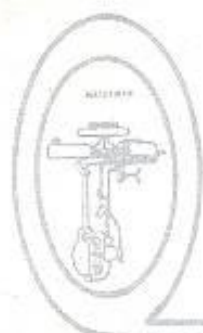


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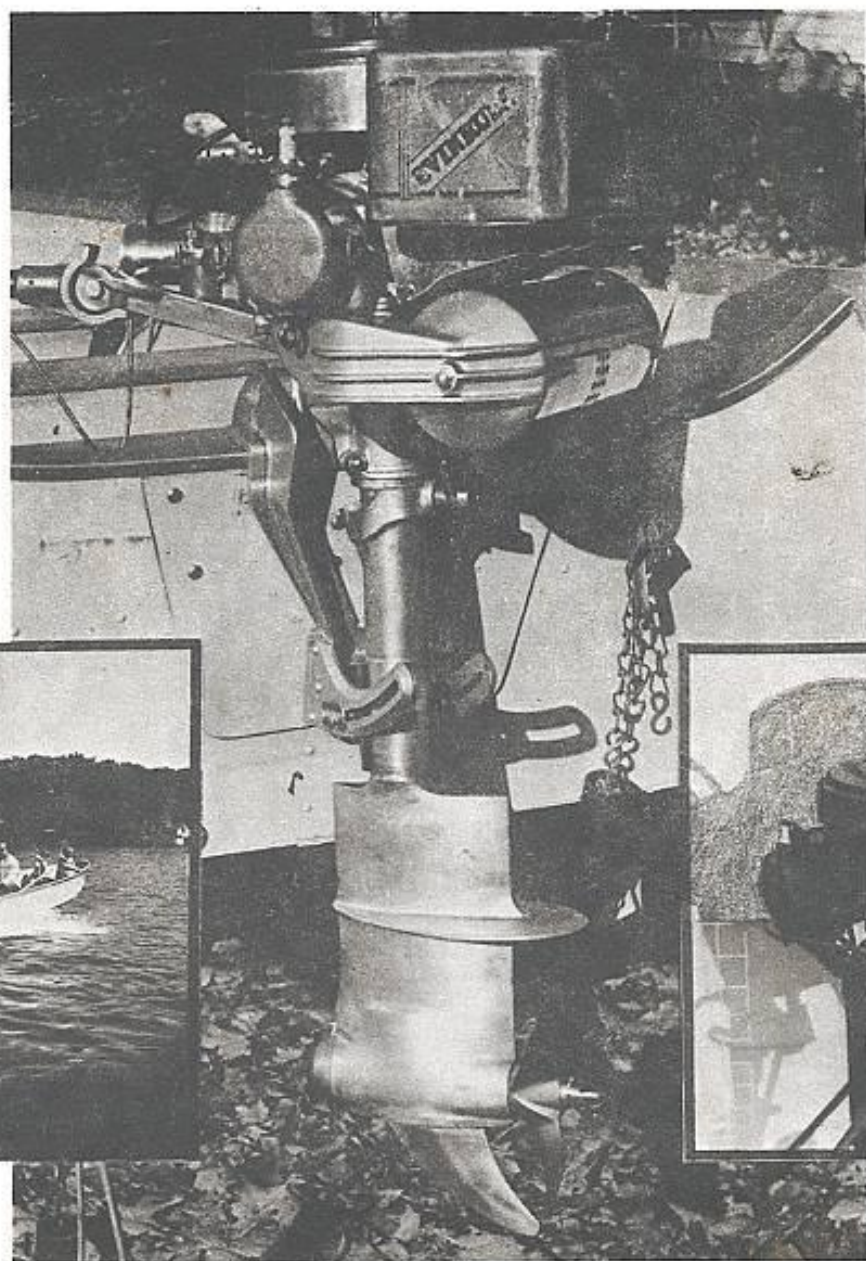
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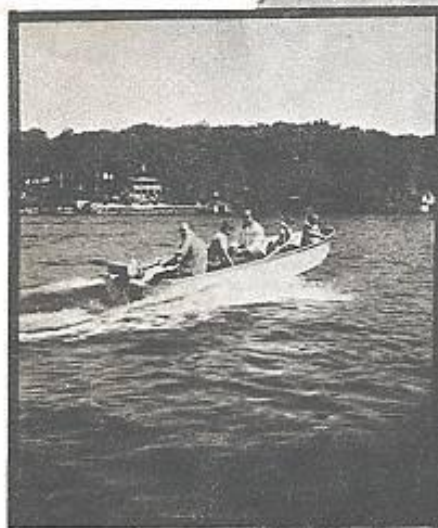
THE ANTIQUE OUTBOARDER

The Pioneering Authority

1928
E-V-I-N-COM



MODEL
U
SWEED-I-WIN



AFTER



BEFORE

The Antique Outboard Motor Club Inc. is incorporated in the State of Texas as an Educational Institution. The Club is devoted to people all over the world who are interested in the search for, restoration and preservation of old time outboard motors. Regular membership dues are \$7.00 per year. Other membership information available on request. Address membership requests to A.O.M.C.I., Inc., 20505 NW 3rd Av., Miami, Florida 33169.

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The Antique Outboarder

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January, 1971

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Change of address should be forwarded two weeks in advance and zip code numbers should be included.

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The Antique Outboard Motor Club Inc



CLUB BRIEFS

IMPORTANT IMPORTANT IMPORTANT IMPORTANT IMPORTANT IMPORTANT IMPORTANT

Members are urged to check your membership cards and renew your annual dues before receiving a notice. Your remittance early will save the Club time and money. All dues should be forwarded to Mr. Dick Jones, 20505 NW 3rd Av., Miami, Florida, 33169.

PLEASE SEND ALL ADVERTISEMENTS AND REQUESTS FOR SAME TO BOB ZIPPS (ADDRESS INSIDE FRONT cover), Classified Editor, instead of mailing direct to the Outboarder office. Bob will see to it that your ad is properly processed and sent along to the magazine.

RICHARD C. MICHEL IS OUR CLUB CARTOONIST. LET DICK KNOW OF ANY PUNCH LINES OR IDEAS for a cartoon you may have. Dick's address is: 494 Windsor Road, River Edge, N.J., Zip code 07761.

THE ANTIQUE OUTBOARDER COULD USE A PICTURE OF YOUR MOST UNUSUAL OUTBOARD MOTOR, ALONG with a brief paragraph or two about its characteristics and how you acquired it. The idea is to assemble all the material into a story about unusual outboards for a later issue of the magazine.

VOLUNTEERS ARE EARNESTLY SOLICITED FOR THE JOBS OF (1) SMALL INBOARD EDITOR, AND (2) Antique boating editor. This task involves assembling enough material about the subject to provide a interesting article for each issue of the magazine. Here's your chance to help out - and also to be a part of recording what may soon be forgotten history.

AS OF THIS ISSUE, THE SINGLE COPY RATES FOR THE ANTIQUE OUTBOARDER MAGAZINE HAVE BEEN increased to \$1.25. Yearly magazine only subscription rates are also raised from \$4.00 to \$5.00. The increase is due to higher printing costs.

THE NEW "FINE PRINT" AS IT BECOMES USED IN THE MAGAZINE IS THE WORK OF JOHN KOONCE, Minneapolis. Thank you, John. (John will become a master printer someday, if the printers will just stay off strike long enough).

FOR THOSE WHO MAY BE INTERESTED, THE AOMCI INCORPORATION PAPERS ARE REGISTERED IN THE State of Texas. The Charter number is 253869. Incorporation has been granted on the basis of the Club being a non-profit, educational organization. The Twin Cities and Mid-west Chapters are similarly incorporated, and all other local chapters are urged to become so, if not already.

LOCAL CHAPTER MEMBERS ARE REMINDED TO FORWARD THE NAMES OF NEWLY ELECTED PRESIDENTS TO The Antique Outboarder so that the appropriate names can be placed on the Executive Council. With this issue, Glenn Ollila replaces Ronald Johnson as President and Member of The Committee from the Twin Cities Chapter. Bill Motley, who is now the Editor of the Newsletter is also named to the council.

JOHN HARRISON SPENT THE ENTIRE MONTH OF NOVEMBER HAVING AND RECOVERING FROM EYE SURGERY. John was a little too close to an atomic explosion once and has had eye trouble from it in recent years. John reports that he's feeling fine now and is back at the office at "half throttle" or better.

ALL EXTRA COPIES OF THE ANTIQUE OUTBOARDER FOR APRIL, 1969 ARE GONE. JULY AND OCTOBER 1969 issue stock is down to where you can count them on one hand.

A COUPLE OF PLANNING SUGGESTIONS: #1. HAVE A WINTER REGATTA! THE IDEA IS TO HAVE A MEMBER/wife type dinner party followed by films of the past summer's activity, or? #2. This coming summer maybe two or more Chapters could have a challenge meet...think about it.

TWO MAGAZINES, THE NATIONAL FISHERMAN, MEDFORD, MAINE; AND SKIPPER, ANNAPOLIS, MARYLAND are reported to be among the top marine publications in the country. Anybody take them?

From The President

The beginning of a new year is always a good time to review the events of the past, look at the present and plan a direction for the future. There's a saying I saw somewhere recently that goes like .."Even if you're on the right track, you'll be run over, if you just sit there". It struck me that there's a truth to that saying that should be applied to The AOMCI if we are to continue our growth in 1971.

Growth of AOMCI means not only organizational growth, but more important, your personal growth, as expressed in terms of your enjoyment of antique outboarding. Mere numbers of members do not make for a successful organization, especially when all participation is completely voluntary. Neither is a bank account any indication of success.

What is then, our AOMCI success quotient, if such a thing can be measured? One way to look at a possible answer is to examine our membership. We have about 350 members now, but over the years, have lost about 150. These people now gone, must have been attracted to our organization - but obviously we didn't keep that interest. I'm pleased to say that during the past year, hardly a man has dropped from the rolls.

A second way to look at our success is to examine what our member interest is, and how well we are satisfying that interest. The results of a recent membership survey are helpful on this point. In summary, Most members of this Club are between 30 and 60 years of age. Only about 10 percent of our membership falls outside that range. These people enjoy the Club because they have a historical interest in machinery and engines, and are boating enthusiasts. They are evidently quite sociable, for they particularly enjoy getting together with other people having the same interest. They do not feel the Club is important to them because of an association with the boating industry, or because it is a rather unique organization. And, only a very few are interested in the Club as a market for their motors. Most everyone has been a member for 3 to 5 years. They are most interested in old or unusual motors, with a lesser interest in racing or developmental units. Most members own somewhere between 2 and 10 engines, but its surprising to note that at least 40 members have more than 20 outboards.

As a result of the survey, we are adjusting the Club magazine wherever necessary towards its containing articles of appropriate subject matter, in sufficient depth to stimulate every member's continued interest.

We cannot, however, rest on the success of membership gain/loss ratios or an interesting magazine. It seems to me that your individual participation is the key to more growth at this time. Our Chapters, Special Interest Groups and Meets offer a place to start. But remember, right track or not - keep going! Call or otherwise contact new members as their names appear in the magazine. Just think, a new friend, a possible source of that part you may need and association with someone who has the same interest as you do.

Who knows, soon we may be able to look at National Meets, Shows or a big museum. But for now, make it your personal objective to help build a local chapter, send something to the magazine, enlist at least one new member and for sure, attend a meet.

Make 1971 your year to get involved!

Cordially,



JANUARY, 1971



OF HISTORICAL INTEREST

..... *W J Webb*

THE BOAT SHOW

One of the top pleasures each year, and certainly one of the greatest headaches, were the country-wide boat and sport shows which began with the National Boat Show held at New York each January, and ended with the State Fair Shows in the fall. The pleasure came from the reunions with the gang appearing at the shows - our dealers, boat builders, the accessory and hardware manufacturers, men from the boating, outdoor, specialty and general magazines, the many friends made among the retail customers and yes, the people who were our competitors.

I attended my first boat show in Boston, in 1926, and my last, as an Evinrude employee, at Chicago, in the fall of 1963. Between times, I hit shows in better than half our States. Shows brought with them incidents of every sort - amusing, annoying, tragic and pleasant. One time, at the 1927 State Fair in Milwaukee, I listened for 15 minutes while Jake Stern, then Elto's Assistant General Manager, patiently explained our Service Twin to a couple of Swiss extraction, from Monroe, Wisconsin. At the end, it turned out the couple was a cheesemaker and his wife - and they thought they were looking at something that would make a wonderful agitator for the milk tank. This became evident while Jake was explaining the underwater exhaust, and the cheesemaker decided that would be no good for milk. Tragedy appeared once in New York when a man suffered a fatal heart attack in front of our booth. We got an ambulance for him, but not in time.

Another time in New York - the last time we showed at The Grand Central Palace - a man rounded the corner at a brisk rate and came straight at me. Now, I had been around shows enough to recognize someone who had been sent. The man opened up immediately with questions clearly designed, it seemed to me, to get me to say something bad about a certain competitor. First of all, I never had a bad word for a competitive outboard, and in this case, I laid on the compliments with butter and sugar. After a few minutes, the man abruptly turned and left via the route he came. A little while later, a magazine publisher came by, laughing, and said to me "what did you tell that fellow that sent over to talk to you. nearly fired him. He thought the guy had sold out to you".

We expected to have motor troubles reported to us at shows. After all, while we have always made our motors the best we knew how, mistakes do happen - and the poor customers are the ones who find them. That's why we have service shops for automobiles, radios, washing machines, outboard motors and what have you. So, the "off season" is naturally a good time for a user to discuss his troubles with someone from the factory. Most every body states his, or their, case in a fair and reasonable fashion. We always listened, and did the best we could to initiate some corrective action.

But now and then will come a user who starts right in to holler at full range and this, naturally, helps collect a crowd - before which, the complainer is at his best. Experience has shown that about half the time, the user is hollering to cover some fault of his own. Sometimes, they get extremely abusive. However, unpleasant and annoying as some of

these incidents were, they nearly always ended with the customer mollified. One such man whom I could not satisfy, told me he was going to get a lawyer and come right back. I said "sure, do that! Here are two tickets so you and your lawyer won't have to pay to get in." The listening bystanders were surprized and pleased at this. I didn't think he would come back - but he did. The lawyer and I had a nice visit, frequently interrupted by the customer. The lawyer finally ended it by telling his client that I had made a most reasonable suggestion, and that the client should take it and shut up. I have often wondered what the man's lawyer charged him - and if he paid!

My greatest single show experience had to be my first motor boat show at New York, in the Grand Central Palace, on Lexington Avenue, in January of 1927. Besides being my first trip to the big town of New York, it marked my first brush with the Unions which were strong in the Palace, as well as in most other places where shows were held. The Unions weren't so powerful then, or I never would have gotten away with what, in my ignorance, I did. I had been setting up the Elto exhibit and had begun to screw-in light bulbs and plug-in light cords which we had brought along from Milwaukee. A crusty man accosted me and asked if I had a Union card. On being told "no!", he ordered me to stop as I was doing Electricians' work. I was in pretty good condition then, so I rather truculently told him where to go. I not only meant it, but probably looked as though I could back it up. The man left, but in five minutes, Ira Hand who as Secretary of The National Association of Engine Manufacturers ran the show, was in the booth, begging me to desist at once or I would have the whole show closed up. So, I desisted, Ira gave the man five dollars to forget the whole thing, and thus was the lesson learned. I was probably luckier than I realized.

It never failed to gripe me, but as the Union influence spread, I found it was easiest to start work and upon being hailed by the Steward, get him off to one side, pass a fiver, and let nature take its course. That was cheaper by quite a bit than to wait for an Electrician and his assistant to do in two hours, what one man with his mind on his work, could easily do in one hour. They tell me now that a fiver won't even "see" the janitor's helper--and that if it works at all, twenty is a good bet.

I do know that it takes the representatives of from 10 to 14 Unions to get an ordinary exhibit off the truck and set up. Back in the twenties and thirties, we "saw" the electricians, the building maintenance man and the trucker - and got the job done.

The prospective customers who attended the New York, Boston and Pacific Coast shows in the twenties were far better informed on all phases of boating than people in any other area. By comparison, those customers were generally boatmen - pleasure as well as commercial - who by long experience, knew their stuff and were not to be satisfied by any loose statements. Nowadays, boatmen in every area are well experienced and generally come to shows with specific information goals in mind.

