

BOATSPORT

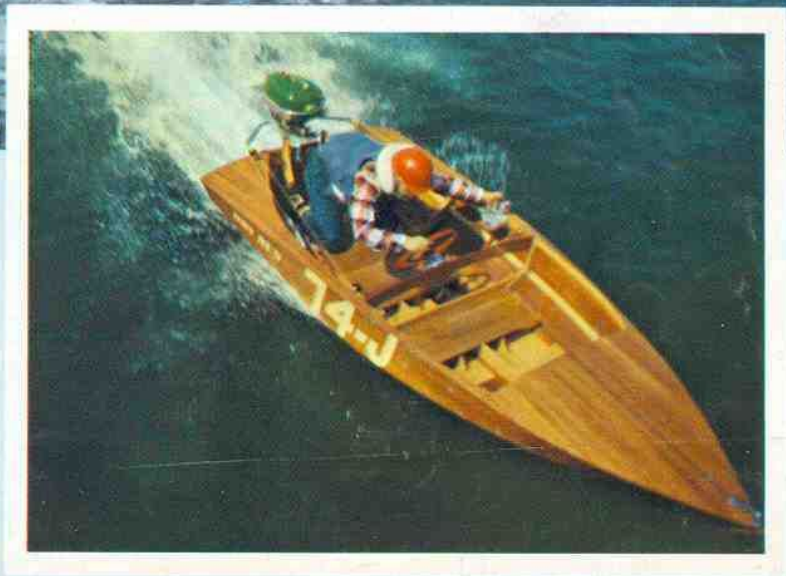
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**AMERICA FINDS ITS
FUN AFLOAT**

**TAILOR YOUR SPEEDBOAT
TO SUIT YOURSELF**

**TUNING THE MERCURY B
FOR STOCK COMPETITION**



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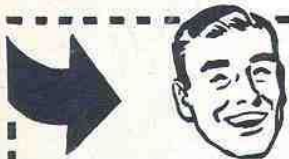
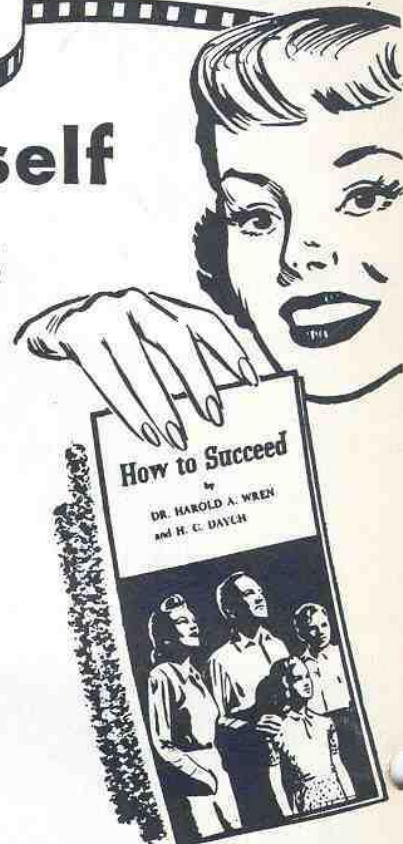
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KEEP YOUR RECORDS UP TO DATE

IN RECENT MONTHS outboarders have established eight new A.P.B.A. records. To keep your records straight we list these so that you may add them to, and make necessary corrections to, former BOAT SPORT record listings.

- A HYDRO—One Mile Straightaway (average of two runs in opposite directions) 52.109 mph by Bob Cramer of Detroit, Mich., at Miami, Fla. on February 13, 1953. Motor used was a Johnson.
- A HYDRO—Five Mile (competition) 48.596 mph by Orlando Torigiani of Bakersfield, Cal., at Friant, Cal. (7 starters) on May 10, 1953. Motor used was Johnson.
- B HYDRO—One Mile Straightaway (average two runs) 57.604 mph by Bill Tenney, Dayton, Ohio at Miami, Fla. on February 13, 1953. Motor used was SR Johnson.
- B HYDRO—Five Mile (competition) by Bill Tenney, Dayton, Ohio, 53.635 mph at Lakeland, Fla. on January 31, 1953. Motor used was SR Johnson.
- C HYDRO—Five Mile (competition) by Bill Tenney, 60.729 mph at Lakeland, Fla. on January 31, 1953. Motor used was PR Johnson with Jones cylinders.
- C HYDRO—Five Mile (competition) by Bud Wiget, Concord, Cal. at 59.367 mph, at Friant, Cal. on May 10, 1953. Motor used was Evinrude 4-60 (eight starters).
- C RACING RUNABOUT—Five Miles (competition) Bill Tenney at 57.142 mph at Lakeland, Fla. on January 31, 1953. Motor used was PR Johnson.
- C SERVICE HYDRO—Five Miles (competition) Yorio Aoki of Woodland, Cal. at 49.207 mph at Friant, Cal. on May 10, 1953. (Eight starters). (End)

THIS MONTH'S COVER

Our thanks to Evinrude Motors and Harold Kelly for the two fine photos on our cover!

We certainly envy the folks being taken for a spin in that Scottie Craft powered by a twin installation of the Big Twins. Ed Weber of the Chicago office of The Philip Lesly Co. is at the wheel. With him are Mr. Joseph Cavanaugh, Public Relations Director of Evinrude Motors, and Mrs. Cavanaugh. Picture was taken near Fremont, Wis.

Harold Kelly designed and built the "Dry Run," No. 74-J. This photo was taken at Lake Hopatcong, N. J. this ring when he was making some trial runs with Mercury A and B motors. We ran a double-page pictorial report of Harold's trial runs in our October issue. Many readers wrote us saying how much they enjoyed this feature.

BOAT SPORT

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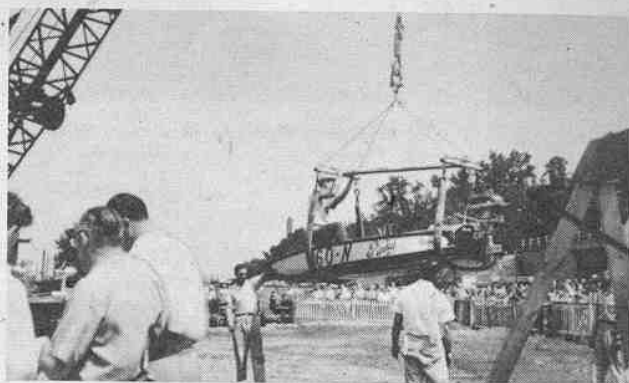
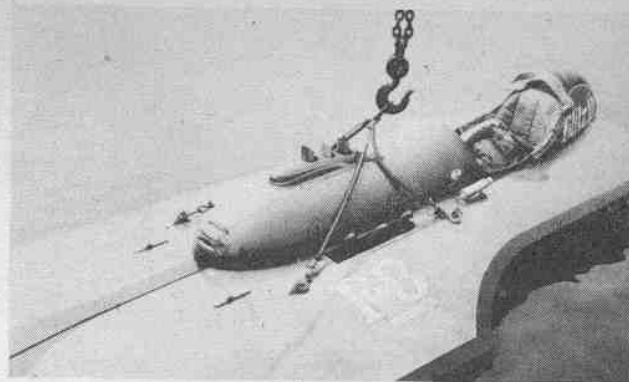
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A not too expensive inboard hydro class of modest speed is the trim Pacific One Design hydroplane, introduced in 1939 and very popular on the West Coast. Shown is "Cherub II," '52 record holder, driven by 3-time national champion Dr. Louis Navotny; Tony Fodor, Jr., riding.

(Top, right) Crane service is always available for inboards at regattas, a physical consideration to be weighed before entering the sport. This hydro is a 225 c.i. powered by a 100 hp. Ford engine. (Center right) For competitive thrills at really high speeds, the hotly contested 266 c.i. hydro class is a good bet. At left is Bill Dale, in "Pee Wee", the eventual winner of recent Long Beach Marine Stadium event. (Bottom, right) Crane service is a rarity found only at the major outboard events. Here, Dennis Grenier, Howard Beach, L. I., is shown after finishing second in Class BU in the '52 Albany-New York marathon. He won '53 Winnebagoland B title.



TAILOR YOUR SPEEDBOAT TO SUIT YOURSELF

By Blake Gilpin

WITH FIFTY-ONE different A.P.B.A. approved classes of inboard and outboard speedboats from which to make a selection, the newcomer to speedboating has a broad and oftentimes bewildering choice. The large number of different classes doesn't exist as pure whimsy of the rule makers but rather to give an active competition class to meet the requirements of nearly any male or female would-be speedboater regardless of his or her inherent daring, age, strength, stamina or bodily size.

This may all sound silly to you but certainly a tyro youngster of fourteen has no place behind the wheel of Slo-Mo-Shun or any other top Gold Cupper.

And by reverse token Stan Sayres, owner driver of Slo-Mo, Lou Fageol, burly-built Bill Cantrell or Chuck Thompson would look mighty silly and feel even more so competing in a JU outboard runabout or a tiny M racing hydro.

The desire to race is nearly a universal one. Yet the thrill and satisfaction of competition can be had with a 2½ hp outboard on a dinghy or pram at 8 mph as well as in a screaming 266 cubic inch running at close to 100 mph.

When you consider entering speedboating, seven major factors should govern your decision as to the type of equipment you plan to invest in. You

can tailor your speedboat to suit yourself if you give each of these points careful thought. These factors are: *type of competition, frequency of competition, physical convenience, speed characteristics, ride characteristics, inherent danger, cost and upkeep.*

A good beginning point for consideration of your speedboat purchase is how keenly contested a class do you want to enter. There have been some speedboaters, even a few who have achieved national fame—at least in the headlines if not with the really-in-the-know members of the sport who have been hell-bent to set world's records. To achieve their goal, they (See Over)



For greater speed and for the heavyweight who likes utility outboards, Class DU is recommended. Pictured here is Springfield, Mass., driver

Walter E. Robbins just as he is about to get the checkered flag for taking second place in this year's 50-mile marathon at Solomons, Md.

TAILOR YOUR SPEEDBOAT TO SUIT YOURSELF

(Continued from Preceding Page)
have very carefully selected those classes in which the competition was particularly thin, feeling that the fewer the number of contestants the better the chance they had for a spot in the record column. Other drivers have just as purposefully selected for their racing the class in which they felt they would find the toughest competition.

For the complete beginner in the sport, the old adage that "no one learns to drive up front" holds more than a modicum of truth. Plenty of today's topflight front rank drivers got there by virtue of gaining lots of experience in the rear of the field or in the middle of the pack where the going is really tough—and more than just a little wet.

Another factor, when considering type of competition, is whether or not you will find it convenient and within your time and financial budget allotment to compete in a class which calls for following a national circuit, or whether you will be completely happy to compete on a purely local basis.

If the latter is true, your decision as to type of equipment to buy will be determined by the type of equipment being raced locally.

If it is the former, then plan to add over-the-road expenses to your operational budget.

Next, in giving thought to the frequency of competition choose a class in which you will find sufficient events scheduled to meet your desires. Say, for example, a Jersey Inboard Speed Skiff has a certain appeal for you, but in your area you learn that only one or two events a season will be conducted in this class as opposed to nearly weekly events in another class. Then your decision should be fairly simple. You would certainly not want a Jersey Speed Skiff under these conditions if you hope to compete every weekend.

