OUTBOARDS
INBOARDS
FEBRUARY
25c

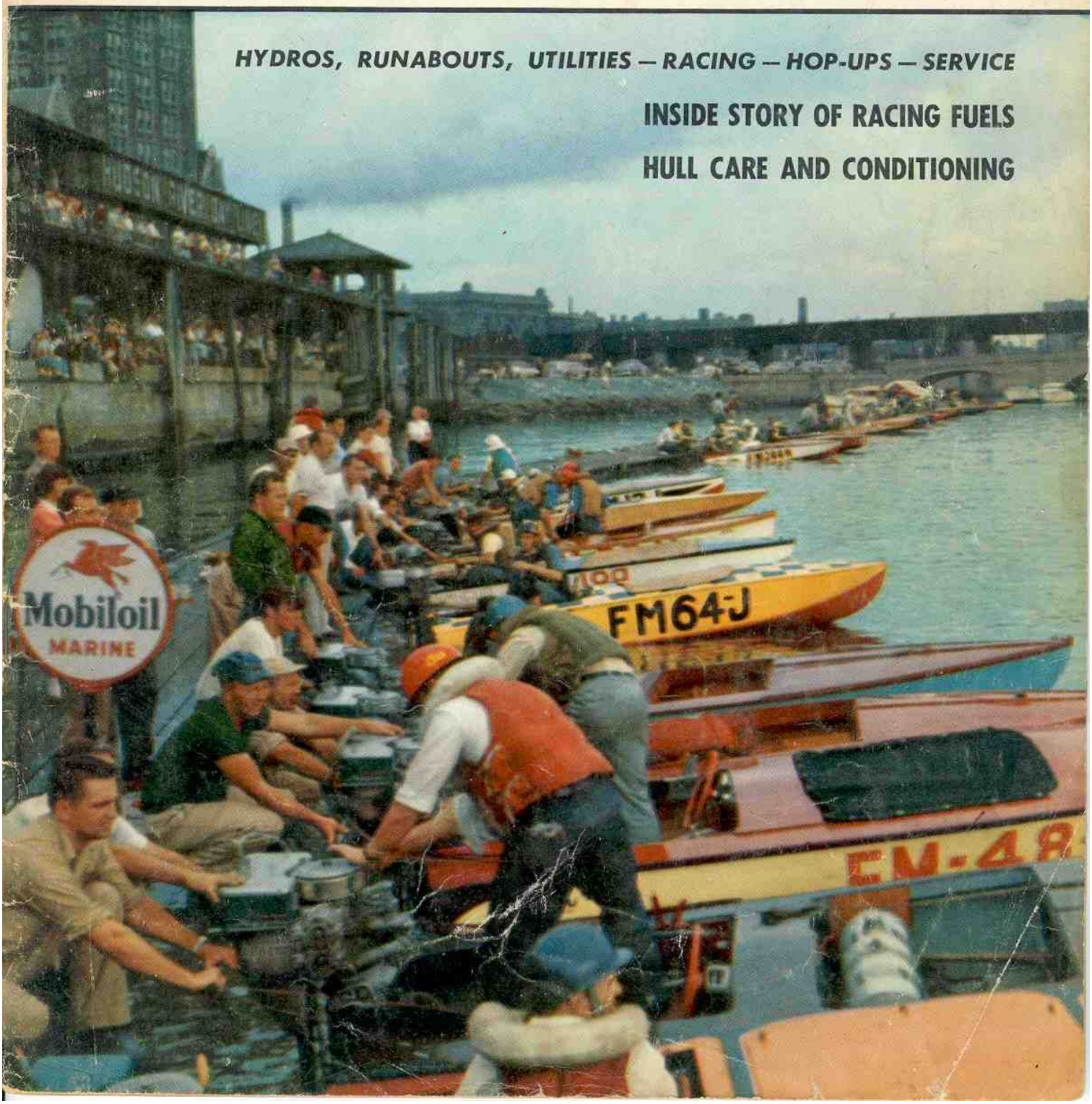
BOAT SPORT

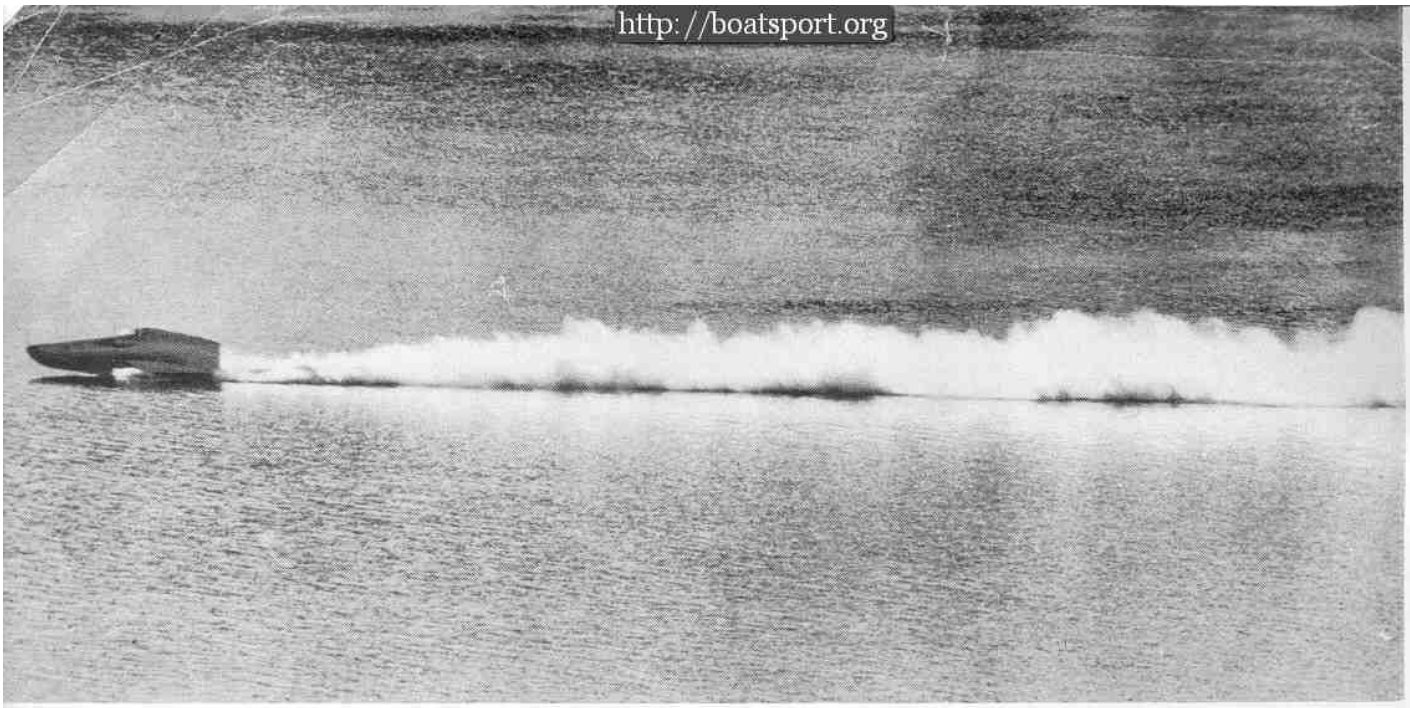
ANC

HYDROS, RUNABOUTS, UTILITIES — RACING — HOP-UPS — SERVICE

INSIDE STORY OF RACING FUELS

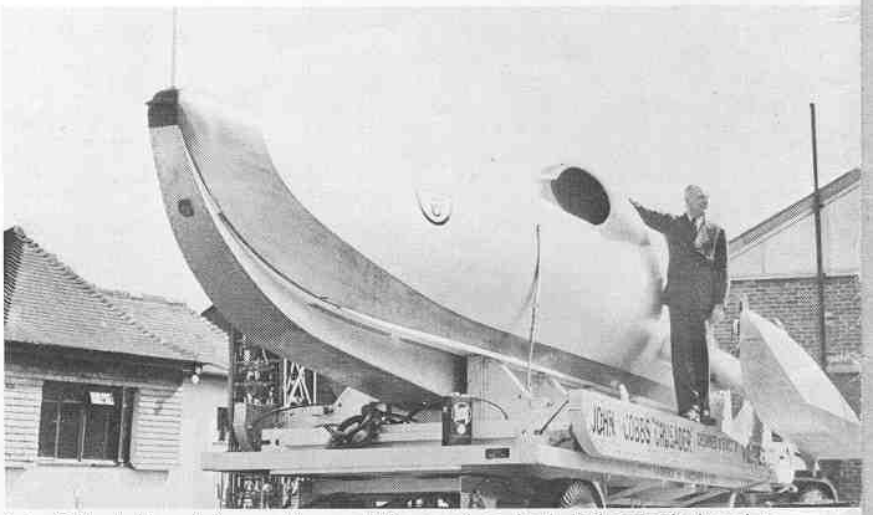
HULL CARE AND CONDITIONING





The "Crusader," jet-propelled speedboat, is shown streaking across Loch Ness, Scotland, Sept. 19th, as British racing ace John Cobb attempted to break the world's hydroplane record. In a similar attempt, ten days later, the "Crusader" blew up and disintegrated while traveling at speed of 206.8 m.p.h., to end his long career.

HAIL AND FAREWELL!



John Cobb, holder of the world's record for speed on land, had ardently hoped to also win the world's record for speed on water. He is shown here as he superintended the loading of his jet-propelled "Crusader" on a conveyor in Portchester, England, preparatory to leaving for Loch Ness, Scotland. It had been his hope to break Stan Sayres' official record of 178.4 m.p.h. in "Slo-IV" on last July 7th.

DEATH—instead of a new official world's record for speed on water—waited for 53-year-old John Cobb last September as he roared down a measured mile on Scotland's Loch Ness at the incredible speed of 206.8 miles per hour. Witnesses said his red and silver speedboat was actually hitting a top speed of 240 miles per hour a moment before the "Crusader" disintegrated. His wife and many other horrified officials and spectators witnessed the end of a great sportsman's career and the final hope of his breaking the world's official record for speed on water set by Stanley S. Sayres of 178.4 miles per hour at Seattle in "Slo-Mo-Shun, IV," July 7, 1952.

Although Cobb's last mile was timed precisely, he needed to make a second run to claim the official record (which to be recognized by the Union of International Motorboating must be the average of a two-way run). Had he lived there is little doubt that Cobb would have been the first man ever to hold two official speed records—water as well as land. He had driven an automobile at a breathtaking 394.196 miles per hour on the Salt Flats of Utah back in 1947. No other driver has rolled that fast, or for that matter, although many drivers have the courage and the know-how to try and break Cobb's record on land, none of them are prepared to do so at the present time, or for quite a while in the future.

BOAT SPORT had predicted that someone would exceed 200 miles per hour in 1952. In our last issue we said "Many bets are on land-mile holder, Britisher John Cobb, (a 220 pound, 6-foot-2 London fur broker) to turn the trick in his Ghost engined, jet-powered "Crusader," a three ton, 31', 13" wide, long-nosed, bug-like boat, supported on two sponsons." We also figured that the "Slo-Mo" itself might break through the 200 mile per hour zone—but this was before Stan Sayres announced after his "Slo" had won the 1952 Gold Cup that he did not intend to race or to make any more speed runs with either "Slo IV" or "Slo V."

The officials who were looking on when the tragedy occurred, said that the $42,000 "Crusader" hit a wave, bounced and headed into two other oncoming waves. Water flooded the jet intake and caused the plywood and aluminum boat to dive and crack up. A boiling cloud of steam and spray led most everyone to believe that the jet engine exploded. Soon after the crash, Cobb's life-jacketed body bobbed to the lake's surface. A rescue boat rushed to his aid. A doctor aboard the craft did all he could for him. But Cobb died only a short while after rescue boat reached the pier. (End)

This Month's Cover Story . .

PREVIOUS covers of BOAT SPORT have been action shots of racers; this time the honor goes to the unsung heroes of the pits. Comparable to the hard-working linemen in football, the racing mechanics play equally as important a part in the victories. Without them the drivers, no matter how skillful, would not get very far. So, here's to the "Men of Iron"! Here's to the long hours they spend in the shops sweating out perfection in speed and power; to the miraculous emergency repairs they make on "hot iron" between heats of races; and to their accurate diagnosis of trouble, whenever and wherever it occurs. The minutes and seconds saved by their labors are often the difference between being a winner or just an "also-flagged."

Our cover shows the tense pre-race activity in the pits at Albany, early on the morning of Sunday, August 17, 1952, shortly before the starting gun sent the Class AU boats scurrying off down-river, the first of a six class field in the Albany-New York Outboard Marathon. On hand for the start of the country's oldest long-distance classic this year was Joseph J. Hardie, co-publisher of BOAT SPORT, who being fascinated by the scene of feverish activity in the pits on race morning, took this excellent shot which shows pit mechanics making last-minute adjustments on their engines, while drivers check their gear and re-brief themselves on the long 130-mile course that lies ahead of them—three-to-four-and-a-half hour grind that will take them through smooth and rough water, driftwood and always dangerous washes from pleasure craft and freighters.

In marathon racing—particularly on the Hudson—the mechanics' duties are multiplied immensely. It's one thing to wait in the pits for your boat to come back between heats—but it's quite an entirely different thing to go chasing it down the river (using the highways, of course) and get to the midway point before it arrives in order to refuel or make quick repairs. Yes, most of the mechanical crews—and they include a lot of wives and children—have a race of their own down the Hudson to Poughkeepsie, roughly the halfway mark. It's quite a ride, with the swaying trailers behind them, fighting the heavy summer Sunday traffic; to make up for time lost in towns and villages the speedometers really have to creep up on the open stretches. Even after getting to Poughkeepsie there's still a scramble among a lot of the crews to beat their boats to Dyckman Street; for mechanics, like drivers, are every one of them sure their boat will be the first across the finish line. The only bad part of the race is when they have to backtrack a long way to pull out a spilled boat. And that, as any mechanic will say, is one thing you can't blame on the pits! (End)

BOAT SPORT

February, 1953 Vol. 1 No. 5

(Whole number five)

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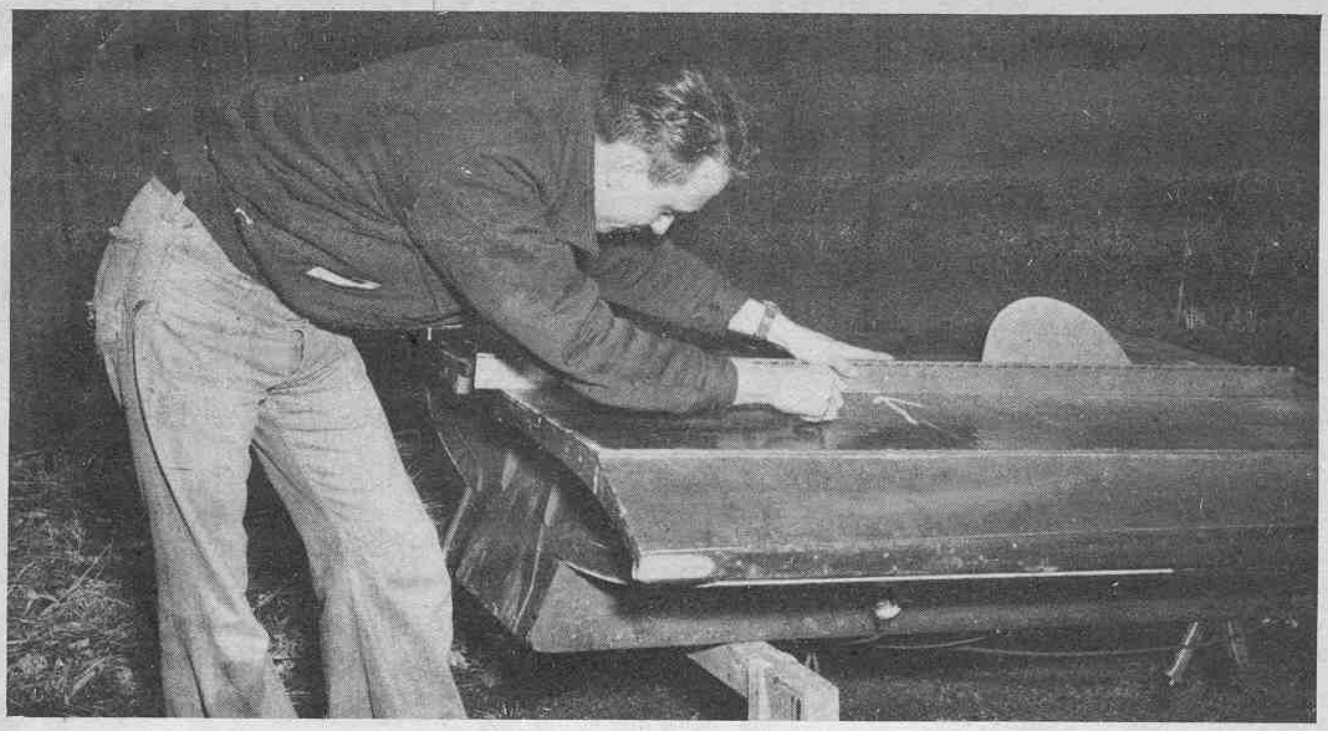


Improper storage is a major cause of a swayback formation in the planking. Watch for flooks appearing in the last 4" of the planing surface at about the transom line. Frequent checks and corrections will add miles per hour to your boat's performance. A metal or wood straight edge laid athwartships will quickly tell you whether warpage has occurred and where. Minor high spots can be sanded down. Excessive warpage must be scraped or planed to give level athwartships' surfacing. (See text for full, detailed information.)

HULL CARE AND CONDITIONING

By Hank Wieand Bowman

THE BEST DRIVER on earth—with the finest motor in his class at his command—can't win races with a warped or poorly conditioned hull. Trying to keep up in the money with an out-of-line bottom or a checked and rough finish on the bottom planking, makes about as much sense as trying to shove a square-topped Essex across the Salt Flats to a new hot rod class record.

Although aerodynamic configuration in speedboats running in the 40-60 m.p.h. range is of relatively limited importance, skin friction and planing surface design is not. An exaggerated example of this could readily be seen by comparing the performance of a Class D stock Merc on a 14' row boat better designed for clamming and crabbing, then rigging the same bit of power on a well-designed racing runabout or a three-point hydro.

In the outboarding ranks where top engines may vary less than 50 r.p.m. in the 6000 r.p.m. brackets, a slight hook in the bottom, or a few unfilled screw holes, may mean the difference between a first and a third place, or a spot in the money and an also-ran.

If you are planning to build your own boat from one of the many available hydro and stock runabout designs, a few facts concerning various recommended woods from which to make your selection should be of value.

The woods available vary considerably in strength, weight, shrinking and swelling characteristics, as well as in price. Before choosing your plans, decide first the class and the type of motor with which you plan to compete. Study, too, the sanctioning group conducting races within your area and design your hull to conform with the existing regulations.

For example, in the outboard racing hydroplane classes, the American Power Boat Association lays down the following restrictions:

Boat	Hull Wt.	Overall Wt.
Class M	75 lbs.	200 lbs.
Class A	100 lbs.	250 lbs.
Class B	100 lbs.	265 lbs.
Class C	150 lbs.	315 lbs.
Class F	160 lbs.	335 lbs.

A slight variation exists between A.P.B.A. and N.O.A. regulations. N.O.A. requires only that overall weight, i.e., boat weight and weight of driver in racing togs including life jacket, and crash helmet be as follows:

Class M	200 pounds
Class A	260 pounds
Class B	260 pounds
Class C	315 pounds
Class F	335 pounds

An important variation exists in that A.P.B.A. does not include crash helmet, life jacket and kneepad weights in determining overall weight. You can readily see that if you are designing a hull in which to compete successfully in both N.O.A and A.P.B.A. circuits—and you are relatively light—it will be to your advantage to build an extremely light hull for your class and plan a heavier set of hardware easily interchangeable (heavier wheel and bracing is recommended or a double thickness floorboard) so that you can take advantage of the overall lighter weight in N.O.A. and still not race at a handicap under A.P.B.A. regulations.

A knowledge of wood will achieve this. Under N.O.A. rules overall racing weight in Class B hydroplanes is 260 pounds. No minimum boat weight is required. Under A.P.B.A. rules, you have noted above that (*Turn to Page* 30)

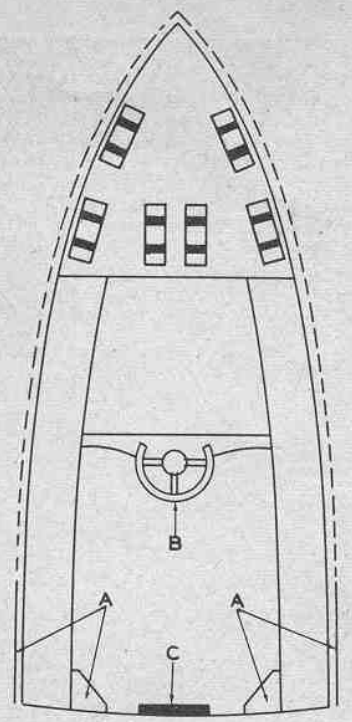


FIGURE 1

Added weight in runabout can be achieved by added bracing at transom (A), steering gear framing (B) and transom motor mount (C). By adding a 2" by ½" sheer guard of white oak (D) app. 7 lbs. may be added to overall weight. Tightly strapped oil cans add to safety.