It is most pleasant to recall that one of the Elto owners whom I met for the first time at the 1927 New York show, renewed acquaintances with me at every New York show from that time on, until 1962. I learned from his son, that the fellow had suffered a heart attack shortly before. And of course, meetings at the different shows with groups of dealers became traditional. In the early years, when digestion was excellent and the alcohol tolerance high, there were standing dates from year to year for lunches, dinners, oyster stew parties (in Boston and New York) and always a drink or two, after hours. Many a time in the early days at New York, I didn't eat (or drink either) from breakfast until after the show closed at night.

The occasion of my twenty-ninth birthday was one such time. The well loved Oluf Mikkelsen of New York, a competitor at that time, heard me saying that I hoped to get my birthday lunch, dinner, supper and a drink - all at one time - if I could find the drink. Whereupon, Oluf said he could fix that. Those were prohibition days, and a good drink was hard to come by. Oluf was widely known in New York. Suffice to say that Oluf and I got back to The Lexington Hotel - where most of the show gang stayed - just after it started to get light. I was up for a breakfast appointment and ready for the show opening at 10:30 A.M. Today, under those conditions, I would most certainly collapse.

The helping hand of friendship was extended often between non-competitive groups in the industry, I steered many a dealer to this or that boat builder, or hardware or access-



You Never Can Judge by Appearances— Drawn by Hy Gags

Can you tell me —

Sure, I can tell you anything you wish to know about a motorboat! Now this speedboat —

But I —

—is fuel proof—see I can take down the whole engine in a few minutes—

—why even a child can detach this reverse gear—

But —

But I want to ask you where the bar is!

"BAH!" I see myself wasting breath over the next PIKER that comes nosing around!

Well you have my permission!

Evenin' Duke! I wanna squat at yer line o' boat's

Take my order for a flock o' motorboats! I made a clean-up on War Babies and Gent boats for th hull family!

Yes sir yes sir! Thank ya sir!

4/10/17

Editor's note: The center illustration shows the typical boat show atmosphere. Flanking pictures are of the "show gang" that helped with Jim's 29th Birthday.

ory line--many a newcomer to the industry to the magazines and to distributors or dealers. And they did the same for me. As for outboard competitors, with one exception, we mingled, were friendly--at least on the surface--preserved an armed truce, cooperated on projects of mutual interest and tried to present an image of benefit to the industry. The show headaches came not from the long hours on the floor. I loved that. But rather,

it was from the dust-filled air; the show halls that were either over-hot and stuffy, or chilly and drafty; and the times we had to work all night tearing down a show - getting it on a truck and on the way so we could open in another city the next evening. In 1927 a crew of three worked all Saturday night, from right after closing, tearing down the New York show at The Grand Central Palace. They got the exhibit on a truck before daylight - and the shipment was in Boston, at The Mechanics Building, before dark, Sunday. As for me, I worked until 11:45 P.M. that same Saturday night, rushed up the street to the New York Central Station and hopped the "owl" to Boston with two motors checked as baggage. I opened the Boston show at noon, with the two motors on stands and some literature on a table. The crew and I worked most of Sunday night unloading the truck from New York, and by 10:30 Monday morning, were doing show business full blast. It was rugged and headachy, but fun.

Once, in 1928, I tore down a show in Omaha, baggage-car-shipped-it to Columbus, Ohio, set it up and opened there 36 hours later. Exactly the same thing followed with the Columbus Show closing Wednesday night, and the Chicago show opening at the old Coliseum (what a trap) Friday night. I was home darn little in those days.

I haven't been able to establish, with any degree of certainty, the date when the first boat show of regional or national importance was held; however, there were power and sail boats at the Chicago World's Fair in 1893. That's the earliest boat show date that I have been able to find. A printed account and pictures appearing in April of 1904 shows a fine display of power and sail boats at the Sportsman's Show held in Madison Square Garden, New York City. From NAEBM's historical folder "Going Like Sixty" which mentions the event, I deduce that this was the first New York boat show.

And what a show it was! Among other things, there was a huge water tank - which took up most of the Garden's first floor - and demonstration rides were given in it. In 1907, the NAEBM pulled out of the Sportsman's Show and established the Granddaddy of all shows --The National Motor Boat Show--held regularly, every Winter from that day 'til this, with time out for wars. This event served as the pattern for every other boat show held in this country, since. Probably no single institution provided more leadership in spreading the gospel of boating, than The National Motor Boat Show.

I haven't seen all of The Motor Boat Show pictures by any means, but according to those I have been able to examine, outboard motors were displayed for the first time at Detroit, in 1910. That first motor was a Waterman. Up until 18 years ago, the new retail selling season was kicked-off with The New York Boat Show - or to be more correct, The National Motor Boat Show. Previously, the outboard motor business tended to sleep from Labor Day until Christmas.

However, in 1952, outboard manufacturers began to break with tradition by announcing the 1953 line in the Fall. There was a very good reason for this; namely, to lengthen the selling season. This helped spread the inventory load and gave the dealer a good reason to keep on the promotional ball all year. The results have been good.

Whatever the season or date, the boat show - with all its wear and tear on those putting it on - provides a good shot in the arm for retail selling in any area. But more important, the boat show is still the best way to keep the interested public aware of the latest developments in comfort, design and technology in pleasure boating.

Jim

The Antique Outboard Motor Club

EMBROIDERED SHOULDER PATCHES
are available from Mr. John
Harrison, 1000 NW 54th Street
Miami, Florida Price: \$1.00

Colorful- 5½ inches high
FOR SEWING ON SHIRT or JACKET



SEA HORSE '25'

DECALS GIANT
TWIN

\$20
SET

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Miami, Florida 33127



RICHARD A. HAWIE

NOTES FROM THE CURATOR

There are many advantages to being a member of the A. O. M. C. I. One of them is that we are able to pool our information and get answers to difficult questions.

The motor which Milt Moos wanted identified in the July, 1970 issue is a Spinaway. Bill Kelly supplied the key as he has one similar to Milt's, which still had enough of the gas tank lettering discernible to make out "Spinaway."

With a name to go on I was able to come up with some data on Spinaway. As you can see from the first picture my magazine file is extensive, but finding a mystery motor sometimes requires going through hundreds of issues with no luck. We have killed two birds with one stone as our Editor wanted a picture of me.

The Spinaway Twin is unusual and was hard to identify because it had an Evinrude magneto and spark plugs which screwed into the cylinders parallel to the water's surface and pointing toward the bow of the boat! The second picture is the only view of a Spinaway Twin I have found so far. As you see, it is of the gas tank view of the motor and does not show the spark plug location nor the magneto -- the two unusual features! That's why I drew a blank on this motor the first time around.

I speculate that the Evinrude Company sold magnetos to Spinaway because the early twenties were hard times for Evinrude as the Johnson Waterbug and the Elto Rudder Twin were cutting into their sales. The flywheel and magneto on the Spinaway Twin appear to be the same as the flywheel and magneto on the Evinrude Sportwin Model N which was introduced in 1923; and it would not be unthinkable that the Evinrude Company would sell magnetos to Spinaway to help amortize their tooling with a longer production run for the magnetos.

"Spinaway Detachable Outboard Motors" were made by the Spinaway Boat Motor Co., 100 So. Chicago Ave., Freeport, Ill. They made motors from 1914-1924. The first mention of a Twin was in 1923. Some changes were made in the Twin for 1924, but it seems that sometime in 1924 they ceased production. The specifications for the Twin were bore 2 $\frac{1}{2}$, stroke 2, 3 HP at 1400 RPM, weight 46 lbs. The basic difference in the two years seems to be that the 1923 Twin had its own make mixing valve, and the 1924 Twin used a Zenith-Detroit carburetor. Rudder magazine specifications say that "all parts exposed to water made of bronze" for 1923 and "all parts exposed to water made of non-corrosive aluminum, bronze bushed" for 1924; but Milt Moos' motor, which has the 1924 Zenith-Detroit carburetor, has a bronze lower unit.

If you have a small "Evinrude" Twin that you can't identify as to model, look at it again. It may be a Spinaway with Evinrude magneto.



When I start searching, it sometimes seems like there's too many magazines

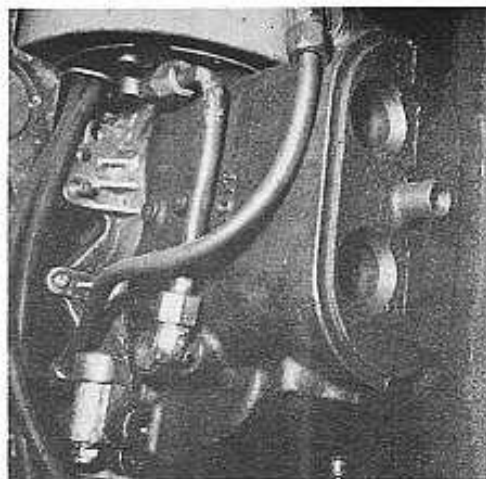


Fig. 4- Johnson DT-39; the cylinder is cast iron with cylinder head cast in one piece

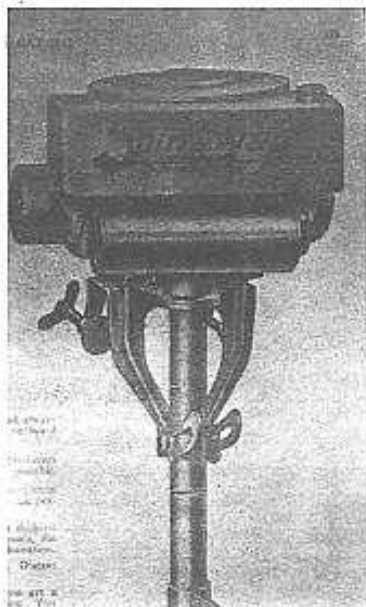


Fig. 3- The circular gas tank makes the Spinaway Single distinctive. P. 12, May, 1916 MOTOR BOATING

Fig. 2(left)- This view of the Twin doesn't help the "motor sleuth" very much. P. 171, January, 1924 MOTOR BOATING

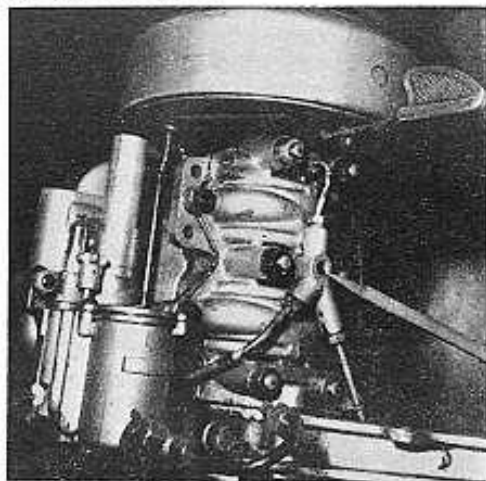
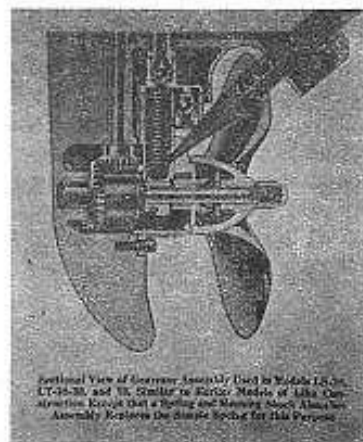


Fig. 5(right)- Johnson LT-10; pencil points to the low speed venturi which feeds the rotary valve



Fig. 6(far right)- The ever present pencil points to the two-piece piston pump. P. 178 Johnson Motors Service Manual



Vertical View of Governor Assembly Used in Models LT-10, LT-15, LT-20, and 25. Similar to Earlier Models of Like Construction. Note that a Spring and Mousing Knob Assembly Replaces the Spring Knob for this Purpose.

Spinaway also made a single cylinder motor. The Single was made from 1914 to 1924. It had a bore of 2 5/8 and stroke of 2 5/8 and was rated 2 HP at 1000 RPM. Spinaway did not advertise much and I haven't been able to find many pictures of the Single. The picture I have included is from a 1916 magazine. The motor doesn't differ much from other 1916 motors except that it had a circular gas tank about the same diameter as the flywheel. The Spinaway also had underwater exhaust which was not common in 1916, but the magneto model used an externally geared Bosch magneto which was common practice at the time. Flywheel magnetos were not common in 1916. Spinaway Singles are rare. I can't recall having been asked to identify one.

Phil Kranz's mystery motor is, I believe, a Cross Radial as he first suspected. The Riley Radial was only made from 1954 to 1956. Unless this is a deliberately staged photo, it is a 1928 or 1929 photo. Notice the steering handle, the interesting oval cockpit which doesn't reach back to the transom, and the boat in the background. From my experience I would think this an 1928 photo of a Cross Radial without its gas tank. I guess that the tank is in that cockpit; you can see cables or fuel lines leading from the motor to the cockpit. The angle between the five cylinders is such that no more than three cylinders show in any view. I wonder if that is Loretta Turnbull's "Spirit of Bronchitis" in the background? The letters S P I R I are clear.

The motor that Rick Anderson pictures is also sans gas tank. I don't have any Waterwitch motors nor a good picture of a Twin, but the transom clamps, the ribbed crankcase, the flywheel, and the flat head screws on the cylinder head all have characteristics of the Waterwitch. The Waterwitch Twins all had 2 1/4 bore and 1 7/8 stroke except the 1941 model 571.50 which had 2 3/8 bore and a 2 1/8 stroke.

The first motor my son attempted to restore - a Thor Twin - presented us with something of a mystery too because, unlike the Thor Jim Smith described in the January, 1970 issue, this one did not have a check valve carburetor. We hoped we had an unusual Thor since we got it with a standard Tillotson carburetor which would indicate a three port engine. Alas - when we tore it down, it was a two port Thor which required a check valve carburetor. We figured the chances of finding the proper carburetor were slim so we wasted no more time on that Thor. Some cabbage-head mechanic put the wrong carburetor on the Thor, so instead of an unusual restoration (there weren't too many Thors built), we came up empty. Though Mark Wright has done a good job shaking old parts out of the trees, it seems the statistical probability of finding a specific part for a rare motor is high. If you have a rare motor which needs a part, I suggest you let it stand if you have another motor to restore for you'll spend a lot of time restoring a "nothing" which won't run when the time could have been spent on a complete motor which may run; unless, of course, you have much more time than most of us have.

For some reason, in the old days, carburetors were often blamed for hard-starting engines. People thought that they wore out like a dry-cell battery! Almost invariably if someone was having trouble starting a motor, some shorebound ersatz Harry Miller would yell, "change the carburetor." You can run a car 100,000 miles without wearing out the carburetor; why would an out-board carburetor wear out after 100 miles? You can come upon some

horribly abused carburetors, but I don't believe you'll ever find an outboard carburetor that was plain worn out.

My own experience is that a hard-starting engine is usually due to an ignition problem. A friend had a Johnson DT-39 which started on a stand but wouldn't run on a boat. His helpful advisors opined it was the carburetor at fault. Of course, it was a leaky cylinder, a hole eaten right through the cast iron cylinder, which was the culprit. On the stand it ran; but as soon as the water pump started, the powerhead was a one cylinder water pump. The model DT-39 had a cast iron cylinder block. The 1940 LT-10 and DT-10 had aluminum blocks with cast iron liners. If you're lucky enough to find both the 1939 and 1940 models, they are not exactly the same and would make a good contrast, with the old style cast iron block of the DT-39 and the modern aluminum block with cast iron liner of the DT-10. The 1940 models are hard to find; they are such great little fishing motors that they don't get thrown away or traded in too often. This is the 5 HP Johnson. It is still in the line -- rated 6 HP now, with reed valves. The DT and LT-39 and their successors are interesting because they have a dual carburetor system -- not dual carburetors as we know them. There is one fuel bowl, but the low-speed needle and a low-speed venturi are on the crankcase at the center main bearing, and the crankshaft has a small hole drilled through it so it has a crankshaft rotary valve for the low-speed range. The high-speed needle, a standard venturi and butterfly valve are in the main carburetor body. It feeds a manifold on the cylinder controlled by the pistons in the normal three port manner. The low-speed venturi has no butterfly valve. This rotary valve-three port combination makes for a fine low-speed trolling motor and a fairly fast getting-home motor when used on a fishing rowboat.

