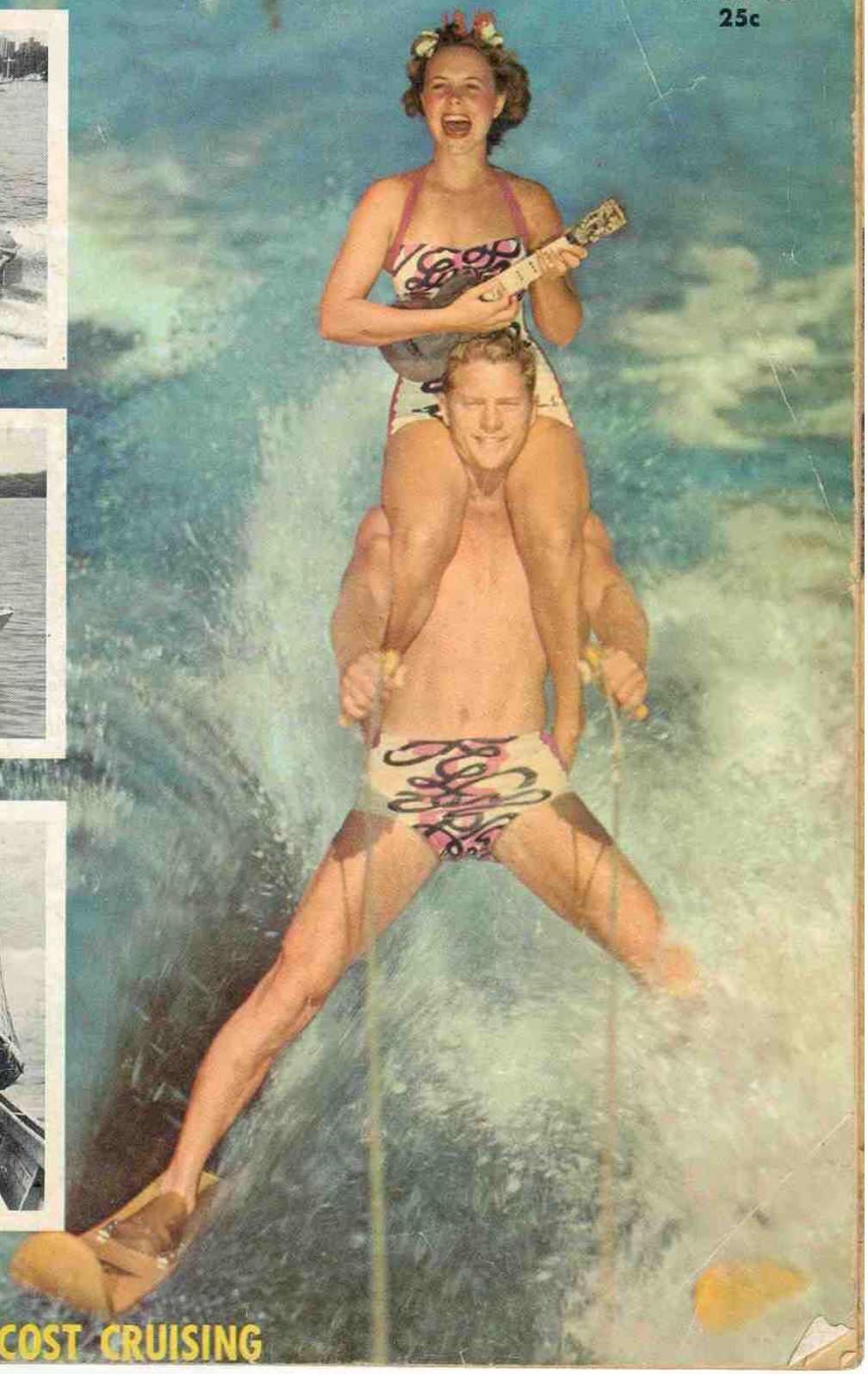
OUTBOARDS
INBOARDS

BOAT SPORT

ANC

OCTOBER 1953
25c

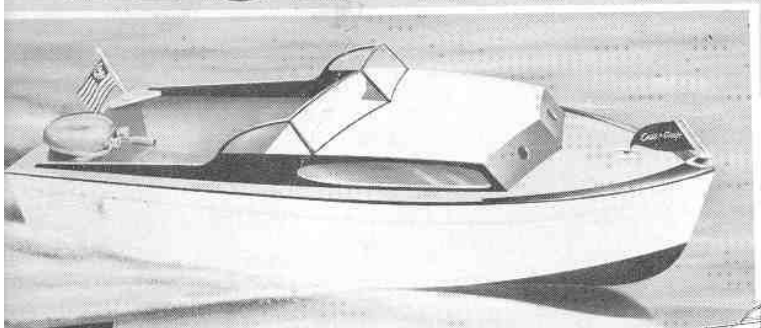


BIG TWIN HOP-UP

LATE SUMMER, LOW-COST CRUISING

MODEL BOATS..

by Berkeley



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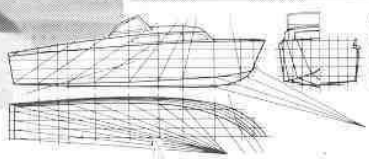

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For Electric Outboard & Inboard Engines

18" Long— 1" Scale

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Kit is complete and priced at . . .

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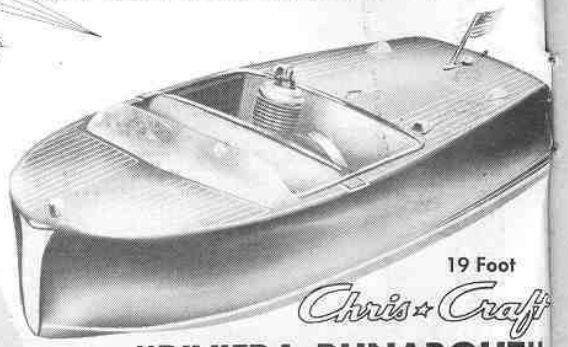

19 Foot

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For .035 to .099 Engines—12" Long

This test model pictured here crossed the Connecticut River at full throttle. It is hard to describe its realism in the water. You have to see it to believe it. Kit includes: "½-A" Marine Hardware, plus Metal Bowplate and Deck Hardware.

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22 Foot

Chris-Craft

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Ready-made parts include: Engine Coupling; Shaft; Shaft Tube; Strut; Propeller.

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Overall Length—15¼" Height—25¾"

The Sailabout "16" is a scientifically designed sailboat with amazing speed. It has a regatta record to prove it. The rudder is timer-operated by a fuse mechanism that makes the boat "Come-about", and return over the same course.

Sails are included, ready to use. The hull is balsa, completely carved and hollowed. Scored Deck and Cabin are Die-Cut Mahogany Veneer. Molded Metal Keel and Complete Hardware.

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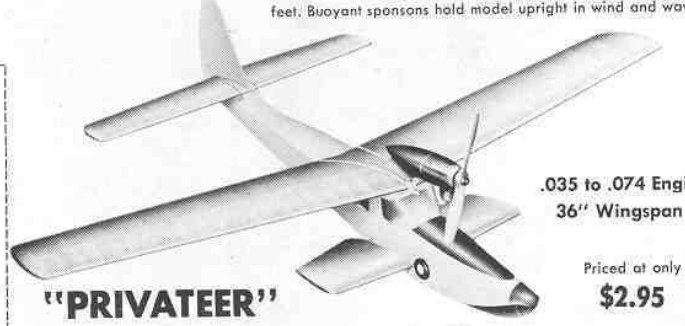
Long Planing Hull design is revolutionary in seaplane performance. Smooth, effortless take-off in less than fifteen feet. Buoyant sponsons hold model upright in wind and waves.



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Hull is built-up pre-fabricated sheet balsa construction with no complex curves to bend. Fuselage, sponsons, wing and stabilizer are of self-draining design. Die cut celluloid windshield, die cut balsa parts. METAL MOTOR MOUNT AND NACELLE.

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BOAT SPORT

THIS MONTH'S COVER STORY

AS A MID-SUMMER SALUTE to the millions of boat sport-minded Americans, who this year, more than ever before, are finding recreation on the vacation and weekend waters all over this great land of ours, we show on our cover four pictures which tell the story of this great trend in playtime habits. The outboard motors and boats shown here, plus all the others not shown, are the products of one of America's fastest growing industries. There are many reasons for this tremendous growth in outboarding but the primary one is the quality of the products themselves. Definitely, outboarding has taken leisure out of the luxury class and put it right where it ought to be—within reach of everyone. There's a motor for every boat, a boat for every motor, and both for every pocketbook.

Is it fishing you want? Always a favorite use of outboards, this phase of boat sport is still gaining steadily, but it has other growing members of the family now to keep it good company. The happy man in the boat with the Scott-Atwater motor and Stowaway remote gas tank has just landed the kind of big one every fisherman dreams about.

Or racing may be your special favorite of all the boat sports. If so, this year is bigger and better and faster than ever. The driver of the Pabst runabout with the new Martin "200" motor typifies the thousands who enjoy this phase of outboarding—and there are hundreds of thousands more who love it as a spectator boat sport.

Then comes cruising, the fastest growing member of the family from Coast to Coast and border to border. The "Candace," with its twin Big Twins by Evinrude, carries its owners, the William C. Scotts of Milwaukee, along at a thirty mile an hour clip in cruising comfort.

And of the more active boat sports there is water skiing, which Kathy Darlyn of Plant City and Bill Hatfield of Winter Haven, Florida, make look very simple as they cut the water at Cypress Gardens. Kathy may have no rings on her fingers nor bells on her toes but she seems determined to have music wherever she goes—as long as she doesn't drop the uke.

And to tie in with our cover salute, we also have stories, as usual, covering all angles of boat sport in its many phases. That's why we think BOAT SPORT is a perfect name for our magazine.

And as for BOAT SPORT itself, we feel sure that our readers from Coast to Coast will find this issue as generally interesting as any we have published to date. In particular, don't miss Hank Bowman's "Big Twin Hop-up"; Dick Van Benschoten's "Late Summer, Low-Cost Cruising"; Ted Powell's "Inside Story Of Racing Fuels"; Paolo Speroni's "European Record Breakers" and Harold Kelly's pictorial story, "Mercs At Work." (End)

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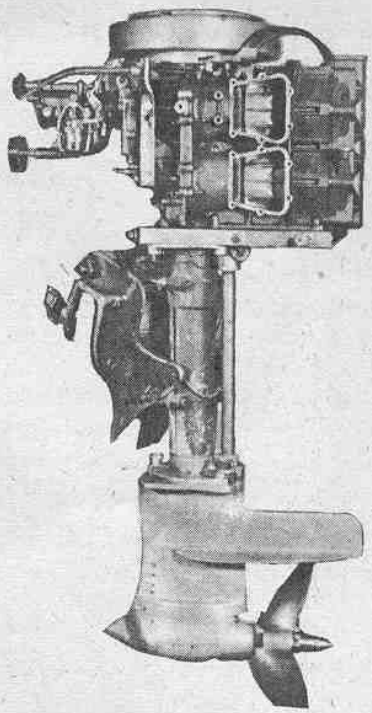
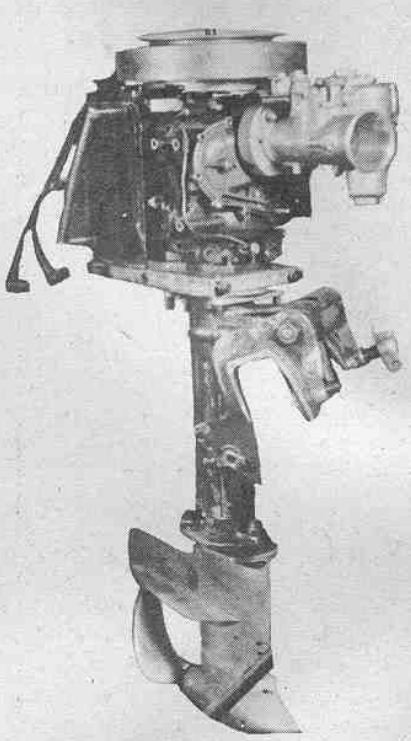
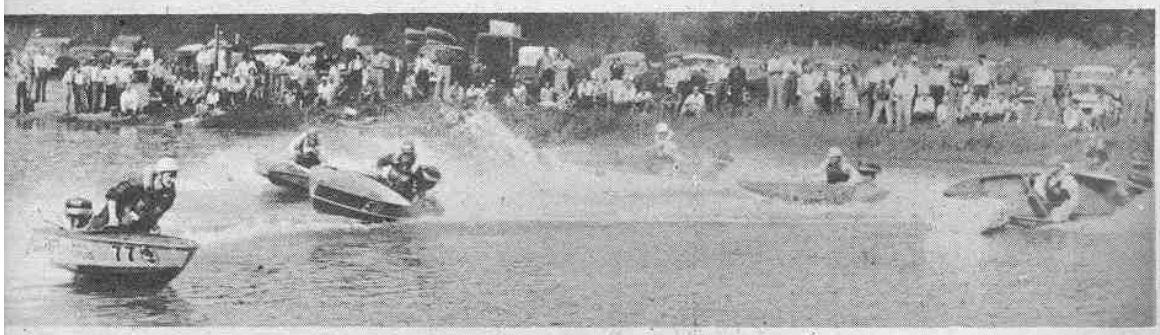
AMERICA'S FIRST OUTBOARDING MAGAZINE



An Evinrude '31-type drive shaft housing and lower unit adapted to the Big Twin powerhead.



Vacturi carb replaces stock unit and adapter plate. Note the horseshoe cooling run-around.



The short course race puts the thrill of closely contested corner driving right in the spectators' laps. Circuits vary from quarter-mile up to mile.

BACK IN 1948 there were eighteen unorganized outboard drivers around the Bay City, Saginaw and Flint, Michigan, areas, hungry for a chance at racing action. Our bunch was unable to race at any sanctioned events because our engines were strictly outlaw, dyed-in-the-wool racing engines. In desperation we took over and paid the outstanding bills of a defunct club and formed what is now the Mid-Eastern Outboard Racing Association.

By last year the club had grown to 138 active members with 79 registered pieces of equipment. During the 1952 season we had 18 racing dates on our schedule, which for a relatively new racing group is a pretty fair schedule.

Our rules are basically simple: any outboard motor of a recognized manufacturer is eligible for competition. We permit modifications to increase strength, power and performance.

Our class restrictions are as uncomplicated as our motor regulations. We base breakdowns only on an overall cubic inch piston displacement limit for each of our six active classes. These break down as follows:

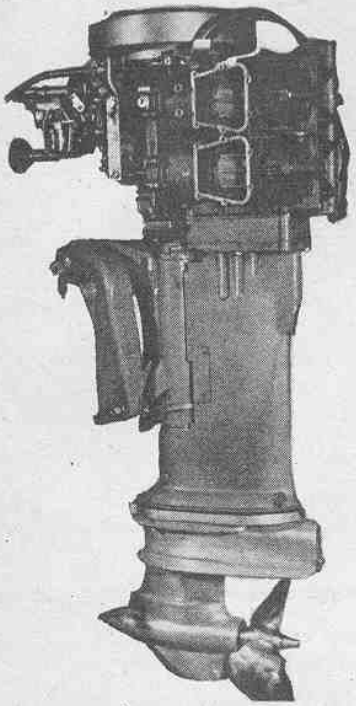
Class M.....up to 9.9 c.i.
Class A.....10 to 14.9 c.i.
Class B.....15 to 19.9 c.i.
Class C.....20 to 30 c.i.
Class D .....30 to 40 c.i.
Class F.....40 to 60 c.i.

We permit the use of any type of fuel not of a gaseous form at atmospheric pressure. Our hulls must be stepless runabout design. We have, we believe, a good workable set of safety regulations. We conduct our races in Classes M and A on courses not less than one-quarter of a mile and not over one-half mile. Our races in B through F classes are raced over circuits ranging from one-half mile to a maximum of one mile. In this way, by sticking to relatively short courses, we believe we give our spectators a better show. Spectators sometimes find it pretty boring to try to follow what's happening on 1½ to 2½ mile courses on which the rigs all but disappear from view.

My particular interest is in Class C. And knowing that there are other groups throughout the country set up similarly to the M.E.O.R.A., I am outlining here what I and some of my fellow C competitors have done to make the Evinrude Big Twin run a little faster in competition.

In converting the Big Twin for competition, you must realize that you have quite a power plant to start with. The recommended changes are minor and the workmanship must be top grade or you are wasting time and money. Close attention must be paid to the slightest detail.

The most drastic alteration and the only item that involves a major expenditure is in the lower end. Our C



Modified Big Twin with a Scott-Atwater lower unit, showing the adapter plate.

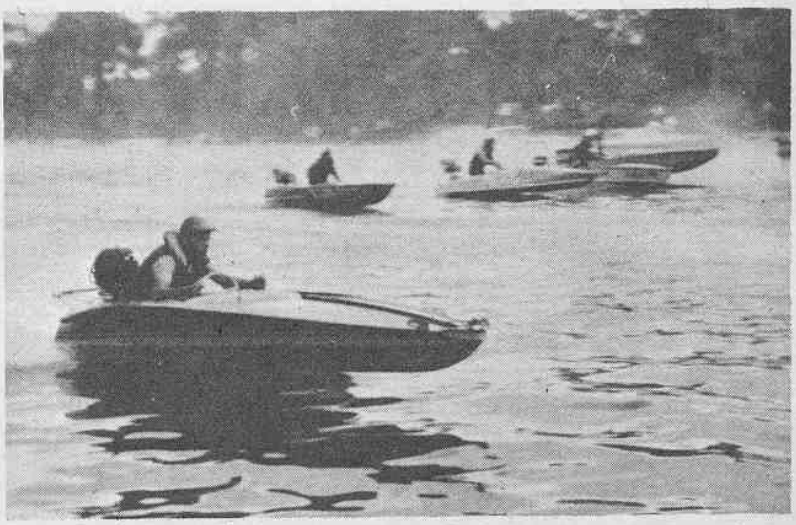
BIG TWIN HOP-UP

By Roy White
As told to Hank Wieand Bowman

How to Modify an Evinrude Big Twin for Racing . . . . . .

(Right) The start of a Class B Runabout race at Saginaw, Mich. Competition is very keen in all Mid-Eastern Outboard Racing Assoc. events.

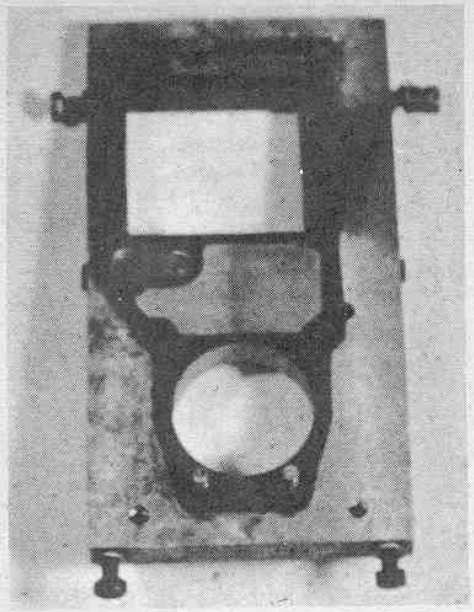
(Right, below) The author, Roy White, racing his modified Big Twin. Photo was taken before he mounted gas tank on motor, replacing stock remote tank. Change added 3 mph to his speed.



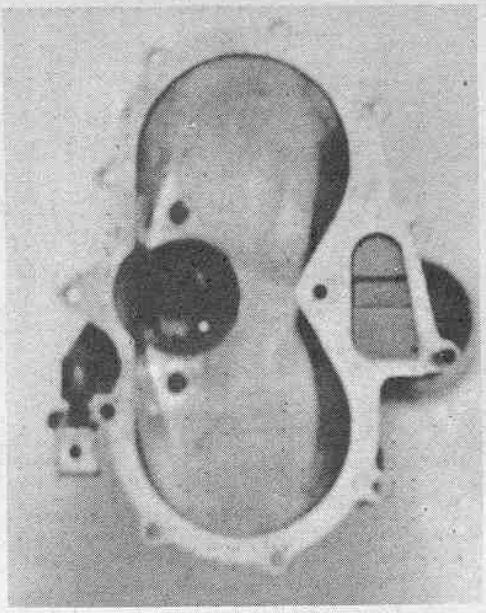
drivers running the Evinrude are using several types of converted units. One is the 1931 Evinrude racing C assembly. Until recently these were hard to come by and the boys spent plenty of time beating the bushes to locate them through Evinrude dealers who had been in business for a couple of decades or more. The 1931-style unit is a good one. Take it from me, you won't run quick enough to stay up with the fast boys unless you make a unit change. Wiseco at the present time is making new casting copies of this '31 type.

Aside from the Wiseco, I know of two other units that can be used. They are the Johnson PR 60 or PR 65 type units, available through Wiseco, Starnes, Hubell and others, or the 16 horsepower Scott-Atwater torpedo unit which also has been used with good success.

With the '31 Evinrude racing C assembly, we use a piece of ¾" thick aluminimum, 5½" x 10½" (*See Over*)



Evinrude racing C lower unit adapter plate. Plates are mounted between driveshaft housing and powerhead.



Carburetor bolt bosses have been removed from this reed valve cover to give extra fuel vapor movement.

BIG TWIN HOP-UP

(*Continued from Preceding Page*)
for an adapter plate fitting. This is positioned between the powerhead and the stand pipe assembly. The driveshaft used is the '31 Evinrude racing shaft, splined on top to fit the Big Twin crank shaft.