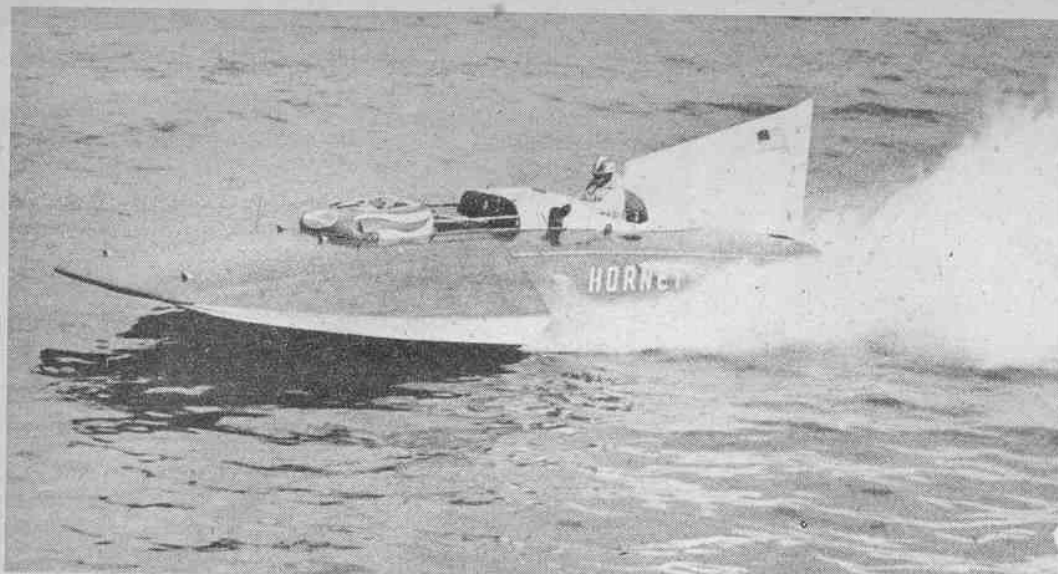
By reversal of this, if Speed Skiffs run weekly events and you are limited to competition within a relatively close range, even though you might happen to prefer the lines of the 135 c.i. hydro, it would seem wiser to forego the ap-

peal of the 135 and get the Jersey Speed Skiff. Who is more out of place on local waterways than the character with a rig that his fellow boatsmen concede victory to and have no interest in pitting their own wood against?

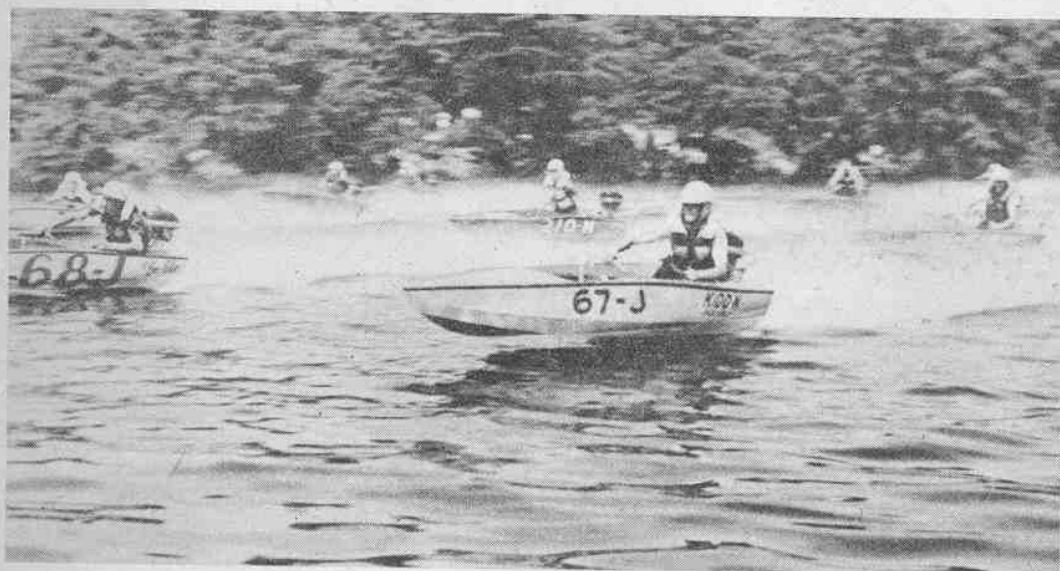
Your local boating organization and its members can give you the information you need on this. Go to a few local events, ask questions, observe what the boys are racing before you pay your cash on the line for a boat and motor.

Physical convenience is an important item. Innumerable outboarders at combination inboard-outboard regattas have watched enviously as the inboarders trailer their racing hulls into position under a crane and have them slung overboard without twitching a muscle. If you're the type who would be quickly wearied by carrying your end of a 100 to 200 or more pound outboard racing hydro or runabout hull into the water and hauling it out again at the tired end of the afternoon, and if your face pales at the thought of lugging oily and fuel soaked motors

(Turn to Page 27)



If your budget is limited, a gift of a Gold Cupper would be no prize, for spare parts and general maintenance run into the thousands annually. The "Hornet" has not been in Cup challenge action lately.



One of the most competitive of the stock outboard utility classes is the BU run-about, shown here in action at Laurel Lake regatta, in Millville, N. J., July 4th, where '53 A.P.B.A. Region 3 championship event was held.



The 136 c.i. hydroplane has a strictly stock motor, and is conservatively priced as inboards go. Brought to its popularity largely through efforts of the Winding River Boating Assoc. (in N.J.), the first national championship was held in '52 by this organization, whose sparkplug, Jack Fisher, drives "Teredo."

Outboard cruisers offer roominess and protection combined with speed and portability—all at reasonable cost. This all-aluminum Aero-Craft is made by Harwill, Inc., St. Charles, Mich. Motor is Evinrude 25 hp.



AS THE 1953 BOATING season draws near its close, it becomes more and more apparent how absolutely right all the early predictions were in forecasting a tremendous increase in recreational boating activity this year. If anything, instead of being overly optimistic a good many of the prevailing prognostications look now as though they were safely on the conservative side. The American Red Cross, through its Water Safety Division, estimated that one-hundred-million persons would participate in water sports during this season.

Remember the old song about "Fifty-million Frenchmen?" Well, one-hundred-million Americans can't be wrong either—not when it comes to finding fun afloat and in the water. Out of this total many millions found their the outboard way; thousands took their first outboard ride with a friend or in a rented boat and motor; thousands more went on their first cruise and found out that outboards offer much more than just a short spin on a lake; a great many others branched out for the first time away from familiar waters by trailering their boats across country to new and exciting waterways; and many, many thousands bought their first boat and motor this year—all add-

ing up to why outboard motor production is running about 45% ahead of 1952 figures. It's no longer just a supposition, it's a proven fact that now—more than ever—America finds its fun afloat; from Coast to Coast, from desert to northern woods; on waters that were old long before Columbus sailed, and on waters that are still new behind the huge dams of only yesterday.

4TH ANNUAL BOAT-A-CADE

The Fourth Annual Kissimmee-Okeechobee Boat-A-Cade will be held on October 15th, 16th, 17th and 18th, with assembling and readying of boats on the evening of the 14th, at Kissimmee, Fla., on Lake Tohopakaliga, just a few days after this issue of BOAT SPORT comes out on the newsstands, but there is still time for anyone within driving distance to get their rig down there and into the water. According to Mr. F. M. Paul, Secretary of the Boat-A-Cade (phone or wire him at Kissimmee, Fla., for further information), "An invitation to join the trip is open to anybody who has a good boat, a good motor and who seeks a thrilling adventure through a part of our country which is primitive and for the most part completely un-

developed. For those who like to rough it, plenty of good camp-sites are to be found along the way. The Boat-A-Cade stops at places where cabins, food, gasoline, oil and ice can be had."

About seventy-five boats took part in the first Boat-A-Cade, held in November of 1950; the next year there were double that number; in 1952, when the course was extended to Stuart, on the Atlantic coast, two-hundred-twenty-five craft made the journey of 185 miles through four lakes, three canals and the "Korkscrew" Kissimmee River, although about one-hundred of these dropped out at Lake Okeechobee, on the third day, when rough water came up due to a threatening offshore hurricane. Sportsman Dick Makinson of Kissimmee has been the sparkplug and prime mover of the Boat-A-Cade, and he and his committees must take great pleasure in seeing how each year it has grown in popularity, with more participants coming annually from an ever-widening circle of states. All types of boats are included, but outboards predominate by far. Daily fishing contests are held (black bass is plentiful) as well as barbecues, dances and other forms of entertainment during the (See Over)

AMERICA FINDS ITS FUN AFLOAT

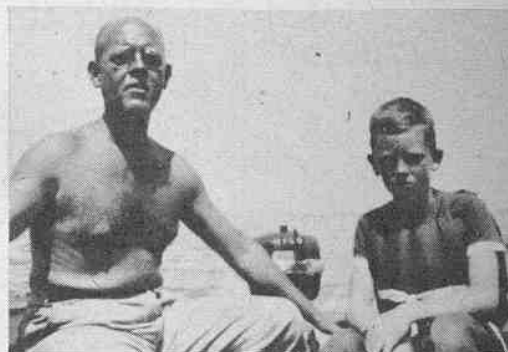
OUTDOORS WITH THE OUTBOARDS

BY RICHARD VAN BENSCHOTEN

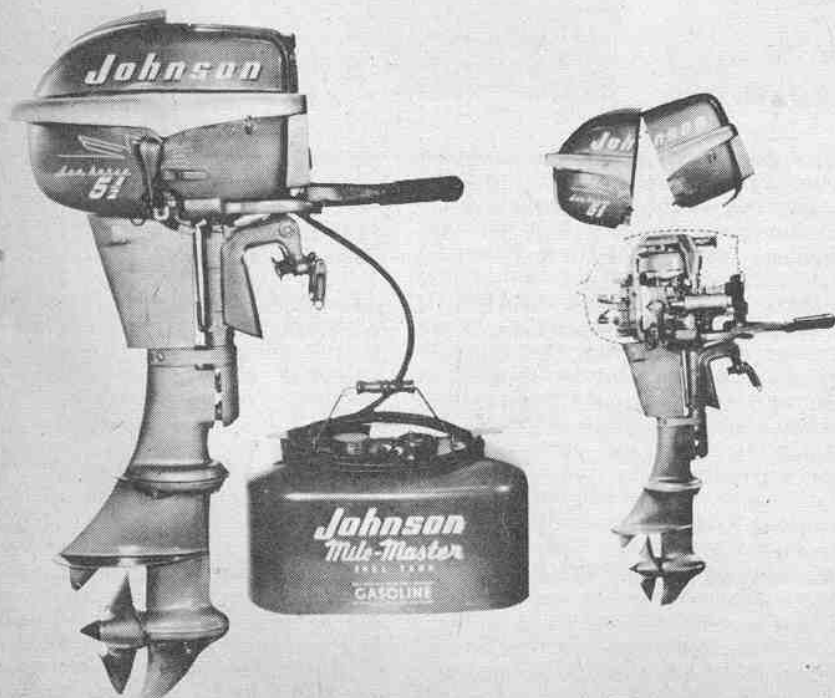
FLORIDA'S 4TH ANNUAL BOAT-A-CADE . . .

NEW JOHNSON 5½ A QUIETER MOTOR . . .

OBC'S "OUTBOARD HANDLING"



(Above) Dickie Van Benschoten, nine years old (the one on the right), looks dubious as ancient mariner (otherwise called Dad) keeps steady course across Wellfleet Bay on Cape Cod. Pilgrims made same trip 333 years ago but without help of Merc Mark 5.