We have a Johnson LT-10 which my boy used as his first motor. One problem we ran into was with the water pump which nearly drove me crazy until I discovered the problem. There is a telltale hole drilled in the water tube elbow; and if you have an LT-10 which isn't pumping water, you may have our trouble. The pump is a piston type pump actuated by an eccentric cam keyed to the propeller shaft. The piston looks like a 50 calibre shell but it is made in two pieces. The cylinder is brass but the end cap is steel. Ours leaked at the seam between the steel and brass and wouldn't pump enough water to cool the engine. I made a thin disk of aluminum with a groove in it for an "O" ring and pushed it into the bottom of the shell to seal the seam, and the pump has worked fine since.

DECALS

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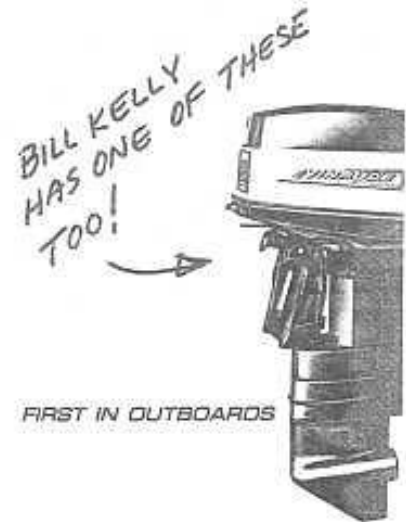
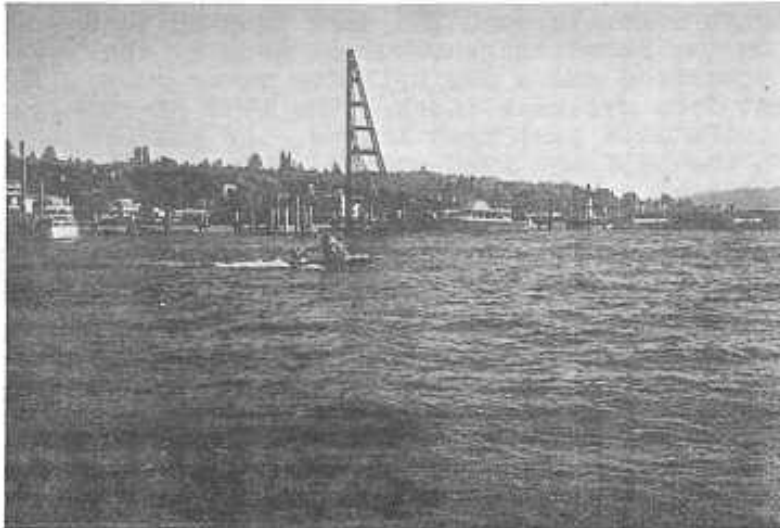


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SEATTLE '71



*#@##...Carburetor was flooding! S-45 Johnson on Neal Hydro ran 31 MPH later

L. to R., Bill, Ev Reynolds, Johnson A, Bill Seibel and Mahlon Lamoureux w/fuel



Invitations were sent to all members in Washington and Oregon to attend the Seattle Meet '71 at Evergreen Marine. The date, September 27th left the question of outdoor activities in doubt, so no specific events were planned. As it turned out, the day was beautiful and some "on the water" action was possible.

As the members gathered at the shop, the motor racks filled and several old-timers were exercised in the test tank. I ran an extremely nice, original A-25 which I had acquired only a few days prior to the meet. It ran rather skittishly at first, but after a few minutes, it settled down and ran beautifully. Apparently, the suffering was from a sluggish fuel supply. Bill Seibel arrived, bringing a nice '34 Sea King single, a Clarke Troller, Ro-peller and his recently discovered Waterman vertical cylinder.

Ron Duckworth came down with an Evinrude Big Twin, a Mate and a small Neptune single. Mr. Mahlon Lamoureux brought a MS-38 and J-70 Johnson - the J-70 still faithfully transports Mahlon across the waters of Puget Sound to work and back every day. Then, the "Bainbridge Contingent" arrived - by boat! In the group were Bud Hey, Al Haugen, Gary Barnak, Jerry Springer (whose 35 quit on the way and had to be fixed at the shop!), Brian Johnson and Larry Young. These intrepid travelers ventured half-way across Puget Sound with

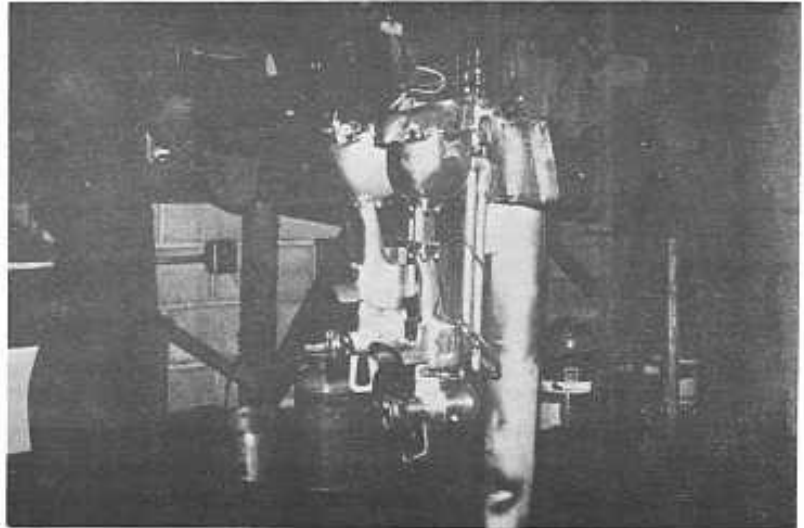


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EVINRUDE



Two Clarke Trollers on display. Note long shaft on closer unit.

their old units. Others attending were Everett Reynolds, Ray Davis and new member, Gary blendheim.

All the guys carefully inspected each others antique motors, traded a little information and know-how, then adjourned to the water for firing up and window rattling. That we did, at random, with no races being held. Al Haugen, with his POLR 15 on a 15" transom, really threw a rooster-tail! (Ed. note: no Club Meet points are allowed for this type roostertail.) A recently installed and untested Vacturi carburetor gave me fits on my '29 S-45 Johnson. It initially flooded out the motor, but after dry-firing and some running, the float settled down so the engine could "let it all out".

After the water session, most of the fellows returned to the shop where a large quantity of chicken salad and beer had appeared as if by magic (I guess brought either by the old motor ghost or the friendly Mercury dealer down the street). All who attended enjoyed the meet and next year we hope that a much larger representation of N.W. members can make the scene.

1919 Knucklebuster Evinrude, original, mint, on display at Evergreen Marine.



Bill Kelly

Special Interest Group News

Here's a list of the different Interest Groups intended to help focus on your needs for literature, information, parts and fellowship regarding your favorite motor or subject. Notice that not all of the Groups have leaders - volunteers are needed! Write to the Antique Outboarder magazine publishing office.

Giant Twin - Don Peterson
 Lockwood Chief - D. Reinhartsen
 Johnson PO - Bill Salisbury
 Johnson V Series - J. Harrison
 Johnson A Series - Bob Zipps
 Antique Boats and equipment

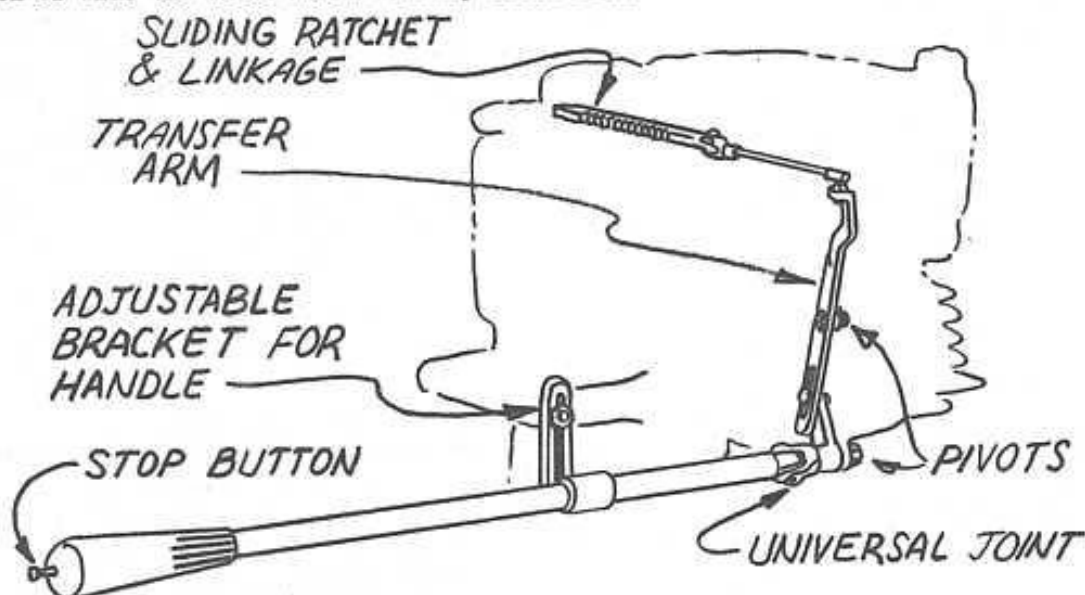
Mercury - Bill Kelly
 Unusual and rare motors
 Restoration for display
 Racing engines and souping
 Watermans - Dick A. Hawie
 Research - Dick A. Hawie

Small Inboards
 History - W. J. Webb
 Eltos - Mark Wright
 Cailles - W. Weidmann
 Lockwood - R. Anderson
 Martin - Glen Ollila

MARTIN- Congratulations are in order! Glenn Ollila, head of the Martin Special Interest group, has temporarily put aside his 60's, 100's and 200's in favor of a brand new model 8-12. Eight pounds, twelve ounces that is, girl model, named Amy Susan. Now Glenn can't bench test his motors in the basement, for fear of disturbing the baby.

MERCURY- Bill Kelly has volunteered to head up the Mercury Special Interest group, so lets all you Mercury owners get together with him and trade info. Above all, try and get as much Mercury history as possible, together in one place, for posterity. The Outboarder will be looking for regular news input from the new group.

ELTO- Several owners of 1929 Elto Quads including Gene Yonker of Illinois, Don Miller of Milwaukee and Bob Brautigam of Minnesota to name a few, are missing all or part of the steering handle. This handle is peculiar to this model Quad, and includes the linkages by which the spark is advanced or retarded to speed-up or slow-down the engine. Anyway, the handle must have been a "who needs it?" item because they are mostly all gone. Bob Brautigam has a handle and adjustable bracket only. If any other member has some of the other pieces, let him know. Maybe the parts can be mailed into him so that detail part drawings can be made. The seperate pieces don't look to hard to make and with drawings, we can all have the makins' of a handle. In the meantime, here's a reasonably correct sketch of what the whole handle really looks like.



JOHNSON PO- Gentlemen, the PO has not been slighted. I don't care what Dale Denning and Eric Gunderson say! Just because I now have a fine running S-45, thanks to John Harrison, Dave Reinhartsen and Randolph Hubbell, and just because I recently acquired a PR-65 that caused me to set everything else aside while I completely tore it down, cleaned out the

old castor oil, inspected it and reassembled it - with every part either polished aluminum or gleaming chrome --- is no reason to assume that I have been slighting the PO! (The PR really sounds healthy). This issue I want to discuss the servicing aspect of the PO. Most of the PO owners are probably aware of this info, but it may help some newcomers, and perhaps, some of the old-timers too.

The PO magneto is a very reliable unit and not prone to any troubles that I know of. If you have not already done so, put in a new set of spark plug wires, make sure all other electrical connections are clean, put a drop of oil on the point shaft and finally, set the points to the factory recommended .020". When checking the spark on any magneto, it's a good idea to ground the wire, or wires, that you are not checking. The lead you are checking should be held away from the engine about 1/4"-away from the engine frame, or other good ground. A fat, blue spark should jump the gap when the engine is pulled through with a rope. The recommended spark plug is the Champion R-7, which is no longer generally available. For average service, use the Champion D-9-J which will do a very good job. If anyone is having spark plug trouble, send me the details and maybe I can help figure out a solution to the problem.

The PO carburetor has no real peculiarities, other than those which I covered in the last report. Mainly, keep it clean. That means clean fuel too. If anyone needs the large round screen found at the bottom of the fuel filter bowl attached to the carb, I have a few new ones for a nominal cost.

Now, on with the lower unit. I highly recommend the use of the thick black grease such as Texaco #950. Thin white grease such as Lubriplate 105 can be used also, but my experience has been that this type is not as water resistant as the thick black kind. Remove the screw marked "vent" and the screw marked "grease" and fill the unit from the bottom up, until grease flows freely from the vent hole. The vent screw is located above the cavitation plate and should not be confused with the "inspection" screw located below the plate. If, when you check the lower unit, the grease is found very thin, or containing water- change it! Check the grease level often. New parts are hard to get.

There is one more plug on the lower unit to be covered and it is marked "drain". This plug is a water drain. There is a cavity in the lower unit which holds water from the cooling system. If this water freezes in the winter months during storage, you are probably going to have a cracked lower unit. Need I say more?

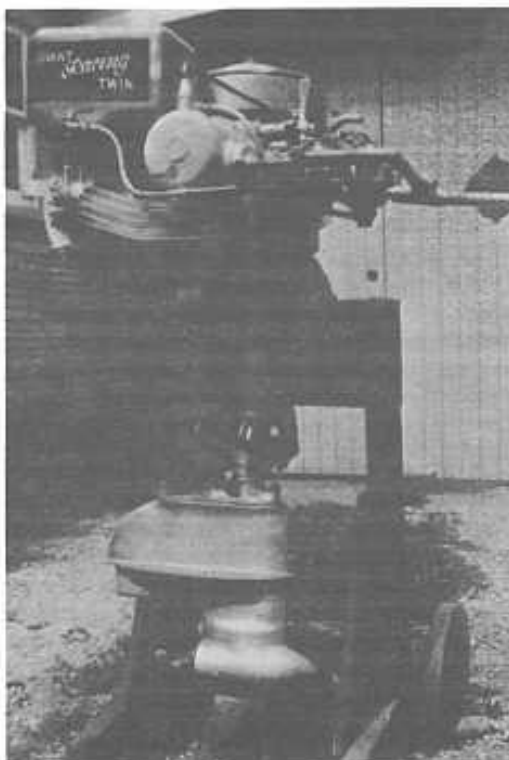
Just above the joint where the lower unit foot fastens to the driveshaft housing, there is another plug. This makes five of them. This one, if marked at all, will be marked "drain". This drain is not to be confused with the one on the lower foot. This drain is for the elimination of excess fuel and oil that escapes from the bottom main bearing. This should be drained every five to ten hours of running. If you are running your engine for the first time since having the lower unit apart, may I suggest that you put several squirts of oil into this drain hole. I learned this lesson the hard way, even though I had all clearances proper, and everything well greased during assembly. The top driveshaft bushing still insisted on binding up. A few shots of oil on top of that bushing will prevent that binding from happening.

Fuel and oil mixtures always start a good argument. I'll leave the decision to you after quoting the manufacturer and mentioning what I use. The latest PO "oiling" decal says that 1/2 pint per gallon is acceptable under normal service use. It also says that for racing, resulting in increased revolutions, to use "1-1/2 pints per gallon (man, I can just see the local ecologist having a hemorrhage at the sight of all that smoke!). Anyway, the earlier PO's required one pint per gallon for normal service use, according to Johnson Motors.

I have used 1/2 pint mixtures in my PO-38 for a whole season with no ill effects, but the maximum RPM was under 4000. I am now running at 4250 max and am using 3/4 pint. Dale and Eric are running around 4400 to 4500 and are using one pint per gallon. Even at one pint, plug fouling is not a problem. Of course, those fellows seldom run slow enough or long enough to foul anything! In making your decision, also account for the type of running you do. Do you run wide open all the time at 4500 RPM? If so, I recommend the one pint mixture. If you cruise most of the time at partial throttle in the 3500-4000 RPM range, with an occasional blast of short duration up to 4500, I think you

would be safe with a 1/2 pint mixture. The harder you run it, the more oil you need. If your engine is freshly rebuilt, use a little extra for the first five hours. Really, it isn't necessary to run these PO's at full throttle all the time. About half throttle is all that is necessary to go by most Lockwoods, Cailles, Eltos (except hot C's and 4-60's of course), Martins, Champions, old Mercurys and Evinrudes. Fellows, I may have started a war! See you next issue.Bill Salisbury

GIANT TWIN- There's a letter circulating around in the group, written by Raymond Rydell. Seems he bought one in 1930 and has had a good deal of experience running a Giant Twin. Ray writes: " I ran the motor on a new 14' mahogany, semi-V bottom boat, weighing 200 lbs plus. The motor and boat always performed well through the four years I own-ed it. It had a lot of low speed torque and would accelerate with a big Chris-craft. It would also idle well without getting hot. I believe we could run flat out at about 35 MPH. At any rate, I could pull away from a friend of mine who ran a Lockwood Racing Chief on a 8' racing sled. I had only two problems with it. The first, the gas tank began leaking, and the second, the driveshaft housing which finally broke after three year's use ...the underwater exhaust pipe held onto the lower unit, fortunately. I learned the following: for safety's sake, run a long lag screw through the bottom slot in the transom bracket into the transom. Also, run a chain through the bracket tube and tie securely. The motor was easy to start, even when warm, if you remember that it's almost impossible to flood. I always started it cold by first flooding the carburetor bowl, retarding the spark, throwing over the release charger, and most important, rocking it against compression about four times - then pulling like hell and holding on. If you don't pull very hard, the motor can pull you right back into the flywheel."



