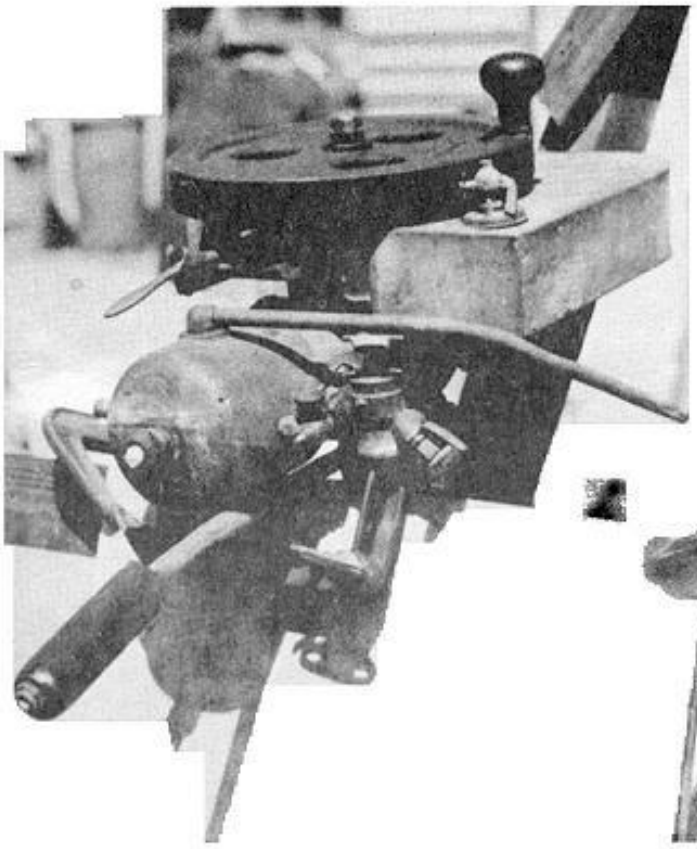
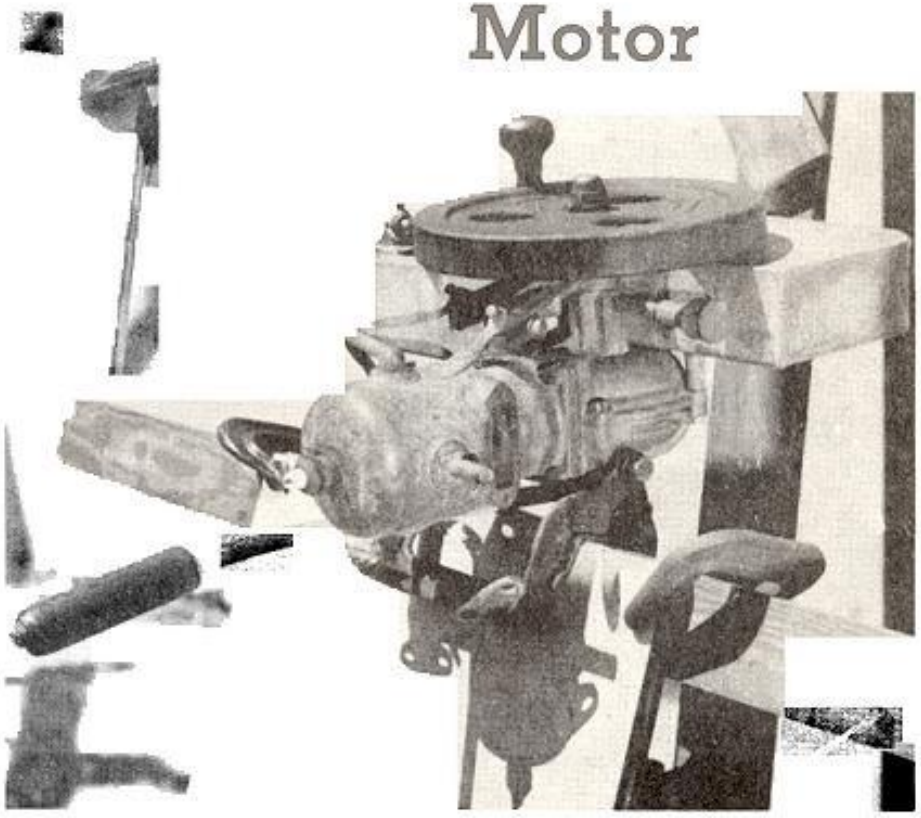
The ANTIQUE OUTBOARDER

The Pioneering Authority



Mystery Motor



The first person to correctly identify this mystery motor will receive a free motor registration decal. Write to Don Peterson (address inside front cover of magazine) with your guess!

July 1975

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 $9.00 per year. Other membership information is available on request from Jim Nixon, 4781 Fifth Avenue, Youngstown, Ohio 44505, U.S.A.

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THE ANTIQUE OUTBOARDER

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The Antique Outboarder *Volume 10 — No. 3* July, 1975

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LETTERS TO THE EDITOR

GREETINGS FROM WALT . . .

Enclosed is my check for another year's association with the greatest bunch of people I have ever met, talked to on the telephone, or written to. I consider it a real privilege.

Walt Ellis is fixing me up with a Speeditwin, so I will have an Evinrude to match the PO-15 on the back of the Feathercraft. I just finished an AB-25 and have started on a 1929 Model H Evinrude Fastwin, so I'm keeping busy. Got to attend the MAPS winter meeting at Sitton's in St. Charles, Missouri. Great bunch of people, and what a collection Clarence has. - All for now, Walt Verner

INSURANCE QUESTIONS TO CONSIDER . . .

I hope you haven't given up on me. I was waiting to get some detailed information about meet insurance, but haven't learned much more than you already know. The insurance agent for our company, who appears to be pretty well up on all sorts of liability, reeled off some things to me as follows:

1. Anyone at a non-chartered gathering is liable as an individual for any damage to any person or property for which he may be responsible. An additional premium is needed to cover an individual who operates a motor in excess of 25 hp and who is covered by a homeowner's policy.

2. Anyone attending a chartered function, for instance a chapter meet of the AOMCI, is held blameless for his actions at the meet in case of injury to a spectator or someone other than a member. The Club or chapter is liable.

3. This agent believed that there would be some insurance company who would write a policy for a one-day meet. Because of the usual paperwork involved with short-term insurance, there would be a minimum premium of $25.00. He didn't know for certain, but after I described one of the typical meets we hold here in Ohio, he felt that the premium would not exceed $50.00.

We have been rather loose here in our Ohio meets and have never bothered with formal things like signed releases from attending members, nor have we done anything about insurance. Although I didn't know for sure, I sort of instinctively felt that each individual would be responsible for his own actions. If the above information is correct, then I assume this has been the case, especially as we have never formed a chapter here in Ohio. The kicker here is that there are probably a lot of members who might not have any homeowner's policy, and should they injure someone, they might be in big legal and financial trouble. The Club might not be legally responsible for such an occurrence, but there may be some moral responsibility. I'm not a lawyer or an insurance whiz, but I know that there are different laws in the various states governing such things, and there may not be any simple country-wide solution to the liability problem. For some of the larger meets where at least 15 members show up, it may be necessary to charge a fee of, say, $3.00 a head to cover insurance for the day. Smaller gatherings may have to be run as "friendly," unsanctioned affairs, and the individual members should be advised of their individual liability in case of accidents. I didn't ask about a nation-wide Club coverage, but I believe that the premium on such a policy would break the Club, at least financially. It may be beneficial to ask the membership for suggestions.

After finding out some of these facts, I sort of wonder about starting a local chapter! Aside from the "official" status, it really wouldn't matter as far as changing the way we've run our meets in this area.

I've not done anything definite about recognition of "Standard Motors" which have been restored, but I have thought about it somewhat. I will send some sort of call for suggestions to Ron for inclusion in the Newsletter, although from past experience there seems to be a definite lack of response to that sort of thing! The same goes for the Club speed records. I'm not well informed on that sort of thing, and right now I'm awaiting some APBA literature from Bob Zipps to maybe help me out. Please bear with me; I move rather slowly, but I hope that I can accomplish some of these things in due course! - Regards, Milt Moos

A NOTE FROM FLORIDA . . .

I want to thank you for the copies of The Antique Outboarder of October, 1974.

We are having a wonderful time here in Pompano. The weather has been beautiful; we're playing a lot of golf and swimming in the pool every day.

I haven't been able to have a boat for the last few years due to three back operations that I have had. This makes me feel real bad, but I have to thank the Lord that I am able to walk and play golf. I tried having one a few years ago; but, as you know, unless a man has all kinds of money, he must do some of his own repairs, and doing your own repairs is what makes owning a boat beautiful. One day after two operations I was doing repairs around the boat and threw my back out. I ended up under traction for two or three weeks, so upon the doctor's advice, we sold the boat. The doctor said that after three operations I should be very careful about what I lift.

Well, so much for that. My wife and I are enjoying ourselves very much, and here in our complex we have many friends who take me fishing on their boats any time we are ready.

Any time you are in Pompano, call us and we will have a nice visit. Our phone number is in the book. I am going home to Dearborn, Michigan on April 8, and coming back to Pompano around May first, then around May 20 my wife and I will drive her car back to Dearborn for the summer. - Cordially, Arthur A. Caille, Cypress Club, Apartment 421, 140 Cypress Club Drive, Pompano Beach, Florida 33060

NEW . . . ER, FACES ON TOM'S WALL . . .

Much thanks for the current Antique Outboarder. I enjoyed Jim Webb's "How We Made 'Em" -- also the article on Ray Rydell (whom I have never written regarding my 1918 Evinrude), as I learned a short time ago that a friend of mine is the city attorney for the town of Avalon, Catalina Island. His name is Chalmers Lones.

As for the calendar -- well, it took over 35 years for me to find a replacement for my 1932 "Petty Girl" calendar published by Esquire at that time, but now I have one -- the 1975 Antique Outboarder calendar! - Thanks again, Tom Clarke, 1222 East Hampton Way, Fresno, California 93704 Editor's Note: Tom still has a vintage 1920 Evinrude single for sale.

LAUGH OF THE MONTH . . .

It seems to me I have read articles in our Newsletter, or perhaps in the Outboarder, entitled "Laughs of the Month." I have a good one you may print if you wish.

I purchased a 1917 Evinrude Model A Rowboat Motor from Eric Gunderson. It is a very clean motor, and, best of all, it was manufactured in the same year that I was born. I'm very proud of it, so I told many of my local friends about it.

:old my nearest Evinrude dealer I just bought an Evinrude motor made in the year I was born. s reply was that he didn't know they made Evinrudes before the Civil War. SMART ALEK. ıen he said he would like me to restore it like new and place it in his showroom for display. old him since he was so smart, this would cost him one dollar per day.

will be glad to place it in his showroom at no charge at all. We are old friends and we are ıways bull slinging at each other. - Best regards, Charles W. Hansen

EW HELP FOR PISTON PROBLEMS . . .

ım enclosing my check for $7.90 for two Elto decals.

m restoring both my old reliable '28 Speedster and a '29 Hi-Speed Speedster I've just acquired. he latter engine is being furnished with new pistons and a fresh rebore plus balancing. I xpect (hopefully) to have it running this summer for some good running (and competition) ı our Eastern meets.

ɔu may not be aware of a development which I consider to be a real breakthrough in the East r Club members in one of our trouble areas: cylinder boring, pistons, and wrist pin fitting. ll Andrulitis is manufacturing new pistons for such engines as the Cailles, Eltos, Evinrudes the late '20's and early '30's. Bill Salisbury has acquired dozens of new pistons for Cailles, ltos, Evinrudes, Johnsons, and will also be offering his services for honing cylinders, fitting ew pistons and wrist pins, and helping this way to restore members' engines. Bill is in the usiness of rebuilding new (late model) outboards, and is now in a position to be of considerable ervice to outboarders of Antique calling!

ıere are more meets scheduled in the East for 1975 than I've ever seen. It should be a good ar for the Club. Looking forward to receiving the decals, and with best personal regards, Cordially, Mark Wright

HAPPY HOME FOR A FAITHFUL ENGINE . . .

ddressed to Mr. Bob Davis, D & H Machine Co., 542 W. Colfax, Palatine, Illinois 60067)

was with great satisfaction and much nostalgia that I noted the picture of my old 1928 Lockwood .ce" on the front cover of the January 1975 issue of The Antique Outboarder which you or Mr. ıautigam so kindly sent me. It brought back many, many boyhood memories, some of which ight be of interest to you or some of your readers.

vas born and raised in Des Moines, Iowa, and my first 22 years (1914-1936) were spent in, on, along the Des Moines River. The old family home was about 30 feet from the river (at low ter), and I caught many a small mouth bass and channel cat from our yard. The house was nost directly across from the local boat club, the DMPBC, or Des Moines Power Boat Club, I was almost certain to develop an interest in boating of all kinds, and particularly in out- ards.

y first exposure to outboards came about during a fishing trip to Minnesota about 1926 (Crane ıke near Orr). The resort owner had one of the first Evinrude singles, similar to Jim Nixon's own on page 44 of your fine magazine. Not being particularly mechanically inclined, this ıaracter would periodically get bombed, try to start the motor, fail miserably, and throw it the lake. That was where it was reposing when we arrived. I've always been a tinkerer, so hed it out, drained it, dried it, cleaned it, and off it went. My pal and I used it steadily for ı days and it worked perfectly.

Anyway, that started the outboard fever, and I began with a brand new "Elto" twin, probably about 1927 or '28. It was, of course, with battery ignition and the old knuckle-busting flywheel knob and Atwater Kent timer. I built a 12-foot V-bottom boat and became delirious when it got up on top of the water at the fantastic speed of 20 mph. It was a "first" for the Des Moines River, which had about seven miles of water by a hundred yards width above the dam at Des Moines. We eventually boasted that there were more power (inboard and outboard) boats per square foot of water there than anywhere else in the world.

About 1929, speed became the thing, and I went through a new Elto Quad (double knuckle-buster) and finally an Elto 4-60 and a Century "Hurricane" with quite a few races at Peoria, Illinois; Nebraska City, Nebraska; Lake Marion, Minnesota; and Davenport, Iowa. Here the saga ends, as it became necessary to go to work. I've been at Sherwin-Williams in Chicago since 1936 and gave up boating for golf and gardening -- and more recently for electronics.

I did not buy the "Ace" new, but recommended it highly to a friend of the family, who used it very little. I bought it from his estate in 1934 and moved it to my home in Crete, Illinois in 1942. You might wonder about the welded tilt bracket: it was stored at Des Moines near the gas furnace, a converted coal job, which one day blew the door off and hit the motor -- the only casualty. I used it for fishing until about 1960, when complaints about the open exhaust noise retired it. It could out-perform quite a few of the newer 8 to 10 hp models, much to their owners' chagrin.

I always felt that Lockwood was about 20 years ahead of its time. Both the "Ace" and the "Chief" had many mechanical features not found on most of their competitors, such as fully offset cylinders, solid bronze connecting rods, floating wrist pins, the pilot -- the "unseen hand that takes over when you let go" -- and so on. After being sprayed with gas/oil from both the Elto twin and the Quad's old 2 port poppet valves, and replacing aluminum rods in the old Quad by the dozen, the 4-60 was a sheer joy. It was literally run into the ground and I enjoyed every minute of it.

