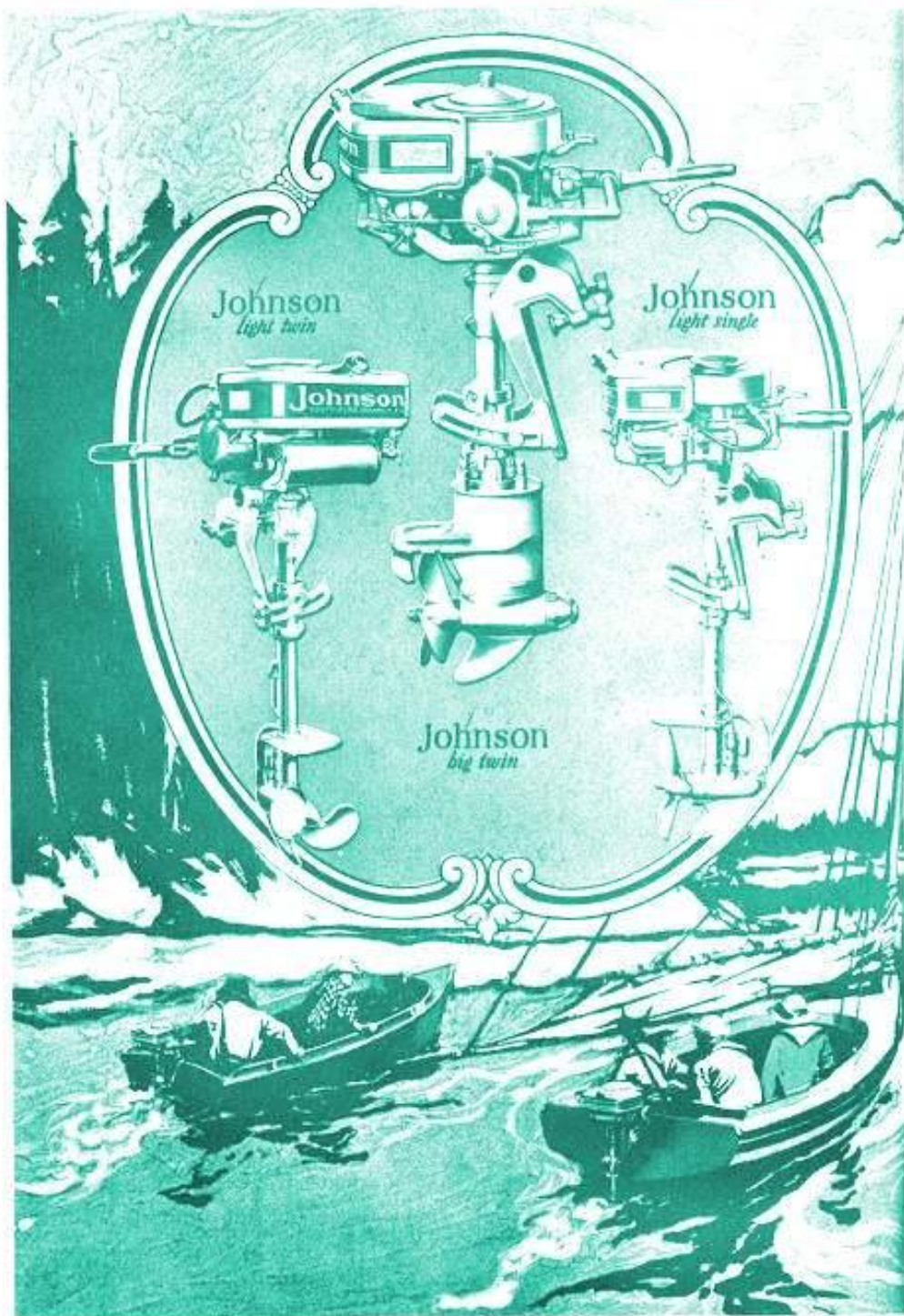


The **ANTIQUE OUTBOARDER**



July

1978

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 \$12.00 per year. Other membership information is available on request from Ted Bieber, 1437 Kingstree Lane, Houston, Texas 77058, U.S.A.

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The Pacific Outboard Clubs



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The Antique Outboarder
Volume 13- No. 3
July, 1978

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

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FROM THE PRESIDENT

My how time flies.... it seems that only yesterday we mailed our first issue of THE OUTBOARDER and this one is our sixth! Everything seems to be getting a little easier as we go along. The incoming material is slowing down though, so remember to send in an article or anything of interest to members. Should you find that you can't get an article written, send in an outline of the facts and a picture or two (if possible) and our volunteer writers will take it from there.

The old complaint of not receiving answers when Self-Addressed Stamped Envelops are included is back with us. Let's all make it a point to correct this problem. I have also received another complaint of parts being ordered and the check cashed, but no parts received. This seems to be only done by one or two members. Please clean-up your act or be prepared to be deprived of membership in our club!

With this issue we are starting a new page entitled "Odds & Ends". This page will be used to pass on small bits of helpful information that we feel will be of interest to most members and would not be of sufficient length to constitute a full article. If you just can't draw with detail and your information requires a technical illustration, send a sketch with dimensions and we will ask our son, Ron, to draw it. The success and continuation of this page will depend on the amount of material received from our members.

Mrs. Jim Webb is slowly recovering from a serious car accident and we know that all club members sincerely wish that she has a complete recovery.

It is obvious that Riggs Smith, Chairman of Third National Meet, and his crew are putting a tremendous amount of time and effort into making the Third National Meet the best we've ever had. The easiest and best way for the members to show appreciation is by attending.

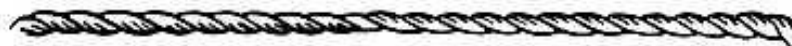
Hopefully, the wife and I will be seeing you ----- at the Third National Meet in August.



Walt Ellis

AOMCI AUCTION - 7:00 P.M. - SHIPYARD MUSEUM GROUNDS

All proceeds to go to the AOMCI Treasury



The following names are members missed in the 1978 membership list published in the April issue:

Gerald G. Boruski
20611 Aetna Street
Woodland Hills, Ca
91364

Norman P. Anderson
Box 357
Harvey Cedars, NJ
08008

Alden C. Merrick
139 S Lake Ave
Albany, NY 12208



Please remember to send your change of address to Ted Bieber, Membership Chairman. Ted keeps the records of membership names and addresses for the mailing labels of the newsletter and THE OUTBOARDER.

LETTERS TO THE EDITOR

From Mark Wright, Little Silver, New Jersey....

I noted with interest the Waterman article in the January 1978 issue of The Antique Outboarder (p. 23).

My understanding is that the experimental production of the first 25 Watermans in 1906 resulted in air-cooled engines. These were not released for public sale. The January 1970 issue of The Antique Outboarder (p. 9) gives considerable details of this. Note also paragraph 6 on page 17 - a photo appears on page 17 also.

The 1907 and 1908 motors looked like figure #2 on page 10. The earliest models had the spark plug in the center of the top of the block. The later engines had the spark plug at about a 45 degree angle, as can be seen in figure #3.

The engine shown on page 24 of the January 1978 article was built several years later than 1906. Referring to figures #4 and #5 of the January 1970 issue, this engine is not earlier than 1912. It is very likely a 1913 unit because of the shape of the rudder. Also to be noted is the jacketed cylinder.

I thought it would be well to submit the information above. To the best of my knowledge the Hawie and Webb articles in the January 1970 issue are accurate. Also view the accompanying period advertising photos which are there for reference.

From Dick Hawie, Easton, Connecticut....

Mark Wright got around to writing to you before I did. I agree with Mark in that Waterman on p.24 - January 1978 - isn't a 1906. The 1906 was a vertical cylinder motor! On these old timers you can get confused because the motors can be a blend of two years. For instance, Dick Fuchs has a 1912 powerhead with a 1913 lower unit. None of the 1912 pictures show Dick's lower unit, but the 1913 pictures show it. What happens, I guess, is that changes were made as they went along. In any case, all our research indicates that this isn't a 1906 Waterman. I concur with Mark that it is a 1913 Waterman.

I am always fascinated by the old racing photos. The one on p.8 of January '78 from Tom Glock is no exception, especially since the name Fred Giles didn't even ring a bell. After twenty years of poring over old magazines and race summaries I usually recognize the names of most of the drivers. I think the year is 1929 - it appears to be a 1929 Elto Hi-Speed Quad, and July 21st was on a week end in 1929. The Neches River is in Texas (runs through Beaumont), which is probably why I haven't found any reference to this race in my boating magazines which are all New York based.

From John Gould, Jr., Indianapolis, Indiana

Our only member (it's now two) from Alaska...Hedley V. Parsons of Kenai, Alaska came down to Indianapolis from the Electro Motive Diesel School he was attending in LaGrange, Illinois. Hedley is a long-time Chief Engineer on large tugs run by the Puget Sound Towing & Barge Company and is now engaged in docking and undocking the big tankers at Valdez, Alaska - the terminus of the Alyeska Pipe Line.

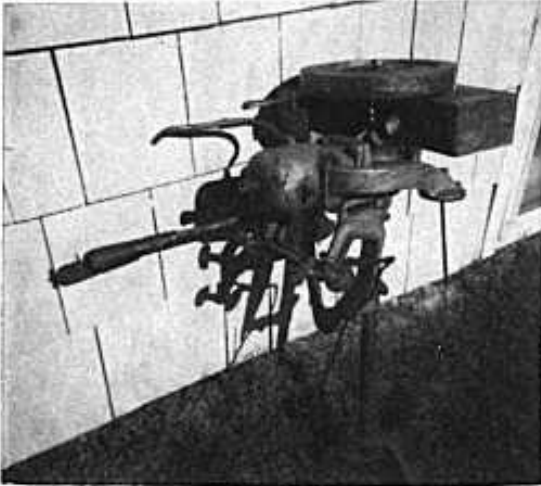


We did a little dry-land outboarding last weekend. On Saturday afternoon, Hedley and I took in the Hall of Fame Museum at the Indianapolis Motor Speedway... spent over 3 hours there!! Then, Saturday night, we had Emmett, Beverly and Van Walls out to dinner. Also, Harry Brinkman, who had to leave early, but was with us for an hour or so.

Emmitt brought his movies of various regional, local and national meets which we all enjoyed, especially Hedley. I also dug up some ancient 1920's and early 1930 16mm movies which I showed on my grandfather's 1928 Bell & Howell projector. It gets awfully hot, but it still works.

We spent Sunday afternoon at Emmett's home in Speedway, Indiana looking over his very excellent collection, before Hedley caught the plane back to Chicago for the second week of his school... then he returns to Alaska. Hedley homesteaded up there in 1947 under the GI bill. He's still on his "claim" of about 160 acres in Kenai which is on the Cook Inlet, Southwest of Anchorage. He was a native of New Hampshire.

From Warner Turner, West Bend, Wisconsin....



I have a Wisconsin rowboat motor minus a few parts. So I looked through some old newsletters and found a man who had an old Wisconsin for sale. I wrote inquiring about buying either his engine or the parts I needed.

His reply should be of interest to other club members. He sent the picture of his motor which according to him needs a tune up and a flywheel knob. He proposed an interesting trade -- I send him a Winchester double barrel 410 shot gun (very rare) for the parts that I needed.

Needless to say, I'll look elsewhere for my parts. A motor, such as pictured should sell for \$30.00 or less in my humble opinion.

(Editor agrees with you.)

From Herb Riebe, Walnut Creek, California....



Here are the last two pictures that Marv Sperring wanted me to send in connection with his article (January '78).

I would like to add a line or two on the water skiing bit. Bob Sperring said he wanted to give a last try at skiing before winter. The water temperature was 58 degrees and I told him he was crazy to want to try it, but said I would set up the boat for it if he was sure he wanted

to give it a go.

I had never pulled a skier behind the rig so I was interested in seeing how it would go. I put on a 3 blade prop that I use for high altitude running and at sea level. This worked out just fine. The first try off the dock sent Bob about ten feet through the air and flat on his face. He did not think the Big Four would have that much pull-up power. It was just as well though, because I had not turned on the gas and the engine stopped just after he fell. After one more bad start from the dock, we tried the third time from the water. This was an up and going try and from there on every thing went well. I pulled him around the lake at 32-34 MPH and still did not have to put the "hammer down" to do it.

From Tom Glock, Allentown, New Jersey....

I obtained these pictures from a friend who has quite a collection of all sorts of antique photos.

The



The picture of the Sea Sled is from a 1929 issue of Motor Boating with the advertisement reading: Sea Sled Outboards can stand almost unlimited punishment. "Corker I" (a stock model 13) came down the 260 miles from Boston to New York and crossed the finish line first of a fleet of fast racers ---- etc.

The above picture on the right: Four open boats affixed to a post with the use of ropes and a pulley being photographed by motion picture film around and around they go! Three boat names are Penn Yan Kid, Dinky Kid, and Baby Ace. All of the boats powered by Lockwood Chiefs.

Perhaps someone in the club can answer the question as to what it's all about???

From Gary Mower, Poughkeepsie, New York....

I was on vacation at the end of last September in the Adirondack Mountains of northern New York State. I stopped in Blue Mountain Lake, New York to visit the Adirondack Museum which I visit every few years to see what new displays have been added.

As I walked through the boating displays I noticed a new addition, a nicely restored Evinrude detachable rowboat motor (serial #6303). It appears complete except for one of the tank decals and a spark plug. I spoke with one of the museum guides and inquired about the motor, mentioning AOMCI.

Perhaps one of our members close to the area, and more knowledgeable than myself, could take a look at these motors and help in the identification and restoration of them. Also, for anyone passing through the area, I highly recommend stopping to visit the museum which tells much of the history of the Adirondack Mountain region.

★ ★ ★

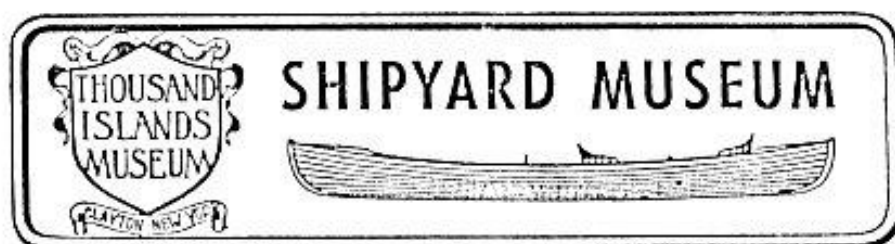
THIRD NATIONAL MEET

ANTIQUE OUTBOARD MOTOR

★ **CLUB INC.** ★

AUGUST 11, 12, 13, 1978

at the



750 MARY STREET, CLAYTON, NEW YORK 13624 315-686-4104

Numerous events are being planned, such as a 20 mile cruise and picnic on an island in the St. Lawrence River. Other contests, such as Bang-and-Go-Back and Predicted-log are being planned. Contests for the best restoration of outboard motors will be held.

For information about campsites and motels please contact:

Mr. Peter Strouse
c/o Clayton Chamber of Commerce
Clayton, New York 13624

or

Mr. Riggs Smith, Chairman, Third National Meet
c/o Shipyard Museum
750 Mary Street
Clayton, New York 13624

Everyone interested in old outboards is invited to an informal cook-out starting mid-afternoon Thursday, August 10th at our cottage, Fishers Landing, New York.

Riggs Smith, Meet Chairman

AOMCI THIRD NATIONAL MEET GENERAL RULES (in brief)

All outboard motors entered in the meet are to be 1950 or older.

All outboard motors entered in the meet and competing for prizes must be boat mounted and operated over the prescribed test course. One stall free lap must be completed, during which all features contained on the motor will be demonstrated.