To adapt a Scott-Atwater torpedo unit, you proceed as follows: Disassemble the original Big Twin unit at the water pump section. Use a piece of ½" thick aluminum machined to fit the Scott unit on the bottom and the Big Twin stand pipe and exhaust assembly on the top side of the plate. By spreading some Prussian blue tinting color, which you can buy in a small tube at any paint store, on the top surface of the unit and bottom surface of the standpipe, and then pressing a heavy piece of cardboard between the two you can make a pattern.

When you buy the Scott unit, also buy the Scott 16 horsepower driveshaft with the unit. This shaft has a splined collar on the lower end. Cut this collar where it fits on the shaft, bore it to .625" to the upper end of the spline. Then cut off the Big Twin drive shaft to the proper length, being sure to allow enough length to enter the splined collar. Turn the shaft to a .005" press fit and assemble to collar.

Most of our crowd silver-soldered theirs and had no trouble but if you prefer, you can drill and pin the collar and forget about it for it will be on to stay.

With the Johnson PR type unit, I would use the PR driveshaft and spline it on the upper end to fit the Big Twin crankshaft. An adaptor plate would be used, naturally, between the PR standpipe asembly (driveshaft housing) and the Big Twin powerhead in the same manner as for adapting the Evinrude '31 C racing unit or the Scott. Remember the final success depends upon perfect alignment of the lower unit conversion parts.

The next step in modification are the alterations to the magneto plate assembly. Remove the flywheel and the magneto or breaker plate assembly from the powerhead. Take off all the stops governing the plate's travel but leave the original throttle cam on the plate as the Big Twin carburetor will be used.

You will note a friction spring under the plate assembly. This is to be replaced with a machined steel or brass collar or washer. Lap this in carefully with a fine valve grinding compound so that when reassembled the breaker plate will have no drag but at the same time be certain that there is no up and down play of the plate due to a sloppy fit, or otherwise the flywheel will hit and gouge the coil assemblies—and you've lost your first boat race.

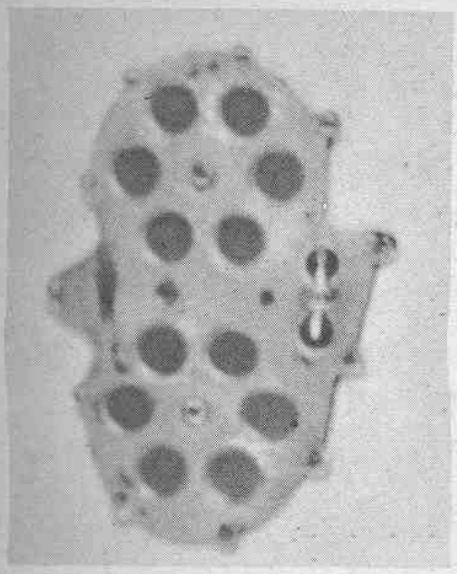
Next, on the breaker plate where the high tension wires come out to go to the plugs, remove the hold-downs and push the wires out of the way. Then drill a ¼" hole just back of the hold-down and screw to the plate a 1½" x ⅝" steel strip which you will note will extend beyond and below your wires when plate is finally and carefully reassembled.

On the underside of this strip, assemble a bowdoin wire clamp pivot. On the starter mounting bracket, on the right hand side of your motor (looking at the motor from an in-the-cockpit view), you will find mounting holes on which to mount your bowdoin wire clamp. Properly mounted, your bowdoin wire will be horizontal and will allow the breaker plate to be advanced until the wire assembly boss can rotate around and hit the rear starter mounting bolt boss. This is your full advance point and you will require 4" overall bowdoin wire travel.

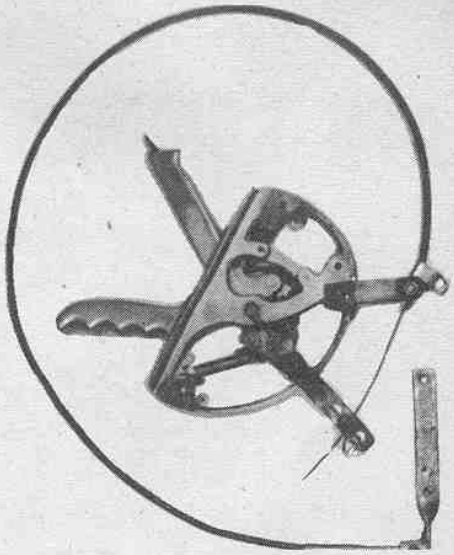
With this arrangement your throttle hand-grip control is actually a spark advance control. You will, however, put a pull-back spring on your carburetor linkage so that you will have a positive shut-off but the safety hand throttle type control linked to spark will give you control over driving speed so you may shut down on corners, if you must.

For nearly any of the standard deadman, i.e. spring loaded type hand speed controls (I use a Keller safety throttle) you will have to put an extension on the pivot section and also at the clamp-on point so that you will have the 4" or more of required travel.

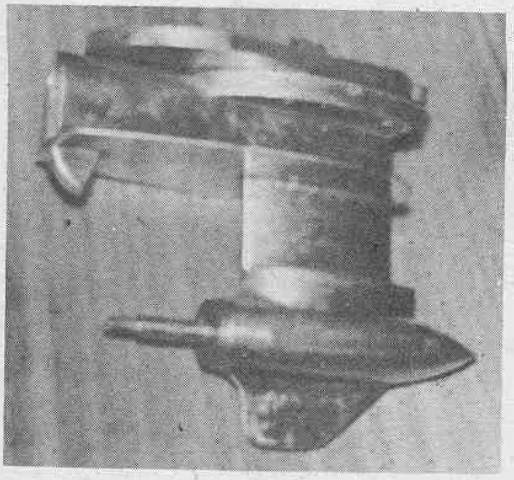
The only other change necessary on the breaker plate will be the substitution of heavier tension breaker point springs to offset point bouncing at the higher rpms your modified engine will develop or actually a lag in the lightweight springs (*Turn to Page* 24)



A modified reed assembly is shown in which all the valve ports have been chamfered on the intake side.

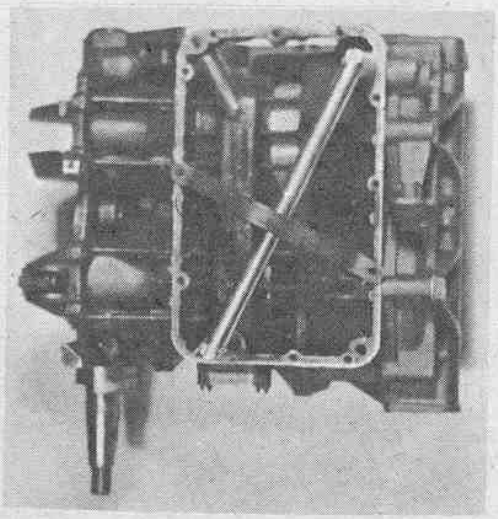


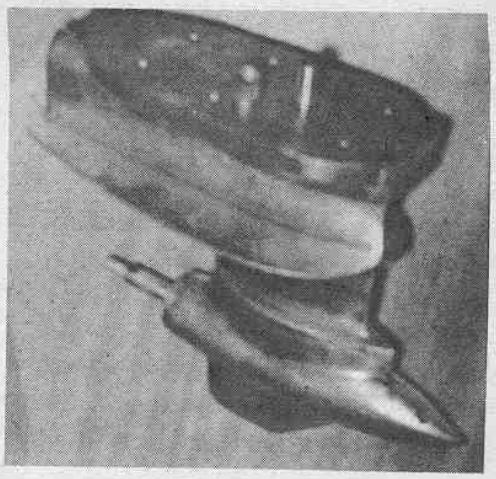
This modified spring loaded deadman's throttle has extensions to give the required 4" arc of movement.



(Above) A close-up of the Scott-Atwater lower unit with its adapter plate assembly mounted in position.

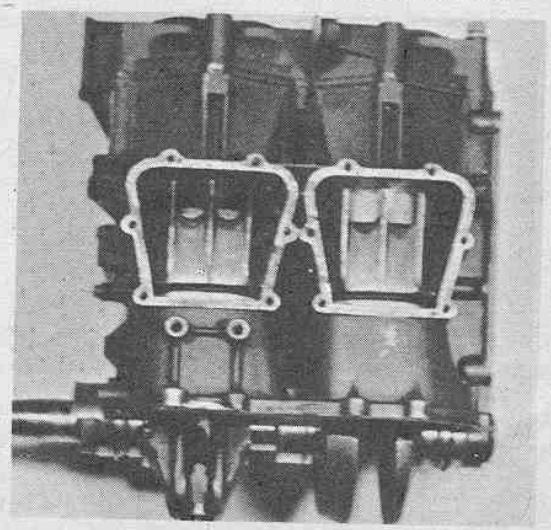
(Below) A view of exhaust ports, horseshoe shaped jumper and hold-down strap on a modified Big Twin.





(Above) Top view of the same Scott-Atwater torpedo lower unit shows position of adapter plate clearly.

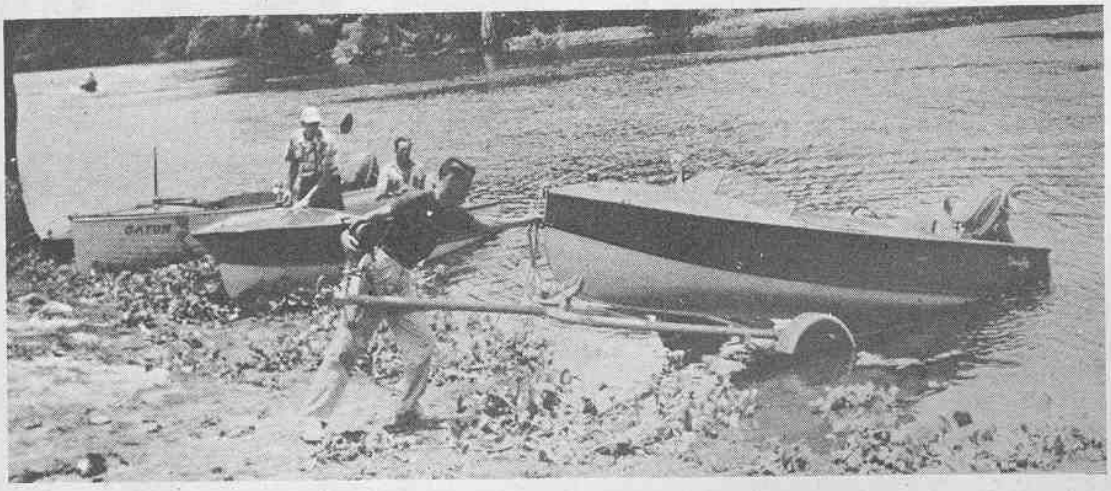
(Below) Showing modifications of the intake ports. Tops are squared and bottoms beveled and polished.

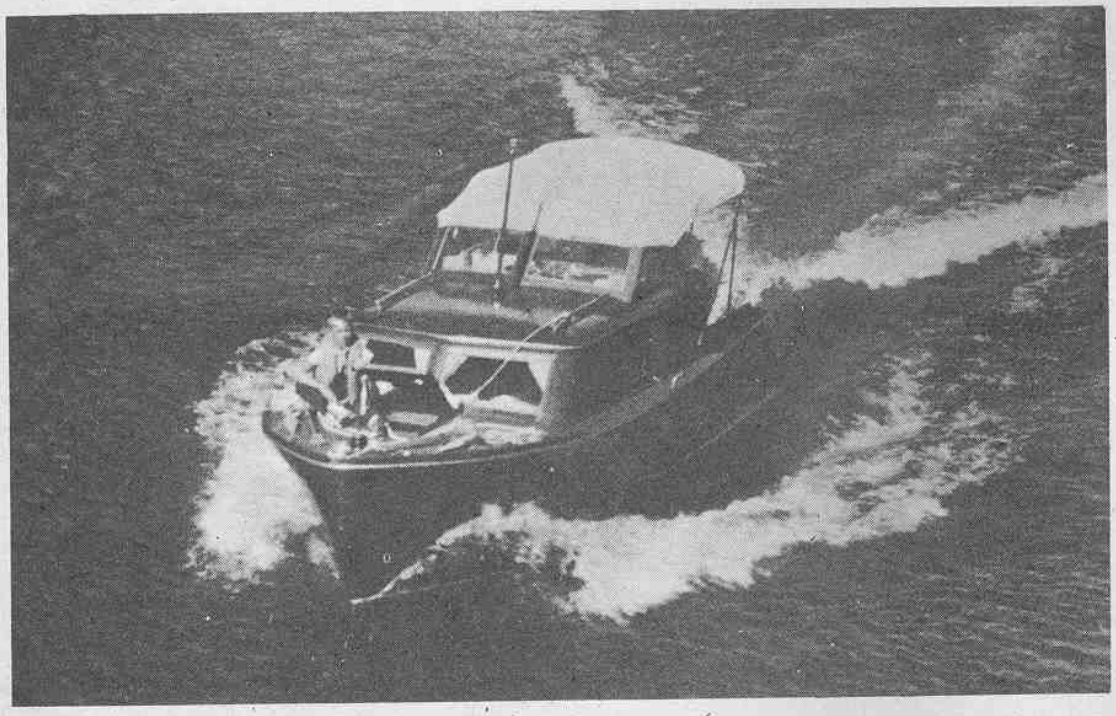


LATE SUMMER—LOW COST CRUISING

Outboard Waters Coast-to-Coast For Amphibious Americans . . . . . .
O.B.C.'s Cruising Guide . . . . . .

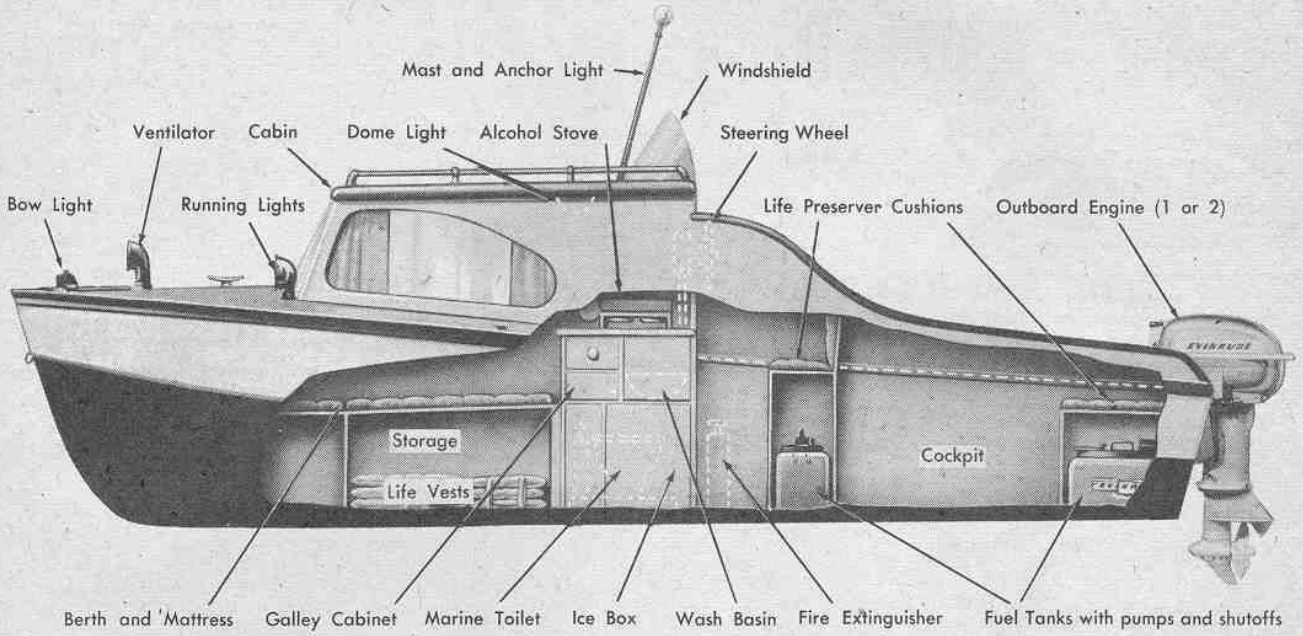
(Below) Members of Jacksonville's "Outboards Unlimited" Club get ready to join the 1300-mile cruise of Florida's inland waterways taken recently by this organization. Many hardy outboarders all over the county do extended cruising in open runabouts.





America offers endless areas of outboard cruising waters for healthful relaxation and outdoor pleasure at low cost.

Each varied landscape of our country is a picture of scenic beauty set within its frame of beckoning rivers and lakes.



Here's the boat responsible for changing long-distance cruising from a rich man's luxury to everyman's enjoyment. Outboard cruisers have made family fun afloat possible for the average American pocketbook. Compactly designed, these small, seaworthy craft have every comfort.

THERE IS NO BETTER way to start off on the subject of outboard cruising in America than to let a national authority whose organization extends into every section of the country, tell us what he thinks. And so, without further words, we turn over the next few inches of these columns to Guy W. Hughes, Executive Director of the Outboard Boating Club of America.

Mr. Hughes has this to say in the official O.B.C. publication *Outboard Boating*: "You can now buy yachtmen's supplies in the inland cities of Las Vegas, Nevada, and Fresno, California. In Arizona, it's not an uncommon sight to see boats being trailed across cactus-bordered highways en route to regattas in which landlocked sailors pit their skill against desert winds. Man-made waterways are making boating a reality in areas where until recently boating was limited to daydreaming about the adventures of Huckleberry Finn and the sagas of the seas.

At the same time, there's been a new birth of boating along the waters first mapped by Pere Marquette, La Salle, Louis Joliet and Lewis and Clark. City and state fathers and the promoters of vacationing in the wildernesses are beginning to see the wisdom of making boating more available to the citizenry by providing launching areas and other facilities.

And all the while, Americans are becoming more and more amphibious. With their boat trailers and their car top boats, any water anywhere is within their reach."

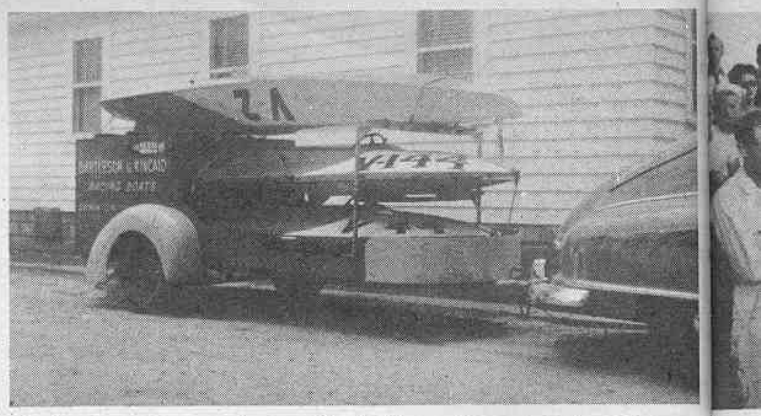
Speaking of the desert, as Mr. Hughes did in the beginning of his remarks, it used to be that when you saw a boat way out in the wide open spaces like that you could be sure it was a mirage—but now ten-to-one it'll be an outboard.

Outboard cruising, of course, is done in all kinds of boats and under all kinds of conditions. The hardy soul, who loves to camp out and sleep under the stars, will take off in his runabout or utility and have a wonderful time discovering new waters to cruise, staying as long as he wants. Others will do the same thing in well-appointed outboard cruisers, ranging in size from around 16' up to 21'. Such boats can be bought for around $1500, including the motor, which of necessity is a rough figure since both boat and motor can vary in size and number of accessories, etc. Cost of boat can be reduced almost a third in most cases if the skipper is also handy with his hands and puts his own boat together from a kit. Americans are not only amphibious, as Mr. Hughes points out, but they seem to be ambidextrous also, the way so many of them are building boats and kit-boats with their own hands these days. The right hand doesn't have time to know what the left hand is doing because they're both so busy. Well, it's all a good sign for more and better outboarding in the years to come. It was predicted some time ago by the Evinrude Boating Foundation that within the next twenty years there would be five-million American families owning their own outboard cruisers. Looking the scene over here in the middle of the 1953 season, that prediction does not seem quite as startling as it would have only a year ago.

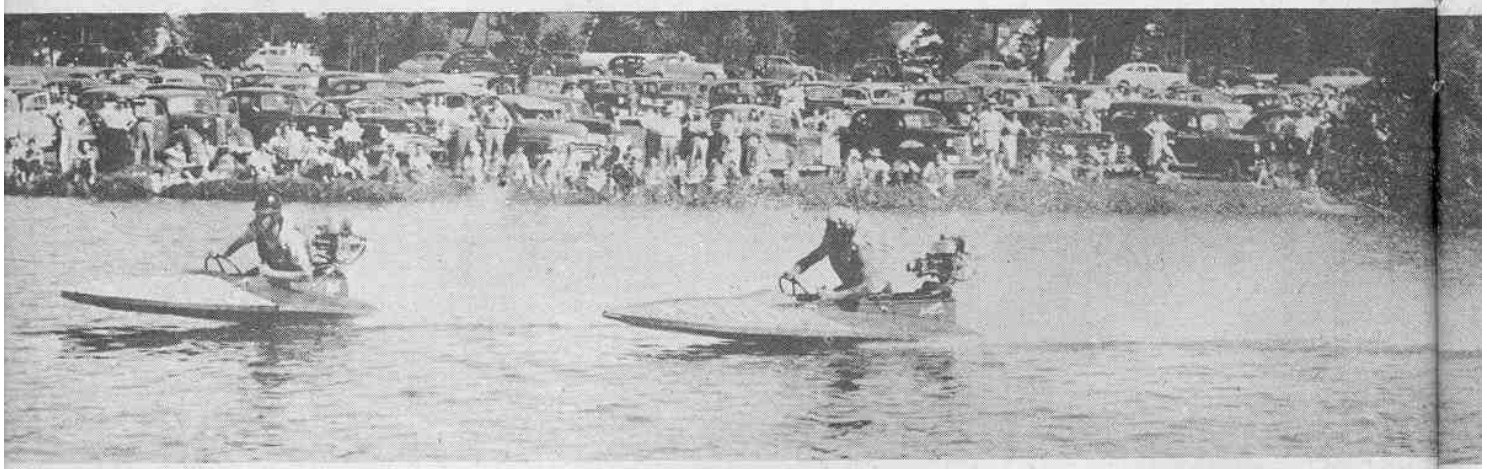
In planning an outboard cruise, there are two main questions that must be answered: where to go and what to take? At the risk of putting the motor before the boat, so to speak, we will briefly consider the second point first.