Guess I've been over-nostalgic, but I really am glad someone was interested enough to give the old hoss a home. I intended to convert the power head -- which was nearly perfect -- to a portable pump via my good friend Ivan Quackenbush. Luckily you came along and rescued it from such a horrible fate. The pump you traded me has never been used -- and hopefully won't be -- at least in my basement. Maybe you can get Quacky to take us both to lunch some day! - Sincerely, B. R. Orwig

PROP REPAIRS . . .

We have received your letter dated February 25, and we are most interested in your Antique Outboard Motor Club. Our company would be very pleased to be listed with your Club as a propeller repair station. I might add that we have a fair supply of new props for some of the older outboard motors. We also feel that we can repair most any prop that has been put on the market. There are situations when a prop or particular part cannot be purchased new, and to get back in operation means someone putting forth a little more time and effort to repair or make the part from scratch. It is very easy to say "It can't be done," but our company likes the challenge, and we say, "We will try." Hope to hear from you soon, and feel free to visit us at any time. - Nautically yours, Paul Hendricks, Manager, Minderman Marine Manufacturing Company, Box 269, 129 Buckeye Boulevard, Port Clinton, Ohio 43452, phone 419, 732-2626

RICHARD A. HAWIE

NOTES FROM THE CURATOR

We were at the Antique Meet at Collingswood, New Jersey last year, but since Richy was competing in the Stock Outboard Marathon and our trailer was filled with two Stock C motors and one C-Utility runabout, we had no space for complete antique motors. We solved the problem by making two display boards: one to hold props, the other to hold carburetors. This allowed us to contribute to the Club's display with our limited trailer space.

A prop display board has much the same advantages as the spark plug display board mentioned in my last article. Since props are usually aluminum or bronze, they can be polished up to a pleasing shine. We used chrome-plated bolts to hold the props on the board. Since bronze props are pretty heavy, don't plan on having too big a board or it will be unmanageable. We were able to get twelve props on a fair-sized board.

Propeller theory will not be covered here, as I'm not even a student expert on props. There wasn't much need for props other than original equipment props until racing began. The horsepower of the motors was so low that there wasn't much a change in props could do. Remember that as late as 1926 Johnson's largest motor was 6 hp, Lockwood's largest 7 hp, and Elto's and Evinrude's largest were 4 hp. On a displacement hull a change in prop won't make much difference, and at that time that's all there were. As the step hydros and wide flat racing shells were introduced, a need arose for a selection of props.

I haven't found many ads for outboard motor propellers until 1928. I think that the following is a complete list of the companies which made outboard propellers as replacement equipment. I am not sure whether the outboard manufacturers made their own propellers, or bought them from one of the propeller manufacturers.

Columbian Bronze Corporation
208 North Main Street
Freeport, Long Island, New York

Stannus Propeller Company
3401 Illinois Street
Detroit, Michigan

Bryant & Berry Propeller Company
1208 Lillibridge Street
Detroit, Michigan

Pitchometer
Alameda, California

Michigan Wheel Company
Grand Rapids, Michigan

I also have a prop marked "A & A" with no further identification. I don't know if it is another prop company or the identification of an early prop "wizard" who may have reworked the prop. I know that Columbian and Michigan Wheel are still in business; I don't believe the others are.

Now, if you have the right prop for your boat and motor, there isn't much left for me to write about. Often you have several motors, some extra props and more than one boat. What will work on what is often the question. There is some overlapping in that the same prop will fit different motors under varying conditions.

There are three problems we run into. Rotation of the prop is the first. Depending on whether the gear on the prop shaft is forward or astern of the gear on the drive shaft, the prop will rotate clockwise or counter-clockwise, when viewed from the stern. I prefer the terms clockwise and counter-clockwise rather than lefthand and righthand because it seems simpler to me. The blade is always going clockwise, while a righthand blade is only going to the right in the upper 180 degrees of rotation; it's going to the left in the bottom 180 degrees.

Gear ratio is the second problem, as there are different ratios in the service and racing lower units and in the various service units from model to model. The Lockwood Chief and Elto Speedster, both 20-cubic-inch engines rotating counter-clockwise, came with entirely different size props. The Chief has a 9" x 14" (9" diameter and 14" pitch); the Speedster has a 10" x 10" prop. Different gear ratios make for the difference in props.

The third problem is prop shaft diameter and prop hub. Unfortunately the manufacturers didn't standardize on prop shaft size for the same horsepower. So, all other factors being acceptable, you may have to bore out or shim a prop to use it on a different motor. Some models had a pressure-vacuum system to cool the engine. The water was scooped into the engine and then exhausted through the prop hub, which was cast hollow and had holes on the leading side of the prop blade. Lockwood Chiefs had this system, and the prop shaft was hollow, as the cooling water passed through it and then out the prop hub. Some models of the Speeditwin, Model 156 for instance, had the same basic system, but the water exhausted at the rear of the lower unit through the hollow prop hub; the prop shaft was not hollow. These hollow hubs were fairly large in diameter, and they don't work too well on racing lower units or service units which have a small gearbox diameter. The water seems to get trapped in the hub on a small unit.

In general, all the Johnson and Muncie motors used clockwise rotation of the prop shaft; Evinrude and Elto did too on some of the racing models. The Evinrude and Elto Service motors used counter-clockwise prop rotation, as did Caille and Lockwood in most cases.

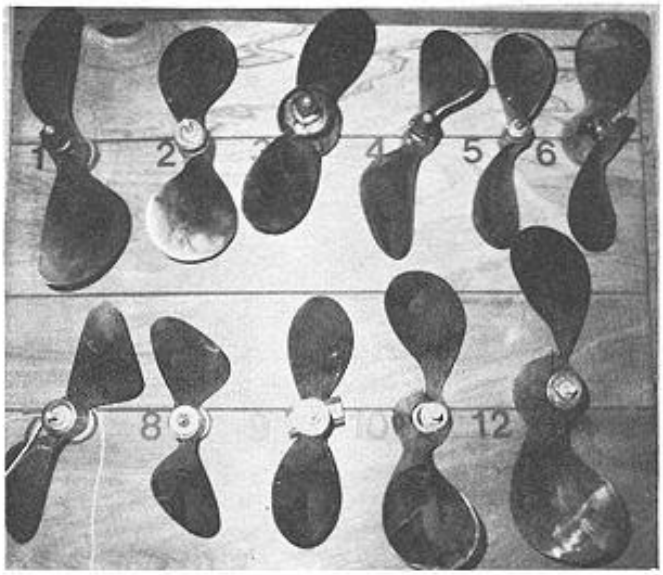
Johnson used a 12:21 gear ratio in their service motors, Models S, P and V, from 1929 on. I don't have data on the ratios used by the other manufacturers, but it varied from model to model, and no general statement can be made on them.

I was lucky enough to get a whole carton of props from a dealer who was going out of business. I still haven't identified all of them. If any of you have been fortunate enough to find extra props, you may have trouble identifying some of them, too. I've worked up some prop charts from various sources and I include them as an appendix to this article. Good hunting!

A few comments on the props on our display board, starting with the top row left:

(1) Stannus 11" x 17" for Elto 4-60, 1930
(2) Michigan 9" x 8" for Elto Super A, 1932
(3) Caille adjustable pitch for Model 20, 1928
(4) Pitchometer 9" x 15 1/4" for Caille Tractor "C" Model 50, 1931
(5) Caille 8 3/8" x 13" for Caille racer 30, 1928
(6) Michigan 9" x 14" for Lockwood Chief 92B, 1929
(7) Stannus 8 5/8" x 12 1/4" for Johnson SR-50, 1930
(8) Stannus No. 27C270 for Johnson KR-80, 1936
(9) Michigan 8 1/2" x 14 1/2" for Johnson SR-50, 1930
(10) Johnson 10 3/8" x 19" for Johnson PR-50, PR-55, VR-45, VR-50, VR-55, 1929 - 1931
(12) Johnson 12" x 21" for Johnson V-45, 1929

The props were selected to give a good representation of prop shapes and because they polished up so well!



PROPS FOR 4-60

Part No.	Prop Size	For Motors No.	Remarks	
SK1190	11 1/2" x 16"	1780001 to 1780999		
SK1180	11 1/2" x 18"	1780001 to 1780999		
SK1260	11" x 17"	1780100 to 1780999		
SK1143	12" x 16"	1780001 to 1780999		
SK1243	10 1/2" x 17"	1780100 to 1780999		
100741	11" x 16"	1780100 to 8040121		
100668	11" x 17"	8040122 to 8040499	Nicro metal	cw
100840	10 1/2" x 18"	8040500 to 8049999		cw
101040	10 1/2" x 18"	8260001 to 8260099	Nicro metal	cw
101245	10 1/2" x 17 1/2"	8260001 to 8260099	Bronze	cw
101071	10 1/2" x 18"	8260100 to 8269999	Bronze	cw
SK1901	10 1/2" x 18"	826 and 827		
SK2041	10 1/2" x 17 1/2"	826 and 827		
101322	10 1/2" x 18"	828	Bronze	cw

PROPS FOR ELTO RACING C

100755	9 3/4" x 17"	6100001 and up	Nicro metal	cw
101041	9 3/4" x 17"	631 and 632	Nicro metal	cw
101246	9 3/4" x 16 1/2"	6420001 to 6420099	Bronze	cw
100700	9 3/4" x 16"	6420001 and up	Bronze	cw
SK2014	9 3/4" x 17 1/2"	631, 632, and 642	For 12-22 gear ratio	

PROPS FOR ELTO QUAD, SPEEDSTER, AND SUPER C

QK930	11" x 14"	1928 Quad	Bronze	ccw
100434	9 1/2" x 14"	1928 Quad	Bronze	ccw
2023	11" x 12"	1929 Quad		
100596	11" x 11"	1929 Quad; 1931-1933 Super C		
100235	11" x 14"	1929 Quad	Bronze	ccw
100692	10" x 12"	1929 Quad; 1931-1933 Super C		
100268	9 1/2" x 14"	1929 Quad	Bronze	ccw

PROPS FOR JOHNSON MOTORS

21-288	10" x 11"	S45, SE50, S65, S70	Bronze	cw
21-179	10" x 17"	S45, SE50, PR50, VR50, S65, S70	Bronze	cw
21-292	10" x 14"	S45, SE50, PR50, S65, S70	Bronze	cw
21-452	10" x 10"	S45, SE50, S65, S70	Bronze	cw
21-525	10" x 12"	S45, SE50, S65, S70	Bronze	cw
21-286	9" x 15"	SR45, SR50, SR55	Bronze	cw
21-159	9" x 14"	SR45, SR50, SR55	Bronze	cw
21-287	9" x 16"	SR45, SR50, SR55	Bronze	cw
23-39	12" x 12"	V45, P50, P65, P70, V65, V70, PO10, PO15	Bronze	cw
23-32	12" x 17"	V45, V65, V70, P50, P65, P70	Bronze	cw
23-28	12" x 15"	V45, V65, V70, P50, P65, P70, P75	Bronze	cw
23-38	12" x 13"	V45, P50	Bronze	cw
23-126	12" x 10"	P50, P65, P70, P80, P75, PO37, PO38, PO39, PO10, PO15	Bronze	cw
23-29	10 3/8" x 18"	PR50, PR55, VR45, VR50, VR55	Bronze	cw
23-30	10 3/8" x 19"	PR50, PR55, VR45, VR50, VR55	Bronze	cw

Adventure With A Big Four

by Ray Rydell

I thought our members might be interested in hearing about something that happened to me last summer just off Catalina Island.

It was a few days after the Fourth of July, in the late morning. I went down to my boat to make a short run before lunch. As usual, I was running my Big Four on a Dell Quay Dory 13. This Big Four is an 8008 Storm Boat motor, stock except for a shortened drive shaft and tube, a Speeditwin lower unit, and an Oakland-Johnson two-blade 9 3/4" x 13 1/2" propeller. The boat is a British-built Boston Whaler-type which planes well and is stable in rough water, of which we have plenty.

The Big Four started on the first pull, and I idled out of Avalon Harbor at 5 knots, the legal limit. When I reached the end of the mole, I opened the throttle about one-third and made a half-mile circle to blow out the cylinders and set the needle valve right on. Then I opened the carb intake all the way and drove across the outer harbor at about 30 knots.

All went well for a couple of seconds, until I felt the boat begin to turn slightly to port. Something was wrong; so I quickly closed the throttle and looked back at the motor.

It was gone.

Everything was quiet. All I saw was the end of a splash as it dove into the water, and looking over the side I saw it for a second as it pulled loose from the throttle control wire and disappeared into deep water.

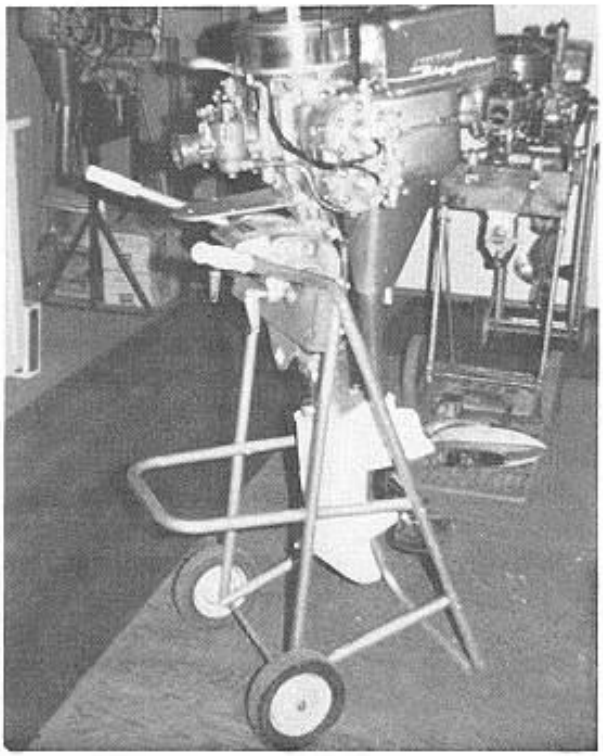
I wasn't hurt, luckily, but I certainly was embarrassed. I had to stand up in the boat and wave for help. A friend of mine in a skiff powered by a new Mercury (ugh!) towed me in to the pier. He was sympathetic and didn't laugh.

I had only myself to blame for the accident. The Big Four had been cinched down on the transom, with a safety chain attached to it. But apparently all that torque at 5000 rpm twisted it right off the fibreglass, which I should have expected would happen eventually. As it moved off, the motor opened two links in the steel safety chain and tore loose from the steering cable. The spinning prop caught one corner of the transom and cut it off clean.

I thought the motor was gone forever. But I was doubly lucky. From different locations on the pier, the Harbormaster and the rental boat agent had been watching me (I'll never live it down) and saw the Big Four go in. They marked the spot in their minds and by triangulation got a "fix" on the Big Four's location. I went back out on our rescue boat with our lifeguard, Lt. Matt Hamilton, and our commercial diver, Gary Williamson. At the likely spot, Gary went over the side with full scuba gear and found the Big Four in five minutes, in 105 feet of water, according to his depth meter. He secured a deflated nylon bag to it, inflated the bag from his air tank, and the Big Four shot to the surface.

