of them. Small changes in the shape and set of sails can have a dramatic effect on boat speed . . . like engine tune in a car . . . both are critical to performance. It is fortunate that the sails are out in the open where we can view them, understand them, and make the necessary adjustments for optimum performance, because the greatest percentage of boat speed comes from properly set sails.

Defining a few terms is necessary before proceeding with the details of tuning. The meaning of the terms; "chord" and "chord length", "camber" or "draft" and "position of camber or draft" are shown pictorially in Figure 1.

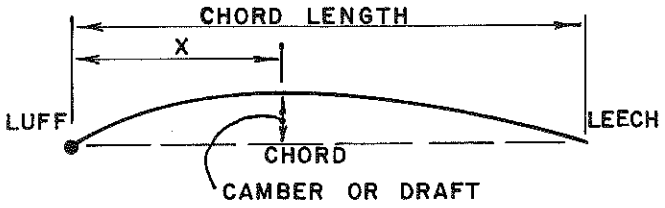


FIGURE 1

The camber or draft is always the maximum distance between the chord (an imaginary straight line drawn between the luff and leech at any given height in the sail) and the sail in its natural set. Draft is often expressed as a ratio, Draft/Chord. The position of maximum draft is usually expressed as a percent and is defined as 100 times the "x" distance divided by the chord length. For example, we would say that the maximum draft (camber) occurs at 50% when the dimension "x" is one half of the chord length. The term "angle of attack" is the angle measured between the wind direction and the sail chord as illustrated in Figure 2.

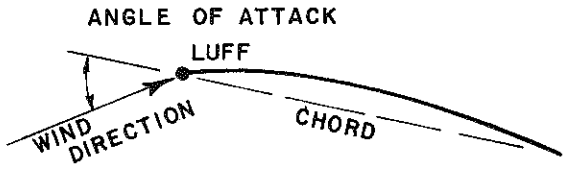


FIGURE 2

In order to tune the sails, one must first understand the function of each of the controls which affect sail shape and set. The controls for the jib are: (1) the jib sheet, (2) jib lead position (fair lead position), (3) halyard tension, and (4) batten stiffness and taper. Briefly, the function of the jib sheet is to control the amount of jib camber . . . a sheet pulled home smartly produces a flat sail, while an eased sheet increases camber. Jib lead position controls jib twist, i.e. the angle of attack as a function of height up the jib. Moving the lead aft eases the leech tension and allows the top to "twist off" a little (useful in heavy air), while moving it forward produces the opposite effect. Halyard tension primarily affects jib luff tension when the main sheet is eased, as when sailing off of the wind. Low jib luff tension allows the forestay to sag which increases camber in the front of the jib; this can be good on a reach but is bad when beating to weather. Batten stiffness and taper should be adjusted to obtain a flat jib leach area with a smooth transition into the body of the sail; i. e. no corners at the front of the battens; see Figure 3.

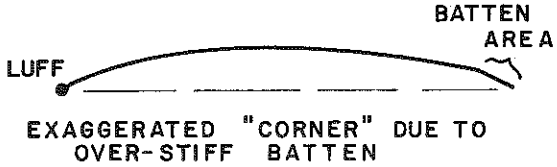


FIGURE 3

The controls for the main sail are: (1) main sheet, (2) boom vang, (3) halyard tension, (4) cunningham, (5) foot tension and (6) batten stiffness and taper. Some mains have a zipper foot which provides additional draft control in the lower part of the main. No discussion of the zipper foot will be included in this article. The function of the main sheet is to control the position of the boom in relation to the center line of the boat. The boom vang controls the height of the boom tip and thus the leech tension and twist in the main. Halyard tension primarily affects luff tension; however, it will cause slight mast bend. High luff tension will move main sail draft forward while low luff tension will shift the draft aft. Steve Colgate has an excellent presentation of the effects of luff tension in his article beginning on page 42 of the February 1972 issue of "SAIL". The Cunningham is a method of achieving additional temporary luff tension, such as when beating to weather. Foot tension is applied by the outhaul which must be readily controllable. The position of the clew is controlled by the amount of tension applied to the foot by the outhaul. Clew position will control the amount of draft in the lower half of this sail. Low tension will produce more draft, conversely, high tension produces a flatter sail. Battens should be sufficiently stiff to produce a straight leach yet have adequate taper to produce a smoothe blend with the unbattened sail. Stiff battens with no taper will produce "corners" as shown in Figure 3. and 5.