Here's Clarence Sitton's dangerous monster, with a PO lower unit.

This letter is printed so's the rest of you AOMCI'ers don't get the idea the Giant Twin group is a bunch of Pansies. Man! the way pieces come off..... Don Peterson

COLLAPSIBLE, HUH?
NOPE! IT'S A GIANT TWIN



AOMCI

SPECIAL

Feature

Model 309 ELTO LIGHTWEIGHT

By Jim Smith

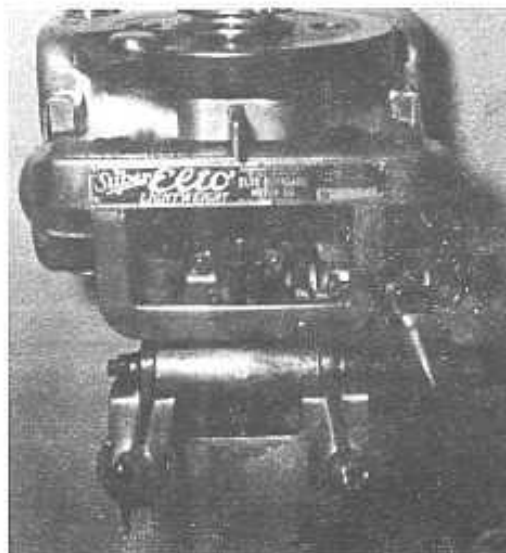
During the late summer of 1969, while on vacation, I enquired for old motors at an automobile wrecker's on the outskirts of Bracebridge, Ontario. No, the proprietor was quite definite that he had none - but as I turned to leave, he remembered that an old gentlemen who lived near Lake Muskoka was known to be a collector of just about everything imaginable. On further recollection, he was sure that at least one vintage outboard would be there. After getting directions, I left immediately and eventually located the old gentlemen's residence about 20 miles from the wrecking yard. Sure enough, all around were piles of scrap iron, old lumber, refrigerators, old boats in various stages of decay and parts of old cars.

Two or three sheds were stacked high with mysterious contents. I had been told that he lived alone and soon after knocking, I became aware that I had roused him from sleep although it was mid-afternoon. He received me cordially; in fact he seemed pleased to have a visitor and after some conversation, I enquired about the old motor he might have. His property seemed to cover 3 or 4 acres along the waterfront where we walked to one of the far sheds. Inside, he showed me a OK model Johnson, complete and in excellent condition. Miscellaneous articles were piled on top of it but after a few minutes' work, we managed to free the motor. After some thought, he said he would accept \$25 for it.

When I had it loaded in my car, I asked if any other engines were around. Yes, he said, there was one more, but he was not anxious to sell that one. In another area of his property, quite open to theft by anybody coming off the road, reposed an Elto Lightweight in somewhat tarnished condition, but complete. I told him that I would give him another \$25, but it was soon apparent that negotiations would be slower this time. Time passed as we chatted about the history of the area and happenings of the past. Eventually, he conceded that it was most unlikely that he would be running this Elto anymore and so, I could have it. My car trunk was well weighted with old iron as I thanked my friend and parted. At a later time, I started the Johnson up and it ran beautifully. The Elto I brought home to



AOMCI Special Features Editor
James L. Smith



Mounted behind the nameplate is the large ignition coil. Spark plugs are also covered by the cowling.

the city and worked on it only recently.

Since 1921, Elto had been enjoying good sales with its sturdily built Service Twin. However, it weighed about 50 pounds and during the later years of that decade, substantial competition was offered by Johnson with its Light Twin series, and Evinrude with its model N Sportwin. Both weighed less, and being more compactly built, were more easily handled. In 1929, Elto replied by presenting its model 309 Lightweight - 38 pounds, and with serial numbers from 90,000 to 99,999. It was an opposed twin and in some ways appeared to be an adaptation of the Service Twin. Yet, the Lightweight departed radically in many respects. With a 2" bore and a stroke of 1-5/8", it developed 3-1/2 HP at 3000 RPM. About 10 pounds lighter than the Service Twin, it was also somewhat neater in its construction, less awkward to handle and certainly a good step forward in the quest for light, easy to carry engines.

FOLDING FEATURE- Some engine manufacturers today point with pride to their folding models but here was an excellent design over 40 years ago. The driveshaft housing has a built-in hinge at its base and to the rear. By releasing a single nut, a hinged bolt slides forward through a slot, and the entire lower unit can be moved backwards and upwards. The skeg is then secured under a spring clip at the base of the muffler. Connection of pinion to driveshaft is by means of a simple spline, integral with the shafts. By pulling a retaining pin, the tiller bar can fold downwards. In folded configuration, the final length of the motor becomes only 22 inches.

ELTO BATTERY IGNITION- Easy starting was a characteristic of the early Eltos, mainly because of the very excellent spark produced by the ignition system. The Lightweight was no exception, having a large coil 2 inches by 6-1/2 inches, prominently supported at the front within an aluminum frame. The frame, on its upper horizontal surface, has a plate giving complete starting and operating instructions. On the forward vertical surface is another plate bearing the proud inscription "The Super Elto Lightweight" together with the serial number and patent dates. Mention is also made of the designer, Ole Evinrude and the Company, The Elto Outboard Motor Company of Milwaukee, Wisconsin. As in the Service Twin, the coil operates in conjunction with an Atwater-Kent sparking mechanism and a six volt battery. 18mm Spark plugs are recommended - AC-G-8 or Champion K-15-J or 6MJ. The flywheel also is similar with the exception that in addition to a knob, a pulley is attached for optional rope starting.

REVERSING FEATURE- Marcus Wright and Dave Reinhartsen gave an excellent outline for starting the hand cranked Eltos in the July, 1969 issue of the Antique Outboarder. By placing the timer to the right of center and bumping the flywheel against compression in a clockwise direction, the motor will start and run backwards. For forward starting, the timer is placed to the left of center and the flywheel bumped against compression in an anti-clockwise direction. The Lightweight provided for both knob and rope starting, the latter of course for forward starting only. The motor could also reverse, when running forward, by moving the timer lever to mid-center and then pressing the stop button on the end of the tiller handle until the motor has almost stopped running. Release the button just before the engine dies and it will start again, but running in the opposite rotation.

FUEL SYSTEM- Sheet iron gas tanks common in earlier models gave way to the popular, welded sheet aluminum tank on the lightweight. Its capacity is six pints. Again, we find the single jet, float feed, check valve Elto carburetor bolted directly to the crankcase with the usual port system for two-cycle operation. A large knob for high speed needle adjustment is conveniently provided. On the instruction plate, 1/2 pint of 'medium' oil per gallon is recommended for normal operation, and 1/4 pint of 'medium' oil per gallon for trolling.

EXHAUST AND COOLING SYSTEM- Exhaust is entirely above water and the box-like muffler is cleverly made of cast aluminum alloy and divided into three sections. Exhaust enters directly through the exhaust ports into the two end sections. Perforated partitions divide these end sections from the large center compartment. This center compartment has three vertical plates, the two side ones being perforated, but the center one, solid. On the bottom of the muffler, a row of perforations to each side of the center baffle allows for final exit of the exhaust. At the back, an inspection and clean-out plate is attached with four small bolts. Apparently, many owners operated their engines without

this back plate. Muffling was reasonably effective with the two end sections and the increased efficiency of the engine more than compensated for the slight extra noise.

Water entering at the forward edge of the underwater unit is directed upwards. The metal water impeller at the base of the driveshaft housing is pinned to the driveshaft and can easily be seen when the motor is folded. From this point, the water is carried upwards by exterior tubing which forms a "Y" so that water is piped to the base of each cylinder. There are short copper tubes at the top of each cylinder which carry the water to the top of the muffler. The muffler has a removable top section. In this way, the entire top of the muffler is cooled, and the water leaves by spilling out of two apertures, to the rear, at the top. Apart from this, no effort is made to cool the remaining body of the muffler.

A description of this motor would not be complete without special mention of its fine, streamlined lower unit. It has some of the advanced styling characteristics of the Elto Speedsters of that era. A bronze, Michigan propeller of 8-1/2" diameter was used, and the engine mounting bracket was solid and of generous proportion, having the provision for tilt adjustment. It is apparent that this bracket formed the basic design for the same part on later Eltos and Evinrudes. The same large, bronze wing tighteners and pressure pads were used as on the Service Twin.

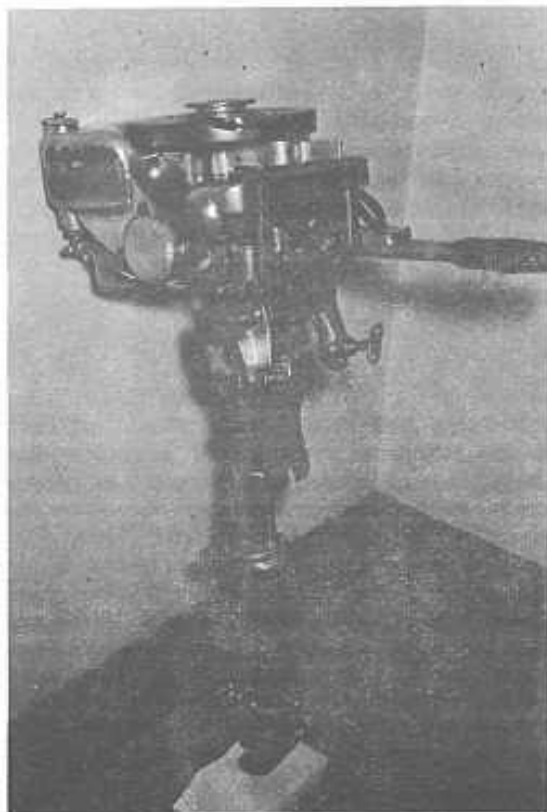
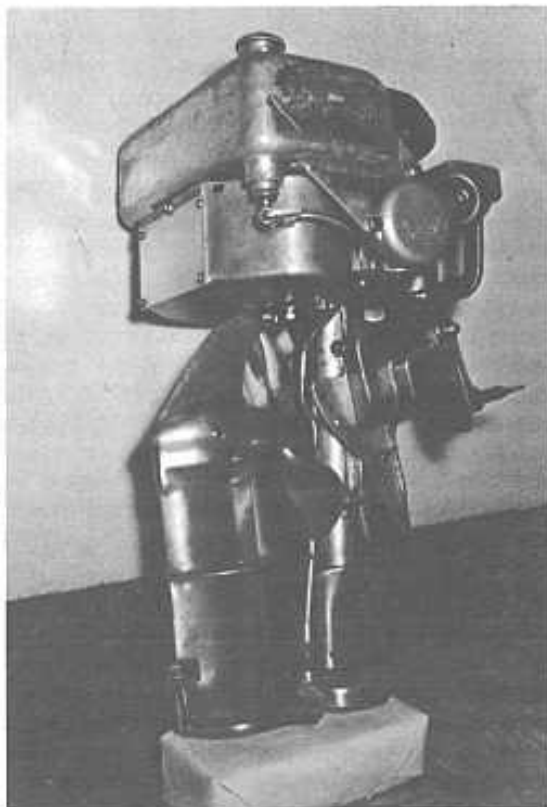
It was during this model year, 1929, that Elto joined Evinrude and Lockwood to form OMC. There is no doubt that Ole Evinrude had made quite an impact since his return to the industry in 1921. Evidence of his genius continued with motors of his design even after union with OMC.

Photo upper corner, Elto Lightweight in folded configuration. Note rugged transom clamp, muffler plate and water outlet holes near top of muffler.

Photo lower corner, engine lower unit hinge and lock-screw visible mid-way up nicely streamlined gearcase housing.

REMEMBER

Richard M. Jones is handling all new & re-nued AOMCI Memberships and records. All applications, dues and address corrections should be sent to him at 20505 N.W. 3rd Avenue, Miami, Florida 33169
PLEASE CHECK YOUR OWN MEMBERSHIP DUE DATE AND RENEW EARLY. SAVE THE CLUB \$\$



Editor's note: This article was condensed by Mr. Glenn Ollila from a magnetic tape recording supplied by Mr. Tom Costello, of New Zealand. The full length tape and complete stock of photographs are available for your listening enjoyment, upon request.

What manner of boast is this: "the best outboard motor for the world"? That's the claim that boosters of the Seagull so boldly set forth! Before this introduction to the Seagull slogan, my impression was that only "snake oil medicine salesmen" made claims as big as that. And this from a British subject - with a tradition for understatement yet! But AOMCI member Tom Costello from New Zealand makes one pause and consider: wouldn't a good measure of pride and even some boasting be warranted if you were instrumental in saving countless souls at the evacuation of Dunkirk in WW II? Then, though a bit more mundane, did oil exploration duty in the Persian Gulf, moving huge oil drilling equipment barges - kind of significant, wouldn't you say?

And there's the fellow who runs an exotic 28 foot racing rig way "down under" in New Zealand - yes, the Seagull gets him to the starting line. But, guess "who" rides to the finish, stowed as a crew member? How about some testimonials from the natives in Uganda or Tahiti, who need no knowledge of mechanics to maintain Seagulls with ease? Oh sure, there are stories about a Seagull flying off the transom - right into the water - but getting fished out of the drink and starting "on one pull" too.

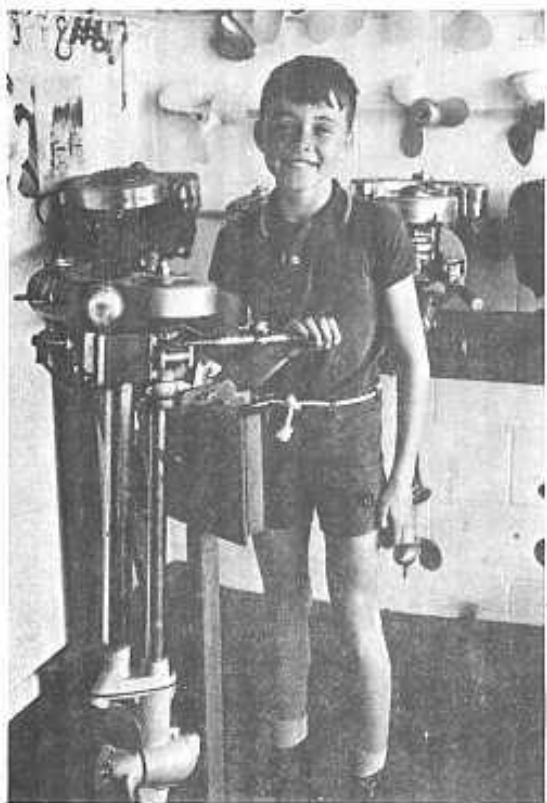
Endeared to their motors are these Seagull fans: would you believe, Seagulls have been smuggled abroad and over frontiers by enthusiasts moving to new homelands? But enough of the dramatic - by now you would expect something unique from the Seagull. And something novel it is. It is simple and old fashioned - kind of like the ever popular Volkswagen car, an old design, improved a trifle now and then, but never more than a trifle.

Simplicity is certainly the keynote of its design, and just plain work-a-day service is the functional objective. A monkey wrench and a spanner or two, are all that's required to take a Seagull apart and put it back together again, although according to Tom, a bottle or two of tonic makes the job easier. Seagull powerheads are geared down to drive impressively large, four and five blade propellers. Salt water, displacement hulls, auxiliary power and ordinary duty are the common rule for Seagulls. While the Seagulls serve the adult world of work with a minimum of fuss, it's the young set who seek and find the flash and dash in them.