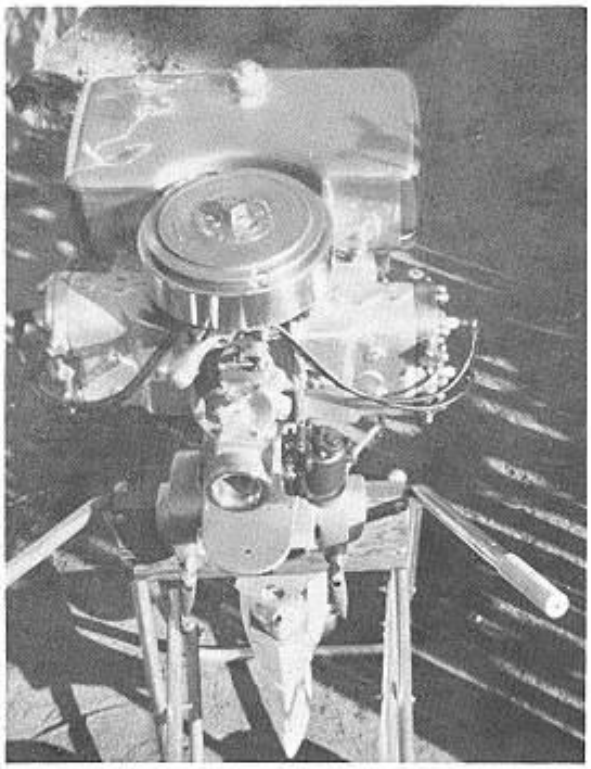
I took the motor home and disassembled it at once, except for the powerhead, which I "pickled" in my test drum of water until we could take it apart next day. The gas tank was concave on all sides from the 105 foot pressure. Otherwise, there was no real damage except for the bottom silt that was all over and in everything.

The Big Four after it was recovered and overhauled. The white paint on the lower unit is Z-Spar Brolite, a boat bottom paint with a heavy tin content which resists electrolysis.



Ray Rydell driving the boat and Big Four near where the motor "went in." Note the modern steering system.

Ray's rig at the end of the season. Note the growth on the bottom after four months.



The Big Four now, with the Winfield carb.

Within the next week, I went down to San Diego to see my motor wizard friend, John Toprahanian, who straightened the tank and overhauled the magneto. Back home, I had the cylinders honed, and the Big Four was better than ever.

This time, I installed a guard plate on the inside of the transom and put in a big lag screw to hold the motor bracket rigidly. I also worked out a locking arrangement for the clamp screws. Finally, I installed the biggest positive steering system I could find.

I think I'll need these safeguards, because next season the Big Four will be running with a Toprahanian Winfield carburetor that ought to pull another 500 rpm out of it. I'll let you know how that turns out.

Johnson "Big Twin" special interest group

by Hank Techentin

Here's an interesting acquisition story dealing with a PR-40. The author is Eric Gunderson, alias V. P. Technical Services, AOMCI.

"Bill Salisbury and I were out on one of our motor hunting forays in the San Joaquin Valley of California. This area is noted for its fresh-water waterways and an abundance of pre-war outboards -- a logical place to hunt outboards. Bill and I checked the phone book in each small town, and proceeded immediately to anything that might suggest 'old outboard.'

"One stop was an old outboard shop that had an old motor lying out in the weeds in back. Bill and I looked at it, and for $25.00 it was really not worth consideration. It was all there, but the tank was dented, no decal, and it was very rusty. We thanked the owner and traveled on.

"That PR-40 bugged me for some months, and finally I was resolved to have it. After all, it was the first racing Johnson, and $25.00 wasn't much then.

"Once home, the PR-40 didn't look so good. The crankshaft was scored beyond repair, and one cylinder was cracked from frost and water in the water jacket.

"About that time, I got my first V-45 and PO, so attention immediately focused on them, and the PR-40 went to the rafters. In correspondence on other matters, I eventually found a new PR-40 crankshaft, two lower units, four cylinders, and one of the latest PR-40 cranks with the P-50 rods. New bushings were made for the old rods, the tank was straightened, parts were plated, and finally the PR-40 was ready to run again.

"Perhaps the PR-40 isn't the fastest, but it was a fast engine when 30 mph was fast."

Well, that's it for this month. Next issue we will go over the vital part of the group -- the members. Until the next issue, keep your plugs dry and your knuckles taped!

Ralph Evinrude (driving) and N. L. Telander in a 1928 Quad-powered Thompson. (October 1928)

Should I Restore It?

by Bill Horst

The Evinrude Model A single; the Elto Ruddertwin; the Johnson Lightwins, Model A through A-25, with the plunger-type water pump; the A-35 with the pressure-vacuum cooling; the alternate-firing 4.1 and 9.2 Johnsons that started with the A and K-50 of 1930; a vast number of 2 1/2 to 5 1/2 hp Evinrude, Elto, and Sea King opposed twins; the smaller Neptune and Champion models; the Evinrude Lightfour and Zephyr; and a bunch of small singles from all of the above makers all have several things in common. First, they were all produced in large numbers over a period of many years. Secondly, they were well built and well engineered. And lastly, they remain in quantity today. Hardly an issue of the Newsletter goes by without one model or another of the above types being listed for sale.

When I started to collect old motors, I felt that each old hulk I found was unique and just HAD to be restored. Since then, I have come to realize that these types listed (and others that I don't know about) are so plentiful that a specimen in very bad shape, or one with major parts broken or missing, should be regarded as a parts motor. You will probably save time and money by waiting for a better one to be found. My own personal opinion here is that these types are not worth restoring if they need more than routine cosmetic and tune-up work. The exception is, of course, the very oldest models of the above types.

If you are thinking of restoring an old motor that has a bad power head, give some thought to obtaining a used unit rather than repairing the bad one. Here's why. Webb tells us in Chapter 7 of his History, and more recently in the January 1975 Outboarder, that the state of the art in the old days was such that parts could not be measured or machined as finely as they are now. Power heads, for instance, were assembled and run in on the bench with external power for about two hours, during which time a lapping compound such as jewelers rouge and oil were applied. After disassembly, they were washed and put together as complete motors and run under their own power for another two hours. This got them to the point where they could be sold. Most gas engines of any kind in those days required a considerable "break in" period. Cars required from 500 to 1,000 miles of driving at a reduced speed before it was safe to run them fast. I assume that outboards had similar restrictions when new. This lapping and break-in process was not just the rings-to-cylinder fit, it was piston- and ring-to-the-cylinder and, to a lesser degree, the bearing-to-the-rod-and-shaft fit. This means that, given a batch of pistons and cylinders that were supposed to be the same size, most would vary, by today's standards, in both size and roundness. You cannot assume that a piston from one motor will fit a cylinder from another, "identical" motor. There are two lessons here. One, if you take a motor apart, mark the parts so that they can be put back as they were. This includes not only pistons and cylinders, but rod caps as well. Secondly, if you have a bad piston or cylinder, always replace the assembly, not just the afflicted part. (I speak from bitter experience, believe me.)

Keeping the Record Straight

by George T. Hanson, Jr.

When I accidentally became a collector of old outboard engines early in 1970, I really had no idea what I was getting into nor, as it developed, how to get out of it before the virus became incurable.

All of my problems started when a clean-cut young man wanted to trade his bright orange A-80 Johnson for a 5 hp Golden Jet outboard which I had been using as a trolling engine on my infrequent fishing trips. At that time, an A-80 Johnson meant nothing to me except it was obviously an old engine and probably the only orange Johnson in Utah Territory. My resistance really wilted when I spotted the translucent red ignition wires. This had to be a real find, so I made a tough deal: my Golden Jet, a 2 1/2 gallon remote gas tank, and a canoe paddle.

Word soon spread throughout the Territory that there was a "live one" in Salt Lake City who would buy your old outboard engine on the spot regardless of age, make, or color. Before you could say "Ole Evinrude and the Johnson Brothers" my garage and shop were filled with a motley group of strays, castoffs, orphans, and, occasionally, a first-class engine.

At some point, weeks later, sanity returned and a trading moratorium was declared pending a determination of "what in h--- am I going to do now!"

After receiving an ultimatum from my wife to either clean up or clear out, I began the task of sorting the good from the bad, the aged and infirm from the young and healthy. During this process, one of the engines caught my eye and I decided to rebuild it just to see if I could. Before long it was finished and was pleasing to the eye . . . b-u-t, would it run? Only way to find out was to take it to my favorite lakeshore resort and put it to the test.

Would you believe it started on the fourth pull!! Well, it didn't. One or two hours later everything finally fell into place and it started. After a few adjustments it was time to leave the security of the dock and head out into the lake.

One hour later the little darlin' hadn't missed a beat and "Old Dad" had just contracted the virus. The symptoms of this dread malady are familiar to all of you . . . expanded chest . . . a silly grin . . . swaggering walk . . . webbed feet. I couldn't wait to get home and start on some of the other engines.

Before long, some real problems developed. First one engine and then another ran into delays due to a lack of parts or a lack of reliable information. Because of the time required to find parts, obtain information, etc., I soon had a sizeable number of engines in various stages of restoration. When I went back to one of them, I would find that my memory was a bit hazy on what had been done and what remained to be done before the restorative effort was complete. The answer was a complete record of each engine from the time of acquisition until its completion.

A number of forms were developed, tested, and then either discarded or enlarged upon. The record form which is shown here seems to adequately cover the items which I felt were important. In the event any of these form sections require clarification, let's go over them together and determine what they were intended to accomplish.

HEADING	This line should contain the make of your engine and the model designation, i.e., "Elto Ruddertwin."
STATISTICAL	The specifications of the engine and its appendages are placed in this section under the appropriate headings. To fully complete this section will require a great deal of research, but it is not only well worth the effort, it is essential if you expect to be able to complete an accurate restoration of the engine and, of equal importance, to be able to use it.
HISTORY	The heading for this section may not be entirely accurate, since it is not a history of the development of the engine, but rather an accounting of how you acquired it: the price you paid, together with any other interesting facts with which to regale your children or grandchildren on a long wintry evening. If you made an especially good deal on your engine, or if there is an interesting story connected with the purchase, attach an additional page in your looseleaf so that the entire transaction may be set forth in detail. In later years these memories will be treasured.
STARTING PROCEDURE	Once you have struggled through hours of trying to start a balky engine, the wisdom of putting down all of the right answers once you have started the engine is beyond question. You will save a lot of pulling and cussing later on if you have noted the proper carburetor settings, spark advance, any tendency to flood and/or any other idiosyncrasies of the engine.
SERVICE RECORD	An engine is no better than the service it is given . . . take care of your engine and it will take care of you . . . these cliches are true, my friend, and you will save a lot of rowing by keeping an accurate service record of each engine.
HOURS USED	Whenever possible, I take six or seven engines with me on trips to our nearby lakes and spend as much time as possible on the water fishing or cruising. Although a history of hours used might be of greater benefit if you had a new engine which you later wanted to sell, the number of hours used on your old "clanger" will complete the record as of the date you restored it to its second life. You may also want to record in this section other noteworthy events such as where and when the fish were biting or the exact location of those tools you dropped in the water while you were fooling around with your engine.
MISCELLANEOUS	Use this section as an overflow for any other sections which are filled. You might also note the condition of the engine on the date you acquired it, together with the date you completed major restoration. Another idea, which occurred as this article was being written, would be to include a present-day value of each engine. This information would be of help to your family in case something happens to you.

YEAR	ORIG. PRICE
MODEL	SERIAL #
NO. CYL.	HORSEPOWER
B & S	DISPL.
PROP.	SHEAR PIN
PLUG	POINT GAP
WEIGHT	FUEL CAP.

HISTORY

DATE ACQUIRED: PRICE:

REMARKS:

STARTING PROCEDURE

SERVICE RECORD

COMPRESSION TEST: Left ....

Right ....

PLUGS:

MAGNETO:

LOWER UNIT:

George T. Hansen, Jr., 2058 Pheasant Way, Salt Lake City, Utah 84121

HOURS USED

DATE	PLACE	HOURS

MISCELLANEOUS

CURRENT APPRAISED VALUE $_____

PHOTOS

PHOTOGRAPHS

Since it is impossible to take your entire collection of engines with you on your visits or trading trips, the next best things are color photographs of each engine showing a front and side view. The space provided in the form is sufficiently large for two enlargements of 35 mm color film. Follow the suggestions provided in earlier issues of The Antique Outboarder to properly photograph your engine.

If you are a fine penman or a good printer, you may want to keep the final copies of these record sheets in your own handwriting. My personal preference is my portable typewriter, since, after reading the record sheets, no one would wonder if I ever made it through the fourth grade. As you work on each engine, place the information on a scratch pad. Later on, these notations can be typed on the permanent sheet.

A sturdy 6" x 9 1/2" looseleaf binder will be the home for your record sheets. As you enter these sheets, a set of index sheets should be prepared so that your engines may be categorized by make. In this respect, I would strongly urge the use of a pistol-grip type plastic tape imprinter. One that uses 3/8" tape works out well.

For any member who thinks I have one of the best ideas since high buttoned shoes, I would be happy to send an extra sheet upon receipt of a stamped envelope. I would be happy to autograph each of these sheets free of charge . . . of course you understand that if this article is printed, my charge for autographs will be $1.98 (an especially low rate) payable to the AOMCI. Your favorite printer, by blocking out my name in the right margin, can make a plate and print all of the copies you may need.

If you have any comments, improvements, or questions on these forms, I'd like to hear from you. The Pony Express is running on schedule and the Indians have been rather quiet lately.

The Perils of Ted and Dave

(With Apologies to Pauline)

by Dave Reinhartsen with Dave Porter

Just mention the possibility of finding an old outboard or piles of outboard parts to any really dedicated Antique Outboarder and he salivates freely, gets a glazed look in his eye, and has visions of unearthing the outboard that powered the ark!

Ted Bieber and I are certainly no exceptions. In fact, we may be the prime candidates for the "Eager Beaver There's One Born Every Minute and Hard Luck Outboard Searcher of the Year" award.

We had "reliable" information on the location of "two buses piled from floorboard to roof" with antique outboards -- Cailles, Lockwoods, Eltos and XR and VR Johnsons -- parts, some racing stuff, boat plans, and a host of other goodies. The prices, according to our source, were certainly right -- a VR-45 that had "never had a wrench on it" for a measly 45 bucks (a real steal), and boat plans for free (such a deal.)

Not wanting to miss out on the "find of the year," Ted, along with his son, Chris, drove up to Dallas from Houston (250 miles). We decided to continue the trip in my car, since it had a trailer hitch (we'd certainly need a trailer to bring home the loot). Besides, I had been doing my own maintenance for the past several years and the car was in tip-top shape. So after dinner the three of us headed north for our destination some 600 miles away. (If a 1200-mile round trip on a weekend seems like a long way to go in search of old outboards, then you really haven't been bitten by the bug. And Ted's even crazier than I, since he traveled another 500 miles).

Somewhere in Oklahoma it started raining and turned colder. No sweat, just turn on the heater. I flipped the heater switch -- nothing but cold air. A quick off-and-on flip still gave nothing but cold air. So the remaining 400 miles were driven in a breezy convertible with no heat, its occupants wrapped in blankets, in 26-degree weather.

The most welcome sight we'd seen all night -- a 24-hour truck stop -- loomed just south of our destination. After consuming a HOT breakfast and gallons of HOT coffee, we finally thawed out enough to travel the remaining 25 miles into town where we were to meet our contact. (If that has the ring of intrigue, it's meant to. It was our understanding that the location of this outboard treasure cache was a bigger secret than the D-Day invasion plans).

We still had a couple of hours before the "meet," so we found the local Plymouth dealer, bought a heater water control valve, and changed it ourselves in his parking lot. (At least we would be warm going home). By that time it had warmed up to 28 degrees with a brisk 30-mph wind.