Once the function and effect of each of the sail "controls" is understood, tuning can begin. Basically, tuning consists of adjusting sail shapes so that the cleanest and most powerful air flow occurs. A valuable aid in this process is the "woolie", a short length of wool yarn affixed to the sails. The "woolie" is a sensitive aid in determining and visualizing the nature of the air flow over the sails. If smooth flow exists, the "woolie" will stream in the direction of air flow. If highly turbulent, or separated, air flow exists, the "woolie" will flutter irregularly. A good discussion of "woolies" recently appeared, beginning on page 30 of the January 1972 issue of SAIL magazine. Figure 4 depicts a suggested placement of woolies on a Scot's main and jib. These should be of pure wool, as synthetics do not work well. When a leeward "woolie" flutters irregularly, overtrimming is indicated

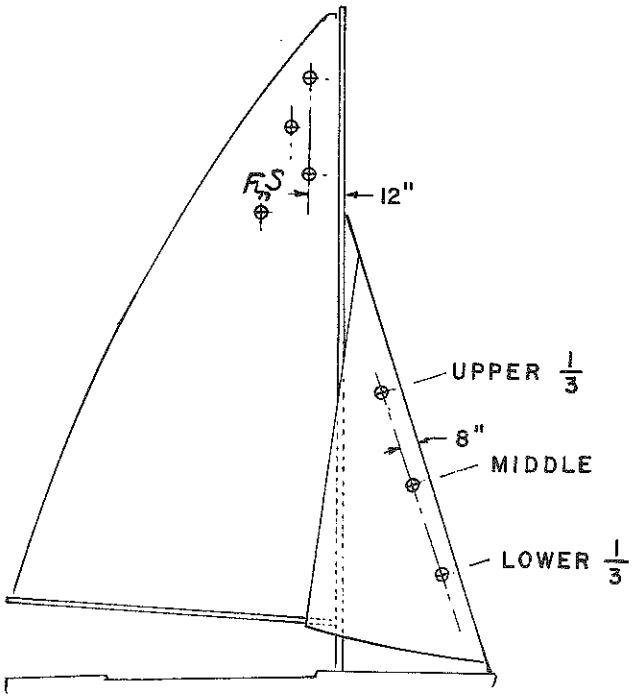


FIGURE 4 SUGGESTED PLACEMENT OF "WOOLIES"

for that area of the sail; while fluttering of a winward "woolie" indicates under trimming. Good flow over the forward leeward area of each sail is crucial in obtaining optimum performance. "Woolies" behave most predictably on the jib, where mast turbulence does not cause complications. When the jib "woolies" on both sides are flowing smoothly, optimum flow has been achieved. In the case of the main, it is still the leeward "woolies" which must be watched, but the windward "woolies" may flutter even when properly trimmed, due to air flow wake around the mast.

A brief guide to using "woolies" in trimming is as follows: If upper leeward "woolies" on jib flutter first, move jib lead aft; if the lower leeward "woolie" flutters first, move the jib lead forward. This positioning of the jib fairlead adjust the angle of attack of the jib so the whole jib pulls strongly. The leeward "woolies" on the upper main should flow reasonably smoothly; if not ease the vang, or the main sheet, or both. This reduces the angle of attack of the upper main and restores flow.

"Woolies" can also aid the helming techniques. Briefly, having tuned for powerful flow of air over the main and jib as outlined above, the rules to follow are:

Going To Weather:

If the leeward "woolies" flutter, head up; if the windward "woolies" flutter, bear off.

Off Wind:

If the leeward "woolies" flutter, ease the sheets (both main and jib); if the windward "woolies" flutter, harden up.

All of the above relates only to tuning for maximum sail power; other factors such as windspeed, seastate and/or tactics may influence these guidelines somewhat. Clearly, in heavy winds there is more power available than can be used; the main will have to be eased even if optimum flow is no longer occuring. It should be noted that it is the main which should be eased in heavy winds as this reduces the force at the top of the rig where the capsizing moment is greatest.