(Left) News of Johnson's new Sea-Horse 5½ is strictly "hush-hush"—and the reason, of course, is because it operates so much more quietly. A revolutionary new design, cushion drive mounting, comes as close to separating motor from boat as is possible; hence the hull, which acts as a sounding board, has no vibrations to amplify into loud noises; all that is left is the hum of the motor itself, over which ordinary conversation can be carried on even when running at full speed. The 4-gal. plug-in fuel tank is interchangeable with 6-gal. Mile-Master units. Small photo shows the "up-and-off" hood; back part is instantly raisable alone for access to spark plugs. Has full shift and twist-grip speed control.



(Above) Launching and readying of boats at Kissimmee, Fla., before start of annual four-day, 185-mile Boat-A-Cade goes on far into the night. This year's dates are Oct. 15 through 18. Note unusual design of outboard cruiser, fourth boat in back.

(Left) Near the end of the 1952 Kissimmee-Okeechobee-Stuart Boat-A-Cade. About 50 of the 225 participating boats are shown waiting to be lifted in the St. Lucie lock, a few miles from Stuart, Fla., on the Atlantic.

AMERICA FINDS ITS FUN AFLOAT . . .

. . . OUTDOORS WITH THE OUTBOARDS

(Continued from Preceding Page)

overnight stops. It's a wonderful four days on adventurous waters and quite a challenge to thread the twists and turns of the Kissimmee, which changes its course frequently and without notice. The entire trip is chaperoned by planes of the Game and Fresh Water Fish Commission, so stragglers need not worry if they fall behind. If you haven't joined the Boat-A-Cade before and if you can't make it this time, better be sure to plan on it for '54. It'll be bigger and better than ever.

JOHNSON'S NEW QUIETER MOTOR

Johnson Motors, Waukegan, Ill., who just about a year ago turned out their millionth outboard motor (more than 25% of all outboards manufactured), are now in production on a new Sea-Horse 5½, which replaces the 5 h.p. model of previous years. A completely redesigned motor, the new 5½ h.p. model (wt. 48½ lbs.) has full forward, neutral and reverse gear range, synchronized

twist-grip speed control and a 4-gallon plug-in remote fuel tank, which is interchangeable with the 6-gallon Mile-Master tanks that have been standard equipment on the Sea-Horse 10 and 25 for several years. But the most revolutionary change in this new model is its cushion drive mounting, which by intrusion of a cushioning framework to absorb vibrations obtains a fully flexible contact between the motor and the boat. Anyone who has driven outboards has felt vibration in the steering handle, and anyone who has ridden in one has felt similar vibrations through the seats or along the gunwales. Sound, of course, is caused by vibrations, which can be amplified by what is technically called a sounding board, as in a piano, violin, guitar or other stringed instrument; the hull of a boat is a very efficient sounding board, and when vibrations are present to any degree there is bound to be sound of considerable amplitude. Johnson's new design has changed all this.

At a preview for boating and outdoor

magazine editors and writers, held at Canoe Place Inn, Long Island, considerably before the public announcement, William H. Jonas, Johnson's Director of Sales, and members of the engineering staff put on a convincing demonstration of the quieter operation of the new Sea-Horse 5½, after which everyone present had the opportunity of driving one of the models out around Shinnecock Bay, or through the canal into Great Peconic Bay. (Incidentally, wonderful boating waters, these.)

Speaking from personal experience now, and in agreement with others who were there, Johnson has definitely done away with what some people insisted on calling the "shoutboard" motor, the kind where you get hoarse trying to carry on a conversation while underway. The reduction of sound level was truly amazing, even when opened up wide, and made us wonder why they hadn't christened this new motor the Johnson "S-s-sh-Horse 5½." If it wasn't for the automatic slip-clutch, which does away

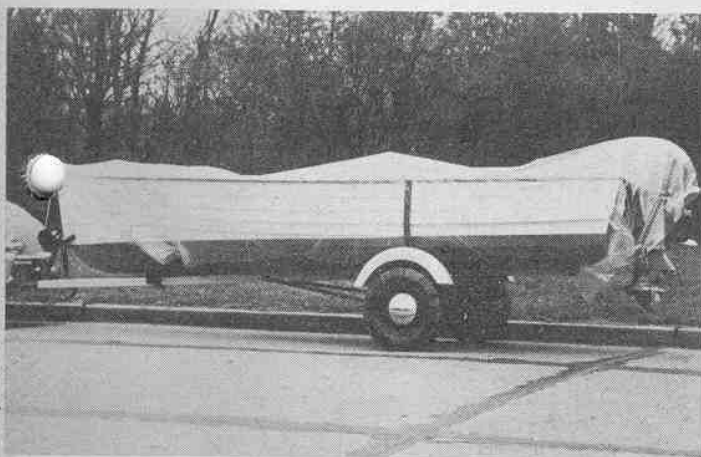
(Below) The end of a day's run in the Boat-A-Cade, when experiences on the winding course are swapped, tanks refueled and the prize awarded for the day's biggest catch; a barbecue and entertainment are next in line. Each year interest has increased tremendously in this long group cruise.



(Below) Another proof of outboarding's growth is in the number of new plants going up over the country. Shown here is the factory show room of Albright Boat Industries, Inc., Charlotte, N. C., with a Custom runabout and two Marsh design hydroplanes. Firm makes six models of hydros.



(Below) Sheet of transparent plastic 9' x 12' is used with light canvas rain and dew cover in place of expensive heavy-duty tarpaulin. Used for winter storage, it withstands effects of rain, freezing temperature and snow; will not melt in hot sun. Made by Mehl Mfg. Co., Cincinnati, Ohio.



(Below) The new look in Miami outboarding. Floridians Frank Gruber and Fritz Blank designed this unorthodox runabout on the catamaran principle, had it built of Plastiglass. Here Lew Koehler pilots the "Catacraft" on her maiden voyage while co-designer Blank rides along as first passenger.



with such things, you could almost say it was so quiet you could hear a shear pin drop.

All in all, it was a delightful and educational time for the hardworking magazine editors and writers.

Other motors in Johnson's '54 line are the Sea-Horse 3, 10 and 25. The 3 and 25 are essentially unchanged from 1953, except for a new accessory fuel pump unit available for the 25 which fits on the engine and is fed through flexible tubing from a primer-filter unit on the boat's transom for connection by 3/8" copper tubing to built-in fuel tanks on cruisers. Also Ship-Master throttle-and-shift remote controls will be listed in the future separately from the control and will be available in any even foot-length between 5' and 17'. Cables over 17' will be available on special order. The terminal cable connections on these controls will be reversible so that any combination may be adapted to either a right-hand or left-hand drive boat.

The Sea-Horse 10 has been redesigned

to include the carburetor air intake silencer that was introduced on the 3 two years ago and which is now also on the 5 1/2. "Up-and-off" hood, a feature of both 5 1/2 and 10 models, allows complete removal of hood quickly or immediate partial removal for access to spark plugs by means of the simple snap-release on the back half of the hood. Prices are expected to be about the same as at present on all models except the 5 1/2 which will be just above \$200 at factory, or about 7% higher than this year's 5 h.p. model.

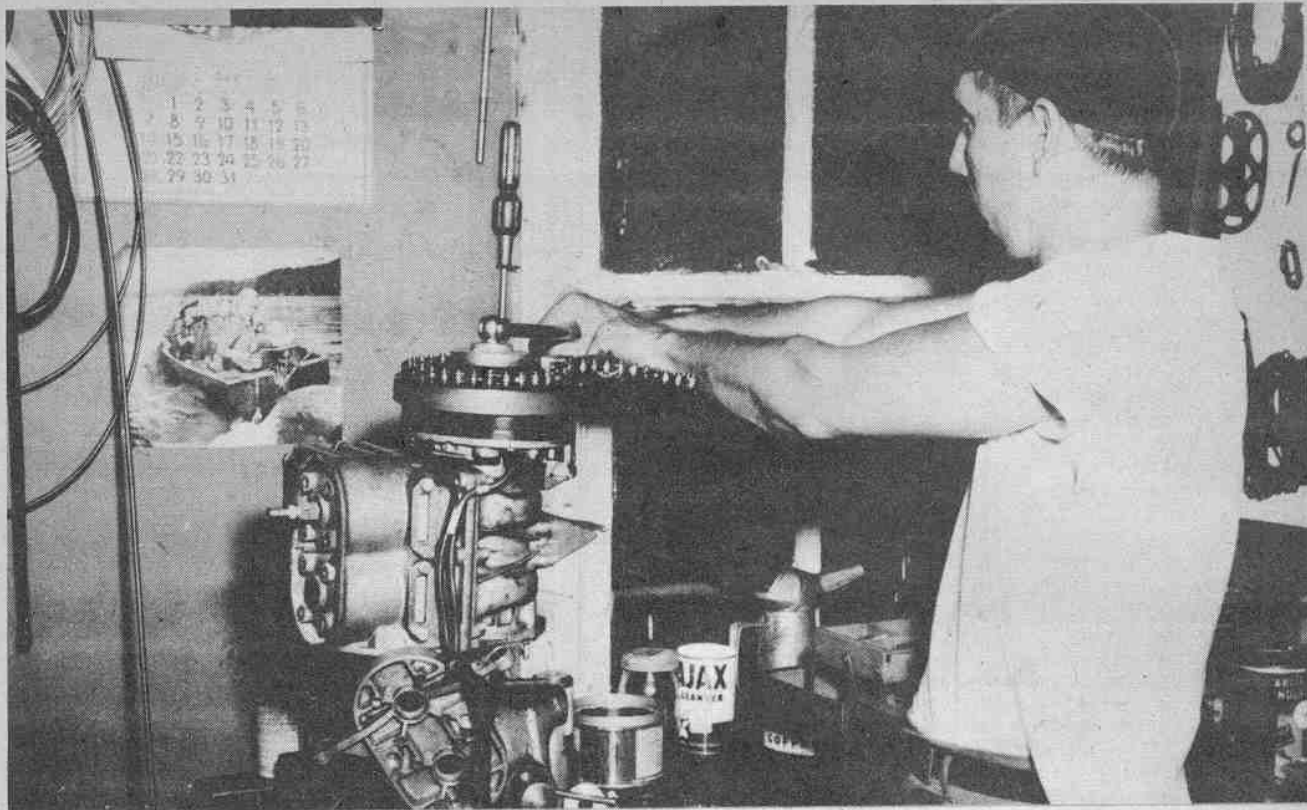
OBC'S "OUTBOARD HANDLING"

The Outboard Boating Club of America continues its "common sense afloat" program with a new 16-page booklet, "Outboard Handling", which serves equally well as an introduction for the new outboard owner or a refresher course for the experienced outboarder. Filled with many special photographs and diagrams, this book is packed with valuable information presented in a

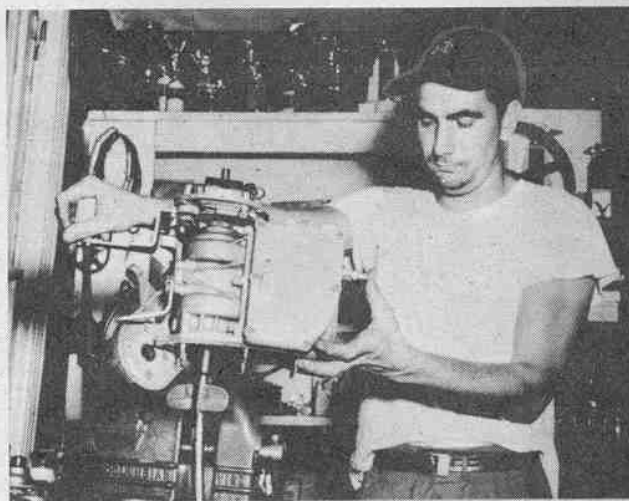
clearly understandable style. Various sections include: Boarding, Loading, Trimming the boat, Courtesy, Common sense, Weather wisdom and Balancing your outfit.