There will be no dual winners in any single event. An entry may win two prizes if entered in more than one class. In addition, the special awards will not be awarded to the class winners in any one class - it must be selected from a non-winner in any of the classes.

Class terms:

Little Kicker - under 20 cubic inches

Shrouded - means that there are some shrouds on the motor. Spark plug covers are considered as shrouds. An Evinrude Speeditwin with the spark plug dome covers is a shrouded motor. A Johnson LT 39 (9.8 hp) with the aluminum door over the spark plugs is shrouded.

Unshrouded - means that shrouds or covers do not exist.

Class descriptions:

Class 1. Racing outboard motor, mint condition

Class 2. Little Kicker, unshrouded, mint condition, aluminum

Class 3. Little Kicker, shrouded, mint condition, aluminum

Class 4. Brass outboard motor, mint condition

Class 5. Electric outboard motor, mint condition

Class 6. Big Iron, unshrouded, mint condition, aluminum

Class 7. Big Iron, shrouded, mint condition, aluminum

Class 8. Best original motor

Participation in actual AOMCI MEET JUDGING EVENTS must be limited to AOMCI members only. Friends and families are encouraged to join into all other meet events such as the picnic, banquet, parade, etc.

Entry fees will be a one time fee of \$5.00 payable at the time of registration. Registration will be open at 7:00 A.M.

There will be peer judging of all classes. AOMCI members will be requested to judge classes other than the classes in which they are actively entered.

A banquet will be held at a local restaurant Saturday, 7:00 P.M. with short speeches, awards, and slides of Shipyard meets.





OF HISTORICAL INTEREST

..... *W J Webb*

The following letter to Jim Webb was written by Warren Conover who is 87 years old and still going strong. He is the last survivor of the small group that started the Johnson outboard motor on its way to the top of the industry since the three Johnson brothers are now deceased.

This letter tells Warren Conover's story of the Johnson motor wheel and it will be of interest to AOMC members since the early 1922 and 1923 Johnson light twins used the same internal parts as the old Johnson motor wheel.

November 18, 1977
42 degrees
No Snow

Dear Jim:

Your letter of the 14th surely made me feel it all over again - when Harry Johnson and I went to South Bend March 1, 1918. I took with me one of the 4 experimental jobs we had used in Terre Haute for a year or more - somehow I lost track of my old motor wheel as did Harry his - would be nice to have one or the other right now.

Here is a snapshot taken during my last trip out West for the Motor Wheel Co. I was in Los Angeles all of December, January and February 1921 to help the Veazey Bros. (Julian and Sumner) get rid of about 600 motor wheels (just the attachment) at \$97.50. The two-wheeled motor vehicle business was very much on its way down in sales since Ford came out with the \$375.00 car. It was not very long until the Johnsons were working on the outboard for production.

The power plant of the motor wheel was 2" bore 1- $\frac{1}{2}$ " stroke - offset rods - case hardened crankshaft - phosphor bronze bearings - aircooled - both cylinders fired at same time - quick action mag - our own carburetor - motor turned 2100

RPM and developed 2 HP. Some motors were souped up and used for racing. Jess Helton, the South Bend dealer, made 60 MPH and established an official record of 58 MPH on a $\frac{1}{2}$ mile dirt horserace track. I went to Baltimore, Md. in July, 1920 with a red hot job and we beat the Cleveland Light weight Motorcycle in a mile track race (54 MPH).

The original idea and development work on the motor wheel motor was done by Clarence Johnson alone - his own idea and money. He first used an air propeller to push a rowboat - no good. So he put it on a bicycle -



not enough push. So Harry and Lou got busy (about 1917) and helped Clarence put on the chain drive - 8 or 9 (T) sprocket on crankshaft (10 T in production) - chain down to a 72 tooth ring - sprocket - $\frac{1}{4}$ " x $\frac{1}{2}$ " pitch chain - special steel rim - heavy spokes and 2" clincher tire (all went with the outfit).

This air-cooled motor was used as far as we could in going into the outboard motor - of course a completely new water-cooled motor had to be designed in 1920. Clarence had very little to do with the original outboard design as he was working for the U. S. Government in Washington, D. C. at the time and returned to South Bend at about the end of the development work.

I made most of the magneto parts by hand for the production model - cut out the laminations with tin snips - the light-weight breaker blade of one piece and also was responsible for the lighting coil and pole pieces to generate current for lights on the bicycle. Only trouble - if a light bulb of low enough voltage was used to give a nice bright light - at about 30 or 35 MPH - the bulb would "blow" - just like on the Ford Model T.

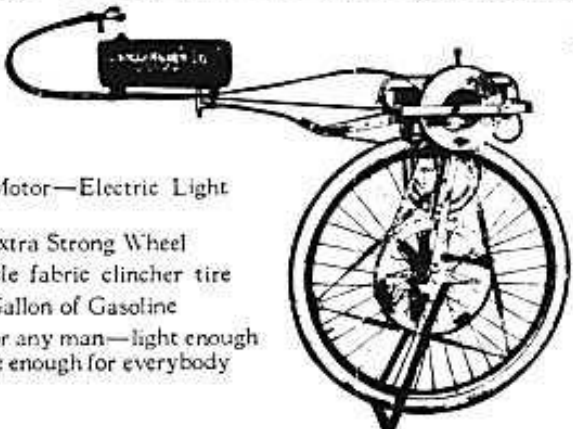
Harry and I worked out the carburetor and controls. Harry was responsible for the compensator sprocket in the rear wheel to remove the impulses of the engine on the tire and chain. The rest was simple and "the dirty work" had already been done at Terre Haute long before going to South Bend.

We built 17,000 motor wheels in all and sold most of them before the slump came. However, the Havaford Cycle Co. of Philadelphia, Pa. had about 1000 on hand that were not selling so I went out to Philadelphia and helped them liquidate the stock. Later on we sold out all tools and parts to Edwards & Christ - 12th & Michigan Avenue, Chicago. They were Indian, Excelsior and Henderson motorcycle dealers - had a big bicycle business - both wholesale and retail. I had to leave Johnsons for about 3 months and quit working on the new experimental outboard. But Clarence was back again so he took over the work I had been doing. So no time was lost and we finally got rid of the last of the motor wheel business.

I have just "rambled along" so if you can use any of this to your advantage, just help yourself.

Best wishes,

Warren

No Strain on Frame  **Extra Strong Wheel**

Two-Cylinder Motor—Electric Light Generator
Chain Drive—Extra Strong Wheel
2-inch Motorcycle fabric clincher tire
150 Miles on 1 Gallon of Gasoline
Strong enough for any man—light enough for women, simple enough for everybody

\$120
F. O. B.
South Bend
Plus War Tax

THE TWIN-CYLINDER JOHNSON MOTOR WHEEL

Change your bicycle into a Two-Cylinder Motor Bike with
The Twin-Cylinder Johnson Motor Wheel

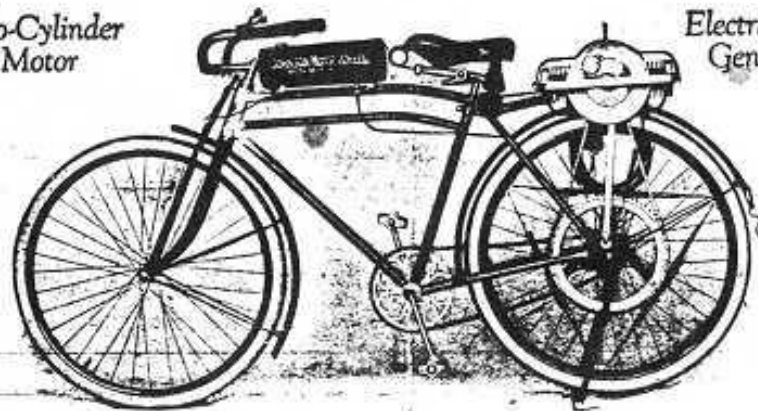


The Twin-Cylinder
JOHNSON
Motor Wheel

The Lightest and Most Economical
Motor Transportation
in the World
150 Miles on 1 Gallon
of Gasoline

JOHNSON MOTOR WHEEL SHOP
1728 S. MICHIGAN AVE.

Two-Cylinder
Motor



Electric Light
Generator

\$175

F. O. B.
South Bend
Plus War Tax

THE TWIN-CYLINDER JOHNSON MOTOR BIKE

**SPECIFICATIONS
FOR MOTOR WHEEL**

Two-Cylinder, Flat Twin Type Motor—Bore 2 in., Stroke 1½ in., Brake Horsepower 1½.
Ignition—Quick Action Ignition high tension, water and oil proof, flywheel magneto with advance and retard. Only 1 moving part.
Carburetor—Float feed, controlled by throttle. No moving parts.
Lubrication—Oil mixed with the gasoline.
Control—Two levers on handle bar.
Gasoline Tank—1 quart capacity, gravity feed. Equipped with lubricating oil measure.
Drive—Standard ¼ in. by ¼ in. roller chain. Direct from motor to patented shock-absorbing sprocket on the rear wheel.
Muffler—Improved U type.
Crank Shaft—Case hardened and ground. Diameter ½ of an inch.
Crank Pins—Case hardened and ground. Diameter ¼ of an inch.
Wrist Pins—Case hardened and ground. Diameter ¼ of an inch.

Bearings—Bronze throughout.
Flywheel—Magneto type, diameter 8 inches.
Crank Shaft Sprocket—Case hardened steel, supported on each side by bronze bearings.
Lighting Generator—Electric light generator in magneto furnishes current for both head and tail lights.
Weight of Motor—24½ pounds.
Wheel Rim—26-inch, extra heavy steel.
Tire—26-inch by 1-inch, clincher.
Spokes—Heavy gauge 100-120.
Coaster Brake—Best standardized construction.
Wheel Stand—Special for the Johnson Motor Wheel.
Miles to Gallon of Fuel—150.
Connecting Rods—Bronze throughout.
Finish—Wheel rim and tank enameled, balance dull or highly polished nickel.

Lockwood-Ash Motor Company,

MANUFACTURERS OF

MARINE MOTORS.

Automobile and Motor Boat Specialties.

JACKSON, MICH. 190

GOT AN EISEMANN MAG', YOU SAY ...

I would like to share some information with others who are planning a "some-Saturday" tune-up on an old "roper", but anticipate a parts problem because it has an Eisemann magneto. The following references pertain to Lockwood "Ace" and "Chief" motors; but could possibly apply to Neptune, etc.

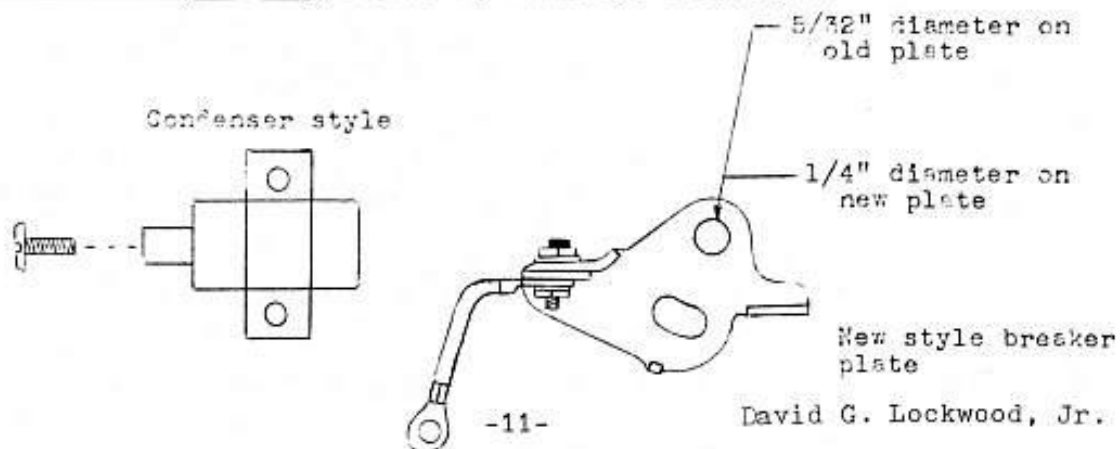
The problem of finding a replacement condenser was solved fairly easily; a magneto shop recommended a Wico X5800. I used this item and found it worked satisfactorily. Retail cost is approximately \$4.00. Following is a list of various manufactures' part numbers which cross reference to the Wico X5800:

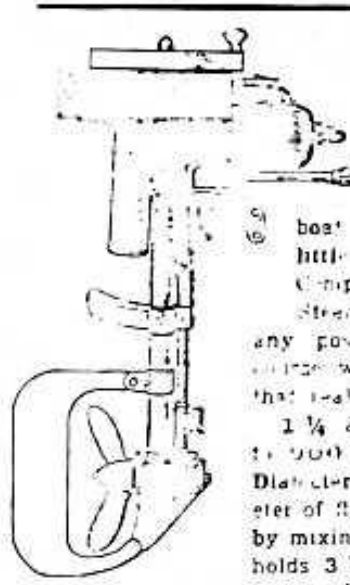
Niehoff SE-360
 Wells (Ampco) WI-502
 Tecumseh 22095
 Prestolite SRP-3141

Poweready 32-657
 Jacobsen 314444
 Guaranteed Parts Co. WM12
 Filko Ignition W62

After correspondence with an ignition service company in KCMO, I found a very close replacement for the Eisemann breaker set. The part numbers are: Breaker Plate - H23-240; Breaker Lever - H26-976. Retail cost is approximately \$7.25 for the set. However, the guide/pivot hole on the new plate is too large and requires a bushing to be used. (Note drawing.) The bushing can be made from a cross section of copper, steel, or plastic tube. Evidently the coil spring and the pivot post are unavailable anywhere, as new, replacement items. The only place I can suggest to salvage these items is from lawn mower motors using the same sort of magneto.

A big help in matching old parts to current production items is C. E. Niehoff & Co.'s Small Engine & Marine Catalog (with pictures of all parts) Weatherly Index 512-Form 1163. Also helpful is Niehoff's Ignition-Electrical Interchange Guide; Weatherly Index 512-Form 1300.





Hiawatha Row Boat Motor

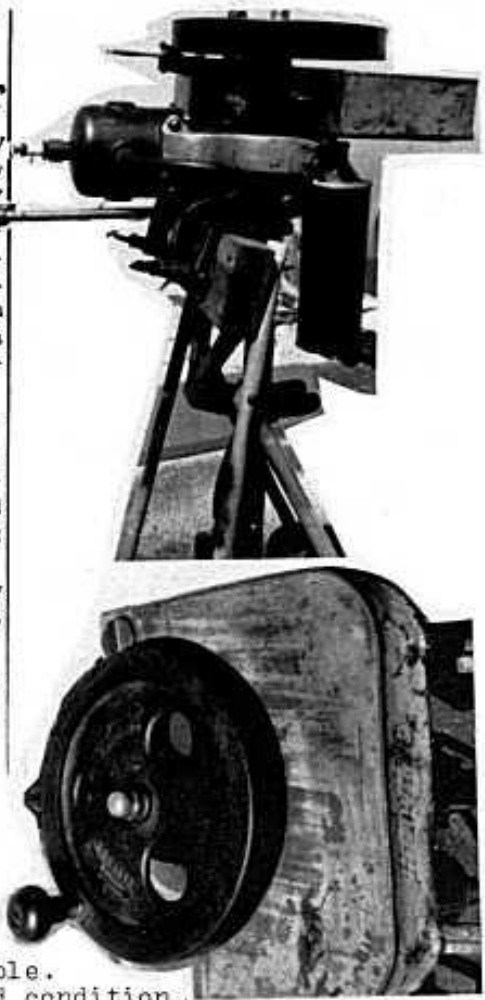
Makes a launch of any row boat in a minute by clamping on over stern of boat. Any one can run it. Little to buy and little to operate. Complete with all necessary equipment. Steering gear locks automatically in any position, holding the boat on its course without attention. Strong rudder that really steers.