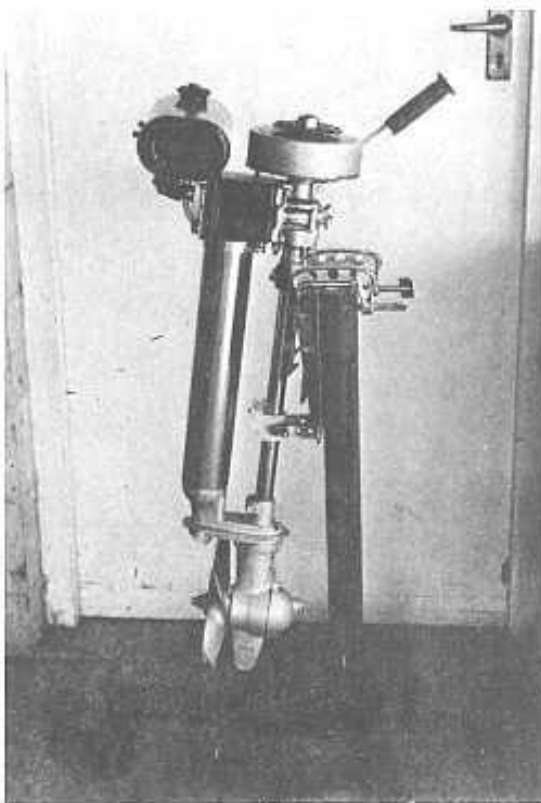
A challenging and budding racer is Michael, Tom's eleven year old son, who poses in Photo #1 with his racing iron, ahem. Could that face be reflecting a victor's grin? Out for a ride with two of his "cobbers", making a good five knots, you see Michael again with his Seagull, in Photo #2. The dingy was built with a "little" help from Tom, we understand. Michael's spare gas can is visible between the rear seats.

In Photos #3 and #4, you will find port and starboard views of the famous model 102 Seagull. This unit, restored by Tom, is the very type used in the evacuation of Dunkirk. For a grasp of the Seagull's progress and development, look at Photo #5 and you'll see the three basic Seagull models, displayed with some American outboards of the twenties

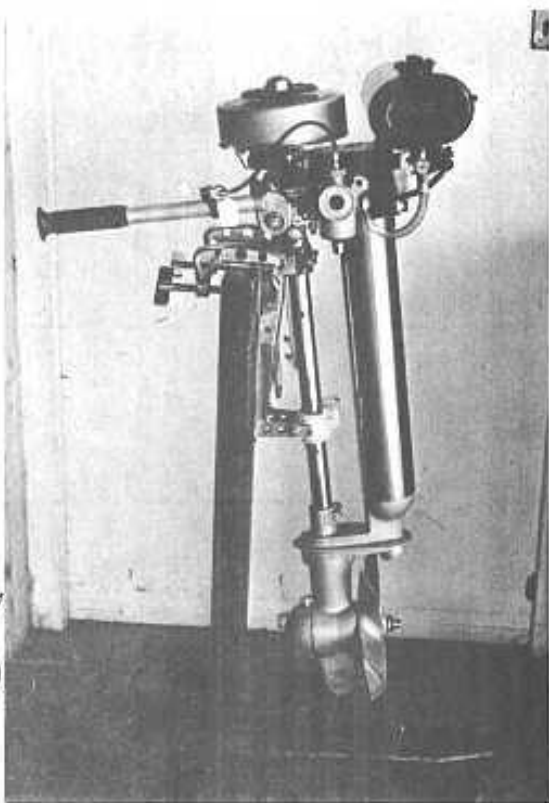




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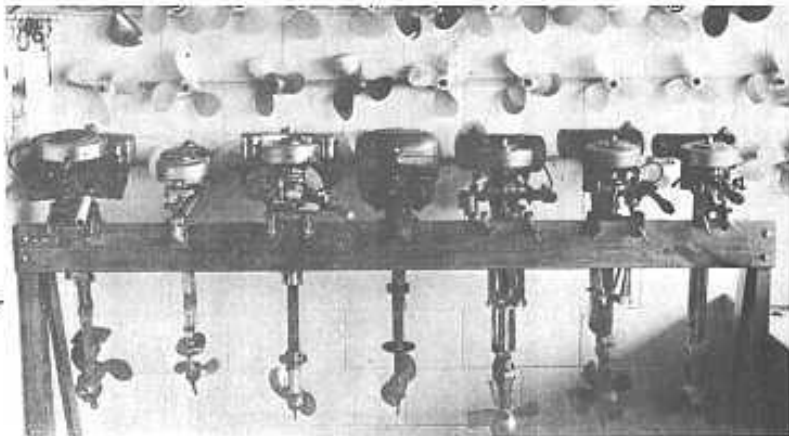
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5



Description	Forty Minus	Forty Plus	Century 100	Century 100 Plus	Model 102 Fixed drive and clutch	Model 102 Plus Clutch
GeneralAll models - Single cylinder, 3 port, 2-stroke, water cooled.....					
Bore x Stroke	45 x 40mm	45 x 40mm	57 x 40mm	57 x 40mm	57 x 40mm	57 x 40mm
Horsepower	1 - 1½	1½ - 2½	3 - 4	3½ - 5	3½ - 4	3½ - 5
Max. RPM	3800	3800	3800	3500	3800	3800
Gear ratio	10/21	10/35	10/35	12/48	12/30	12/48
Clutch	-	-	-	-	102 models only. Self adjust., free wheeling	
Propeller (multi-pitch)	6" Dia 4 blade	9" Dia 4 blade	9" Dia 4 blade	12" Dia 4 blade	9" Dia 4 blade	13" Dia 4 blade
BearingsAll models - Alloy bronze, no ball or roller, all rustless.....					
Dry weight	26 lb	28 lb	34 lb	37 lb	40 lb	48 lb
Fuel tank	4 pints	4 pints	4 pints	4 pints	4½ pints	4½ pints
LubricationAll models: Lower unit - gear oil (not grease)					

Above: Table of Specifications Right, Photo 6

and thirties. From left to right are a Johnson A-35, an Elto Cub, a Champion, a Bendix and three relatively recent Seagull models. These are, 1. to r., a model 102, 4 HP; a Century, 4.5 HP; and the Forty Plus, 2.5 HP. All three units are less than 20 years old. The model 102 is from about 1952. Many variations of these basic models have been built and remain in service around the world. Varied gear reductions and props up to 14" are employed. Would you believe a Seagull can swing a prop that size and move a 10 ton barge at 3 to 4 knots?

The Seagull in one form or another has been in production since 1928. The motors are mostly hand-built with "old world craftsmanship", even today. It is reported that the factory operates under the management of two "little old Ladies" at Fleets Bridge, Poole, Dorset, England. For American fans of the Seagull, Inland Marine Co. of 79 E. Jackson St., Wilkes-Barre, Pa., 18701 provides sales, service and parts.

For a profile on Tom Costello, refer to Photo # 6. He is the gentlemen posing next to the racing champ, behind the display of nameplates, representing a small number of the 500 or so in his collection. Automobiles, outboards and other well known mechanical products are within his sphere of interest. The iron fish on the wall behind him is Tom's handiwork too, and it has brought him numerous orders for reproductions. But outboards in general, and the Seagull in particular, are his mainstay. With more than 17000 units in New Zealand, Tom finds a dozen or more Seagulls in for service or repair, at his shop, on any given day.

Best outboard motor for the world? well, Tom admits to having allowed "the dashed things do grow on me a wee bit, and....." but that has a familiar ring and we can stop here: "you pays your nickel, you takes your choice."

- end -



1928 AMPHION Dreadnought

By Mark Wright

This engine, along with a few spare parts, was acquired from a gentleman who bought out the manufacturer during World War II.

The first Amphion was built in 1915, the last, about 1939. It is surmised the last design change was in 1928, except for the underwater exhaust attachment which seems to have appeared in 1930. Very few were built, and this one seems to be the only one in Bob Hampton's Motor Registration files along with a 1915 Amphion 2 cylinder, alternate firing model, also owned by the writer.

The Amphion illustrated here was not finished in manufacture when received. The torque tube required finish machining to align properly with the lower unit. The magneto spark handle had to be moved 90 degrees in order to get sufficient spark advance to rev up properly.

First started on a boat in the Spring of 1969, the engine exhaust sounded like an Evinrude A. Vibration was bad. RPM, rated at 3400, was about 1200.

Dave Reinhartsen, who was visiting shortly afterwards, noticed the extreme tension of the crankcase valve spring. Holding it against a kitchen scale, we found that 6 pounds pressure was needed to open the valve. Knowing this to be drastically wrong, we put in an Elto spring with 6 ounces of tension. Propeller blade area was also reduced by one-third. The opposed rod and piston assemblies were 18 grams (six pennies) different, so material was removed from the heaviest bronze rod and iron piston to achieve counterbalance.

The Amphion was put back on the boat in August, 1970. After a trial run to determine the correct spark plug heat range, the engine would turn up about 3000 RPM, with an exhaust note very similar to an Elto Speedster, which has the same bore and stroke. The balancing job made her run much more smoothly. Idle to full speed running is as good as most contemporary engines of the same size.

This engine has ball crankshaft main, and lower unit bearings. Cooling is by a centrifugal pump located at the top of the lower unit. The tank and muffler are polished aluminum castings as is
(continued on pg 37)

23



The Amphion is a good sized engine



Note the fine tank and lower unit detail. Cyl. heads are air cooled



The reward of good restoration...

MY

EVINRUDE

Speedifour

by Dave Reinhartsen



There were moments in my experience with this engine when I thought I would never write an article about it, except perhaps in pure anger. I am happy to say that it has only taken me four years to straighten out the problems I have had with it and now, it runs the way it should.

The Speedifour you see in the pictures is actually two engines, both of which I bought from a marine dealer in Sturgeon Bay, Wisconsin, for \$20.00 apiece. One was a model 7031 indicating it was the regular Speedifour, while the other was a 7033 Speedifour Electric. The electric start unit had been removed, however, and a flywheel and magneto system installed in its place. The 7031 is a 1939 model and the latter, a 1946 model. As the crankshaft on the '46 model had had cold rolled steel substituted for roller bearings in the last stage of its life, the crankshaft was unuseable - so, I decided to make one good engine out of the two. Just why that process took four years is a long story.

The Speedifour was made from 1939 to the War, and then following the War, until 1950. Its list price was \$485. It has a $2\frac{1}{2}$ inch bore, a $2\frac{1}{2}$ inch stroke and is rated at 33.4 HP at 4000 RPM. The tank holds 3.65 gallons, sparkplug number is M5 and the weight of the outboard is 150 pounds. The Electric Start Speedifour was only made in the years 1939 to 1941 and its cost was \$525. It had the same ratings except weighed 10 pounds more. I have never seen an intact Speedifour electric start unit.

No particularly difficult problems were encountered while rebuilding the engine, however, running it was another story. Fortunately, John Harrison was rebuilding a Speedifour at the same time, and we spent many hours on the phone and writing letters - trading information with each other - trying to learn what our ignition problem was. Yes! Ignition problem. John and I had what seemed to be, identical problems with the ignition systems. Whenever the engine was cold, it started fine. But, whenever the engine was hot, it wouldn't start worth a darn. We contacted Jim Webb who suggested leakage at the center main bearing- and stated that the Speedifours were always easy starters. We checked our center mains. John sent extra magneto coils to me, hoping that they would work better than the ones I was using---no luck! We knew that the coils were dry, so wetness or dampness couldn't be a problem; just to make sure, we baked the coils and recoated them with varnish---no luck! We tried recharging the flywheel magnets---no luck! John gave up and installed Honda motorcycle coils and battery, with excellent results. I fought the problem with little success and was even towed in once - by inboard!

I guess there were several causes of the problem: first of all, the coil laminations themselves are made of an older transformer alloy that loses its permeability with age. There is no solution to that, other than cutting new laminations. However I did dismantle the coils, separate the laminations and install a .0001 layer of Mylar between each, so as to improve the magnetic properties of the coil assembly. I also completely rewound the primary of each coil with a heavier wire so as to get a little more zip out of it that way. Still, I had ignition problems!

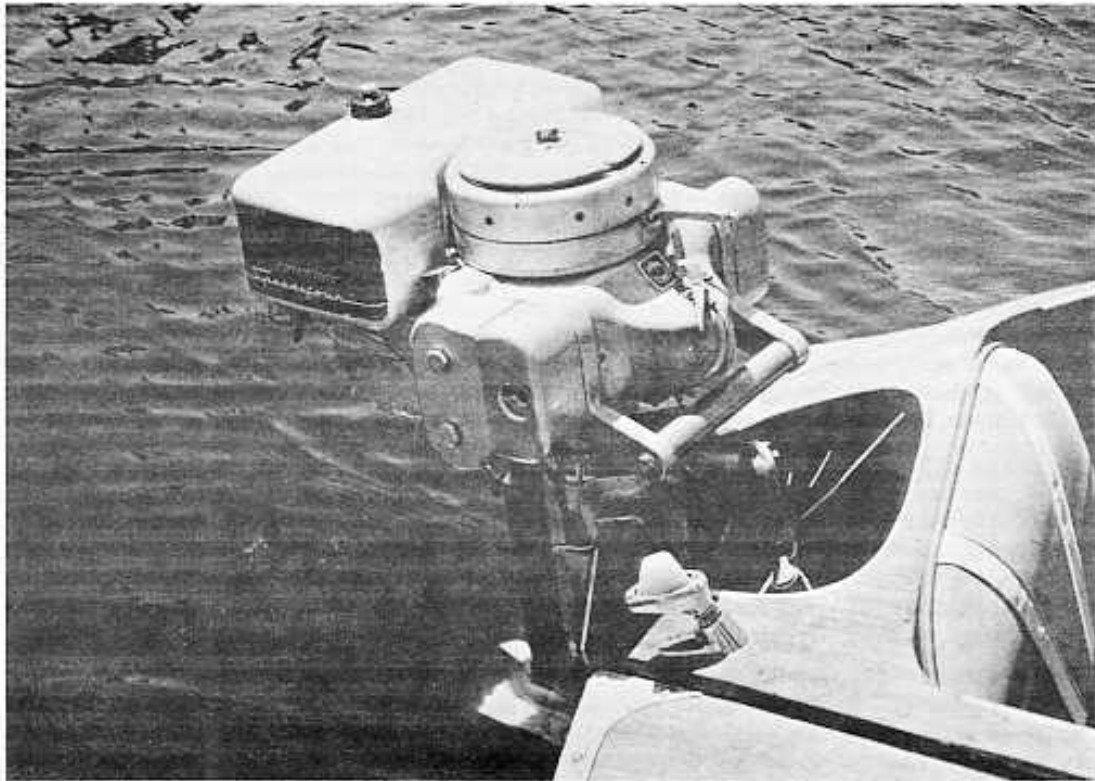
But, one afternoon after a particularly unsuccessful morning, I noticed oil on the points. That was it! There is normally some leakage of oil/gasoline mixture into the magneto housing at the top main bearing. An excess of that mixture coming up into the magneto housing was causing the points to foul after just an hour's running. Of course, when the engine cooled the magneto was stronger and that film of oil was not as serious. The solution, I wrapped a pipe cleaner around the crankshaft at the bearing and haven't had any problems since. I should comment that I caused part of the problem in that because the engine was new inside, I decided to use twice as much oil as was required and proceeded to mix up a 5 gallon batch of it. Don't ever, ever do it! The plugs foul very rapidly, starting is terrible and idling when warm is almost non-existent.

The engine itself is of fairly standard design - four cylinders opposed. The upper cylinders fire simultaneously, as do the lower ones. The engine is extremely rugged, extremely heavy and has some interesting features. For example, the ignition is completely enclosed, leaving no exposed spark plugs to get wet, and providing a modern appearance. There are extra spark plug holes at the ends of the cylinders, where you can locate the plugs in a more "racing" position - providing, according to Jim Webb, an extra 400 to 600 RPM. Jim points out, however, that this alteration can lead to burned pistons. The factory is not too keen on that idea.

The carburetor has a surprisingly small throat, slightly less than an inch in diameter. I never cease to be amazed at how much power is obtained from that little carburetor! I'm told that one of the reasons for the small carburetor opening was to provide a restriction in the intake, should you shear a pin at full throttle. This way, the engine can't destroy itself. Still another interesting feature of the engine is a plug at the rear of the muffler. This plug can be removed for a little extra noise and power. This feature was particularly advantageous at the recent Big Bear Meet. The higher altitude decreased the performance of the engine by about 25 percent. Removing the plug partially compensated for the power loss.