Presented as a public service, "Outboard Handling" is available without cost to all members of OBC and also (as long as copies are available) to anyone else who writes to Outboard Boating Club of America, 307 N. Michigan Ave., Chicago 1, Ill., and requests a copy.

Last year over a million copies of OBC's folder "Common Sense Afloat" were distributed, which gave eight basic safety rules illustrated with cartoon-like sketches. This year these rules have been incorporated into a decal transfer (as mentioned before in these columns) to be placed on boat seats where drivers will be reminded of them. *All boat livery and rental services please take note: many of your customers are inexperienced in handling boats; these decals can be of great value to you, to your property and to* (Turn to Page 33)



(Above) Larry Teal of Lambertville, N. J., prominent stock runabout competitor and tune-up expert, prepares to remove flywheel from Merc B. Teal uses a Mercury starter ratchet wrench (part MO-60-537) in conjunction with a plumber's chain tool with which he holds the flywheel.



(Right) Larry feels with thumb for top piston to reach top dead center as he slowly revolves power head about motor rack made from bent drive shaft held in vise. Gauge used is Mercury part M-60-5126, designed for checking timing on KG9 and Mark 40's, but adaptable for use in the Class B Mercury. Spark lever is kept centered and gaps set at .018.

TUNING THE MERCURY B FOR STOCK COMPETITION

By Hank Wieand Bowman

CLASS B stock motor competition in both runabouts and hydroplanes has become the most popular of all speed-boating classes. In the engine department, the overwhelming favorite is the Mercury motor. There is no secret or magic formula for proper maintenance and tuning of the Mercury B. The manufacturer has built fast operating characteristics into his design. Winning motors stay up in the front ranks by virtue of painstaking tuning and meticulous maintenance. The file, hand-grinder and special fuel have no place in stock competition, which specifically prohibits such practices, but for the racer who plans to service or even partially to service his own stock Mercury, there are some tips that may prove helpful.

Starting at the bottom of the engine, if the motor is equipped with a 1953 style Quicksilver unit, the water intake end of the new gear case housing is fitted with two sets of needle bearings.

Many drivers have been under the impression that when they fill the gear case housing with lower unit grease, that these needles get their share of lubrication. This is not so. No provision for lubrication has been made. After each use of the motor, it is recommended that you remove the water pump cover and thoroughly lubricate the bearings with Mercury lower unit grease or a lubricant such as Lubriplate No. 105. A word of caution in removing this water pump cover: it is lefthand threaded, and to remove the cover, turn in the reverse of the conventional fashion.

Still in the lower unit, some drivers temporarily remove the flexible impeller blades from the water pump and cut down the length of the blades, feeling that in so doing they are reducing friction and hence increasing speed. Actually, while such a modification is not specifically disallowed in the rules, it is not recommended, for sand and other foreign matter in the water in which

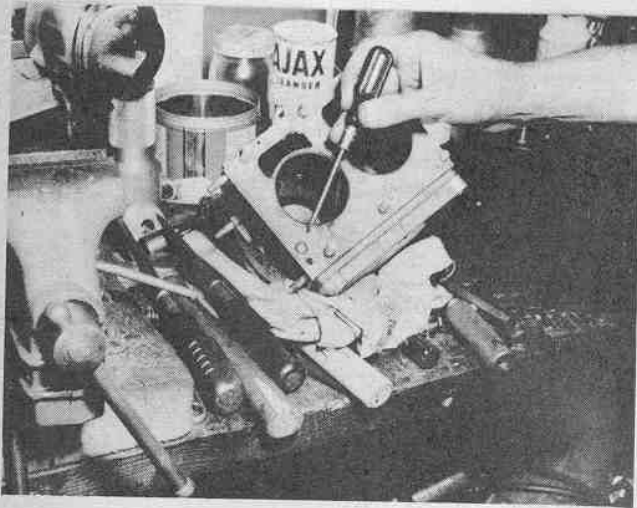
you will be racing will wear the blades down quickly enough as it is. Any relief from drag by this practice would give so negligible a speed increase as to be unwarranted in view of the risk involved in possible impairment of the cooling system.

In general, the unit needs little attention other than general gear case lubrication and the special lubrication mentioned.

Your next move should be that of putting your ignition in perfect condition. While most of the quicker running stock boys are using Amoco fuel, others have given the nod to varying brands of high test gasoline. It is best to conduct your initial sparkplug checks with the fuel you plan to burn in competition.

As a starting point use a Champion J6 plug. After peaking your motor for a five or six minute stretch, kill it and check the color of your plugs. You are striving for a light, warm chocolate color on the
(Turn to Page 29)

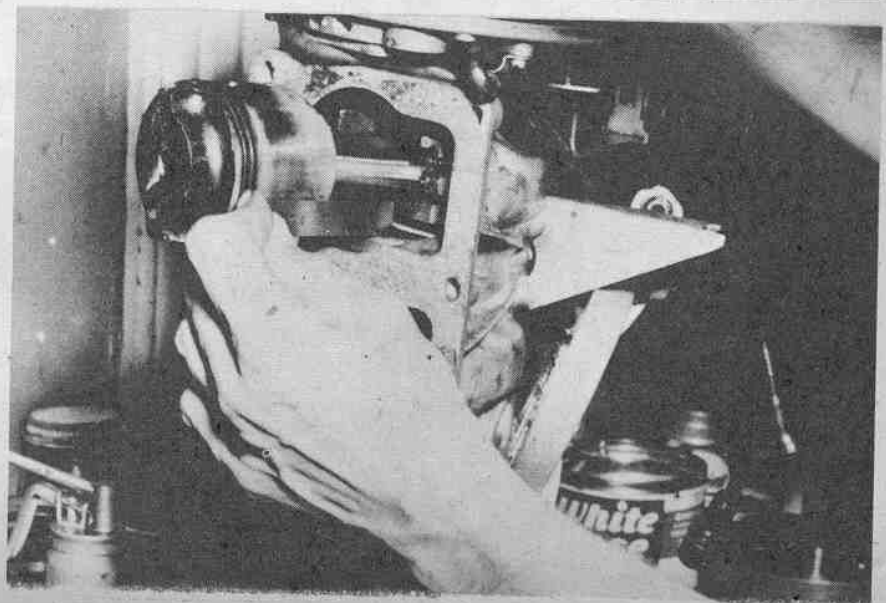
(Below) It is vitally important when re-assembling block not only to replace worn gasket but also to be certain that the tiny rubber gasket under Phillips screwdriver is placed in water return hole below gasket.



(Below) Gas tank brackets may break at point directly above the carburetor intake manifold that Larry Teal is pointing to. Broken bracket is held in left hand. Some drivers have this place bronzed under the lip.



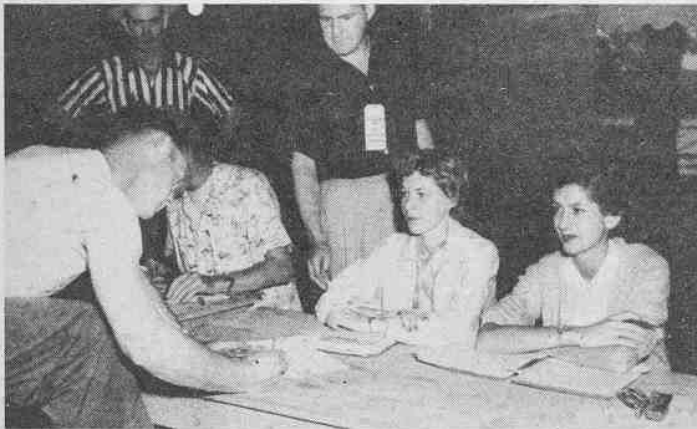
(Right) With engine disassembled it is well to check the clearance of the reed valve stops with small scale or feeler gauge. Be certain that the stops do not exceed the maximum allowance for the clearance as given on the specification sheets for Class B. A small scale is pictured being used.





(Left) Boats and their crews enter the pitting area at Riverside Park, in Neenah, Wisconsin, where more than 2000 feet of floats were made available to contestants.

(Below) Don Colburn, race chairman for co-sponsoring Neenah-Menasha Chamber of Commerce, directed all drivers to the headquarters area registration tent.



(Below) This converted tractor facilitated shifting the winning equipment from water to inspection location, where three winning rigs were ruled out.



(Below) Just inside gate official welcoming committee of Milwaukee-Sentinel and Neenah-Menasha C. of C., co-sponsors, gave out T-shirts & meal tickets. Race was conducted by Wisconsin Stock Utility Outboard Racing Association.



FIVE NEW CHAMPIONS were crowned and all former records were smashed on June 28 in the fifth annual Milwaukee-Sentinel-Winnebagoland Outboard Marathon, a 92 mile grind from Neenah-Menasha down Lake Winnebago to Oshkosh, up the Fox River through Lakes Butte des Mortes, Winneconne and Poygan and up the Wolf River to Fremont and back.

First boat home was a Switzer-Craft driven by twenty-one-year-old McHenry, Illinois, marathon veteran, Bob Switzer, who despite swamping after hitting the wake of a power cruiser near Oshkosh led the field home at a new record average speed of 51.54 m.p.h.

Chief Inspector Russ Hill and his aides, Phil Moore, Ed Ameely and Edgar Rose regretfully were forced to disqualify Switzer because of too great a clearance in the reed stops of his 1953 Mercury. This was unfortunate for the engine had not been tampered with and it was later learned that through a production line error, reportedly, the first fifty new Mark 40 motors had been assembled with the wrong reed stop openings. These motors have all been recalled and error rectified. Finishing 1 minute and 7 seconds behind Switzer was the eventual winner, Fred R. Snyder of Lancaster, Pa., at an average speed of 50.88 m.p.h.

William Smith, Cleo, Mich., first home in Class A at an average speed of 37.26 m.p.h. in a homemade hull powered by a Mercury and second finisher Ted Moberg, West Allis, Wis., in a Rinker hull Mercury powered, were both disqualified because of insufficient molded depth in their hulls. This moved third place winner, Bud David, Modesta, Calif., in a Mercury powered Rockholt hull into the winner's bracket with an average speed of 35.82 m.p.h.

Other winners and their times were: Dennis Grenier, Howard Beach, L. I., N. Y., Class B, 2 09:05, for an average of 42.78 m.p.h. in a Mercury powered Raveau hull; (Turn to Page 32)

(Below) A.P.B.A. officials conducting motor inspection. From left: Milt Anderson, Sec-Treas., and Laur Gonig, Chairman of Region 7; Russ Hill, Calif., Chief Measurer.





Promptly at 10:00 a.m. on June 28th 120 Class C, D and D1 stock runabouts moved away from the starting line at Neenah, Wisconsin, in the

92-mile roundtrip through Lake Winnebago and the Fox and Wolf rivers. Winners divided over \$5000 awarded in trophies and merchandise prizes.