1 1/4 actual horse power. Speed, 600 to 900 R. P. M. Protected propeller. Diameter of propeller, 9 1/2 inches. Diameter of fly wheel, 9 5/8 inches. Lubricated by mixing oil in gasoline. Gasoline tank holds 3 1/2 quarts. Battery ignition.

Motor, without battery box, weighs 52 pounds; battery box, complete, 8 pounds. Shipping weight, about 115 pounds.

- C4860 --With battery equipment\$38.95
- C4865 --With fly wheel magneto..... 52.90

Shipped from factory in Southern Michigan.



Montgomery Ward & Co. 1916 Catalog/Page 971

THE 1916 "HIAWATHA"

Harold Culp was "persuaded" to let us have a single cylinder motor of 1914-18 vintage, with the "Hiawatha" decal clearly legible. The motor has battery ignition and is in good condition, being complete except that the skeg has been sawed off.

We had to consult with Club Historian Jim Webb and Curator Dick Hawie for help, and our club cooperative sharing of advice and information has made it possible to supplement Jim Webb's excellent "Mail Order House Motors" article in THE ANTIQUE OUTBOARDER, January, 1977, page 29.

Bob Brautigam, Harold Culp, and Paul Strot all helped finally identify the motor as a 1916 Hiawatha, offered in the 1916 Montgomery Ward catalog.

Ours (Serial 799) was made by Caille Perfection Motor Company in Detroit - "Southern Michigan" - and was offered with "battery equipment" for \$38.95 as shown.

Subsequent research, possible only with the aid of many club members, revealed the shape of both the skeg and the missing rudder so quite exact restoration is now possible.

The motor has been displayed (unrestored) to members in the Midwest at Cason's, Kinn's, at the MAPS meet at Table Rock, Mo., and to Jim Webb.

Happily, we have since acquired a Sears Roebuck 1916 Motorgo of Lockwood manufacture (listed on page 122 of our Webb "bible") as a companion piece.

Thanks to all of the above and to other unnamed members who have helped a very early (1921 first solo ride) outboarder (Fa) learn a good bit since joining the group.

The Van Vleets

C MODIFIED RACING SERVICE

by Harry Brinkman

INSTRUCTIONS FOR MOUNTING TUNED EXHAUST (MEGAPHONE TYPE) SYSTEMS:

There are two types of exhaust systems currently in use in Modified racing today. They are the Quincy and the Bayer, both of which use converging (two cyl to one megaphone) aluminum construction. The two systems use an entirely different cooling system, so I will cover them individually. The following is for installation on a 4 cylinder Mercury motor:

QUINCY SPECIAL TUNED EXHAUST SYSTEM

You will need the following items: Stack plate and elbows assy, two taper fit megaphones, a filler block, a water transfer tube, gasget material, epoxy body filler compound, 15 $\frac{1}{4}$ -20 bolts (six $1\frac{1}{4}$ " and nine $7/8$ " long) with lockwashers. Among the tools required are: Dykem steel blue marking liquid to make scribe lines easier to follow, and a good quality rotary file for your drill.

The first step is to cut the main large gasget off the stack plate. This gasget will be a full gasget to cover the whole bottom of the plate. Cut holes for the exhaust outlets, bolt holes, the five water transfer holes in the right side of the plate and the four water outlet holes ($1/8$ " dia) that will spray the exiting water onto the stack elbows for cooling. For EVERY hole in the stack plate there should be a matching hole in the gasget. You can cut the holes by placing a very small ball peen hammer, peering side down, over the small holes and striking it with a larger hammer to cut the gasget material placed between. You must cut the water tube gasget in a similar manner by placing on the stack plate and punching all the holes in the right side of the stack plate in it. I suggest the cutting of two small holes and then bolting the gasget to the plate, thus holding the gasget in proper alignment for all the holes. Cut the exhaust holes with the large ball peen hammer while the gasget is still bolted to the plate.

The filler block will have some rough parts to clean off so that it may be placed down into the exhaust area. Before beginning this procedure, be sure that ALL the grease, oil and carbon are cleaned away from the area. The epoxy will not fix and hold on an unclean surface. It probably will not go down all the way into position and filing and grinding are necessary to get the filler block all the way down BELOW FLUSH from the stack plate mounting surface. Use a thin straight-edge to check as a high edge is hard to spot. Keep grinding the UNDERSIDE of the filler block until the smooth top is about .030 below flush at every point measured. Place the filler block in the exhaust area and place the completed stack gasget over the top, making sure the BOLT HOLES are aligned properly. The exhaust holes may or MAY NOT be properly aligned, but keep in mind that the gasget IS CORRECT. Apply dykem blue to the face of the filler block and mark around the inside of the holes in the gasget on the face of the filler block once you have centered it to best match all the holes. You may then grind the exhaust holes in the filler block to match the holes in the stack plate. Once the holes are ground, replace the filler block and gasget to proper alignment. CAREFULLY remove the gasget without moving the filler block; then just

as carefully scribe the filler block's exact location with respect to the motor block with an ice pick on each end. You cannot use a marking pen for this as the epoxy will remove it during final assembly. You will probably jolt the filler block and have to re-check the marks with the gasket several times during this operation.

Now you are ready to install the filler block. But first, make sure that the $\frac{1}{4}$ " water outlet hole is plugged up if your motor block has one. This is the outlet hole that sprays water into the exhaust area when operating with the stack plate on. Some later models had this hole relocated in conjunction with the exhaust plate and it is not a factor. The only place water is to exit the motor block is through the four $\frac{1}{8}$ " holes drilled in the stack plate. You MAY drill and tap another water outlet at the top of the motor block to exit additional water from the engine for longer engine life.

Now get all the parts ready to cement in the filler block. Get some rags, a couple old kitchen knives (don't use the wife's good ones or she'll kill you), and your trusty straight-edge. Quickly mix about 2 golf balls' worth of epoxy and apply it liberally to the top, bottom and base of the filler block; then press the filler block down into the motor block until about flush. Don't worry about the excess in the exhaust port areas for now. Quickly apply the rest of the epoxy to the edges, corners and bottom on the filler block. Scrape the excess epoxy away from the top face of the filler block to expose the scribe alignment marks and align the filler block. Then place the stack plate gasket over the bolt holes and check the alignment again. Finally, using the straight-edge, push the filler block down until the face is about .008" below flush, keeping the scribe marks aligned while you do it. The filler block should be allowed to partially set up and then the epoxy can be cut out from the ports area with a sharp pointed knife.

Needless to say, if the engine is not disassembled you stand a good chance of getting epoxy into the piston rings, etc. After the epoxy has hardened you may bolt the stack plate on and use plenty of gasket compound around the exhaust holes to compensate for the .008" gap which will be filled as the filler block expands under heat.

BAYER SPECIAL TUNED EXHAUST SYSTEMS

Bayer recommends a "wet" filler block installation; whereby, water is introduced into the chambers created to either side of the filler when it is in place. This cools the filler block to keep it from expanding and from subsequent pressure against the block and cylinders. It also has some effect upon the exhaust temperature and, therefore, the tuning of the system itself. Bayer provides the bolts and epoxy for his own system. The Bayer epoxy is a slow drying stuff, but once it is set you can't break the filler block loose as with the body filler types. Once set you CAN'T get the filler block out. Alignment of the filler block/grinding of the exhaust holes is similar to the installation of the Quincy stacks, but the Bayer filler block should be installed with its top ABOVE flush so that after the epoxy has set two days the assembly may be milled off flush.

Before installation of the filler block you must drill six $\frac{1}{4}$ " diameter holes into the water jacket inlet holes from the sides as indicated in the Bayer installation sheet. The holes must be drilled with the filler block removed. It would be good practice to drill the holes #15 and run a quarter-20 tap through, in case you might later want to plug them. Also, another hole has to be drilled into the left water jacket area (on newer style blocks) to exit water into the left filler block water jacket

area. If you have an old style block then the existing exit hole is good. With the filler block in place, the pattern of water flow is: from the water tube into the lower inlet hole in the motor block, into the right filler block water jacket, through the four water jacket intake holes (drilled from the side), into the motor block and over the top overflow into the left water jacket area, out the exit hole at the bottom and into the left filler block water jacket area, then out the 4 small exit holes to spray on the stack elbows.

When installing the filler block you must seal the bottom all the way across in order to trap the water in the two areas. It is good practice to reinforce this area with wire screening worked into the epoxy at the base. With the filler block installed ABOVE flush, let it cure well and then have the whole surface area milled off by a machine shop. AFTER the milling is done, mix more epoxy and "bathtub in" the areas on both sides again. This will further seal the areas in case milling has cracked any bond. Bring the epoxy all the way up the sides covering all metal areas completely. Stick small dowels into the drilled water holes to keep out the epoxy while you are spreading this last coat, then remove them. If you do NOT achieve a good bond you eventually may get a small leak into one the lower cylinders that will result in wetting of that cylinder. THIS LEAK WILL BE NEARLY IMPOSSIBLE TO STOP ONCE STARTED.

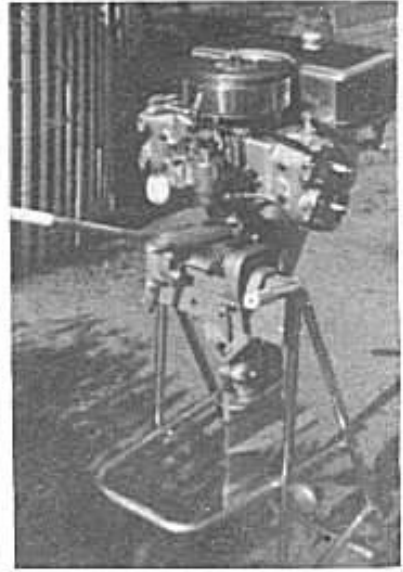
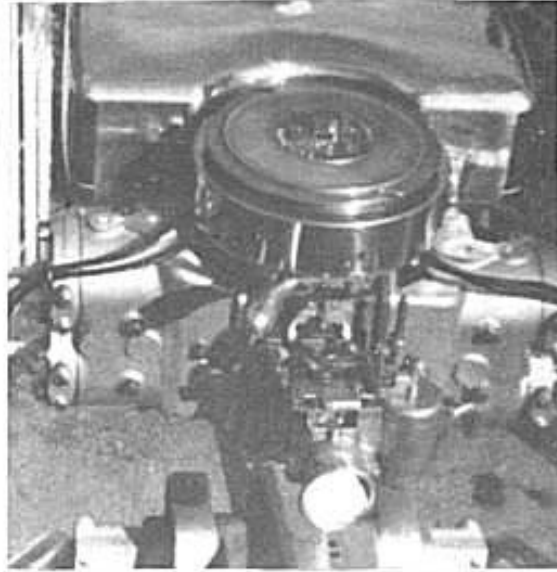
The Bayer MAY be installed using the same procedures as the Quincy stacks but someretuning of the pipes may be necessary. Good performance does not seem affected, but slightly shorter engine life might result from higher exhaust temperatures.

FOR DRY INSTALLATION ONLY: To get the water into the motor block you must bore and tap 1/8" pipe threads through the stack plate over the five water jacket holes in the motor block on the right-hand side (looking at the exhaust ports). Install a 90 deg. 3/8" I.D. fitting at the top and bottom holes in the plate and three "T" fittings in the other three holes. Cutting short lengths of neoprene hoze, run a continuous line from top to bottom through all the fittings to get the water into the motor block from the bottom. You must plug the stock water exit hole in the left water jacket if you have an old style block, and then redrill the 4 small water exit holes in the stack plate to exit water from the left water jacket area rather than the filler block area where the manufacturer has them. Mark the water jacket area CAREFULLY on the stack plate using a stock gasket, and drill from the inside and angle the drill towards the elbows after you have it started into the stack plate.

TUNING YOUR STSTEM:

Port area, port timing (within specs.), length of megaphone and propeller are all directly related. You may stick to one length pipe and test props until you find one; OR, start with a good prop and test the stack lengths and porting until you get it to run. HEA'VY! When you plane off, look back and make sure you have water spraying on the elbows, and then go like _ _ _ _ _!!

"THINK NATIONAL MEET"



EVINRUDE 8015-00173

by Ray Rydell

This is a sequel to the "WHAT'S NEW" story of the midget racer in the July 1977 OUTBOARDER, page 27.

It all began when Jim Ross told me that Warner Turner was going to sell his Big Four and Speedifour. I wrote to Warner about them and bought the Speedifour, which he sent to me packed in a beautifully made box that even had handles on it. The Big Four had already been sold to Bob Wilson who was restoring a midget racing car and wanted the powerhead for its engine compartment, to replace the original 4-60.

Meantime, with John Toprahanian, I was well along in bringing together the powerhead components for a Big Four, but I needed about everything else. Then Warner arranged for me to buy what was left of the Big Four after the car restorer removed the powerhead for his racer. Sure enough, a couple of months later, another fine box arrived at John's, with everything promised in fine shape. Well, almost -- the car restorer hadn't known that the upper muffler is held to the cylinder blocks by two long studs that go through the blocks into the muffler. He finally got the muffler off, with a crowbar, I guess, and, in several pieces. John skillfully welded it together again and later fitted it to the blocks. But, I'm getting ahead of my story.

The rest of the Big Four came from AOCMC friends all over the country. Here's who they are and what they helpfully supplied:
John Toprahanian: Cylinder blocks, cylinder heads, pistons, pins, rods, rings, gaskets, bearings, water manifolds, carb, flywheel, rope sheave, and assorted hardware.

###

Right: Warner Turner's Mirro Craft and 1949 Big Four whose powerhead is now in a midget racer.



John Harrison: Crankshaft, primer unit, shaft seal, decal.
 Milt Moos: Crankcase.
 Les Stevenson: Center main bearing.
 Steve Mulhollen: Magneto plate.
 Charles Hansen: Original brass washers.
 Walt Verner: Lower unit gears.
 Speed Hubbell: Roller bearings and cages, carb intake horn.

You can see that the above "made my day". John machined, welded, honed, and fitted, while I offered questionable advice. Even the steering handle stub was centered and the end cut off and welded back flat to make a secure attachment to the steering arm. It took some time, but the Big Four came out just great, as you can see from the pictures. All I really did was clean, paint, polish, and worry. It's better than new and has so much compression that I can hardly turn it over. I'll find out what it can do in the spring. And this time, I'll fasten it securely to the transom.

So Warner's Big Four is now back in business as an outboard, and it's first powerhead is pushing the midget racer. A very versatile motor!!



MAKING SHAFT SEALS for OLD OUTBOARDS
 (to permit use of lighter gear & bearing oil)

by Ed Lofberg

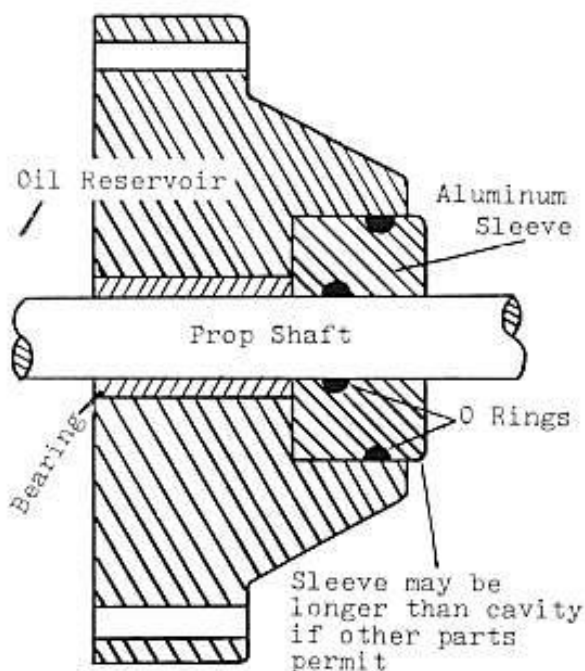
When I restore old motors they are not to look at or to parade once a year. My motors are used day in and day out on Lake George, New York by various "fishing" neighbors. They certainly do not "baby" my motors.