Performance-wise, the Speedifour is about what you would expect, delivering a very honest 35 HP. As a matter of fact, one of my proudest moments came several weeks ago while just cruising around at the Big Bear Meet. My wife and I engaged in an impromptu race with a 35 HP Johnson on an identical Aristocrat Torpedo. We beat the Johnson! I could not help suggesting to the owner of the Johnson that he should get his engine looked at.

Starting is accomplished in the usual fashion - rope around the flywheel and giving it a good healthy tug. And I do mean healthy tug, no half hearted pull will do! You wrap the rope around the flywheel, move the choke lever to "choke" (which also actuates the compression release on the port cylinders - some models only), brace yourself up against the gunwale, and pull with all you've got! You put your whole body into it! The engine



Here's a good portrait of the Speedifour "at rest". Note the two hex plugs at the end of the cylinder. These cover the extra spark plug holes. Just to the right, in the picture, retained by a wing nut is one of the spark plug covers. On the front center cowling, at the top, is the choke lever with the end of the compression release rod visible. This engine has the tiller handle bracket centered - a simple adjustment - and the boat steering cable jury-rigged to it. When not "at rest", this engine is no toy and should be treated with an experienced hand. Acceleration is excellent, speed is up there pretty good and by all means, use this engine on a safe boat, designed for high performance engines.

usually starts on the fourth pull and will take off from there. By the way, starting is easiest when you retard the spark and open the throttle almost all the way. It seems that you've got to get the fuel mixture distributed around quite a bit of engine and the more-open throttle seems the best way to do it. A 12 x 12, 3 blade prop of probably the most unusual design I've ever seen, drives my 1958 Aristocraft to 28 MPH. That prop, designed to be anti-fouling, really has a hold on the water - one interesting thing you can do with this boat and motor combination is to plane it at (only) 12 MPH and then open the throttle wide. Boat, motor and driver take-off like a scared rabbit, reaching 25 MPH in only 6 seconds. That's slightly less than 1 G of acceleration! I haven't yet tried to pull water skiers with the Speedifour, but I expect no problem doing that.

Fuel consumption of the Speedifour is quite modest - probably the combination of the large tank and small carburetor opening makes for good fuel economy. At the Big Bear Meet, we ran the Speedifour fairly steadily for about three hours, and used only three gallons of gasoline. Not bad at all! Evinrude certainly did a good job of keeping the noise inside as the Speedifour is extremely quiet running with surprisingly little noise transferred to the boat through the motor mounts. I have tried using a 2 blade, 12 x 14 inch prop on the rig, but got about the same top speed as the standard 3 blade job. However, the engine is loaded down to only about 3200 RPM - certainly not a healthy situation. It would be interesting to try a 2 blade, 12 x 12 prop to see what it would do!

Does anyone know of the Speedifour's record in racing? Were they used much? Were they considered a fast engine? Perhaps some of you racing enthusiasts would send a letter to

the Editor on this. That's my Speedifour. Two years ago, I was completely disgusted with it, because I could never get it to run, to idle properly or to start easily when it was warm. Now, I'm very proud to have it in my collection! (End)

HOTEL
Siam
INTER-CONTINENTAL



SALISBURY SHOWS UP IN SIAM!

Bill Salisbury, Cupertino, California, was spotted in a hotel bar in Siam by one of our overseas reporters, discussing prospective AOMCI membership (we think) with a native dancer. Anyway, Bill, who often carries a Clarke Troller in his flight bag was overheard to say.....

"Our meet at Calero Dam was a success. The attendance was lower than hoped for, but we did have nine members and 28 engines. Dave Reinhartsen and Bill Motley were up from Southern California - they got beat at just about everything. Frank Nunes, who is now 73 years old, put on a great show with his Alky-burning Johnson PR on a racing runabout and took the 'fastest racing class' trophy. He's still racing in APBA class 'C' races and is second in the nation this year (1970) in points, with his 1938 Speeditwin Racer which he bought new! How's that for making news!!

We had a PO event this year that turned out to be something else! Four PO's running side by side can be quite a sight and sound!

Eric Gunderson went home with most of the "iron". He won Oldest Running, Mint Condition and the Predicted Log races. Dave won the Bang and go Back. I ended up with the PO trophy, based on appearance and speed. I also took the fastest-family-runabout trophy with the PO. Paul Rawn took the Most-Unusual trophy with a 1914 (I think) German Effzet.

I ran my 1931 Motorgo Senior (Caille) in the final bang and go back event against Dave with his PO powered Aristocraft. I just couldn't turn fast enough to beat him but it was a really close race - he won by half-a boat length. I also ran my '29 Sea Horse 16 for the first time at the meet. I finished building it only the day before. It sure runs nice - starts easily and idles beautifully.

Eric put on a good show too with his '29 V-45 Johnson. It pushes his 13' Whirlwind Molded Plywood Runabout at 30 MPH! It probably is the best running "32" in the Club."

.....Our reporter says further that the dancer smiled inscrutably and was unable to put on the next show until after taking some tranquillizers. Bill has a knack for getting people fired-up about outboards. When last seen, he was deeply involved reading a little booklet entitled "Souping The Motorgo Senior".....

JOIN NOW

MEMBERSHIP INFORMATION

Name _____ Date _____

Address _____ Telephone _____

City _____ State _____ Zip _____

Number of pre-1942 motors collected _____

Check the way(s) that you most enjoy Antique Outboarding

Collecting motors

Running motors

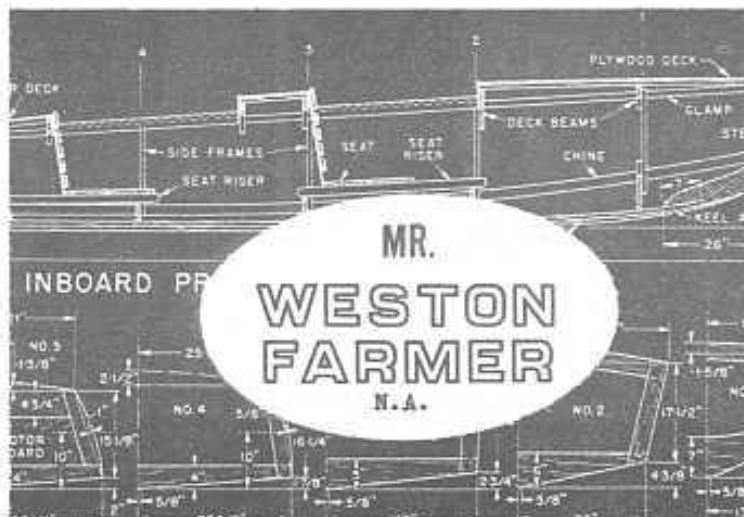
Restoring motors

Collecting Information

Mail this application and \$7.00 to:

THE ANTIQUE OUTBOARD MOTOR CLUB
20505 N.W. 3rd Ave.
Miami, Florida 33169

AOMCI Salutes :



Mr. Farmer holds a hull model of a luxury yacht, "Misty". Such models require about a week to build

".....After she slid down the ways into the water, I watched the bow sink deeper and deeper until it was obvious to me, the fellow who had paid \$2800 cash and the 'mink coat christening party', that the newest Wes Farmer speedboat design was a disaster. I quietly turned and started walking down the tracks....."

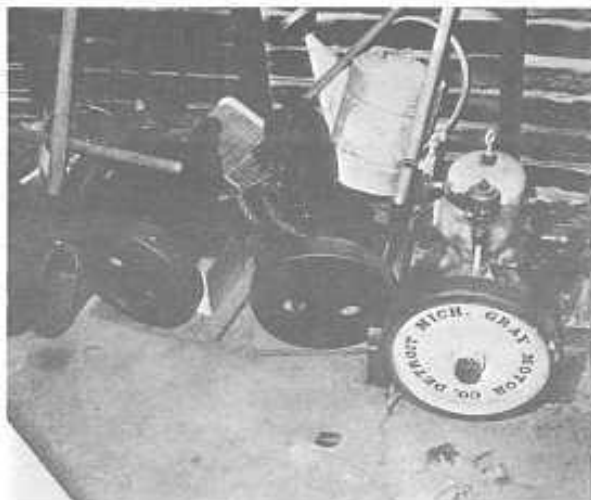
Wes Farmer was eighteen years old then, and already an aspiring naval architect. Now, some fifty years later, he has a history of creating more than 400 successful designs ranging from small novelty craft to luxurious yachts priced at \$500,000. Most of his designs have a classic flair, as can be seen in his popular outboard cruiser "Sure Mike II"; "Badger", a Gloucester Dory outboard; "Shorebird", a flat bottomed 'grain belt' yacht; the cedar strip inboard, "Whistler" and "Robinson Crusoe", a lap strake Jersey Sea Skiff. One of Mr. Farmer's latest designs has been named "Misty", a yacht built by the Palmer-Johnson Co., Sturgeon Bay, Wisconsin.

In addition to his naval architecture business, Wes can be credited with being the first Editor of MECHANIX ILLUSTRATED magazine. Both tasks have given Mr. Farmer that particular satisfaction a designer receives when the ideas he has conceived and placed on paper are understood completely by others - in fact built by others, and the idea works! There is a good deal of pride in a successful result.

In the case of boats, Wes insures the success of his new designs by building an exact scale model of the hull, complete with weights calculated to scale and strategically placed. Each model is performance tested in a water tank by being towed at scale speed. The tests show exactly how the hull will act in real service conditions.

Also through the years, Mr. Farmer has found time to collect a number of small, antique engines. The outboards are mostly gone now, some being put on display by their new owner, The Pioneer Museum, Minden Nebraska. Included were names like Waterman, Ferro, Koban and Caille. The inboards too are mostly sold and pending delivery to their new owner. The inboards numbered more than a dozen in all, and are currently lined up against the wall of Wes' garage at his home in Deephaven, Lake Minnetonka, Minnesota. Completing the fascination of this storehouse are a pair of antique rowboats and stacks of antique literature. A second storehouse exists at his other home on Isle Royale.

Now, with none of the competitive side of life to really worry about, Wes plans to spend some time building a few classic style small boats. These will probably be of wood,



Some of Mr. Farmer's antique inboard collection including a Gray, Caille Perfection, Ferro and a bit of Waterman showing.



Hers's a "ready to go" 4 cylinder Red Wing engine that Mr. Farmer may put in one of the classic small boats he intends to make. At left is an Evinrude Contractor pump.

even though he suggests that Aluminum is the best boat building material available on the market today. Maybe also, Wes will have a little time left over to spend at his favorite place, Sturgeon Bay, Wisconsin.

Editor's note: Our thanks to Mr. Farmer for the information used herein, and our best wishes for his continued success. Incidentally, that \$2800 speedboat disaster was later fixed by relocating the engine and a few other "minor" changes.

Photos by Glenn Ollila

FLORIDA CHAPTER NEWS

By Dick Jones

The news this time centers in Miami where John Harrison and I have been having lots of good conferences. Harold Gulp has made it to a few too. John had a eye operation in early November and has to take it easy for quite a while. Just a week before he had surgery, we had my PO Hotrod out for a spin. While he was starting it, the engine backfired on John, tearing the top of his finger open. It was a fiberglass rope and I think that's what grabbed him. Don't ever use a fiberglass starter rope! I switched back to cotton sash cord after that. We got John sewed up at the Clinic and he's all healed up now. He sure sees alot of Doctors. I am enclosing a few pictures. The two of the Hotrod were taken that day on our "Lake X" here in Miami.

The other picture is of my Big Four hanging on my home-made lifting frame. We made John one almost like it and believe me, they are back savers. I used a second-hand boat trailer winch and junk shop casters. Mine cost about \$30 with all hardware included. If any other Club members want one, I plan to make a sketch for the Outboarder.

My Big Four runs well and maybe too well for my Starcraft. John and I spun out in it the first time I really let it wind up. I think it is a trim problem, but haven't had time to experiment with it yet. We had it up on Lake Okeechobee the other day and found it starts easier and runs quieter at cruise than my 1957 Big Twin (35 HP). But, when I got it up over 30 MPH, it started to porpoise and seems to want to fall off to one side - the boat, that is, not the motor! I'm sure that when I get it trimmed right, it will do forty. In the garage showing in the Big Four picture, you can just see my Jacoby three point hydro. I'm very anxious to try my PO Hotrod on it. John also has a Jacoby class A hydro dating from 1938. It's a little cream puff and (continued on back cover)

LAKE HOPATCONG MEET - September 12, 1970.....The third annual Lake Hopatcong Meet was once again favored with clear and mild weather. A total of 26 AOMCI members from seven states were able to attend, bringing with them over 50 antique outboard motors. This attendance figure set a new record for the Hopatcong gathering and it is believed to be the largest gathering of Club members anywhere to-date. As in previous years, the meet was held at Len Eisenstein's Pagoda which this year included a newly constructed, very attractive dining addition called "The Lobster Shack".

The first Club members started to arrive shortly after 8:00 A.M. and began to set up their motor displays in a closed-off area of Len E's parking lot. Earnest discussions concerning old outboard motors soon took place, as small groups formed in the display area and in the comfortable booths of The Pagoda, where much of Len E's good coffee was consumed.

Smiling Tony "Sunshine" Caglione, who couldn't frown even if he tried, displayed not only his good nature, but also his beautifully restored Racine and Evinrude A motors, along with an electrically powered trolling motor from the 1930's. Mark Wright's 1928 Amphion Dreadnaught was a real crowd pleaser. The first sight of Phil Kranz's 1915

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View of the outboard display area with Len E's new Lobster Shack in the background.



Talk about well organized! Even so, Pat Zipps had a busy time getting the guys registered.

Aerotruster had a few momentarily startled members thinking they had stumbled into an Aviation Exhibit. Bob Zipps' gleaming 1926 Evinrude NS, a result of very fine steel wool, Met-all polish and much elbow grease competed for attention along side of his beautifully restored Johnson S-70. Dr. Craver displayed a neat row of bright Evinrudes and Neptunes. Sam Vance's Evinrude U, his Elto Quad, and Tom Luce's Evinrude Model K performed as well as their appearances suggested they should. I brought a 1930 Neptune OB2A and my 1931 one man-power Ro-peller which was thoroughly enjoyed and bench tested by every youngster at the Meet. After a trial run on the lake with this unit, John "Sorearm" Jensen decided to stick to his old reliable Johnson K-40! No meet can be considered to be absolutely complete without a Giant Twin, and Curt Reed supplied that final touch.

A few members brought their own boats, but most of the fellows made use of Len E's rental fleet which was offered to the Club, free of charge. Very soon, the water-bourne activities took attention away from the display area. This year, the Mint Condition and Most Unusual Engine events were run together, as the first contest of the day. The parade of the "odd and the beautiful" was quite a sight as they passed in review before the judges on the dock.

After lunch, the Bang And Go Back races were run in three heats: small, medium and large motors - with a final run-off of all the winners in each class. The Committee Boat was a like-new, 18 foot long, Fay and Bowen inboard boat dating from 1910, supplied by Wayne Mocksfield. An innovation at this year's meet was the use of flag signals: a red, five minute warning flag; a yellow, one minute flag and a green GO flag. The drivers in the first heat almost refused to cross the finish line when they spotted the check.....err, black and white "psychedelic" finish flag. As the flags had been made by Emily Caglione it was rumored that the finish flag had once been a pair of Tony's undershorts!

The start of the large motor heat was slightly delayed owing to the difficulty of getting the speeding boats to the starting marker, all at the same time. The wakes created by Curt Reed's Giant Twin and R.C. Hawie's Johnson P racer were enough to make some of the spectators who were sitting in anchored boats - seasick! After all the spray settled from the final run-off, it was discovered that George "Low And Slow" Loeb had zoomed into first place with his high-powered Johnson J-70.

The next event was to determine who had the oldest running motor that could complete the course without faltering. Winner was Steve Mizgala and his reliable 1913 Evinrude. Steve was followed closely by Phil Kranz and his trusty 1923 Caille Liberty Single. Following that contest, was the presentation of awards to the winners of the various events. Most of the trophies this year were again donated by the Johnson, Evinrude and Klekhaefer Mercury Companies whose interest in our AOMCI club activities is most sincerely appreciated. A list of winners is presented at the end of this article. A special award for the member who travelled the greatest distance to attend the meet was given to Bob Burdell of Charleston, S.C.. Bob had enough enthusiasm to drive 675 miles to come to the meet! Let this be an inspiration to you Club members who didn't make it to a meet this year - make an effort to attend a meet near you next year and get in on the fun.