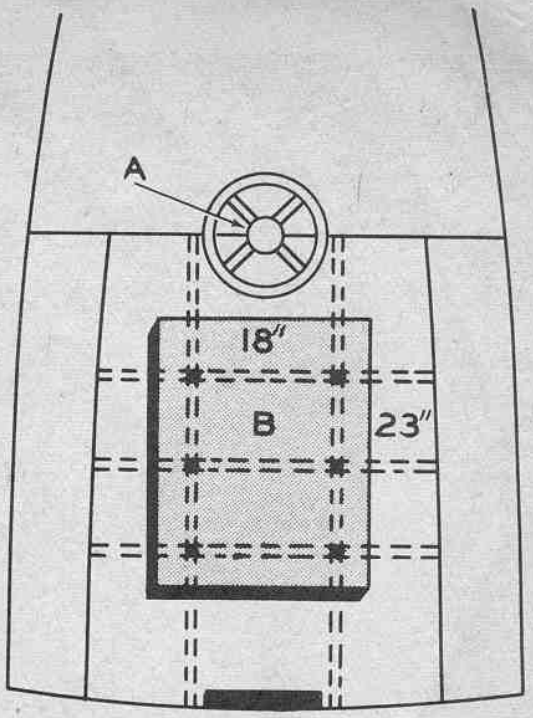
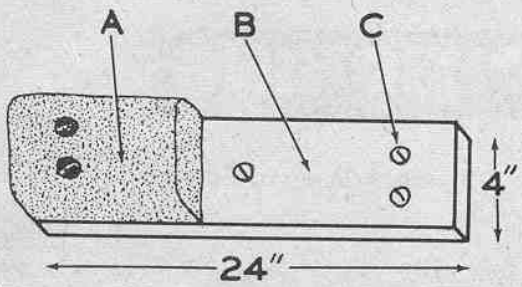


FIGURE 2

Interchangeable set of wheels (A): one of aluminum or wooden spindle hub, and wood laminated wheel as opposed to a steel hub and wheel, will offer 5 to 12 lbs. differential. A 23" by 18" by 1" floorboard (B) will offer practical, quickly interchangeable weight.



Pair of cockpit coaming pads mounted (A) will add app. 10 lbs. and considerable driving comfort. Easily removable to reduce weight. White oak backing for coaming pad (B). Wing nut bolts for mounting oak backing (C). Cover coaming pads with duck or plastic.

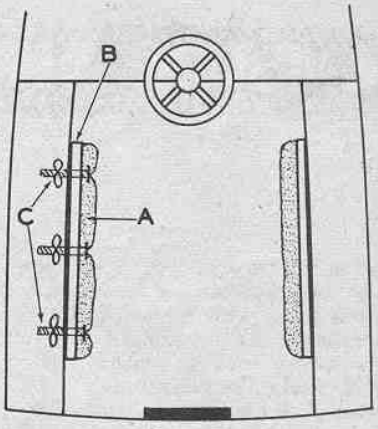
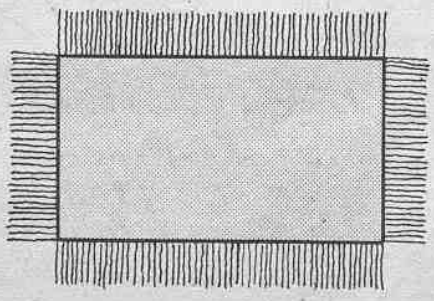
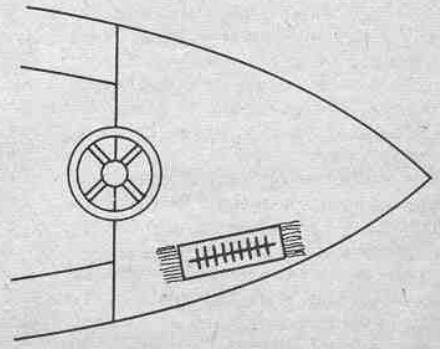
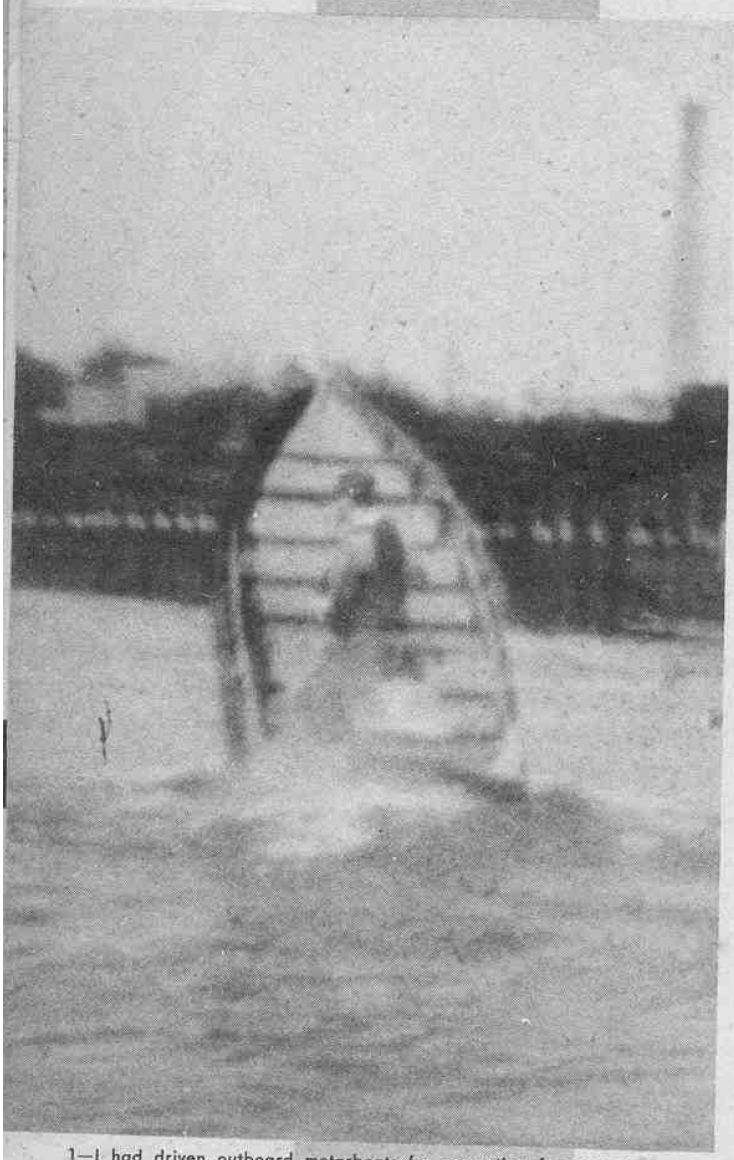


FIGURE 3

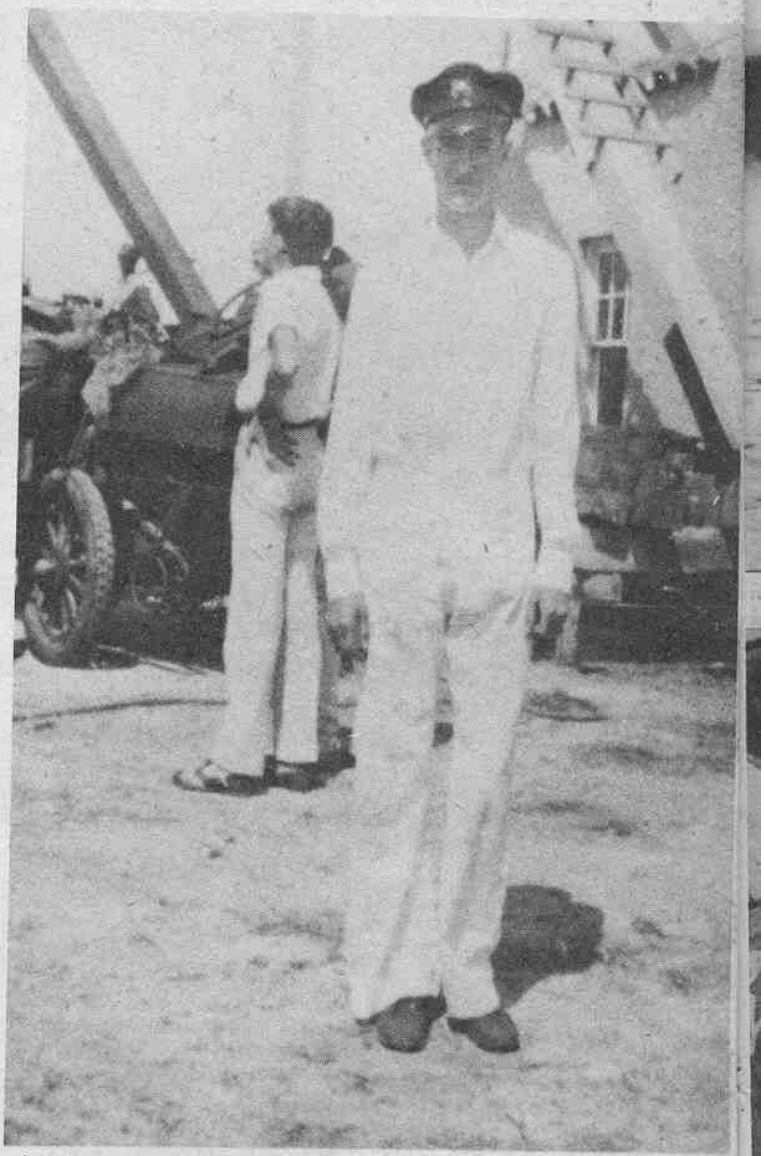
(Below) Be sure to fray edges of piece of aircraft linen, nylon or percale sheeting. Apply waterproof glue to area surrounding rip. Place patch in position. Paint to match decking after glue dries. (Also below) Shows rip in deck covered by the patch.







1—I had driven outboard motorboats for recreation for several years, but 1929 was the first year I owned a bona fide racing boat. My father took me to Flushing, L. I., New York, the spring I was seventeen years old. After seeing me keep that bucking bronco right side up he decided I was ready to race and cut me loose. The picture above was cut from a 16 mm movie film, showing my first ride in my first racing boat. It was a Beckhardt hydro powered by an Evinrude Class C motor. The rig, you can see, was not yet complete. I had been so anxious to try it she was still unpainted and minus a deck. The Class C record at that time was under 40 m.p.h.—not bad considering the primitive bottom designs—forward positioned fins; no nontrip chines. Ask the old timers!



2—I was definitely not precocious and won only one race in 1929. By 1930, with a year's experience behind me, my driving ability had considerably improved and my knowledge of motor tune-up sharpened a bit. My picture in the "hat" was taken in Miami, Florida, where I won the Class C amateur race. In 1930 the yachting cap was the latest and accepted fashion for the outboard racer. To further date the period in which this picture was taken you will note the wooden spoke wheels on the trailer in the background. The boat secured on it is one of the then popular 151 cubic inch hydroplanes—a now defunct inboard class. Outboard racing drivers were still using gasoline based fuels and the cooler burning faster methanol alcohol blends were still to come.

20 YEARS OF BOAT SPORT

3—(Below) Here is my Class D hydroplane, "Calamity Jane," returning to pits after a heat of racing on the Schuylkill River, Philadelphia, 1930. Hydroplanes in those days had considerably greater freeboard. My boat was powered by a four-cylinder, dual carburetor Johnson "32", an efficient motor with a poorly designed lower unit. In the right foreground is C. Mulford Scull in his home built C hydro Shooting Star. Mul was a Johnson dealer from Ventnor, New Jersey, and one of the top racers in the game. In the background is Robert Snadecki in his D-powered Pigeon Hollow runabout. Snadecki astonished all the hydro boys by racing against the best on even terms with his monoplane.

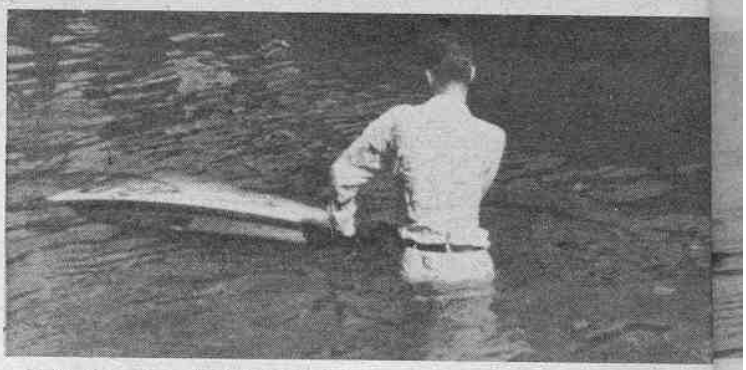
4—(Below) My first really successful season was 1931. During summer of that year I won thirty-four heats of racing and climaxed the season at Middletown, Connecticut, where I won the Eastern Divisional Championships in Classes B, C, and D by taking six straight heats. I am pictured here with the New England Outboard Motor Boat Association Trophy for my Class D title win, the Hall-Scott Cup for Class C and the A.C.A. award for my Class B triumph. These wins were in Division 1. The three small trophies were for permanent possession. The large awards were perpetual. I was a plenty proud nineteen-year-old boy. I guess I'll always remember Middletown, Connecticut, with fondness.

5—This pit shot was taken in 1935. I had by then adopted the distinctive and often imitated color scheme which I later was to use in more recent years on my inboards. The bow and trim was white with bright red as the dominant color. The motor is a Johnson SR Class B and the hull is a Neal. Dick Neal the hull designer was another of the outboard racing veterans. Today, Dick is one of the top flight outboard mechanics and outboard racing hull designers in the country. Facing me in the pits is Freddie Nickell, my mechanic. Freddie was a whiz at refining an outboard motor. He later turned his talents to midget autos when the 4-60 powered doodle bugs had their hey-day.

6—In 1936, on Seneca Lake, Geneva, N. Y., I won the Governor Herbert Lehman Trophy, symbolic of the N. Y. State Championship. At that regatta I drove all outboard hydro classes then active—A, B, C and F. I scored a total of 3,000 points of a possible 3,200 and finished the day winning Class F in "Calamity Jane IV," a Jacoby hull powered by a 4-60 Evinrude. Freddie, as my mechanic, and an outstanding driver in his own right, deserves much of the credit for my outboarding record. In 1937 Freddie Nickell accompanied me to France. This picture shows me (with Nickell holding the outfit) cranking over for a test at Herblay, on the Seine River near Paris. We seemed to be arguing! (See over)

Paul Sawyer's Story Told In His Own Words — Illustrated With His Own Pictures. . . .

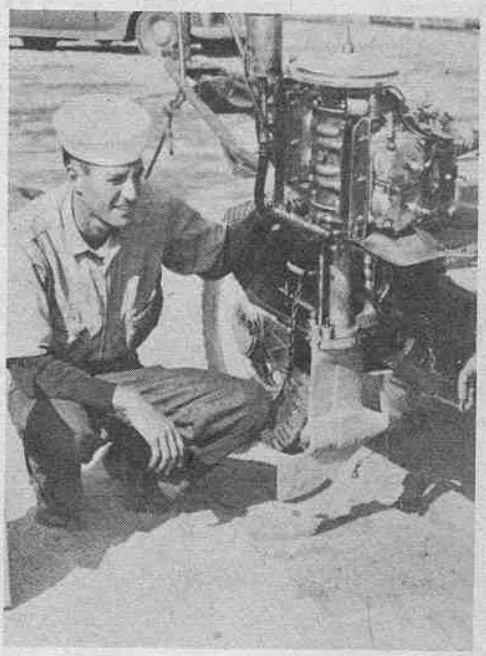
7—Whatever Freddie and I argued about doesn't matter 'cause the event came out all right. I won the European Class C Championship in "Fly-away," a boat built by the old master, Pop Jacoby. I had an extra large fuel tank on my PR Johnson C, a transplant from a Class D. The change was necessary because the French race was over a distance of 15 kilo-meters, about nine miles, by contrast to the customary five miles we raced in America. "U" preceding my number indicated a boat entry from U. S.



8—The Class C Jacoby Hull with which I won the French C event came to disaster in 1937 on the Schuylkill River in Philadelphia. There was a collision in a turn, the boat flipped and sank. The hole in the bow was the result. But the day ended well when I changed into a dry shirt and won the $6,000 Sir Thomas Lipton Trophy with my Class F Jacoby after a hard race with my close friend and constant rival, Clint Ferguson. Those Philadelphia events matched some of the best.

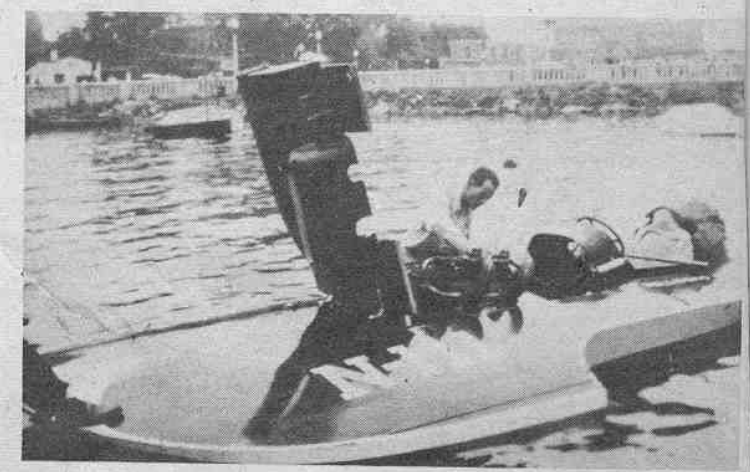
9—(Left) Here is handsome Lipton Trophy I won in '37 on Schuylkill River. But I remember that course best six years before when I was a greenhorn. I managed to crash into a rockpile. That was high on a list of seventeen spills I suffered in outboard hydros. I was hospitalized for a while with a wrenched knee. In '32 I collected a torn foot in a flip at Worcester, Mass. Few of those accidents could have been avoided. Just luck of the game, I guess. But I do try to plan my races in advance and particularly to take pains to decide what to do in an emergency so I'll act instinctively.

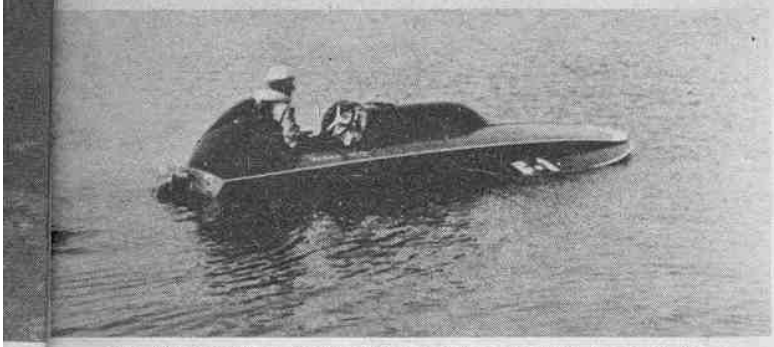
10—(Right) Between 1938 and 1942 I raced intermittently while studying law at University of Texas. During this time I concentrated on preparation of a boat and motor with which I hoped to bring back to the United States the Class X title. The record mark of 79.04 m.p.h. had been set in France by Jean Depuy with a six cylinder super-charged motor. After Pearl Har-bor I enlisted in the Navy. In May, 1942, on weekend pass I trailered my boat to Lake Elsinore, for time trials.



11—(Below) This is the "Draper X," on a conventional Class C Allen Smith Hydro. Notice there is no fuel tank on motor. The tank was installed forward of the steering wheel to offer better balance. Despite this precaution the boat became airborne, flipped over backwards to end my chance to break the record. That try for a record was my last experience with outboard racing. Not until 1947 did I re-enter speed-boating. I rode with Doc Novotny in "Cherub II" at Newport Beach, Cal.

12—(Below) I guess that ride with Doc in his PODH stirred up the bug again but I decided the 3-point inboard showed promise of spectacular development. This is "Belligero" (Belligerent plus Allegro), my first 225. The boat was built by Bill Campbell of Long Beach, Cal., with a Ford Six engine. I am pictured in this snapshot working on the engine at a regatta at Valleyfield, Quebec, Canada. With this boat I won the National Championship at Cincinnati, Ohio, August of 1948.

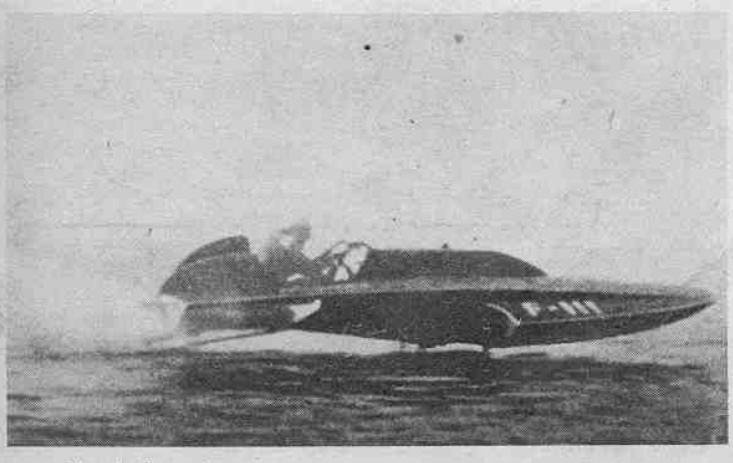


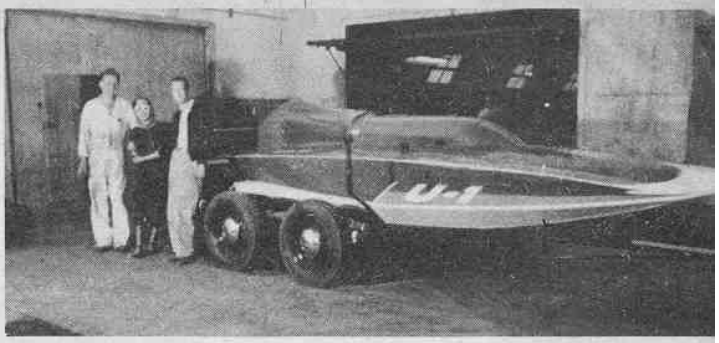


15—(Above) "Alter Ego," a lighter and smaller hull, was built for me by Rich Hallett. This picture was taken in 1951 at Marine Stadium, Long Beach, Calif., just before leaving for Europe where it was unbeaten in four free-for-all Grand Prix in Italy and Switzerland. When I got back to the U. S., I reached 120.085 m.p.h. in 1950 in "Alter Ego."