Therefore, I fix mine, especially the shaft seals, so I can use light gear oils. Some motor buffs use heavy gear grease when new seals do not fit the cavity or to prevent water leakage into the gears. But, this may not adequately lubricate the sleeve bearings.

If anyone has a problem with a shaft seal, I will be glad to make one free (with a postage and O - Ring charge) if they will send me:

1. A sketch with accurate shaft & cavity dimensions
2. The mating parts

This offer may be withdrawn if I have too many replies.



Aluminum Collar - push fit into packing cavity
 Grooved O.D. to hold O - Ring
 Sleeve bored to .010" shaft clearance
 Sleeve grooved on I.D. for O - Ring to seal shaft

DWG by Ron Ellis

MARTIN Hi-Speed 60

by Frank Zadonick

After over one and one half years of searching I finally own not one, but two, Martin "60" Hi-Speed racing engines.

The Martin engine on the left (pictured below) has the closed exhaust and both engines have the standard lower unit with water pump (mounted) and the high speed racing lower unit (to left of the engine). This engine is in mint condition and shows little use.

I bought this engine in New Jersey. The negotiations took two months and were very complicated. In fact, I wound up buying the fellow out of seven Martin engines and a large stock of new and used parts just to get this one engine which I dearly wanted. It was very expensive, but worth it.

The second engine came from an old club member, John C. Renfroe in Panama City, Florida. This engine has had a number of modifications from stock - such as enlarged intake valves and a shortened lower unit. Plus he had put on a different magneto, carburator, gas tank, rope starter, and had bored the engine out .030 oversize. John told me he won the Southeast Championship with this engine.

I have restored it back to the original except for the oversize valves, pistons, and the shortened lower unit. This engine features the open exhaust port cover and the high-speed lower unit. Hanging from its clamp in the photograph is an original tiller bar.

It took close to two months of dickering with John Renfroe for me to get this engine. I finally wound-up buying his entire Martin parts in order to get it.

You might be interested in knowing that I sent out over fifty letters all the U.S.A. and Canada, plus made about twenty five telephone calls in the process of locating and buying these two engines. Now that it's over you might ask if it was worth all the trouble and expense? You bet! The real challenge is in locating and dealing the engine away from a reluctant owner. These two engines were the most exciting and satisfying part of completing my collection of Martin Motors.

These engines seem to be very rare. In my entire search I only turned up three ---- two of which I now own.

NOTE: I have two complete collections of restored Martin engines - one of which I would like to find a buyer for.

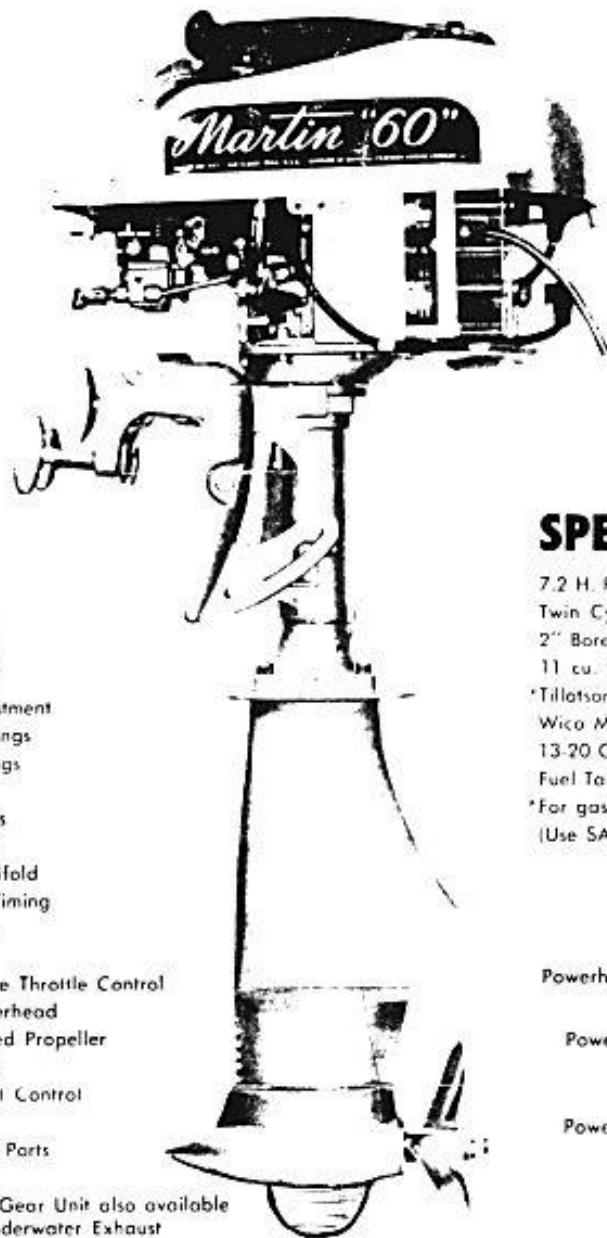
(Frank sent in a clipping from a Canadian newspaper about John Porter of Odessa, Canada. It seems that Mr. Porter had heard of a man (Frank) in West Michigan who had an extensive collection of Martin Outboards. Mr. Porter has a thirty year collection of 529 antique outboards, dating from 1886 to 1951. He also has acquired quite a stock of obsolete parts.

John believes that unlike antique cars, there will never be a market for old outboard engines. His motors are mostly donations and he rarely pays over \$50.00 for any engine.

Frank has been corresponding with this outboard collector and has informed him of our club - he should join this group of like enthusiasts..... Editor)



THE *Martin* HI-SPEED "60"



FEATURES

- Stripped for Action — Light
- *Torpedo Lower Gear Unit — (No Pump) Open Exhaust
- Inboard Vertical Stern Adjustment
- Steel Rods with Needle Bearings
- Ball and Needle Main Bearings
- High Compression Head
- Contoured Intake Port Covers
- Copper Clad Head Gaskets
- Open Throat Centerline Manifold
- Faster Intake Poppet Valve Timing
- Rubber Spark Plug Protection
- Built-In Rewind Starter
- Carburetor Rugged for Remote Throttle Control
- Mechanically Broken-In Powerhead
- **Stannus 2 Blade Bronze Speed Propeller
- Standard Length Drive Shaft
- Synchronized Spark and Fuel Control
- Enclosed Magneto
- Enlarged Intake and Exhaust Ports
- Steering Bar
- *Standard Model "60" Lower Gear Unit also available (Includes Pump) Closed Underwater Exhaust
- **Available 7½ x 9 — 9½ or 7½ x 10 — 10½

SPECIFICATIONS

- 7.2 H. P. at 4000 RPM - Certified
- Twin Cylinder - Alternate Firing
- 2" Bore - 1½" Stroke
- 11 cu. inch Piston Displacement
- *Tillotson MD-15 Carburetor
- Wico Magneto
- 13-20 Gear Ratio
- Fuel Tank Capacity 1 Gal.
- *For gas-oil fuel mixture only.
- (Use SAE 40 oil or MARTIN 2-cycle oil)

PRICES

- Powerhead with Magneto and Carburetor
\$155.00
- Powerhead with Torpedo Lower Unit
\$275.00
(as illustrated)
- Powerhead with Standard Lower Unit
\$255.00
- Extra Bronze Blades
\$12.00 ea.
- Torpedo Lower Unit
\$50.00 ea.
- F. O. B. Factory
All Prices Net

(IMPORTANT
SEE REVERSE)

MCMHS-1 B-1-49

MARTIN MOTORS Division of NATIONAL PRESSURE COOKER CO.
EAU CLAIRE, WISCONSIN

"Excuse Me, But I Was Wondering - - -"

By Hank Techentin

Isn't that how all of us begin our inquiries at marinas, lawn mower repair shops, gas stations, or anywhere else we suspect there might be an old, neglected and all-but-forgotten outboard?

Once in awhile we get a little bit sidetracked in the process. For instance, someone is selling an old outboard, a stationary engine, and an old boat, and you only have so much cash - checks are rarely negotiable with owners of "antiques". Since you already have a Johnson A-35 like the one he is selling, you buy the boat or the stationary engine, just for the variety, if nothing else! That's just one example.

Last August, while on vacation at our summer cottage in Eagle River, Wisconsin, Dad announced that because we had done such a good job painting the house, our reward was to go on a motor-hunting trip through the Northwoods. So, making sure we had Mom's approval, we (Dad, my three brothers and I) piled into the car, and off we went. Our first stop was in Rhineland to see the Mercury dealer who had sold us a KL-80 Johnson the year before. He had an Elto-Evinrude Mate which was in bad shape (low compression, etc.), but refused to sell it. He finally explained that it was not his engine. The Johnson dealer had nothing and the Evinrude dealership was no longer there. We stopped at a gas station and looked in the phone book to make sure that we hadn't overlooked anything. The only place left was an outboard repair shop in the middle of nowhere. Undaunted, we followed the signs to Duke's Outboard Service and Repair Shop.

As we entered, we saw two small Evinrudes from the early forties hanging on the racks. Yes, these were his engines, but they were not for sale - and neither were the "ones in the back". Upon looking in the back, we discovered such treasures as an Elto Super G from 1926, an early Evinrude single, a Lockwood Chief, and many more. Unable to acquire any new iron, we asked if he (the owner) would be interested in joining the club. "Not really." Nuts!

Our next stop was a hardware store that had dealt in outboards some years before. We found nothing there, but the owner directed us to a combined Johnson-Mercury dealership on the edge of town. Here we discovered a W.W. II vintage Waterwitch, a VERY beaten up Johnson K, and a few late model Mercurys. The Waterwitch, we thought, might be worth picking up. Unfortunately, the owner thought so too, and gave us a story about having refused \$125.00 for it from a man "down south", but would consider a higher offer. Needless to say, we left empty-handed.

It was beginning to look as though we were searching the wrong places, so we stopped at a gas station to ask about "real old outboards". The attendant replied: "Sure. Got a couple inside. Wanna see 'em?" We had trouble suppressing our "YES" to a dull roar. He showed us two engines that were probably from the late fifties that were very grimy and in pieces all over a workbench. "They was made WAY before you was born," he said. When asked what he thought they were worth, he turned the question back to us. "How about \$15.00 a piece?", I asked. "No way," he said. They were ANTIQUES.

We made several other stops, none of which amounted to anything. After

a long, disappointing trip, we returned to Eagle River. We stopped for a minute at the grocery store, and somehow the conversation got around to our fruitless search. "Hey," said the owner, "You should've asked me before - there's an old Merc just down the road, and I know it's for sale." We got directions to the house and proceeded there immediately! It was a Mercury alright, but in so-so shape, and not really old. It just wasn't what we were looking for, especially at the price they were asking. Again, nothing.

In a final move of desperation, we went to the Eagle River Evinrude franchise. Earlier they had had a badly beaten up Elto J Ruddertwin and an Evinrude single. Dad had run this same engine many years earlier when he worked for the original dealer, so it was of some special interest to us already. A year earlier they had emphatically stated that neither was for sale. On arriving, however, we found that both had been sold in the annual spring auction, and rather cheaply, we were told. They showed us a Caille Liberty Single, but it was so rusty that you could have poked your finger through the cylinder wall. We declined politely.

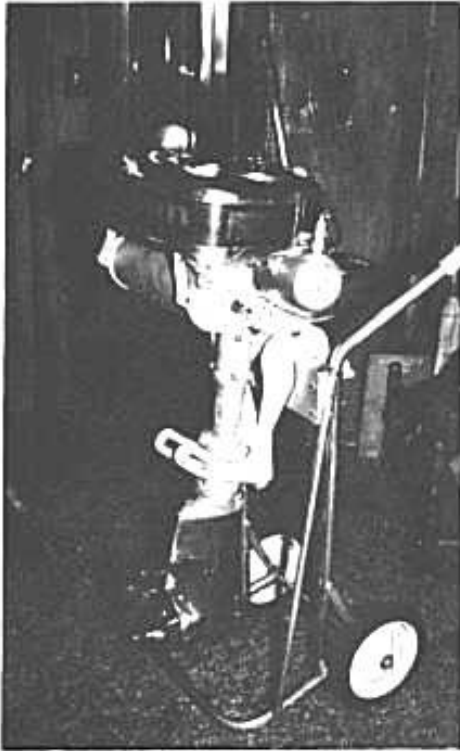
It had been a long day, and although we had seen every marina, gas station, and hardware store in the Northwoods, we had nothing to show for it. "Don't you have anything?" We were on the verge of crying! "Well, would you be interested in this?" We were led to the used motor rack, and were pleased with what he showed us. It certainly was an attractive engine - a very well kept Johnson. It was also larger than any engine in our collection. WHY NOT?! The price was written on the side in black crayon. It was a lot, but this engine was something special. We talked it over, and even after hearing "Mom'll kill us!" and "How'll we get it in the car?", we decided it was the thing for us.

So, after a little business talk, we left as the proud owners of a 1973 60 HP Johnson. It wasn't until later that we realized we had been sidetracked!

JOHNSON MOTORS

THE FOLLOWING LIST WILL ENABLE YOU TO PIN DOWN THE EXACT YEAR OF YOUR JOHNSON MOTOR BY THE SERIAL NUMBER. MANY THANKS TO BILL KELLY!

SERIAL NUMBER	YEAR BUILT	
501 - 3,930	1922	About 100 built late 1921
3,931 - 7,500	1923	
7,501 - 20,000	1924	
20,001 - 30,560	1925	
30,560 - 44,977	1926	
44,978 - 65,524	1927	
65,525 - 96,408	1928	
96,409 - 128,000	1929	
128,001 - 152,777	1930	
152,778 - 161,326	1931	
161,327 - 167,430	1932	NOTE: Following models still being sold - J-25, A-50, K-50, S-45, SE-50, P-50, PE-50, V-45, VE-50, VA-50, KR-55. New Models: OA, OK, SR & PR 60.
(Only 6,103 units produced)		
167,431 - 208,583	1933	All models now suffixed "65"
208,584 - 208,583	1934	
219,372 - 232,156	1935	
232,157 - 232,156	1936	
252,676 - 283,888	1937	End of Johnson as a separate company.
	-21-	



The PR 40 and the "Cops"

submitted by Sam Vance

They say that stranger things have happened, but there are two Johnson Outboards at Vance Jct. among the 50 plus Eltos. The S-45 is one that I have had since I was a boy, while the second one is the PR-40 that I acquired for the express purpose of having a representative motor for the Johnson sponsored 1972 First National Antique Outboard Motor Meet at Antioch, Illinois. The PR-40 is a very remarkable motor and it performed beautifully during the 3 day meet. At the conclusion of the meet, we traveled to Elk Lake, Michigan to my folks home for two weeks vacation. I ran the PR a few times and then retired it to the motor rack in the boathouse where it was to sit for the next 3 years.

Time marches on and it is now the summer of 1975 and we are again spending our vacation with my folks on Elk Lake. One day after all the chores were finished, I decided to try the PR-40 to see if it would run after resting for 3 years. Let me add here that my dad had squirted oil in the cylinders and kept grease in the lower unit during the PR's idle time.