The last activity of the day was the auction, again presided over by Col. Tom Luce. One motor which was auctioned off was a rare, one-of-a-kind Caillerude, which after much spirited bidding, brought the magnificent sum of \$6.50. Keep these reasonable prices in mind when you search for motors, friends! Never mind that the successful bidder, Sam Vance, was heard to mumble something about the non-matching cylinders, one of which had an 18mm spark plug, while the other plug was 14mm.

The day ended much too soon as a happy group of outboarders packed their motors and headed home with the memories of another highly satisfactory Lake Hopatcong Meet to last them through the Winter. Many thanks to the organizers of this year's meet for making possible a great time!

Organization and Credits:

Organizers- Tom Luce, Dr. Lloyd C. Craver
Sam Vance and Tony Caglione
Official Photographers- Harry Bickel and
Mrs. Lloyd C. Craver

Committee Boat- Wayne Mocksfield

Registrar- Pat Zipps

N.J. Marine Police Sanction and Patrol-
Chief James K. Rankin and Officer
John Wilmont



Mark Wright with his 1928 Amphion "Dreadnaught", judged the most unusual outboard at the Regatta.

HOPATCONG SEPT 1970

The winners! L. to R., Dick Michel, Milt Moos, Bob Zipps, Curt Reed, Phil Kranz, Steve Mizgala, Buddy Street, George Loeb & Bob Bardell.



Bob Zipps running his beautifully restored '26 Evinrude Sportwin. It won mint condition award



Tom Luce and his Brother-in Law, Jay Berwick, head out to help judge the mint and most unusual motors, powered by a '22 Ev.



Phil Kranz and Steve Mizgala with Phil's 1923 Caille Liberty Single

Contributors- Special thanks to Len Eisenstein, Len E's Pagoda, who for the third straight year, generously donated the use of his fine facilities, including his rental fleet; and to Kiekhaefer Mercury, Johnson Motors and Evinrude for the donations and trophies.

RESULTS OF CONTESTS AND JUDGING

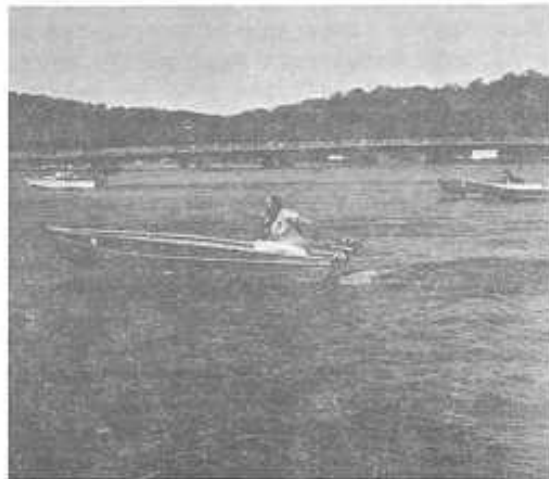
Mint Condition (Trophy by Evinrude)	1st place 2nd place	Bob Zipps Milt Moos	1926 Evinrude NS 1930 Neptune OB2A
Most Unusual Engine (Trophy by Mercury)	1st place 2nd place	Mark Wright Curt Reed	1928 Amphion 1928 Johnson TR-40
Bang and go back	1st place 2nd place	George Loeb Phil Kranz	1934 Johnson J-70 1923 Caille Liberty
Oldest Running	1st place 2nd place	Steve Mizgala Dick Michel	1913 Evinrude 1923 Evinrude A
Sportsmanship (Trophy by Johnson)		Buddy Streat	

ATTENDING MEMBERS

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The Committee Boat, owner Wayne Mocksfield inside, at the dock with unregistered lady passenger. Boat is a 1910 Fay and Bowen.



George Loeb winning the first heat in the Bang-and-go-back race. He won first place in the finals too.

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John C. Harrison

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Service Clinic



PISTON RINGS

Prepared by Marcus Wright III, from information supplied by the Johnson, Evinrude and Perfect Circle organizations to whom AOMCI is indeed grateful.

Got an over-tired motor that could use a little more pep? It may need a ring job! Don't be afraid to tackle the problem, and if you do, here's some tips to help along the way. Piston rings are constructed of high quality cast iron and in such a manner that, when installed on the piston operating within the cylinder, they expand against the cylinder walls to form a seal. The quality of this seal is critical to engine performance. A ring that has lost its flexure power, or has seized in its groove cannot possibly seal properly. An old outboard motor, idle for a long period, may easily have either fault.

Piston rings binding or seizing in the ring grooves are doing so because of carbon accumulation behind and around the rings, or by insufficient groove or gap clearances. The piston then operates in the cylinder without benefit of the rings expanding against the cylinder wall to seal the force of compression and combustion. The result is loss of power, unsatisfactory low speed performance and hard starting. Minor discrepancies in the rings or ring grooves are not so noticeable at high speeds as at slow speeds for trolling purposes. Unless the rings seat properly, there is enough compression loss in both the crankcase and cylinder to make for rough, or no idle at all.

The ring sealing effect is accomplished by pre-establishing a slight strain in the original casting or by other means of manufacture so that after machining to correct size, and severing, ends of the ring "spring" apart. Space created by this action is called the ring "gap". Severing or cutting of the ring is required to provide flexibility of the ring band to operate against the cylinder wall under slight pressure. Pressure in this respect must definitely be in relation to bore of the cylinder, and width and depth of the ring. Excessive pressure against the cylinder walls results in drag (stiffness or friction within the cylinder), creating high operating temperature; sluggish performance; and abnormal ring, ring groove and cylinder wall wear - if not actual wall scoring (gouges running the length of the piston travel). Insufficient ring wall tension results in "blow-by" causing overheating and carbon formation on the piston skirt.

There are three common methods of cutting (severing) piston rings, see Figure 1: miter cut, step cut and straight cut. Piston rings are not true (round) until placed in the cylinder. EXAMPLE: In the process of manufacture, the ring (solid) is turned to a definite outside diameter (O.D.) of 2.5000 inch to fit a cylinder bore also of 2.5000 inch. Curvature of the ring wall is then identical with the curvature of the cylinder. After turning, the solid ring is cut to obtain flexibility with the result that the ends of ring spring apart to create a gap. The O.D. subsequently becomes greater than the initial 2.5000 inch as turned - but not a perfect circle in contour. Although the variation in contour of the expanded ring could be measured only in hundredths of an inch, it nevertheless is not a true circle. True contour of the ring can be restored by installing it in a cylinder of the same diameter of 2.5000 inch.

The opposite is true if an attempt is made to fit an oversize ring in a cylinder of a given standard size. EXAMPLE: The standard cylinder bore is 2.5000 inch, but the turned diameter of the ring is 2.5100 inch. Naturally, it is not possible to install this oversize ring at all, without first filing the ends of the ring. If material is removed this way, and the ring installed, the circumference, or contour, of the ring becomes out of round because the ends are "pinched" together. The result is loss of power because the ring does not seal properly against the cylinder wall - the cylinder wall being round, while the circumference or contour of the ring is not.

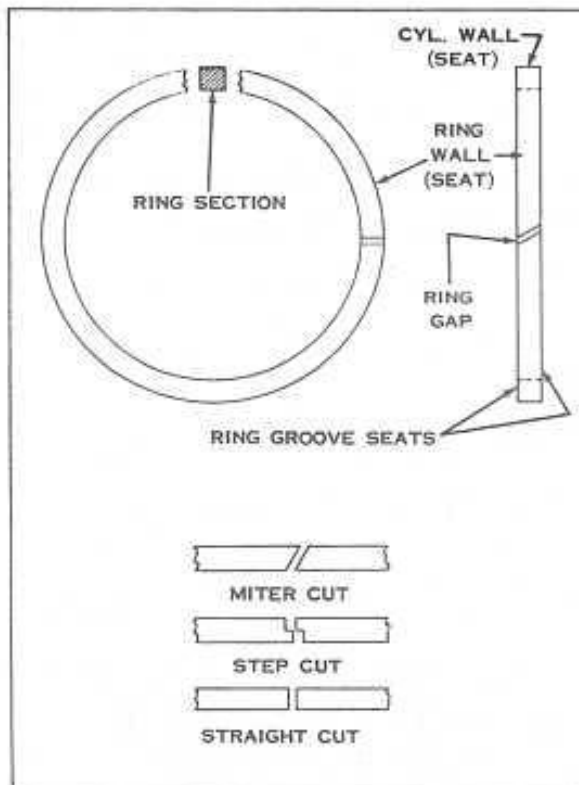


Figure 1. Types of piston ring cuts.

compression at its best, provided the condition of the piston and cylinder bore is good, of course.

Besides the proper side clearance for good ring action, compression may well be affected by a ring that is not flat. Excessive material can be removed from a ring by lapping. To lap a ring, observe the following procedure:

1. Obtain a small piece of plate glass, about 8" square.
2. Construct a lapping block consisting of a flat piece of wood large enough to cover the ring. Cover one face with felt and attach a drawer knob to the other.
3. Place a piece of #00 emery cloth on the plate glass, making sure it lies flat.
4. Place the ring to be lapped on the emery paper, and cover with the wood block, felt side down.
5. Now, grasp the knob, bear down lightly, and move slowly over the emery paper in a figure 8 pattern, being careful to maintain even pressure at all sides or points of the ring.
6. Be careful not to remove too much of the ring stock, just enough to insure proper thickness - or flatness, as the case may be. Proper flatness can be determined by frequent observation. Low spots will be dark. Cease when the entire surface is bright. Proceed in the same manner to flatten the other side. If too much material must be removed, discard the ring.
7. To finish lap, sprinkle the plate glass with Bon-Ami, add a few drops of oil and mix to form a creamy lapping compound. Place the ring on the glass and using the wood block again and equal pressure at all times, lightly lap both sides until each surface is uniformly bright.

To lap piston ring grooves if rough or dented, apply the Bon-Ami/oil mixture to the groove and install the rings in their respective positions. Push up and down with a turning motion. Usually a minute or two will do the job. **IMPORTANT:** Be sure to wash all traces of Bon-Ami from the piston, rings and bore. **OOPS!** forgot to say that pushing up and down while turning should be done with the piston and rings in the proper cylinder.

Since rings seal best if not allowed to rotate during operation, you'll notice your old motor will employ one of the techniques on the next page to stop rotation. -End-

Sufficient clearance (gap) must be established between the ends of the ring prior to fitting in the piston grooves for installation in the cylinder. The ring must be flexible to follow exact cylinder contour during operation of the engine, with enough space allowed between the ends to prevent them from "butting" to create the effect of a solid, lifeless ring. Further, the ring expands in length as temperature rises while the motor is running. Consequently, the gap must be of sufficient width to permit the necessary expansion. Proper width or ring gap depends on the diameter of the piston ring, its width and thickness, and mean operating temperature of the engine.

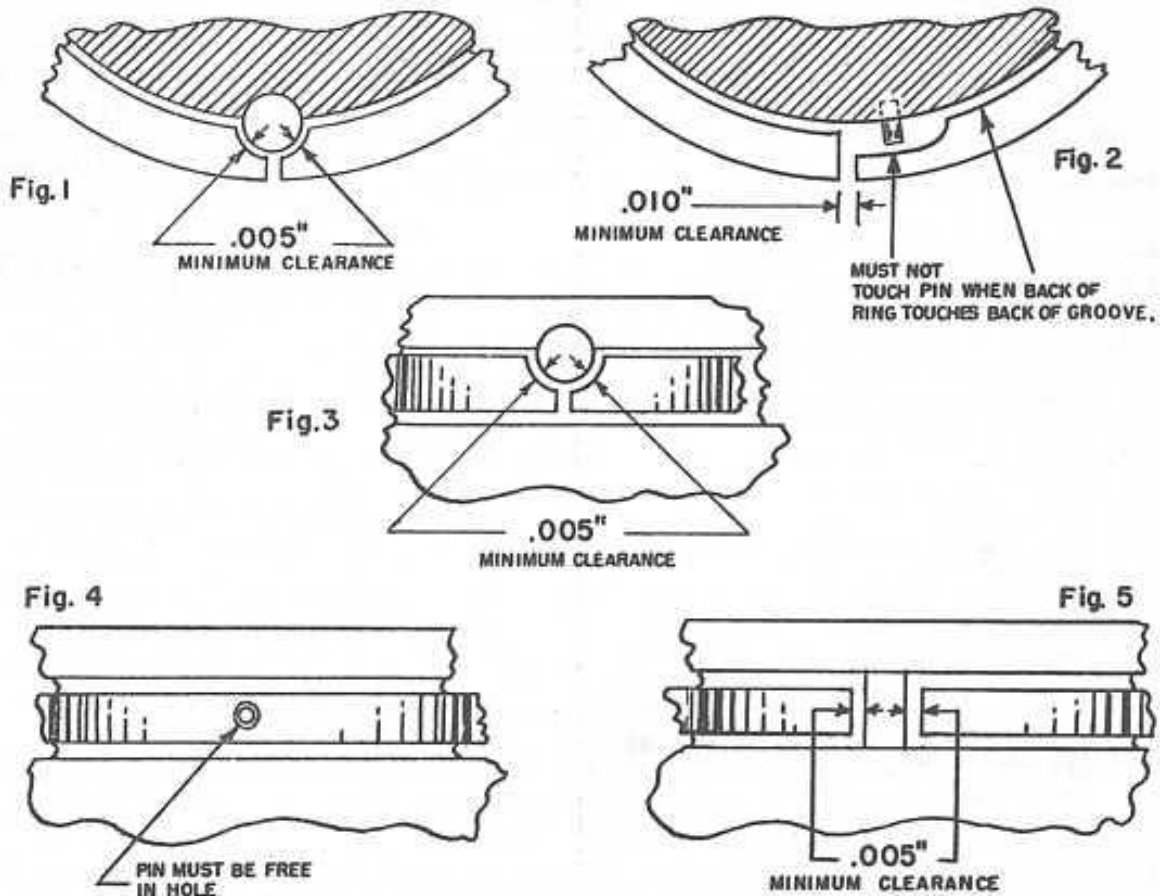
As reported in the April, 1970 Antique Outboarder, in general, a 1-1/2" bore requires .006 to .008 inch gap; a 2" bore .008 to .010 and a 2-1/2" bore, .010 to .013 inch gap. All bores in between can be fitted using the appropriate closest dimension. Excessive gap is undesirable too, in that it permits undue escape of compression.

Vertical play between the ring groove seats and the piston ring grooves is equally important. .004 to .006 inch clearance, per groove, is about right. Careful attention to both end gap and side clearance will keep

INSTRUCTIONS for PINNING Compression Rings for Outboard Motors

FORM NO. — 370R

The method of pinning compression rings for outboard motors varies in different makes of motors. When new compression rings are fit on the pistons of these engines, the ring joints must be filed or the rings must be drilled to adapt the ring to the particular type of pinning used. Use a small round file to remove the stock for a round pin fit (Fig. 1 and 3). Use a small flat file to remove stock from the back or joint of the ring (Fig. 2 and 5). Use a small drill to drill the hole to accommodate the pin used on some pistons (Fig. 4). In each case, the portion of the ring from which the stock is removed must be held firmly to prevent distorting the ring. In fitting the rings, use the clearances shown below.



PERFECT CIRCLE CORPORATION — HAGERSTOWN, INDIANA, U.S.A.

Printed in U.S.A.

Red Face Department.....

October 31, 1970

Whisperjet

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Dick Jones, with old motor.

He Rebuilds Outboards

Kicks Out of Kickers

You'd think most people interested in antiques who work for the airlines would settle for aircraft when it comes to refurbishing and perhaps even operating ancient hardware.

Not so with R. M. Jones, inspector-Quality Assurance.

Dick enjoys the unusual hobby of collecting and restoring antique outboard motors, dating all the way back to 1917. (You mean they really built 'em way back then?)

"INDEED they did—they've been building 'em for 80 years," Dick reports. "For instance, my oldest is a 1917 Evinrude. My collection includes engines of all shapes and sizes from a half horse to a 50 horse power motor."

Some of his other motors are as rare — such as a 1929 Elto Lightweight, manufactured in 1929.