14—(Below) Happily my wife Erminie is as fascinated with speedboating as I. Here is the Sawyer outfit complete: Erminie, our cocker spaniel, Caduceus, known as Buggy for short. "Alter Ego" is on top with Belligero II below. The snap was taken on the Midwest circuit in 1950. With these two boats I won the National Championships in both the 225 and 266 classes for that year. I was awarded the racing numbers USN—1 and USF—1. Two inboard mechanics, Buddy Reuter of San Antonio, Texas, and Clay Smith of Long Beach, California, share my inboarding success as Nickell does my early outboarding career.

13—(Below) This is "Belligero II," originally a Division I 225 (now 266 cubic inch), which is pictured at Salton Sea in 1949, where I officially averaged 99.920 m.p.h. and was first to drive limited hydroplane for a mile at over the century mark. One way I averaged 100.11 m.p.h. Earlier that year in "Belligero II" I set a new Division I 225 c. i. competition mark of 78.192 m.p.h. at Cincinnati and then went on to take the Nationals two years in a row—this time at Salton Sea.





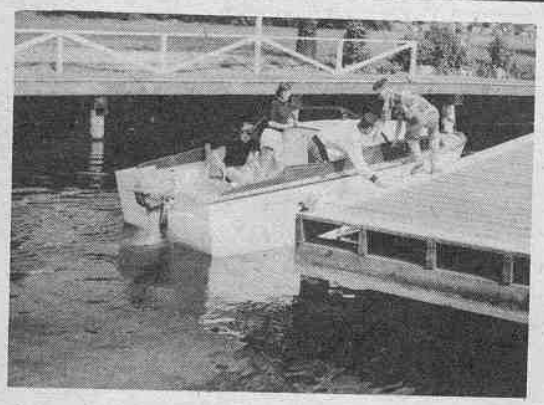
16—(Above) In May, 1952 we departed from Long Beach, California, with high hopes. Shown here: Erminie, Caduceus (hiding behind us), Clay Smith and I, with "Alter Ego." Clay built up the engine but did not accompany us. The number U-1 does not signify unlimited class as it does in the U. S. The boat was registered with the International Union as a 450 kilogram racer and the U designates a United States entry. I was invited by Prince Vitaliano Barromeo, President of Fererazione Italiana Motonautica to defend my record of the previous year. I went prepared with the spare parts I had missed in 1951.

17—(Below) My hopes for European competition and late season activity at home collapsed. The year 1952 hit an all time low when I contracted typhoid fever shortly before the first European event. This photo was snapped by the European speedboating champion, Ezio Selva on the steps of the Milan, Italy, Hospital the day I was released in August. Shown between us is the Campari Trophy, which I had earned in Milan in 1951 and one of the trophies I had hoped to defend. I was forced to retire from competition for the balance of the year 1952 but I will definitely be back in boating competition in 1953. "Belligero I" and "II" have been sold, but I have high hopes for my new "Belligero III" and "Alter Ego," both of which should see action soon after these pictures from my personal scrapbooks get into print in BOAT SPORT. (End)

Loading aboard provisions for the galley—the last step in preparation for a cruise, though certainly not the *least*. We're about ready to pull the starter cord on our 25 hp. Evinrude.

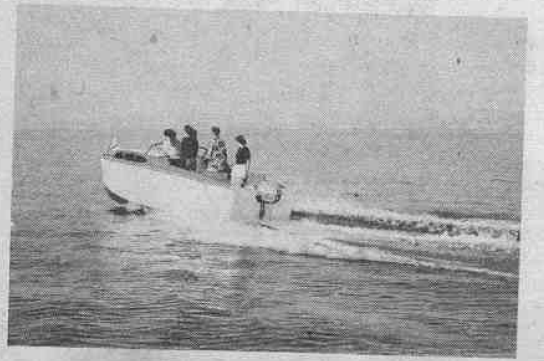
THE CRUISING CORNER

On chart of Puget Sound waters we plot course for San Juan Islands, where cruising-treasure waits to be discovered. There're too many for one trip, so we must pick and choose.



Shoving off is easy—just a push and our trim kit-built Chris-Craft is away from the dock. Motor idles in neutral, waiting for reverse shift to ease us out safely, quickly into the channel.

We're under way now, headed out from home port, but still running slowly in accordance with thoroughfare rules. All remote controls can be seen on starboard side of cockpit.



Out in the sound and really opened up! Our big Evinrude twin makes her plane nicely, holding her bow right out of water, as we go just under 20 m.p.h. Adventure, here we come!

OUTDOORS

THE NEW YEAR WILL start officially on January 9th—that is, as far as outboarders are concerned. On that date, fifteen days after Christmas, the 43rd National Motor Boat Show will open in New York's Grand Central Palace and will run through January 17th. There will be other boats, too, of course, but as far as BOAT SPORT is concerned our interest is in outboards of all yarieties from midget racers to cruisers, motors of every size and new accessories and equipment of all kinds. This year's show should be the largest yet, as there has been a great increase in the number of firms applying for exhibition space and many previous exhibitors have requested additional space.

The reason for so much enthusiasm is summed up in the remarks of Joseph E. Choate, Executive Secretary of the sponsoring National Association of Engine and Boat Manufacturers, and General Manager of the show: "Recreational boating is concluding an excellent season, with many thousands of persons having taken to the water for the first time this summer. The industry is extremely optimistic about next season, barring any unforeseen government curtailment of materials." Mr. Choate is, of course, speaking of all boating, but we'd like to wager that new outboarding enthusiasts account for the greater percentage of those "many thousands."

The annual New York show will be followed by many other shows of one

Super Fastwin planes loaded boat close to 25 m.p.h. at minimum sound level. Water-sealed exhaust and special accoustically-tuned carburetor silencer reduce noise 20% on this Evinrude 15 hp. model, which also has gear shift and twist-grip steering handle, with snap-on fixtures for the efficient Simplex remote controls.

Johnson Motor's new Ship Master remote control throttle-shift unit is interchangeable on the new 10 and 25 hp. models without extra adjustment. Outer fittings on motors are standard equipment, thus avoiding drilling holes in shroud. Cables are stainless steel, rubber-sealed, to resist corrosion; in lengths 7, 9, 12 and 15 feet.

WITH THE OUTBOARDS

How To Do Your Christmas Shopping Late and Win Lots of Friends . . . Previews of New Motors . . . Hunting News . . . Outboard Handling . . . New Boat Insurance, Etc. . . .

By Richard Van Benschoten

kind or another from Coast to Coast. So, you see, you have some heavy dates this winter—and that's just the chance you've been waiting for: an excuse to do your Christmas shopping late! What better present for members of outboard families or their friends than a card saying: "Greetings of the season—take this and get what you want at the boat show." After all, there isn't much room in a stocking for a new outboard motor, or for a family runabout under the tree.

Moving West, a month later, the Chicago National Boat Show will be held February 6th through 15th in the International Amphitheatre—the same place where the political conventions were held this summer, although it should be a lot quieter. This exposition will be managed by the Outboard Boating Club of America, whose Executive Secretary, Guy W. Hughes, will be Show Director. Hugo Biersach, Advertising Manager of Evinrude Motors and Chairman of the show's industry sponsoring committee, has this to say: "The success of the 1952 show convinced us that Chicago has become a major boating center and will support a show devoted entirely to marine and related activities."

Until this year the New York and Chicago shows were the only two that had the sanction of the outboard industry's boat show committee for member participation and factory exhibits. But now—still farther West and another month later—the San Francisco Sports, Travel and Boat Show has received the third such sanction for their event, to be held March 6th through 15th in the San Francisco Civic Auditorium. To again quote Mr. Biersach: "This action is part of the industry's plan to increase our service to the people of the West, where outboarding has shown a phenomenal growth in the past few years."

Other shows scheduled are: Boston, Feb. 7-15; Syracuse, N. Y., Feb. 16-21; Miami, Fla., Feb. 20-25; New York (Sportsmen's Show), Feb. 21-Mar. 1; Philadelphia, Mar. 6-12; Detroit, Mar. 7-15.

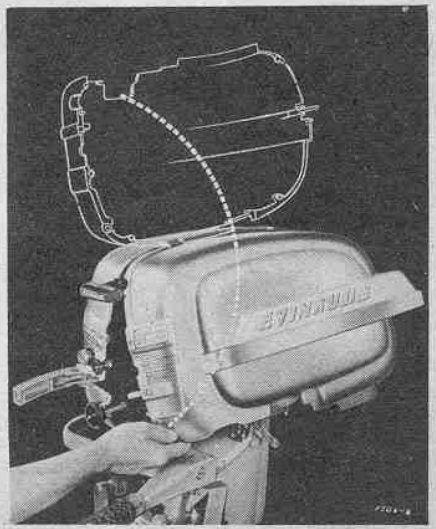
PREVIEWS OF NEW MOTORS

Late in September a group of approximately 30 Eastern editors and outdoor writers, including BOAT SPORT's Publisher, Joseph J. Hardie and Editor Harold Hersey, journeyed to Eau Claire, Wisconsin, where they inspected the Martin Motors factory before going on to Northernaire, a beautiful resort at Three Lakes, Wisconsin, for a three-day stay to see demonstrations of the new Martin "200" P.T. and gear shift models as well as the complete 1953 Martin line. Harold Hersey reports the event most interesting and enjoyable, and the sports, scenery and hospitality at famed Northernaire unexcelled anywhere.

Also in the early Fall, Evinrude introduced the new 1953 Super Fastwin to editors and members of the press at a preview held at (*See Over*)

(Above) Martin Motor's brand-new "200" Silver Streak. This 20 hp. outboard, weighing app. 70 lbs., incorporates the mechanically controlled poppet valves, which allow greater fuel injection, hence more drive, power and speed.

(Below) Evinrude introduces first auto-lift hood on '53 Super Fastwin. Release of two clamps allows port side of motor to open and stay up by itself for easy servicing and inspection.



Two Firestone F-N-R motors speed across vacation waters to bring back pleasant summer memories. The 7.5 model is shown in the forewater on an Erich-Swenson designed Aluma Craft of all alloy aluminum construction.

OUTDOORS WITH THE OUTBOARDS

(*Continued from Preceding Page*)

Guy Lombardo's East Point House, Freeport, Long Island. The new Simplex remote controls for both the Super Fastwin and Big Twin models were shown as well as the other Evinrude motors for 1953. Participating in the demonstration were Lauritz Melchior, noted opera star and sportsman, and Bruce Parker, internationally known water ski champion, who with a trio of aq-chorine ski charmers performed amazing feats on the bouncing boards behind the Big Twins. Afterwards a cocktail party and shore dinner was held in East Point House, where the walls are lined with trophies won by owner Guy Lombardo in his famous *Tempo* inboards. It was quite an affair—and we speak from experience because your correspondent was one of the working members of the press in attendance.

Johnson's 1953 Sea-Horse 10 will have as standard equipment the twist-grip throttle control in the steering handle, but despite this additional feature the list price is $20 lower than last year's model. Both the Sea-Horse 10's and 25's will have a new front bracket which simplifies the connection of steering wheel cables.

HUNTING NEWS

The change in Federal game laws which allows hunting from a small boat with outboard motor attached as long as boat is not under way or adrift is good news to many, and at last report there were a lot less stiff backs and sore muscles due to unaccustomed rowing.

Chris-Craft has added a 14-foot duckboat to its kit boat line, available either as a double-ender or with solid transom for outboard motor (which ties right in with the new law) and with lockers fore and aft for stowing decoys, shells and other gear. Weight is under 100 pounds.

ALL-AMERICAN BOATING FAMILY

December 1st was the deadline for nominations for the "All-American Boating Family" to be named by prominent judges at the National Motor Boat Show in New York. We hope that a lot of outboarding families were included in the list of nominations because they really are the "All-American boating group" and far outnumber all others. How about a vote for William E. Collins and his two sons, William Jr., 10, and Mike, 7, of Rockford, Ill., who took a 1400-mile vacation cruise down the Mississippi to New Orleans in a 14-foot boat with a 5 h.p. outboard?

OUTBOARD HANDLING

Watch for news of the next series of demonstrations in outboard motor boat handling, a part of the Red Cross Small Craft and Aquatic Schools program under the direction of the American Red Cross and OBC. In 1952 schools were held at camps in the following places: Buzzards Bay, Mass.; Eagle River, Wis.; Tuxedo and Brevard, N. Car.; Warm Springs, Ga.; and Tacoma, Wash. Four of the schools were "certificated," in which graduates received diplomas and emblems similar to those awarded in life-saving, etc. And remember, when their campaign comes along, that Red Cross is working to help outboarding, too, besides its many other great services.

NEW BOAT INSURANCE

Scheduled to go into effect January 1, 1953, is the new Outboard Boating Club of America insurance policy, selling for 20% less than before. Coverage is same but property damage liability is increased from $500 to $1000. It also has deductible feature similar to automobile policies, and covers any kind of loss or damage to boat, motor or trailer, wherever it may happen, on land or water, with only few exceptions, such as when used in an official racing meet. Watch for further details on OBC's new sound and color movie on outboarding, which will include fishing, hunting, water-skiing, cruising, camping and exploring and will be available for television showing and for boating clubs and outdoor and civic groups.

MOTOR IN MOTHBALLS

If you live in the colder climates and aren't too hardy a soul, chances are your motor is already stowed away until Spring. Hope you did all of these things before you put it away. A lot of time and trouble will be saved if you did. DID YOU?

Drain all water from lower unit, removing grease plugs and vent to do so? . . . Turn motor over several times with starter cord to get all water out of power head, water pump and cooling system? . . . Fill with fresh grease? . . . Empty fuel tank completely? . . . Clean carburetor, including screens and filters? . . . Remove propeller and inspect shear pin? . . . Replace if cut or bent? . . . Inspect propeller and file down any rough or nicked spots? . . . Apply grease enough to film over propeller shaft, pin and threads before replacing? . . . Inspect and clean spark plugs? . . . Inspect wiring? . . . Oil inside of engine, either through spark plug holes or through carburetor, turning motor over to distribute oil inside? . . . Wipe off outside of motor with oily rag and wrap in paper, cloth or put in shipping container—if you still have it? . . . Stow motor in dry place? . . . Put it on rack of any kind or in such position as will protect it from falling?

Every now and then during the winter, turn your motor over a few times to

He's being a gentleman—but she could beach their Penn Yan boat all by herself with Airollers, without taking off the Martin motor or unloading. Inflated by lung power, these handy rollers allow boat to be moved on beach without damage to the hull of the boat.

spread oil and grease around inside and keep it from "ringing." And don't forget to tend to your boat, too—all those repairs you wanted to make, repainting, installing accessories etc., etc. Spring comes around a lot faster than you think!

BOAT NOTES FOR '53

Trojan Boat Company, Lancaster, Pa., while branching off into the inboard field for the first time, also has added a new model for outboard fanciers to its established line of Sea Queen, Angler and Sportsman boats. The Sea Captain, a 14-foot runabout, will be introduced at the boat shows in 1953.

Switzer-Craft, McHenry, Illinois, will have three family runabouts in its line for next year. Patterned after their sister utility racing models structurally, they are deeper and roomier, designed for the purpose of achieving "Speed with Safety." The Shooting Star, 14-foot deluxe model for six passengers, the 12-foot Lightning 25 and the Play Boy, 12-foot all purpose outfit weighing about 150 lbs., comprise the '53 line. Herewith a brief racing note for those of you who may have seen either the National Championships at Oakland, Cal., or the Albany-New York Marathon. Bob Switzer, who won in Class DU in both events, drove the same Switzer-Craft Bullet "High Strung" in each race—straight away and closed course.

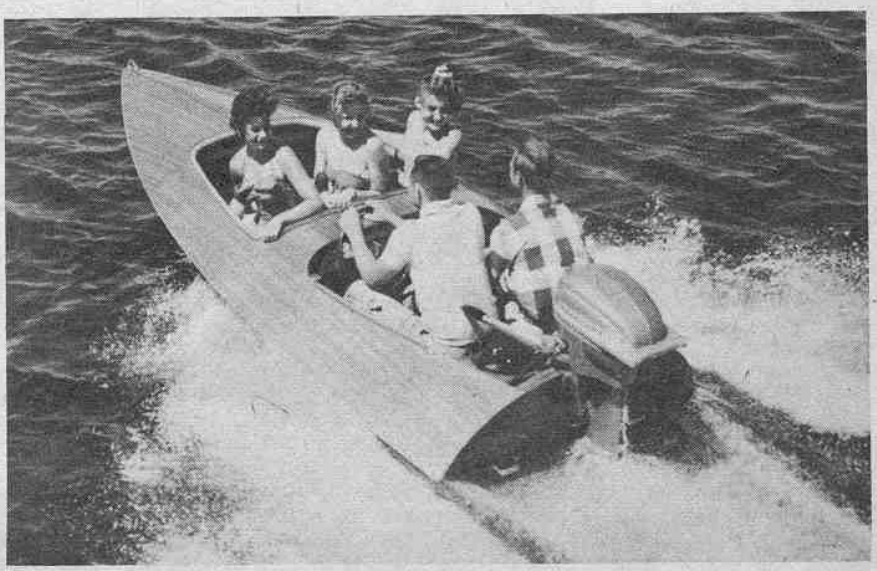
Richard Cole, Miami, Fla., has designed a new hydroplane outboard cruiser of plywood construction, 16 feet long by 6 feet 2 inches beam, with the self-draining safety motor well, a standard feature on all Cole cruisers, fitting them for open water use.

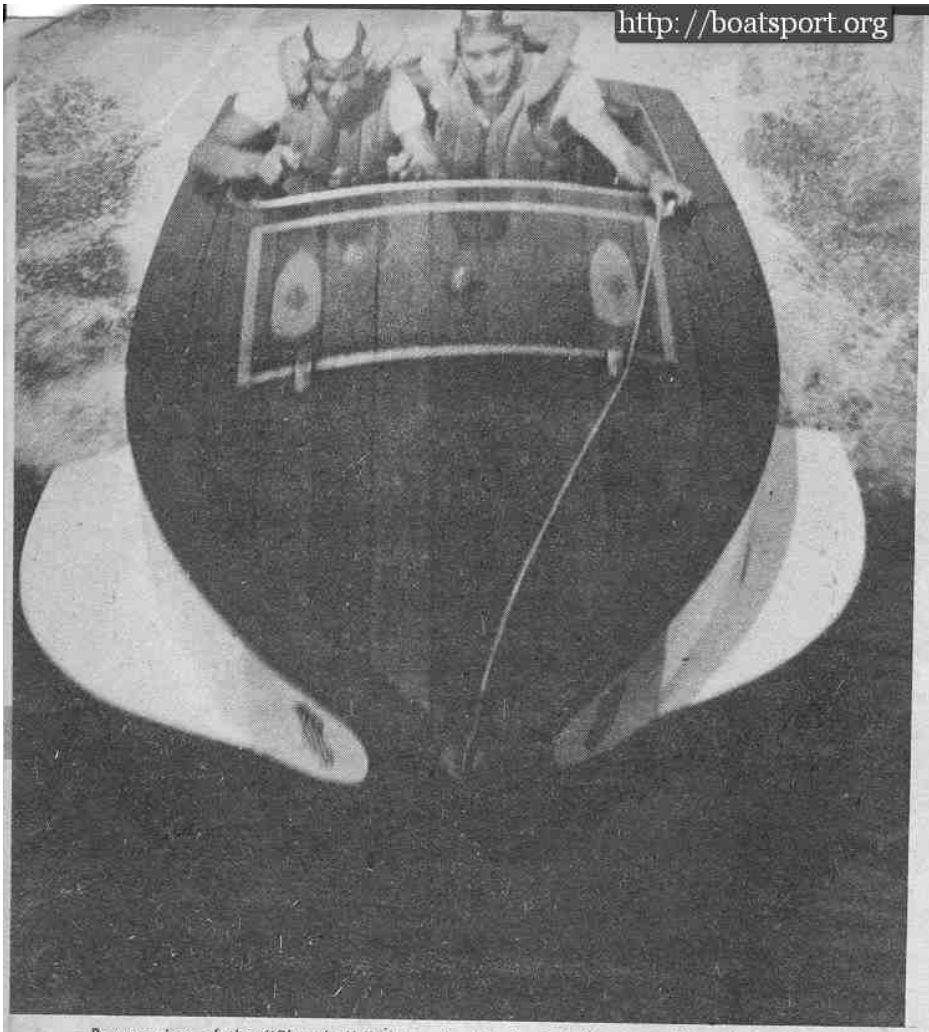
ACCESSORIES

A patented motor lock is being made by the Racine Stamping Corporation, Racine, Wis. (*Turn to Page* 31)

(Above) New control improvements on recent motors—like this Scott-Atwater 1-25 model—have made outboarding easier and safer for the young folks. And how they take to it! This juvenile skipper has complete control over his Thompson boat at all times and anywhere.

(Below) The Lightning 25, one of three family runabouts in Switzer-Craft fleet for 1953. Based on structural pattern of successful Switzer Bullet utility racers, this 12-footer has V-bow and 41" planing surface at transom; is designed for motors of 10 to 25 hp.





Bow-on-view of the "Cherub II," driven by Dr. Louis J. Novotny, King of the PODH class, with Ed Rauch, the Doc's riding mechanic. Novotny is 3-time National champion.

NOBODY EVER WON A BOAT RACE ALONE

SAYS "DOC" NOVOTNY, THREE-TIME PODH NATIONAL CHAMPION AND RECORD HOLDER, WHO TELLS HOW AND WARNS OF PITFALLS.