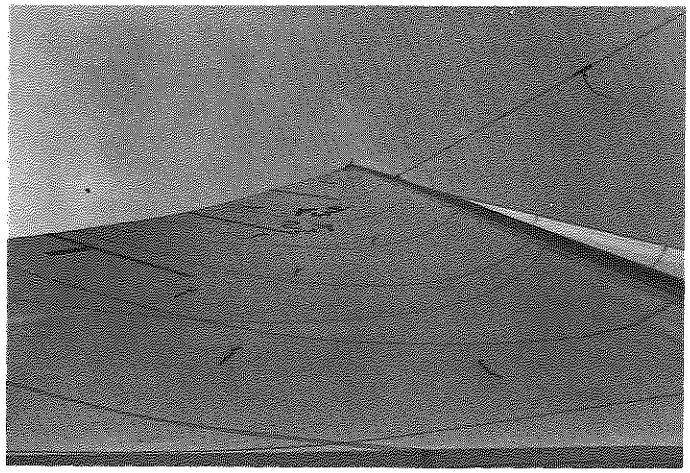


FIGURE 5

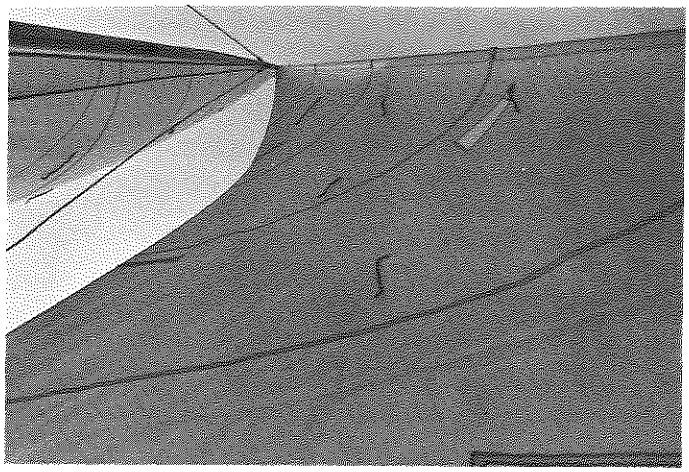


FIGURE 6

The skipper and crew must get to know and understand the set of each sail inorder to achieve the most from it. One aid to understanding sail shape is the camera. It does not have to be an expensive, fancy camera. Pictures taken from on the boat, such as the ones shown in Figures 5 and 6, will help in understanding sail shape. (These pictures were taken with the boat on the trailer in a 5 knot breeze — poor results.) Note, the window in the jib for "reading" the leeward "woolie". The top batten in the main has insufficent taper and causes the "corner" shown in Figure 3. Horizontal tape stripes were put on the main to aid in determining the draft and general shape of this sail. A defect not shown in Figures 5 or 6 are: (1) jib leech curl or hook (see Figure 7.) and (2) hooked main leech due to an over tight leech. The hooked jib leech backwinds the main as well as disturbs the flow of air over the jib resulting in a loss in propulsion efficiency. The hooked main is especially harmful in heavy air. The damaging effects of both can be remedied to some degree by the sail set; however, some sails may require re-cutting.

(concluded on page 11)

"Fastest Scot in Captivity" Is For Sale!

FS553 WAS THE FASTEST SCOT IN THE 1971 NORTH AMERICANS

"As you so well put it 'FS553 is the fastest Scot in captivity'." This statement was made last October by our Measurer, Donald Hott, in a letter to the Measurer of Lightnings in the Texas District. Sandy Douglass confirmed it on page 4 of the Jan.—Feb. '72 "Scots N' Water".

Hull and Appurtenances

Dark blue topsides, blue-tinted white deck.

Certified weight 679 lbs. (only 4 lbs. over minimum).

All possible weight removed from bow and stern.

Special Dacron centerboard gaskets with fiberglass fastening strips.

Faired (legal per grandfather clause) centerboard with certified minimum weight (a few ounces over 100 lbs.).

Universal swivel cam cleat for centerboard pennant, located for use either by skipper or by crew.

25-inch rudder with shock cord hold-down device.

Removeable outboard bracket (*never* used).

Custom-made flexible fiberglass tiller and adjustable aluminum "Hiking-Stik" with shock-cord retriever. (Minimum weight!)

Non-skid paint on sole.

Two largest size (260 lbs. each) flotation bags under foredeck (a must for self-rescuing).