Fuel and food are the most important items to take along. If you don't have enough of the first you won't get where you're going; and if you don't have the second you won't know it if you do get there. Water is in the second classification. You should always have a good supply aboard because you can never be sure of natural sources. Don't take chances. And speaking of chances, safety precautions should be one of the first things attended to—life preservers for everyone aboard and a fire extinguisher are musts. A list of other useful items would follow this line: anchor with around a hundred feet of good ⅝" line; extra oil, grease and tools; compass and charts; bilge pump for cruisers; extra fuel tanks or (*Turn to Page* 32)

Cleaning up at the end of the day is regular routine with all good racers. Here, Homer Kincaid, working on lower unit, gets help from his family and a friend. Left, sons Jack and Bill (peeking over gas tank) and John Neubauer. At right, daughter Judy and Mrs. Kincaid.



Racing in nearly every heat as Kincaid does quite regularly in most of the regattas he enters, means carrying a lot of equipment around. Homer's trim, triple-decker trailer rig is shown loaded with a pair of three-point Neal hydros and a Neal runabout placed fin up on the top.



Homer's Class C hydro comes up fast on the outside to lead Billy Braun, Omaha, and "Doc" Horner, Brighton, Ia., into turn during Minnesota race.

YOU CAN NEVER TELL what will happen to you when you read a magazine! An extreme example in point is one very famous outboard racer by the name of Homer Kincaid, who lives in Carbon Cliff, Ill. Back in the heyday of 1929, Homer, innocently enough, read an article in a sports magazine (like you're doing now) which described the principle of the hydroplane boat. The article included a blueprint for building such a boat. He read the article and that was that. No blue bolt of lightning struck nor did Homer's personality change overnight, but still the article wouldn't leave him alone. It kept popping up in his mind day and night until, maybe in desperation, he decided to get rid of it by building just such a boat.

Homer roped a cousin, Ed Kenady, in on the deal. The blood ties must have been pretty warm because the two worked and built their first boat in an old, unheated barn throughout the winter months. Come spring their winter's work was launched on the flood waters of Rock River, Illinois. And with spring, budded success. The hydroplane, powered by a 7 horsepower engine planed well and clocked the amazing speed of 26 mph. That "amazing" is not sarcastic. With a 7 horsepower motor, in stock condition, on a homemade, amateur hull, it is . . . amazing.

Naturally there was considerable stir around the community about this phenomenon, which inspired Homer to try to build another hydro of his own design. And then Elto motors cooperated by issuing their then new Hi-Speed Speedster, 11 horsepower. After buying one, Homer considered he was in business. He put in many hours of practice learning to handle his new boat and motor and proved the worth of his diligence when he competed in his first race. On May 30, 1929, he entered the Muscatine-Mississippi event and won both Class B events, his first time out!

For five races after his initiation, Homer won his events consistently. Then Johnson Motors broke into his monopoly by putting on the market the Johnson Sea Horse 16 hp. Class B motor, and Homer found himself, to quote him, "among the also-rans." Homer sold out in 1930, but racing was in his blood by then and he couldn't stay away from the sport.

In the Thirties it was more customary than unusual to "drive" for a sponsor, much as the Indianapolis "500" drivers of today drive the "Cop-Si-Loy Brake Special" or the "Bardahl (Oil) Special", etc. Homer was sought after and drove for numerous sponsors throughout the Thirties, among them J. T. Milliken, sportsman from St. Louis; Clem Herr, Granite City, Ill.; E. J. Horjes, Chicago, Ill.; William Christianson of Omaha and Clem Landis, Nebraska City, Nebraska. He earned his way, more than satisfactorily, by stacking up an astounding number of wins. Here are some examples picked at random from the records of Homer Kincaid's tallys:

Austin, Minn., July 1, 1949
- Class A, 1st heat—slips, no place
- Class A, 2nd heat—2nd
- Class B, 1st heat—1st
- Class B, 2nd heat—1st
- Class C, 1st heat—1st
- Class C, 2nd heat—1st
- Class C racing runabout, 1st heat —2nd
- Class C racing runabout, 2nd heat —1st

You will note, of course, that Homer is not only a good driver but a hard-working one. Eight heats in one afternoon. It's enough to make your bones ache to just think about it.

This 1949 race is not an isolated example. To prove it, and to take the record backward and forward through the years a bit, here are some more statistics from the books:

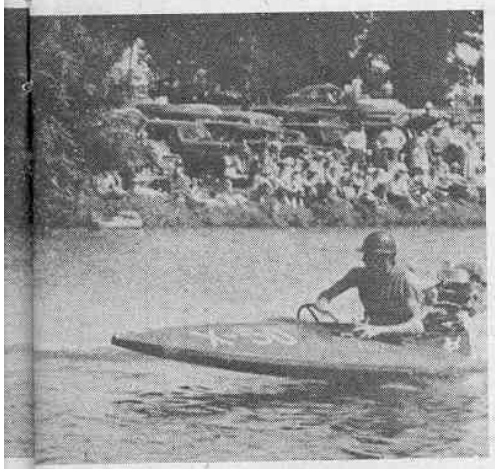
June 28, 1948, Kenora, Ontario:
- 6 first places
- 2 second places
- 2 third places
- 3 fourth places.

Kincaid receiving Wisconsin Governor's trophy, valued at $3000, which he won in the '51 A.P.B.A. regional championships at Kaukauna, Wis. He won permanent possession of earlier trophy in 1934.

THE MAYOR OF CARBON CLIFF

By Blake Gilpin

Homer Kincaid's Winning Combination: A Cool Head and a Hot Motor . . . .



That's thirteen money runs in one day. It was no fluke; three years later—July 31, 1951, Kenora, Ontario:

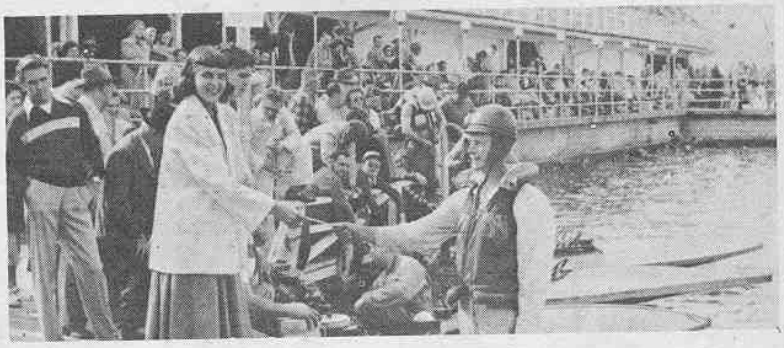
C Service Hydro: 1st and 2nd
B Racing Hydro: 1st and 1st
C Racing Hydro: 1st and 1st

In Class F that day, Homer Kincaid proved himself human after all by flipping in the first turn of the first heat.

There aren't many d.n.f.s on Kincaid's record but there is one good one that is really a fish story. At a race at Rice Lake near Spooner, Wis. Homer was following his usual routine of dominating the scene. He had picked up five first places and four seconds, was well on his way to a sixth win when he exchanged his victory for a 20½ pound Northern Pike. In a Class B heat Kincaid's boat, well out in front of the field, hit the fish, which broke his prop and of course put him out of the race. Later a spectator rowed out and retrieved the 47" fish and presented it to Kincaid—something new in the way of a trophy. It could be said the fish was worth $35, the pay-off for the first place it cost Homer.

The secret of Homer's consistent wins or high places is certainly not in the caliber of his competition. Result sheets show him beating out, for example, such nationally known top-notch racers as Steve Gantner (*Continued on page* 26)

This neat buoy-rounding is a sample of the Kincaid driving technique which has been helpful in making him A.P.B.A. Mid-Western high point winner every year since 1948.



Miss Indiana of 1950 awards Homer day's high point title at a regatta of that year, thereby entering her name on the list of outboarding's favorite young pin-up girls.

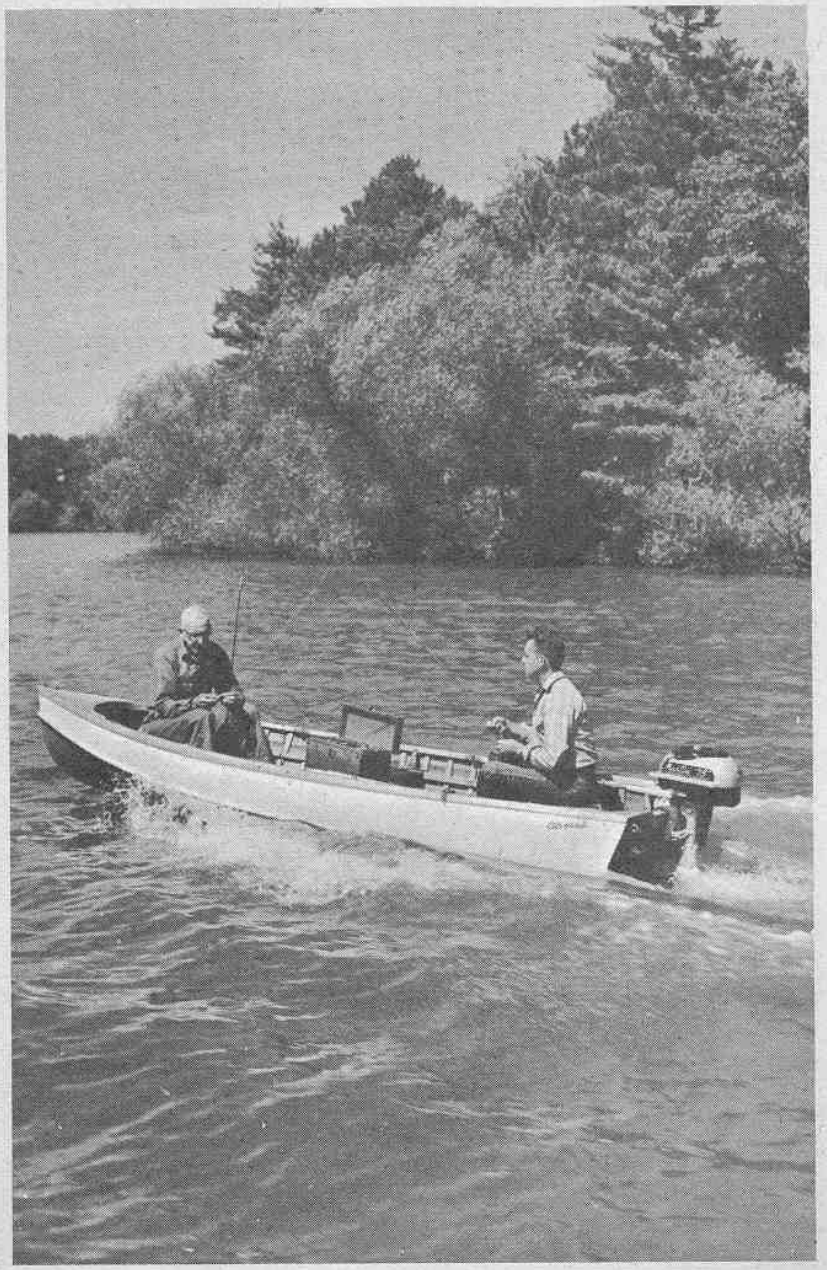
Homer Kincaid, once Mayor of Carbon Cliff, Ill., and for nearly a quarter century one of outboard racing's top drivers, says at 42, that pro racing needs new blood.

4600-Mile Solo Outboard Voyage . . . . .

New Non-stop Water Ski Record . . . . . .

By Richard Van Benschoten

OUTDOORS WITH THE

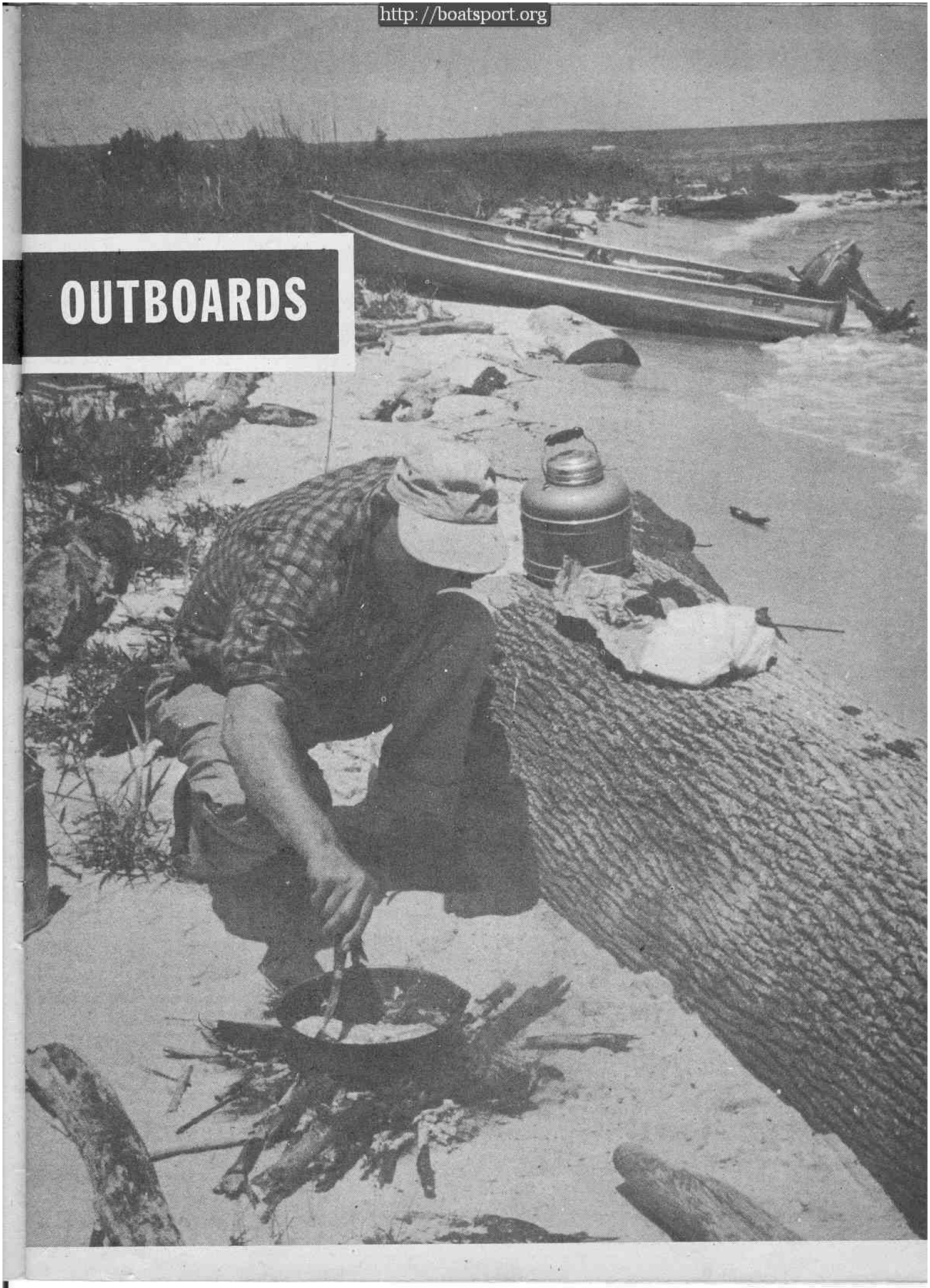


(Left) Everything's under con-"troll" when you fish from a modern outboard. Outfits like this Martin "75" on Chetek Sportsman make the day's outing fun all the way out and back home again.

(Right) Outboarding off the sandy beaches of the sound is perfect relaxation—and the fishing is good too. Aluma Craft in background has Evinrude Big Twin plus smaller Twin for creeper trolling.

OLD MAN NOAH took his whole family for a boat ride—and so can you! Times haven't changed much—except, of course, poor old Noah didn't have an outboard. And, too, the average American father of today doesn't usually take a matched menagerie of animals along in addition to his family. All this is a rather roundabout way of pointing out how many more people are on the water this year than ever before—and mostly in outboards.

If you've been out and around anywhere this summer, you will have found this out for yourself. There are boats and motors everywhere. Your neighbor has one now; last year he hadn't even thought of it. There's a new little group getting together every weekend down at the old dock to spin up and down the river, swap stories and compare boat and motor notes. They'll be forming an outboard club soon. And driving along the highways, have you ever seen so many boats being trailered? Big boats, little boats, hydros and stock utilities. America has been on the move this summer, moving outdoors with the outboards. This boating business is a contagious thing, as contagious as a friendly smile. When you see others having a wonderful time doing something, you naturally want to try it yourself. And that's why so many people are trying the pleasures of outboarding this year for the first time. Once they've tried it, they'll keep on trying as long as they have strength enough in their right arms to pull a starter *(Turn to Page 29)*



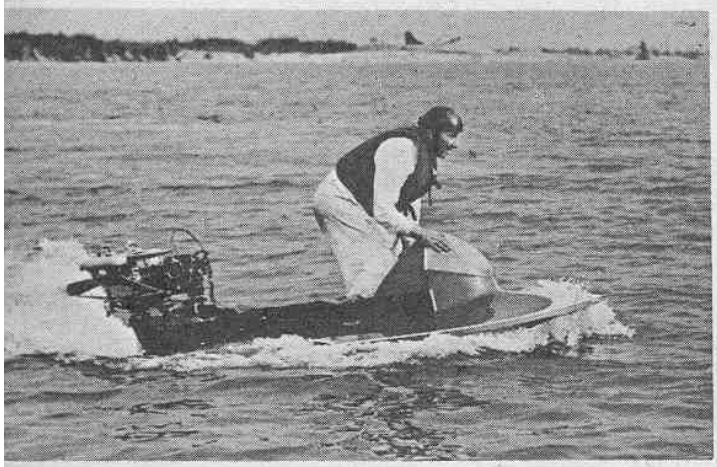
OUTBOARDS

EUROPEAN RECORD BREAKERS

By Paolo Speroni
BOAT SPORT's European Correspondent

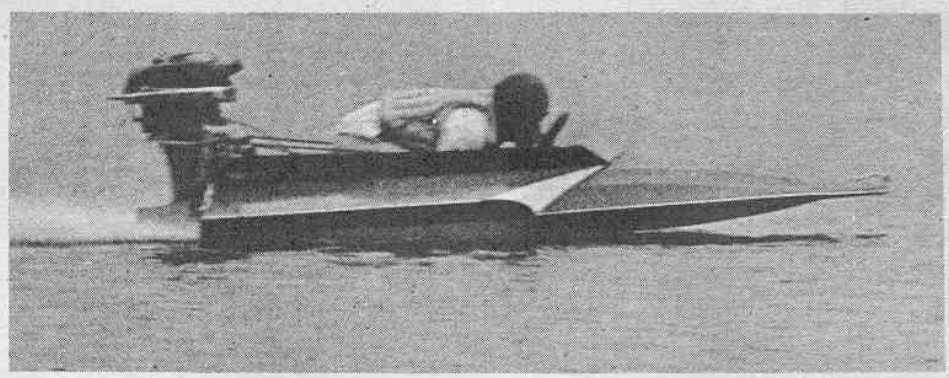
Outboarding "Over There" Makes Post-War Comeback In Most Active Season Since '39

(Right) Europe had outboard racing equipment shortage about a year ago, but now has plenty of competition. Note the specially designed elements on the Class A racing motors in foreground, which were built up from Johnson KRs.



Gino Alquati gets underway on artificial lake in Italy, where he set new world's 250 c.c. (15.25 c.i.) record for the kilometer — 55.95 mph. By U.S. standards, this three-pointer has somewhat ex-streamlined cowl.

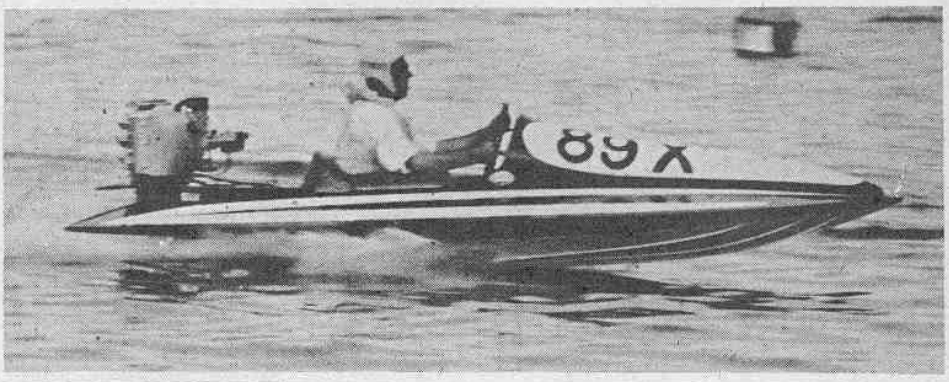
Signor Alquati moves back into the pits after his fast record-breaking two-way run over the kilometer course at Milan, Italy, on March 21, 1953. Notice that the exhaust header on motor is a typical motorcycle type.