By Bob Ruskauff

SINCE 1946, when Dr. Novotny of Los Angeles departed the Cracker Box field to win his first race in the Pacific One Design Hydroplane class, the racing surgeon and two-time Past Commodore of the powerful Southern California Speedboat Club, Inc., has amassed one of the most outstanding records of any speedboat driver in the nation.

He has three times won the National Championship in his class and during the span has broken seven world records —four in five-mile competition and three over the mile straightaway. Three times he has won the Western and once the Eastern Divisional championships. Three straight years he has taken the National High Point championship and at this writing had darned near clinched his fourth. As these words were being written Novotny had compiled a life-time record of 64 firsts out of 85 completed races, with the boats "Cherub I" and its successor, "Cherub II."

The recital could go on. He has had more than any man's share of victories and a few of the tough breaks that hit any racer. One, that rather rankles, involved a broken fuel line which forced him out 500 yards from what would have been victory, during the PODH heat of the 1950 President's Cup Races on the Potomac.

Today the good Doctor is undisputed king of an inboard racing class which was born in the West (and is one of its oldest); which spread to national recognition. It has much merit on its side and some drawbacks. Beyond this Novotny went into the class because he believed in it. He still does. He has, however, done a tremendous amount of that extra-curricular work which is vital to the growth of boat racing as a sport. He has seen enough racing, and conduct of racing both East or West, to have the broad view and the long view.

Doc was frank from the onset with a number of observations which, however received, can profit any driver, or prospective driver, whether he considers the racing picture in the outboard, stock or inboard field. Because of this, what had begun as an article interview dealing with some of the hull and engine refinements that put the PODH champion atop the heap, became an illuminating question and answer hassle:

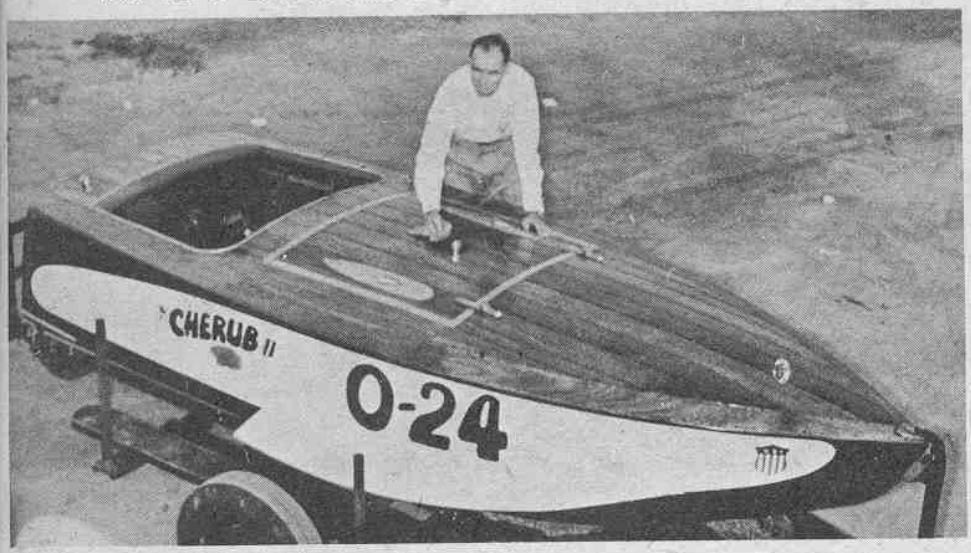
So nobody ever won a boat race alone?

"Never!" said Novotny. "And I would challenge any driver who ever claimed he did. To begin with, even your competitors on water contribute to success. But many people usually help. In my case the outstanding guy was Ed Rauch, who worked practically every night for three years on the hull-engine combination of the 'Cherub II.' And I guess I've worn out a half a dozen riding mechanics. Including Ed, there have been Mel Larson, Russ Cook, Jimmy Coonert, Jimmy Carter (and Carter's wife Carole who rode to win with Doc on Lake Mead), my brother-in-law Tony Foder and my present rider, Jack Stoner."

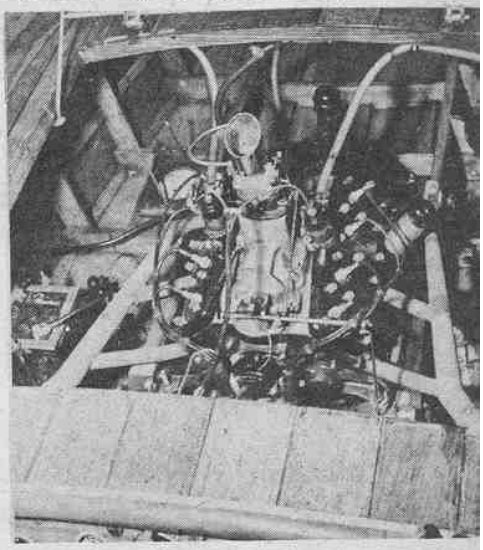
Contrary to what a lot of people believe, the Pacific One Design Hydro in a race offers a really roughshod ride. (Your author found that much out just "cruising Novotny-style," around Long Beach Marine Stadium). (*Turn to Page* 32)

(Left) "Cherub II" in the lead nearly obscures following boats in a cloud of spray as Novotny hooks his craft around a one-buoy turn. "Cherub II" went on to win—one of 65 first over-the-line finishes for the speed-boating Doctor in 6 years of racing in stiff Pacific Coast PODH competition.

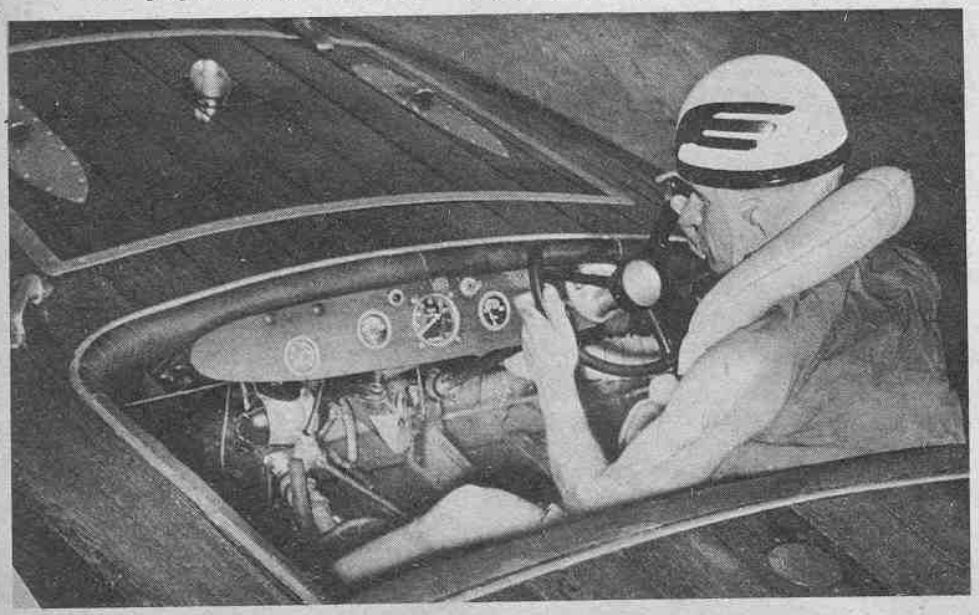
(Below) PODH lines were designed to avoid difficult curves and make the hull easy to construct for the home boat builder. Sponsons are permitted by regulations if they do not extend lower than ¾" above the chine on the forward plane. PODH class rapidly gaining in favor.



(Below) Cockpit view of Novotny's "Cherub II", which established one-mile record for the PODH class at 59.900 miles per hour.



(Below) Motor installation in "Cherub II" is about midships. Leads to right and left of carburetor manifold are water cooling lines with flexible lines leading to water temperature gauge. Novotny's 13-foot-long, single-step inboard hydro is powered by Ford V-8 60.



(Below) Dr. Novotny says that "Nobody ever won a boat race alone," and Bob Ruskauff certainly proves the point in this article.

INSIDE STORY OF RACING FUELS

By Ted Powell

ONLY A FEW of the many known fuels and fuel additives have been found suitable for modern hi-RPM, hi-compression racing engines. They are—methanol, ethanol, benzol, acetone, aviation gasoline, nitrobenzol, nitromethane, diethyl ether, castor oil, halowax, kerosene, T.E.L. or T.A.L. (tetra-alkyl lead), and water.

METHANOL

This lightest and simplest of the alcohols, is selected as the basic "power" component of most modern racing blends because of its very high latent heat of over half that of water (473 BTU/lb). High liquid and gaseous specific heats, high liquid thermal and combustion properties combine to produce a heavy internal-coolant action upon the induction system and combustion chambers, a dense air-fuel charge, a high engine volumetric efficiency and reasonable engine temperatures. All these are important because of the enormous fuel consumption rates encountered in present day racing engines.

Methanol has a high so-called "octane" rating of close to 100 octanes, depending upon which of the many knock tests are used. Its light and simple molecular structure produces a fast and clean combustion with no hard-carbon formation tendencies. It is quite volatile, with a boiling point of 148 deg. F. and a Reid vapor pressure of 5.3 lbs. sq. in. at 100 deg. F. Since it has ignition and flash points not too far above that of the hydrocarbons and ethers, it doesn't present too much of a cold-starting problem if fairly dry. These characteristics combine to make methanol the most effective racing fuel discovered to date.

However, methanol has certain disadvantages as a motor fuel, aside from its fairly high cost in passably clean technical grades. Its major drawback lies in very low A.F. ratios of 6.5/1 cruising (theoretical) and 4/1 maximum power (optimum), and its very low calorific content of only 9,500 BTU/lb. Since the A.F. ratios are only about 1/3 and the calorific content only about ½ that of the gasolines, this causes high fuel consumption. Because of its very low calorific content and optimum A.F. ratio, and a somewhat higher liquid viscosity than the gasolines, carb jets must be about 1½ to twice as large as required for aviation-gasoline-benzol-T.E.L. blends.

Some racing men confuse calorific content with flame temperature and power output, and it might be pointed out here that this largely effects fuel economy and has little direct connection with combustion temperatures, thermodynamic efficiency or potential HP output in a piston engine.

Methanol does not have as high solvent powers as the heavier alcohols and only about 10% of it will mix in with aviation gasoline when slightly "wet." However, it is completely miscible in all proportions with most of the other special racing fuels. For this reason, among others, benzol, ethanol, acetone and ether are mixed in to act as blending agents.

ETHANOL

Ethyl (grain) alcohol is not as pronounced in most of its special properties as is its sister methyl (wood) alcohol. It has more reasonable A.F. ratios of 9.3/1 and 7/1 and a higher calorific content of 12,700 BTU/lb. which are over half that of gasoline and allow far greater fuel economy than methanol. Hence it was often the base, fuel, or added in to methanol blends in various percentages as a mileage-vs-performance compromise component for longer distance work. The pre-war Italians especially favored ethanol-based fuel. Ethanol is less volatile than methanol, has a higher boiling point of 173 deg. F., a lower Reid vapor pressure of 2.8 lbs., a much lower latent heat of 367 BTU/-lb., nearly as high liquid and gaseous densities, and a lower liquid thermal conductivity than methanol. (The gaseous thermal conductivities of most of the special motor fuels do not appear to vary by much). It has a somewhat higher octane rating of a little over 100 (iso-octane plus 1.4c.c. T.E.L. per gal.) by the Research Method (R).

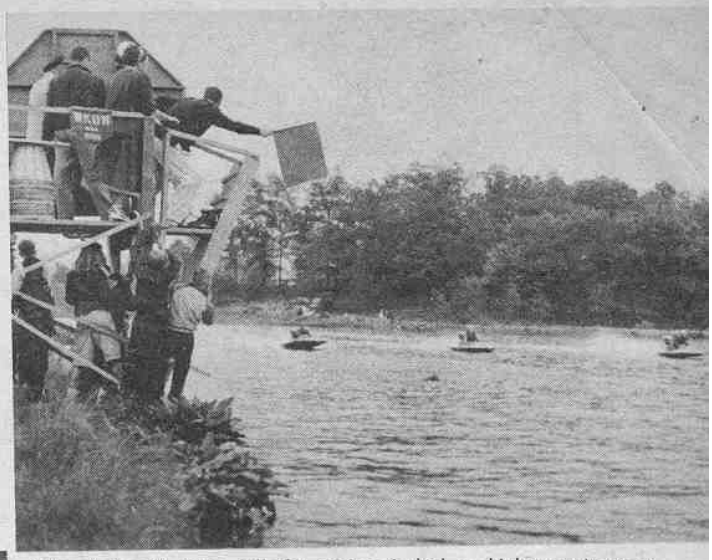
A physical peculiarity of ethanol is its unusually high viscosity or "oiliness" which is about twice that of methanol and the hydrocarbons. This is even more pronounced in the case of the heavier alcohols such as isopropanol, t-butanol, iso-amanol, etc. Hence fuel lines, pump and jet capacities must be set up somewhat larger than indicated by its A.F. ratios. Ethanol also has greater solvent and blend solvent powers than methanol and will blend in with gasolines readily, unless rather wet with more than 1% water. This is another reason why ethanol is sometimes blended into methanol blends (blending agent).

Some racing men have dabbled with some of the higher alcohols mentioned above. However, these heavier alcohols contain relatively more hydrogen and carbon and are (*Turn to Page* 33

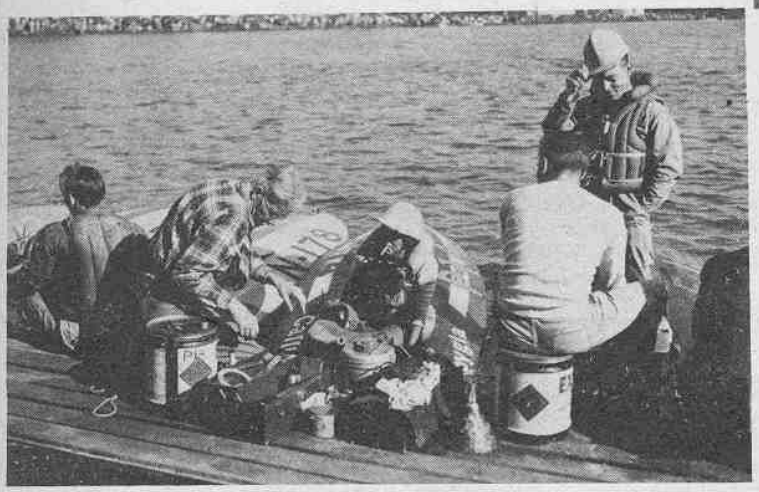
BOAT SPORT, in order to debunk the "secrecy" myth and put to rest the corny superstitions and circus-barker bunko that too long has surrounded the subject of racing fuels, presents the first in a series of technical analyses of fuels, fuel additives and blending processes. In later articles, once the various properties of fuel components have been explained, BOAT SPORT'S fuel expert, Ted Powell, will reveal more than three dozen fuel formulas used by world-famous professionals to win speedboat races and titles.

YOU CAN TAKE IT WITH YOU

BY BLAKE GILPIN



(Above) Smooth water calls for engines jacked up higher on transoms than under rough water conditions. A supply of varied thickness shims should be a must in every tool box. Some drivers lose their races at home by failing to bring necessary equipment to regattas.



(Left) The author of this article waits in her hydro, P-14, in the pits for five-minute warning gun to sound. Note the boat number marked on fuel can. This is excellent practice to follow as it saves possible arguments with other drivers who use same fuels.

IT'S ONE THING TO LOSE A RACE BECAUSE YOU WERE OUTSMARTED ON THE COURSE, AND ANOTHER TO LOSE IT BECAUSE YOU WERE OUTSMARTED IN THE PITS. . . .

SPEEDBOAT RACING DRIVERS are a wonderful and generous breed of people who, though they may come from many divergent ways of life, are as one when it comes to their love of speed on water. The guy next to you in the pits will be out after your blood and bucks during the heat, but he will practically, that is, almost, lend you the engine off his transom between races. You can always bum help when you have motor problems. You can usually borrow plugs, fuel, a stray nut or bolt, a prop (from close friends), even carburetors and mag plates, but there comes a time when friends run out and you can't beg, borrow or steal a supply or part you need. That's why it pays to take it with you.

One of our best Class C and F hydro and C runabout drivers is still being laughed at for making the trip from Audubon, N. J., to Harrisburg, Pa., one fine Labor Day several years back and then being forced to play spectator because he had left his drive shaft at home. He didn't find it very amusing.

Few people have infallible memories and the best known substitute, for the racing driver, is the check-off list taped to the shop or trailer box door. It is doubtful if you have ever realized how numerous racing paraphernalia are until you try to list them. Below we have reproduced a check-off list (filled in with some explanatory notes). It can serve you—as it's served me for a number of years—as half your mind when you feel "half there" in the throes of pre-race jitters. This particular list was worked up for outboard hydroplane racing and it is offered only as a sample, to be adapted to your own phase of the sport and your own needs. However obvious some of the items may seem to be, it is better to have them down in black and white. It is amazing what can be forgotten in the frenzied pre-dawn excitement when you're taking off for a regatta. At a time like that, this check list can be your single most valuable piece of equipment.

RACING CHECK LIST

BOAT — This you will need, though occasionally you can borrow one from your more fortunate brethren who carry an assortment for varying water conditions.

MOTOR — They have been left in shops: "I thought you packed it!"

LIFE JACKET, HELMET and KNEEPADS — These are not as borrowable as they might seem. Drivers are afraid you'll get stuck out on the course with their equipment and not get back in time to make their heat.

PADDLE — You can use your hands but it's slower.

RETRIEVING LINE — Not all outfits carry these but they are to be recommended. Much faster than paddling from those stalls just outside the pits.

FUEL — Take plenty. You can always bring it home again and it's nice to have something to lend the other fellow.

LOWER UNIT — At the price of lower units today, who has an extra?

DRIVE SHAFT — See above.

PROPELLERS — All you have; you can never tell what the day will bring in the way of weather conditions, drift wood and rocks.

BOAT PAD —

FLASHLIGHT — For after-dark clean-up.

FUNNEL —

SPONGE OR PUMP — For bailing.

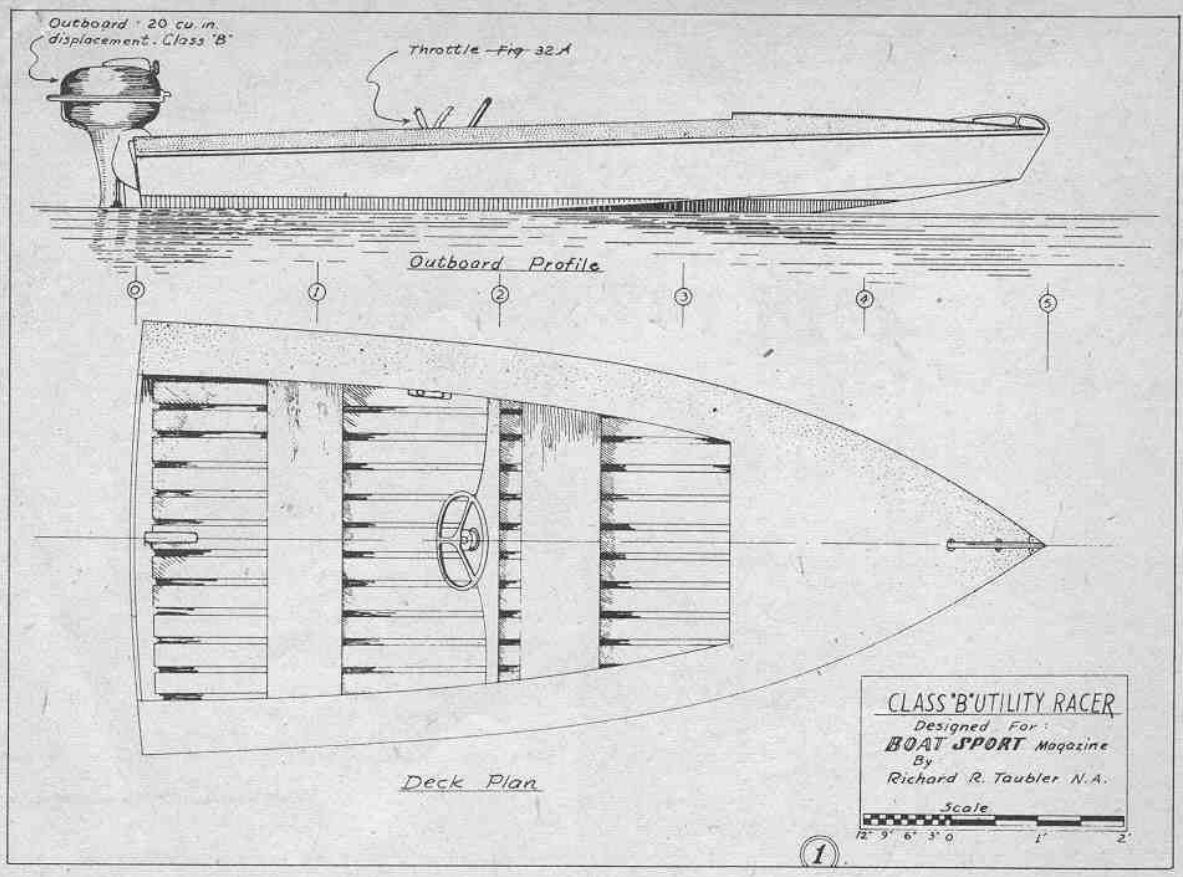
RAGS and DETERGENT — For cleaning hull.

CAN OF GAS and CLEAN PAINT BRUSH — For cleaning motor.

SMALL BOTTLE OF CASTOR — For water-proofing plugs.