When our contact finally showed (we should have been suspicious when he was two hours late), he seemed in no hurry to take us to the parts, but spent what seemed like hours filling us with tales of the motors he had and the parts he had thrown away. He also let it be known that there were also two sheds full of parts, in addition to the buses. Anxious to get our hands on this great treasure, we suggested that we get going. Only then were we informed that there was a partner, who, in addition to being half owner, had the only keys to the sheds. We would have to wait for him.

The partner (who later turned out to the the 100 per cent owner) finally showed up and we headed for the farm. By this time it was past noon.

The first shed was full of junk -- a few lower units, a castor-oil-encrusted '31 Speeditwin, and a 6039 Speeditwin -- nothing unusual or desirable. The first bus had more junk in it -- a few props, a Martin 200 (disassembled, rusty, and with missing parts) with a price tag of 40 bucks.

Deep down we felt that the "good stuff" must be in the other bus or shed. They're saving the best for last, we thought. Oh, boy, were we wrong. The second bus didn't have anything in it; it was used for a chicken coop. The second shed held some scattered, rusty, cracked, dented parts. The "A-1, perfect condition, never-had-a-wrench-on-it" VR-45 was lying behind the shed. This magnificent piece of hardware, which turned out to be a V-50, had had a wrench on it, at least long enough to remove the tank and magneto, was rusty, and was minus a cover. The motor was frozen, but the 45-dollar price we had been quoted had all of a sudden risen to $60.

Not wanting to go home empty handed, we bought 20 bucks' worth of miscellaneous parts and headed back to Dallas.

Thirty minutes into the trip it started snowing. Weather forecasts indicated that we were following a blizzard. The Interstate was snow packed and the turnpike was being pelted with frozen rain. Top speed possible was 35 mph, and slower in spots.

Midway through Oklahoma the highwny was clear and we started making up for lost time. Leaving the driving to Ted, I curled up for some much-needed sleep. Around midnight he shook me awake. We were into the blizzard again and the blowing snow, illuminated by oncoming headlights, was making him sleepy. Little did we know that the area would be covered in five inches of snow by morning -- the second biggest snowfall in Dallas since 1932.

I had been behind the wheel for almost an hour when suddenly the alternator stopped charging. The headlights grew dim, the windshield wipers slowed, and the falling snow blurred my vision. We ended up in a ditch.

After a quarter-mile hike to an all-night restaurant, we called a tow truck, and home. Fifteen dollars and two hours later, we were on our way again. We finally arrived home at 3:30 a.m.

Completely exhausted, we were all looking forward to several hours of sack time. Not so. Ted had to return to Houston by early afternoon for some routine medical tests. I could have saved him the money. After practically getting skunked on outboards and/or parts, and after having a perfectly-maintained car suffer the pangs of outrageous breakdowns, there could be only one diagnosis: nervous exhaustion complicated by a severe case of outboardtosis.

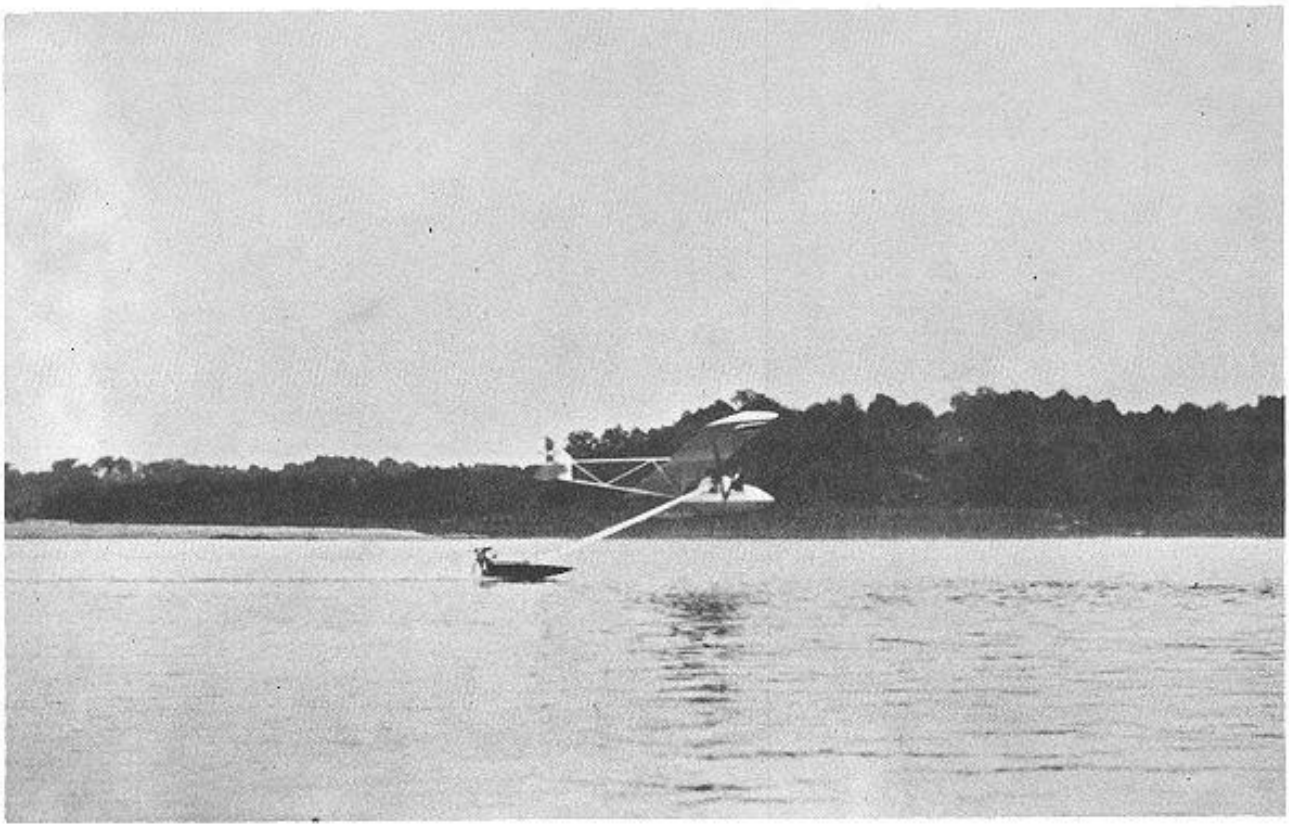
The story you have just read is true. Even the names weren't changed to protect the guilty. People who will do anything or go anywhere with only a glimmering hope of finding an old hunk of metal that was once the pride of a lake don't need protection, they need sympathy. We don't expect any from the 453 other Antique Outboarders (after all, you believe). We didn't get any from our wives either (they know we're crazy). And we sure didn't get any from ourselves, because we know that when the next piece of "reliable" information on the location of old outboards and parts comes along, we'll be on our way again.

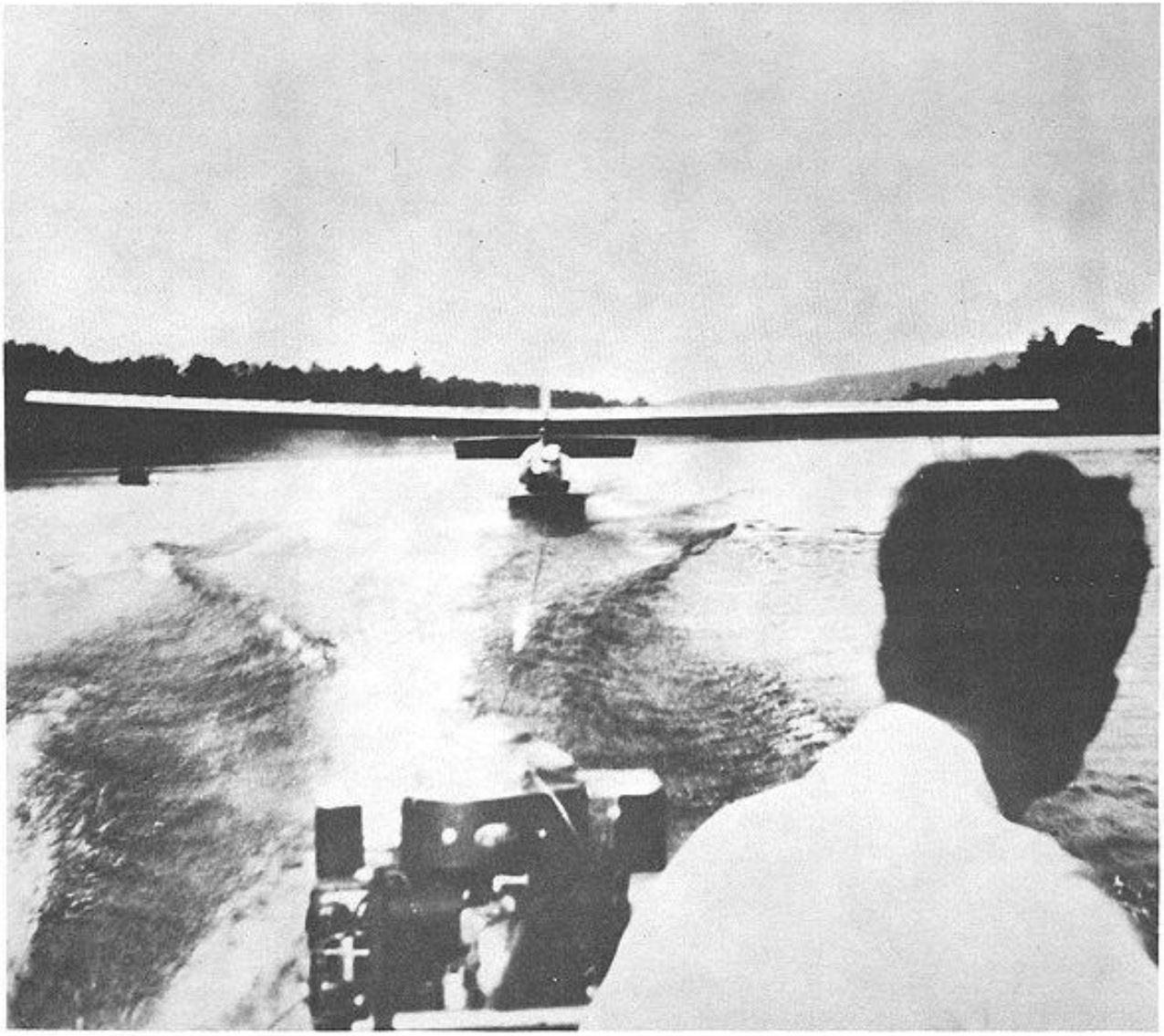
A 1930 Idea That Would Make Sense Today

by W. J. Webb

'Way back in 1930, a nice young man from Clinton, Iowa by the name of Collins (sorry, I have forgotten his first name) sent us three pictures showing how he had rigged a 1930 Electric Starting Elto Quad as motive power for two airplane trainers. In those days, flying any kind of plane was a chancy business, and learning to fly was even riskier. So Mr. Collins figured out what I still think was a really good, safe, and clever trainer plane application.

The photo on the back cover of this magazine shows the Quad mounted on a small planing-type hull with pusher members extending to a small trainer sea plane. The photo below shows the sea plane actually flying, being pushed at flying speed by the Quad. In this application, the pilot sat in the sea plane and started and controlled the boat from the plane. There was no one in the boat.





The above photo shows the same boat towing a sail plane-type glider. The Quad was able to develop in excess of 25 miles per hour, which was able to make either craft airborne.

Attempts were made to interest the Government in these applications as really safe life-saving pilot training devices, but the whole project got bogged down in typical bureaucratic procedures, and nothing came of this really good idea.

As I recall it, Mr. Collins told us that both gliders and sea planes were intentionally crashed without injury to either pilot or craft, since the crashes were taken in the water.

Magneto Tips

by Bill Horst

When confronted with a mag that has no spark or a weak spark, NEVER assume that the coil is dead or weak or damp. Only rarely have I found a coil that was undeniably dead. I do not believe that a coil becomes weak; and since a coil is designed to function with a foot or so of the water, I doubt if moisture from the air will be a factor. This applies to motors up to about 10 hp; larger motors may have coil problems that are unique to the greater heat and vibration of a big motor.

If there is no spark at all, check the points out first. Remove the flywheel. If the moving point works off the crankshaft, they can be checked and set with the flywheel off. If the point works off the inner hub of the 'wheel, the 'wheel has to be installed to set the points. An inspection plate is provided for this (usually it is under the rope sheave). Clean the points with fine sandpaper, making sure that they make and break. The fixed point is usually insulated. If the insulation looks OK and the points line up with each other, they are probably all right. If you have a continuity tester, remove the coil and cond wires from the fixed point to test the points. If you have a feeler gage and you know the proper setting for the points and plugs, set them by the book. If this is not the case, set both at about one sixteenth of an inch, or about the thickness of a dime. On some mags where the points operate off the crank, the point is moved by a separate pin between the point and the crank. Don't lose it.

If the spark appears weak, or if the motor is hard to start some of the time or most of the time and the motor runs great when it does start, replace the condenser. Use an auto condenser, chosen to fit the space. Don't worry about the capacity of the new condenser; a new auto condenser is much more suitable than a 40-year-old new-old-stock condenser, and probably cheaper.

Plug wires that have a few cracks in them can be taped with plastic electrical tape. If the insulation is in very bad shape, they have to be replaced. Be sure the new ones are not the carbon type used in most autos; specify wire-type plug wires. If the wires are soldered to the coil, use a small iron and as little heat as possible.

Early Elto battery-fired coils had the condenser buried inside the coil in a sea of wax. These coils put out a very hot spark. If yours is weak, wire a new condenser into the circuit wherever it will fit. Ignore the old condenser.

If you know the type of plug recommended and plugs are available, by all means use them. If this is not the case, ask for a medium heat range plug that will fit the hole. Choose a plug that does not extend too far into the cylinder where it might be hit by the piston. If you are not sure about this, install the plug and turn the motor over slowly. If it does not bind, you are OK.

I cannot emphasize too much how important having a good condenser is to the mag, especially in opposed-type motors. The function of the condenser is to absorb and hold the current generated when the magnets pass the coil core or shoe. This occurs over several degrees of flywheel travel, and, as I understand it, speed enters into it, with less voltage being generated at cranking speed than when the motor is running. In an opposed motor, what appears to be a coil is really two coils sharing the same case. Since both cylinders fire at the same time, one set of points and one condenser have to provide for two plugs. I think that what is often regarded as a weak coil is most often a borderline condenser that will not accept a full charge at cranking speed. The above also includes opposed fours where both cylinders in one bank, upper or lower, fire at the same time, the other bank 180 degrees later.

Motor Registration (MR) Rarity Determination

by Don Peterson

In the last few years we have had a breakthrough in finding very rare engines which we previously thought were non-existent. We have found that what we thought were very rare turned up with amazing frequency.

Now many of us wonder what really is a "rare" engine. How rare? To help sort out this matter, I have taken the MR files, Club publications, letters, etc., in an effort to determine a general formula of rarity. It is not perfect, I know; but in time, and with the Club members' help, it could work quite well.

Here is my system of classification for members' consideration:

0	No engines known to exist (when a motor is found, it drops automatically to the classification below)	
A	Extremely Rare	Only 1 motor known in existence
B	Very Rare	2 to 3 motors known in existence
C	Rare	4 to 6 motors known in existence
D	Semi-Rare	7 to 10 motors known in existence
E	Unusual	11 to 15 motors known in existence
F	Collectable	16 to 20 motors known in existence

No doubt many of you wonder why some engines are rated so rare while others are not. I think we all tend to think that the most coveted engines are the rarest. This isn't always the case. On the other hand, there are engines listed which should probably drop quickly in rarity when I receive your MR forms.