The afternoon sun was warm, a light breeze was blowing - I decided to use my uncle's 14 foot Starcraft that did not have a motor on it at the time. I had in mind only testing the PR, not really taking it out and running it. The boat was empty - really empty - no cars, no cushions, no life-jackets, no gas tank, no tool box - nothing but the boat, the PR and me. The bow rope was tied to a cleat on a removable portion of the dock while the stern rope was tied to a tree. I had put a small amount of gas in the tank and checked the plugs - they were chocolate brown and dry. Please bear with me as I am trying to set the stage for a very unusual, goofy set of circumstances that were about to take place.

Oh yes - it was a Saturday so there were many more boaters on the lake than during the week. Well, here we go!! I put the choke on and gave her a pull, took the choke off and pulled again. (It's not an Elto, so I really didn't expect her to start!) Anyway, great clouds of smoke belched from the PR and we took off. Oh yes - it's worth mentioning at this point that the boat was headed out into the lake!! The stern rope snapped from the tree and it almost threw me over the side. When the smoke cleared and I was able to sit down and grab the steering handle, I realized I was underway in a very fast fashion. The PR had started with a roar!

I turned to see which way I was headed and noticed a tremendous splashing from the starboard side of the boat. After looking over the

side with no success in identifying the splashing, I pushed the stop button on the PR. When the boat slowed down, a 4 foot piece of dock floated up from underneath the boat and the bow rope was still fastened tight to the cleat. I hoisted the strange piece of cargo aboard, and then thought it would be really great to take a ride as long as I was sitting in the middle of the lake.

Again - the first pull and the ole PR jumped back into life. I started up the lake with the PR really "barking" when I noticed a large boat approaching my port stern. When it got alongside, the man with the funny looking bus drivers' hat motioned me to stop. I knew right away I had been stopped by the "Cops". The questioning began with, "May I see your registration?" and followed with, "Where are your life-jackets, cushions and oars?" The only thing in the boat was the front section of the dock. Well - this is one of those cases where all I could do was to throw my arms up and state, "Boy, you really got me - I am really embarrassed!" He couldn't take his eyes off the PR the whole time he was questioning me and finally asked, "What is it?" I told him it was a 1928 16 horsepower Johnson and he just stood there and shook his head.

The lake had gotten a little rough and we were both bobbing around quite badly bumping into each others' boats. I suggested we return to our dock, which was sheltered from the wind and the waves, and discuss our situation further. When we pulled up to the dock, the word had spread rapidly and the shore was lined with all my family, my sister's family, a couple of friends and maybe even some interested passer-bys. Anyway, it looked like 50 or so people were there to greet us. My brother-in-law (who owns a rag wagon - that's a sailboat as described by us stinkpotters) grabbed the front of my boat and with a very large smile on his face, picked up the piece of dock, made a few gestures, and with great fanfare proceeded to ask where the piece of dock had been; they had been looking for it!

I was preparing for the worst! I felt the sheriff was really going to throw the book at me. Instead I received about a 15 minute lecture on boat and "motor" safety. When he concluded, he got out of his boat and came over and got down on one knee to really inspect the PR-40. He couldn't get over that that old piece of iron still was running. We walked to the boat house to see the other oldies I had with me. This summer we had the 1913 Waterman, 1928 Quad, and the 1931 Elto Big Quad with us. All this time and he still had not gotten out his "book". I kept wondering when he would write the ticket, and how much the fine would be. Well, he never did. As it turned out he was so impressed by the old iron he finally said he couldn't bring himself to write a ticket on such a fine engine. Needless to say I was relieved and pleased.

The registration, which was at my uncle's cottage, was not of interest to the sheriff at that time. He said he would return on Wednesday and for us to have it at that time! When the sheriff departed our dock and was out of ear shot, it seemed the whole group broke out in joyous laughter over the entire situation. Ha! Ha!

The sheriff kept his word and arrived promptly at noon Wednesday and found all the paperwork in proper order. When that was completed he proceeded to tell us of an old fishing motor that hung in the back of his father's garage. It turned out to be a 1937 Elto Handitwin in fair shape. The sheriff felt it needed a new home and brought it out, saying that we were welcome to it.

The Handitwin was a beautiful addition to Vance Jet. and it is now placed proudly on the rack beside the Speedsters and Quads and probably

has the most unusual story to go along with it. Well, I guess the lesson for the day is don't go testing motors without the proper safety gear and equipment unless you would like to end up with an old motor.

The End!!

Five Oldies & A New Friend

by Marv Sperring

On an out of town business trip I noticed an advertisement in an antique auto club flyer. A man in San Jose, California was looking for Cushman motorscooter parts and manuals. It took me several months to reply, but I eventually did send him two Cushman owner's manuals that I had kept since my high school days.

He wrote back immediately expressing his many thanks. A few days later he called to let me know of a gas engine auction near Spokane, Washington. He thought there were twenty or more old outboards in addition to many farm-type stationary engines. I tried to get in touch with Phil Brooke; however, he was out of town. Phil lives in Spokane and if anyone knew of what was to be at that auction, I reasoned that he would.

The decision to make the 650 mile round trip was compounded by my business being on strike. But, it was made with my wife's blessing; she's a good one. Thinking that I would be the only outboarder there was short lived, as upon arrival I was greeted by Dudley Davidson. He, of course, would be my principal competition.

Upon touring the grounds I first looked at all of the many hit'n miss engines to be auctioned before I came to the outboard rack. Yes indeed, there were some twenty oldies - including a 1913 (est.) WATERMAN PORTO which had been tagged as a Lockwood-Ash.

Dudley came much better prepared financially (his vacation money!) and got the WATERMAN along with two Ruddertwins, an Evinrude A and a few others. Needless to say, he will not be going on vacation this year! Phil Brooke (by his absence) missed a Caille twin cylinder inboard which went for \$185.00. Both Dudley and I wanted it, but held out for the outboards.

I came home with a 1931 Big Four #802 s/n 0050 in remarkably good condition except for a home made tank. I also picked up a '48 Speeditwin, a small Elto single, and for my wife an old style anchor, that she has wanted for many years.

On my way home across eastern Washington a trucker noticed my treasures in the back of my pick-up. We talked for some time via CB radio. I found he had an old Speeditwin that he would give me a good deal on. I further found that he lived only a few miles from me and yet even closer to my brother Bob. A week later I looked him up and did buy the #6041 Speeditwin for \$15 - plus, he gave me a 1929 A-45 to boot!

This entire episode struck me as a very strange way to locate motors, but a very effective way. In addition, my new San Jose friend is now keeping his eyes open for me!

SPECIAL NOTE TO HERB RIEBE: Watch out Herb, I'm invading your territory!

SPECIAL NOTE TO PHIL BROOKE: Phil, you better watch your own end of the state a little closer!

AUCTION FEVER

By Bill Kelly

Out here in Seattle the boat business is a pretty cutthroat deal and unless you have big bucks for a boat franchise or a good shop, you are in trouble. Recently one of the local smaller shops fell on hard times. It went up on the auction block as no one in their right mind will actually BUY a marine dealership out here. This business is truly a Labor of Love!

In any case, these folks had a fair rack of oldies - the word got around and on the day of the auction the AOMC'ers were out to see what they could pick up. We all knew there was a Midget Racer, Ruddertwin, Bendix Twin, '32 Sportwin, etc. - but, of course, these were absent at auction time: safe at home in the basement! There were still sixteen miscellaneous varmits in sad or sadder shape still on the rack. As the sale progressed closer and closer to these "treasures", the discussion became more involved and many a motor was keenly examined: "Well, maybe if I can set it for . . . Do you want this one or shall we . . . I wouldn't give over \$10.00 cash for this scrap."

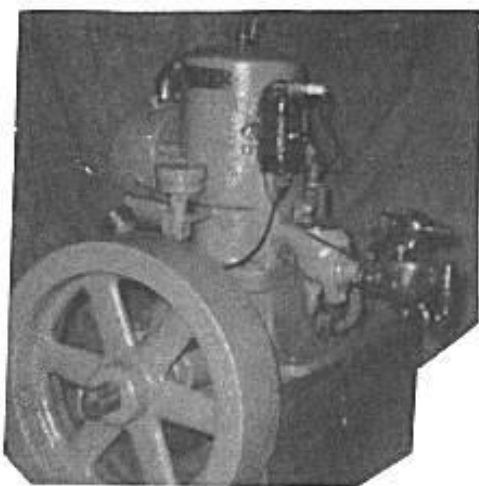
But, when the awaited moment arrived, the boys had to take a different tack. "Alright, what am I bid on the lot - take one or all at an item bid!" Well, lo and behold, the price as if by magic ran up to \$32.50 bid by a TOTAL STRANGER! O boy. But wait - he only took one, a Neptune Single that looked pretty good. About then I popped up because there was a '28 Speedster - less tank, coil and other miscellaneous parts - and I like these critters and optimism overcomes common sense, and - anyway, I offered \$25.00 for it right off and of course nobody else was so foolish, so I gott'er! "Does anyone else want one at that price?" asked the auctioneer. Al Nyland succumbed to the fever, picking out an Evinrude Ranger in running order.

The bidding started again and I suggested to Bill Seibel, Al, and Clyde Fowler that maybe if we bid as a group we could divvy up the whole mess at a break-even price among us. No, it was not to be - - - "\$2.50 (\$5.00) \$7.50 (\$10.00) \$12.50" - - - "You guys want to go \$15.00?" - - - Well - - -But, THOSE STRANGERS BID AGAIN: "\$15.00" - - - Then "\$17.50"! We thought he only wanted one, of course, but our mystery buyer was pretty cagey. He took them ALL!

Gloom prevailed. What were we to do now? The inevitable took place: I asked the man, who it turned out was from Alaska, if he would consider selling any of these jewels to us good 'ole boys. I personally wasn't particularly interested in any of the remainders, outside of a 1926-27 Evinrude "Knucklebuster" Single that had seen better days and was frozen solid to boot! "Sure," he said, "I'll sell you guys whichever ones you want." So the fellows all picked out their favorite from the row and all concerned planned to meet back at the site that next morning to divvy up the spoils.

Well, as you may have suspected, when the gang converged the next day to get their favorite, the price had gone up -- in a moment of lucidity I restrained myself and settled for the Elto. "I'll take an offer for the cream of the crop," said the owner. Fortunately a good night's sleep had restored a measure of sanity to my friends and the best our Alaskan entrepreneur could wrest from them was an offer of \$20.00 for the old

Single and one other motor. A third went for \$17.50, and our gambling friend had the rest - a sorry lot - to himself. Heaven only knows what he will do with \$175.00 worth of frozen J-70's, 100's, LT's and one model A Johnson -- how will he get them back to Alaska?! Evidently he has a shop up north, and a boy who likes to tinker. Hopefully that \$175.00 was well spent for that young man's enjoyment. I bet he gets a bunch of them to run!



Crescent Inboard

by Gene Yonker

Like many other AOMCI club members, I also belong to a number of other old engine and steam engine clubs (but not the Confederate Air Force!). Although I stick mostly to outboards, I do pick up a few old steam engine parts, pumps, valves, injectors, etc.

I traded a restored water wagon pump (Deming #2) for this old two stroke Crescent inboard: $4\frac{1}{2}$ " bore, $4\frac{1}{2}$ stroke, 5 h.p. at 600 R.P.M. I've found a number of old outboards through some of these

other clubs, and can usually work out a trade of some sort before ever having to resort to "dirty old cash". I would like to point out that the price of belonging to many of these engine clubs is less than five bucks. It is well worth the money.

As you can see, the engine is complete, including the thrust bearing and the prop for it. Ignition is by battery and coil, but I do not think it is the original system as it appears to be added on. I haven't fired it up yet, but will have it running by the end of October.

The engine is not for sale, but I will trade it for equal weight in '28 Quad.

=====

CRESCENT INBOARD ENGINE SPECS

MANUFACTURER:	Crescent Marine Motor Company St. Louis, Missouri
ENGINE	#275
R.P.M.	600
H.P.	5
BORE	$4\frac{1}{2}$ "
STROKE	$4\frac{1}{2}$ "
CARB	1" Schebler - Pat. Oct. 14, 1902
INTAKE VALVE	Atmospheric, Poppet
COOLING	by piston pump - Lunkenheimer check valves
MAIN BEARING LUBRICATION	- grease cups
FLYWHEEL	$16\frac{1}{2}$ " diameter
ENGINE HEIGHT	- Bottom of flywheel to priming cup - 28"
WEIGHT	Approximately 275 - 300#

The Shipyard Museum Makes A New Friend

by Riggs Smith

PART ONE - FOOT IN MOUTH DISEASE

Just over a year ago at the Shipyard Museum's Antique Boat Show AOMCI Meeting at Clayton, New York, an AOMCI member and a good friend took the tour of our famous museum.

He saw it all, the many buildings with backrooms just filled with old boats, motor parts, hardware, etc. We are not quite sure what happened to our friend, but he put his foot in his mouth when he mumbled something to the effect that it might be interesting to "become more involved" with our museum. We quickly caught the meaning and said, "Why not? It's fun, it's productive and you get a sense of accomplishment by doing something for someone else, or in this case, a community."

Our friend opened his mouth again, this time just to change feet. He mumbled something about living "7 hours driving time away." "That's no problem," we quickly replied. "We have many projects that can be easily assigned and removed from the museum grounds. We have seen some of your work and feel confident that you could undertake anything that you set out to do." This is an absolutely true statement. The motors this guy drags around to the many meets held in the Northeast are beautifully restored. He is an absolute craftsman.

The next time he opens his mouth is to put both feet in! "How about letting me take an outboard motor from the museum and restore it next winter?" he asked. This is too much! We were for this guy. We were beginning to believe, for a long time, that the many antique outboards on display at the museum had only one friend - namely, Yours Truly. Now another "friend" turns up. His name is Dick Fuchs from Simsbury, Connecticut. It turns out that Dick has friends all over the country.

We move in quickly for the kill...it's easier with two feet in the mouth! "How about that 1915 Waterman over there?" we ask. No reply. He looks in the general direction of the Waterman. It's rough; black paint over grease, no gas tank, no carburetor, no set up, no buzz box, and any number of other items either missing or broken. The next time he opens his mouth is to remove both feet and give me that famous Fuch smile that many of his friends can recall from coast to coast! "You're putting me on," says Dick.

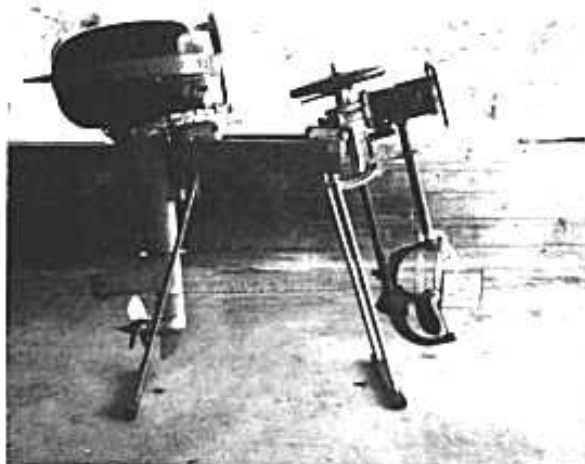
"No, I'm not. How about it, Dick?"

"You're kidding."

"Would I kid you, Dick?"

"You are serious, aren't you?"