SQUIRT CAN OF BENZOL OR WHITE GAS — For starting difficulties and cleaning sparkplugs.

(Turn to Page 28)



TAUBLER–BOAT SPORT CLASS B

UTILITY RACER

A High-speed Utility Design Planned for Competition In Conformance with A.P.B.A. And N.O.A. Hull Specifications. . . . . .

By Richard R. Taubler
Naval Architect

THIS UTILITY HULL is designed for BOAT SPORT readers who are looking not only for a high speed racing craft, but also a boat capable of carrying a few passengers with ease. Dimensions and design have been planned so that the builder may compete in events sanctioned both by the National Outboard Association and the American Power Boat Association. Nearly all locally conducted regattas observe hull restrictions established by either or both of these two governing bodies.

Before starting to build, study the drawings carefully; then proceed to lay down the lines full size using the dimensions I have given herewith in drawing No. 2. This procedure is necessary and will save time.

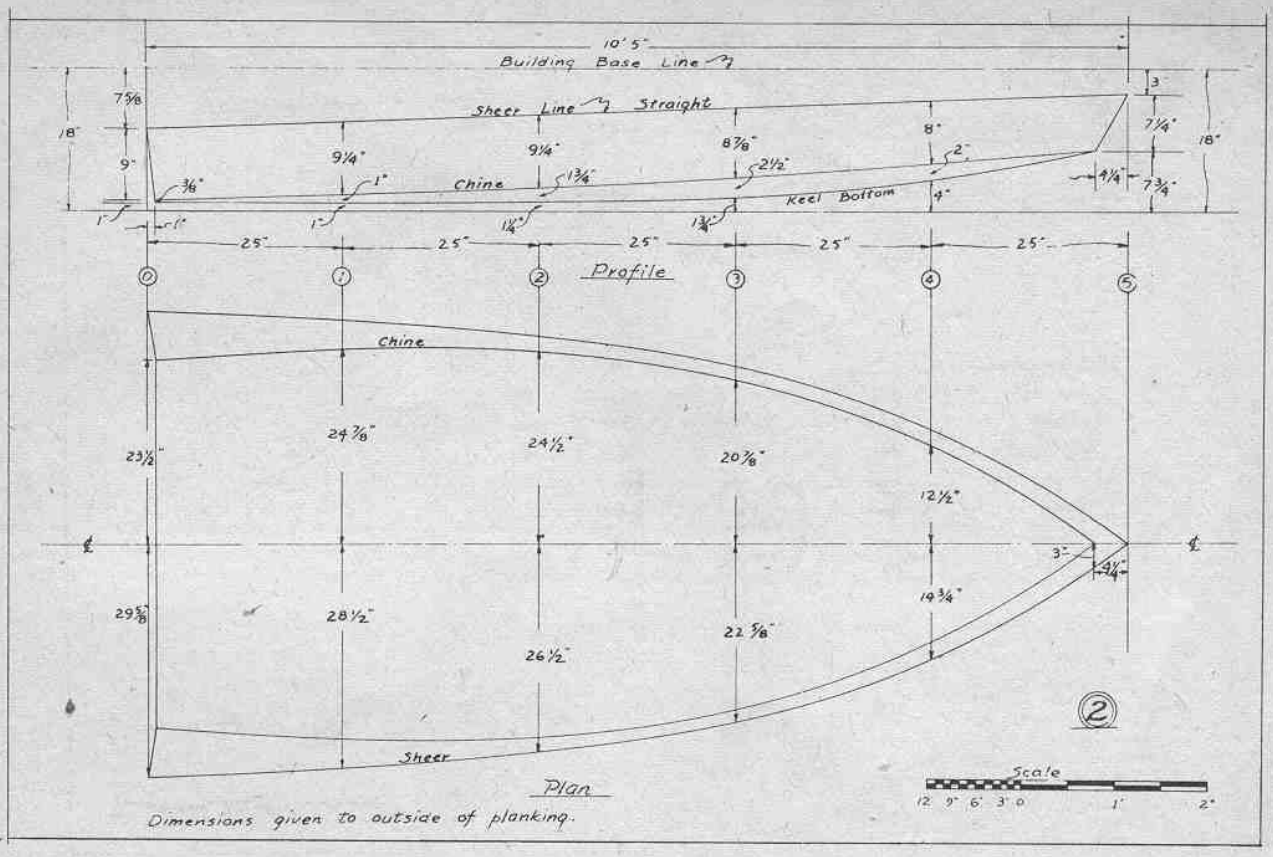
After you have faired up the lines with a stiff batten, you can start in by building the five frames. These frames are at each station as shown in drawing No. 3. Remember to deduct ¼ inch for the side planking and ⅜ inch for the bottom planking. Use the dimensions obtained from your full size drawing when laying out the frames, and be sure to leave the side pieces long enough to set on the building base line as shown in drawing No. 2.

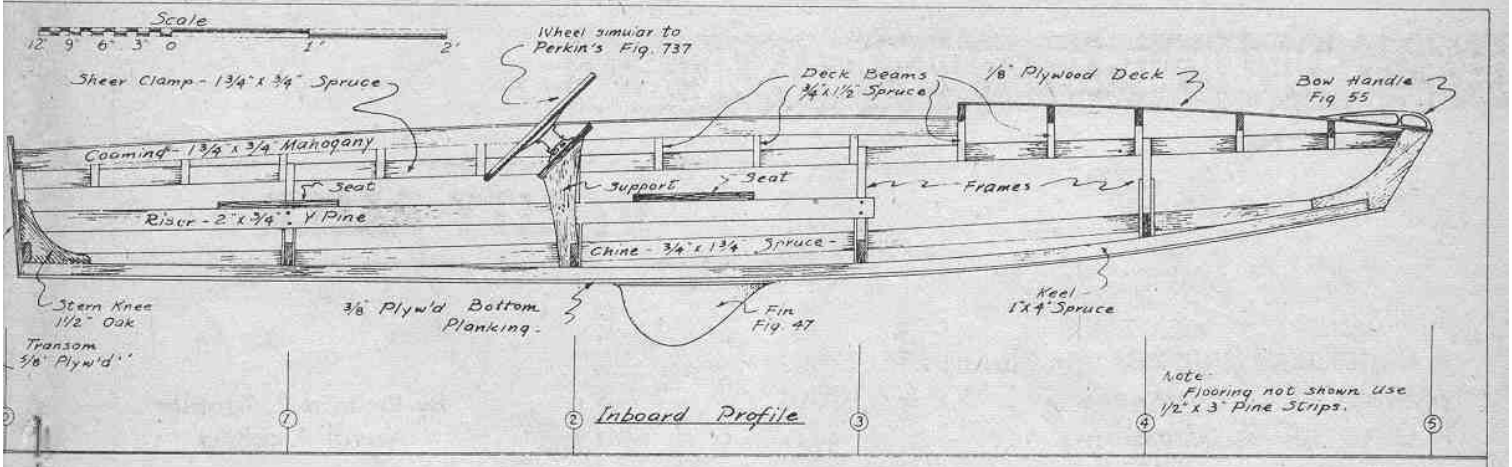
Sitka spruce is recommended for the keel, bottom stringers, frames and wherever else specified in drawing No. 3. Use plenty of Weldwood glue on corner gussets and all other framing surfaces.

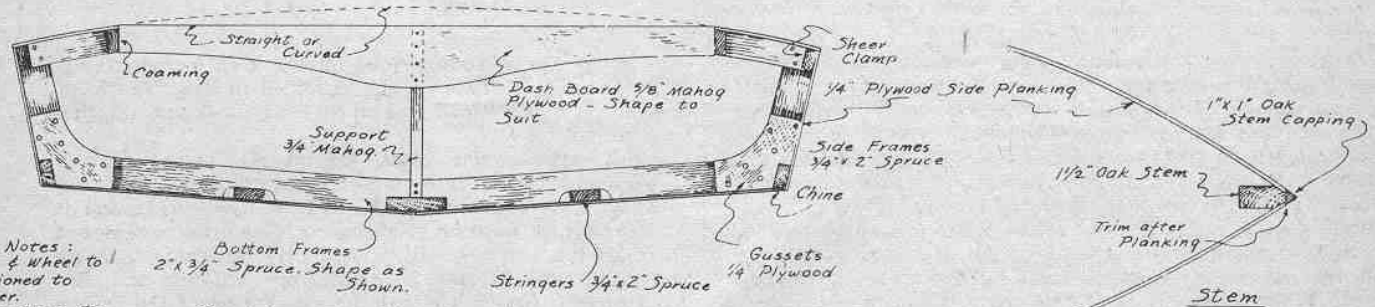
Plank with exterior grade waterproof plywood (¼" fir plywood costs about 25 cents per square foot in 4'x12' sizes with ⅜" about 31 cents p.s.f.). Fir is lightweight and is subject to little swelling or shrinking. Use brass screws and cover all screw heads with wood putty, sandpaper smooth and prime with Firzite. Sandpaper again lightly and then paint to suit. Remember that the smoothness of the bottom will have an appreciable effect on the speed of the boat.

After the bottom and sides are finished, turn hull right side up and prime inside of planking with Firzite also. Plywood can be used for the floor, but I think pine is better. Do not fasten seats securely until you have given the boat a test run, then locate them permanently in a manner to offer best trim and comfort.

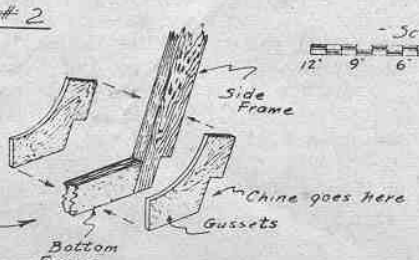
The cost of materials for the B utility should be between $125.00 and $145.00 including hardware. (End)







General Notes :
- Seats & Wheel to be positioned to suit owner.
- All Hardware Fig Nos (Except wheel) refer to Debbold Co. catalog.
- Notch Transom to suit engine.
- Transom frame same as other frames.

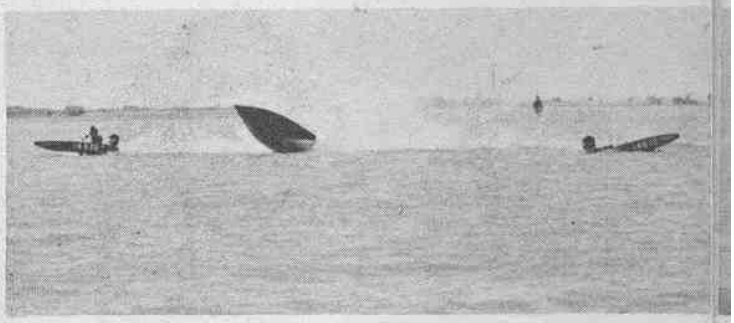


CLASS "B" UTILITY RACER

Designed For
BOAT SPORT Magazine
By
Richard R Taubler N.A.

The disbelievers who swore metal could not be effectively used to skin a racing boat were open-mouthed when John Jordan pushed an all-aluminum Blue Star Warriar runabout to a solid second place in Class B during the exciting events at Lake Dallas, Texas.

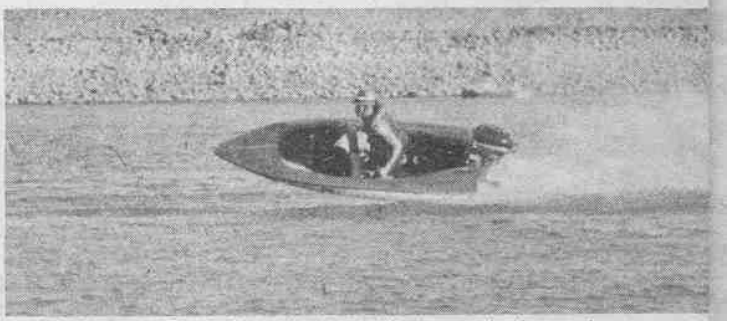
Start of the Class B modified runabout events at Lake Village, Arkansas, pictures nine of the sixteen-boat field moving away at the green flag. Ben Turpin of Sweetwater, Texas, won in this class.



Two-boat spill in the corner during Class D runabout event at Dallas. It was won by Jack Force. Alex Wetherbee is shown above as his boat quartered up on transom after motor bracket got loose.

(Above) Class D runabouts offered spectators terrific action. Clyde Saucer, Jacksonville, Class D, does outside roll on south corner.

(Below) Eleven Class A hydros move in to take the starting flag at Lake Village. Multiple A.P.B.A. National title holder, North Carolinian Doug Creech, lived up to his reputation by winning the N.O.A. National title at Lake Village, Arkansas. Drivers had nothing but praise for arrangements made by sponsoring Lions Club.



(Above) Jan Renken of Noblesville, Indiana, rounds the north turn in his Class B runabout. Buddy Lane won Class B runabout event.

(Below) Numerous old timers were on scene for N.O.A. Nationals. Shown here is group that has spent more than 20 years in racing. From left to right: Bill Tenney — Jack Maypole — Milford Harrison — Harry Vogts — Jack Barbee — Henry Taubert — Homer Kinkaid — Clem Landis — Clyde Brackin — L. E. Smith — Frank Vincent.

Buddy Lane shown holding the Class J and Class B runabout trophies he won at Dallas.

Big winner of the Davision III stock events was Bob Terry of Jacksonville, Florida. He captured three championships in the Class A runabouts, Class A hydros and Class B hydros.

(Far left) Charlie George, holder of N.O.A. mile straightaway record of 47.713 m.p.h. He also set 2 new records for Class A and Class B hydros. (Middle, left) Harry Vogts, N.O.A. class champion, winner of Free-for-all Fox Trophy and new Class F 1-mile record holder at 67.416 m.p.h. (Next, left) Ben Turpin, Class B runabout champion, set new record for 1 mile: Class B modified stock runabouts, 48.980 m.p.h. and modified stock B hydroplanes at 57.785 miles per hour.

BOAT SPORT GOES TO THE N.O.A. NATIONALS

DOUBTS AND SKEPTICISM about the Tennessee-born, national in scope, National Outboard Association were erased in Lake Village, Arkansas, September 18th to the 23rd and in Dallas, Texas, September 27th to the 29th.

At Lake Village the strictly-designed-for-racing outboards (N.O.A. Division I) and the new Modified Stocks (N.O.A. Division IV) turned out in abundance.

In fact, 175 Division IV boats were on hand at the Arkansas site with 250 of the Division I drivers wetting down their wood. At Texas, 300 pieces of racing equipment lined the banks of Lake Dallas to take a crack at the nine class championships to be settled at the Texas locale.

LAKE VILLAGE

FACILITIES FOR DRIVERS and spectators were well arranged by the Lake Village Lions Club, but enthusiastic and competent as the Lions Club was the group had no control over water conditions. On Sunday, September 21st, Lake Chicot was too rugged for anything but a Coast Guard cutter and the events were postponed until Monday with a new course—six miles up the lake—selected to complete events left over from Saturday. In nearly all classes eliminations were necessary so that with few exceptions the total maximum of sixteen starters competed for each of the N.O.A. National Championships.

In the mile trials four new records were hung up by the Modified Stock Classes with one new racing class record established. Harry Vogts of Madison, Wisconsin, poured his Class F hydro through the two-way trap for an average of 67.416 miles an hour to wash out a twelve-year-old record of 66.234 m.p.h. set by Jimmy Mullen of Richmond, Va. at Port Mercer, N. J. in 1940.

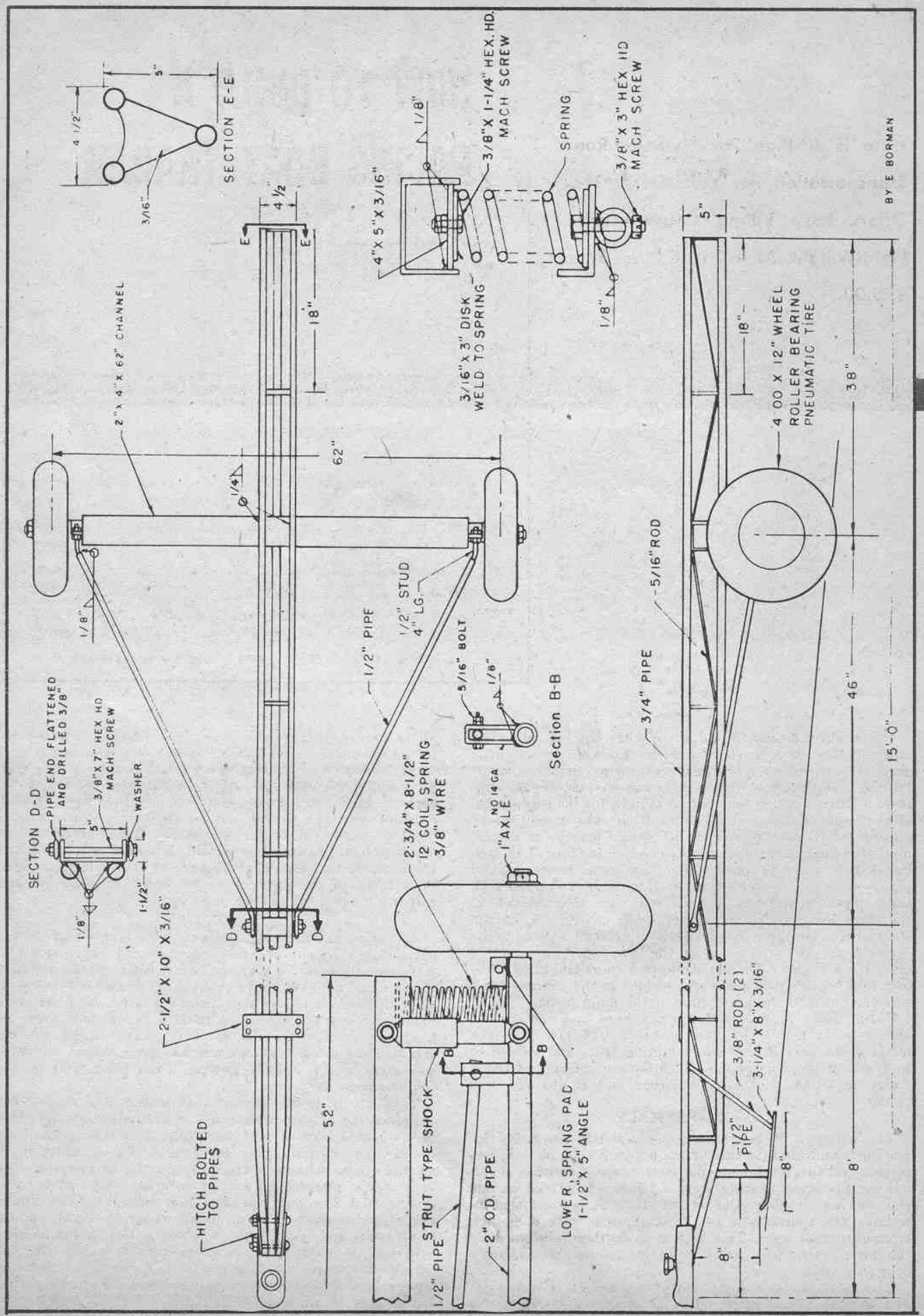
J. K. Schadein, Blackwell, Oklahoma, upped the D Modified Stock Runabout record from 50.704 m.p.h. (formerly held by E. R. Slayton, Memphis, Tenn.) to 54.271 m.p.h. Leo C. Walker, Fort Worth, Texas, screamed across Lake Chicot at 59.318 m.p.h. to blast the former Modified Stock F Runabout mark of 54.135 held by Jim McBride, Jr. of Memphis, Tenn.

Two Modified Stock Class B marks fell to the onslaught of Ben Turpin from Sweetwater, Texas. Ben topped Ed Colley's B runabout speed of 48.913 m.p.h. when he added 77/100th of a m.p.h. to the Memphis, Tenn. driver's previous best to make the new mark stand at 48.980. Colley also held the former Modstock hydro record at 55.470. Turpin topped that one with 57.785 m.p.h.

In the Division I outboard racing group, Doug Creech of Charlotte, N. C. and Homer Kincaid of Carbon Cliff, Ill. shared standout honors with one National championship and two runner-up spots each.

DALLAS

BOB TERRY of Jacksonville, Fla. was "Mister Speed" with three N.O.A. Division III National (*Turn to Page* 28)



HOW TO BUILD A RACING BOAT TRAILER

Here Is A Plan For Over-The-Road Transportation For Your Outfit That Offers Easy Riding Characteristics, Light-Weight, At A Cost Of Less Than $75.00.

By Earl Borman

APPROXIMATE COST OF MATERIALS

Pipe	$15.00
Shock absorbers (used—rebuilt)	8.00
Bolts and studs	1.50
Springs	3.00
Hitch	2.50
Wheels—complete with axle, tires and tubes	30.00
3/8 inch rods	2.00
3-lb. No. 1/8 inch Welding Electrodes AWS Class E-6013	.75
	$62.75

Paint and Wood for Cradle give a total of less than $75.00

THE TRAILER described and shown here has been used extensively for three seasons and has proved to be a little gem. It features an all-welded steel frame of three longitudinal ¾-inch pipes. These pipes are so welded that they form a trussed center beam which is light for the exceptional strength of this part. The center beam was assembled by placing two ¾-inch pipes parallel. 4-inch lengths of ⅜-inch pipe with their ends flattened were welded in place at 18-inch intervals to serve as spacers along the center beam. A third pipe was bent and welded at the hitch end. To support all three pipes, spacers of ⅜-inch rod were then welded at the same intervals as the center beam spacers. A 52-inch channel cross-member was properly aligned 90 degrees to the center beam and welded under the two upper pipes of the main beam member. To add strength a short length of 3/16-inch by 1½-inch steel plate was welded to the channel-cross member down to the lower pipe of the main beam.