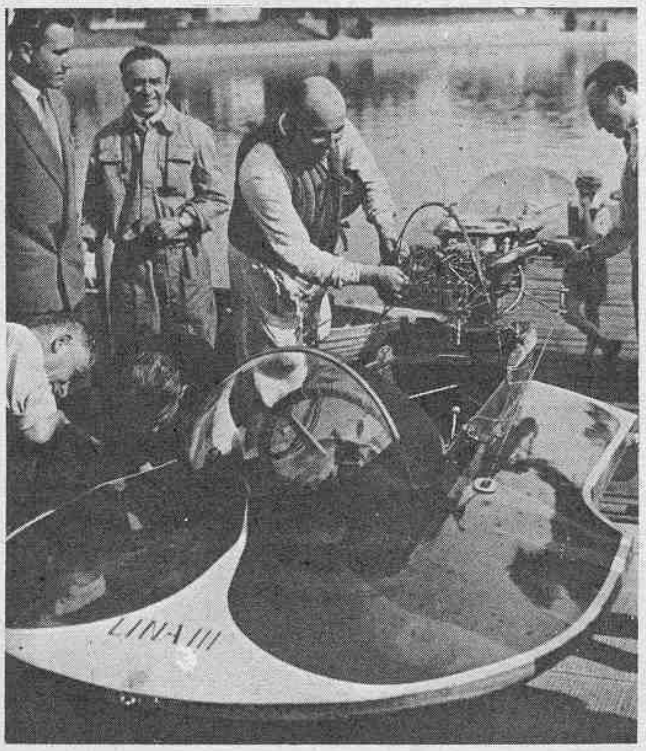
(Right, top) European equivalent of Class B stock is 350 c.c., slightly over U.S. allowance. Here Italy's Necchi reaches 50.5 mph in two-way mile run at Milan, in April of 1953.

(Right, center) Class C racing title (500 c.c.) was won in 1952 by Carlo Pagliano with a Jap motor; but now he has changed to a Hubbell. Record holder is Sweden's Faleij: 66.98 mph.

(Right, bottom) Switzerland's Paul Schiller, consistent post-war winner of European 1000 c.c. championships, shown in his step hydro 89X, which has an inboard style driver's seat.



(Below) Alquati readies Lina III, a Riva boat powered by Guzzi motor of piston displacement comparable to a Class A racing outboard, before his successful attempt upon the record. A cowl feature is bubble windshield.



THE SEASON OF 1953 has already proven to be one of Europe's most active since 1939. One reason for this has been the two new stock motor classes first raced in 1952 which have gained considerable popularity during the 1953 season.

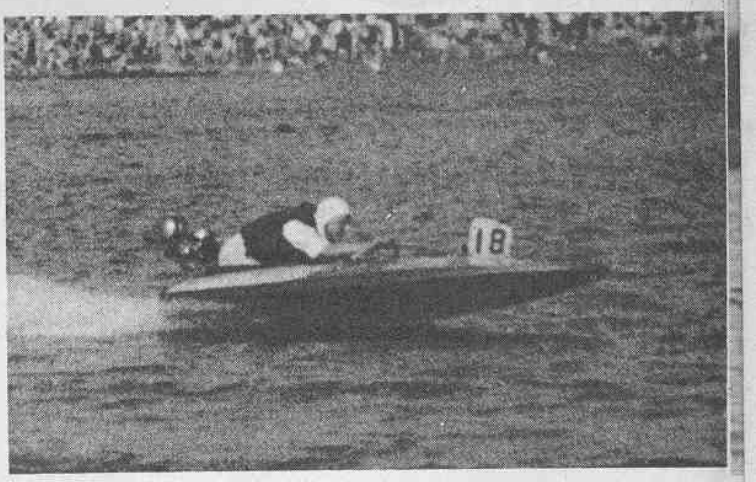
The most popular of the new stock classes is the 350 cubic centimeter group in which, in 1952, all competing motors were 10 horse American-made Mercurys. During 1953 a few Martin 200s have also made their appearance.

The average competitive speed for what would compare to the American Class B stock events is usually 39 to 40 mph. But one outstanding driver, Italian pilot Necchi, during April of 1953 at Milan, Italy, reached the speed of 50.5 mph in a two-way average mile run with a Merc KG7 powering a three-point Swift hydroplane.

The piston displacement of 350 c.c. is 20.35 cubic inches, slightly above the American allowance for the class.

The other stock class which is rapidly gaining popularity is (*See Over*)

Italian driver Gino Alquati shown underway at top speed during world-record-breaking run, at an average of almost 56 mph in Class A hydros.



Emilio Osculati, the former Italian 250 c.c. champion, lets out his conventional hydroplane on straightaway. The motor is a Johnson KR.

(*Continued from Preceding Page*)
the 650 c.c. stock class (that is 39.1 c.i.) which compares to our Class D stocks.

In the strictly-designed-for-racing category, three classes are active: the 250 c.c. in which nearly every event draws twenty or more entries, the 500 c.c., only slightly less popular, and the giant 1000 c.c. class.

Until recently the record in the 250 c.c., only slightly less popular, and the by KR Johnsons, Moto Guzzis, Artos, Mercurys and Famos, the European record and the world's record for the kilometer was held by Gunnar Faleij of Sweden, driving a Famo motor manufactured by Pilot, who did a two-way run of the kilometer at 53.48 mph. The Famo engine had a compression ratio of 1:10, is an opposed firing twin cylinder job that develops 23 horsepower at 9000 rpm, which for a Class A job is really winding. However, in late March of 1953 at Milan, Italy, the world's mark was taken over by Gino Alquati, driving a Riva boat powered by a Guzzi motor. Alquati covered the two-way run of the kilometer at an amazing speed of 55.95 mph, which is a truly remarkable performance for a motor of only 15.25 c.i. piston displacement.

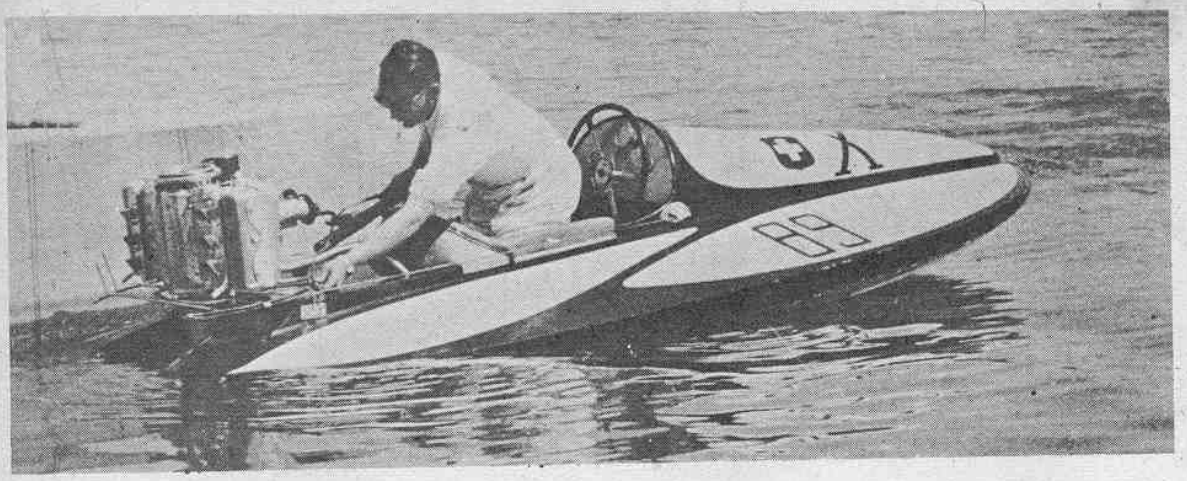
In the 500 c.c. class, which compares to the American Class C, the motors used are English Japs, American-made Hubbell, Evinrude, Johnson PR 65s, modified Mercurys and Lentis, the latter motor being the poorest performer of the group. The record holder in this class is ex-250 c.c. record holder, Swedish Gunnar Faleij, who with the larger 500 c.c. Famo motor has been clocked at 66.98 on a two-way run of the kilometer.

The present Champion of Europe in the 1000 c.c. class is a native of Switzerland, Paul Schiller, who drives a Spanish 6-cylinder Soriano.

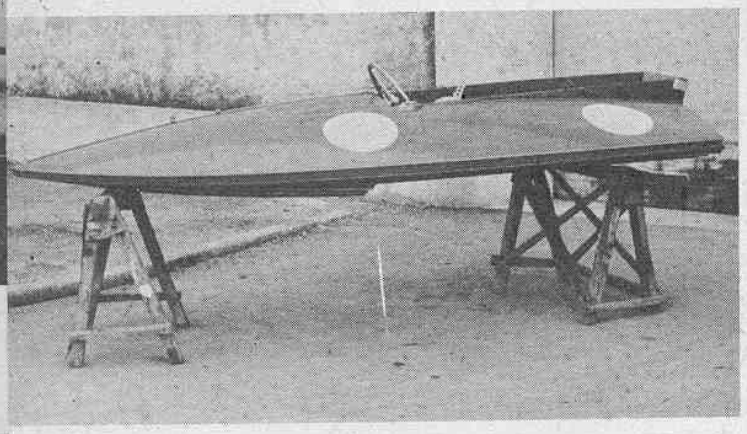
Relatively dormant for several years after the close of World War II, outboard hydro racing in Europe is definitely a big time sport again. (End).

EUROPEAN RECORD BREAKERS

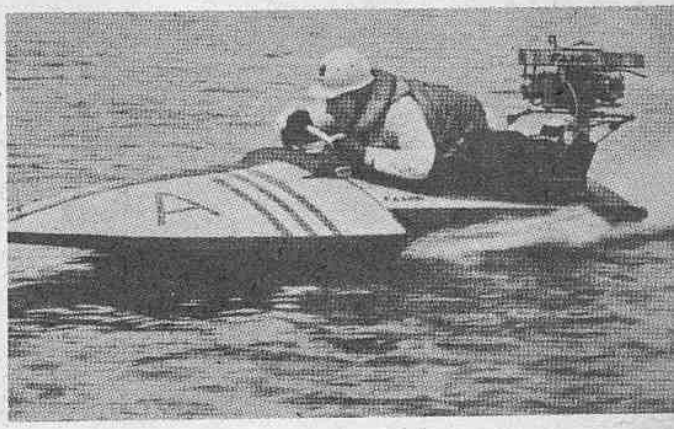
(Below) Signor Necchi of Italy, present holder of the 350 c.c. stock hydroplane record, whose Swift boat and Mercury KG7 motor combination has broken through the 50 mph barrier.



...oard racing champion of Europe is a Swiss driver, Paul Schiller, shown here as ...charged six-cylinder Spanish Soriano motor. Note the high cowl on his hydro.

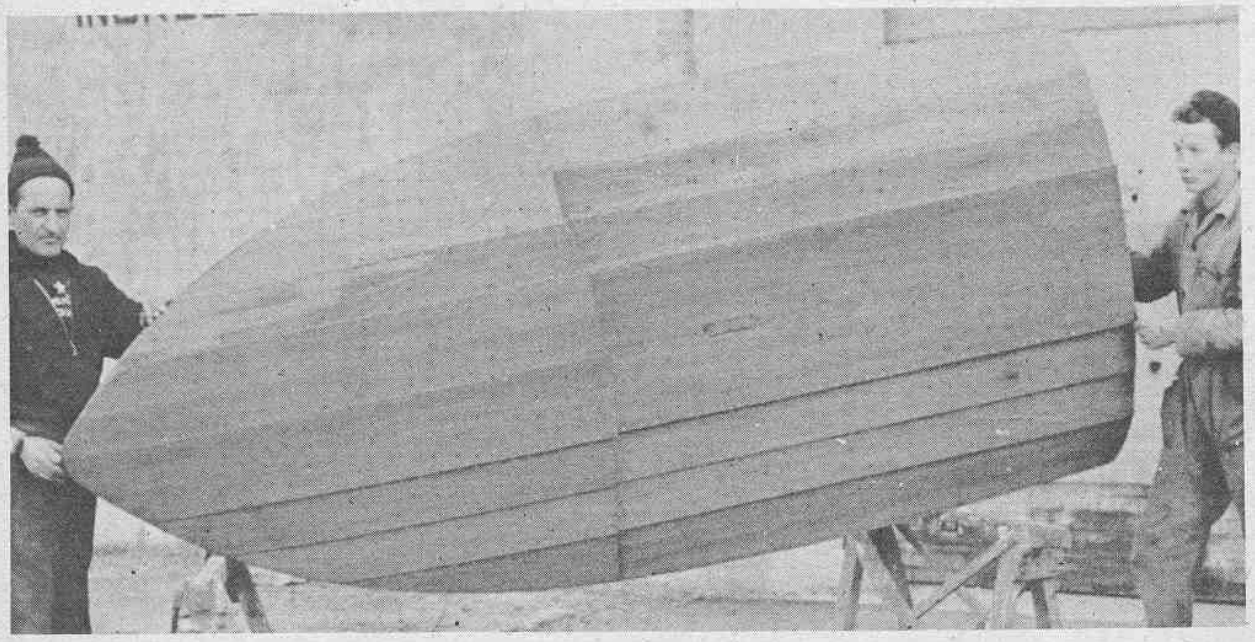


(Above) Typical European hull for 250 c.c. racing and 350 c.c. stock motors is a single step hydro, 9'4½" x 48", weighing almost 100 lbs.



(Above) Former 250 c.c. world's champion, Gunnar Faleij from Sweden. His Famo motor is opposed firing twin developing 23 hp. at 9000 rpm!

(Below) Viewed from the bottom this Class A hydroplane of Italian design shows multiple non-trips. These hydroplanes all have exceptionally fine handling qualities in the corners.

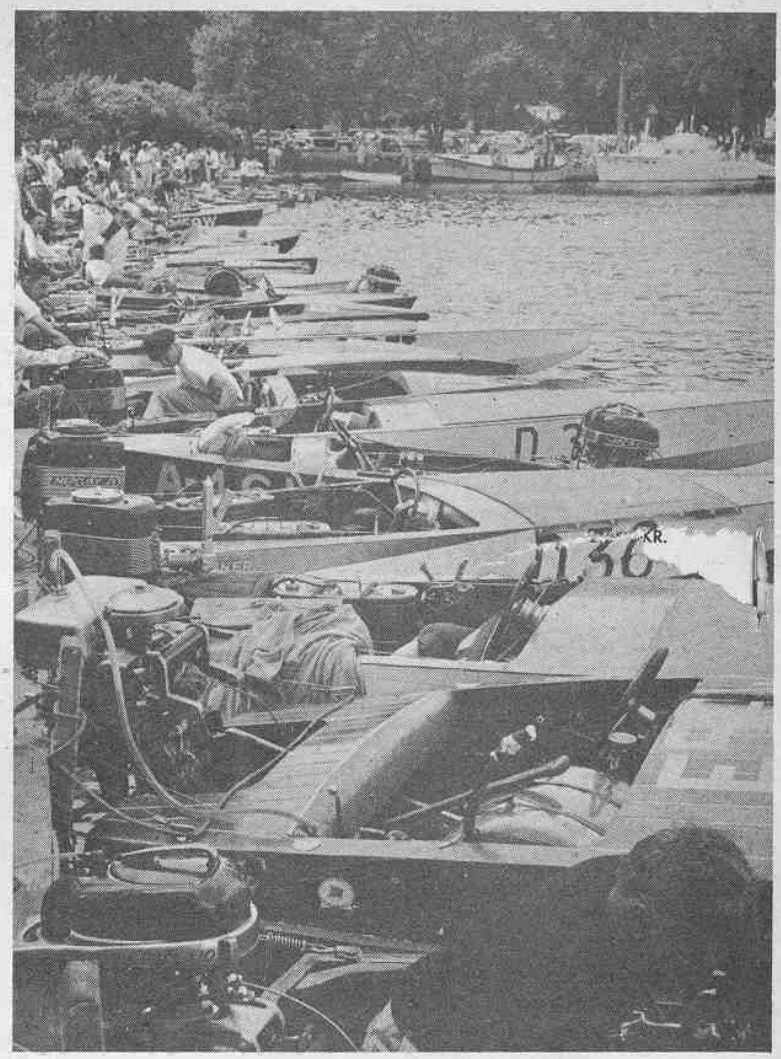


EDITORIAL NOTE

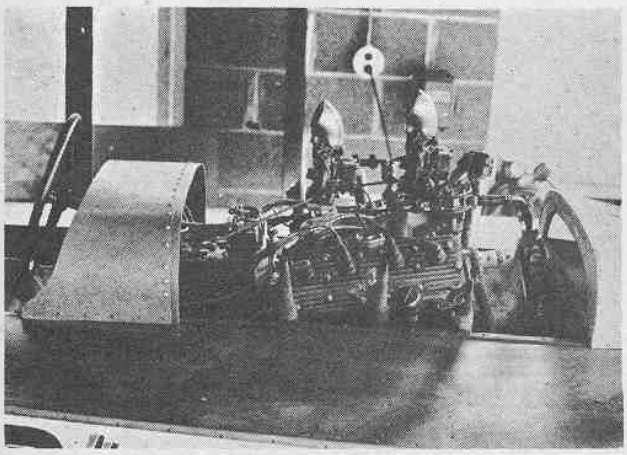
This month BOAT SPORT in the fourth article in this series covers basic class specifications of the Class C Outboard Racing Hydroplane, Class D Stock Outboard Runabout and the 135 c.i. Class Inboard Hydroplane.

Previous classes covered: April, '53 issue—48 c.i. Hydro and Runabout, Class B Stock Outboard Runabout, Class M Racing Hydroplane; June, '53 issue—Cracker Box, Class B Stock Outboard Hydro, Class A Racing Outboard Hydro; August '53 issue—Class B Racing Hydro, Class J Stock Outboard Runabout and 136 c.i. Inboard Stock Hydro.

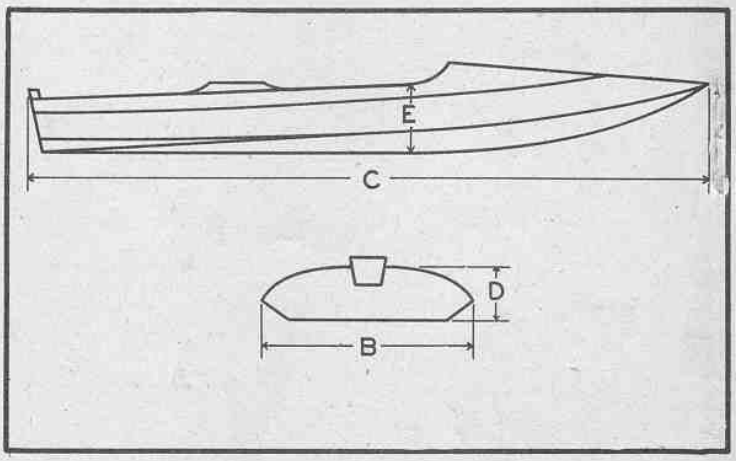
KNOW YOUR SPEEDBOAT CLASS



(Right) This pit scene before the start of the Winnebagoland annual marathon shows three representative Class D Mercury 25 runabouts.

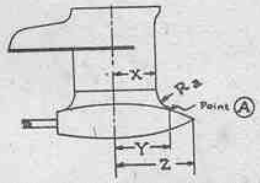


135 c.i. class drivers largely favor Ford V-8's because of ready accessibility of hop-up parts. Note aluminum finned, high compression heads and the dual manifold twin carburetors expertly set up on this power plant.



D runabout dimensions. Measurements must be a minimum as follows: B—8"; C—13'; D—12" and E—16". The stock runabout hull is defined as displacement type of family runabout. (See text for complete details.)

In response to the many queries BOAT SPORT has had concerning refinements of contours of the lower units for outboard racing motors, we are reproducing at right a drawing of the unit. Minimum dimensions are given also of the racing classes. Note that figures on chart are the legal minimum, but in the lower unit, gear-case housings and pinion shaft housings may not be consistent; leave yourself a safety margin so that you don't run risk of going through shell.



X = MAXIMUM LENGTH FROM CENTER-LINE OF PINION SHAFT TO LEADING EDGE OF PINION SHAFT CASING.

Y = MAXIMUM LENGTH FROM CENTER-LINE OF PINION SHAFT TO FORWARDMOST POINT ON LEADING EDGE OF THE PINION BEARING BULGE (POINT (A)).

Z = MAXIMUM LENGTH FROM CENTER-LINE OF PINION SHAFT TO POINT OF GEARCASE.

R_a = MAXIMUM RADIUS OF AN ARC WHICH IS TANGENT TO THE LEADING EDGE OF THE PINION SHAFT CASING (SEE DIMENSION X) AND TERMINATES AT POINT (A) ON THE GEARCASE. NO PART OF THE PINION BEARING BULGE MAY EXTEND FORWARD OF THIS ARC.

CLASS	X	Y	Z	R_a
EVINRUDE "M"	1 7/8	2 1/8	2 1/2	3 1/2
JOHNSON "A"	3	3 1/8	5	1/2
JOHNSON "B"	2 1/2	3 15/32	5 3/4	6 1/2
JOHNSON "C"	2 1/2	3 15/32	5 3/4	6 1/2
EVINRUDE "C"	3	3 9/16	4 13/16	1
EVINRUDE "F"	3 1/8	3 5/8	5	1
JOHNSON "C-SERVICE"	3	3 9/16	5 1/2	1
EVINRUDE "C-SERVICE"	3 1/8	3 1/8	4 5/8	NONE

ALL DIMENSIONS ARE IN INCHES

CLASS C OUTBOARD RACING HYDROPLANE

To be eligible to race in A.P.B.A. or N.O.A. sanctioned Class C Racing Hydro events, drivers must be at least 14 years of age.

Weight restrictions:

A.P.B.A.: The hydroplane for this class must weigh a minimum of 150 pounds, with an overall weight of 315 pounds. The overall racing weight includes steering wheel, motor controls, permanently attached speedometer and /or tachometer, permanently attached coaming pads, knee pads and cushions and the weight of the driver in regular racing clothes worn during the race, but not including life preserver, crash helmet or knee pads.