Painted 45 degree lines fore and aft and 15 degree lines forward.

Custom-made permanent spinnaker turtles in forward end of each seat.

One custom-made ditty box under forward end of starboard seat (instead of two standard boxes under foredeck — too much weight too high).

Nonskid tape on all critical spots.

Thru-stem retractable 3/8" painter with tubular cleat.

Thru-deck fairleads for trapeze retractor shock cords.

Drum winch vang with lead to skipper with Holt-Allen cam cleat.

Two-part pennant with tubular cleat for pulling centerboard aft.

Two hand lines with Brummel hooks detachable from permanent Brummel hooks on centerboard cap, arranged as hiking straps.

Fico jib fairlead tracks set to absolute 15" minimum.

Nylon hammock under port seat.

Automatic bailers (beats new ruling).

Stainless straps on quarters to prevent mainsheet hangup.

Wire from mast thru foredeck to prevent jibsheet hangup.

Shock cord from quarter thru rudder to quarter to stop mainsheet hangup.

Boarding line across transom.

Equal percentage area scale on centerboard trunk for board position.

Removeable thru-deck port-starboard bow light.

Special light weight stainless gudgeons and custom-made, light weight pintle.

Check-off list on each seat for each stage of race.

Spars, Rigging, and Fittings

Mast is in the *correct* fore-and-aft position and has all non-standard fittings to achieve a weight only a few ounces more than the 39-lb. minimum, fully rigged.

Two fixed-position spinnaker pole rings (notrack).

Four spinnaker (whisker) poles: original of wood with added reinforcement, aluminum with Lightning type fittings, heavy duty fiberglass with "Red Snappers", light duty with "Red Snappers".

Removeable trapeze wires, rings, and harness. (Illegal, but only with it you can beat a Lightning).

Attachments on boom and centerboard cap for easy switch to mid-boom sheeting (a big improvement, but illegal).

Two-part C-hole rig.

Two-part outhaul rig with hook plate for five positions.

Underboom snatch block for spinnaker sheet in light air.

Thatcher masthead fly.

Two "Curly-Cue" spinnaker guy hooks and two Seaboard cam cleats for spinnaker guys.

Two Seaboard snatch blocks to lead mainsheet to weather in light air.

Two thru-deck twingers with shock cord retractors for spinnaker sheet retrieval in heavy air.

Side-of-mast double-ended spinnaker halyard with two cam cleats and two safety jamb cleats.

Harken blocks for jib sheets with high-side Holt-Allen cam cleats and fairleads and cam cleats for cross-sheeting to narrow slot.

Harken blocks and Hexaratchet pedestal cam cleat for mainsheet.

Thru-deck Harken blocks for regular spinnaker sheets.

Separate top-of-deck light air spinnaker sheet blocks with light sheets on under seat drums.

Three jib sheets, each with Brummel hook, for light, medium and heavy air.

Spare gooseneck fitting (a must).

Sails

Six mainsails to cover the full range of air, including a 20/1 camber no-roach Boston for 25 mph+, Ratsey, Murphy Nye, Baxter and Cicero, Schreck.

Eightjibs, including one true decksweeper (illegal), two with optional upper grommet (illegal March '72), six with Brummel fastjaws.

Three spinnakers: Boston, Hard, Baxter and Cicero.

Thirty battens, both lengths, wood, plastic, heavy, light, stiff, flexible, wide, narrow.

Trailer

An old much modified Lofland trailer has weathered much cross-country trailing.

The "TEARS SPECIAL" is the best rigged racing model of the Scot. Address written offers for the boat and equipment and equipment at White Rock Lake, Dallas, Texas to Fred Tears, 8626 Inwood Road, Dallas, Texas 75209.

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In the 1972 Mid-Winters sailed on St. Andrews Bay, Florida on March 3, 4, and 5, Schreck Sails were used:

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- On all but one boat among the first ten places.
- One of the boats which tied for fifth place did not use our sails.

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Please ship _____ suit(s). Scot # _____
Velocities where I sail most are _____ to _____ knots.
I prefer the all weather suit.

Please mark colors on spinnaker sketch.

I am enclosing check in full.
You will pay freight.