Spring pads were drilled for hex head machine screws, and were welded to the cross-member. 3/16-inch by 3-inch metal disks were drilled for mounting bolts and welded to each end of the coil springs. Each bottom spring pad had a flange to which the shock absorber and radius rod was bolted.

AXLE ASSEMBLY

The axle can be bought either completely assembled including wheels or fabricated from a 2-inch O.D. pipe center-section and two machined solid ends machined with a shoulder for the wheel-bearing stop, a 1-inch—14 thread on one end, and an aligning pilot on the other. It is assembled by welding the center pipe to the end pieces with a ⅛-inch circumferential weld. This section is further reinforced by the lower spring pad, which is welded to the axle assembly over this joint.

The sway bar was composed of a piece of ½-inch pipe, and was secured at each end by an enclosing 14-gauge clip and a 5/16-inch bolt with double nut. One clip was welded to the axle, the other to the cross-member. The radius rods were fabricated by heating one end and flattening a ½-inch by 48-inch pipe and a ½-inch by 4-inch stud welded to the opposite end. The flattened end is then drilled for a ⅜-inch machine screw. A double nut on the stud permits adjustment of alignment at the spring pad flange location. The shock ends are fastened by welding one stud to the axle and the other to the channel cross-member, a spacer is inserted in each end of the shock. A washer and castellated nut and cotter pin are used as fasteners.

PROCEDURE

All spring and body pads were cut with an acetylene torch, but an abrasive cut-off wheel mounted on a bench saw will work equally well. All pipe can be cut with an ordinary pipe cutter or a hack saw. In the event that the axle is fabricated, the axle ends should be machined on a lathe. All holes were drilled with a large electric hand drill. A drill press, if available, is more suitable for this operation. All welding was done by using a 130-ampere a.c. farm welder. All work was done in the writer's garage. Total labor time on the job was about 30 hours.

This sturdy utility racing boat trailer will carry very satisfactorily a 500-pound load. It will give the average 100- to 400-pound boat a good, soft ride. This trailer has been towed up to 60 mph when carrying a 15-foot utility racer on dirt roads, without a trace of weaving or swaying. The boat cradle is made and shaped to fit the boat that is to be transported. The length of the center main beam can also be varied if necessary. A metal paint primer should be applied to all parts and, when dry, the whole trailer should be gone over with a couple of coats of good metal paint. Give the wheel bearings a shot of grease often if you have to run the trailer into the water when launching a boat. The trailer can be used in salt water. (End)

Newcomer Leon Simmons pictured in a bronc buster attitude in his Class AU job. The loose tie-up line is not a recommended practice and could lead to a flip or a propeller tangle. But for sheer action this is most exciting photo Boat Sport has ever published.

NEGRO RACERS
COMPETE IN MISSOURI AREA

(Above) Gene Slaughter, 34-year-old cleaning shop proprietor, is one of the Missouri region's toughest competitors in AU and BU.

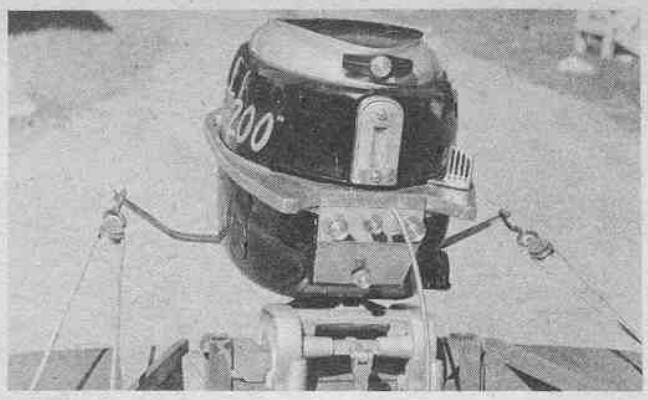
(Above) Close-up of Leon Simmons, the foundry foreman, who entered sports less than a year ago. He has already won several 2nds and 3rds.

THE St. Louis Outboard Drivers Association, organized in 1938 by Marine dealer, Bob Prater, boasts fifty active racing members in classes JU through DU and A to F, runabouts and hydros. Among its newer members are four Negroes who are among the first of their race to be attracted to the sport and who are already proving themselves handy helmsmen in competition.

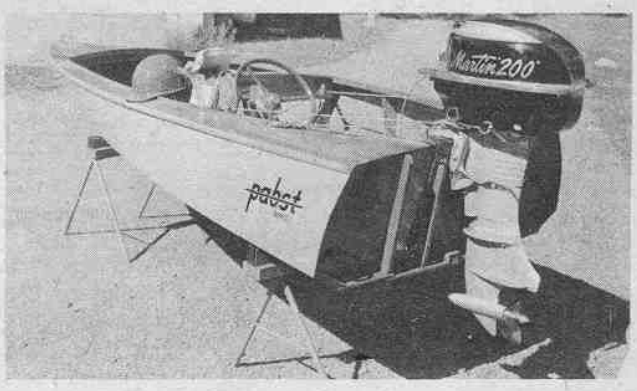
The St. Louis O. D. A. includes such nationally known stand-out drivers as Judd Davis, Steven Gantner, Bill Seebold, Bill Brown, Ed Barker, Clyde Davie, Jack Rutherford and Paul Andrews, all of whom have been seen in competition nationally. However at local regattas and marathons the focal point of most of the Negro spectators is on the up an coming group pictured on this page. (End)

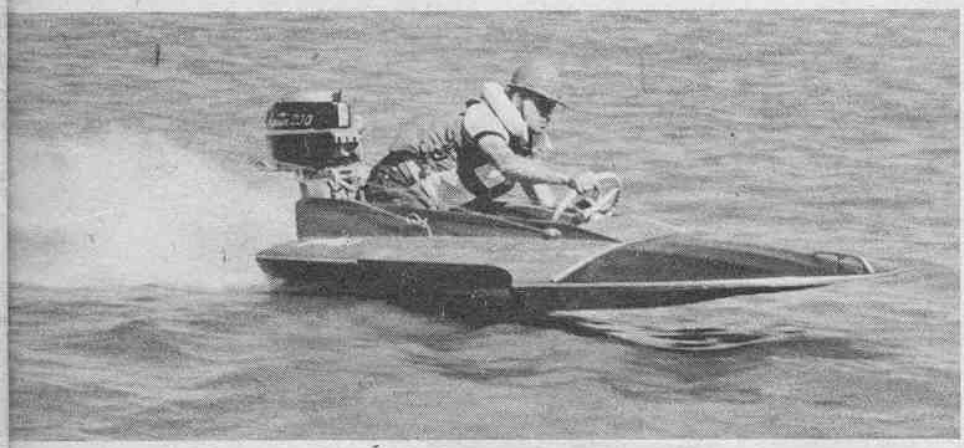
(Below) Art Kennedy, sheet metal shop owner, is member of the Kennedy father-son racing team. Art had Midwest 72-mile Marathon in his pocket 2 years ago, with only 1 mile to go, when a cruiser pulled across his path and he took a dilly of a flip in his BU while running about 45 m.p.h. After that upset, he moved to Class F. He says it's easier than driving an AU or BU.

(Right) The soon-to-be-released Martin "200," mounted on a runabout, shows clearly the details of the newly designed control panel, the heavy duty motor clamp handles and, above at center, the tilt adjustment handle. Fuel gauge on tank will prove welcome addition.



It's NEWS





(Above) The Martin "100" is shown here on a Pabst runabout. Note clean back-swept lines of lower unit and profile of torpedo. (Below) Art Stilson of South Bend, Indiana—a veteran of 10 years of competitive racing—tries out the new Martin "200" Silverstreak on a Pabst 3-point hydro. (Editorial note: Buddy Lane of Paris, Texas, drove a Pabst hydro, powered by a Martin Hi-Speed "60," to an N.O.A. Championship in Sept., 1952.)

MARTIN "200" PROMISES TO BE CLASS B EYE-OPENER

MARTIN MOTORS of Eau Claire, Wis., have announced and already demonstrated their new Martin "200" Silverstreak. This engine features a newly designed torpedo lower unit which should be good news to the Martin supporters who have already been impressed by the performance of the Martin Hi-Speed "60" 11 cubic inch J.

One of the most important features of the new "200" Silverstreak is the beautifully designed torpedo lower unit with a 15:16 gear ratio. No wild claims are made by the manufacturer that this motor is a "screaming, racing engine." To the contrary, they are stressing the fact that it is a good, fast, reliable engine that will combine a speedy ride with an ability to troll and operate at slow speeds in completely stock condition.

However, when a manufacturer turns out an engine with a piston displacement of 19.94 c.i. and brake horsepower development of approximately 18-20 h.p. at 4500 r.p.m., cleanly designed around a twin alternate firing powerhead with only 67 lbs. overall weight and a definitely high-speed, low resistance configuration lower unit, it is reasonable to expect that the fast boys are going to try out the Martin "200" in competitive events. From pre-marketing demonstrations the fast boys are certainly not going to be in for a disappointment.

Other items of interest concerning the motor are a bore and stroke of 2½" x 2-1/32", a fuel tank capacity of 10 pints and an auxiliary tank capacity of 6 gallons, with an optional fuel transfer diaphram pump built into the power head which should slate the "200" as a potential marathon job. The handy vertical stern adjustment, which has been a feature of previous Martin motors permitting rapid tilt adjustment, has been retained and improved.

The valve sytem is accomplished by mechanically controlled poppets; the ignition is magneto. A paddle type water pump gives a positive displacement type cooling. Speed control is accomplished by a twist-grip handle or a remote control attachment for both carburetor and magneto.

The crankshaft is set up with a double set of rollers at the top and single rollers at the bottom of the shaft.

NEW IOWA RACING PARTS SUPPLIER

Blitz Racing Products of Burlington, Iowa, suppliers of outboard racing fuel and accessories, now announce a line of stock outboard runabouts with their new Paul Limbocker-designed A-B, C and D, for which excellent rough water characteristics are claimed. Sam Brooks, proprietor of Blitz, says that the Limbocker hull is (*Turn to Page* 34)

SPEED CHAMPIONS OF '52

(SEE ELSEWHERE IN THIS ISSUE FOR N.O.A. NATIONAL CHAMPIONS)

WITH THIS ISSUE BOAT SPORT offers a new feature devoted to outstanding names in the news of outboard and inboard racing. In order to bring this information to you as promptly as our publication dates will allow we must depend upon the cooperation of all organizations connected with the sport, both national and regional, all boat clubs and sponsors of regattas, as well as all individuals who may know of some noteworthy performance, to send in names and news throughout the season of new champions, record-holders and breakers, high point winners and out-of-the-ordinary performances in regattas.

A.P.B.A. OUTBOARD HIGH POINT TROPHIES — 1952

GEORGE H. TOWNSEND MEDAL

Competition open to Amateur and Professional Drivers. All Points acquired between April 1st and October 1st. Divisional and National bonus points included.

1. Bud Wiget, Concord, Calif. 11,342 Points
2. Homer Kincaid, Carbon Cliff, Ill. 9,496 Points
3. Doug Creech, Charlotte, N. C. 8,300 Points

CHARLES E. ROCHESTER TROPHY

Competition open to Amateur and Professional Drivers. All points acquired between April 1st and October 1st in any two outboard classes exclusively. No bonus points are included.

1. Larry Burke, Chico, Calif. 4,371 Points
2. C. A. Pierre, Coos Bay, Oregon 3,576 Points
3. Tom Small, Milwaukee, Wisc. 3,473 Points

COL. GREEN ROUND HILL TROPHY

Competition open to Amateur only. All points acquired from January 1st during the calendar year, **without** bonuses. Driver must own equipment.

(As soon as this information is received it will be published in BOAT SPORT.)

U. S. 1 & U. S. 2 HIGHPOINT WINNERS

At a later date we will also publish complete data on Inboards and Stock Outboards, together with geographical winners.

OUTBOARD

U.S. 1 —
Ward B. Angilley, Daly City, Calif. 3,936 Pts.

U.S. 2 —
Bud Wiget, Concord, Calif. 10,242 Pts.

U.S. 1 & 2 Awards included all points acquired between April 1st and October 1st, **without** bonuses.

1952 NATIONAL CHAMPIONS—A.P.B.A.

HYDROPLANES

CLASS	BOAT	DRIVER	SITE	DATE
48 Cu. In.	Ballerina II	C. A. Budwine, Beaumont, Texas	Beaumont, Texas	5/4
91 Cu. In.	Miss Fort Pitt	Tony Margio, Harrisburg, Pa.	St. Pete., Fla.	2/10
135 Cu. In.	Whoopee	J. D. Powel,, Richmond, Va. and Joe Wolf, Reading, Penna.	Red Bank, N. J.	9/14
136 Cu. In.	Cold Rod	Edward Carhart, Vineland, N. J.	Millville, N. J.	9/1
225 Cu. In.	Miss Columbus	Chuck Hunter, Columbus, Ohio	Cincinnati, Ohio	8/24
266 Cu. In.		(To be held at Salton Sea, Calif., Nov. 8-11)		
7 Litre	Wildcatter	B. G. Bartley, Jr., Columbus, Ohio	Buffalo, N. Y.	8/17
PODH		(To be held at Salton Sea, Calif., Nov. 8-11)		

RUNABOUTS

CLASS	BOAT	DRIVER	SITE	DATE
48 Cu. In.	Doodle Whacker	S. E. Jones, Miami Beach, Fla.	Beaumont, Texas	5/4
Cracker Box		(To be held at Salton Sea, Calif., Nov. 8-11)		
B Rac. Run.		(To be held at Salton Sea, Calif., Nov. 8-11)		
C Rac. Run.	Cyclone	Otis Beard, St. Petersburg, Fla.	St. Petersburg, Fla.	2/10
D Rac. Run.	My Boy Woody	Elwood Pliescott, Cambridge, Md.	Buffalo, N. Y.	8/16-17
E Rac. Run.	Hell's Angel	Sherm Crichfield, St. Pete., Fla.	Buffalo, N. Y.	8/16-17
D Ser. Run.	Let's go II	Tom Hutton, London Bridge, Va.	Buffalo, N. Y.	8/16-17
E Ser. Run.	Miss Me	William Engle, Washington, Pa.	Buffalo, N. Y.	8/16-17
F Ser. Run.	Nitrogen	Sam DuPont, Wilmington, Delware	Buffalo, N. Y.	8/16-17

STOCK OUTBOARD RUNABOUTS

CLASS	BOAT	DRIVER	SITE	DATE
JU Runabout	18-S	Marilyn Donaldson, Dayton, Ohio	Oakland, Calif.	9/19-21
AU Runabout	So Slo	Dean Chenoweth, Xenia, Ohio	Oakland, Calif.	9/19-21
BU Runabout	68-J	Ronald Zubach, Morgan, New Jersey	Oakland, Calif.	9/19-21
CU Runabout		John Toprahanian, San Diego, Calif.	Oakland, Calif.	9/19-21
DU Runabout	192-V	Robert Switzer, McHenry, Ill.	Oakland, Calif.	9/19-21
EU Runabout	152-R	George Churchill, Willamina, Ore.	Oakland, Calif.	9/19-21
FU Runabout		(Not contested)	Oakland, Calif.	9/19-21

STOCK OUTBOARD HYDROPLANES

CLASS	BOAT	DRIVER	SITE	DATE
A Stock Hydro	Beetle Bomb VII	Dean Chenoweth, Xenia, Ohio	Oakland, Calif.	9/19-21
B Stock Hydro	Beetle Bomb VII	Dean Chenoweth, Xenia, Ohio	Oakland, Calif.	9/19-21
D Stock Hydro	Little Stinker	Ivan Harris, Loveland, Colo.	Oakland, Calif.	9/19-21

1952 OUTBOARD NATIONAL CHAMPIONS

CLASS	BOAT	DRIVER	SITE	DATE
M Hydro	Thum	Dr. R. D. Frawley, Dravosburg, Pa.	Lake Alfred, Fla.	10/18-20
A Hydro	Z-2	Doug Creech, Charlotte, N. C.	Lake Alfred, Fla.	10/18-20
B Hydro	H-22	Paul Wearly, Muncie, Ind.	Lake Alfred, Fla.	10/18-20
C Hydro	H-222	Paul Wearly, Muncie, Ind.	Lake Alfred, Fla.	10/18-20
C Ser. Hydro	S-62	Clyde Wiseman, Willoughby, Ohio	Lake Alfred, Fla.	10/18-20
C Rac. Run.	Hornet XI	Bill Tenney, Dayton, Ohio	Lake Alfred, Fla.	10/18-20
C Ser. Run.	W-10	Tom Small, Milwaukee, Wis.	Lake Alfred, Fla.	10/18-20
F Hydro	W-2	Harry Vogts, Madison, Wis.	Lake Alfred, Fla.	10/18-20
F Rac. Run.		(To be held at Lake Merced Calif. on Nov. 2)		

AMERICAN POWER BOAT ASSOCIATION 1952 OUTBOARD NATIONAL CHAMPIONSHIPS

LAKE ALFRED, FLA. — OCTOBER 18-19-20

M Hydro (9 Entries)

				Points
*1.	Dr. R. D. Frawley, Dravosburg, Pa.	1	1	800
2.	Steve Gaal, Garfield, N. J.	2	2	600
3.	Merl Brown, Olmstead Falls, O.	3	3	450
4.	Harold Fuller, Tampa, Fla.	4	4	338
5.	Vernon Nesmith, Winter Park, Fla.	5	5	254

1st Heat: 38.314 mph 2nd Heat: 38.701 mph

*Note: Dr. Frawley's speed of 38.701 mph in the 2nd heat of the M Hydro event constitutes a new 5-mile record for the class. The old mark of 38.379 mph was set Worcester, Mass., in 1949 by Don Whitfield, of Verona, N. J.

A Hydro (25 Entries)

1.	Doug Creech, Charlotte, N. C.	2	1	700
2.	Paul Wearly, Muncie, Ind.	1	3	625
3.	Bob Cramer, Fort Meyers, Fla.	DNS	2	300
4.	Guy Hamilton, New Bern, N. C.	3	DIS	225
5.	Joe Wotowitz, Hartford, Conn.	13	4	182

1st Heat: 46.452 mph 2nd Heat: 46.741 mph

B Hydro (23 Entries)

1.	Paul Wearly, Muncie, Ind.	1	1	800
2.	Mabry Edwards, Jacksonville, Fla.	2	2	600
3.	Charles Heston, Jacksonville, Fla.	3	3	450
4.	W. L. Tenney, Dayton, O.	4	6	264
5.	George Allen, Bunnell, Fla.	6	5	222

1st Heat: 52.356 mph 2nd Heat: 51.136 mph

C Hydro (37 Entries)

				Points
1.	Paul Wearly, Muncie, Ind.	1	1	800
2.	Doug Creech, Charlotte, N. C.	4	2	469
3.	Harry Vogts, Madison, Ind.	2	5	427
4.	W. L. Tenney, Dayton, O.	3	6	320
5.	Vic Scott, No. Bellmore, N. Y.	DIS	3	225

1st Heat: 58.498 mph 2nd Heat: 58.823 mph

C Service Hydro (20 Entries)

*1.	Clyde Wiseman, Willoughby, O.	1	3	625
*2.	Steve Gantner, St. Louis, Mo.	3	1	625
3.	David Livingston, Lake Village, Ark.	2	2	600
4.	Homer Kincaid, Carbon Cliff, Ill.	4	5	296
5.	Lewis Fitzgerald, Niceville, Fla.	6	4	264

1st Heat: 47.619 mph 2nd Heat: 46.668 mph

*Note: The tie on Points between Wiseman and Gantner in the C Service Hydro event was broken by calculating the total elapsed time for the two heats, as provided in the rules for the Outboard National Championships.

C Racing Runabout (32 Entries)

1.	W. L. Tenney, Dayton, O.	2	1	700
2.	David Livingston, Lake Village, Ark.	3	3	450
3.	Jack Cohn, Chicago, Ill.	5	2	427
4.	C. A. Pierre, Stockton, Calif.	1	DNS	400
5.	Steve Gantner, St. Louis, Mo.	4	4	338

1st Heat: 55.062 mph 2nd Heat: 54.417 mph

C Service Runabout (32 Entries)

				Points
1.	Tom Small, Milwaukee, Wis.	2	1	700
2.	Hal Abrams, Wilmington, N. C.	4	2	469
3.	Fred Mathews, Watervliet, N. Y.	1	DNF	400
4.	Homer Kincaid, Carbon Cliff, Ill.	3	4	394
5.	Clyde Wiseman, Willoughby, O.	5	3	352

1st Heat: 46.130 mph 2nd Heat: 45.158 mph

F Hydro (11 Entries)

*1.	Harry Vogts, Madison, Wis.	1	2	700
*2.	Don Frazier, Rantoul, Ill.	2	1	700
3.	Joseph Michelini, Chicago, Ill.	3	5	352
4.	James McBride, Memphis, Tenn.	5	4	296
5.	Byron Shannon, Audubon, N.J.	4	6	264

1st Heat: 57.471 mph 2nd Heat: 57.600 mph

*Note: The tie on points between Vogts and Frazier in the F Hydro event was broken by calculating the total elapsed time for the two heats, as provided in the rules for the Outboard National Championships.

John Ward Trophy Race (for C Hydros)

				Points
1.	Paul Wearly, Muncie, Ind.	2	1	700
2.	Vic Scott, No. Bellmore, N. Y.	1	4	569
3.	Jack Maypole, Oak Park, Ill.	4	2	469
4.	W. L. Tenney, Dayton, O.	3	3	450

1st Heat: 53.035 mph 2nd Heat: 53.540 mph

A mirror would have a hard time showing a more perfect reflection of racing symmetry than these two Class M hydroplanes tearing along over the smooth water of Three Mile Harbor. Don Whitfield, seven-time Eastern champion in this class, whose number J-1 shows he was high point winner of all racing outboard amateurs in New Jersey last year, went on to win, as he did in other heat also, for a perfect score for his two starts. Leading momentarily by only the extra length of his bow is Dr. R. D. Frawley, now both N.O.A. and A.P.B.A. National Champion.