As membership chairman for the National Antique Outboard Motor Club, Inc., Dick urges any Eastern people who "get a kick

out of old kickers" to join up.

"OUR PEOPLE have a lot of experience to draw on and lots of parts, too," he said. "Give the club a chance to help you renovate that old engine."

Got an old outboard out back somewhere? If you might like to join the antiquers, write Dick at 26505 N.W. Third Ave., Miami, 33169.



Miss Whisperjette for October

Social Civic Club Sets Game Night

Instead of an Orange Blossom Parade Float this

ers Holding Breath

ed Fund Head-
atmosphere of a
election head-

reservations and telephone sales
said that there

Engine Overhaul's Dinner Dance Dec. 11

Engine Overhaul's second annual Holiday Dinner Dance will be Dec. 11, at the Club, Bis

Dick Jones of Miami forwarded a copy of the October 31, 1970 Eastern Airlines' house publication WHISPERJET. Dick says he managed to get an article into the paper and hoped it would bring a few new members. As you can see above, it was not a bad article except for a little mixup at the Printers. Dick's "old motor" looks pretty good to me and I guess to others too because he got several offers - but not about new membership. Ed.

The Amphion, continued from page 23.

the lower unit. We sense this Marque did not sell well due to its heavy weight and low actual horsepower caused by the small fuel breathing passages. The lower unit sealing is out of the question, and much grease is needed each time the engine is run for more than an hour.

As an antique, the Amphion is very rare. Its reliability for starting and running, as well as the unusual appearance make it quite desirable. This particular Amphion won the Kiekhaefer "Most Unusual" trophy at the 1970 Lake Hopatcong Meet.

SPECIFICATIONS: Bore and stroke: 2-1/2" X 2"; Actual weight: 80 Pounds; Gear ratio: 1-1/4 to 1; Horsepower: About 6, actual; Propeller: 8-3/4" X 8" pitch; Magneto: Eisemann; Spark Plugs: Champion 6 M; Boat Speed: About 12 MPH.

TRADER'S COVE

by R. H. ZIPPS

GENERAL REQUIREMENTS APPLICABLE TO CLASSIFIED ADVERTISING

1. a) Members - Complete AOMCI Form 101 or include: Make, Year, Model, Serial Number, Number of cylinders, runs or not, condition of compression and spark, list parts missing, overall condition, features, prices, state if member.
b) Non-members must complete AOMCI Form 101. Obtain forms from writer.
2. Advertising rates: Members - free except parts and literature for sale type ads. Should be neatly typewritten. Non-members \$1.00 per 3 line, 1 column ad. Other non-member advertising space is available at \$5.00 per quarter page, \$10.00 per half page, \$20.00 per full page of camera-ready repro ad copy.
3. Closing Dates: All ads must be received not later than the 1st of the month preceding the date of issue.
4. Transactions based on good faith: Deliberate misrepresentation, or violation of the code of business ethics and good sportsmanship, will constitute grounds for refusal of advertising, and may result in disbarment from this club.
5. Warning to purchasers: The AOMCI will accept no responsibility for any unsatisfactory transaction involving articles which either have or have not been described in accordance with the provisions of paragraph one.

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ELTO: Mod C; Ser 21189;
F. Dinkel; 716 Miles;
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ELTO: Ser 3228; Augie
Gollardo; 15343 Ehrina;
San Leandro, Calif.
ELTO: Ser 33554; Mrs. F
Rogers; 543 Skipper;
Largo, Florida
EVINRUDE: Mod 4309; W.
Riedl; 1203 Dakota St.;
Watertown, Wisconsin
EVINRUDE: Mod 4201; C.
Whipps; Rt. #1, Tee Lake;
Lewiston, Maine
EVINRUDE: Row Boat Motor;
E. Westlund; Rt. 2, Box
283; Ashland, Wisc.
EVINRUDE: Row Boat Motor;
O. Howe; 1532 E. Grand-
view; St. Paul, Minn.
EVINRUDE: Mod 409; W.J.
Carr; 111 North State;
Knob Noster, Missouri
LOCKWOOD: Foldlight; H.
Savage; M R B Box 223;
Bangor, Maine
JOHNSON: No other info;
L. Williams; 1116 N Nat-
ional; Springfield, Mo.
JOHNSON: Mod K-35; J.
Fortin; 505 N Entrance;
Kankakee, Illinois
JOHNSON: Mod K-50; H.
Swanson; 1421 N 38th;
Kansas City, Kansas
JOHNSON: No other info;
L. Wedge; 211 Spruce;
Allegan, Michigan

MOTORS SEEN

CAILLE: Row Boat Motor;
H. Langdon; Tomifobia,
P.Q. Canada
ELTO: Ser b306; Ira
Hentschel; 1259 St. Louis;
Springfield, Missouri
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ELTO: Mod G; Eric;
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Purdy; Route 3;
Manchester, Indiana
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Nexa, Missouri
EVINRUDE: Mod 4407; P.
Franson; 733 N. Ripley;
Gary, Indiana
EVINRUDE: Mod 4180; F.
Swiatkiewicz; 539 Griffin;
South Windsor, Conn.
EVINRUDE: No other info;
C. Mc Ivor; Culver Rd;
Monmouth Junction, N.J.
JOHNSON: Mod A-35; C.
Gillett; Apt A-2; 4127 W
Glendale; Phoenix, Ariz.
JOHNSON: No other info;
P. Hardy; 6 Short St.;
Caribou, Maine
JOHNSON: Mod J-65; J.
Pharr; 223 S. Irena;
Redondo Beach, Calif.
JOHNSON: Mod 100; H.
Grow; 36 Royal Ave.;
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EVINRUDE: Small 4 cylinder;
M. Grubham; Box 131;
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EVINRUDE: Mod 4362; F.
Lundsten; 5517 N. Shore-
land; Milwaukee, Wisc.
EVINRUDE: Row Boat Motor;
J. Jachim; 1503 E. Orchard;
Rice, Lake, Wisc. 54868
EVINRUDE: Mod 4335; Carl
Nielsen; 39 Pauline;
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Miles; 10 Sanford;
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Birden; 1009 Alhambra;
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NAPFUNK: Mod 082; Ser 2471;
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Rio, Wisconsin

YOUR FELLOW AOMCI MEMBER.....

Mahlon P. Lamoureux

Box 367
Shaw Island,
Washington 98286

Once in a while, a fellow comes along with the rare gift of quiet, mechanical genius. Mahlon Lamoureux has been described as such a man. More at home in his shop than anywhere else, Mahlon has proven himself to be remarkably inventive and an extremely capable designer and machinist.

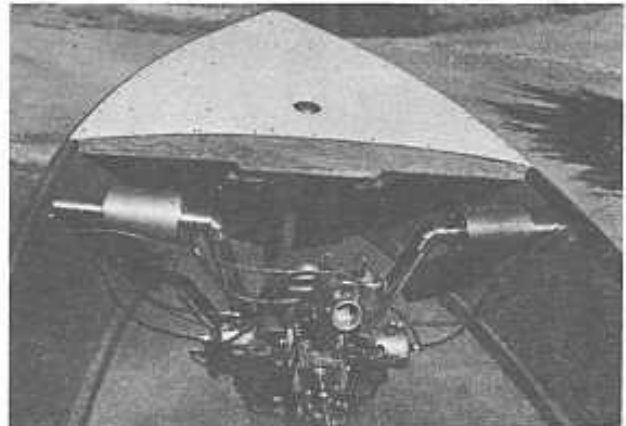
Names such as Hillborn Fuel Injection and Shelby-Cobra are in his background and are probably as well known as they are, because of Mahlon's skill in design and building.

There's a good deal of outboard and boating color in Mahlon's history too. At one time he did race engine work with Mr. William Tenney, a Champion racing driver about whom John C. Harrison writes: "I never knew him personally at all but followed him around the race course many, many times. He was about the hottest thing there was and used to win everything". Who knows, maybe Mahlon worked over some of the engines that John couldn't catch up with.

When working with Bill Tenney, Mahlon lived on Emerson Avenue in Minneapolis. As many of you know, he now resides on Shaw Island where every once in a while, one of his new developments sputters or puffs into life.



Here's one of Mahlon's boat designs - a quiet craft that could be used for fishing, cruising or what have you.

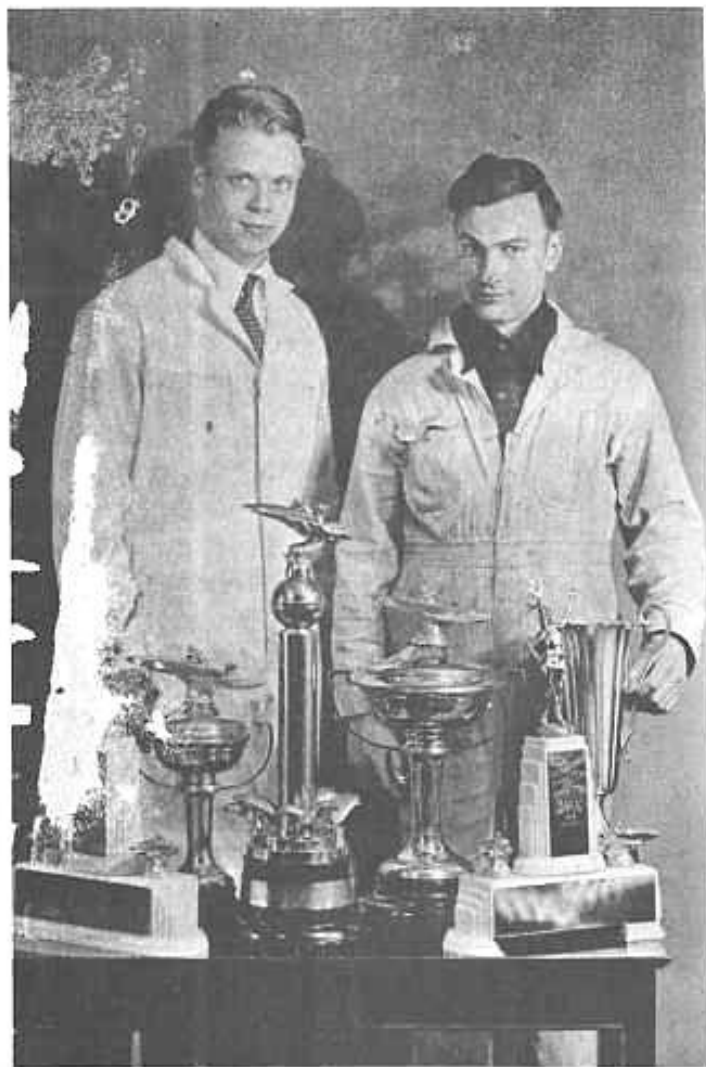


But....look inside! A full race Evinrude Speeditwin with Vacturi carburetion and dual exhaust, rigged as an inboard.



Left: Here's a detail of the drive and rudder Mahlon built for the Speeditwin. You can bet this innocent looking little "fishing boat" surprised quite a few Hot-Rodders.

Continued, next page



Mahlon, right side, and Bill Tenney with some of the many fine trophies signifying their accomplishments in outboard racing.



Mahlon Lamoureux of Shaw Island left the dock in Hingey, a 1930 racing steam outboard. A fire-extinguisher casing used for the boiler is fired with butane gas. Hingey is so-named because it is held together with piano hinges and collapses into a flat package for transporting.

Here's Mahlon again, this time with a steam powered outboard motor, apparently mounted on Johnson K Model hardware. Origin of photo unknown.

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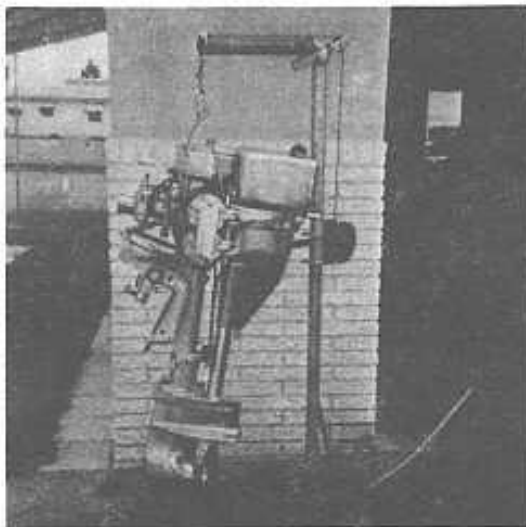
A cordial welcome is extended to all newcomers. Other members are encouraged to make contact either by writing or visiting. Let's show these new members how to really participate in the Club activities such as Meets, Chapters and Special Interest Groups.



Dick, left, and John do some trim adjusting on the Hotrod. Note the beautiful equipment.



Here's the Hotrod, complete with a racing lower unit and racing exhaust stacks - a neat package!



(Continued from page) John plans to run a couple of nice KR's he has.

John's latest acquisition came from California. Included are hydroplanes of the late thirties and forties, plus both midget and C class racing engines. The units used to belong to Mr. Robin Rust. Sounds like the boys down here on the grapefruit circuit have a little work lined up!



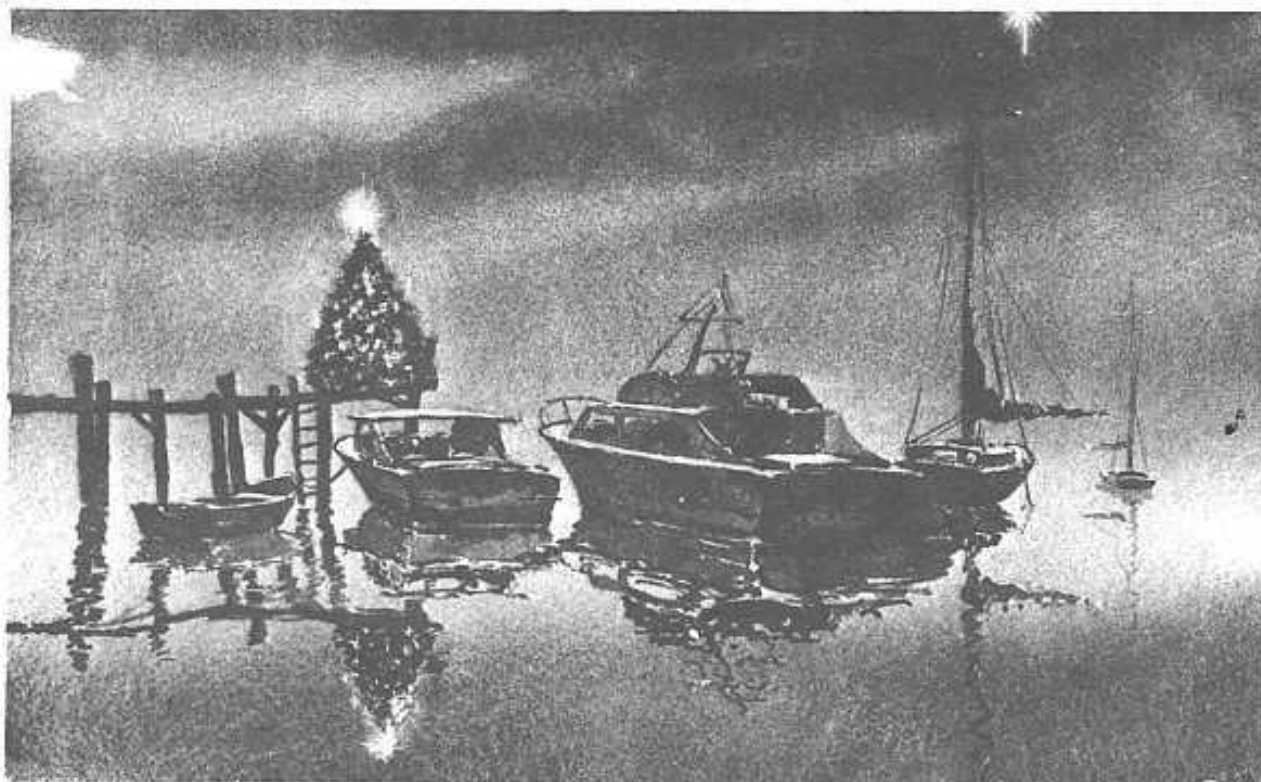
Photo at left: Dick's fine, 50 HP Big Four - a real performer and another example of his excellent workmanship.

The Antique Outboard Motor Club Inc.



THE ANTIQUE OUTBOARDER
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Bloomington, Minn 55431

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AOMCI 6TH YEAR