If you want this service from MR, please register all the engines mentioned in the rarity lists. In the case of Kobans, a photo will give me enough to determine the year. If you have an engine that you cannot identify, please forward a photo to MR or to Dick Hawie, our Curator.

And don't worry that your favorite '28 Quad isn't rare. It's still a very, very hard-to-find item, and I'd rather have one than many of the rarest engines.

NOTE: If this plan works out, I'll make out a yearly classification report, and will plan to feature an annual trophy for the motor find of the year with the highest rarity classification. Members' comments are needed.

0 CLASSIFICATION

Admiral 1914-16
American 1896
Anderson 1914-18
Arrow 1914-24
Ashbrook 1918
Blakely 1914-18
Brooks 1914-16
Burroughs 1916-18
Burtray 1907-09
Campbell 1914-18
Clark Twin 1939
Columbian 1915-18
Continental 1926-32
Cross Racer 1930-32
Detroiter 1940-42
Durkee 1930
Emmons 1913-16
Evansville 1933-46
Gilmore 1920-21
Hav-A-Ride 1933
Henninger 1918
Hi-Speed 1914-16
Jewell 1913-18
Jules 1932-33
Karboater 1926
National 1916-18
Niagra 1918
Nymph 1914-16
Palmer 1921-22
Power-Pak 1945-46
Sterlinger 1914-16
Touromarine 1937-38
Wright 1914-17

A CLASSIFICATION

Amphion 1915-19 Typeset
Amphion 1926-39 Typeset
Gierholt 1920-22
Grimes 1933
Motorow 1913-18
Northwestern 1912-18
Racine 1913-18
Riley 1954-56
Joymotor 1913-16
Silver Streak 1931
Submerged 1901-09
Thor 1938-39 Pyramid 3
Wilcox McKim 1914-16

0 CLASSIFICATION
For Popular Brand Motors

1930 Speeditwin Racer, dual carb, Model ?

1930 Elto High Speed Quads, Models 335, 344 (50C1)

1930 Elto High Speed Quads, Models 336 (60C1)

1932-33 OMC 4-60, dual ignition, Models 827, 829

1931-32 Elto Big Quads, Models 806, 807, 810, 811, 820, 821, 822, 823, 824, 825

1931-32 Evinrude Big Fours, Models 808, 814, 815, 816, 817, 818, 819

A CLASSIFICATION
For Popular Brand Motors

1929 Elto Quad Racer

1930-33 Speeditwin Racers, Models 177, 179

1930 OMC Speedibee Racer, Model 176

1930 OMC 4-60, Model 178

1933 OMC 4-60, Models 826, 828

1931 Elto Big Quad, Models 800, 801

1931 Elto Special Speedster, Model 905

1931 Evinrude Big Four, Models 802, 803

1934-41 Speediquad, Speedifour Electric Start Models

1927 Champion

1929 Caille Admiral, Model 42

B CLASSIFICATION

Aero Thrust
Caille Model 40 Racer
Cross Seagull
Caille Model 50 Racer
Evinrude Model "T" 1927 Speeditwin
Caille Model 35 Racer
Federal
Gray Gearless
Lockwood 92 BR Racer
Mercury KF9
Spinaway
Walnut
Johnson 1929 VR-45
Johnson 1931 VR-55
Evinrude 1916 Big Twin (4 cycle), Models AA, EE
Evinrude 1938 Model 6038 Racer
Champion 1935 Model A
Champion 1936 Model B
Elto 1930 Quad Models 314-315
Elto 1931-33 Senior Quads, Models 700, 701, 702, 703, 721, 722, 723, 724, 725, 726, 732, 733, 734, 735

C CLASSIFICATION

Cross Radial
1931-33 Elto Junior Quad, Models 900, 901, 914, 915, 924, 925, 926, 927
1923-26 Evinrude Big Twin, Models L, LA, LAT
1928 Evinrude Speeditwin, Model U
1921-30 Gopher
1926-29 Hartford Sturditwin
1930 Lockwood Chief, Models 160, 163
1920-26 Koban
1931 Johnson XR
1931 Johnson VE-50
1931-33 Johnson KR series
1931 Johnson OA-55
1931 Johnson OA-60
1951 Mercury KG-9
1930 Neptune OB2A
1931 Neptune OB4A
1940 Mercury K1
1940 Mercury K2

D CLASSIFICATION

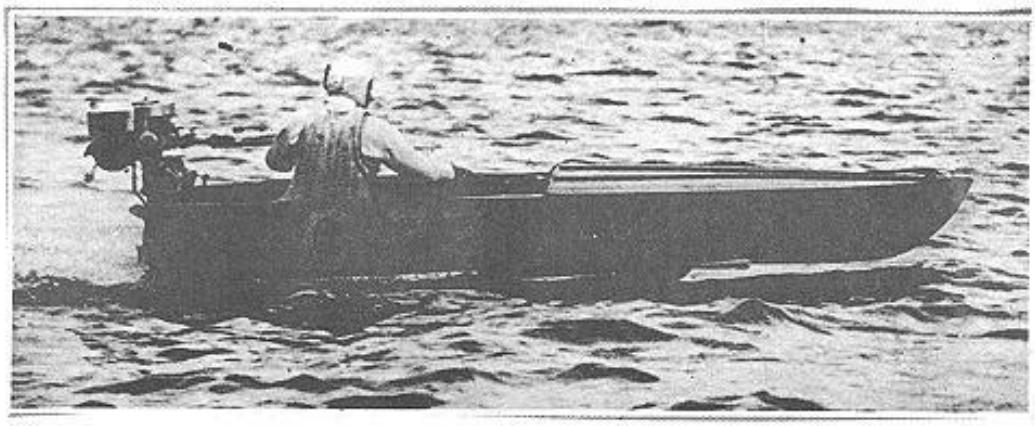
1929 Caille Commodore, Model 32
1926 Lockwood, Model 62
1930-41 Neptune Master Twin, Models OB15A, OB15B, OB16A, OB17A, 16A38, 16B38, 16A39, 16B39, 10A16, 10B16, 13A12
Wisconsins
1905-12 Waterman Vertical Cylinder Typeset
1914-26 Lockwood Ash Single, without rudder
1922-26 Lockwood Ash Single, with rudder
1927 Lockwood 72T Twin
1928 Lockwood Ace, Model 82A
1929 Lockwood Ace, Model 92A
1929 Lockwood Chief, Model 92B
1928 Lockwood Chief, Models 82B, 82BS
1930-35 Caille C, utility models
1929 Elto High Speed Speedster, Models 302, 333
1928 Johnson PR-40
1930 Johnson VR-50
1926 Johnson P-30
1931 Johnson OK-55
1930 Johnson OK-60
1932 Elto Super A

E CLASSIFICATION

1930 Elto Senior Speedster, Models 310, 311, 312, 313
Ferro, all models
1930 Indian Silver Arrow
1928-29 Johnson TR-40
1913-15 Waterman Porto
1928 Elto Speedster, Model 355
1929 Elto Speedster, Models 300, 301
1929 Elto Quad, Models 305, 306
1940 Lauson
1937-38 Bendix TMD

F CLASSIFICATION

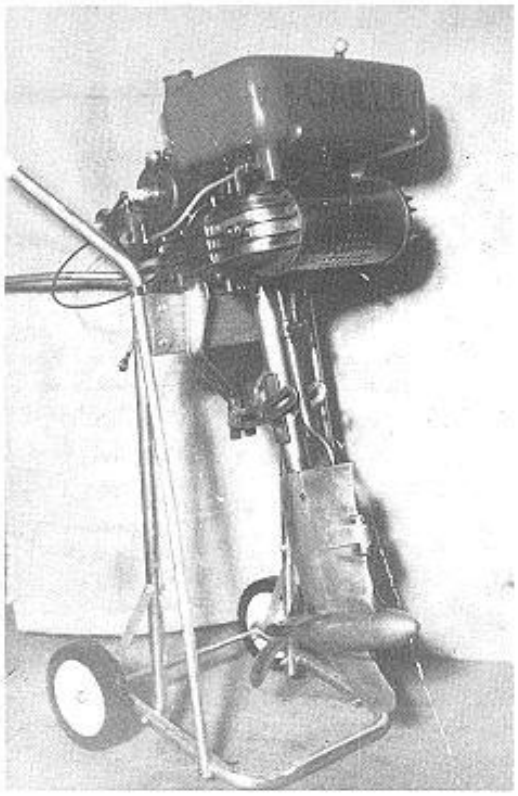
1929 Johnson SR series, Models SR-45, -50, -55, -60
1935-39 Thor Single
1935-39 Thor Twin
1930-32 Johnson V-50
1930-32 Johnson V-45
1934 Johnson V-70



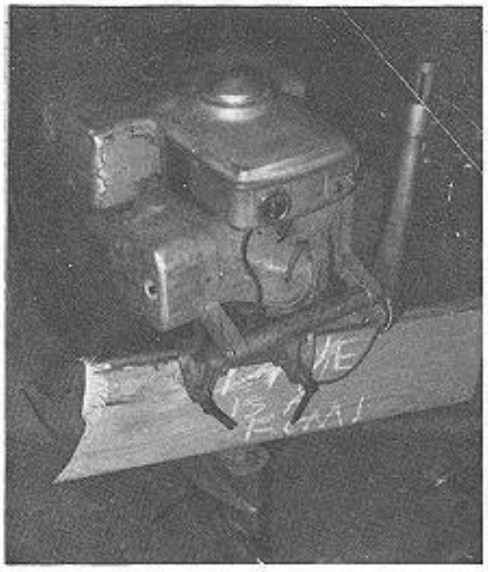
Julius, the American boat which Miss Hentschel drove to victory with a Lockwood Chief engine.

COLLECTOR'S GALLERY

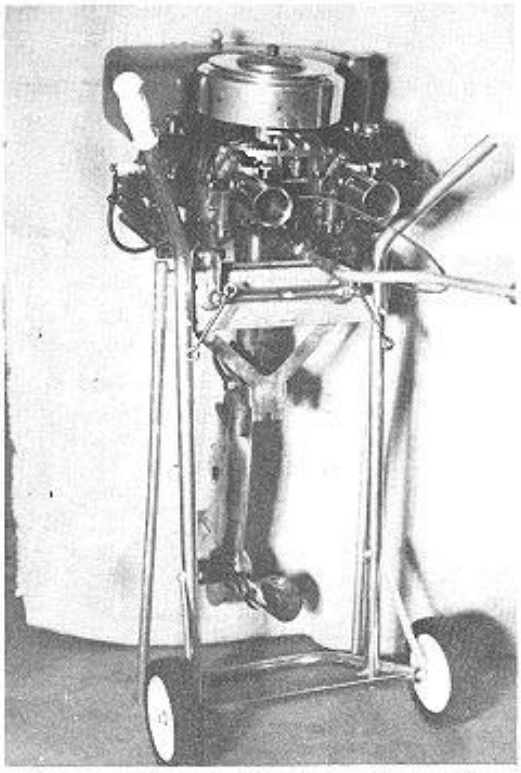
by Don Peterson

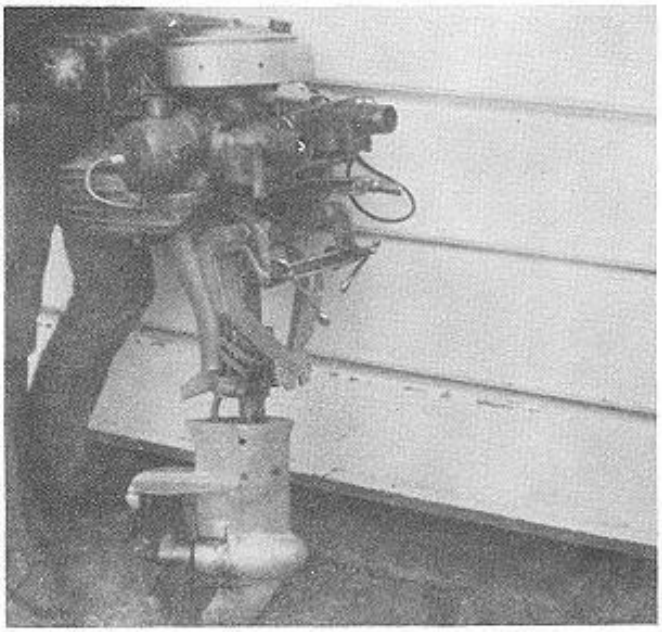


Caille "B" Racer - Sam Vance

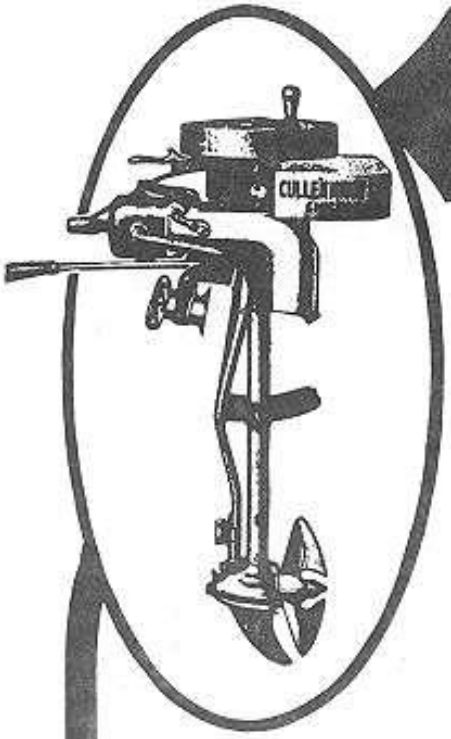


1939 Speedifour
Jim Murphy





1933 Caille Model 50
P. S. Brooke, Jr.



Unlimited Enjoyment at very little expense!

Here is a "Hunch with a punch" and only one solution.

Get a Columbian Motor with a get-there-come-back reputation, backed by five years of a good and better performance.

Our nineteen eighteen COLUMBIAN will be just a little more satisfactory than the nineteen seventeen.

Your nose tells you when the JUST RIGHT feeling is in the air, and you know where to find those fat worms you have been saving all Winter, "DIG IN" get some bait, look your fishing plunder over, put some gas in your

COLUMBIAN
Row Boat Motor

and make Bill wish that he had one.

Reliability with every throb

We specialize upon the one size, 2⅝ x 2½, two horse power at 900 R. P. M. The COLUMBIAN is built light without sacrificing strength.

An entirely new feature for 1918 is the aluminum piston, reducing the weight of the motor still further, yet making the piston stronger. The lighter piston also reduces the vibration while running.

Cylinder—Cast from close-grain gray iron—same as used in high class automobile engines. Cylinder is entirely surrounded by a water jacket and tested by hydraulic pressure.

Magneto—High tension, completely enclosed in fly-wheel. Absolutely waterproof, reversible.

Carburetor—Designed with the greatest care. Automatic generator type, small and simple.

Crank Shaft—Made of 35 to 40 point high-grade carbon steel, as used in the finest automobile crank shafts.

Crank Case—Made of phosphor bronze. Bearings cast integral, machined to fit Crank Shaft, and will not lose their compression for several years. When worn out can be replaced at small cost.

Propellor—Weedless type, manganese bronze; 9½ in. diameter, 13 in pitch.

Result—**THE COLUMBIAN ROW BOAT MOTOR.**

DEALERS—There are several interesting and "Get-the-money" territories still open in which we would be pleased to secure high-grade, "SELF-STARTER" dealer representation.