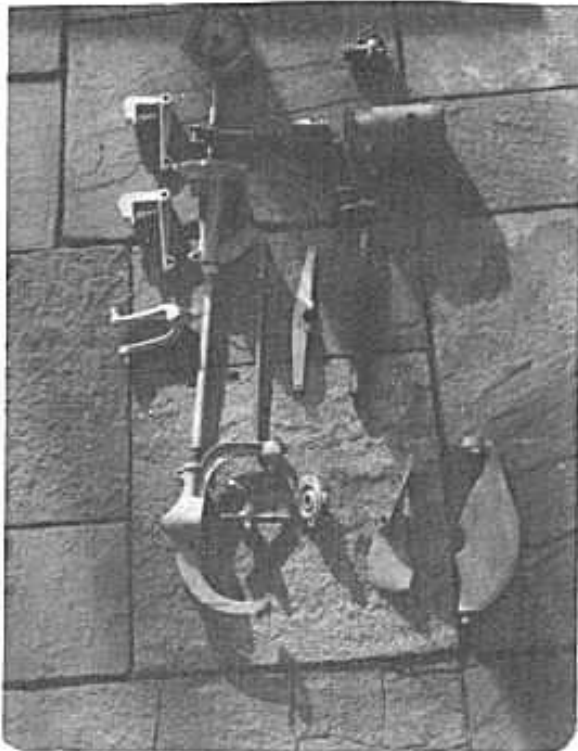
Twenty minutes later we had that Waterman strapped into the famous Fuch's trailer, and the paperwork was all processed!



THE WATERMAN (R) BEFORE RESTORATION. PREVIOUSLY THOUGHT TO BE AROUND 1915, DICK HAWIE HELPED TO DATE IT TO 1912. CONSIDERING THE AGE DIFFERENCE IN THE ABOVE PHOTO THERE ISN'T AN AWFUL DIFFERENCE IN SIZE OR WEIGHT.

PART TWO - DICK DOES HIS HOMEWORK

Before Dick arrived home in Simsbury, Connecticut he had made a plan.



A COMPLETE TEAR-DOWN WAS REQUIRED. ALL PARTS WERE CLEANED, SOME WERE SANDBLASTED. THE GREASE PRESSURE METHOD WAS USED TO REMOVE THE PISTON FROM THE CYLINDER.

coming together. Dick made the wooden dies to stamp out the thin brass pieces to form the gas tank. Quite an achievement! Dick brought the gas tank and wooden dies to the 1977 winter meet at Sam Vances in Unadilla, New York. Progress looks good! He said the engine was apart and all cleaned up. He had to use the grease pressure method to unstick the frozen piston from the cylinder assembly. What some people go through just to make friends with the museum! I have much appreciation for such a fine craftsman.

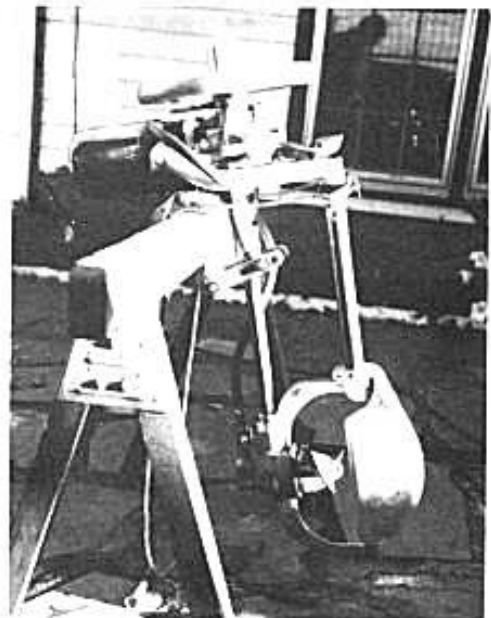
We really did not demand such a fine job. What we had in our minds was sort of a "cosmetic touch-up." "Make it look like a Waterman." we remember saying somewhere near the beginning. But this guy Fuch just won't settle for half a job. He's stubborn; it's got to be good.

In late June I got a postcard. "It runs." That's all it said. It was postmarked Simsbury, Connecticut. In mid-August, Dick brought the now completed Waterman to the 1977 AOMCI Shipyard Museum Boat Show and parade. The Porto was im-

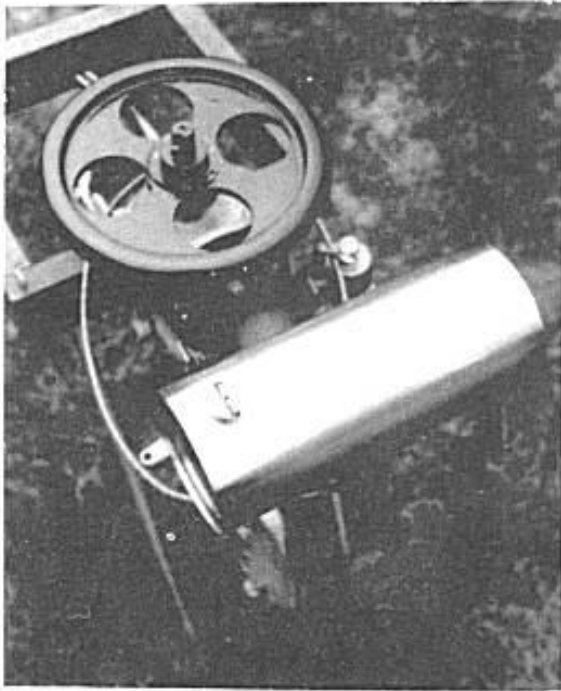
The Project had started. AOMCI members, Sam Vance, Phil Kranz, Bill Andrulitis and others have committed to provide much of the technical information on the gas tank and other areas. Bill will supply a spark plug of the correct size and vintage. Dick Hawie will help in correctly identifying the Waterman from what we thought to be a 1915 to actually a 1912 model. In fact, Dick loaned a copy of a 1912 advertisement from a Rudder Magazine to Dick Fuch to be properly photographed and blown up for museum display. Bill Seiber from Seattle, Washington provided a picture of the Waterman trophy. Friends of Dick in Simsbury provided other services: such as, Dick Curtiss of Curtiss Memorials, doing the sand blasting. Fred Weltmen did much of the step-by-step photography. Dick Dee did other graphics assistance. Ted Glueck provided the much needed moral support.

We received a letter that he was stuck and could not find a carburetor. We dug into the Archives of the museum and pulled out a carburetor that was quite close in shape and size. We also found a buzz box while on vacation in Florida at a flea market!

Piece by piece it all started



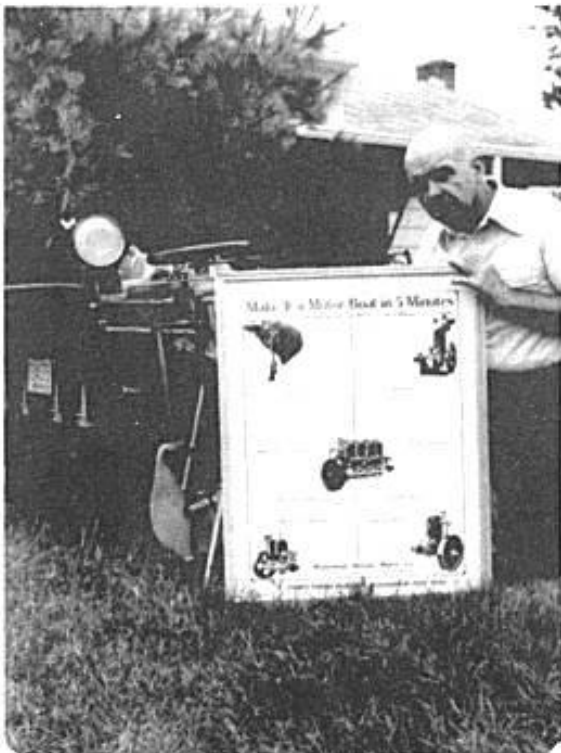
REASSEMBLY HAS BEGUN. THE GAS TANK IS NOT YET INSTALLED.



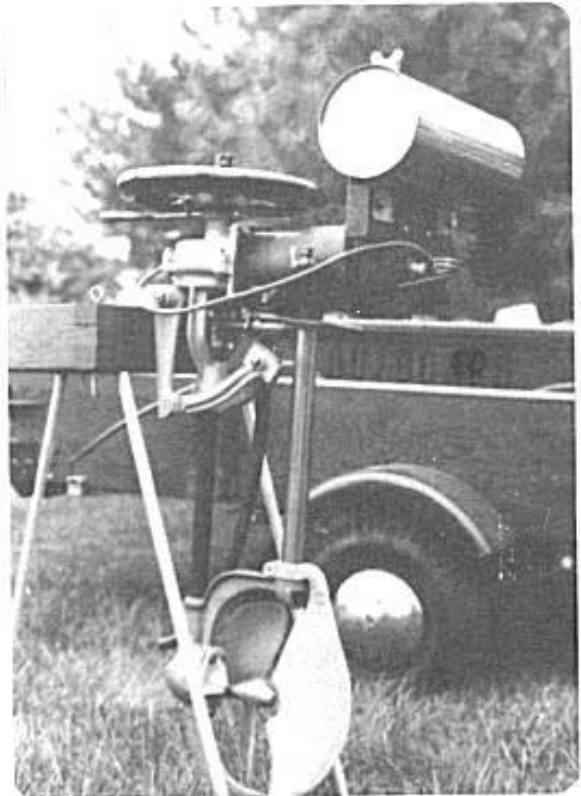
mediately placed on a white cast iron motor stand. Several photos and a write-up of the restoration are on display.

Approximately 8,000 people have gone through the museum since August 20th. Most have stopped and admired the 1912 Waterman Porto that Mr. Fuch so beautifully and patiently restored.

Photograph on the left is a view that shows some of Dick Fuch's fine craftsmanship in fabricating the gas tank and carburetor mounting items.



DICK SHOWS OFF THE BLOW-UP OF THE 1912 WATERMAN AD IN THE RUDDER MAGAZINE. MANY THANKS TO DICK HAWIE FOR PROVIDING THE MAGAZINE TO DICK FUCHS FOR ENLARGEMENT.



THE FINISHED PRODUCT. AFTER A LONG YEAR OF HARD WORK. THE RESULT IS A RUNNING RESTORATION OF A 1912 WATERMAN OUTBOARD MOTOR.

RICHARD A. HAWIE

NOTES FROM THE CURATOR

The last time I touched on racing was in April 1974. So, we will pick up from there and look briefly at the results of the National Championships from 1932 to 1936, which is about as far as my magazine file will take me.

Boat racing was a much bigger item in the boating magazines of the early Thirties than it is today. I do not subscribe to any of the boating magazines today, but the ones I glance through at the newsstand have nothing on boat racing, not even the National Championships. The 1932 November issue of Motor Boating, on the other hand, had a seven page article on that year's championship, including a complete summary. It was more complete than what was printed in this year's Propeller, the official magazine of the American Power Boat Association. It's a sad fact that there is more data on the 1932-1936 National Championships than the 1972-1976 ones. Boat racing has fallen on hard times as far as publicity goes. That's why I appreciate Rusty Rae's book, Speed and Spray.



Boat racing is important to us as collectors and historians because it was well publicized. Therefore, we have pictures of some of the large, rare motors because they were at races.

The 1932 Championship was held at Bay City, Michigan from October 7th to the 12th. Today the Championships are held in August before Labor Day so that college students can attend before school starts and working folks can go during the vacation season. From 1929 through 1933 they were held in October, near Columbus Day. From 1934 to World War II they were held in the middle of September. Perhaps the move to mid-September was made because the weather was usually terrible at those championships held in October.

The 1932 Championship was the last one where all six classes were contested, though classes D and E did not have many entries. The Depression was in full swing and racing reflected the problems of the times. The 1932 race also had a Class C Runabout race, but it was not considered a championship race according to the summaries. Racing runabouts were not popular nationally at that time. California seemed to be the center of interest in them.

The races were held in the Saginaw River, not hugh Saginaw Bay. It must have been quite a trip in 1932 on the old roads in existence then to get to Bay City. I drove for about ten years before the interstate highway system was built, and just that short time on narrow two-lane roads has left me in awe of the travelers of the Twenties and Thirties. In his wartime journals Charles Lindbergh tells of traveling overnight to Detroit through Port Jervis, New York and Scranton, Pennsylvania on old Route 6! I've been out there a few times on Interstate 84 and 81 in

broad daylight. To travel over those mountains on Route 6 at night seems almost as great a feat as flying from New York to Paris.

The National Championships were not decided on a point system for two heats of racing as almost all other sanctioned races were, but by the least total elapsed time for two heats of racing. This put a premium on finishing both heats. Drivers were divided into amateurs and professionals: Class AI was for amateurs, Class AII for professionals, for instance. There didn't seem to be a limit on the number of starters in each race; at least 18 completed one lap in Class AII. There never has been any restriction on women being outboard boat racers; consequently, there never have been very many women competing in outboard boat racing. The few women competing have been pretty good though.

Motor Boating's summary lists the boat brand used, but not the motor used.

The National Champions for 1932:

CLASS	NAME	ADDRESS	BOAT	BEST SPEED
A I	Ruth DeRoo	Flint, Mich.	Elsinore	36.14
B I	Art Jacobs	Chicago, Ill.	Century	37.34
C I	Jack Smith	Park Hills, Ky.	Arrow	44.34
D I	Andy Gantner	Chicago, Ill.	Homemade	37.89
E I	Horace Tennes	Chicago, Ill.	Brobeil	44.55
F I	James Nunneley	Detroit, Mich.	Brobeil	45.34
A II	Ed Hauptner	City Island, N.Y.	Wagner	36.51
B II	Frank Vincent	Tulsa, Okla.	Homemade	39.81
C II	Walter Everett	Tulsa, Okla.	Homemade	45.34
D II	R. E. Pell	Plainwell, Mich.	Century	42.55
E II	Cal Leeth	Cullman, Ala.	Blythe	44.22
F II	Art Sauerberg	St. Louis, Mo.	Wagner	49.72

Other boats used included: Herter, Martin, Indian, Flowers, Richardson, McCullough, Crandall, Pacquette, Cabot, Johnson, Thompson, Harland, Jacoby, Gorenflo, Aircraft and Brooks. There are a few there that I can't identify. There were 122 drivers entered with 169 boats and motors - actually not a bad showing for a race that late in the season in the midst of the Depression.

Mile trials were held two days after the races due to bad weather. Three new records were set: A II - 41.95 MPH by Arrel Reinking of Indianapolis, B II - 46.39 MPH by R. Allen Smith of Miami, Okla., and F II - 58.91 MPH by Art Sauerberg of St. Louis, Mo. Mr. Smith is still active in racing as a propeller "wizard". He reworks stainless steel blanks into unbelievably fast propellers. "Poppa" Smith's wheels are the Rolls Royce of racing propellers.

The 1933 Championships were held in Chicago in two lagoons on the Century of Progress Exposition Grounds on October 7th and 8th. The course was set so that the boats had to go under a narrow bridge between the two lagoons. A restriction was placed on the number of starters in each race. It was either 12 or 13 depending of whether you read Yachting or Motor Boating; in any case, no more than 11 are listed in the summaries of the races in Motor Boating. The Midget Class M was contested for the first time in a Nationals, as was the Class C Racing Runabout. Class D and E were not contested.

The National Champions for 1933:

CLASS	NAME	ADDRESS
A I	Clinton Ferguson	Waban, Mass.
B I	Jack Maypole	River Forest, Ill.
C I	George Kuehn	Milwaukee, Wis.
F I	Paul Hyatt	Brooklyn, N. Y.
M	Elmer Schneider	St. Louis, Mo.
CRR I	James Rudy	Detroit, Mich.
A II	Bob Meyer	Chicago, Ill.
B II	Frank Vincent	Tulsa, Okla.
C II	James Rogers	Melrose Park, Ill.
F II	Walter Everett	Tulsa, Okla.
CRR II	Ed Gierlich	Los Angeles, Calif.