RACING NOTEBOOK

OUTBOARD

IT'S A SAFE BET that the 1953 national Stock Outboard championships will be held in Syracuse, N. Y., on Onondaga Lake, under the supervision of the Syracuse Boat Club, Joseph Timmins, Commodore. Donald L. Guerin, Chairman of Region No. 2; reports that formal request was made by his region at its annual meeting held October 19th for the national event to be held there, and that he feels favorable action will be taken at the January council meeting of the A.P.B.A.

Other matters that may come before this council are: steps to be taken to reorganize Region No. 15, including the states of Texas, New Mexico and Oklahoma; report of the Insurance Committee on blanket public liability insurance to protect regatta committees at all sanctioned events; final legalization of the three Stock Hydro Classes (on this point Region No. 2 officials say there are enough stock hydros registered in New York alone to turn the trick—nearly 35 being listed in both Class A and B, and an average of about 23 participating in each event).

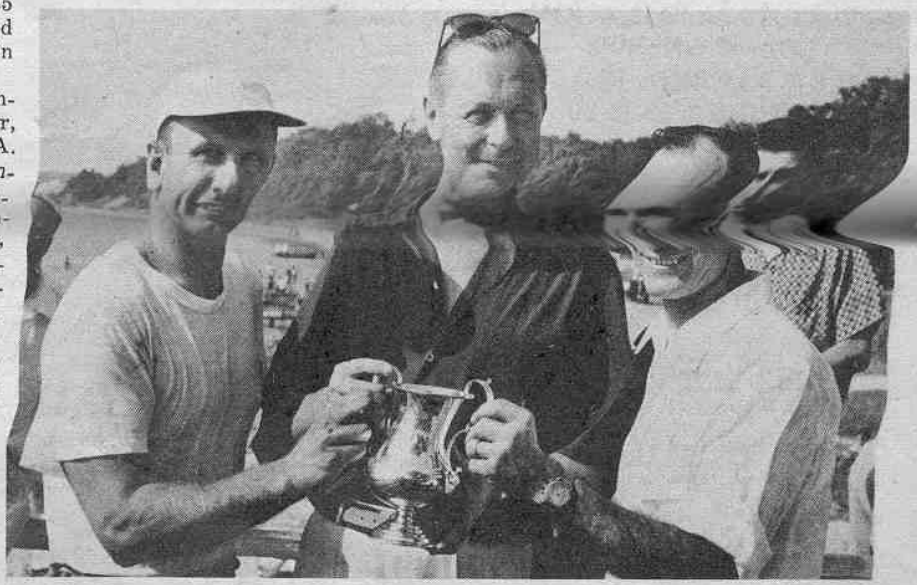
We have just received the following information from Leon Mosher, Rochester, N. Y., Secreatry-Treasurer of A.P.B.A. Region No. 2 (New York State) concerning the stock outboard high point winners in that area. Proud bearer of number 1-N for 1953 will be Harold Ruggles, Holley, N. Y., who replaces Wesley Hammond of Leicester as the high point amateur and whose 5329 points at this writing give every indication that he may well win the coveted 1-US marking for top amateur in the country. James Robinson, also of Holley, N. Y., who was top professional driver in the country this year, his boat bearing the 2-US number based on his 1951 performance, seems almost assured of repeating. His points as reported, with only one more regatta to go, are 10,992. So it is possible that the same small community may boast of having the two top stock outboard drivers in the country. In addition to this, Allyn Guerin, Webster, N. Y., 1951 JU Runabout national champion, leads his region in A Stock Hydro points, and Pete Mosher, Rochester, leads in D Stock Hydro; both stand a good chance of winning the 501 and 502 designations, in that order, which are equivalent to the US numbers. If such is the case, there will be four national high point winners living within a twenty-mile radius of each other. Young Mosher, son of the Region No. 2 official, entered all 17 of the Region's Stock Hydro regattas in Class D and came out with 16 firsts and 1 second for a point total of 6700. There is still a question concerning the motor of the winner in the one race he did not capture, and so there is a possibility that he may yet make a clean sweep!

High point winner for B Stock Hydro will be Edward Peterson, Utica. A leading contender for the Kiekhaefer Trophy for the national high point winner in one class is Robert Wahl, Rochester, whose DU Runabout has racked up 7,594 points. They sure seem to take their racing seriously in that section of New York.

INBOARD

WILLIAM N. MANSFIELD, Miami, the Orange Bowl Regatta chairman, is still working on starting a new international speedboat event. He has invited Italian, Cuban, and Mexican sportsmen to send boats to the December regatta which will correspond to either the United States 266-cubic-inch and 225-cubic-inch classes. If his plans work out a new permanent challenge competition will be established similar to the Harmsworth and American Gold Cup events. By publication time all plans may be set. Watch for announcements on this. (End)

(Below) Movie and TV star Robert Montgomery awards Mid-Atlantic cup to Ben Jankowski (left) and Don Whitfield (right), tied with 800 points each. Ben, former national Class B and C champ, also won "hard luck" cup for flip in Class F after two previous wins.



A. G. Broaddus, Jr. of Richmond, Va., is one of the standout postwar competition drivers along the Eastern seaboard. Young A.G. in his Johnson S.R.-powered Neal three-pointer, dusted off Vic Scott and a field of nine other boats in two straight heats at SCODA's Moorestown, N. J. event this year. He split heats with Less Buckman two weeks later at another SCODA short course event in Hagerstown, Md. He has been showing his rooster tail to top competition all summer.

YOU CAN TAKE IT WITH YOU

(*Continued from Page* 17)

EXTRA PARTS:

MAGNETO PLATE, CARBURETOR, POWER HEAD and GAS TANK — Carry only those parts it would be practical to change at the race site. Don't count on doing shop work in the pits.

TOOL KIT CONTAINING:

PLUG WRENCHES — One for you in the boat and one on the dock for your mechanic; saves time.

SCREWDRIVERS — From small for bowdoin cable fittings to large for pulley plate.

HAMMERS (2) — Soft and hard.

SPARKPLUGS — Complete range in good condition.

PLIERS —

ASSORTED END WRENCHES — A once-over quickly between heats to catch vibration-loosened nuts is not amiss.

BOX WRENCHES — For flywheel nut, lower unit nut, etc.

BOX OF ASSORTED NUTS AND BOLTS —

SHEAR PINS —

COTTER PINS —

SPARE GAS TANK PLUG — A favorite dropping-overboard item.

PLUMB LINE — For checking angle of engine with planing surfaces.

SHIM STICKS —

LOWER-UNIT LUBRICANT — OIL—LUBRICATING — For steering cable.

WIRE — For emergencies. Many a gas tank has been put back on with bailing wire.

PAPER TOWELLING — Not only for your hands but for plugging the engine after race.

SOAP — For you.

TRAILER KEYS —

CLUB AND NATIONAL AFFILIATION CARDS —

MONEY —

And since you want to enjoy yourself you might add THERMOS BOTTLE OF WATER —Your throat if not the rest of you gets dry during heats.

CHANGE OF CLOTHING

LUNCH

BEER *and* BEER OPENER.

(End)

BOAT SPORT GOES TO THE N.O.A. NATIONALS

(*Continued from Page* 20)

titles as his lion's share of the nine titles at stake.

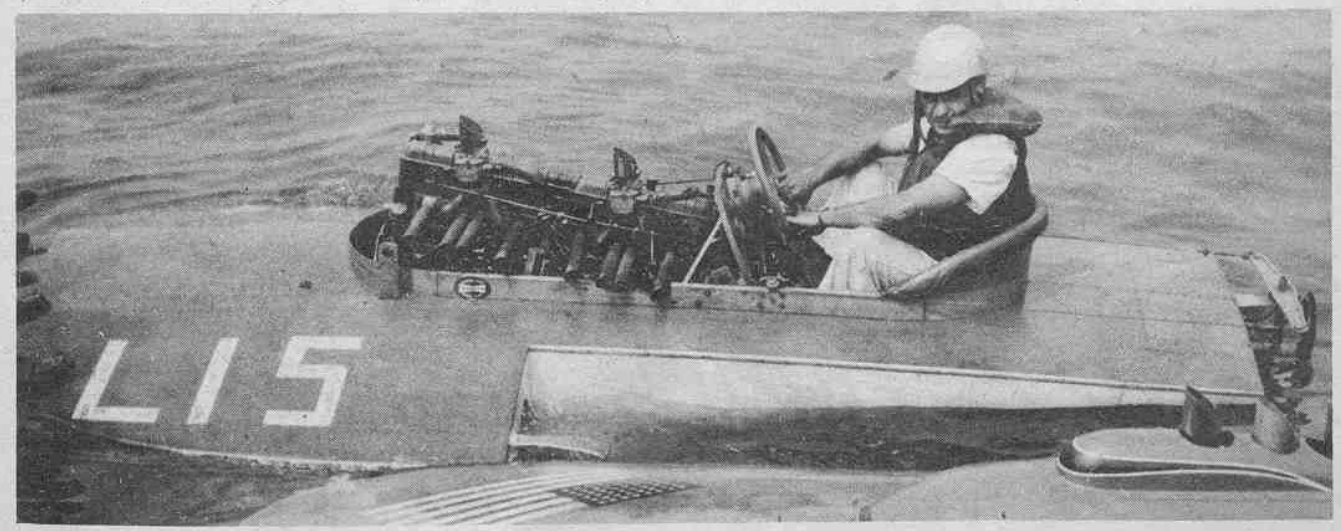
The most startling performance of the Dallas meet was the mile straightaway average speed of 57.973 m.p.h. clocked by Charlie George of Knoxville, Tenn. in his stock hydro. George further startled the in-the-know outboarding fans when his Mercury A hydro bounced out a 50.633 m.p.h. to astonish the Class A racing outboard hydro boys.

Other new world's marks set at Texas were the Class A runabout pace of 43.531 m.p.h. set by Deanie Montgomery, Corsicana, Texas, and the Class C runabout record of 42.553 m.p.h. posted by local Texan G.G. Slack of Dallas.

The disbelievers who swore metal could not be effectively used to skin a racing boat were open-mouthed when John Jordan pushed an all aluminum Blue Star stock utility runabout to a solid second place in Class B at Lake Dallas. John has been racing for four years in Kansas, Oklahoma and Missouri outboard circuits. Although in the winner's brackets in many races this season, Jordan's biggest disappointment was when he was forced out of the St. Joseph, Mo., 66-mile marathon for Class B with a broken tiller bar after a commanding lead at the 50-mile mark in a Blue Star boat. John Jordan is a wheat farmer from Freeport, Kansas, and already has big boat racing plans for his year-old son. At the Nationals he was first of 16 in his qualifying heat. His very good driving and the fact that he had the only aluminum boat at the Nationals attracted considerable attention. He used a new Mercury motor right out of the box in his Blue Star boat.

Taken overall, both the Lake Village and Dallas events were every bit as successful as N.O.A.'s spark plug and executive director, W. Claude Fox, might have wished.

(Below) Tony Margio of Harrisburg, Pa., at wheel of his world's record holding 91 c.i. hydro. He averaged 71.891 miles per hour at Bush River, Md.



N.O.A. CHAMPIONSHIPS

NATIONAL CHAMPIONS AND RUNNERS-UP

DIVISION I

LAKE VILLAGE, ARKANSAS

Class M Hydroplane
Dr. R. D. Frawley, Dravosburg, Penn.
Robert Wilson, Dravosburg, Penn.
Frank Mosher, McKeesport, Penn.

Class A Hydroplane
Doug Creech, Charlotte, North Carolina
Charles W. Keesling, Muncie, Indiana
William C. Tenney, Dayton, Ohio

Class B Hydroplane
Homer Kincaid, Carbon Cliff, Illinois
Doug Creech, Charlotte, North Carolina
Gerald Miller, Lawrenceville, Illinois

Class C Hydroplane
Paul Wearly, Muncie, Indiana
Doug Creech, Charlotte, North Carolina
Jack Maypole, Chicago, Illinois

Class F Hydroplane
Harry Vogts, Madison, Wisconsin
Bill Seebold, St. Louis, Missouri
James McBride, Memphis, Tennessee

Class C Service Hydroplane
David Livingston, Lake Village, Arkansas
Homer Kincaid, Carbon Cliff, Illinois
Clyde Wiseman, Cleveland, Ohio

Class C Service Runabout
Steve Gantner, St. Louis, Missouri
Homer Kincaid, Carbon Cliff, Illinois
Clay Pettefer, Lake Charles, Louisiana

Class C Racing Runabout
Ralph Tatum, Jackson, Mississippi
Bus Gunter, Chicago, Illinois
Henry Taubert, Jr., San Antonio, Texas

Free For All Hydroplane
Harry Vogts, Madison, Wisconsin

Free For All Runabout
Steve Gantner, St. Louis, Missouri

DIVISION III

DALLAS, TEXAS

Class J Runabout
Buddy Lane, Paris, Texas
Jack Bailey, Denton, Texas
Johnnie Laing, Tallahassee, Fla.

Class A Runabout
Bob Terry, Jacksonville, Florida
James Miner, Syracuse, Indiana
Jan Rinker, Noblesville, Indiana

Class B Runabout
Buddy Lane, Paris, Texas
John Jordon, Freeport, Kansas
Earl Humer, Yorktown, Indiana

Class C Runabout
G. G. Slack, Dallas, Texas
Coy Nichols, Longview, Texas
Lee Manthei, Greenbay, Wisconsin

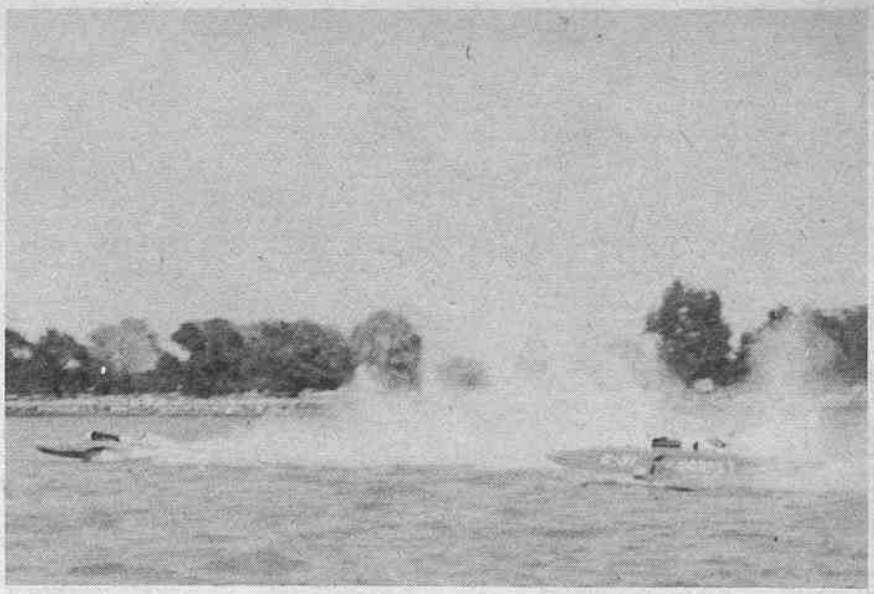
Class D Runabout
Jack Force, Akron, Ohio
J. C. Robertson, Altus, Oklahoma
Dan Futrell, Nashville, Arkansas

Class A Hydroplane
Bob Terry, Jacksonville, Florida
Deanie Montgomery, Corsicana, Texas
Jack Bailey, Denton, Texas

Class B Hydroplane
Bob Terry, Jacksonville, Florida
Alex P. Weatherbee, Jr., Paris, Texas
Al Salomon, Irving, Texas

Class D Hydroplane
Wally Bjork, St. Cloud, Florida
Ted Prophett, Jacksonville, Florida
Jerry Van Amber, Lansing, Michigan

Free For All Runabout
Charlie George, Knoxville, Tennessee



Second place finisher in the '49 Gold Cup is Horace Dodge's "Hornet." It is pictured here as it trailed "Gale" during the annual President's Cup Regatta at Washington, D. C., last Fall.

DIVISION IV

LAKE VILLAGE, ARKANSAS

Class A Hydroplane
Bill Buehler, Greenville, Mississippi
Richard Simmon, Tupelo, Mississippi
Bill Barron, Memphis, Tennessee

Class B Hydroplane
Alex Wetherbee, Paris, Texas
Ben Turpin, Sweetwater, Texas
C. L. Nolte, Dallas, Texas

Class J Hydroplane
Buddy Lane, Paris, Texas
Bill Barron, Memphis, Tennessee
Kermit Megee, Tulsa, Oklahoma

Class A Runabout
Jack Thornton, Hot Springs, Arkansas
Bill Harlow, Memphis, Tennessee
W. R. Holland, Cliburne, Texas

Class B Runabout
Ben Turpin, Sweetwater, Texas
J. E. Colley, Memphis, Tennessee
Martin Agnew, Greenville, Mississippi

Class C Runabout
James McBride, Memphis, Tennessee
P. G. Sweet, Memphis, Tennessee
Clyde Bayer, Tulsa, Oklahoma

Class D Runabout
E. R. Slayton, Memphis, Tennessee
Gene Zaloudek, Enid, Oklahoma
John W. Campbell, Memphis, Tennessee

N.O.A. MILE STRAIGHT AWAY RECORDS

DIVISION I

Class F Hydroplane
Harry Vogts, Madison, Wisconsin..67.416 mph*

DIVISION III

Class J Runabout
Bud Lane, Paris, Texas.....37.521 mph**

Class A Runabout
Deanie Montgomery,
Corsicana, Texas .....43.531 mph*

Class B Runabout
Charlie George,
Knoxville, Tennessee .....47.713 mph*

Class C Runabout
G. G. Slack, Dallas, Texas.....42.553 mph*

Class D Runabout
Jack Force, Akron, Ohio.....53.855 mph**

Class A Hydroplane
Charlie George,
Knoxville, Tennessee .....50.633 mph*

Class B Hydroplane
Charlie George,
Knoxville, Tennessee .....57.973 mph*

Class D Hydroplane
Jack Force, Akron, Ohio.....56.384 mph**

DIVISION IV

Class J Hydroplane
W. R. Holland, Cliburne, Texas....40.210 mph**

Class B Hydroplane
Ben Turpin, Sweetwater, Texas....57.785 mph*

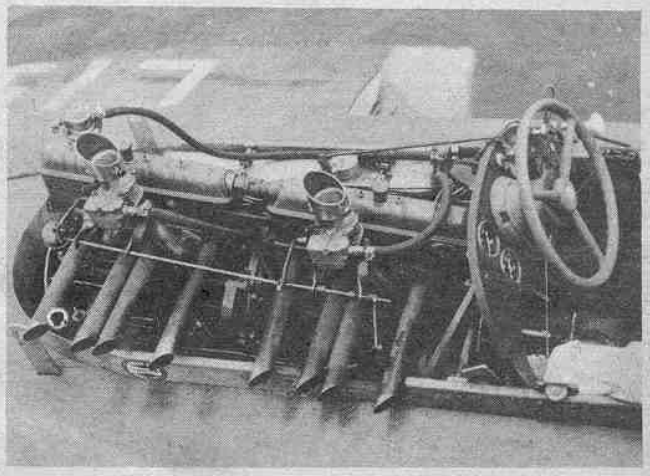
Class B Runabout
Ben Turpin, Sweetwater, Texas....48.980 mph*

Class D Runabout
J. K. Schadein,
Blackwell, Oklahoma .....54.271 mph**

Class F Runabout
Leo C. Walker, Fort Worth, Texas..59.318 mph*

*Exceeds all other world records.
**New NOA records.

(Below left) Mel Spencer, former Pacific Coast driver, cuts a hard corner in his Evinrude-powered Neal conventional at Des Moines, Iowa. Mel started racing at the age of 14. Later he raced Lockwood Chiefs that gave way to Johnson and Evinrude lines in the middle Thirties. Mel now has his own workshop in Des Moines for spare-time fun. Now connected with Ford Motor Co. Says he'd like to hear from some of the old gang like Tom Ingles, H. Newton and Bob Meyers and many others he has known. (Below right) Close-up of power plant in "Miss Fort Pitt." This engine set-up is a highly unique one as it consists of two Crosley motors operating in tandem with a tandem linkage between the cam shafts.



HULL CARE AND CONDITIONING

(*Continued from Page 5*)

hull weight must be 100 lbs. and overall weight 265 lbs. Assume, for example, that you weigh 150 lbs. Under N.O.A. regulations if your boat with permanent hardware and fittings weighs 100 lbs. and if your combination of life jacket, crash helmet, knee pads and screwed in combing pads weigh a total of 10 lbs., you are eligible within the rules. Under A.P.B.A. regulations, you would still find that you and your outfit are 15 lbs. under legal limits.

Several methods can be used to pick up this added weight. First, the weight differential between wooden or aluminum hubbed and wood laminated steering wheel and steel hubbed, steel wheel can vary as much as 12 lbs. Protective combing which can be bolted to or screwed to the cockpit combing for A.P.B.A. competition can be built on a metal backed or white oak backed frame. White oak weighs 47 lbs. per cubic foot and the sketch herein shows a set of 10 lb. pads. A white oak floor board which alternates with a ¼" fir plywood floorboard can offer another readily changeable weight differential.

Many concerns from Coast to Coast specialize in marine plywoods and suitable woods for frames and planking. Fir plywood in ¼" thickness is extensively used in racing runabout construction. In waterproof exterior grade, good on two sides, in 4' x 12' sheets, the approximate cost is 25¢ a square foot.