If you are in that class, we can offer you an opportunity to handle a motor which has given splendid satisfaction to thousands of users during the past five years.

Incidentally, the COLUMBIAN is backed by an unqualified guarantee with a national advertising campaign.

The motor has made good, we can, can you?

Costs Less
Weighs Less
Does More

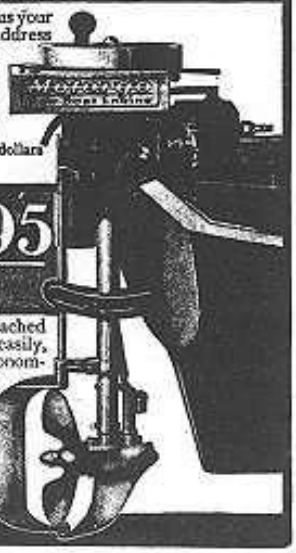
CULLEN MOTOR COMPANY

112 West Lake St. **CHICAGO**

Let Us Prove the Quality. Our PRICE Speaks for Itself.

MOTORGO Row Boat Engine

Send us your name and address on a post card for all facts about the Motorgo Row Boat Engine. Let us prove that it is equal in every way to row boat engines selling for many dollars more than our price.



$49.95

The Motorgo is quickly attached to any row boat—starts easily, runs steadily, smoothly, economically. All parts in water made of bronze. Steers with a rudder, has semi-weedless propeller.

Write now for **Motorgo Row Boat Engine Folder No. 7917F**

Sears, Roebuck and Co.
Chicago

Here, There, Anywhere!

"Anywhere that you can row With a Strelinger you can go!"

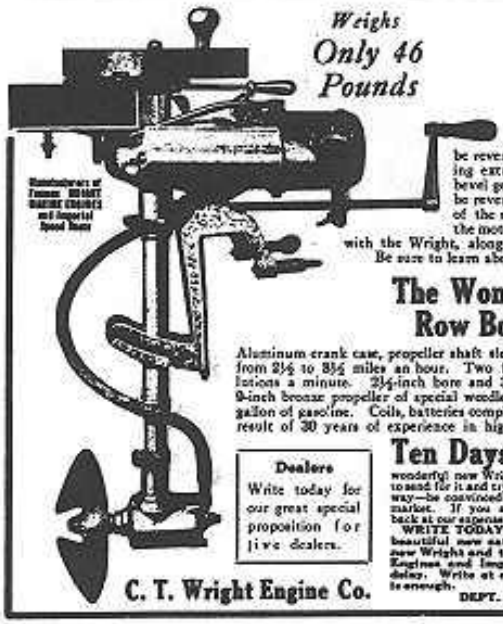
The Strelinger Portable Boat-Drive is a detachable motor for rowboats or canoes, mechanically superior to any other portable motor built. The price is reasonable, within the reach of everybody. Operating cost is very low, as it runs six hours on a gallon of gasoline. Has an adjustable propeller that can be raised or lowered at will. Propeller may be lifted out of the water to stop the boat without stopping the engine and in passing over weed beds can be raised to clear the weeds.

Very simple—a child can handle it
Carries a five year guarantee

Write NOW for illustrated descriptive circular—a postal will bring it

Strelinger Marine Motor Co.
19 St. Aubin
Detroit, Mich.

Weighs Only 46 Pounds



Reversible

Without Stopping the Motor

Write today and learn about the remarkable new Wright Attachable Row Boat Motor—the only motor of its type that can be reversed without stopping the engine. An advanced model, combining extreme power and lightness with simplicity of operation. New bevel gear reversing device reverses the propeller in two seconds. Can be reversed from full power ahead to full power astern with a twist of the steering handle. No retarding the spark—no danger of stopping the motor. This great new steering device is patented and exclusive with the Wright, along with many other new features.

Be sure to learn about this remarkable new motor at once. Write today sure.

The Wonderful New Row Boat Motor Wright

Aluminum crank case, propeller shaft sleeve, and bracket. Any speed from 2½ to 8½ miles an hour. Two full horse power at 675 revolutions a minute. 2½-inch bore and 3-inch stroke. Brass muffler. 9-inch bronze propeller of special weedless design. Runs all day on a gallon of gasoline. Coils, batteries complete—magneto if desired. The result of 30 years of experience in high class marine-engine building.

Dealers
Write today for our great special proposition for live dealers.

Ten Days Trial—To prove the absolute superiority of the wonderful new Wright row boat motor, we want you to send for it and try it out ten days—test it in every way—be convinced that it is the best motor on the market. If you are not satisfied that it is, send it back at our expense.

WRITE TODAY SURE and we will send you the beautiful new catalog describing the wonderful new Wright and the full line of Wright Marine Engines and Imperial Speed launches. Don't delay. Write at once. Your name and address is enough.

Showing propeller in reversed position

C. T. Wright Engine Co. DEPT. 6348 **GREENVILLE, MICH.**

Research and Development

R & D from the bench and desk of Herb Riebe

Submitted by Ron Ellis

Subject: Point tip replacement for points of large engines, like Sportfour, Speeditwin, etc.

Reason for R & D: After a few letters to a number of places in the U. S. looking for points for my Sportfours and getting no answers from anyone, I felt I had to come up with a way of making points or stop running the engines.

Equipment needed to do the job: Small hand tools, vise, and a torch which is able to produce a small high-temperature flame for silver soldering. I use an acetylene and oxygen aircraft-size torch with a 00 or 0 tip, which gives good temperature control for this size work.

Materials needed: Asbestos paper, .002 - .003 silver solder sheet, or granular silver solder in flux (Eutectic # 1618 granular silver solder is very good), silver solder flux (if silver solder sheet is used), and 400-600 grit Wet or Dry Abrasive Paper.

Operations:

(1) Mike diameter of old point tips.

(2) Find automotive points with tips of about the same size. Note: I find that Bosch points for 1200 cc VW engines of around 1965 models are just about the right size.

(3) Heat steel backing of automotive point just short of melting steel and pull off point tips. Note: Keep track of which tip came off of movable point and which one came from the stationary side. I find it best to use the tips in the same position on the outboard points.

(4) Place wet asbestos paper around outboard point parts with only point tips showing. Heat tip backing steel until old solder melts and tips can be removed.

(5) Sand and clean point backing steel of outboard parts.

(6) Sand and clean automotive tips on solder side.

(7) Place silver solder and flux on point back up steel and flux on new point tips. Note: Use wet asbestos paper again on parts like in Step 4. Use vise or clamp to hold back up steel parts in place.

(8) Heat back up parts and tip until solder melts. Note: Tips will move some when solder melts; use a steel nail or the like to hold or move the tips around.

(9) After the tips have cooled in air, polish or lightly sand them.

Operation number 9 should finish the job. I have found with my own small number of engines, this is all that is needed most of the time to put a set of points back in almost new condition. I have found on one set that new rubbing blocks and pivot bushings had to be made. These operations require the use of a lathe. I have had good luck using Navy brass for the bushings and nylon for rubbing blocks.

This method of replacing point tips may also work on low-hp engines, but it has been over 20 years since I worked on them, so the best I could say is that the owners of these engines would have to try a little R & D on them on their own.

This all may sound like a lot of bother for a thing as small as a set of points, but it sure beats the hell out of writing a bunch of letters and then waiting two months for an answer to them -- and the answers never come.

Oldest Outboard Motor?

. . . tri-state marine dealer Gene Hensel demonstrates workings to model Kathleen Benson

Motors, Ahoy!

Pre-1920 Marine Ones May Win New Model At Outdoor Show

Gene Hensel of Gieringer Marine in Miamitown, Ohio, believes he has the oldest working outboard motor in the tri-state. Any Enquirer reader who can beat that claim may win a new outboard motor at the 12th Annual Family Tri-State Outdoor Show March 9 at the U. C. Armory Field House.

The motor submitted by Gieringer Marine is of 1920 vintage and has one cylinder, develops two horsepower and was made by the old Evinrude Co. It is owned by Bill Horst, Covington antique motor buff.

Any motor entered in the contest must be in running condition and will be judged by Hensel, Horst and The Enquirer's Bob Rankin. No ties. The decision of the three judges will be final.(Marine dealers are not eligible for the contest.)

Anyone who wishes to enter the contest may make an appointment to bring the motor to The Enquirer's sports department for a photograph and to have the outboard checked over. Contact Rankin prior to March 1, if you wish to be eligible to win a new motor.

Horst is a member of the Antique Outboard Club, Inc., of Youngstown, Ohio. In order to becomea member you must have an outboard of pre-1950 vintage, Horst said.

Gieringer, local Evinrude dealer, has two other antique motors, a 1925 Elto, invented by Ollie Evinrude, and also a 1932 Evinrude, all in running condition, Hensel said. Entries do not have to be Evinrudes but any unit that will run.

Winner of the antique motor prize will be presented with his new motor during the March 9 show at the UC Fieldhouse. Only one prize will be awarded and that to the owner of the oldest motor of 1920 or earlier make.

submitted by Bill Horst

Loosen Those Stubborn Screws

by Chip Morris

With this article I hope to help one of my fellow outboard buffs with a problem that we all have come across some time in our hobby. Have you ever come across a "screwbolt" of some kind that it seemed you could never get out? Now we all know that most of the time it is necessary to remove these in order to do a proper restoration job. There are a number of ways to remove these heartbreakers.

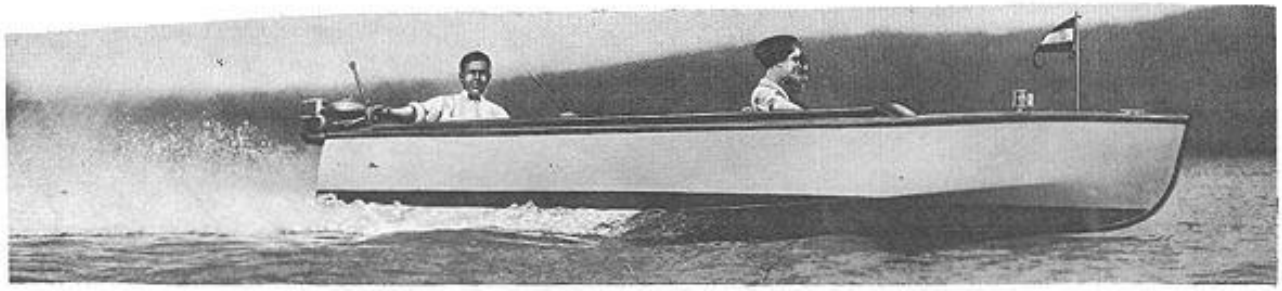
(1) Observe the screw, making sure it has a good groove in it. If not, hacksaw this groove a little deeper. After you've tried all your best screwdrivers and have had no luck in removing the screw, try this little winner. It will work very nicely if it is possible to take the screw out by normal means. Take the biggest, best, and the sharpest screwdriver you have and fit a good-sized wrench to it. Now place the 'driver in the groove with the wrench on top of it. Now, pressing down very hard (a vice may be helpful in holding the work), gradually turn the wrench, making sure that the 'driver doesn't come out of the groove and bugger the work. This way works better than any screwdriver, with the simple advantage of more leverage.

(2) Another form of the above is a special tool for about the same effectiveness, except that it doesn't have as much leverage. It's called a "twist driver," and is a special kind of screwdriver which has a weight on it that drops down on the 'driver and at the same time turns the 'driver in the screw. The weight is designed to keep the blade in the groove at the same time the screwdriver is trying to turn. It's a good method for this reason, except that it turns with so much force that if the 'driver isn't straight up and down it will bugger the screw badly. To sum it up, it's a hit-and-turn type of motion.

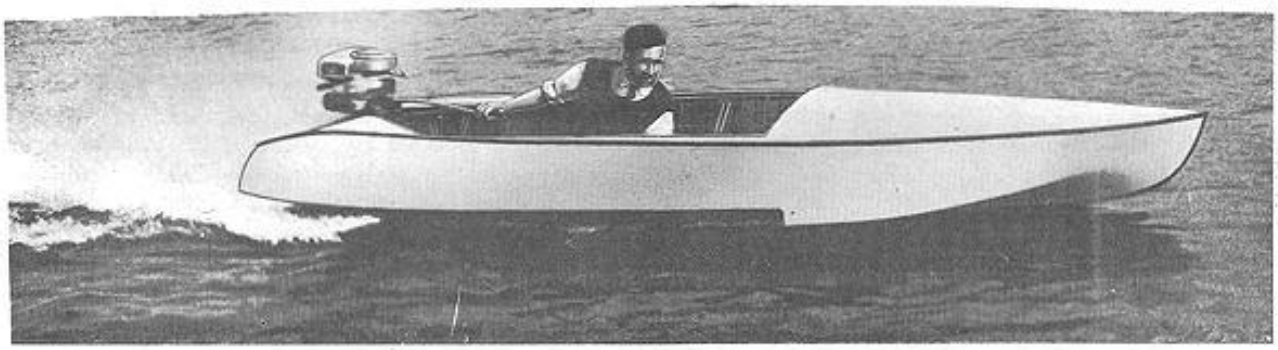
(3) This method works very well on parts with an aluminum stock and a steel screw. But don't attempt to use this method unless you're sure of the material in each part. Put the piece in a vice and heat the screw with a propane torch till hot, and then let cool. The heating process often helps loosen the screw, because the aluminum expands more than the steel screw and breaks up the corrosion or what-have-you. After you have heated it and let it cool, one of the above ways will get the screw out.

(4) Most of you have probably encountered one or two of these lower unit screws. You remember, those big screws that are usually battered up, and tightened so no screwdriver can possibly get them out in that ugly state. Most times it is possible to file the top and then hacksaw the groove deeper. Try to use this method if methods (1) and (2) fail on this type of screw. Take a small screwdriver and place on the edge of the screw and tap with a hammer, just as you would do to take a top off a jar by hitting it with a knife.

(5) Now, this is a last resort method, but also the most effective. Don't do this unless you have a replacement screw. Take an awl and a hammer and make a tiny dent in the top of the screw. Then drill down in the screw halfway with a very sharp drill, then gradually make the hole bigger until a medium-size screw extractor will go in the hole far enough to get a good grip. When this is done, tap the extractor a little to set the grip and then turn in a counter-clockwise direction with a pair of adjustable pliers until the screw becomes loose. Use a big enough extractor so that it won't break under the strain. This method is very effective, and I myself have used it many times on the spark plug cylinder plate. The screws were actually sweated into the holes and this method worked. The extractors can be purchased at most hardware stores at a reasonable price. The set I have has a five-size spread (1-5); and, going in order from 1 to 5, they recommend using these starter drills: 5/64", 7/64", 5/32", 1/4", 19/64". Of course, it's better to work up to these sizes so as not to dull drills. I did it using the adjustable pliers, but the extractors may be fitted to a ratchet for added leverage.



SUPER BUZZ DELUXE



CEESTEPPER

THOMPSON HERITAGE

The information below was recently prepared and distributed by Thompson Boat Company, and was submitted to The Antique Outboarder by Gary Tischart.

Thompson Boat Company, now the oldest boat manufacturing firm in the United States, was founded in 1904 on a small farm on the outskirts of Peshtigo, Wisconsin. The company was started by two Thompson brothers and grew to include five brothers and a sister.

The first product built by the two brothers was a canoe. Within a year, clinker style rowboats were added to the product line, and at the end of eight years the brothers had a crew of 17 men working for them.