Mile trials were held at Cedar Lake, Indiana on October 9th as the lagoons at the fair were not big enough. The time trials were noteworthy in that the 60 MPH mark was broken for the first time. This was quite a feat when you consider that the fastest accepted speed in 1925 was only 16.68 MPH. The speed record was more than tripled in eight years! A list of the new records set at Cedar Lake follow. A little trivia note: Herschel Turk of Tulsa, Okla. was the first one to exceed 60 MPH for he set a record of 60.30 MPH which was subsequently broken that day. The ladies, God bless 'em, were well represented in record making. Though I consider myself somewhat of a student of racing history, Mrs. Sharp is not familiar to me. Mrs. Herring was a well-known driver, having set earlier records.

Records set at Cedar Lake, Indiana on October 9, 1933:

CLASS	SPEED	NAME	ADDRESS
A II	47.13	Ruth Herring	Fort Worth, Tex.
B I	50.07	Elizabeth Sharp	Tulsa, Okla.
B II	50.42	Dick Neal	Kansas City, Mo.
C I	54.05	George Kuehn	Milwaukee, Wis.
C II	54.79	Frank Vincent	Tulsa, Okla.
F I	58.82	Paul Hyatt	Brooklyn, N. Y.
F II	61.75	George Coleman, Jr.	Miami, Okla.
CRR I	46.03	Jim Rudy	Detroit, Mich.
CRR II	46.09	John Schaller	St. Louis, Mo.
M	26.87	Elmer Schneider	St. Louis, Mo.

Class M was envisioned as a starting class for beginners, not professional drivers, hence no II class.



Photograph on the left:

Clint Ferguson, many times amateur champion. Johnson KR on transom.

November 1933 Yachting



Right: Mrs. Ruth Herring as captured by the camera of Morris Rosenfeld. One of the most famous racing photos. November 1933 Yachting

Left: George Kuehn 1933 C I Champion. With a bow like that you wouldn't crowd him at the turn. Notice the side sponsons. The idea for the three point hydro was beginning to form. November 1933 Motor Boating



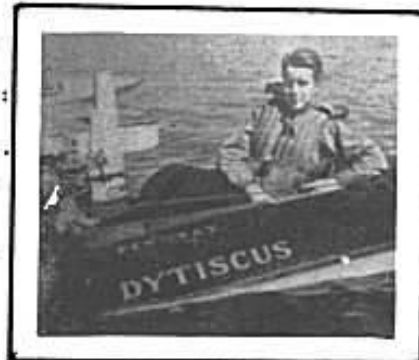
Photograph left: Mrs. Ruth DeRoo 1932 A I Champion with Johnson KR, November 1932 Motor Boating; right, Miss Maryland Codd second in A II 1933 by two seconds, October 1934 Motor Boating.



Photograph lower left: Mrs. Ruth Herring mile record holder in Class A II, November 1935 Rudder. These ladies were winners in the looks department, too.



Photograph lower right: Gar Wood, Jr. many times Amateur Champion. His first was in 1937. He and Clint Ferguson dominated the amateur class to World War II. November 1935 Rudder



to be continued in October issue.....

BABY BILLY II, a Curtis outboard hydroplane, hung up a world's record at the Baltimore regatta. In fact Curtis boats have repeatedly won at various regattas, including Savannah, Norfolk and Virginia Beach. Curtis outboards can't help being winners. We designed them that way—for smooth speed and flashing performance. The Curtis De Luxe hydroplane is a sturdy boat for all-around use. Mahogany throughout—brass fastened. Tough as iron, but a real beauty.

Write today for full particulars and price.
GAS ENGINE & BOAT CO.
NORFOLK, VIRGINIA

-33-



RESEARCH AND DEVELOPMENT

from the bench and desk of Herb Riebe

SUBJECT: Motor Oils for Use in Antique Outboard Engines

REASON FOR R & D: I felt that after 20 to 25 years of advancements made by the oil industry in the improvements of lubrication oils, there must be a better way of lubricating an antique outboard than the use of the old non-detergent oil.

The following list of outboard oils was assembled in order to give the reader as much of a chance to compare one brand with another as my limited resources allowed me. My resource person is a long time employee of Standard Oil of California, in the Oil Blending Department, and that is why there is more information in the article on Standard products than on the others. However, it is my feeling that if more information was obtained on the other oils listed that they would all have somewhat the same specifications. After all, they and other oils that I have not listed are all being sold in the market place to be used to lubricate small two-cycle engines.

For the most part, the information is of little use to the person who is only interested in going out and buying a quart or two of oil to run in his outboard engine. So, for that person, he need only concern himself with trying to find the oil with the highest viscosity. This is especially true if the engine is running all bronze mains and rods.

Added to the list of outboard oils is one automotive type oil. This oil is as close a oil as Standard now makes to the type of oil that we had to use in the outboards in the 1920-1950 era. I am told that Zerolene has very little market in this country and is now made mostly for overseas shipment.

Of the members that I know who are using the modern oils, all have found that they are cutting back on the amount of oil being used per gallon of gas. Eric Gunderson is using 1/2 pint per gallon in all his engines. Ray Rydell is using the same mix in his Speedifour and Bill Salisbury is doing the same in his POs. I am running the mix in a Big-4 and I have a friend at Lake Tahoe who is running 1 quart to 5 gallons of gas in a Big-4. He has been doing this for years. However, he does use a special type of racing oil. I think that because of the improvement in the way the oils homogenize with the gas and the special additives that are now being put in the outboard oils that this reduction is possible.

The modern oils will greatly help plug life, and carbon build-up on piston heads and around ring grooves is far less.

PENNZOIL 50-1		CASTROL 2 Cycle Motor Oil	SAE-40
Viscosity @ 100 F. SUS	571.7	Viscosity @ 100 F. SUS	769
Viscosity @ 210 F. SUS	123.3	Viscosity @ 210 F. SUS	74.3
PENNZOIL 20-1			
Viscosity @ 100 F. SUS	594.4		
Viscosity @ 210 F. SUS	128.4		

CHEVRON 2 Cycle Blend

RPM 185 Bright Stock
 RPM 480 Neutral Oil
 OLOA 340 D
 Thinner 350B
 Red Dye

Viscosity @ 100 F. SUS 165-190
 Viscosity @ 210 F. SUS 48.5
 Flash Point, Open Cup 152-190
 Pour Point -20

CHEVRON 2-4 Cycle MO 30

Chevron Polybutene 128
 RPM 130 Neutral Oil
 RPM 480 Neutral Oil
 OLOA 232 E
 OLOA 370
 Blue Dye

Viscosity @ 100 F. SUS 398.6
 Viscosity @ 210 F. SUS 63-66
 Flash Point, Clev. 440 Min.
 Color Blue
 Pour Point 10 Max.

GEORGIA-PACIFIC 2 Cycle OBMO 40

RPM 185 Bright Stock
 RPM 130 Neutral Oil
 RPM 480 Neutral Oil
 OLOA 340 D

Viscosity @ 210 F. SUS 76-79
 V.I. 85
 Flash Point, Clev. 460 F. Min.
 Color 8 Max.
 Pour Point 10 Max.

ARCO 2 Cycle Blend

RPM 185 Bright Stock
 RPM 480 Neutral Oil
 OLOA 340 D
 Blue Dye

Viscosity @ 100 F. SUS 165-190
 Viscosity @ 210 F. SUS 49
 Flash Point, Open Cup 152-190 F.
 Pour Point -20
 Ash 0.01

McCULLOCH 100:1

RPM Neutral Oil 480
 OLOA 340 D

Viscosity @ 210 F. SUS 63-68
 V.I. 80 Min.
 Flash Point, Clev. 440 Min.
 Color Astm. 5.0
 Pour Point 10
 Ash 0.01 Max.

McCULLOCH 2 Cycle 40-1 Custom

RPM 185 Bright Stock
 RPM 480 Neutral Stock
 OLOA 340 D
 Purple Dye
 Chev. Thinner 350 B

Viscosity @ 100 F. SUS 165-190
 Viscosity @ 210 F. SUS 48.1
 Flash Point, Open Cup 150-190°
 Pour Point -20 Max.

AUTOMOTIVE TYPE MOTOR OIL

ZEROLENE MOTOR OIL SAE - 30

Zerolene Pale Oil No. 3
 Aerolene Pale Oil No. 9
 Lubrizol 4524

Viscosity @ Kin, at 210 F.: CS 10.78-11.61
 Viscosity @ 100 F. SUS 733.5
 Viscosity @ 210 F. SUS 62-65
 Viscosity Index 30 Min.
 Color, ASTM 5.5 Max.
 Flash Point, Cleveland, F. 420 Min.
 Pour Point: F. 0 Max.
 Foam Stability at 200 F.: ML 0 Max.
 Calcium: Wt% 0.148-0.179

ZEROLENE MOTOR OIL SAE - 50

Zerolene Pale Oil No. 3
 Zerolene Pale Oil No. 9
 Lubrizol 524

Viscosity, Kin. @ 210 F.: CS	17.01-18.70
Viscosity @ 210 F. SUS	86-93
Viscosity Index	25 Min.
Color, ASTM	5.5 Max.
Flash Point, Cleveland: F.	450 Min.
Pour Point: F.	10 Max.
Foam Stability @ 200 F.: ML	0 Max.
Calcium: Wt%	0.148-0.179

FOOTNOTES:

- (1) All the technical information in this article was supplied by Mr. Robert Martin of Pleasant Hill, California. His help made this paper possible.
- (2) I do not feel it is my place to recommend one oil type over another. However, if any person out there can get information on where I can buy Castrol, 2 Cycle, Motor Oil, SAE-40, in case lots of 5 gallon - 25 gallon cans, I would like to hear from them.
- (3) I feel this R & D paper is only a beginning in what could be done with this subject matter. If any member knows a petroleum engineer who would like to do some more writing on the subject, I am sure most of us would like to read it.

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OUTBOARD MOTORS**

**Three Great Motors
Built for FISHERMEN!**

THOR
"Atomate"
3"



Theronly 3-cylinder Outboard. Enjoy the vibrationless power of OVER-LAPPING TORQUE. Throttle it down to trolling speed or open it wide. IT'S AS RESPONSIVE AS A FINE AUTOMOBILE! Dynamometer rated 2 H.P. at propeller. Runs 1 1/2 hours on a gallon at full throttle. Smooth power. Easier starting. Priced low at only \$42.50.

NEW THOR STREAMLINER
Powerful, light weight "Single". 2.4 H.P. Runs 3 hours on a gallon. Weedless.

THOR "Atomate 2"
Dynamometer Rating 1 H.P.
\$42.50

THOR Motors stay cool at all speeds. Control the THOR as you do your car—with an ACCELERATOR.

All Prices F.O.B. Factory

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Dealers! The New THOR line will please you in performance and profit. Attractive territory open. For details write now. KIRKHAFFER CORPORATION, Cedarburg, Wis.

There is a super abundance of special features on ALL 1955 THOR OUTBOARDS. Get full information now from factory and dealer. 1955



"For heaven's sake, Sam, spend some money and get yourself a boat."



ODDS & ENDS



I would like to point out that there are a number of states in the U.S. that do not require fire extinguishers in outboard motor driven boats that are under a certain length. Sixteen feet is this length in most of those states. Also, many rental boats do not have fire extinguishers unless you have your own!

I would suggest to anyone who values their old, polished, buffed, and pampered outboard that \$8.00 or \$10.00 for a fire extinguisher is one heck of a bargain. I hope you never have to use it, but it surely is comforting to have around.

To pass Coast Guard inspection a fire extinguisher is a must, but many privately owned and state lakes do not require this equipment.

For your own peace of mind, buy one - or even two. I know that almost anyone would invest that much in a motor. How about protecting it??

Gene Yonker

TIP ON DECAL RESTORATION AND MAINTENCE

From time to time we run on to a "decent" outboard motor. It may or may not be of a particular interest to our collection, but it is too good to let go. Occasionally, after being cleaned up, it appears that the original decal is quite good. To help preserve this decal in its original state, we are varnishing the decal with a good grade of "marine" or "exterior flat" type varnish. This seems to help preserve the under finish.

We are doing the same for all of the "new" decals advertised in THE ANTIQUE OUTBOARDER. We have found that gasoline will wash off the background inks on some of these; the varnish will help stop it.

By properly coating the decal and keeping the motor out of the sunlight, we find that the varnishes work pretty good.

Riggs Smith

I have a couple of old manuals, which were obtained with my '27 Speedster. One is for the Speedster and the other is for 1927 models J & K Ruddertwins. If anyone needs data from these, let me know!!

Bill Kelly 9730 Juanita, Kirkland, Washington 98033

I discovered by accident that many power lawn mower handles are 7/8" in diameter and are chrome plated. These make excellent tillers for the Elto Speedsters and Quads by just cutting to the desired length. They can be found at any lawn mower repair shop.

A 10-32 set screw 1/8" off center of the hex fly-wheel nut on an Elto will keep it from coming loose.

Elto point springs can be replaced with a tempered piece of rewind spring .008 thick that is soldered as necessary.

You can clean the inside of small gas tanks with a mixture of fine gravel and kerosene in a paint shaker at any friendly hardware store.

Warner Turner

WANTED: Short technical items or helpful hints and ideas.

Continued from January 1978 issue

MODEL	SERIAL NUMBER	BORE & STROKE	H.P.	SPARK PLUG	RETAIL PRICE
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MAJESTIC
Manufactured by CHAMPION MOTORS

1950

1-MBB Standard Single		2 1/16 --1 3/4	4.2	7	132.50
2-MB Deluxe Single		2 1/16 --1 3/4	4.2	7	147.50
4-MB Deluxe Lite Twin		2 1/8 --1 3/4	7.9	7	195.00

MARTIN
MARTIN MOTORS

1946 - 1948

60	25000 Plus	2 --1 3/4	7.2	J8J	184.45
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1947 - 1948

40	15000 Plus	1 9/16 --1 1/2	4.5	J8J	145.45
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1948

20	5000 Plus	1 9/16 --1 1/2	2 1/3	J8J	114.50
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1949

20	5000 Plus	1 9/16 --1 1/2	2 1/3	J8J	119.45
40	15000 Plus	1 9/16 --1 1/2	4.5	J8J	150.45
60	25000 Plus	2 --1 3/4	7.2	J8J	189.50

1950

20	5000 Plus	1 9/16 --1 1/2	2 1/3	J8J	123.50
40	15000 Plus	1 9/16 --1 1/2	4.5	J8J	154.45
60	25000 Plus	2 --1 3/4	7.2	J8J	192.20
66	25000 Plus	2 --1 3/4	7.2	J8J	202.20
100	55000 Plus	2 3/16 --1 3/4	10	J8J	269.50
60 Hi-Speed	25000 Plus	2 --1 3/4	7.2&	J8J	275.00

MERCURY
Manufactured by MERCURY

1940 - 1947

Available Specifications were Insufficient at Time of Publication

1948

KE-3 Comet		2 --1 3/4	3.6	J7J	134.95
KE-4 Rocket		2 --1 3/4	7.5	J7J	189.50
KE-7 Lightning		2 7/16 --2 1/8	10	J7J	275.00

MODEL	SERIAL NUMBER	BORE & STROKE	H.P.	SPARK PLUG	RETAIL PRICE
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MERCURY (Con't.)