Another lightweight strong plywood is aircraft grade poplar which in 3/16" thickness costs approximately 53¢ a square foot. If appearance is important, African mahogany is obtainable from most marine wood suppliers at a cost of 3 to 4 times as much as fir plywood, but aside from appearance, it offers no great added advantage.

For framing and frame replacement Sitka spruce is recommended for its combination of light weight, toughness and ready obtainability in straight grained sections. Its cost runs to about 50¢ a board foot and its weight is 28 lbs. per cubic foot. It is the lightest of all materials that can be used suitably for strength members in the boat.

With a little extra weight to play with, white oak framing for knees is recommended for the transom, but if weight is at a premium a fabricated transom of spruce and plywood will prove satisfactory.

It is one of the curious characteristics of boats built of wood that even when a considerable number of boats are built with the same materials and to the same design, the slight shrinkage and warpage that is ever present in wood hulls will cause different handling and performance characteristics.

Two different schools of thought exist concerning plywood planking versus non-fabricated wood planking. Pound per pound there is no question that plywood offers greater strength. For inboard speedboats nearly all designers will select plywood for greater strength at the sacrifice of its other shortcomings. For outboard racing, I personally prefer solid planking since it is more readily repairable and more easily kept in condition.

Western red cedar which finishes up beautifully and to the unknowing eye, passes as mahogany, has a high resistance to decay, is easy to work, has a low coefficient of shrinkage and in addition to being the finest of all the cedars, it has the added advantage of weighing only 23 lbs. per cubic foot. Contrasting this to Honduras mahogany, at 42 lbs. per cubic foot, and light red Philippine mahogany at 34 lbs. per cubic foot, you will notice a distinct weight advantage for either repairs or original construction.

Clear, vertically grained Western red cedar purchased in 12' sections, rough finished, 1" thick and 10" wide, costs slightly under 50c a board foot, slightly more expensive than Philippine mahogany and only slightly less attractive in final finished form.

HERE ARE a few tips on what to do with the new hull when it comes from the manufacturer. First, weigh it. If you and the hull combined will be underweight, put the needed added weight into strength members. Principal places to add strength in the runabout are at the transom, chine level, additional longitudinal strengthening, in the deck combing, and in the hydroplane in fore and aft members, particularly at the step.

Another recommended means of adding weight is the insertion of permanent flotation gear. Sealed one gallon empty oil cans strapped securely in the fore section of the boat offer an added sense of security during a flip.

Few new hulls have been given as fine a bottom finish as the outstanding and consistent winning driver will prefer. A few additional pounds of varnish is added security against warpage and water absorption. Some woods, for example such as cypress, can double their weight in water absorption.

Two schools of thought exist here, too, as to the proper type of varnish. For a boat that will be constantly water-borne, a hard varnish or preferably a hard plastic finish marine paint would be recommended. With a racing boat which is water-borne usually less than three or four hours a week, I recommend a soft finish spar varnish and up to 8 or 10 thin coats. Thus when you check the bottom of your hull for accuracy of the planing surface, high spots can be brought down by scraping and sanding off varnish without cutting into the planking or plywood.

Screw holes, particularly those on the actual planing surface, should be carefully filled with a marine wood putty. Plastic wood tends to shrink.

Care of the hull can be broken down to three specific categories: Care at the race site, transporting to and from regattas and temporary and winter storage.

On arrival at the race site wash down the complete under surface with a sponge, water and a good detergent. Don't wax the bottom or you will run into difficulties the next time you attempt to add a new coat of varnish or marine plastic finish. Gasoline and racing fuels are harmful to the varnish and your boat should be thoroughly washed down, top, bottom and cockpit, with water and detergent, after each regatta.

In transporting your hull to and from the race, the recommended practice for hydroplanes is to transport them on their sides. If your trailer is so designed that this is not possible, or you are forced to transport on car top carrier, be certain your hull has complete fore and aft support and is not slung on the trailer like a hammock so that sagging is possible.

For temporary or winter storage, the recommended practice is to store the hull on its transom, so that the fore and aft strength members support the bulk of the weight. If the height of your storage facility makes this impossible, then store hydroplanes on their sides and runabouts in a properly constructed padded A framing rack.

Don't permit a hull to be left for any undue length of time in direct sunlight as plank shrinkage will result and planks will dry out and check. Also, if your permanent storage location is overly dry, place a pan of water in the boat to add moisture to the air.

A small tear in the linen or canvas decking of a racing boat should be quickly attended to as it has an adverse effect upon the flotation qualities of the boat in the event of an upset and will increase in size from exposure to vibration and wind resistance. Temporary patches may be easily made as shown in the illustration.

Make it a practice to check your hull thoroughly several days before each race so that you have ample time to make the necessary alterations, changes and repairs. And above all, remember that the performance of the hottest piece of iron is only as good as the design and the condition of the hull on which it is mounted. (End)

OUTDOORS WITH THE OUTBOARDS

(*Continued from Page 13*)

Fixed to the transom, and somewhat resembling the long U-bolt bicycle locks, it keeps outboard motor from falling off. Padlock also prevents removal until unlocked.

The Moto-Fil gasoline can made by R. E. Chapin Manufacturing Works, Inc., Batavia, N. Y. utilizes a built-in air pump on the two-gallon tank plus one pint oil mix. Internal pressure releases fuel through trigger action nozzle.

The Lafayette Supply Company, West Lafayette, Ohio, has announced a new boat accessory pouch which attaches to the inside of the combing with open eye screws and is detachable at any time. Pouch is 28 inches long by 11½ inches high, made of heavy waterproof duck, vinyl-coated in either red, silver or ivory. Full length zipper with protective flap cover protects from moisture.

Hydrofoils of Duraluminum are being produced by the Baker Manufacturing Company, Evansville, Wis. Standard boat rides about 18 inches above water when speed is attained and outboard motor with extra long drive shaft will propel it close to 35 m.p.h. at medium throttle. Turns can be made safely without slowing down and with very little banking.

BOOKS AND BOOKLETS

The 1953 edition of the Southern "Inland Waterway Guide" has been published, covering the waters from New Jersey to Florida. The Northern edition, New Jersey to Marblehead and Hudson River, will be out on January 1st. Price is $1.00 for each edition—Inland Waterway Guide, Inc., 25 W. Broward Blvd., Ft. Lauderdale, Fla.

Copies of the new edition of Texaco's "Carefree Outboarding" may be obtained without cost by writing to Texaco Waterways Service, 135 East 42nd St., New York 17, N. Y. Information on outboard care, maintenance and operation, and complete lubrication guide for all models of motors are contained. Also write same address for bulletin describing regulations on State gasoline tax refunds on fuel used for boating purposes.

PEEKING OVER THE TRANSOM

By the next issue we should have some news of the third annual 200-mile fleet cruise, called the Boat-A-Cade, from Kissimmee, Fla., down the Kissimmee River to Lake Okeechobee to Stuart, held for four days late in October. Deadline for this issue doesn't give us time.

Can't help going back to the Evinrude preview of the new Super Fastwin (see above) for a little sidelight. Seems a young boy with a competitor's motor on his boat kept trying to get into the act. Nobody did anything about it except to point out that this was not part of the demonstration. But finally some of the spectators—in no way connected with the event—decided the little joke had gone far enough and waved the boy into the floats. At first he ignored their motions and shouts. Finally he came in, but close as he was he claimed he couldn't hear what was being shouted at him. This, of course, put quite a twist on his trick, because the primary purpose of the demonstration was to show how quietly the Super Fastwin ran. We might wax humorous and say that in this case "You didn't have to guess which Twin had the tone-y silencer." Members of the press hoped that these shenanigans were only due to youthful exuberance and/or ignorance—as it seems almost impossible to believe that any responsible organization of any kind would sanction such a picayunish prank. 'Nuff said?

POWER HEADS UP

Newest member of The Outboard Boner of the Month Club is *Power Bone Head* of Tennessee. (If you want to become a member, send in your most embarrassing experience. We won't use your name if you don't want us to, but will make one up for you as we did in this case. But anyway, send 'em in so others won't make the same mistake.)

Our friend writes: "I wondered why I had trouble with my motor after coming back from a fishing trip way up in the mountains where we rented a boat on a wonderful lake. Later, after taking it apart, I found 'second degree corrosion' already set in around the firing chamber. I had forgotten all about the moisture in the underwater exhaust when I laid it in the trunk of the car with the prop higher than the power head. Since the motor hadn't been used for some time afterwards, I was lucky the rings weren't frozen to the cylinder liner. Anyway, from now on my motto is 'power heads up'!"

SHADOW BOXING THE COMPASS

With all the news of the shows and new models there isn't space for answering any correspondence. But, thanks, all of you. We're glad you like our pages. Keep on sending in suggestions and news. The Skipper says to tell you he's basking down in Florida—the lucky seadog!

HAPPY OUTBOARDING

NOBODY EVER WON A BOAT RACE ALONE

(*Continued from Page* 15)

Do you admit there are too many classes in boat racing?

"Unquestionably, and unfortunately, yes. Some classes are bound to die; others to progress. Some were born because of a need to get into a new orbit of racing—perhaps away from a too-hot class; or away from one which imposes either too many or too few restrictions.

"In fact," continued Novotny, "some classes live because of the expectancy of others dying!

"This is inevitable in our inboard situation. Right now we have about 11 classes. Eight or nine are active in the West; about six in the East. There are four in the West that don't race in the East and five in the East that don't race in the West. Certain peculiar, localized conditions might breed one sectional class, but generally this situation is extremely unhealthy for racing at large. There should be seven, perhaps eight, National classes and no more!"

Why will some classes live; why others die?

"Many reasons. I'll name one important problem involving four classes today, including my own, viz:

"Eventually, the 135-Cubic inch hydroplanes, B-runabouts, PODH's and the new 136 stock inboard hydroplane will complete the cycle in an 'elimination contest.' Frankly, none will survive without making certain changes, for one specific reason.

"Each of those classes use an identical engine, the Ford V-8 60. This is rapidly becoming extinct because Ford no longer builds it. Originally these power plants were chosen for each class for about the same reasons. They had terrific acceleration, high speed, were easily installed, comparatively inexpensive and most important after War II when any engine was hard to get, they were available."

Will the PODH class survive?

"I'll say yes, without qualification. There are too many inherent good things about it. The class fills a need in the racing picture that no other class can better fill. I personally went into it because I was sold on the PODH and I've never been unsold. We, like the others, will eventually have to make provision for changing of motors. That is sound anyway. Frankly the V-8 60 today, while an excellent performing engine, is not practical for the present 'feeling of the chassis.'

"As for the class merits, they stem back to important beginnings and you make what you like from this, which was written by the 'daddy' of the class." (Doc handed me a tract by Fred Thatcher of San Diego, from whose original plans the PODH was built. From this we skimmed the following:

CHRONICLE OF THE PODH

(Germinated 1935)

"The idea of a one-design boat began to look to us—the San Diego Power Boat Club—as the answer to the problem of supplying a means for our 'teen-age membership, as well as others, to break into pleasure boating. Thatcher set to work to evolve a table of offsets 'from which a reasonably-priced, easy-to-build boat could be constructed. . . . Among needed standards, the freeboards would be fairly perpendicular, avoiding violent flare and sheer and above all, steering clear of abrupt tumblehome at the transom, for it would be these features which would make the hull difficult to build by the novice."

"The new-PODH began as the "Star Class Fleet," with seven boats, using Continental's 4-cylinder Star engine. Then came the V-8 of Ford, and a jump from 35 to 45 m.p.h. in speed, strictly stock. Thatcher's plans won a National (Rudder) magazine contest. The first to build one up was Roy 'Yankee Doodle' McCullough of Long Beach, Cal., who also built the record 135, 'Yankee Doodle II.' To improve transverse stability, McCullough added a wrinkle, designing a set of optional sponsons to be bolted to the hull. Inquiries began to flow in from over the nation. As a good, sensible class, the PODH was established."

"Today your PODH is a single-step hydro. It has definite motor restrictions. For instance it must be stock, but you can go 50/1,000ths over on bore; heads may be milled but not filled, etc., and there are definite hull restrictions (Data sheet available through A.P.B.A.)."

What are the engine and hull refinements in your own champion boat? How could you advise a novice to get there?

"Ed Rauch is the guy to cope with that, technically. There are some generalities. As to work on the engine, which has proved a wonderful performer, I tried several 'hot-shots' and finally reverted to Mattis, who is wing-tip manager at North American. He turned out a splendid job in his not-too-much spare time. Fred Wickens built the hull. From there on I'll give it all to Rauch.

"First, I said, Ed it is your baby—all of it. Second, if you think something should be tried, try it. But we had, third, one fixed rule: Try only one thing at a time!

"Naturally, in a one design there is less changing that you can do and that (for one element in racing) is one of the beauties of the class. Important is seating your allowable weight elements to get the situation which will offer best rideability in competition, that will handle on the turns, yet do well in straightaway speed.

"When you go into boat racing you've got to be prepared to experiment. It is rarely that anyone hits the combination right off.

"And, as I said in the beginning, the longer you drive and observe others in the winning bracket, the more you'll realize that winning is an institution."

(End)

INSIDE STORY OF RACING FUELS

(*Continued from Page* 16)

more nearly like the hydrocarbons in their general properties. Furthermore, less volatile and more complex fuels tend to be slower igniting and slower burning, a rather unhappy situation in a hi-RPM hi-compression racing engine. This, and their rather high costs in decently clean grades, makes the heavier alcohols appear rather impractical for racing work. The writer found that most special fuels with B.P.s much over 180 deg. F. were not very satisfactory performers.

Since both methanol and ethanol, oddly enough, have low gaseous densities in spite of their high liquid weight, the value of multiplex carbs, fuel injection and S.C. blower intercoolers is pointedly emphasized for the inboard racer. The alcohols have lower flame temperatures at normal pressures than the hydrocarbons, which might be expected since they are oxygen-bearing and already partially "oxidized." This is a theoretical disadvantage in racing work since it implies a lower flame speed and less thermodynamic power. However, fuel and engine characteristics must always be correlated, and the higher engine compression pressures required to match alky fuels' high internal coolant action tend to make up for this apparent handicap.

Alcohols possess somewhat higher flash and ignition points than equivalent hydrocarbons at normal pressures, especially when wet with an excessive water content. This can result in a spark plug wetting and hard cold-starting problem. For this reason, very hot ignition systems are usually required for most high-alky blends.

Since the alcohols are excellent industrial solvents and have fairly high solvent powers, they can cause some body finish, engine enamel and fuel system plastic component damage. Commercial and industrial grades of alcohols may contain from 2 to 10% water and up to ½% organic acids, acetals, aldehydes and other corrosive impurities. Hence water and acid-free 99% pure technical grades with an acid content of only .01 to .001% should be used to prevent fuel system and engine corrosion. If denatured alcohol is being used, only those formulas containing methanol, benzol, gasoline, acetone, or methyl or ethyl acetate will do for piston engines. Only a dimwit will pour cheap painter's commercial alky into a costly racer's fuel tank.

BENZOL

Benzol (benzene, not benzine) is an aromatic ring-type hydrocarbon which is a normal constituent of some hi-test motor gasolines and many military aero superfuels. It has fairly good volatility, a medium B.P. of 176 deg. and a R.V.P. of 3.2 lbs. Its octane rating is high at about 108 (R), although its octane blending number is lower at 99 (R). An odd property of benzol and most hi-octane aromatics is brought about by their rather high liquid density. Benzol's liquid specific gravity is .88 as compared to gasoline's .72. This gives it a very high volumetric calorific content of 131,140 BTU/gal. as stacked up against aviation gasoline's 118,700, but because of its lower A.F. ratios of 13.3/1 and 10/1 as compared to gasoline's 15.4/1 and 12.5/1, it contains only 17,986 BTU/lb. to gasoline's 20,600. Hence the aromatics provide about 10% more mileage on a per gal. basis, but about 10% less on a per lb. basis, a significant point in boat racing where fuel weight has a decided effect upon performance. Because of their greater density, the aromatic hydrocarbon blends with aviation gasolines usually require jets about 5 to 10% leaner than straight gasolines.

The lighter aromatics possess a higher latent heat than most of the gasolines (169 BTU/lb. for benzol and about 142 for gasoline), and relatively lower optimum A.F. ratios of about 25% rich as compared to gasoline's 20%. This indicates a somewhat greater possible engine power output with aromatics, other things being equal. Their higher latent heats are partially offset by their higher flame temperatures. Benzol's specific heats and thermal conductivities are similar to gasoline's. Because of its high flame temperature, benzol has seldom been used in ratios greater than 50% in racing fuels. The Italians and Germans used the heavier toluol occasionally in small amounts in the 1930's

Benzol has three other peculiar combustion characteristics aside from its high flame temperature and flame speed all probably caused by its relatively high carbon content. It has a sooty exhaust and a peculiar secondary after-ignition effect. Besides its high liquid density, benzol has another peculiarity in a rather high freezing point of 42 deg. It has a liquid viscosity slightly higher than that of methanol and tends to thicken up gasoline blends slightly.

Impurities in commercial and cheaper industrial grades of benzol can cause dark gum and tar deposits in the engine induction system, and sulphur impurities such as thiophene can cause T.E.L. precipitation in the fuel system and engine corrosion. Thiophene-free motor benzol is recommended for use in piston engines.

The aromatics have higher solvent powers than the gasolines and benzol-gasoline blends can cause some fuel-pump diaphram and synthetic-rubber fuel line troubles unless special aromatic-resistant synthetic rubbers are used. Benzol's higher solvent powers give it some blending agent and blend stabilizer action in methanol blends. It also boosts the octane rating, fuel mileage and flame speed.

ACETONE

Acetone, or dimethyl ketone, is one of the most versatile and efficient solvents known. It has very high solvent and blend solvent powers and a very high

(*See Over*)

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INSIDE STORY OF RACING FUELS

(*Continued from Preceding Page*)

dilution ratio, and will mix readily with most any special motor fuel, including water. For this reason, it has been added to many alky racing blends as a blending agent, blend stabilizer and to increase the blends' water tolerance. The Italians seem to be about the only big-league racing men who did not generally use this special fuel. Because of its unusual solvent powers, acetone will quickly ruin natural or synthetic rubbers and many plastics and make a sieve out of ordinary fuel pump diaphrams in a hurry. Special ketone-resistant plastics are required for alky blends containing this component.

Acetone is the lightest and most volatile of the ketones, with a low B.P. of 133 deg., a R.V.P. of 7.6 lbs., and a high evaporation rate. This, plus its low flash point almost as low as ether's, makes it a useful easy-starting fraction. It has medium A.F. ratios a bit higher than ethanol's (9.7/1 and 7.8/1), with the maximum-power ratio about 20% rich, like the gasolines. Its latent heat is rather low at 224 BTU/lb., the specific heat is also low at .528 BTU/lb., both being lower than ethanol's. The calorific content is a bit higher than ethanol's at 13,100 BTU/lb., the octane rating higher at 100 plus 3.4c.c. T.E.L. (R), and the liquid density is the same. The liquid viscosity is only about 60% that of methanol and the thermal conductivity almost as high. Except for its low B.P. and low latent heat which have earned it the racing term of a "dry" fuel, acetone is similar in many respects to ethanol. Because of its high volatility and low latent heat which lower engine V.E. and can aggravate vapor-lock troubles, acetone has seldom been used in more than 10% ratios in most racing blends containing it, and more generally in 3 to 7% amounts.

The writer noted that acetone not only has a low flash point, but also appears to possess some "igniter" action. This will be discussed in a future article under nitro fuels.

If used, acetone should be obtained in the acid and water-free 99% pure technical grades as in the case of the alcohols. The writer found that the heavier ketone, methyl-ethyl ketone, was almost as excellent a racing fuel component as acetone.

Editorial note: Other articles to follow in forthcoming issues of BOAT SPORT *on fuels, fuel additives and blending processes.*

IT'S NEWS

(*Continued from Page* 25)

suitable for marathon as well as closed course racing.

PROPELLER INDICATOR

If you are not sure whether you have knocked the pitch out of your prop when you tangled with weeds, driftwood or dragged bottom, Skid-do Industries of Dayton, Ohio, have come out with a handy gadget that will indicate pitch and diameter of any outboard propeller and inboard prop up to 13" diameter and 24" pitch.

REPLACEMENT JOHNSON RACING C BLOCKS

Wes Jones, of Claymont, Delaware, for several years noted for his excellent cylinder chroming, has announced his own design replacement cylinders for Class C PR 65s. (End)

STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) Of BOAT SPORT published Bi-Monthly at Silver Spring, Md. for Oct. 1, 1952.

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RAYMOND J. KELLY
Business Manager

Sworn to and subscribed before me this 24th day of September, 1952.

LEONARD SPARACIO
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A MARTIN "100" OUTBOARD MOTOR

Drop us a letter (250 words or less) describing the most unusual experience you've ever had with an outboard-powered boat. The person sending us the most interesting letter wins the 10 hp. Martin "100"—duplicate prizes in case of a tie! And what an engine this is! Full of pep, stamina and super-charged energy—that's the Martin "100" for you! And you can troll it down to the incredibly low speed so dear to the heart of a fisherman.

Your entry must be written or typed legibly on one side of each sheet of paper, with your name and address printed clearly in the upper left hand corner. You don't have to be a professional writer—it's the experience that counts, not pretty phrases! The decision of the judges is final. All entries become the property of *Boat Sport* and cannot be returned. No correspondence can be entered into concerning the contest. All entries must be postmarked not later than midnight, February 6, 1953—and received by us by February 13, 1953. Winner's name (or names) will be announced in this magazine as soon as possible thereafter. Send your letter today, along with Official Entry Coupon below to:

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Are you in the market for a new motor?..... What hp?.....

What make of boat do you own?.....

Are you in the market for a new boat?..... What kind?.....

Age..... Education.....

Married..... Children..... Do you reside in house or apt.....

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