BOAT SPORT VISITS THE PITS

FOR THE WINNEBAGOLAND GRIND

70,000 Spectators Watch Five Class Field of 272 Starters In Fifth Annual Marathon

(Below) The field of 152 Class A and B stock racers roared away from starting line at 10:05 a.m. Constant radio contact was kept with all check points. Rescue boats and planes were manned by the Civil Air Patrol.



(Below) On the night before the race Neenah-Menasha's Company I, 32nd Division, Wisconsin National Guard, served more than 600 roast beef dinners to contestants and their families and members of pit crews.





(Above) Hitting starting line almost even in the Class C racing hydro event of Yankee-Rebel tangle at Knoxville, Tenn., are (from left) H. H. Starnes, Hickory, N. C.; Cliff Swigart, Port Clifton, O.; Milford Harrison, Vermilion, O., who took 2nd; Doug Creech, Charlotte, N. C., winner; David Livingston, Lake Village, Ark.; Paul Byrum, Greenville, S. C.

N. O. A. 'S '53 NORTH — SOUTH

FRACAS WON BY REBELS



Wounded and defeated, Northern General "Grant" Tenney, with torn uniform and bandaged right leg, relinquishes the beautiful Captain Waide Hughes trophy, to high point winner Bob Terry, who'll lead Rebel forces in 1954.

THE THIRD RUNNING of the National Outboard Association's Yankee-Rebel sectional title event continued its ding-dong way. In 1951 the Confederate drivers copped the big Captain Waide Hughes trophy in the first running of the colorful meet. In 1952, sparked by Dayton, Ohio's Bill Tenney, who captained the northerners and carried the title "General Grant," the Yankees outmaneuvered the "Lee" faction, headed by Chattanooga, Tennessee's Charlie George and the trophy moved into the north.

This year the southerners regained the Hughes trophy. The tactics of the two forces were again directed by the generalship of Tenney-"Grant" and George-"Lee," but the race meet was anything but a general's day of glory.

The Rebel leader went out with a spill and motor trouble in the first day's running of the stock events. And Tenney took a nasty spill in the opening B hydro tangle on the second day and suffered a badly cut leg, which required

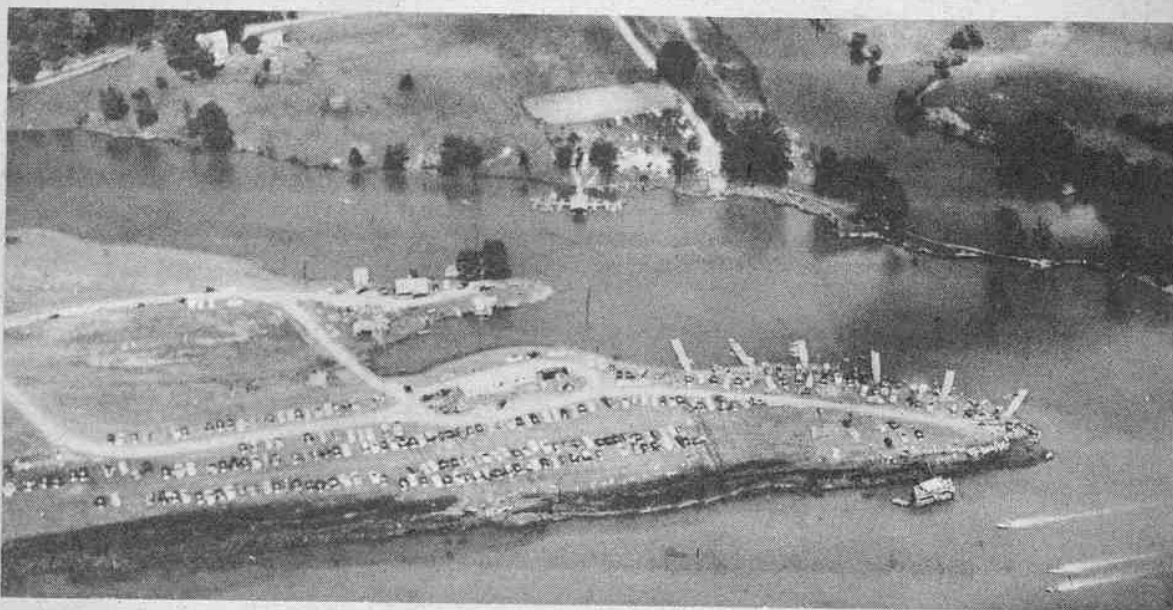
his being taken to hospital.

Without Tenney, the northerners were at a handicap, particularly when Bob Terry, three-class champion in the stock group, from Jacksonville, Florida, racked up two first place spots in Class A stock runabout, two firsts in Class A stock hydro and a clean sweep of the Class B stock hydros. Stan Ingram of Lewisburg, Tenn., by taking the B stock runabouts with a third and a first place and Bob Curtis, Chattanooga, Tenn., grabbing off two firsts in Class C modified runabouts, put the Rebels overwhelmingly ahead. In fact, no Federal enemy showed up in the first three high point positions during the first day's running.

On the second day, May 31st, Bert Blaskie of Battle Creek, Mich, managed a first and a third against rugged driving, including that by Doug Creech, Charlotte, N. C., and Charles Heston, of Jacksonville, Fla., to become the standout for the Yanks. Clifton Swigart, Port Clinton, Ohio, made a clean sweep



(Above) Rebels Charley George and J. J. Arthur, Sr., reach through the barbed wire entanglement separating rival pit areas to claim trophy held by Tenney. Note Yankee and Confederate caps.



(Above) Aerial view of the Knoxville Boat Club course on the impounded waters of the Tennessee River behind Ft. Loudon Dam, shows protected pit area and a close finish past the judge's stand.

(Below) Bob Terry of Jacksonville, Fla., sensational three-class N.O.A. national champion, who as this year's Confederate high point winner will assume "General Lee" role in the 1954 event.

of the Class C service runabouts and with assists from Milford Harrison of Vermilion, Ohio, with second high points in Class C hydros, and Dennis Martin, Jackson, Mich., with a third place in Class C hydro, gave the Yanks a second day edge but not enough to make up for the first day's deficit.

Cliff Swigart wound up as high point man for the Yanks and will lead the northern contingent in their effort to retake the trophy in 1954. Bob Terry as high pointer for the Confederate gang took over possession of the Captain Hughes trophy for the Rebels. Wounded Bill Tenney claims that he will be back in the thick of the battle in '54 to add tactical advice and driving skill to Swigart's forces.

The first two years, this colorful event was conducted on beautiful Lake Cumberland at Somerset, Kentucky, but such has been the popularity of N.O.A.'s sectional meeting, that the larger facilities available through Knoxville Boat Club were used this year. (End)

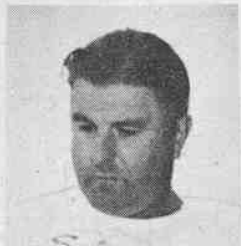




Danny Foster.



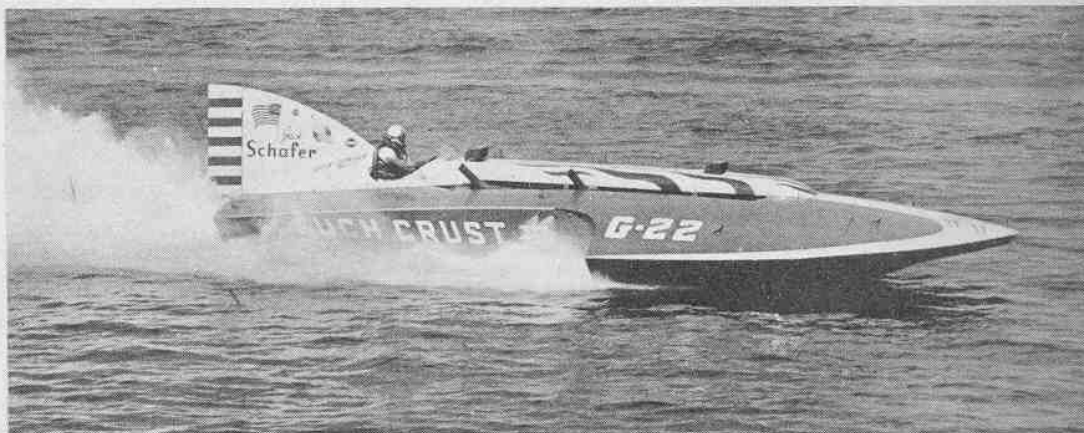
Lee Schoenith.



Chuck Thompson.



Bill Cantrell.



(Right) Largest craft was "Such Crust III," a twin-engined boat 34' long and a beam of 13.8'.

(Right) "Miss U.S." was practically untried when she reached Seattle. Unusually light construction. After two heats she showed no structural deficiencies. She needs some changes before she will be in top shape for racing.



"SLO-IV" .. ONCE MORE!

By Russell G. Swanson

(Left) Lou Fageol at the wheel of Gold Cup winner, "Slo-IV."

(Below) A big moment for the victors! Bill Corcoran (right) of KING-TV, Seattle, interviews them immediately after the race. (Left to right): Joe Taggart, Lou Fageol and Stan Sayres.

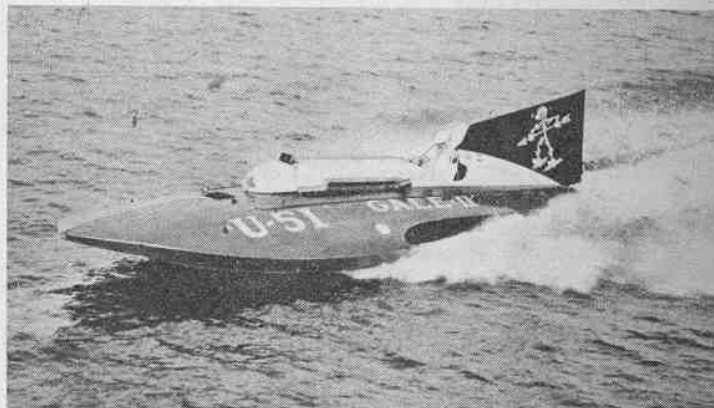
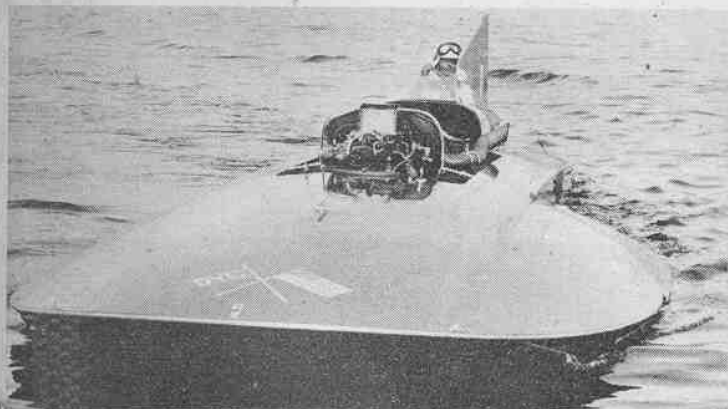
"SLO-MO-SHUN IV" surprised even the most optimistic observers of the Gold Cup field by making a clean sweep of the August 9th running of the unlimited event. Stanley Sayres' world record holder placed first in all three heats of the ninety mile race. The driving assignment was shared by Joe Taggart and Lou Fageol.