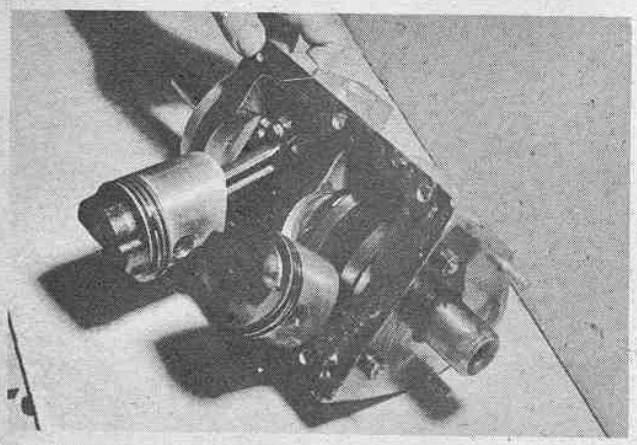
N.O.A.: No minimum hull weight. Overall racing weight of boat and driver is set at 315 pounds. This overall weight includes boat weight with accessories as described in paragraph above and weight of driver including life preserver, crash helmet or other paraphernalia customarily worn during the race.

Note: To qualify for legal limits of A.P.B.A., drivers (*Turn to Page* 30)

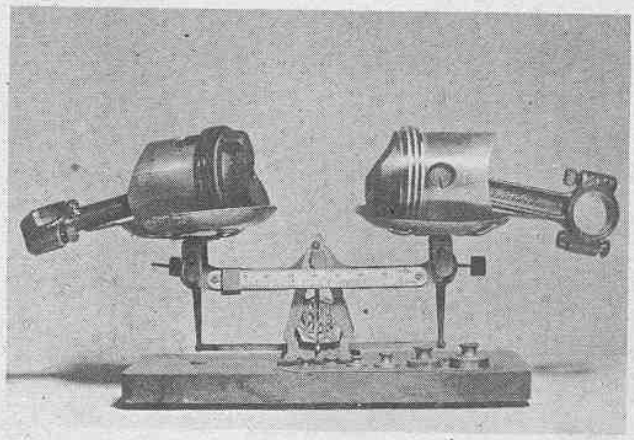
A typical Class C hydro pushed by a potent Johnson PR 65, slides around a corner under full power. Ray Shilling is the driver. To be eligible to race in sanctioned Class C racing events, drivers must be at least fourteen years old. Any service engine, 20 to 30 cubic inches, is eligible.

MERCS AT WORK

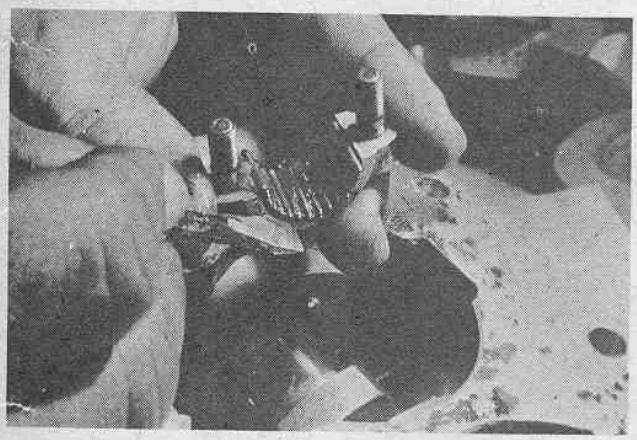
During the winter months, BOAT SPORT's cover artist, Harold Kelly, designed and built a new stock runabout that he has named "Dry Run." As soon as the first warm spring days arrived, he tried out this latest of many boats he has built and raced in such events as the Albany-New York Marathon. He used 1953 Mercury A and B motors, after tearing them down for a complete inspection. These pictures were taken during his detailed examination of the engines and when he made his initial trial runs on Lake Hopatcong, New Jersey. . . . . .



One of the many major improvements in the 1953 Class A Mercury is the full floating ring set-up of the pistons shown in this photo.



The piston, wrist pin and rod assembly of the Mercury were checked by Kelly and found to have been perfectly balanced at factory.

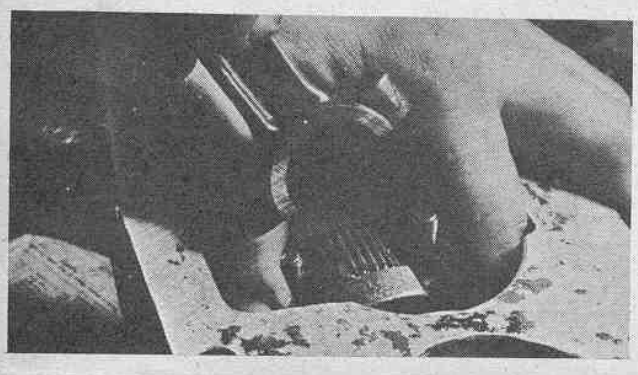


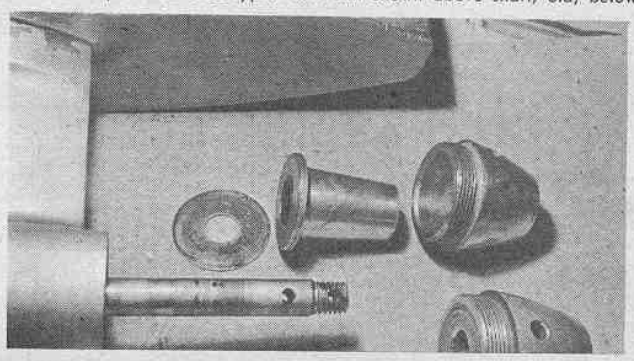
(Above) Replacing needle bearings can be hair-raising job for the tyro. A simple little trick, however, makes it easy—a heavy smear of Mercury lower unit grease on rod cap holds needles in place.

(Below) To complete needle bearing job the remaining needled bearings are pressed into position. The rod is then ready for assembly.

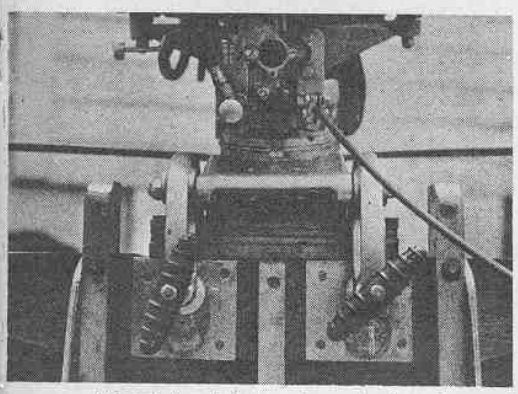
(Above) The rod cap (also see picture at left) is then held in position under the crank throw and coating of grease is placed on the throw.

(Below) Another major improvement in the 1953 Mercury is in the Quicksilver unit. Two sets of roller bearings replace single bronze bushed tailpiece of 1952 type. New unit shown above shaft; old, below.

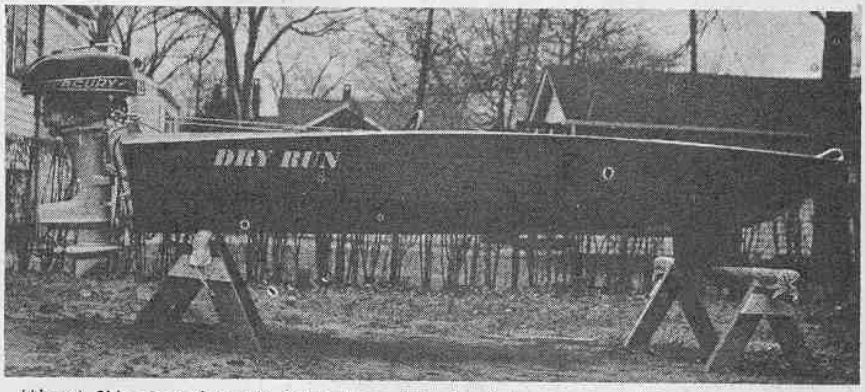




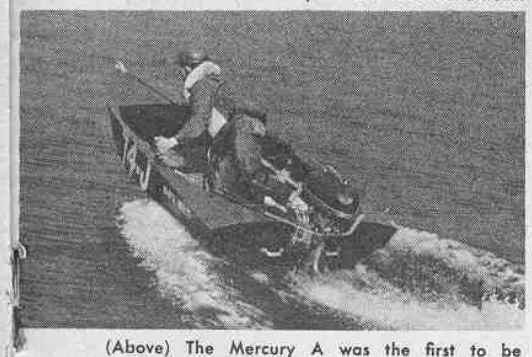
Convinced that his new runabout handles well and that the new Mercury A and B motors outperform any previous equipment he has used, Harold Kelly, two-time campaigner in the rugged Albany to New York Marathon, is shown homeward bound after satisfying day of testing.



(Above) A and B Mercs have also been improved by addition of deeper throats on motor clamps. Shown here is motor shimmed to 1⅜" above transom with clamps still able to get secure grip. This feature is important where varying number of rev sticks depend on water conditions.



(Above) Side view of Harold Kelly's boat, "Dry Run," showing Merc A set-up ready for action.

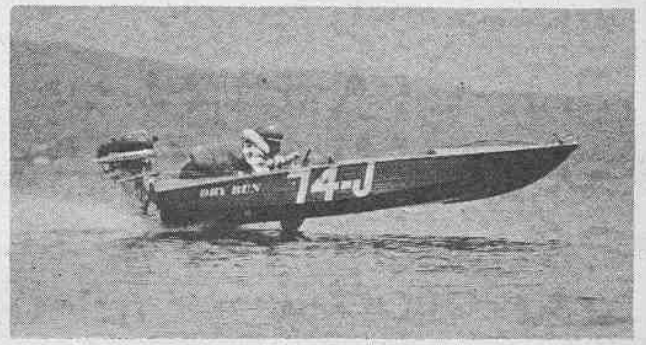


(Above) The Mercury A was the first to be checked. It bounced the "Dry Run" onto plane as soon as Kelly opened up the throttle.

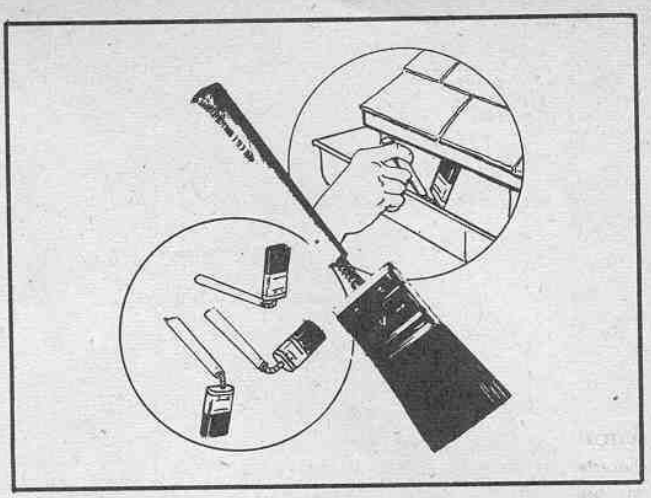
(Above) At full throttle, Kelly flashes by, with boat riding light and handling beautifully.

(Below) A lighter weight, four pound flywheel has added lots more snap to the already fine performance of the Mercury motor. "Dry Run" was driven in close to the shoreline at about 25 m.p.h., then the throttle was cracked wide open to show the sparkling pickup.

(Below) With better than 45 m.p.h. showing on water speedometer "Dry Run" is shown with Class B Mercury winding at full throttle.



New Life Battery Rejuvenator recommended as a safety measure for inboarders. New Life is a granular chemical which, when sprinkled into battery liquid, is claimed to end build-up of plate sulphates.



Lick your problems of getting varnish or paint brushes in those inaccessible spots with this new flexible handled Util-A-Brush. If you have to paint around corners, this is something to look into. Made by Fern-Way.

It's NEWS

This new introductory Glass Plastic patching kit is available in a variety of colors. Makes repairs of the complete covering of hull with a fiberglass plastic covering nearly as simple as an ordinary paint job. A sample kit costs $5.00.

GLASS PLASTIC CLOTH AND RESIN KIT

The Glass Plastic Supply Company of 333 West Elizabeth Avenue, Linden, New Jersey, has announced a Glass Plastic cloth and Resin kit which makes repairs or complete covering of hulls with fiberglass plastic covering nearly as simple as a paint job. The skin coating after it has cured or dried can be wet-sanded and buffed to offer a smooth finish. Of equal importance, too, is the availability of both cloth and resin in a variety of colors, including bright red, copper red, dark blue, green, white and black, as well as clear or colorless.

A sample kit, enough to cover 12 square feet of boat surfacing, costs $5. Boat owners who have already had previous experience with Glass Plastic applications, can order the materials by the square foot. Prices for a single fabric layer average about 40c a square foot.

WATERLESS HAND CLEANER

No outboard or inboard driver should be without some means of cleaning up after a race event. One of the easiest ways is to carry a tube of cream-type hand cleaner that floats off the oil and grime which seem to be a constant part of the racing picture. M & H Laboratories of 2705 Archer Avenue, Chicago 8, Illinois, have come up with a waterless cleaner that removes all types of stains, using lanoline and glycerine as its base so that the cleansing action contains no harsh abrasives or ammonia.

BATTERY REJUVENATOR

A handy gadget for the inboard racer is a product called New Life Battery Rejuvenator, priced at $1 and produced by the J.S.M. Products Company, 1118 Castleton Road, Cleveland 21, Ohio. New Life is a granular chemical which when sprinkled into the battery liquid is claimed to immediately end build-up of plate sulphates. The package contains three tubes of the compound, one for each battery cell and according to the *(Turn to Page 27)*

PART V

THE INSIDE STORY OF RACING FUELS

By Ted Powell

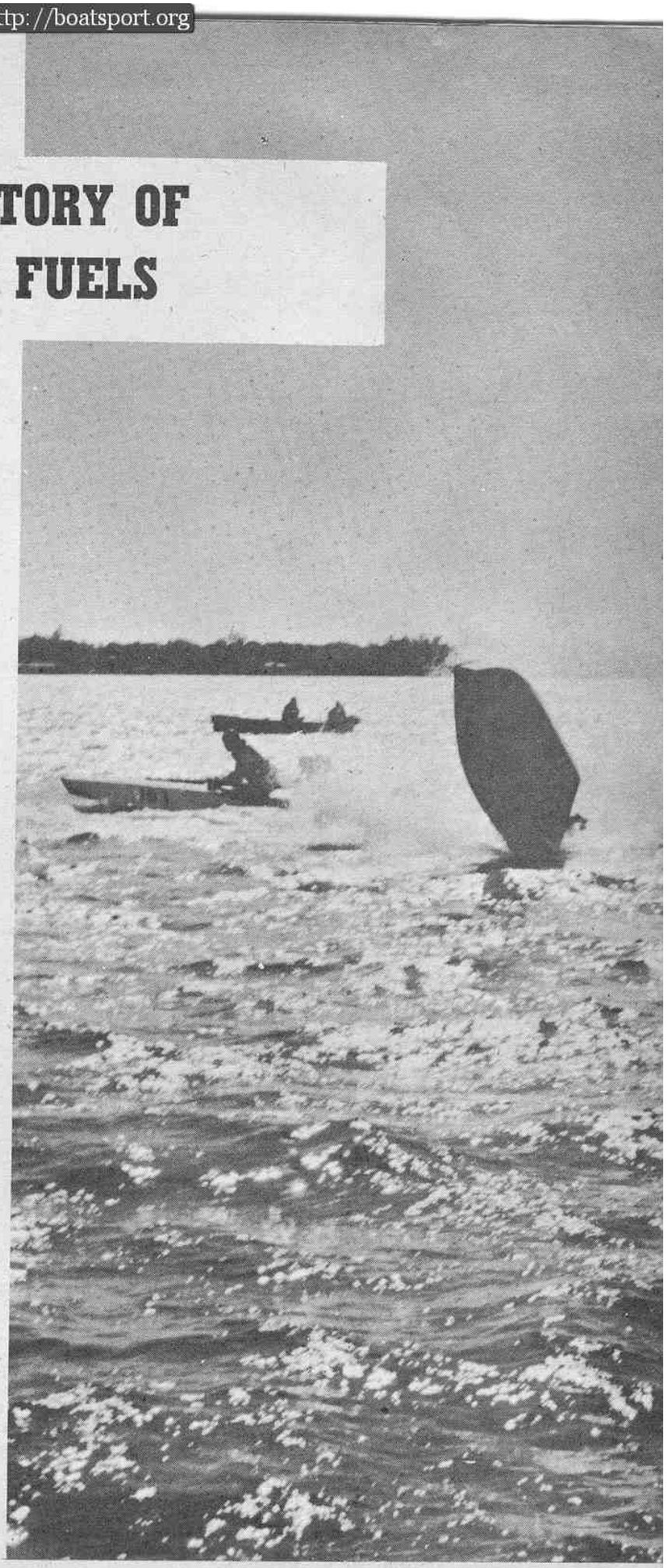
EDITOR'S NOTE: The description of the physical characteristics of special fuels is completed in this issue. In previous issues Mr. Powell has lifted the cloak of mystery that for years has surrounded the topic of hot racing mixtures. In future issues, BOAT SPORT will cover chemical, thermal, ignition, combustion and knock characteristics of special racing fuels as well as revealing the exact tested and proved formulas.

THE LIQUID and gaseous specific gravities (S.G.) of fuel are their densities as compared to water and air at normal temperature and pressure. Denser fuels of a given chemical family possess a slightly greater caloric content and fuel mileage. These denser fuels also result in a somewhat heavier air fuel charge in the induction system, better engine breathing and greater power output at lower engine speeds.

Alcohol-hydrocarbon blends produce miscible (colloidial) solutions whose volumes are greater and densities lower than would be expected from their formulas. This is referred to as "blend S.G." rating and is one of the few minor disadvantages of blends as compared to straight fuels in the way of a slightly lighter fuel-charge density.

The nitrohydrocarbons have the highest densities of the better-known special fuels. Ketones and esters have S.G.s almost as high as that of water. This partially tends to make up for their lower latent heat as compared to the alcohols and water. The aromatics have a fairly high liquid density, which is another power advantage of benzol over the gasolines, even though the gasolines average a somewhat higher gaseous density (this is less significant than the liquid density since racing engines are designed to ram the maximum possible "wet" fuel charge into the combustion chambers). The ethers have low liquid densities, another reason for their poor performance as racing fuels.

(Continued on Page 27)



A stock runabout takes to the air! Somewhere behind the upturned boat, and lost in the spray, is Jim Earneston of West Palm Beach. It was first of two flips in the choppy waters of the Manatee River during the De Soto Celebration Regatta, at Bradenton, Florida, last March 16th. J. D. Lamon, driving both a stock hydro and a runabout, was high money winner in the event.

BIG TWIN HOP-UP (*Continued from Page* 6)

failing to close the point gap at high rpm.

To time the engine, rig up a test light and dry cells with about a 3′ lead at both ends. Disconnect both coil and condensor from both sets of points. Ground one of your test leads to the mag plate and gap one set of points to .017″ to .020″ clearance. I gap mine as close to .018″ as possible. Connect the non-grounded lead to the point you have just gapped and with the point closed your test light will be on. Rotate until the light goes out, and exactly at that point, with a micrometer depth gauge, check the distance from the top of the piston to the top thread of that cylinder's spark plug hole. At this point make a scribe mark on your flywheel and gas tank.

Then, moving to the other set of points and following the same procedure, rotate the motor exactly 180° and check the micrometer again. If the piston depth measurement doesn't match your previous measurement, then set the other point with the gapping cam bolt until you have achieved proper timing balance. This can be time-consuming but it's worth it in added rpms.

Porting your blocks is the next step. This, too, is a painstaking process but your accuracy and diligence here to the small details will really pay off in added speed. As you will observe, with the motor torn down, the ports are all round or nearly so. Starting first with the intakes, square the ports on the upper side only. Don't alter the depth of the ports.

On the crankcase or lower end of the intake ports, bevel or slant them back toward the case, *but* don't enlarge the ports toward the case or you may alter the port timing; remember the ports act as your valves. Your porting can be done with a small rotary grinder or file but when you are through your porting, be sure to remove all sharp corners and polish all surfaces because the better the polish and finish, the more speed you can expect. You are trying to make it as easy as possible for the engine's case compression to introduce as large as possible a charge of new fuel mixture into each cylinder at the proper time. More fuel vapor, more power—it's as simple as that.

The exhaust ports require even greater care. By use of a protractor (cut out a cardboard collar to fit over your flywheel or scratch protractor scribe marks on the flywheel pulley plate), you can determine the difference between the intake and exhaust ports in degrees of crank rotation. Remember that any flywheel, regardless of its size or the type of the motor contains 360°. And by marking out degrees on the paper collar or on the flywheel itself, one full rotation of 360° will carry any motor through all the various processes involved in its functioning.

You will note that your exhaust ports will open slightly before your intake ports are exposed by the downward movement of the piston. Square and enlarge the exhaust ports only in a crosswise section. Do not under any circumstances enlarge toward the case or toward the head end of the block as yet. The difference that you note on your protractor should be exactly 14° of rotation between the time of exhaust opening until the piston drops below the top of the intake port and allows a new charge to start to enter. If you have less than 14°, at high speed your engine will experience blow back through the intakes. To adjust incorrect port timing, alter *only* the upper ends of the exhaust ports to attain this exact 14° difference.

Remember the bottom edge of the exhaust port does not affect port timing.