In 1912, the company was moved into the city of Peshtigo and incorporated. A three-story frame building, 60 feet wide by 112 feet long, was constructed and outboard motor boats and sailboats were added to the Thompson line. The line grew to include a number of small class sailboats including Snipes, Seagulls, Olympics, Cubs, Comets, Nationals and the Redheads. The boats averaged 12 to 21 feet in length.

The business expanded so rapidly that additions soon were needed. The first was a 76 by 60 foot, three story frame building constructed in 1922, and in 1924 a branch office in Cortland, New York had to be opened to supply the heavy demand for Thompson Boats in the East. The Cortland plant remained in operation until 1956.

The largest ship ever built by Thompson Brothers was a 50-foot power cruiser, a custom-built fishing craft for a Texas fisherman. For a time the firm built tugs for Lake Michigan commercial fishing, but discontinued the line in 1918. The first Thompson fiberglass boat was built in 1965.

In 1966 the company was purchased from the Thompson Brothers by Saul Padek who is now president of Thompson Boat Company. As wood boat sales began to decline, more and more fiberglass boats were introduced in the Thompson line. The last wood Thompson was constructed in 1970.

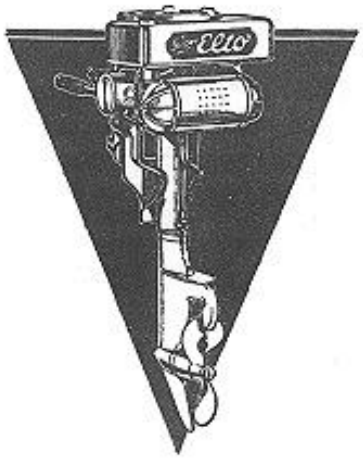
At the present time, the company builds fiberglass boats ranging in size from 15 feet to 24 feet and maintains a dealer organization in nearly all of the 50 states.

Mr. Padek points out that with over 200,000 boat owner registration cards in our files, it's an amazing fact that one out of every two hundred families in the United States has owned a Thompson since 1904. It's the reason why we say Thompson is America's oldest and most-trusted name in family boating.

As president of Thompson Boat Company, Mr. Padek pledges to maintain the same skilled hand craftsmanship that has made Thompson truly outstanding — unequalled in boat-building quality — from yesteryear's wood to today's gleaming fiberglass boats.

Outboard Motors

ELTO

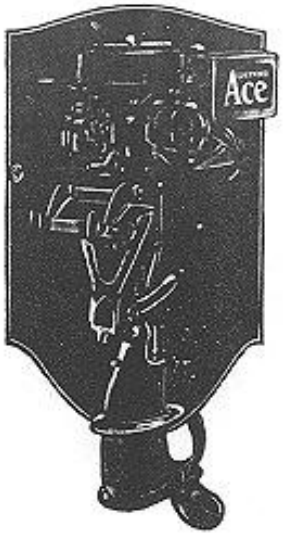


Elto Light Twin $145
Elto Speedster 165

JOHNSON

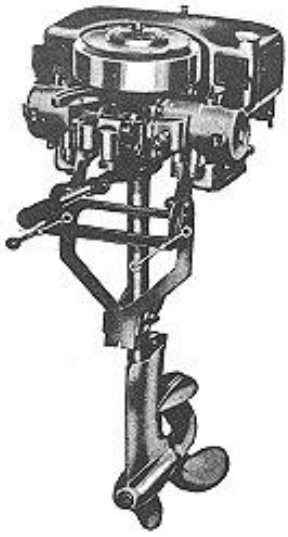
Light Twin $140
Standard Twin 165
Big Twin 210

LOCKWOOD



Light Twin $145
Lockwood Ace 150
Lockwood Chief 185

CAILLE



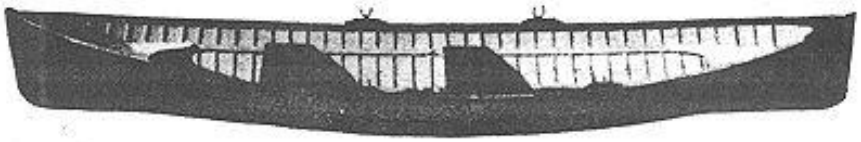
5-Speed Caille $165

EVINRUDE

Sport Twin $145
Fastwin 165
Speeditwin 210

The prices quoted above are for these motors, delivered to your station.

Double Ender, Clinker Built Row Boats



GRADE A. DOUBLE ENDER ROW BOAT

Our double ender is very popular among sportsmen, and as a fishing and all round pleasure boat it cannot be excelled.

GRADE B. AND C. DOUBLE ENDER ROW BOAT

Minocqua, Wis., June 28, 1906.

THOMPSON BROS.,
Peshtigo, Wis.

Dear Sirs:—The double end row boat "Grade B" arrived in first class condition, as it was packed so well

It looks like any $40.00 boat I have ever seen, and is in every way satisfactory.

Yours,
FRED E. TRACY.

SPECIFICATIONS

GRADE A. Planking best white cedar or pine. Entire frame selected white oak. Gunwales, fenders, etc., ash. Large end seats. Fastenings copper and brass. Brass nickel-plated trimmings. Entire boat finished in natural wood with best spar varnish. 15-foot boat fitted with two rowing seats and two pair spruce oars. 13-foot boat fitted with one rowing seat and one pair spruce oars.

GRADE B. Planking cedar or pine. Frame sound white oak. Gunwales, fenders, etc., ash. Fastenings iron clout nails. Iron Japanned trimmings. Boat painted inside and out with best lead paint. Gunwales, fenders, seats, etc., finished in natural wood with best spar varnish. 15-foot boat fitted with two rowing seats and two pair ash oars. 13-foot boat fitted with one rowing seat and one pair ash oars.

GRADE C. Same as Grade B except entire boat will be painted.

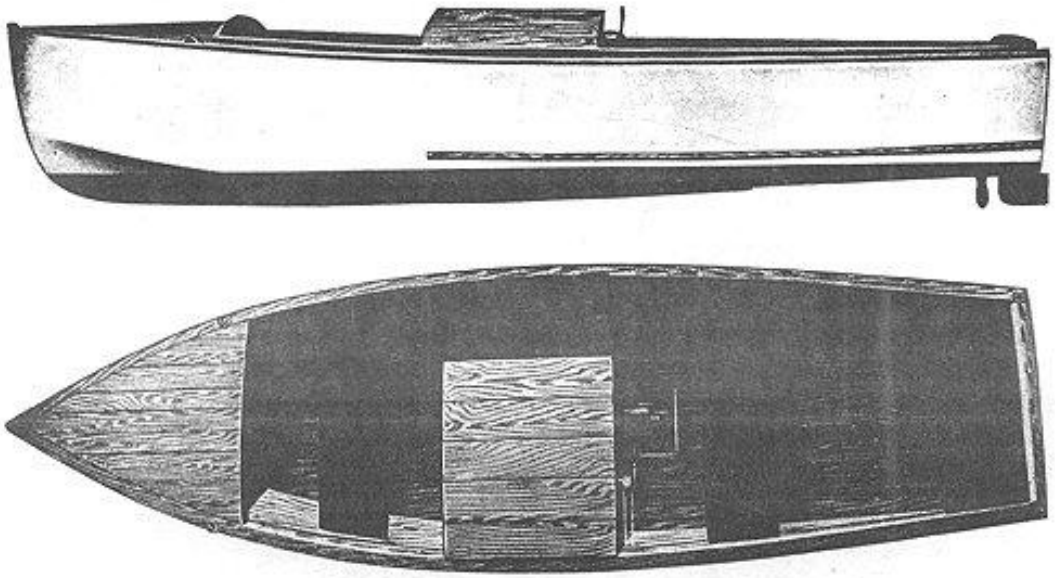
Length	Beam	Depth amid	Shipping Wt.	Price Grade A	Price Grade B	Price Grade C
15 feet	39 inches	13 inches	140 lbs.	$42.00	$26.00	$22.00
13 feet	39 inches	13 inches	120 lbs.	36.00	22.00	18.00

DOUBLE ENDER, CANVAS COVERED ROW BOAT

Construction the same as canvas covered canoes, except heavy keel and outside stems are attached. This boat has very flat bottom being designed for great carrying capacity on light draft.

Length	Beam	Depth amid	Weight	Price Fitted One Pair Oars	Price Fitted Two Pair Oars
14 feet	39 inches	13 inches	90 lbs.	$35.00	$38.00

Thompson V-Bottom River Model



"V" Bottom, Roomy, Light Floating, Fast

For river use the Thompson V-bottom River Model stands very severe tests. It is very strong, sturdy, steady and buoyant. It will skim over the water and go up a swift stream at a good rate of speed. It is perfectly balanced—holds a level keel even when making a quick turn at full speed. Steady, dry and sensitive to the helm—easy to handle at any speed in any water. The draft of the hull is nine inches at the bow and two inches at the stern, so the hull itself will go in very shallow water. The depth of water required depends on how much the propeller projects below the bottom of the hull. If the boat is made tunnel stern the propeller will clear anything that the bow of the boat will pass over and will run in about eleven inches of water. Extra charge of $30.00 for making the boat tunnel stern. If the boat is fitted with skag and shoe to protect the propeller, the boat may run hard aground or on a beach any place. There is no extra charge for fitting the boat with skag and shoe, but they are not put on unless specified in the order.

V-bottom, River Model

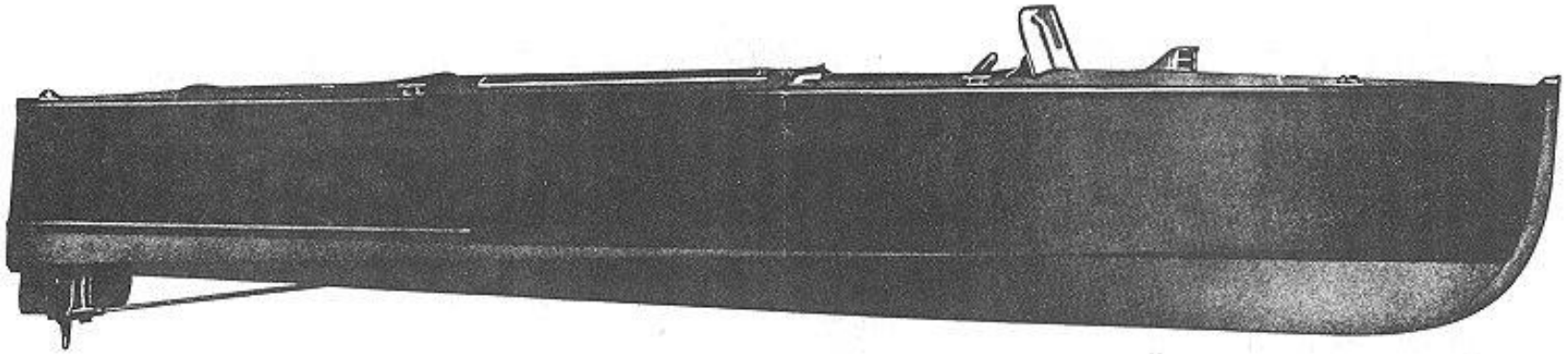
Order No.	Length	Beam	Depth Bow	Depth Amid	Depth Stern	Weight	Price
752	18 feet	60 inches	35 inches	31 inches	19 inches	1,050 lbs.	$645.00

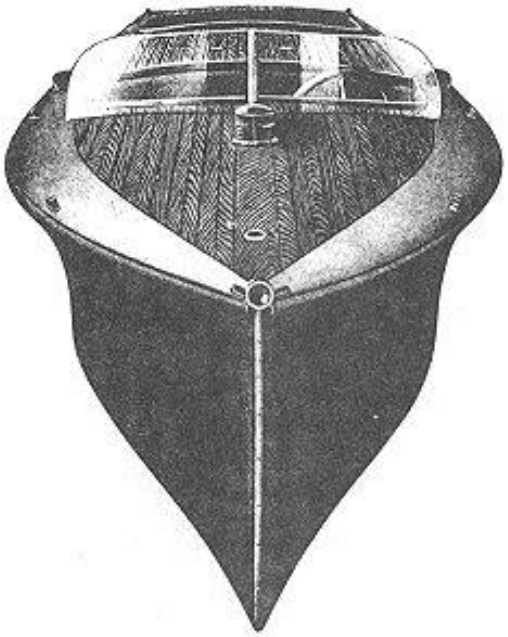
Ready to run, with 15 H. P. Universal engine with reverse gear and elevated rear starter installed.

For Catalog of Universal Engines, write to the Universal Motor Company, Oshkosh, Wis.

For Catalog of Kermath Engines, write to the Kermath Mfg. Co., Detroit, Mich.

THOMPSON 20 Ft. BLACK BEAUTY V Bottom Motor Boat

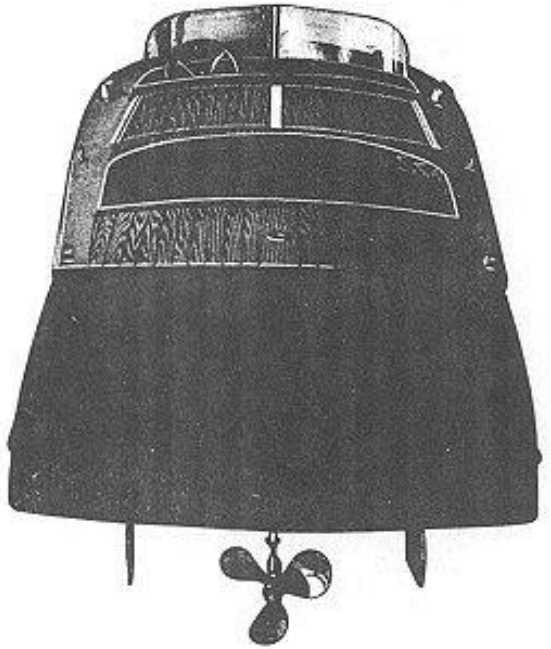




PRICES F. O. B. PESHTIGO, WIS.

20-ft. Black Beauty, completely equipped, ready for the engine	$ 900.00
With 15 H.P. Flexi-Four Universal engine installed	1,300.00
With 45 H.P. G. L. H. Universal engine installed	1,350.00
With 6-40 Gray motor with aluminum base installed	1,600.00

Electric starter and lighting included at the prices quoted above.