The Sayres camp was to have two entries, "Slo-Mo-Shun IV" and "V"; Fageol was to drive the latter. A scant four days before the big race, the "V" broke a propeller while traveling in the neighborhood (Turn to Page 32)



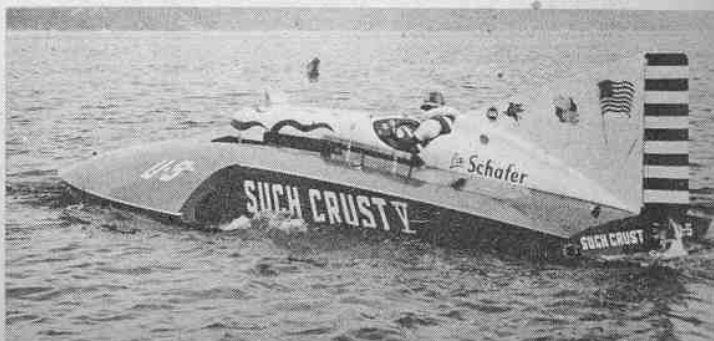
(Below) "Miss Great Lakes II" is another Arena hull and it was driven by the capable Danny Foster. More power to her next year!

(Below) "Gale II" was "Slo-Mo-Shun IV's" most dangerous contender in the 1953 Gold Cup event. She ended up a very good, fast second.

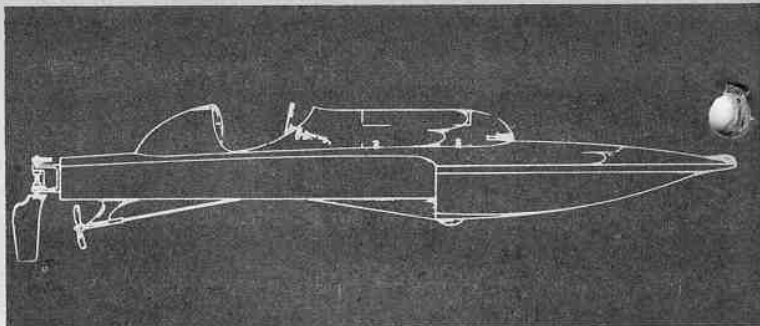


(Below) "Gale II" and "Such Crust V" hit the line at the start of the second heat very close together. (All photos by Carver-Swanson.)

(Below) "Such Crust V" is a Staudacher hull and is powered with twin Allison engines. Accident knocked her out before the race.



(Below) Justrite Life Guarder light.



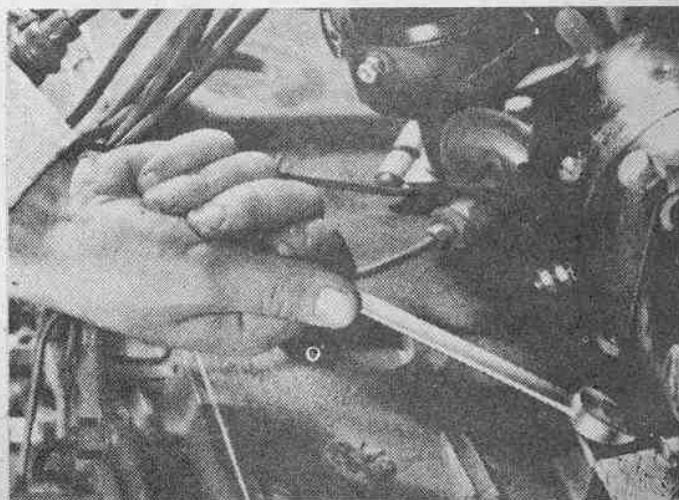
Profile of Champion 135-136 c.i.

It's
NEWS



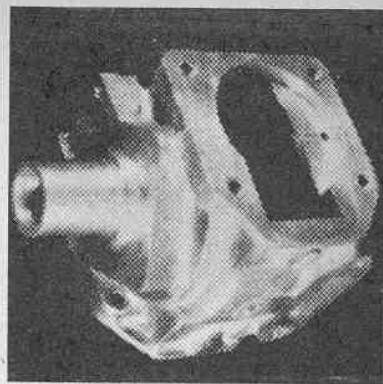
Self bailer.

(Below) Snap-On wrench





Swift X-100 hull.



Ezzo C. S. Crankcase

C SERVICE CRANKCASE

Ezzo's Marine Service, 150 West Lane Avenue, Columbus, Ohio, announces a new heavy duty Tensiloy aluminum C.S. crankcase which has been A.P.B.A. approved.

PLASTIC LIFE JACKET

Tired of soggy, wet, faded conventional type racing jackets? Then you can get one tailor-made to any chest size in red, blue, yellow or silver, with long lasting color-fast, plastic construction from Bud Wiget, 200 Wiget Lane, Concord, California. Price is \$16.50.

B AND C RACING PARTS

Drivers of SR's and PR's interested in replacement castings and accurately machined parts can obtain a descriptive price list on SR and PR items from H. H. Fuller, 2317 Sterling Avenue, Independence, California.

WHITEHOUSE LOWER UNIT

Whitkum Company, Highland Station, Springfield, Mass., announces production of a new racing lower unit designed by John Whitehouse. Whitehouse has actively participated in Class F stock utilities and was winner of the 1948 Albany-New York Marathon. The unit, of particular interest to F drivers

who can now use C units, will sell between \$135 and \$150. The unit is designed for full surface operation and comes with a 90 day guarantee. As a new kink it will be shipped packed in a blue felt-lined hardwood case with built-in racks to hold three propellers. Whitkum expects also to make propellers in two diameters and six pitches, designed specifically for use with the new unit.

WEDGE-GRIP OPEN END WRENCHES

Snap-on Tools Corporation of Kenosha, Wis., announces a new open-end wrench which is claimed to grip nuts surely and safely even when held at angles up to 60°. This should be good news for any of the inboarders working in tight corners. A boxed set of three, covering nut sizes 7/16", 1/2", 9/16", 5/8", 3/4" and 7/8" sells for \$5.95.

136 CUBIC INCH HYDRO PLANS AND KITS

The popularity of the new stock A.P.B.A. inboard hydroplane racing class known as the 136 which uses the same hull as the 135 c.i. class has caused many inquiries. Champion Boat Works, 1524 West 15th St., Long Beach, California, has complete plans available for this class hull at \$13.75. A kit of frames,

which eliminates much time and effort in building this class of inboard hydroplane can be had for \$150. Because of the tremendously increasing demand for Champion boats, plans, and kits, nearly 200 dealers have been set up in the United States and several foreign countries. Newest of the Champion boat, plans and kit dealers are Sports Craft Distributors, Inc., 414 Tatar St., Pasadena, Texas; Maypole Boats and Motors, Inc., 1501 West Madison St., Chicago, Ill.; Northwestern Boat and Manufacturing, 19740 Ten Mile Road, Detroit 19, Mich.; Andrew Mullen's Boat Shop, 6600 Shattuck Avenue, Oakland, Calif.; Trading and Transport Corp., Ltd., Havana, Cuba; Jack Bolton, Inc., 1725 Sheridan, Denver, 4, Colo. Anyone wishing further information concerning Champion boats and kits may contact these concerns directly.

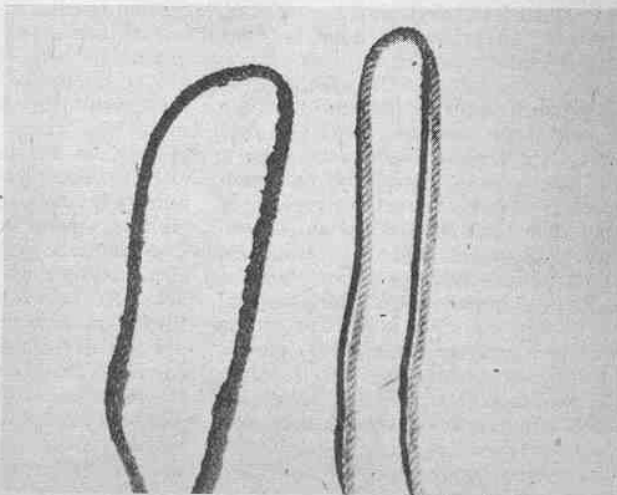
BLINKING BEACON LIGHT

Ideal for the resort home owner expecting boating callers at night is the new Justrite Life Guarder, a small portable blinking beacon, perfect to direct your incoming guests to your dock. It lists at \$4.95, less batteries. For information write Justrite Manufacturing Co., 2061 North Southport Avenue, Chicago, 14, Ill. (Turn to Page 25)

(Below) Arkansas Traveler's Spraint.



(Below) Treated and untreated line.



the **INSIDE**

OF

STORY

RACING FUELS

PART VI

By Ted Powell

Editor's Note: In previous issues our fuel expert, Ted Powell, has discussed the physical characteristics of racing fuels and has removed much of the mystery from what has heretofore been a carefully guarded, secret subject. This article is devoted to the chemical properties of racing fuels and should be read by any racing man who is planning to homebrew his own hot mixtures.

Future articles will cover a listing of detailed formulas for various types of engines, different competitive situations, as well as methods to be used in blending and precautionary measures to be taken.

A FUEL or fuel additive's chemical stability is its resistance to chemical change with age or under operational conditions. Since most special motor fuels are also industrial organic solvents, some of them exhibit chemical deterioration effects. These can result in gumming, tarring, precipitation deposit and acid-forming actions.

When using water-soluble fuel components with hydrolyzing tendencies, anhydrous (dry) grades must be used and kept tightly sealed to block off atmospheric moisture. Or else, "wet" blends can be used on hot and dry days for better performance, and the fuel system and engine flushed out with a short run on some "straight" fuel such as aviation gasoline, motor benzol, or technically pure alcohol, after a competition event or test run. Stainless steel carb jets, manganese-bronze fuel-line fittings and anodized aluminum fuel tanks are a big help here. Use of the new 1-micron synthetic-colloidal graphite lubricant put up by the Acheson Colloids Co. of Port Huron, Michigan, helps out on carb and engine corrosion reduction by plating a microscopic film of chemically inert graphite on all moving bearing surfaces.

Certain of the more chemically ac-

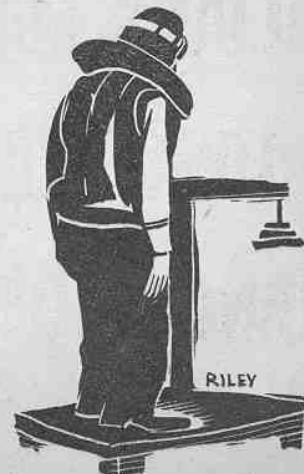
tive hydrocarbon fuels such as the olefin and aromatics, tend to oxidize and polymerize and form gummy deposits in the fuel system, dark tars in the hot induction system and varnish and resin in the engine. Only pure motor grades of benzol should be used in piston engines, such as are available from the Barrett Division, Allied Chemical and Dye Corp., 40 Rector St., of N.Y.C. Castor oil can turn rancid and form gums and heavy organic acids, especially in the cheaper grades. The AA or "crystal" grades of castor oil should be used in piston engines. This can be bought from Eimer & Amend Division, Fisher Scientific Co., 635 Greenwich St., N.Y.C.