1949

KE-4 Rocket	2	--1 3/4	7.5	J7J	195.00
KF-3 Comet Deluxe	2	--1 3/4	3.5	J7J	139.50
KF-5 Super Five	1 3/4	--1 1/2	5	J7J	175.00
KE-7 Lightning	2 7/16	--2 1/8	10	J7J	287.50
KF-7 Super Ten	2 7/16	--2 1/8	10	J7J	307.50

1950

KF-3 Comet Deluxe	2	--1 3/4	3.5	J7J	148.00
KF-5 Super Five	1 3/4	--1 1/2	5	J7J	192.50
KE-4 Rocket	2	--1 3/4	7.5	J7J	216.50
KG-4 Rocket Hurricane	2 7/64	--2 1/8	7.5+	J7J	291.50
KG-4-H Rocket Hurricane	2 7/64	--2 1/8	7.5+	J7J	*300.00
KE-7 Lightning	2 7/16	--2 1/8	10	J7J	361.50
KF-7 Super Ten	2 7/16	--2 1/8	10	J6J	334.50
KG-7 Super Ten Hurricane	2 7/16	--2 1/8	10+	J6J	384.50
KF-9 Thunderbolt	2 7/16	--2 1/8	25+	J6J	524.00
KG-9 Thunderbolt	2 7/16	--2 1/8	25+	J6J	599.00

*Approximate Price

MILBURN CUB

H. B. MILBURN COMPANY

1949

1 5/8	--1 5/8	2.5	69.50
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1950

1 5/8	--1 5/8	2.5	69.50
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MUNCIE

Manufactured by MUNCIE GEAR WORKS, INC.

1941

11-A-1	1 9/16	--1 1/2	1.5	41.50
11-B-1	1 9/16	--1 1/2	1.5	38.95
11-A-2	2 1/16	--1 1/2	2	58.40
11-AA-2	2 1/4	--1 1/2	2	66.40
11-B-2	2 1/16	--1 1/2	2	58.40
11-A-3	1 9/16	--1 1/2	3	82.50
11-AA-3	1 9/16	--1 1/2	3.5	90.50
11-B-4	2 1/16	--1 1/2	4	78.95
11-A-6	2 1/16	--1 1/2	6	106.50
11-AA-6	2 1/16	--1 1/2	6	114.50
11-B-6	2 1/16	--1 1/2	6	106.50
11-A-9	2 1/4	--2	9.5	141.75
11-AA-9	2 1/4	--2	9.5	140.75

MODEL	SERIAL NUMBER	BORE & STROKE	H.P.	SPARK PLUG	RETAIL PRICE
<u>MUNCIE (Con't.)</u>					
11-B-9		2 1/4 --2	9.5		141.75
11-A-16		2 1/2 --2	16		189.25
11-B-16		2 1/2 --2	16		189.25

1945-1946

15-A-1		1 9/16 --1 1/2	1.5		54.50
15-B-1		1 9/16 --1 1/2	1.5		50.50
15-B-2		2 1/16 --1 1/2	2		79.50
15-A-3		1 9/16 --1 1/2	3.5		106.50
15-AA-3		1 9/16 --1 1/2	3.5		116.50
15-B-4		2 1/16 --1 1/2	4		138.00
15-A-6		2 1/16 --1 1/2	6		139.50
15-AA-6		2 1/16 --1 1/2	6		149.50
15-A-9		2 1/4 --2	9.5		187.50
15-AA-9		2 1/4 --2	9.5		198.50

1947

17-A-1		1 9/16 --1 1/2	1.5		70.00
17-A-2		2 1/16 --1 1/2	2		103.00
17-A-3		1 9/16 --1 1/2	3.5		138.00

1948

A-1 With Shroud		1 9/16 --1 1/2	1.7		70.00
B-1 Without Shroud		1 9/16 --1 1/2	1.7		66.00
A-2		2.1 --1 1/2	3.3		103.00
AA-2		2 1/16 --1 1/2	3.3		123.00
AA-4		1 3/4 --1 1/2	5		148.00
AA-6		2 1/16 --1 1/2	7		180.00
AA-10		2 1/4 --2	10		288.00

1949

A-1		1 9/16 --1 1/2	1.7		49.50
A-2		2 1/16 --1 1/2	3.3		69.50
AA-2		2 1/16 --1 1/2	3.3		89.50
AA-4		1 3/4 --1 1/2	5		109.50
AA-6		2 1/16 --1 1/2	7		149.50
AA-10		2 1/4 --2	10.5		169.50

1950

A-1		1 9/16 --1 1/2	1.7		59.50
AA-2		2 1/16 --1 1/2	3.3		123.50
AA-4		1 3/4 --1 1/2	5		159.50
AA-6		2 1/16 --1 1/2	7		179.50
AA-10		2 1/4 --2	10.5		249.50

RILEY *

GEO. RILEY CO.

Editor's Note --- *(Not Before 1950, But A Real Classic)

MODEL	SERIAL NUMBER	BORE & STROKE	H.P.	SPARK PLUG	RETAIL PRICE
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RILEY (Con't.)

1954

Riley 75	4001&	3 3/16 -- 3 3/16	75	J6	1050.00
Electric Starter Model	4001&	3 3/16 -- 3 3/16	75	J6	1195.00

1955

Riley 75	4001&	3 3/16 -- 3 3/16	75	J6	1050.00
Electric Starter Model	4001&	3 3/16 -- 3 3/16	75	J6	1195.00

ROYAL

Manufactured by GALE PRODUCTS

1947

2-A-3		1 15/16 -- 1 1/2	5	J9J	147.50
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1948

1-A-5		1 5/8 -- 1 1/2	1.5	J9J	66.50
2-A-3		1 15/16 -- 1 1/2	5	J9J	136.00
2-A-8		2 3/8 -- 2 1/4	12	J9J	215.00

1949

1-A-5		1 5/8 -- 1 1/2	1.5	J9J	66.50
2-A-7		1 15/16 -- 1 1/2	5	J9J	136.00
2-A-8		2 3/8 -- 2 1/4	12	J9J	215.00

1950

1-A-9		2 1/8 -- 1 1/2	3	J9J	159.30
2-A-7		1 15/16 -- 1 1/2	5	J9J	175.70
2-A-8		2 3/8 -- 2 1/4	12	J9J	281.70

SCOTT-ATWATER

SCOTT-ATWATER MANUFACTURING COMPANY, INC.

1946

461	461 Series	2 1/8 -- 1 3/4	3.6	H10	97.00
467	467 Series	2 1/8 -- 1 3/4	3.6	H10	110.00

1947

470	470 Series	2 1/8 -- 1 3/4	3.6	H10	101.00
471	471 Series	2 1/8 -- 1 3/4	3.6	H10	110.00
473	473 Series	2 -- 1 3/4	7.5	H10	165.00

MODEL	SERIAL NUMBER	BORE & STROKE	H.P.	SPARK PLUG	RETAIL PRICE
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SCOTT-ATWATER (Con't.)

1948

480	480 Series	2 1/8 --1 3/4	3.6	H10	107.00
481	481 Series	2 1/8 --1 3/4	3.6	H10	117.00
483	483 Series	2 --1 3/4	7.5	H10	165.00

1949

480	480 Series	2 1/8 --1 3/4	3.6	H10	119.50
481	481 Series	2 1/8 --1 3/4	3.6	H10	129.50
483	483 Series	2 --1 3/4	7.5	H10	179.50
491 Shift	491 Shift Series	2 1/8 --1 3/4	4	H10	149.50
497 Shift	497 Shift Series	1 11/16--1 43/64	5	H10	179.50
493 Shift	493 Shift Series	2 --1 3/4	7.5	H10	199.50

1950

500		2 1/8 --1 3/4	3.3	H10	119.50
501		2 1/8 --1 3/4	4	H10	159.50
507		1 11/16--1 43/64	5	H10	189.50
503		2 --1 3/4	7.5	H10	209.50
509		2 11/32--2 5/16	16	H10	349.50

SEA BEE

Manufactured by GALE PRODUCTS

1946

135	025-3555	2 1/8 --1 35/64	3	J9J	82.50
256-A	025-3550	1 15/16--1 1/2	5	J9J	116.50

1947

1-G-1		2 1/8 --1 35/64	3	J9J	84.00
2-G-2		1 15/16--1 1/2	5	J9J	120.95
1-G-4		2 1/8 --1 35/64	3	J9J	89.95
2-G-3		1 15/16--1 1/2	5	J9J	129.50

1948

1-G-5	025-3562	1 5/8 --1 1/2	1.5	J9J	59.75
1-G-6	025-3563	2 1/8 --1 35/64	3	J9J	89.95
2-G-7	025-3564	1 15/16--1 1/2	5	J9J	129.50
2-G-8	025-3565	2 3/8 --2 1/4	12	J9J	199.95

1949

1-G-5	025-3562	1 5/8 --1 1/2	1.5	J7J	64.50
1-G-6	025-3563	2 1/8 --1 35/64	3	J7J	98.50
2-G-7	025-3564	1 15/16--1 1/2	5	J7J	137.50
2-G-8	025-3565	2 3/8 --2 1/4	12	J7J	215.00

MODEL	SERIAL NUMBER	BORE & STROKE	H.P.	SPARK PLUG	RETAIL PRICE
<u>SEA BEE (Con't.)</u>					
<u>1950</u>					
1-G-5	025-3562A	1 5/8 --1 1/2	1.5	J7J	49.50
1-G-9	025-3566	2 1/8 --1 1/2	3	J7J	84.50
2-G-7	025-3564	1 15/16--1 1/2	5	J7J	124.50
2-G-8	025-3565	2 3/8 --2 1/4	12	J7J	198.50

SEA KING
Manufactured by GALE PRODUCTS

<u>1939-1941</u>					
Super Twin	*8811	2 1/4 --1 7/8	8.5	6MJ9	
<u>1938-1946</u>					
Large Twin	*8810- 8816-8817	2 --1 5/8	5	6MJ9	
<u>1939-1947</u>					
Midget Single	*8809- 8812-8822	1 3/8 --1 3/8	1	6MJ9	
<u>1940-1941</u>					
Large Single	*8821	2 --1 3/4	2.9	6MJ9	
<u>1940-1942</u>					
Giant Twin	*8818	2 1/2 --2 1/2	15.2	6MJ9	
<u>1941-1947</u>					
Large Single	*8814-9006	1 15/16--1 1/2	3	6MJ9	
Large Twin	*8826- 8827-9012	1 15/16--1 1/2	5	6MJ9	
<u>1946-1948</u>					
Light Twin	*9006	1 3/4 --1 3/8	3.3	6MJ9	
<u>1948</u>					
Standard Single	*9003	1 5/8 --1 1/2	1.5	J9J	
Standard Single	*9007	2 1/8 --1 35/64	3	J9J	
Deluxe Twin	*9014	1 15/16--1 1/2	5	J9J	
Deluxe Twin	*9017	2 3/8 --2 1/4	12	J9J	
<u>1949</u>					
Standard Single	*9003	1 5/8 --1 1/2	1.5	J9J	62.50
Standard Single	*9007	2 1/8 --1 35/64	3	J9J	86.50

MODEL	SERIAL NUMBER	BORE & STROKE	H.P.	SPARK PLUG	RETAIL PRICE
<u>SEA KING (Con't.)</u>					
Standard Single	*9009	2 1/8 --1 1/2	3	J9J	83.50
Deluxe Twin	*9014	1 15/16--1 1/2	5	J9J	126.50
Deluxe Twin	*9017	2 3/8 --2 1/4	12	J9J	199.50

1950

Standard Single	*9003	1 5/8 --1 1/2	1.5	J7J	49.50
Standard Single	*9009	2 1/8 --1 1/2	3	J7J	77.50
Deluxe Twin	*9014	1 15/16--1 1/2	5	J7J	109.50
Deluxe Twin	*9017	2 3/8 --2 1/4	12	J7J	185.50

*Note: SEA KING Model Numbers, Not Serial Numbers

VOYAGER

Manufactured by CHAMPION MOTORS

1949

1-VB		2 1/16 --1 3/4	4.2	7	132.50
2-VA		2 1/16 --1 3/4	4.2	7	147.50
4-VA		2 1/8 --1 3/4	7.9	7	195.00

1950

1-VB		2 1/16 --1 3/4	4.2	7	132.50
2-VA		2 1/16 --1 3/4	4.2	7	147.50
4-VA		2 1/8 --1 3/4	7.9	7	195.00

WESTERN FLYER

WESTERN AUTO SUPPLY COMPANY

1941

121-W		1 15/16--1 35/64	2.5	J10	49.95
122-W		1 15/16--1 35/64	2.5	J10	62.95
251-WA		1 15/16--1 1/2	5	J10	89.95
252-WA		1 15/16--1 1/2	5	J10	109.95

1942

121-W		1 15/16--1 35/64	2.5	J10	49.95
122-W		1 15/16--1 35/64	2.5	J10	62.95
251-WA		1 15/16--1 1/2	5	J10	89.95
252-WA		1 15/16--1 1/2	5	J10	109.95

Third National Meet
August 11, 12, 13

DECALS

Decals add that finishing touch to your restoration
These are to original specifications and in color.

Evinrude Single, 1921 to 1928 \$4.95 @
ELTO rear tank, any thru 1928 \$3.95 @
Water applied type.
Robert Brautigan
2316 West 110 Street
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Johnson "Light Twin", 1921 - 1927
plus A35. With start and oiling decals.
Exact duplicates of original. Water
applied type. \$5.00 @
Bob Zipps
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East Hartford, CN.06118

Johnson Sea Horse 32, fits V65, V70,
VR's, VE's. Johnson Sea Horse 25 fits
all Giant Twins. Johnson V45, V75.
Evinrude Speedifour and Big Four. (modern).
John C Harrison \$10.00 @
1000 N W 54th Street
Miami, FL. 33127

For Evinrude Scout, 1937, and others
with similar tear-drop tank. Complete
with operating and oiling instructions. \$6.00 @
Bob Grubb
1366 Meadowbrook Road
Pottstown, Pa. 19464

Metal name plates for front of gas
tank. Fits all ELTO Ruddertwins \$5.95 @
George Loeb
7037 Suburban Avenue
Norfolk, VA. 23505

Johnson Sea Horse "16" or "24" also \$7.00 @
fits early P and S models.
Evinrude 4-60 \$8.00 @
Eric Gunderson
319 East Main
Grass Valley, CA. 95945

Johnson "K" from P/N27/227 with
S and O instructions. Also fit OK 55 and
OK 65. Water Applied \$5.00 @
Johnson alternate firing "A" models
from P/N25/244, Also fits K 35, K 40,
K 45, KR 40, A 35, A 45 and OA 65.
Vinyl type, self stick. \$6.00 @
P/N11-124-J model 100 and others \$4.00 @
P/N41-213-LS-37, 38, 39 and others \$4.00 @
P/N 29-151-PO with S and O instructions. \$7.50 @
Charles Hansen
2108 Broward Road
Jacksonville, FL.32218

For Lauson motors, state single or
twin. Give model number if possible. \$5.00 @
E. Walton- Ball
1940 Ellesmere Rd. U 8
Scarborough, Ont. M1H 2V7

Neptune 2 H P 1035- 1946 \$4.50 @
3,2 to 9 H P 1930- 1947 \$5.50 @
16 H P 1936- 1942 \$6.50 @
Johnson DT 37-38-39-10 \$6.00 @
HD 39-10-15 \$5.50 @
MI 38-39-15 and LS & DS 37-38 \$5.00 @
TN models ,red letters white trim \$7.00 @
Champions from 1926 to38 and 39D3D only \$6.00 @
1941-42, 3.6HP, S4G , D4G, S1G \$4.50 @
Blue Ribbon 1947-52, fits later
models but not exact. \$6.50 @
Waterman Exact duplicate C-16 fits others \$5.50 @
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The Antique Outboard Motor Club Inc.



Warren M. Conover, Johnson Motor Wheel, Los Angeles,
California, 1921

AOMCI 13TH YEAR