CHECK THESE THOMPSON STANDARD AND OPTIONAL FEATURES AND COMPARE WITH THOSE OFFERED BY OTHER MANUFACTURERS

____ 70 years of boat building experience

____ Interior nite lites

____ Permanent owner's warranty card

____ Locked front storage and security compartments

____ Canvas Package of top, side, aft, or sedan back

____ Dashboard with built-in speedometer on larger outboards

____ Suede vinyl bunk cushions

____ Dashboard with built-in hour meter on larger outboards and inboard/outboards

____ Shock mounted floating decks

____ Fool-proof stern light detection system

____ Pull-out sleeper seats

____ Locked map boxes

____ Padded interior grab pad

____ Built-in floatation

____ Coast Guard and B.I.A. approved

____ White fire resistant motor wells

____ Wall to wall carpeting

____ Drip-proof designed motor boxes

____ Voltmeter (built-in electrical testing system)

____ Padded eggshell vinyl head liner

____ Full width wooden reinforced transom

____ Jet power options

____ Teleflex splash well steering kits

____ "Paint your Name" . . . a place to personalize your boat

____ Master electrical control switch on larger outboards

____ Stern mounted boat ladder . . . two or three step

____ Electric refrigerator

____ Teak covered bait and beverage cooler

____ Snap-up windshield

____ Illuminated push button switches

____ Easy Access service panel

____ Motor box snap-up table for six

____ Specially built aluminum safety and shock absorbent gunwale molding

____ Illuminated dash boards and instruments

____ Cool look and feel of stylized vinyl

____ Designer curtains in cabin

____ Locked security compartment

____ International light with pennant and flag rings

____ Full across rear seating with locking security feature

____ Plug-in electrical wiring systems

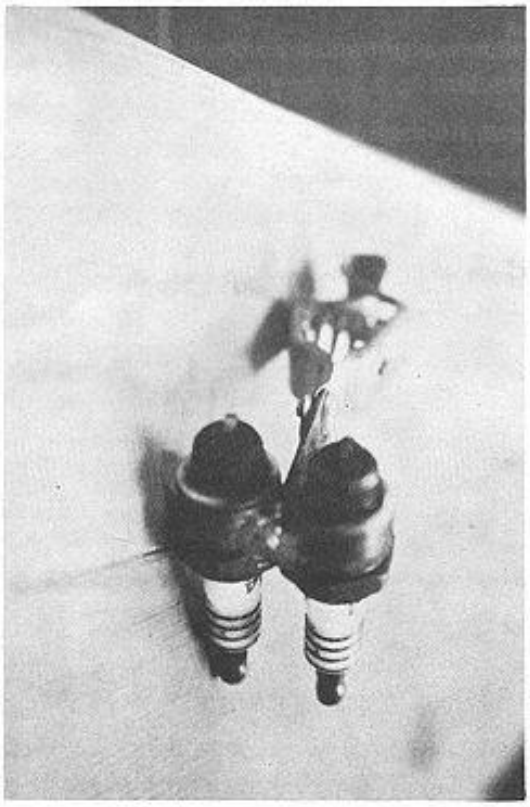
____ Clear walk-through watertight hatch

____ Snap-open easy change bow light

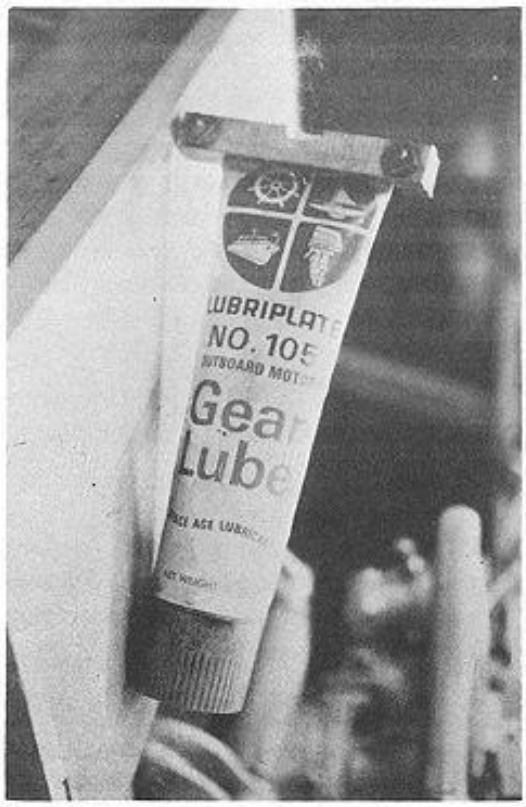
Ideas From Dick's Workshop

by Richard W. Fuchs

Below are photographs illustrating three ideas I recently conceived to help me in the restoration and/or display of my antiques.



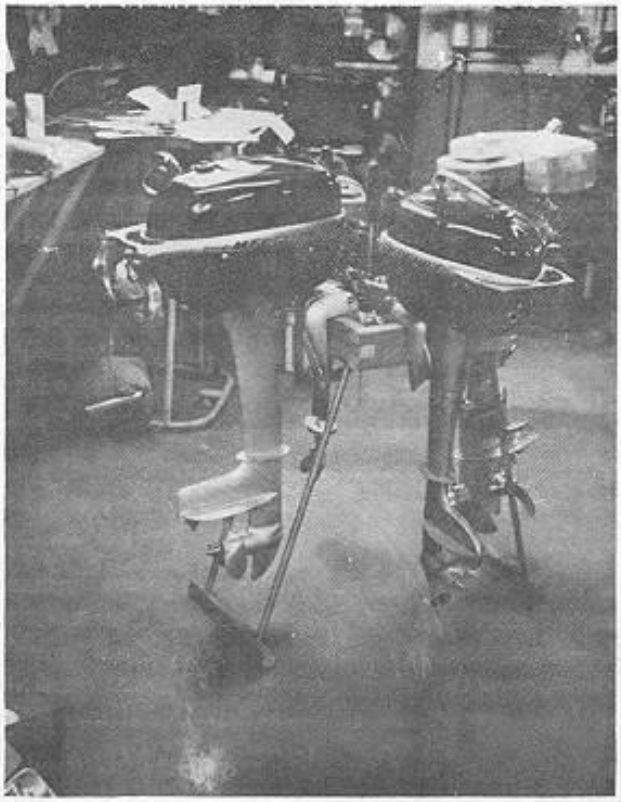
The photo above shows a simple way to check magneto spark. I took two spark plugs and welded them to a 1/16" x 1/2" x 1 3/4" piece of steel. This flat steel strip has a large battery clip on it to attach the test plugs to ground while positioning the gaps so they can be easily seen "while hand turning the flywheel over". The test plug gap is 1/16" so that if a "bright, fat, blue spark" jumps these gaps, the fire should start the engine.

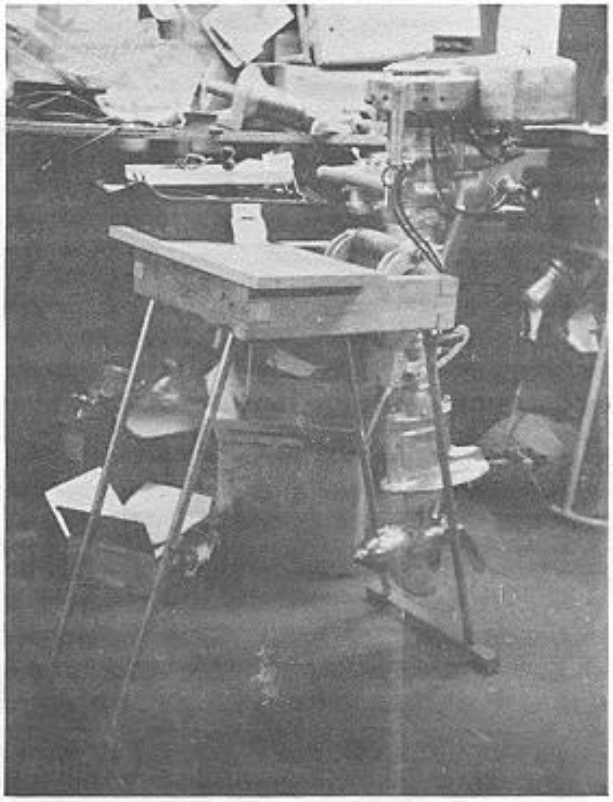


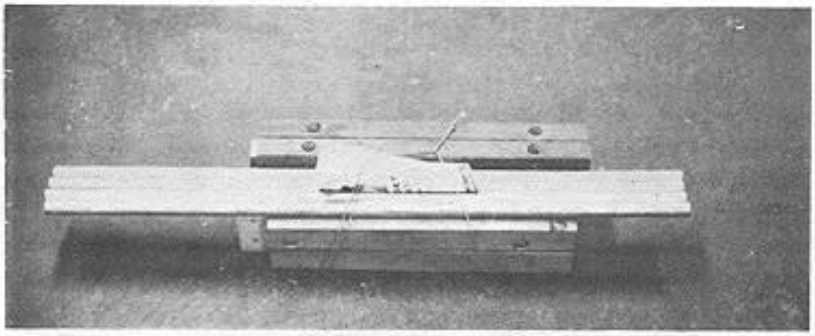
This photo shows the means I used to fill the "lower units" with "105" lubricant when I could only (and economically) purchase this grease. I fill the plastic tube with a putty knife through the opened lower end, which I close by the two strips of aluminum bolted together as shown. As you "putty knife" the grease into the tube, gently tapping the tube (on a work bench), the "105" will drop to the lower end of the tube.

The photos below show a simple, fully collapsible motor stand, for display or work. This design allows four motors to be mounted at once in a small floor space. The wooden feet allow the stand to rest on a hard floor or sand (or grass), and it won't sink into or mar the floor. When working on one motor (with the other three motors removed), this allows an area for a flat piece of wood to rest for a "work bench," as shown. The final photo shows the stand fully disassembled for transporting in a car trunk for an antique show.

Other dimensions can suit the particular motors involved, but the four top pieces are 2" x 4" x 16". The four legs are 3/4" thin-wall, straight conduit 28" long. The four holes are 15 degrees from perpendicular for mounting the legs in the 2 x 4's. The 2 x 4's are secured as shown and with the long nails.







Restoring at Random

by Bill Horst

If you decide to install new rings in an old motor, a course of action that should be avoided until you have proven conclusively with a compression tester that they are needed, be sure that the cylinders are de-glazed before the motor is reassembled. When you tear the motor down, being careful to mark the pistons and cylinders to keep them matched, you will see that the cylinder walls have a glass-like finish. This gloss must be broken so that the new rings will seat or break in. A hone, not usually found in a home workshop, is the usual tool used for this. You can make one with a two-inch cotter pin and several strips of medium emery cloth about 1 1/2 inches wide. Insert the emery between the prongs of the cotter pin and chuck it into your 1/4-inch drill. The emery should be about twice as long as the cylinder diameter and should be arranged so that the abrasive side will contact the cylinder walls when the drill is turned on. Run the rig up and down the length of the cylinder enough to dull the finish. Wash the cylinder with soapy water and a brush, dry, and oil.

Here are some magneto interchanges that I am sure of. The mags used on the A and K-50, introduced in 1930, are the same, and except for linkage connecting the mag plate to the carb throttle, were used until the end of the line in the 1948 KD-15. The Evinrude, Elto, and Sea King opposed twins as early as the 1932 4 hp Model 409 used a mag that was used as late as the 1950 3.3 Sportwin. This mag has a 6 3/4-inch flywheel and was used on all of the 3.3, 4, 5, 5.4 hp fisherman (twin) Sportwin and Lightwin models that I have seen. Zephyr and Lightfour mags seem to be the same electrically; physically they differ only in the handle location. There are many more, and I would like to hear from anyone who knows of any interchange, be it mags, lower units, bare power heads, or whatever. The more we know about interchange, the easier it is to find parts.

Two of my larger (for me) motors, a Johnson K-40 and an Evinrude 8 1/2 Fleetwin, had the same affliction. Both, after running at full throttle for awhile, would gradually slow down and quit. They would restart easily but could not be run much above three-quarter speed. At first I blamed it on insufficient oil, and increased the mix. This helped a little, but created a pollution problem. The last time I had the K-40 out, I noticed that the reason the motor quit was that the carb was running dry, and as soon as the motor quit, the float would fill up. I noticed that the fuel shut-off, a large brass affair, is located about half an inch from the muffler on both motors. Obviously this created a good, old-fashioned vapor lock. The shut-off was too hot to touch. I intend to first paint the shut-off silver; if that doesn't work I'll move it away from the muffler.

DECALS

A decal adds that finishing touch to any restoration project. All are made close to original specification, in full color.

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For Johnson alternate firing A models, patterned after P/N 25-244. Also fits K-35, K-40, K-45, KR-40, A-35, A-45, OA-65. Vinyl type, self stick. $ 6.00 each	Order from: Charles W. Hansen 2108 Broward Road Jacksonville, FL 32218
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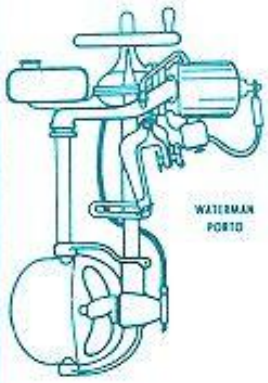
The Antique Outboard Motor Club Inc.



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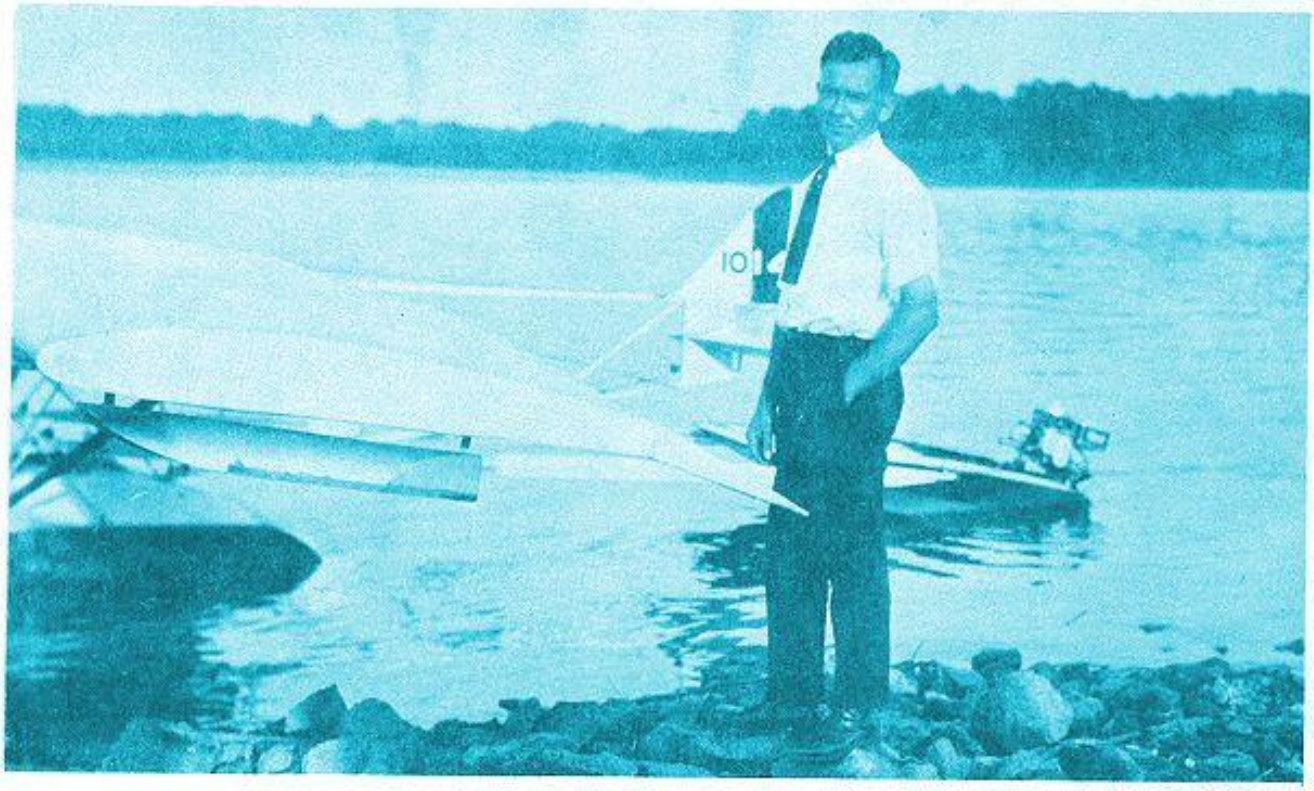

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