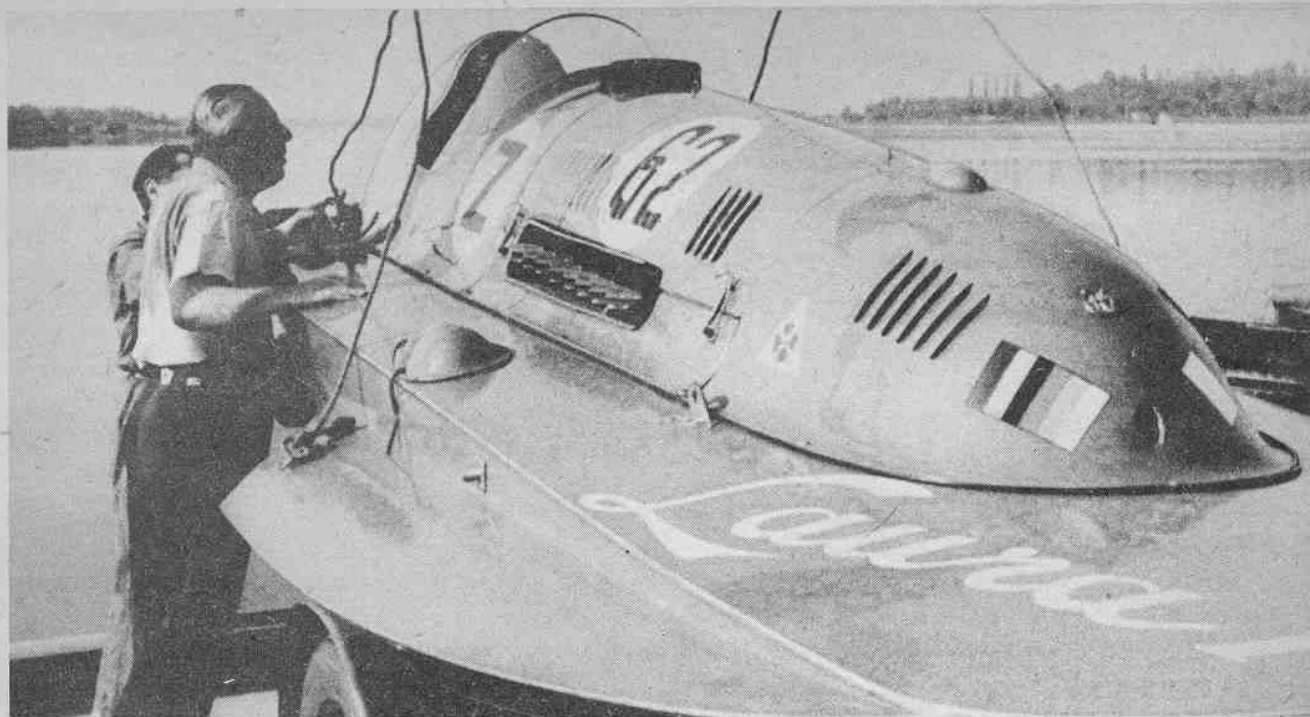
Anti-knocks such as T.E.L. or T.A.L. (tetra-alkyl-lead) may precipitate out of aviation gasolines, especially in the presence of sulphur compounds and moisture. Since most gasolines also contain various trade-mark and fuel-type marker dyes, gum inhibitors, rust inhibitors, lead anti-precipitants, engine lead evacuants, engine lead-deposit anti-erosion agents, upperlube oils, etc., mixing certain different brands of fuels, or mixing in certain types of "detergent" oils or impure and "wet" special fuels, may result in lead precipitation, gumming and other deposits in the fuel system. In the case of old, stale and slightly moist gasolines, the protective anti-gumming, anti-rust and anti-precipitant agents may become exhausted. The resultant reaction by-products may then produce an opposite acceleration action to aggravate the very condition they were intended to inhibit.

For this reason, among others, fresh and clean fuel components should always be used for serious competition work. Large ceramic-and-glass fuel filters are helpful since fuel precipitation and water separation tendencies can be quickly spotted visually when trying out new and untested fuels.

Most motor fuels contain from .001 to 5% organic acids and traces of other potentially corrosive chemical impurities such as organic aldehydes and peroxides, and sulphur and halogen (chlorine, bromine, etc.) compounds. The total amount of corrosive impurities generally depends upon whether the fuels are crude grade (less than 80% pure), commercial (80-90%), industrial (90-98%), technical (95-99%) or chemically pure (96-99%). Only the industrial, technical and chemically pure grades or the special motor grades of fuels and solvents should be used. Cheap fuel components are mighty costly economy in the long run.

If the racing man is a chronic experimenter and prefers not to buy ready-mixed fuels from racing-fuel suppliers, and is technically qualified and equipped to handle toxic and explosive chemicals, he can obtain clean grades of special fuel components from such chemical firms as Carbon & Carbide Chemicals Corp., 30 East 42nd St., N.Y.C.; Commercial Solvents Corp., 260 Madison Ave., N.Y.C.; U. S. Industrial Chemicals Corp.,
(Turn to Page 30)





(Above) R. C. Welles, A.P.B.A. Chairman of Region 5, looks over Mario Verga's "Laura 1." It is hoped that through the mutual efforts of Mr. Welles (also Orange Bowl Regatta Chairman), Commander Mansfield and BOAT SPORT's Paolo Speroni, that the stellar Italian drivers will compete in Florida during coming winter.



R. C. Welles, right, and Italian Champion Mario Verga at Milan artificial lake site where Signor Speroni arranged demonstration of world's 800 kg record holder, "Laura 1."

ITALIANS MAY COMPETE IN 1954 MIAMI ORANGE BOWL REGATTA

BOAT SPORT, through its European correspondent Paolo Speroni, has been at work this last summer trying to arrange for visit to the U. S. of three key Italian pilots: Mario Verga, World Champion in the 800 Kg. class, Ezio Selva who recently beat the champion in a major German race, and veteran racer, Castoldi.

BOAT SPORT arranged a meeting between Paolo Speroni and R. C. Welles, A.P.B.A. Chairman of Region 5. Mr. Speroni introduced Mr. Welles to the President of the Italian Motorboat Federation, Mr. Borromeo.

The racing difficulties that exist are primarily the riding characteristics of the Italian boats. Since they are limited only by weight at 800 kilograms, their high speeds of over 140 m.p.h. are attained by use of superchargers on small displacement engines on very light weight hulls. Thus it would be necessary for the Italian competitors to compete against the Gold Cuppers of much greater size.

It is hoped that arrangements can be made with the A.P.B.A. at the Orange Bowl Regatta in Miami to present some events under the international class regulations. Our most recent word on this matter concerned a visit to Mr. Speroni by Commander Mansfield, Chairman of the Miami, Florida, event.

Not only is BOAT SPORT's European correspondent active in his associations with personalities of the sport but he has recently added a new Joe Swift hydro and a Merc 25 to his own equipment and has been campaigning it around the Milan and Como Lake section. (End)

KNOW YOUR SPEEDBOAT CLASS

Two loyal adherents of Class C racing runabouts in the Pacific-Northwest region are Bill Rankin, pictured in R-2, and Clayton Show, shown in R-8.



THIS MONTH BOAT SPORT in its fifth article in this series covers the basic class specifications of the Class C Outboard Racing Runabout under A.P.B.A. rules and its equivalent, Division I Class C Runabout under N.O.A. rules. Previous classes covered: April '53 issue: 48 c.i. hydro and runabout (now 44 c.i. runabout), Class B Stock Outboard Runabout, Class M Racing Hydro; the June '53 issue: Crackerbox, Class B Stock Outboard Hydro, Class A Racing Outboard Hydro; August '53 issue: Class B Racing Hydro, Class J Stock Outboard Runabout and 136 c.i. Inboard Stock Hydro; October '53 issue: Class C Outboard Racing Hydroplane, Class D Stock Outboard Runabout and 135 c.i. Class Inboard Hydroplane.

CLASS C OR DIVISION I OUTBOARD RACING RUNABOUT

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

A.P.B.A.—the runabout hull shall not be less than 225 pounds when equipped with inboard fuel tanks and not less than 200 pounds with tank on the motor. The weight shall include steering wheel,

motor, motor controls and useful hardware but shall not include tools, cushions, temporary seats, battery, fuel, life preservers or similar equipment. All weights shall be useful and necessary for structural strength.

The total racing weight of runabouts including crew and motor shall be a minimum of 500 pounds.

N.O.A.—An overall weight of 385 pounds is imposed and crew in addition to driver shall be considered a part of the overall weight. The overall weight includes boat weight and that of driver and passengers, including life preserver, crash helmet or other paraphernalia customarily worn during the race but not including motor. With an inboard fuel tank the overall weight is set at 410 pounds.

A.P.B.A. and N.O.A.—1. The hull must conform to the general classification of a displacement type. No steps or breaks in the longitudinal or transverse continuity of the underwater surface will be permitted other than the keel. Lapstrake or reverse lapstrake design shall be permitted only to a maximum depth of $\frac{3}{4}$ " and the sum total of any reverse curve or lapstrake shall

not exceed $\frac{3}{4}$ " when measured in the total width of the boat.

2. Boats may not be dependent upon external air pressure or tunneling effect to obtain planing assistance.

3. No restriction as to decking.

4. The minimum overall length from transom section farthest aft to bow shall not be less than 13'

5. The boat sheer line must be continuous from stern to bow and the sides of the hull must be continuous without a break from the chine to the sheer line.

6. Boats shall conform to the following measurements: from bow, minimum width of decking at 2', A.P.B.A., 9"; N.O.A., 6"; at 4', A.P.B.A., 16"; N.O.A., 16"; at 6', 22" both A.P.B.A. and N.O.A.; at 8', 27" for both A.P.B.A. and N.O.A. From the bow, minimum depth of hull from deck to bottom: both N.O.A. and A.P.B.A., at 2', 11 $\frac{1}{2}$ ", at 4' 15 $\frac{1}{2}$ ", at 6' 18 $\frac{1}{4}$ ", at 8' 17".

Motor restrictions: (A.P.B.A. & N.O.A.)

The motors shall be of a piston displacement of 20 to 30 cubic inches. All other restrictions are the same as those listed for the C outboard racing hydroplane, October BOAT SPORT. (End)

IT'S NEWS

(Continued from Page 21)
EASY WAY PAINTING

To make your touch-up job easier, a self-spraying enamel container retailing for \$1.80 has been introduced by Arkansas Traveler Boats. Their address is Southwest Manufacturing Co., PO Box 2339, Little Rock, Ark.

NEW SWIFT X-100

Joe Swift of Swift Woodcraft, Inc., Box 597, Mt. Dora, Fla., announces a completely new and radical departure in outboard hydroplane design which offers new possibilities in performance and handling characteristics. He's a boat builder whose three-point A-B hydro holds six national championship titles and whose model UHD-111 C, D or F hydro already boasts three national titles as well as the 1952 Hearst Trophy and the 1952 Class D mile record. The new X-100 pictured here lists at \$425, FOB plant, and is designed for C and D stock or racing engines. Framing is of aircraft Sitka spruce with plywood gussets. 1/4" mahogany plywood is used for planking. It is available in color combinations of red, blue, azure, yellow, black, green, ivory, orange, white, grey and maroon in standard arrangements. Swift Woodcraft also handles a complete line of boating hardware and accessories.

NEW BAILER PLUG

A new leakproof, rust-proof self bailer or drain plug for outboard pleasure boats, also adaptable for outboard or inboard racing equipment, has been announced by Webco of 6010 S.W. 31st, Miami 44, Fla. Known as the Webco Miami, the new expansible bailer is made of brass and neoprene and is unaffected by oil-gasoline mixtures, racing fuel or salt water. It is made in both 1" and 1 1/2" diameters and lists for \$2.50, postage paid.