I do not go along with the general belief that it is necessary to have ultra high compression to have a hot outboard motor. However, after trials with the standard factory compression ratio, there are a few things that can be done. But do not mill the head. If you will inspect the head end of the cylinder assembly you will notice that aluminum is cast over the upper end of the cylinder sleeves and machined flat to make a gasket face. If you wish, you can mill off .100″ from the top of the cylinder assembly which will give you 130 to 135 pounds compression at racing speed. If you do plan to mill the cylinders, then before running, be sure to assemble the cylinder head to the barrels without a gasket. Prior to assembling, blue the tops of the pistons with Prussian blue oil paint and turn over the motor slowly until the piston contacts the head. Again with a handy grinder, if the piston does hit the head—and it probably will—contour the top of the piston until you have sufficient clearance to permit the motor to turn over freely with the gasket installed. Since gaskets are about .080″ thick you can, as an alternate method, lay a flat piece of modeling clay .080″ thick on the piston. Follow the same procedure, and alter the contour of the top of the piston until the strip of clay no longer is squashed when the flywheel is rotated.

When the motor is assembled with the head gasket, you will have enough clearance so that expansion and carbon deposits during a day's racing events won't cause you any harm. Carbon should be removed after each race meet as it causes hotter running and may result in burned pistons.

With this set-up, you will have to use spark plugs with internal electrodes, such as AC 42M or 43M or their equivalents. Should you fail to make a change from your stock plugs, the pistons will hit the plug points at top dead center and you will never even get running.

The next step is to improve the intake from the crankcase. To do this, you first remove the intake port covers from the powerhead. When you inspect this, you will notice that there is a prominent bulge in the intake passage where the rear of the crankcase side of the port covers match the corresponding crankcase openings. Your job here is to remove all the bulge possible without cutting into the port cover and the case, then blend the passage and polish.

As regards your pistons and rods, disassemble both complete sets of pistons, wrist pins and rods, and with a scale, weigh one group of components against the other. Any noticeable difference in weight will be cause for greater wear and shorter life, while perfect balance may even give you a few added rpms.

BUDDY REUTER

For a few years shortly before and after World War II my racing headquarters were at the shop of Buddy Reuter in San Antonio, Texas. He is a former class C hydro National Champion and World Record holder. In this shop he built a three-point class X hull for me in 1939 which was one of the first of that type ever constructed. He also serviced all my outboards during that period, including the Draper X motor.

Then when I started with the inboards after the war he continued on with me, and built the Ford V-8 motor which powered "Belligero II" when it was the first limited class hydro to exceed the 100 m.p.h. barrier in 1949.

Photo above shows him on my right, in 1949, standing beside "Belligero I" in the snow at San Antonio. Because this boat was wider than the maximum allowed on the highways, it was necessary to install a hydraulic jack on the trailer to tilt the hull on its side before it could be lawfully transported.—PAUL SAWYER.

To achieve this balance, with a handy grinder or a file, you may remove metal from the inside of the skirt of the piston of the heavier set.

Some of those who are modifying the Evinrude Big Twins go a step farther and rebore the wrist pin hole in the piston and install needle bearings to fit between the wrist pin and wrist pin hole. Many drivers, too, replace heavy steel wrist pins with lighter weight aluminum aircraft tubing of the same diameter, and then in place of clip springs, use bakelite or formica buttons at either end of the pins, which secure the pins in position but which do not create undue wear on the cylinder walls. Formica buttons can be bought from Randolph Hubbell, 2511 N. Rosemead Boulevard, El Monte, California.

The final modification in the powerhead is accomplished by removing the crankshaft, polishing and buffing the entire assembly and grinding off all sharp corners in the process. Some of the drivers, too, follow this up by having hard chroming done to the entire surface of crankshaft and rods with the exception of the bearing surfaces.

After chrome plating or just polishing and buffing has been done, then have the entire assembly of crankshaft, flywheel, flywheel key and nut placed in dynamic balance. I recommend that you instruct the balancing expert not to cut or drill any metal from the shaft during this operation but to accomplish balance by removing metal from the inside of the flywheel.

Now you have all of your parts ready for re-assembly. On the exhaust side of the motor, omit the assembly of the exhaust cover plate and water transfer jacket. By drilling, enlarge both the water inlet and outlet holes to ½". Then with a piece of ½" pipe, fabricate a horseshoe shaped jumper to fit these holes, making certain that the arc of the jumper is great enough to clear the exhaust ports by at least 3". Then with a piece of steel strip, make a hold-down strap to fit over the transfer pipe and bolt to two opposite threaded holes where the water jacket was orignally fastened.

On the opposite corner from your water pipe assembly, you will note two ¼" drain holes. Tap these to 5/16"-18 thread using a bottoming tap and install two pipe plugs.

On the reed plate and cover assembly, on the front or carburetor side of the reed plate, chamfer the intake holes toward the case until you have about a .015" land at the bottom of the holes adjacent to the reeds. Then polish and buff to a high surface finish all the passages where the fuel vapor mixture comes in contact with the case.

If you are a perfectionist—and every little bit helps—you can replace the two center main Allen bolts with two highly finished slotted head bolts which will eliminate the pockets in the Allen-head type.

You will note, too, on the reed plate

(*See Over*)

BIG TWIN HOP-UP

(*Continued from preceding page*)

cover where the carburetion studs enter, two bosses extending into and toward the reed plate. Remove as much of this boss protrusion as you can without materially weakening the reed plate cover. Then polish and buff the inside of the cover also.

Next is the carburetor. Your first step is to remove the float valve and the seat assembly. Take the float valve and the seat assembly to an automotive carburetor specialist and have him install the largest seat possible in the carburetor body. Then open all the passages in the carburetor fuel intake lines and fittings to the absolute limit, still retaining enough shell to hold the threads. The real bottleneck is in pressure—you have plenty to supply the engine—but the problem is to get the gas through the carburetor and reed valve system. Be sure to remove the carburetor screen in the filter bowl for this acts as an obstruction to free flow.

With my own outfit, with a small 1½ gallon home-fabricated tank mounted on the intake side of the motor, I was able to pick up 3 mph over the original 6 gallon remotely located fuel tank.

The method that I have described here is designed for carburetion by the stock carburetor. Some of the boys discard the carburetor in favor of an AO-500 Vacturi but with that, in addition to making an adapter plate, you must use two bowdoin wires, one for remote control of the breaker plate and the other for the carburetor.

For racing purposes, by reason of the cost of alcohol blends, our group agreed to stick to tank fuel. I use ¾ pint of oil to the gallon. Switching over to alcohol would not only require alterations to carburetor jets but also would require removal of the reed valve assembly and the design of a new type of valve to handle the fuel. Actually I am working on just such a specially designed valving set-up at the present time and if it works, I will report on it at a later date. (End)

LONG ISLAND MARINE FESTIVAL

The largest and most colorful marine festival in Long Island, New York, history took place on Sunday, June 21st for the benefit of the South Nassau Communities Hospital. Included in the program was a huge fleet of boats representing ten clubs, three power squadrons, Coast Guard auxiliaries and many boat owners without club affiliations. Thousands of spectators lined the shores from East Rockaway to Babylon. Thousands more witnessed the A.P.B.A.'s seven litre races in which Guy Lombardo won Free-For-All honors with his "Tempo Junior" in Reynolds Channel off Long Beach. Eastern drivers of inboard 135's and outboard racers of the Long Island Stock Outboard Racing Ass'n. also took part in the program of races over a mile and two-thirds course. Thanks to Darius Sylvester, President of the Marine Trades Ass'n. who served as Chairman of this worthy event, and his many coworkers, the festival was a big success from start to finish. Everywhere in the United States—though not on such a huge scale as this South Nassau Festival—it's getting to be quite the thing for boat enthusiasts of one kind or another to stage water spectacles or hold speedboating events in behalf of local charities. More power to these good people for the fine work they are doing!

"If it weren't for that big thing back there, it wouldn't be so hard to row!"

THE MAYOR OF CARBON CLIFF

(*Continued from Page* 11)

of St. Louis, Ill., Ernie Erickson, Roy Pedersen and Jack Maypole of Chicago; Henry "Red" Tietge of Walker, Iowa and Bob Cramer of Fort Myers, Florida. His toughest rival seems to be Harry Vogts of Madison, Wis., who accounts for many of Homer's second place finishes, usually alternating wins with Homer.

In 1952 Homer beat out the regional champions to take the N.O.A. Class B National Championship at Lake Village, Arkansas and to maintain proof of his versatility, he also reaped the Wisconsin State Championship in Class C that same year. He is now driving under the partnership of Bartleson and Kincaid and owns his own equipment. In his more than 24 years of continuous racing (he's 42 now) Homer figures he has driven in at least 3000 heats, which, when you count in testing, at even a most moderate estimate means he's driven 10,000 miles in a hydroplane. How's that one for your knees?

Homer was also one-time Mayor of Carbon Cliff in the early Forties. He has never been especially interested in politics but he was petitioned to run by a group of the community's leading citizens. He vindicated their judgment by organizing a unit of the Civilian Defense Corps during the war, acting as director of the local Boy Scout troop and embarking upon a vigorous program of public works.

Homer's four children have been brought up in the tradition of speedboat racing. Jack, 19, has been building up the C service motor very successfully and acting as general mechanic for his father. Bill, 18, also serves as mechanic and is gradually breaking into racing. Judy, 16, teams up with her mother to coach her father on starts, performance of boats, etc. And Jimmy, 9, is claimed to take an interest in everything in the pits except the races.

There are few people in the speedboat racing business as well qualified as Homer Kincaid to offer advice to the newcomer to the game. His suggestions are brief but pointed. He says that the best combination is a cool head and a hot motor. Racing motors are temperamental but the driver cannot afford to be so on the course.

"About all I can advise," Homer Kincaid writes, "is that (the newcomer) purchase a complete outfit that is set up and running among the top winners. It requires a lot of experience and patience to buy the motor and boat separately, one which would be successful in present day competition. It is a difficult game for the newcomer to break into, so I would advise him to get the best outfit available in order to get off to a good start . . ."

This is probably one of those places where one should say, "All opinions expressed herein are those of the author and do not necessarily reflect those of the magazine, its editors etc." or something, since there is the other point of view which likes to see the newcomer start from scratch and build up slowly to the hot stuff. However, it might be that the Kincaid theory of knowing what a good boat and good motor feel like, what to expect and what to look for at Homer's record, it's hard to know what to say. It's enough to leave anyone could be the best advice. After looking speechless! (End).

IT'S NEWS

(*Continued from Page 22*)

manufacturer, it will extend the useful life of an old but mechanically sound battery for many months. Anyway, it might be a handy safety precaution to have around.

FLEXIBLE HAND PAINT BRUSH

Have trouble getting varnish or paint into inaccessible spots in the engine compartment of your inboard, or under the decking of your outboard? The new Util-A-Brush made by Fern-Way, 11705 Detroit Avenue, Cleveland 7, Ohio, employs a strong flexible cable joining the handle to the brush, permitting stay-put bends at any angle. If you have to paint around corners, this is something to look into. With 1½" bristle brush head, the job will sell for 79c.

NON-LEAD FUEL ADDITIVE

Synthol Research and Development Laboratories, P.O. Box 623, Sacramento 3, California, are introducing a new product called Neo-Dyne, a non-leaded fuel additive designed for marine engines and outboard motors. According to the tests at the Laboratories engine wear is reduced as much as 33 1/3% and the manufacturer claims that cooler engine performance, reduction in engine ping or knock and increased speed has resulted. Adding Neo-Dyne to the fuel in recommended amounts costs about ½c a gallon.

NEW STOCK HYDRO RACING PROP

Johnson Propeller Company, 603 Lancaster Street, Oakland 1, California, has developed a new stock B hydro racing propeller known as the "OJ"—BH, which was used recently in establishing a 55.945 mph stock hydro record.

NEW PITOT TUBE

Muskegon Outboard Specialties Company, 4386 Airline Road, Box 426, Muskegon, Michigan, announces a new racing pitot tube which licks the old shimming problem and banged up tubes around the dock by being easily adjustable to any transom angle. The item, which sells for $5.50, has an added advantage of being completely tiltable so it can be rotated up out of the way for launching or removing the hull from the water. Its streamlining and high polish offer a minimum of water resistance.

MOTOR TIE BACK

'Here's an item that will save lots of headaches during testing and rigging your outboard motor for racing. Stampfel Outboard Racing Parts and Accessories, 2905 South 60th St., Milwaukee 14, Wisconsin, has designed a snap-on motor tilt-preventive tie-down made of 2000 pound break-test steel airplane cable that is very flexible. It is available for any make and model of motor at $1.75.

NEW PR CYLINDERS

Bill Tenney, C hydro record holder, reportedly was using Jones PR 65 replacement cylinders when he racked up his 60.729 m.p.h. competition record January '53 at Lakeland, Florida. Jones, who has established an enviable reputation for precision grinding and cylinder chroming, can be reached by writing Westerman W. Jones 1 Yale Avenue, Claymont, Delaware.

BOAT PLANS AND PATTERNS

Naval Architect E. G. McCrae of North Hatley, Quebec, Canada, deservedly well-known for his small-boat and outboard designs, is offering special services to amateur builders. He believes that there is need for a straightforward service to the amateur builder who is interested in doing his own building. His idea is to first find out if the would-be builder might have trouble with construction, or if the hull he has decided upon is suited to his motor or need. In any case, Mr. McCrae does not deliver the plans he has for sale until he has attempted to solve the amateur's boat procurement problems. "In a nutshell," to quote him directly, "our program is intended not only to sell plans but actually to properly serve the multitude of people who are classed as limited budget types."

ABDOMINAL SUPPORT FOR RACING DRIVERS

Of special interest to marathon drivers is a new special supporting nylon and elastic garment designed by Anchor Hardware Company, Wilmington, N. C. A descriptive folder may be had on request by writing to that company.

(End)

INSIDE STORY OF RACING FUELS

(*Continued from Page 23*)

However, they have high gaseous densities while the alkys are a bit low on this score.

This emphasizes the necessity for holding down alky evaporation in the inducton system and is another reason for the Volumetric Efficiency advantages of water-doping, fuel injection and multiplex carbs in alky-burning racers. This results in a rough-running engine but in racing work, V.E. and HP output are the prime concerns, of course, and smoothness and economy are minor considerations. Even in a stock 4-stroker, only a small portion of the fuel charge is evaporated in the induction system.

The liquid and gaseous S.G.s and liquid weight in lbs./gal. of gasoline is about 0.67, 2.50 and 5.5 lbs.; benzol 0.88, 2.17 and 7.3 lbs.; methanol 0.79, 1.00 and 6.6 lbs.; ethanol 0.79, 1.38 and 6.6 lbs.; ethyl ether 0.71, 2.67 and 6.0 lbs.; acetone 0.79, 2.70 and 6.6 lbs.; methyl acetate 0.92, 2.33 and 7.7 lbs.; methylal 0.86, and 7.1 lbs. (no gaseous S.G. available on this and following fuels); nitrobenzol 1.21 and 10.1 lbs.; nitromethane 1.20 and 9.5 lbs.; nitro-ethane 1.05 and 8.8 lbs.; nitropropane—1 1.00 and 8.4 lbs.; nitropropane—2 1.02 and 8.6 lbs.; nitropropane 1.05 and 8.8 lbs.; water

(*See Over*)

INSIDE STORY OF RACING FUELS (*Continued from preceding page*)

1.00 and 8.4 lbs. Note the unusually high liquid densities of the nitros, water and the esters, and the high gas densities of acetone, ether and gasoline. The high S.G. of water contributes to its effective internal-coolant action when used as a fuel additive.

In discussing fuel density, Ricardo's observation to the effect that an engine also burns air comes into the picture here. The atmosphere has several variables which noticeably affect piston engine performance: temperature, pressure, humidity and trace-gas content. At higher altitudes and on warm or low-barometric-pressure days, air is less dense. If carburetor jets are leaned down a bit to correct for the thinner air sucking past them at the usual velocities, a correspondingly lighter A.F. charge will result, with an equivalent drop-off in V.E. and HP output.

This largely accounts for the speedboat records set on below-the-sea-level lakes such as the familiar Salton Sea where the air is abnormally dense. Variation in atmospheric humidity and trace gases also perceptibly affect temperamental racing-engine carburetion and combustion which necessitate minor carburetor and ignition adjustments.

Fuel Freezing Point (F.P.) must sometimes be taken into consideration under cold-weather and hi-altitude conditions. Some special motor fuels actually freeze up solid at temperatures *above* that of water. The higher alcohol t-butanol, for instance, freezes at the summer-air temperature of *plus* 77°. In the case of blends of course, the usual very low F.P. fuel components act as an "anti-freeze" to prevent fuel freezing in most cases. However, blends with high percentages of such high F.P. fuel components not only may develop excessive fuel separation with serious ignition and carburetion troubles, but the separated fractions might actually freeze up with a complete block-off of the fuel and engine stalling. It might be pointed out that high F.P. fuels such as benzol have been used 100% straight in British motorbike racing, and a benzol-cyclohexane blend called Hecter Fuel was once used in aircraft engines.

The F.P. of cyclohexane gasoline is *plus* 44° F., benzol *plus* 42°, methanol *minus* 144°, ethanol *minus* 179°, ether *minus* 184°, aceton *minus* 138°, methyl acetate *minus* 146°, methylal below *minus* 112°, nitromethane *minus* 19°, nitro-ethane *minus* 130°, nitropropane-1 *minus* 162°, nitropropane-2 *minus* 136°, nitrobenzol *plus* 42° and water *plus* 32°.

The liquid coeficient of thermal expansion of a fuel is the unit amount it expands in volume and decreases in density per degree increase in its temperature level. This is a tricky little item which has tripped up many a racing pro in hot weather in long-distance events. It is one which also has been worked to death by drivers in the so-called "stock car" economy runs, while using optional over-drives plus optional rear-ends and optional carb jets, tune-ups and a big variety of driving tactics.

USAF volume-vs-temperature correction tables for military aero superfuels indicate that they lose as much as 3% to 4% in density and gain that much in volume in going only from 40° to 100° F. This is an important item in long-distance racing because of the obvious lap or course average-speed drop-off caused by refueling pit stops, and especially so if a fuel-limit race event regulation is being imposed.

Hence the reason for the cold-morning fueling up of economy-run competition "stock cars." Similarly when working tight on the fuel mileage and pit-stop schedules, a race team must take fuel and air temperatures into account to get an accurate estimate on racer-tank mileage.

The hot and expanded fuel on a warm day will be less dense and with finely adjusted carburetors, less fuel mileage will be obtained by several percent. Also, in fueling up with tank-cool fuel in a heated racer's fuel tanks on a hot day, allowance must be made for about a one gallon in forty or thereabouts expansion in the cold fuel.

This may result in fuel overflow loss in a non-pressurized tank system and an appreciable loss in fuel mileage in addition to the decreased-density loss on a volumetric per gallon basis. For this reason, racing men should ask their fuel suppliers for temperature-vs-volume correction tables.

Fuel expansion with temperature partly explains the need for readjusting stock engine carburetor idling jets for atmospheric temperature variations. The fuel's thermal expansion rate differs from that of air. This partly accounts for the better engine performance on cooler days which produce denser A.F. charge, especially if the carburetors are finely adjusted for the heavier air conditions.

The ethers possess the highest thermal expansion rates of the more common special fuels, followed by the gasolines, ketones, esters, alcohols and aromatics in fairly close order. The liquid cubical coefficient of thermal expansion per degree F. at normal temperatures levels for gasoline is about .0015, benzol .0012, methanol .0013, ethyl ether .0017, acetone .0015 and methyl acetate .0014.

Note the high expansion rate for the ether which is still another reason for its poor racing performance. This results in too much liquid-density loss in the hot induction system and a drop off in V.E. The lower thermal expansion of the alcohols and benzol as compared to gasoline represents another power advantage of these fuels over gasoline.

The liquid viscosity of fuels is an item which has fouled up more than a few racing men. Fuel flow rate through pumps, lines, filters and jets is largely determined by viscosity (hydraulic friction of "oiliness"). Not only are the heavier alcohols very viscous, but their blends with hydrocarbons possess higher viscosities than would be supposed from the fuel composition. This could be called their "blend viscosity."

If other and more gooey fuel components such as castor oil, kerosene, upperlube oil or nitro fuels are added in on top of heavy alcohols, one can get into some fuel-supply and carb-starving troubles. Adequate allowances must be made for sufficient fuel-pump capacity, fuel-line I.D.s and carb-jet hole openings over and above that indicated by the very low maximum power A.F. ratios of alky fuels.

This is especially true of the alky-nitro blends with their high percentage of diluting nitrogen and oxygen, and even truer of marine two-stroker fuels which must contain 10% or 15% lubricant. This must be especially watched in the case of the good-performance fair-mileage ethanol blends since methanol has about twice the viscosity of methanol and the light hydrocarbons.

Care must be taken in using fuel filters on ethanol and alky-castor oil blends especially, as pointed out by a speedboat man, since the highly viscous liquids will be obstructed by the fine mesh or grain of the filter elements and starve out the carbs.

This is particularly true if the filters should happen to be a bit clogged up with dirt particles. It is better in the interest of ample fuel flow to dispense entirely with fuel line filters.

It might be pertinent to mention here that carburetor makers usually calibration-check metering jets by means of precision "flow boxes" rather than attempting to optically gauge the precision holes out to 3 or 4 decimal places. The jet hole length and surface finish and end countours affect the fuel flow rate, as well as the hole diameter. This was pointed out to the writer by the Bendix people who make Stromberg carburetors.

The liquid viscosity in millipoises at normal temperature for the gasolines averages about 5.5 millipoises, cyclohexane 9.7, benzol 6.5, methanol 5.9, ethanol 11.9 ether, ether 2.5, acetone 3.3, methyl acetate 3.9, nitrobenzol 19.8, water 10.1, castor oil 10.272. Note that contrary to some racing mens' statements that methanol is "thick" it actually is only slightly thicker than gasoline and less viscous than benzol and some of the other hydrocarbons.