I am enclosing 50%, and references; and
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Suit - 5 oz. Dacron - $285.00*
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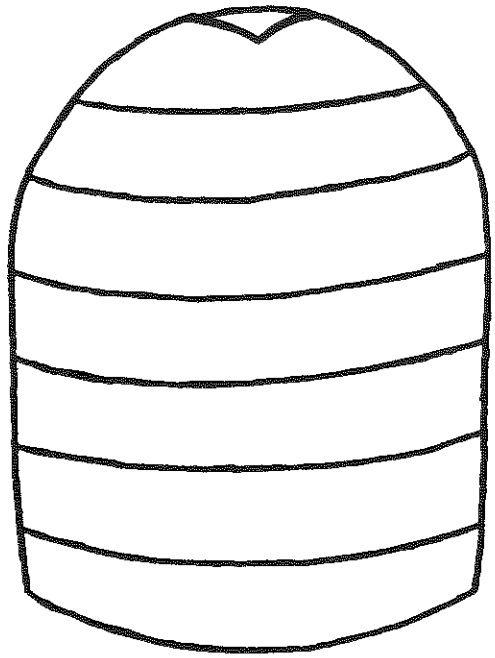
Main - 5 oz. Dacron - 200.00*
Spinnaker - 3/4 oz. - 130.00*
*includes royalty tag
Brummels — set $7.00



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Glen Ford, 3214 Apperson Drive, Midland, Texas 79701. Telephone 915-694-3662.

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William H. Whitehead, 781 East Church Street, Marion, Ohio 43302. Telephone 614-382-7915

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FS 1790—Douglass Built—Schreck Sails—Outboard Bracket—Desk Cover—Anti-Fouling Paint—Aqua Color—New in 1970—Excellent Condition. **Price—$2,500.**
James V. Davis, 1008 North Van Buren, Albany, Georgia 31701. Telephone: A/C 912-435-5621 (Business). 912-432-2837 (Home).

Scots, How To Sail Fast . . . *(from page 8)*

Only after careful study of the sail shape and performance should you consider new sails or re-cutting the old ones. If you are modifying your old sails don't do it all at once. Take small steps and evaluate each before moving to the next. Excellent sails have been produced from "dogs" using this approach. Sails made by sailmakers who sail a particular class, such as the Scot, of boat generally produce a better sail than one from one of those "Big Names". For instance, Lowell North builds great Star boat sails, Paul Schreck does likewise for the Scot. There are numerous local sailmakers who can produce tremendous results for you. Get a sailmaker who is familiar with both you and your boat, sail with him and work out the modification plan together.

Optimum performance from your sails will not come easily or quickly. There is much information available on sails and sail shape such as the two articles referenced above. Much readings, looking, thinking, talking to others and patience is required if you are to achieve your goal . . . WINNING.

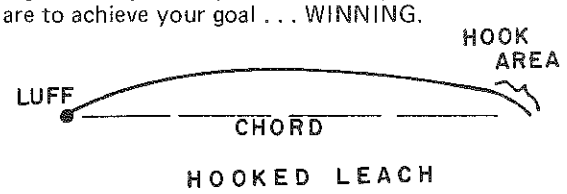

FIGURE 7

Beginners LEARN TO SAIL quickly, easily with authoritative 16-pg. booklet "A Minimum SAILING PRIMER"
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Made of same alloy, with same shape and same breaking strength, by same manufacturer as Douglass' crank. BUT each end is square and a bit longer — enabling one to file a new full-length square if (perchance) the original square is broken off. Thus life expectancy four times usual crank. Price incl. postage. 1—$1.45; 2—$2.80; 3—$4.10. Send check for prompt mailing. J. C. Jones, III, 55 Hawes Street, Brookline, Massachusetts 02146.

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Junior Flying Scot sails ideal for 10 to 11 year-olds; 5 oz. sails can also be used as "storm" sails (131 sq. ft.). Scot is as well balanced with them as with full size sails. Same sheet blocks used. Kids love their "very own" sails; quickly gain confidence and sailing ability because the Scot is even more stable with them. Dacron main and jib 4 oz. $188; 5 oz. $196, plus postage and numbers. J. C. Jones, III, 55 Hawes Street, Brookline, Massachusetts 02146.

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(FOR FULL EXPLANATION SEE ART. IX OF CONSTITUTION.)

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USUALLY SAIL ON _____

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