Also note that the good performance, fair mileage ethanol is twice as viscous as methanol and gasoline. The unusually high viscosity of castor oil and the high viscosity of nitrobenzol and water should be borne in mind when blending these components into racing fuel.

A fuel's liquid surface tension is its liquid surface-boundary cohesion, or conversely, its liquid capillary action or "wetting" power. This is a special case of the interfacial tension where liquid-to-gas boundary-layer contact is involved intsead of two incompatible liquids. The liquid surface tension has some effect upon fuel-mist droplet formation in the induction system and upon manifold evaporation and distribution. The surface tension against air, rated

in dynes per sq. cm. at normal temperatures for cyclohexane gasoline is 25.3, ethyl ether 17.0, acetone 24.6, ethanol 22.3, methyl acetate 24.6, acetal 21.7, nitrobenzol 43.9, nitromethane 36.8, nitro-ethane 32.3, water 72.8.

Note the low surface tension of ether which probably helps out on manifold fine-mist evaportation of its blends and their easy-starting action. Also note the high ratings for the nitros and water which probably helps in producing large droplet "wet" fuel-charge action in the induction system and a denser fuel charge in the combustion chambers. Note that water's surface tension is about three times that of the lighter special fuels.

A fuel's color (Saybolt) is useful data for identification and purity estimate reasons. Most of the hydrocarbons and special fuels are colorless (water white) when chemically pure, except for some of the nitros such as nitrobenzol which are yellowish in tint. Chemical impurities tend to impart yellowish and brownish tints in water-white fuels and solvents.

Commercial gasolines are usually dyed lightly with various dyes as trademarks. Military gasolines are usually tinted for octane-rating and fuel-type classification purposes. Some racing fuels are gaudily colored to help mask their so-called "secret" composition. However, there is a good safety point in such theatrics in that racing fuel leaks are more easily spotted and excited people are less likely to use a container of fuel as a handy "water" pan to "put out" a fire.

(To be continued in the next issue of BOAT SPORT)

OUTDOORS WITH THE OUTBOARDS

(*Continued from Page* 12)

cord—after that they'll get an automatic starter. There is one made, you know, for Big Twins—the Dyna-Start of Lausen Specialty Company, Gainesville, Texas.

But it's not only the newcomers to outboarding who have been busy this summer; all the veterans have answered the call with unflagging energy and enthusiasm. The established boating clubs have expanded their activities, and group events are more popular and bigger than ever. The Oshkosh Outboard Club ran their second annual Winnebagoland Outboard Cruise, the week before the famous Milwaukee Sentinel-Winnebagoland Outboard Marathon in June, going over part of the course and then up to Fremont, where a picnic was held and games staged for young and old, including dancing. Wonderful refreshments, in addition to the family box lunches, were served through the courtesy of the outboard boat and motor manufacturers in Wisconsin.

Other activities of note, so far during the summer, were a couple of long distance undertakings. Captain Harvey Hecker, a 75-year-old Spanish-American War and World War I veteran who has a leg crippled by arthritis and has never learned to swim, came back the 2,500 miles alone from Leesburg, Fla., down the Oklawaha River to the St. Johns, up the Intra-coastal Waterway from Jacksonville to New York, up the Hudson to Albany, through the Erie Canal, then down the length of Lake Erie to his home in Sandusky. Last winter Captain Hecker went down the Ohio, the Mississippi, across the Gulf to New Port Richey, Fla., for a 2,100-mile solo voyage in his home-built 15' boat and Johnson 10 h.p. outboard sleeping and cooking aboard most of the time. Someone asked the Captain why he made the trip. "Just for fun," he replied, and added that he wanted to see more of the United States before he was "too old to get out and around.!!" (Exclamation points are ours.) Need any more be said about the outboard spirit?

The second extended event was an 1,800-mile water ski jaunt down the Mississippi, from Minneapolis to New Orleans, made by Frank Beddor, Jr. To draw attention to the Paul Bunyan country around Brainerd, Minn., Beddor went dressed as that stalwart logger of fable, and after his long trip on the boards his feet must have felt just like Paul's bunions. But no matter how he felt physically, Paul was a happy man on his arrival at a point a few miles below Greenville, Miss., one day near the end of his journey. He had gone 228 miles from Memphis that day in 9 hours and 10 minutes without getting off the boards behind his dual Big Twin powered tow boat to set a new world's record for non-stop water skiing. Until then the record was held by Evie Wolford and Bruce Parker who went from Nassau in the Bahamas to Miami, 196 miles. At times during their trip the open ocean was so rough they couldn't see the boat towing them.

While on the subject of water skiing, might as well mention a few of the regular long distance racing events. There's a 75-mile event held on Lake Mead, behind Boulder Dam in Arizona, with classes for men and women. The annual Catalina 57-miler out on the Pacific Coast, an all ocean event; also out there are water ski races at San Diego and at Santa Barbara, during its Semana Nautica (Spanish for nautical week). The Seattle Outboard Association combines with Olympic Water Ski Club annually to hold water ski races over the twisting, narrow Sammamish Slough in the State of Washington. This year the United States National Meet will be held in San Diego, Cal., on August 22, 23 and 24.

It's a little premature to speak of next year's boat shows but you may want to mark the dates down now. The National Motor Boat Show in New York will be held Jan. 15-23. The location will be new—Kingsbridge Armory in the Bronx. The 21st Chicago National Boat Show will again be held in the International Amphitheatre next year—Feb. 4-14—and also in both 1955 and '56. A three year's contract has just been signed. Last year's attendance was 173,000, largest in the history of boat shows. (End)

KNOW YOUR SPEEDBOAT CLASS (*Continued from Page* 19)

just making weight under N.O.A. regulations, must use weight boards to make up for the difference of weight of life jacket, crash helmet, etc. Both associations require that all weight comprising boat weight must be necessary and useful. Material used for increasing weight of the hull must be permanently fastened (with two or more screws or bolts).

The phrase "permanently attached" in reference to cushions and coaming pads is defined by both groups as being fastened with wood screws and washers or bolts and washers in each corner of a pad or cushion. Upholstery tacks or nails are acceptable provided the spacing does not exceed two inches on center around the the circumference of the cushion when in place. Snaps are not approved as "permanent" fastenings. Cushions must also be covered with waterproofed material to prevent them from becoming water-soaked.

Motor Restrictions:

(Applicable to both A.P.B.A. and N.O.A.):

The motors shall be of a piston displacement of 20 to 30 cubic inches. The customary motors raced in this class are Johnson PR 60 or PR 65, or the Evinrude racing Speeditwin designed after the Johnson PR 60 and 65, with serial numbers beginning with 6042 and higher.

Under the 1953 rules changes, any service engine of between 20 and 30 cubic inch piston displacement, is also eligible for competition in this class. Permissable modifications include honing, boring or grinding of cylinders to a maximum of .025" oversize and chrome plating is permitted. It is permissable to add crank-shaft seals to the top cheek of the crankshaft and crankshafts may be bevelled and balanced. Since there are several improved bearing retainers for connecting rods available through hop-up motor parts distributors, any type of bearing retainer for the crank pin end of the connecting rod is permitted.

Any type of fuel tank may be used but fuels are limited to those which exist in liquid form at usual atmospheric temperature.

Parts made by other than the original manufacturer may be used on both racing and modified service engines, provided that the parts are similar in dimensions, weight and material to the original factory parts. Ball and roller bearings may be interchanged. Interchange of battery and magneto ignition is permitted. Any carburetor made by an American manufacturer may be used and carburetors may be modified but the carburetor must be mounted on the motor in the same location as originally designed.

Mufflers may be removed and any type exhaust stacks, tank struts and added lubrication devices are permissable. Fuel lines and water inlets and outlets may be modified at the driver's option. Ports may be squared and smoothed within the original manufacturer's specification sheet limitations but no material may be added to existing ports.

CLASS D STOCK OUTBOARD RUNABOUT (A.P.B.A. CLASS DU AND N.O.A. CLASSES D-1 & D-2)

(Please note that the two sanctioning bodies have slightly different specifications and different titles for these two comparable classes).

The minimum age for competition in D class is 14 years.

Hull specifications:

(Applicable to A.P.B.A. and N.O.A.)

The stock outboard runabout hull is defined as a displacement type of family runabout of standard manufacture or home construction. The boats in this class must have two or more cross seats, the rear seat optionally removable and all seats at least 10" wide in the fore and aft direction and capable of providing a minimum of 15" in width of seat space per person for five persons.

Additional A.P.B.A. regulations:

The minimum width immediately over the seat of the forward cockpit shall be 43" and the minimum size of the fore and aft dimension of the cockpit is 30". Securely fastened fabric cockpit covers may be used for marathon racing only.

Additional N.O.A. regulations:

Under a new rules change, Division III Runabout boats will not be required to have an open cockpit nor will they be required to have the actual seat as has been required in the past, though they must retain the same dimensions. The cockpit may be, if desired, permanently decked over.

Both groups allow the installation of an auxiliary fuel tank mounted on the cross seats for marathon racing.

Under both A.P.B.A. and N.O.A. the hulls are required to be stepless with no breaks in the longitudinal or transverse continuity of the immersed surface other than the keel, rubbing strips or lapstrake of no greater depth than ⅝" A.P.B.A. or ¾" N.O.A. and parallel to the center line of the boat. N.O.A. further requires that the sum totals of any reverse curve or reverse lapstrake not exceed ¾" when measured in the total width of the boat. Both groups sanction the use of fins.

Weight restrictions, A.P.B.A.:

Minimum hull weight, 280 pounds. Minimum overall weight 435 pounds. The overall weight includes boat with regulation hardware (as described for hydroplane class above) and driver and riding mechanic, but not including life jackets, crash helmets, knee pads or fuel.

Weight restriction, N.O.A.:

N.O.A. does not set a minimum hull weight, but sets an overall weight of boat and driver, in racing clothes with life jacket, crash helmet and kneepads of 435 pounds. Fuel tanks if permanently attached as defined under hydroplane racing may be included in the weight if empty.

Additional A.P.B.A. regulations:

Consult technical illustration. Measurements must be a minimum as follows:

B—48"
C—13"
D—12"
E—16"

Motor restrictions, A.P.B.A.:

The maximum motor displacement is 40 cubic inches.

Mufflers, expansion chambers or other exhaust system components must remain as furnished by manufacturer. Cut-outs must be kept closed and exhaust relief holes may not be added or enlarged.

Up to .020" oversize on the cylinder bore dimension is okay if the pistons used are furnished by the manufacturer as original equipment or as stock replacement parts.

Motor restrictions, N.O.A.:

N.O.A. sets cubic inch piston displacements as follows: Class D-1, over 30 and including 37. Class D-2, over 37 and including 40.

N.O.A. permits open exhausts at the option of the sponsor and allows specially built exhaust adaptors.

.025 inches oversize on the cylinder bore is permitted if the manufacturer provides oversize or unfinished pistons as stock replacement parts.

The butterfly and/or idling needle many be altered in order for the automatic throttle to function properly. Adaptors or extra length, high speed needles are permissable so driver may make adjustments while under way. Adaptors for spark levers are permitted to prevent lever creepage.

General Motor Specifications

(Applicable to both A.P.B.A. and N.O.A.)

Spray shields and protective cowlings may be removed.

Any type brackets for throttle and steering controls are permitted. Underwater parts may be polished, provided specified measurements are not changed. (Exact motor specifications measurements may be procured by writing directly to A.P.B.A. and N.O.A.).

Material may be removed for balancing revolving or reciprocating parts, provided minimum specified weights are maintained. However, both groups prohibit removal of material from flywheels though weight such as solder, lead or copper may be added for balancing.

Internal passages may be polished and beveling of openings will be permitted to permit alignment of parts, providing such alterations do not bring measurements above or below the manufacturers' specs.

No substitution of components, such as lower units, carburetors, magnetos, etc., are permitted unless they are furnished by the manufacturer as a replacement or modification for the particular model.

Motor fuels

A.P.B.A. permits only motor fuel compound of standard pump gasoline and

petroleum motor oil. Use of special racing mixtures or special racing oils or additives is prohibited.

N.O.A. specifies that fuel for these classes shall consist of gasoline sold only for automotive use and motor oil sold either for general automotive use or outboard use, and, if desirable, the use of additives containing no combustible features.

Records For The Class:

A.P.B.A. One-mile straightaway, 58.-111 mph established 8/31/52 at Devils Lake, Ore., by Elgin Gates, driving a Kean boat with Mercury motor.

Five miles in competition: 50.934 mph, established 5/10/52 at Devils Lake Ore., by Alan G. Wyman, with a Merc powered Kean.

135 C.I. INBOARD HYDRO

(Rules established by A.P.B.A.)

This inboard racing class has no restriction on amateur or professional status but does impose a minimum age of 16 on driver and/or crew member. The boat may be raced with one or two persons on board at the option of the driver. Also, drivers and/or crew members may be changed between heats upon notification to the racing committee.

Hull:

The boats competing in this class must have a minimum overall length excluding any projection of 13'6". The hull must have one watertight bulkhead and carry the class designation "A" painted on its bow with the racing number.

Engine:

The total maximum piston displacement of marine motors competing in the class is 135 c.i. and that of converted automobile motors 136 c.i. Note: tolerance of .050" is allowed for all motors eligible for this class.

Only one motor is used in this class and it should be of the four cycle type. There cannot be more than two valves per cylinder and one single carburetor to each two cylinders. Motors must be equipped with an efficient electric starter and ignition may be either by battery or magneto. Cost of power plant complete as installed, including all extras, shall not exceed $1000. This price limit covers only the complete motor, carburetor, starter and generator. The price does not include battery, propeller shaft, fuel pumps, props, instruments, etc., nor does it include the cost of installing a multi-carburetion system.

Whenever changes in parts and accessories are made in the power plant, only such parts may be used which are stock for some internal combustion motor on the market and which can be procured by anyone on the open market. However, this does not mean the stock parts may not be altered.

Overhead valves are prohibited.

Duty charges are not included in the cost limitations so that Canadian drivers may discount these charges in figuring their $1000 limitation.

Motor fuels

There are no restrictions of any kind on what goes into the fuel tank.

Records For This Class

One-mile straightaway, 99.483 mph set on August 11, 1952 at Seattle, Wash., by Eddie Meyer driving Avenger IV, a Saller hull with Ford motor installation.

Five mile competition, 77.519 mph, set Nov. 10, 1051 by Morlan Visel, in Little Joe, a Visel-Moore hull with Ford motor. (End)

THE 47TH GOLD CUP REGATTA

AS THIS ISSUE OF BOAT SPORT hits the newsstands, the waters of Seattle's Lake Washington will just be returning to normal after a relentless churning by the props of the world's fastest speedboats. By then, the 47th running of the Gold Cup Regatta will have settled the long speculation as to whether or not Stanley S. Sayres could keep the title in Seattle for the fourth consecutive year. Sayres' "Slo-mo-shun IV," winner last year and at Detroit in 1950, and his "Slo-mo-shun V," winner in 1951, will both have seen action around the new three-and-three-quarter mile course.

As this is being written, there are three other definite entries in addition to the "Slo-mos:" Joseph Schoenith's "Gale III" and Albin Fallon's "Miss Great Lakes II," from Detroit; and George Sarant's Catamaran-hulled "Etta," from Freeport, Long Island.

Three new boats, being built especially with this race in view and also from Detroit, are likely starters, depending on their summer trials: George Simons' "Miss United States;" Jack Schafer's "Such Crust V;" and an as yet unnamed craft being built by Joe Taggart. Other possible entries are "Hurricane IV," Los Angeles, third-place winner last year, and Horace Dodge's "Hornet" from Detroit. There is an outside chance that the Dossin brothers of Detroit may reconsider their retirement of "Miss Pepsi," top contender for the "Slo-mos'" titles during the past three years.

The most interesting news of the unlimited hydros since Stan Sayres' own denial of his rumored retirement from racing (A BOAT SPORT exclusive in the April issue) was his announcement, early in May, that Paul Sawyer would drive "Slo-mo IV" in the Gold Cup and other races this summer. Sawyer, a versatile veteran of virtually every outboard and limited inboard class in the books and the first driver to pass 100 mph in a limited class craft, replaces Stanley Dollar who has retired from active racing after driving the Grand Old Lady to her come-back victory last year. We who know Paul personally and readers of BOAT SPORT who know him through his articles, wish him the best of luck in his new speedboating venture. We can say one thing, Paul is a wonderful security risk as well as an able speedboat pilot, for when we had dinner with

(*See Over*)

47th GOLD CUP REGATTA

(*Continued from preceding page*)

him just shortly before Sayres made his announcement, he gave no hint whatever of the exciting plans which lay ahead of him for the summer.

"Slo-mo V" will again be driven by Lou Fageol, one of inboard racing's all-time greats. With this team of drivers and boats—the V had less than 40 hours of running time at the beginning of the season, and the IV has had her engine completely out for inspection and overhaul after 130 hours—Stan Sayres again offers the toughest possible competition to all challengers. The "Slo-mos" are to race not only at Seattle but at Detroit in the Silver Cup on Sept. 7th, at Red Bank, N. J., in the National Sweepstakes on Sept. 12-13th, and at Washington, D.C. in the Presidential Cup on Sept. 19-20th, in all of which events both "Slo-mos" are now slated to compete. (End).

LATE SUMMER—LOW COST CRUISING

(*Continued from Page 9*)

cans with non-spill spouts; oars or paddles—oars are much the better if your boat is equipped to allow their use. For those who cruise in open boats these additional items will be needed: waterproof cover that can be used for shelter aboard; campstove and lantern; sleeping bag; tent—optional. And don't forget the fishing gear, swimming suits, poker chips etc.

Now as to where to go, the answer is simple: almost anywhere in the United States there is good cruising within a relatively short driving radius. Just load your boat on the trailer or on top of your car if it's that type and start off. Or start off on one of the waterways of America if you live on one of them and discover its connections with other rivers, lakes or canals.

One of the best jobs ever done of collecting information as to these American cruising waters and where further information may be obtained regarding particular areas in detail, has just been completed by the Outboard Boating Club of America. BOAT SPORT feels that O.B.C.'s hard work deserves an even greater recognition than that already given it by their many thousands of members who have had the good fortune to have received this information through the organization's official publication. With many thanks to Guy Hughes and his entire staff at O.B.C., and to Ed Spanke, Director of Public Relations, who put in a lot of hard work on the project, we pass on to our readers this valuable information collected from sources all over the country.

COAST-TO-COAST CRUISING GUIDE

ARIZONA

See "Other Sources" on Page 34.

ARKANSAS

Bull Shoals Lake in the Arkansas and Missouri Ozarks, created by the damming of the White river, has a shore line of 1,050 miles—and there is no closed season on fishing. Float fishing is popular on the White below the dam, near Mountain Home, Arkansas. The Corps of Engineers has prepared a map of the area—showing launching and docking facilities, among other things. Inquiries will be serviced by the Area Superintendent, Mountain Home Area Office, Corps of Engineers, Mountain Home.

CALIFORNIA

The following sources will help you pin down the kind of boating you're looking for: San Diego-California Club, 499 West Broadway, San Diego 1 (whose "This is San Diego" booklet and "Tourist Map of San Diego City and County" locate yacht clubs and harbors); The All-Year Club of Southern California, 629 South Hill Street, Los Angeles 14 (who can tell you about the Salton Sea in the Imperial Valley—for many years the scene of championship boat racing trials—mountain lakes, large reservoir lakes and the ocean bays at Los Angeles, Long Beach and Newport); Shasta-Cascade Wonderland Association, Redding (for information about the boating possibilities on Shasta Lake, which has a shoreline of 365 miles).

CANADA

The wealth of waterways information available through the Canadian government is much too extensive to be covered in a paragraph. An example of the richly illustrated, highly informative (as to facilities, historical interest, sightseeing and navigation tips, fishing possibilities) is the "Waterways to Explore" series of booklets published by the Ontario Department of Travel and Publicity, Parliament Buildings, Toronto 2, Ontario. Book II, "The Rideau Lakes," takes you on a trip from the Thousand Islands section of the St. Lawrence River to the Dominion Capitol, Ottawa. The Canadian Government Travel Bureau, Ottawa, will send you general information on boating in Canada and refer you to local sources for more detailed information.

COLORADO

Grand Lake—8,369 feet above sea level and site of the highest yacht club and anchorage in the world—and Sloan's Lake —in the Denver City Park System—are Colorado's two most popular boating lakes. Boating is expected to expand greatly with the development of facilities on two new man-made bodies of water, Shadow Mountain Lake and Granby Reservoir, both part of the U. S. Bureau of Reclamation's Big Thompson transmountain water diversion project. The Denver Convention and Visitors Bureau, 225 West Colfax Avenue, Denver, will answer your inquiries.

CONNECTICUT

In addition to unlimited boating opportunities on Long Island Sound, Connecticut offers these river boating possibilities: The Connecticut is navigable to the Massachusetts line; a dam at Enfield may be crossed by navigation locks. The Housatonic is navigable to Shelton; the dam at Shelton impounds Lake Housatonic and the dam at Stevenson impounds Lake Zoar. The Thames is navigable to Norwich; above this point the tributaries are navigable intermittently. From the Superintendent, State Board of Fisheries and Game, State Office Building, Hartford, you can get a list of ponds and streams giving information on boat liveries and fishing possibilities and a map showing fueling stations on the Connecticut River.

FLORIDA

No state has done a better job of charting and describing its recreational waterways than has Florida. And that state—dotted with lakes, criss-crossed by inter-connecting streams and canals and bounded on the west, south and east by protected coastal waters—has a lot of waterways to talk about. One of the most helpful boating guides available anywhere is the booklet, "Yachting Facilities in Florida," published by the Florida State Advertising Commission, Tallahassee. Routes documented in this booklet include the Oklawaha River, scene of annual group cruises by outboard clubs of Jacksonville and Leesburg. Another popular cruising route is that followed by the annual Kissimee Boat-A-Cade, which starts at Kissimee in the central part of the state and winds up on the Atlantic Coast at Stuart, proceeding by way of the Kissimee River, Lake Okechobee and the St. Lucie Canal. A group of Jacksonville businessmen last year proved the feasibility of going by boat from Waycross, Georgia, to Jacksonville. Their route included the Okefenokee Swamp, the Suwanee River, the Gulf of Mexico, the St. Lucie Canal and the inland waterway from Miami to Jacksonville.

ILLINOIS

Illinois waters plied by outboarders include the Mississippi River (on which annual regattas are held at Quincy, Alton and Rock Island) and the Illinois River, which is part of the Lakes-to-Gulf waterway. These rivers are charted in detail by the Corps of Engineers, U. S. Army (see "Other Sources"). The Chain o' Lakes region in the northwestern corner of the state offers a water trail from the city of McHenry on the Fox River to the Wisconsin border; launching, fueling and provisioning facilities are available at numerous resorts along the shores. The Illinois Department of Public Works, Division of Waterways, Springfield, has prepared a map of this area.

INDIANA

The State of Indiana Department of Conservation, Indianapolis 9, will send you its "Official Indiana Lake Guide," which gives a county-by-county listing of lakes, their sizes, depths and the species of fish likely to be caught in them.

IOWA

There are big lakes as well as tall corn in Iowa. Well known to native outboarders and presenting inviting prospects to out-of-staters are these lakes in the Northwestern part of the state: West Okoboji, Big Spirit, East Okoboji, Hottes, Marble, Little Spirit, Minnewashta.

KANSAS

The Kansas Forestry, Fish and Game Commission describes state lakes under its control in its "Fourteenth Biennial Report" (1952). The Commission will answer inquiries about boating in that state through its offices at Pratt.

KENTUCKY

Kentucky is the home of two of the world's largest man-made lakes—Kentucky Lake in the western part of the state (length: 184 miles; shoreline: 2,380 miles); and Lake Cumberland in southcentral Kentucky (length: 101 miles; shoreline: 1,255 miles). Facilities on these lakes—as well as Herrington Lake, Dale Hollow and Dewey Lake—are listed and illustrated in "Kentucky Fishing is Better," a brochure issued by the Kentucky Department of Fish and Wildlife Resources. The Commonwealth of Kentucky, Division of Publicity, Frankfort, maintains a tourist information section and welcomes all inquiries.

MAINE

With its 2,500 lakes and ponds, its 2,400 miles of tidal shoreline and five large river systems flowing into the Atlantic, Maine offers a variety of boating waters. A guide to the white water streams is the folder, "Maine Canoeing," published by the Maine Development Commission, State House, Augusta. The State of Maine Publicity Bureau, Gateway Circle, Portland 4, will answer your inquiries on specific boating questions.

MARYLAND

Maryland has approximately, 3,600 miles of Chesapeake Bay Coastline and literally thousands of facilities for docking and maintaining outboard craft. The Bay, with its tributaries, is a haven for water sports of all kinds. In western Maryland's Garrett County, Deep Creek Lake, with 72 miles of shoreline also

offers outboarding opportunities, facilities and accommodations. Requests for specific information are invited by State of Maryland Department of Information, State Office Building, P. O. Box 706, Annapolis.

MASSACHUSETTS

The 25,000-acre Quabbin Reservoir, source of Boston's water supply, has recently been opened to sportsmen, including outboarders. Information about boating and fishing on Martha's Vineyard (home of an annual striped bass fishing derby) may be obtained from the Chamber of Commerce, Beach Road and Water Street, Vineyard Haven, Massachusetts. The Cape Cod Chamber of Commerce, 298 Main Street, Hyannis, will help you plan an outboard excursion on such waters as the Bass River, scene of an annual outboard regatta.

MICHIGAN

While primarily a guide to white waters, "Canoe Trails of Michigan," published by Michigan Tourist Council, Lansing, contains much valuable information for the outboarder. A helpful map is offered with the booklet.

MINNESOTA

Ten thousand glacier-carved lakes offer waterway exploring opportunities in Minnesota—"the Paul Bunyan playground." Minnesota Tourist Information, State Capitol, St. Paul 1, will send you details.

MISSOURI

"Floating and Fishing—Missouri" is a guide to such Missouri waters as the White, Current, Gasconade and lakes like Lake of the Ozarks and Lake Taneycomo, where bass, crappie, catfish and jack salmon abound. The booklet may be obtained from Missouri Division of Resources and Development, Jefferson City. This agency will also service requests for more detailed information on boating and fishing facilities in the state.

MONTANA

Like many states formerly more noted for their wide open spaces than their waterways, Montana is finding more and more boat-trailing tourists on its guest list. The Travel Director of the State of Montana Highway Commission, Helena, will send you information on such boating lakes as Fort Peck, St. Mary's, McDonald, Flathead, Whitefish, Swan, Seely, Salmon, Hauser, Ennis, Georgetown and Hebgen.

NEW YORK

New York's State Barge Canal System provides a convenient link between many natural water facilities that can be reached and enjoyed by the outboard owner. The state's waterways network extends around the borders to the south, east and west, and to the north, where a labyrinth of canals and streams and lakes provides easy access to the Canadian wilderness. The key waterways of this system are the Erie Canal; Oswego Canal; Cayuga-Seneca Canal; Champlain Canal and Lake Champlain; Richelieu River and Chambly Canal; St. Lawrence River; Lake Ontario; Welland Canal; Lake Erie; and the Hudson River. More information on the Barge Canal system—as well as such boating waters as the Finger Lakes Region and Long Island Sound—may be obtained from State of New York, Department of Commerce, 112 State Street, Albany 7.

NEBRASKA

It isn't so, says the Nebraska Game Commission, State Capitol, Lincoln, in regard to the popular conception of that state as an arid semi-desert. As proof, the Commission cites large Lake McConaughy, situated in the rolling plains, and the statement that Nebraska ranks near the top of all states in total miles of running water. The Commission also offers the free booklet, "Nebraska Fishing Waters," and publishes the Quarterly Outdoor Nebraska (subscription 50 cents a year), the Spring '53 issue of which leads off with an article entitled, "Small Craft Safety."

NORTH DAKOTA

Scene of relatively little outboarding in the past, North Dakota anticipates a sharp increase in all phases of boating activities with the completion of several major water impoundments. Sizeable bodies of water are being impounded by the Garrison dam in McLean county, Bald Hill dam in Barnes county, Heart Butte dam in Grant County, Homme dam in Walsh county and Dickinson dam in Star County. The Public Relations Director, North Dakota Game and Fish Deparment, Bismarck, will be glad to receive your inquiries on present and future boating facilities in the state.

NORTH CAROLINA

North Carolina's outboarding waters include smooth-flowing rivers on its coastal plain which empty into protected sounds behind coastal reef barrier islands, 320 miles of the intra-coastal waterway and lakes in the midlands and mountains. Detailed information may be obtained from the State of North Carolina, Department of Conservation and Development, Raleigh.

OREGON

The Columbia and Willamette Rivers and their tributaries offer extensive outboarding waterways in Oregon. Along the Columbia, fueling stations and landings are available at such cities as Astoria, Rainier, St. Helens, Sauvies Island, Portland, Cascades Locks, Hood River and The Dalles. The McKenzie and Rogue Rivers offer breath-taking challenges to white water enthusiasts; but special types of boats and the services of experienced river pilots are recommended for the navigation of these streams. The Oregon State Highway Department, Travel Information Division, Salem (which will service your specific boating inquiries) will send you a marked map showing a dozen inland lake and Pacific Coast inland waterways where boating is popular.

SOUTH CAROLINA

Lake Moultrie, Lake Marion, Lake Murray, Lake Greenwood and the inland waterway from Little River to Beaufort are among the popular outboard routes of South Carolina. More information about these and other waterways may be obtained from the Research, Planning and Development Board, State of South Carolina, Columbia.

TENNESSEE

A 652-mile waterway—located in an area rich in history, tradition and scenic beauty—has been created by the huge dams put across the Tennessee River by the Tennessee Valley Authority. The Tennessee Division of State Information, 115 State Office Building, Nashville 3, has done a remarkably complete job of mapping and describing this waterway for the benefit of the boater. Its booklet, "Guide to the Great Lakes of the Tennessee," takes you from "River Mile 0.0" at Paducah, Kentucky, to "River Mile 652.1" at Knoxville, Tennessee, pointing out places of historic and scenic interest, boat service points and suggested overland side trips along the way. Other informational literature produced by this agency include "Tennessee Fishing Waters" and "Fishing Guide to the Great Lakes of the Tennessee."

TEXAS

Texas' outboarding waters include these major lakes; Texoma, near Denison; Possum Kingdom, near Graford; Dallas, at the town of Lake Dallas; Eagle Mountain and Worth, near Fort Worth; Bridgeport, near the town of that name; Kemp, near Mabelle; Archer, near Archer City; Cisco, near the town of that name; Brownwood, near the town of that name; Phantom Hill, near Abilene; Nasworthy, near San Angelo; Red Bluff, near Orla; Walk and Devil's, near Del Rio; Medina, near San Antonio; Corpus Christi, near Mathis; Caddo, near Karnack; the Colorado River lakes, which start near Austin. Specific information may be obtained by writing the state's three regional Chambers of Commerce: East Texas Chamber of Commerce, Longview; West Texas Chamber of Commerce, Abilene; South Texas Chamber of Commerce, 313 International Building, San Antonio. The El Paso Sunland Club, 310 San Francisco Street, El Paso, Texas, will send you a folder describing the attractions and facilities on Elephant Butte Lake, a Bureau of Reclamation development famous for its bass and crappie. The lake is 44 miles long and one to eight miles wide.

VIRGINIA

For information on fresh water fishing and boating, write Commission of Game and Inland Fisheries, Richmond. For information on salt-water fishing and boating, write Commission on Fisheries, Newport News, Virginia.

WASHINGTON

It would be "an almost impossible task" to list all the outboarding facilities in the state of Washington, says the Department of Conservation and Development, Transportation Building, Olympia. But that bureau will be glad to receive inquiries about any area. Among the many possibilities for the outboarder: Puget Sound's 2,000 miles of coastline, with hundreds of docks, piers, marine ways and fueling facilities suitable for outboards; harbors and protected coves on the ocean where outboarding has achieved much popularity; the Seattle area's Lake Washington Ship Canal, Lake Union, Portage Bay and Lake Washington, which connects with Lake Sammamish through the Sammamish River.

WISCONSIN

"Wisconsin Water Trails," (price: 50 cents) published by the Wisconsin Conservation Commission at Madison, charts 48 waterways trips, with every section of the state represented. Some of the rivers—bearing such Indian names as Flambeau, Chippewa, Namekagon and Manitowish—have much white water that limits outboarding to motor-equipped canoes, with the motors being used for passing through flowages or long stretches of quiet waters. Other streams are plied by all manner of outboard craft, including cruisers. Among the latter is the Wolf River, which flows into Lake Winnebago at Oshkosh and is the scene of the annual Winnebagoland family cruise. The Oshkosh Outboard Club regularly cruises this river between Oshkosh and Fremont (round trip: 64 miles) and Oshkosh and New London (round trip: 130 miles). The Wolf is a favorite Midwest fishing stream; walleye pike, northern pike, white bass and large mouth black bass are the principal species.

WYOMING

"Howdy, Stranger! That's the greeting you will receive from the 300,000 friendly citizens of the 'Cowboy State' when you arrive in Friendly Wyoming." So reads a typical vacation brochure from Wyoming, but you'll detect a more nautical flavor upon closer examination of state's attractions. For example, the State of Wyoming Game and Fish Commission, Cheyenne, lists outboard launching ramps and docks and fueling facilities avail-

(See Over)

LATE SUMMER—LOW COST CRUISING

(Continued from preceding page)

able at Jackson Lake near Jackson, Fremont Lake near Pinedale, Alcova Reservoir near Casper.

OTHER SOURCES

The most comprehensive look at present and future waterways that OBC found in its survey was a map prepared by the Office, Chief of Engineers, Washington, D.C., entitled "Navigation and Flood Control Projects." Printed by the Army Map Service, this map shows—by means of a keyed color scheme—reservoirs completed or under construction by the Corps of Engineers, U. S. Army; reservoirs authorized by Congress; reservoirs considered for selection under an authorized plan; and natural lakes and private reservoirs of other government agencies. It also shows harbors and waterways projects, color-keyed to show water depths.

Martin Motors has outlined a number of cruise routes—on the Hudson, the Atlantic Intercoastal Waterway, Long Island Sound and other waters—in a cruise guide booklet which may be obtained by writing Lynn Farnol, 1270 Sixth Avenue, New York 20.

Several oil companies provide free cruising services for yachtsmen and much of their information (charts, guides and booklets) is useful to the outboarder. Sources include: Gulf Cruiseguide Bureau, 17 Battery Place, New York, N.Y.; Socony Vacuum Oil Company, Inc., Marine Sales Department, Small Craft Division, 26 Broadway, New York, N.Y.; Texaco Waterways Service, 135 East 42nd Street, New York 17, N.Y.

U. S. Coast and Geodetic Survey, Washington 25, D.C., publishes charts of coastal waters of the Atlantic, Pacific, the lower Hudson and the Atlantic Gulf Intercoastal Waterway and lists them in a free catalog (the charts are priced at 25 cents to $1.)

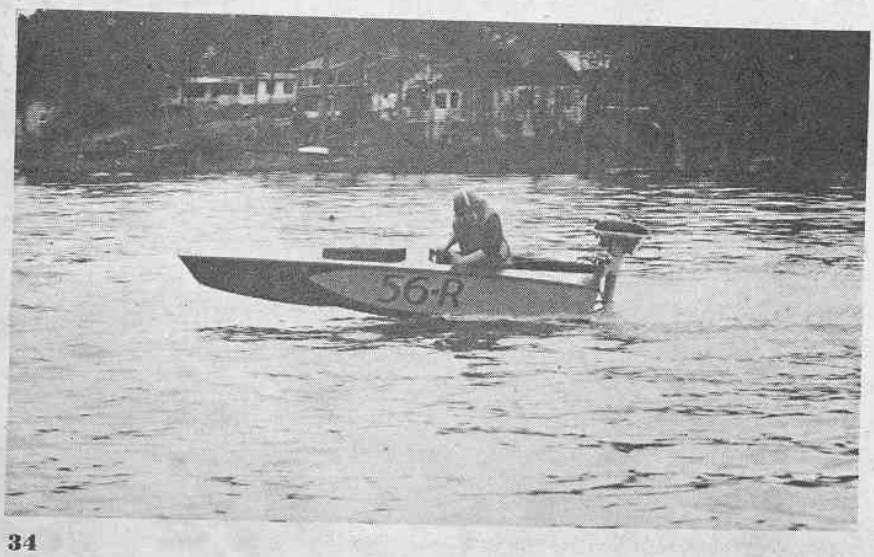
U. S. Lake Survey, 630 Federal Building, Detroit 26, Mich., has a free catalog of its charts of the Great Lakes and connecting rivers, Lake Champlain, New York State Canals, Lake of the Woods and Rainy Lake.

Mississippi River Commission, Corps of Engineers, P.O. Box 80, Vicksburg, Mississippi published charts of the Mississippi and tributaries in the form of booklets priced at 50 cents to $2. A number of map-folders on individual impoundments have been published by local offices of the Corps of Engineers (for an example, see the paragraph on Arkansas waters).

Topographic maps prepared by United States Department of the Interior Geological Survey, Washington 25, D.C., while not designed for navigation, are valuable to the outboarder because they show smaller streams not covered in the usual navigational charts. A folder describing these maps is available from the Department of the Interior at Washington.

"Recreation and Conservation," a brochure available from the U.S. Department of the Interior, Bureau of Reclamation, Washington 25, D.C., tells, among other things, of boating facilities available on a number of impoundments created in Western states under the Bureau's auspices. These man-made waterways—located, in some instances, where only cactus and sagebrush prevailed in earlier days—are in Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming.

(End)



SOUTHEAST CITIES SWEEPSTAKES REGATTA

Marine Stadium, Long Beach, Cal.

June 14, 1953

RESULTS

Boat	Driver	Points
M-hydro		
C-98	Boots Morphy	800
C-126	Gene Mavis	600
C-44	Craig Spencer	450
C-124	Betty Barton	338
C-248	Ann Hawley	254
C-86	Ronnie Steiner	95
B-hydro		
C-42	Elmo Belluomini	800
C-346	Bill Bauman	525
C-112	George Steiner	394
C-28	Arnie Adams	300
26-C	Wade Terrill	264
C-59	Leonard Owings	127
C-X	Irish Murphy	71
C-34	Mary Hubbell	53
C-79	Tom Gouldstone	40
4-A	Bob Mercer	0
C-176	Bob Jackson	0
C-Rac. Hydro		
C-45	Tommy Ingalls	800
C-6	Russ Hill, Jr.	525
C-22	George Peake	338
C-39	Art Pierre	300
C-50	Warren Painter	225
C-134	Roy Gates	0
C-252	Bob Jackson	0
C-156	Leonard Gates	0
C-Rac. Run. (Appealed) present standings		
C-168	Leonard Gates	569
C-24	Warren Painter (6:24.5)	525
C-123	Ed Wilson (6:26.0)	525
C-142	Herb Rimlinger	400
C-238	Austin Secor	169
C-148	Dave Emrie	127
C-43	Manuel Carnakis	0
C-96	Lewis Morphy	0
C-394	Art Pierre	0
C-154	Roy Gates	0
C-Serv. Hydro		
C-294	Henry Wagner	800
C-127	Ed Wilson (6:11.1)	525
C-1000	Ralph Homes (6:14.2)	525
C-198	Woody Woodward	338
C-178	Norman Helgeson	254
C-261	Floyd Bradshaw (7:01.8)	95
C-99	Bob Helgeson (TNT)	95
C-156	Leonard Gates	0
A-hydro		
C-75	Tommy Ingalls	800
C-15	Johnny Drake	525
C-72	Elmo Belluomini	352
C-35	Orlando Torigiani	300
C-112	Ronnie Steiner	264
C-361	Jerry Osborne	169
C-73	Bob Burnett	0
C-176	Johnny Toprahanian	0
C-304	Bill Wilder	0
F-hydro		
C-22	George Peake	800
602-C	Howard Thompson	600
646-C	Elgin Gates	394
C-1000	Ralph Homes	225
C-165	Buzz Miller	127
C-55	Walter Gillo	0
C-32	Pep Hubbell	0
C-Serv. Run.		
C-290	Henry Wagner	700
C-168	Garry Garrison	525
C-43	Manuel Carnakis	400
C-78	Bert Gregg	394
C-121	Joe Machado	264
C-154	Roy Gates	127
C-148	Dave Emrie	0
F-Run		
C-153	Chuck Parsons	700
C-208	Doc Simms	469
C-54	Walter Gillo	400
98-C	Jack Lochead	127
C-242	Dick Shaw	25
C-146	Ellis Estabrook	0
C-210	Curly Owens	0
C-174	Johnny Toprahanian	0

The South Gate Women's Club wishes to thank each driver for participating in our first boat race and helping to make it such a huge success. We hope to see you all again next year at an even bigger and better regatta.

Sincerely,

MRS. ROY B. FINKLE
President

(Left, above) The Seattle Outboard Ass'n held its Opening Day Regatta on Lake Sammamish, Wash. Shown here is portion of the pits. (Photos on this page by Carver & Swanson).

(Left) JU racing is first step on ladder if you're lucky enough to be born into racing. Can you imagine ten-year-old Donnie Benson's thrill as his Pop waves him on from beach.

Bill Rankin, who might well be called the "ranking" driver of the Seattle Outboard Association. Bill finished on the top of the season total points last year. He is shown here driving, "Thunderbird," an F hydro. This is a switch from his steady C Runabout position. Rankin, the driver, combined with Rankin, the machinist, have made him Mr. Seattle Outboard. (Photo by Carver-Swanson)

a 8/13

Sportsmen Rally to the "Action Test" Ride

PERFORMANCE MAKES

KIEKHAEFER

MERCURY

AMERICA'S MOST WANTED OUTBOARD

FOR '53

Take an "action test" ride with any of the five magnificent Mercurys for 1953! *Feel* the surging, singing power as you crack the throttle. *Listen* to the soft-throated murmur of Mercury's sweet-running powerhead as you sample its new superior idling speeds. *Thrill* to the quick-responding performance *only* a Mercury can deliver!

Then *choose* the outboard that's "most wanted" in America, according to independent surveys. Move *up* to a Mercury—"safety engineered" by experts who make new outboard history with every new model they introduce!

See the new Mercury models at your dealer's . . . and ask him for an "action test" ride. He's listed in the yellow section of your phone book. Write for FREE catalog, "Tomorrow's Outboard—Today."

NEW Fishin' Five Has Everything! MERCURY MARK 5

—with sensational *new* PUSH-BUTTON Neutral Clutch
5 HP Alternate Twin . . . 360 degree steering
Full weedless operation . . . Superior idling for smoother, slower trolling . . . Full Jeweled Power*

NEW All-Purpose Ten MERCURY MARK 15

—with Reverse Gear and Neutral
10 HP Alternate Twin . . . New Continental Styling
Superior idling for smoother, slower trolling
Equipped with 6 gal. remote fuel tank
Full Jeweled Power*

**Ball and roller bearings throughout*

Kiekhaefer Corporation, Fond du Lac, Wisconsin

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