JONES CHROME FOR MERC "10" OWNERS

Wes Jones of 1 Yale Avenue, Claymont, Del., who has established a considerable reputation for hard chrome plating of outboard racing equipment, announces the extension of his cylinder service to include grinding, chrome processing and finish grinding for Merc "10" owners. This will offer Mercury owners longer wear with better ring seal than would be possible with worn stock cylinders.

NEW MILDEW RESISTANT MOORING LINE

Outboard runabout and cruiser owners should be interested in a new manila anchoring and mooring line specially treated to resist mildew and rot. The line, available in 50', 100' and 150' sections in either 7/16" or 3/4" diameter, is being produced by Plymouth Cordage Company, Plymouth, Mass. Treated line also has a high resistance to water absorption and a low elasticity. It is definitely a premium line at a price competitive with untreated products. (See picture of treated and untreated line on Page 21.) (End)

Boat Sport

SID-CRAFT Still Holds World's BU 5-Mile Record



Jim Coulburn of Burlington, N. J., driving a stock model SID-CRAFT drove his BU outboard to new, sizzling records in Florida of 49.793 m.p.h. for the mile straightaway and 45.918 m.p.h. for the five-mile competition. Join the record breakers by ordering your SID-CRAFT now. "We "took" the BU class in the Albany-New York Outboard Marathon! John Covals of Hasbrouck Heights, N. J., won with a Sid-Craft in BU. Bob Wahl of Rochester, N. Y., placed second with a Sid-Craft in the D's. Ronald Zuback won National Championship at Oakland, Calif. in BU.

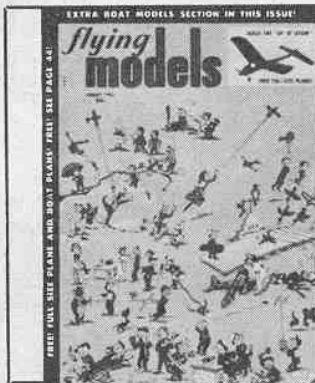
LATE NEWS:

SID-CRAFT Wins High Honors With Stock Utilities at the Syracuse Nationals, August 30 and 31st.

Richard O'Dea of Paterson, N. J. took two heats in AU—Ronald Zuback of Morgan, N. J. placed third in AU—DU was taken by Gerald Waldman of Milwaukee.

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HAZARD FLIES AGAIN!

ALLYN B. HAZARD, one of the pioneer experimenters in the field of skim boating by means of hydrofoils, has come up with a brand-new version as a result of his summer's experiments in New Mexico.

Hazard's originally successful outboard-powered hydrofoil, "Water Hazard IV," went into production over a year ago. This blunt nosed, sled type runabout, powered by a Johnson 25, was capable of carrying three passengers over the surface of the water at speeds up to 35 m.p.h.

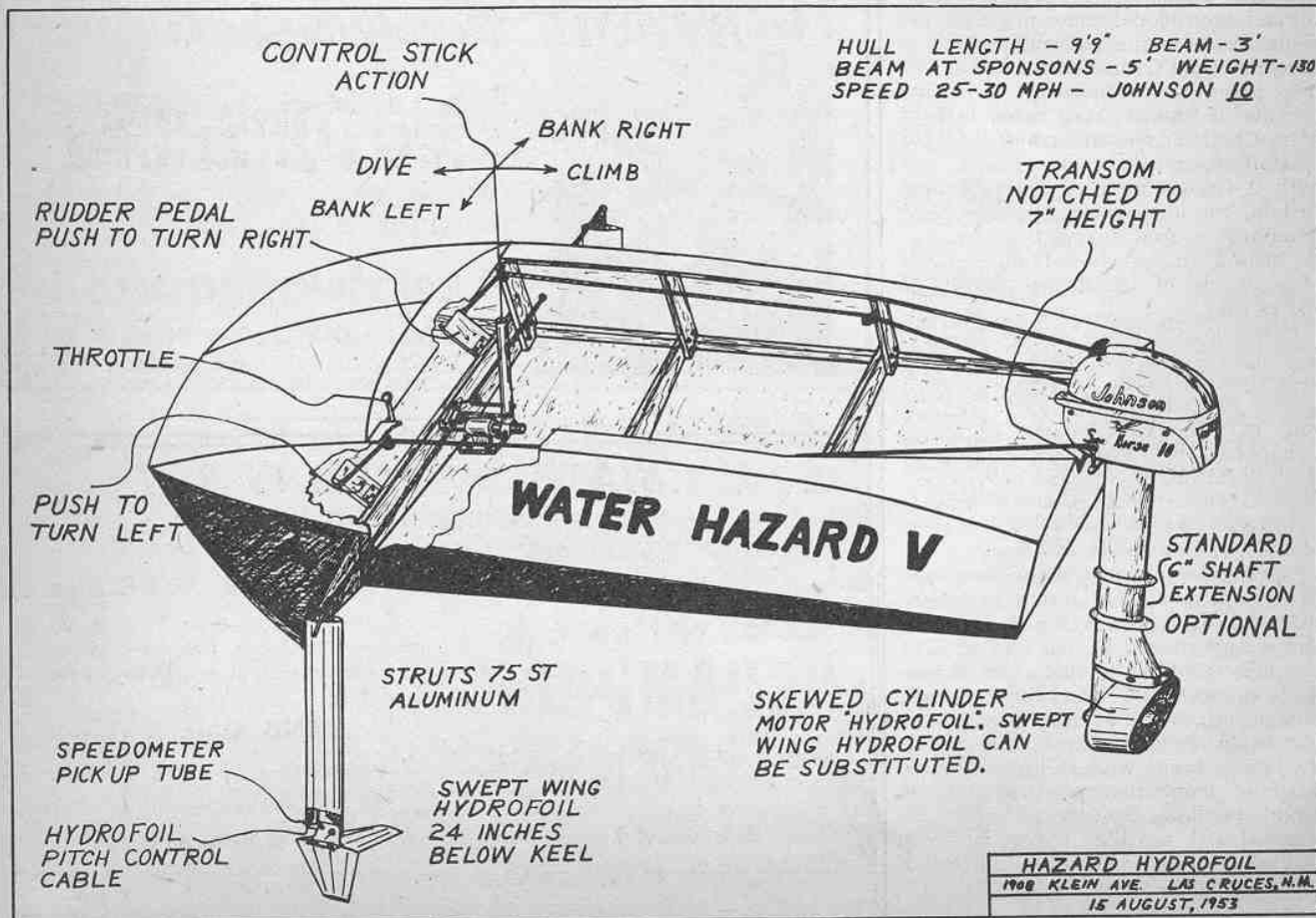
The newest version, the "Hazard V," is designed for use with a lesser horse-powered plant and during the summer proved very stable and easy to handle when powered by a Johnson 10. With two passengers it has attained speeds of over 25 m.p.h.

The biggest news from Hazard is his completion of sets of plans and construction instructions for both "Water Hazard IV" and the smaller "Water Hazard V."

(Continued on Page 27)



"Water Hazard V" in action! Operator has pulled back on control stick and boat has jumped until foils have left the water. When foils emerge a tremendous amount of spray is thrown as pictured here. The airplane control system feels so much like the control of aircraft that Hazard says anyone who first learns to fly one of his hydrofoils should be able to solo an airplane in less than two hours. Hydrofoils and struts are machined with 75 S.T. aluminum. All other parts can be built with minimum of machining and about one hour's welding, so Hazard tells us. Most of the parts made from common hinges. (Photo by Phil Mead).



Hazard has also announced that completely finished struts and hydrofoils are now available—the struts being made of 75 S.T. aluminum. With the four sets of drawings, complete construction directions and operational directions, it is now simple for any one to build his own hydrofoil outfit and to water skim solo using the aircraft control system with no other outside tutoring necessary. (End)

TAILOR YOUR SPEEDBOAT TO SUIT YOURSELF

(Continued from Page 6)

from a trailer motor box to the pitting location, then outboard racing isn't for you.

Ease of handling around the pits loads the competition card deck in favor of an inboard. However, this physical convenience angle isn't quite as simple as a question of just lugging boats in and out of the water. The power winch usually supplied at any regatta to handle inboards is swell at the regatta itself. But what about testing? The inboard circuit covers many miles and the power lifts are only on hand at the regatta site—in most instances on regatta day—or for a test period a day or so prior to the event. What about testing your outfit near your home? Is it possible to make arrangements for crane service? Without the crane, getting a heavy inboard in and out of a testing area may be pretty difficult—and if you're going into this speedboating sport seriously you will want to do plenty of testing.

Ease of transportation is another factor to be considered under physical convenience. Assuming you could get a respectable Gold Cupper at a giveaway or near giveaway price, could you afford to have it hauled from race to race? Most Gold Cuppers are transported by specially designed tractor-trailer trucks with A-frames built on their trailers just for the purpose. And getting them from spot to spot during the course of the season can cost more than the price of a couple of brand new European sports cars.

If you don't like to pull a boat trailer behind your car and want to compete in a class in which the speedboat hull can be carried on racks on the top of your car, then the balance of choice swings back to the small and comparatively lightweight outboard hull.

Speed characteristics should have a definite bearing on your selection. Competition, if it's closely matched, can be plenty of fun at speeds well under 50 or 40 mph for many contestants. If competition at 40 mph gives you pleasure and competition at 75 mph causes your stomach to fill with butterflies before the event and draw up as tight as rawhide during the race itself, then I think you would be foolish to consider one of the faster classes with well over a mile-a-minute competition speeds. If you are a real speedbug, however, and won't be satisfied with anything under the mile-a-minute mark, feel bored bouncing

(Continued on Page 28)

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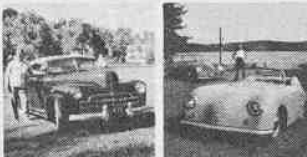
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TAILOR YOUR SPEEDBOAT TO SUIT YOURSELF

(Continued from Page 27)

along at a yawning 55 mph on the water, then put your investment into faster moving equipment.

Remember, too, that in the lesser horsepower classes, either inboard or outboard, the hulls are usually extremely lightweight. Only a combination of light weight hull and relatively lightweight passenger will result in peak speed expectancy. The 210 pounder would drive under a terrific handicap in 48 c.i. hydro, 44 c.i. runabout or JU, AU runabouts or Class A racing hydros. In order not to operate under a weight handicap, tailor your class to your weight. Consult the minimum weight limitations and select your most natural spot. If you're a beef truster, keep up into the higher horsepower brackets.

Ride characteristics are a factor to be considered. A teenager or even a racer in his twenties or thirties can take an afternoon of competition in a high-bounding outboard runabout or take the more rugged handling of the inboards. But once you get into the grey-haired brackets—and there are plenty of hard riding boat jockeys over fifty—two or three rugged heats on rough water have a way of marking a driver's age. Your own strength and stamina should be considered. More than a few speedboaters spend Monday and Tuesday limping through their work, full of aches and pains from the previous week-

end's competition, just because they haven't tailored their speedboats to their own physical conditions.

Inherent danger should also be given some thought. Of all the automotive speed sports, speedboating is by far the safest. Fatalities are rarities—but they have occurred. Serious injury isn't commonplace but each season some unfortunate speedboaters are badly hurt in their sport. It should be apparent that in a keenly contested class such as the 135 or 266 c.i. inboard hydros with straightaway speeds of nearly 100 mph, that the danger inherent to those classes is far greater than will be found, for example, in one of the smaller-powered inboard service runabouts.

Some people gain a part or the whole of their thrill in competition from the knowledge that what they are doing is dangerous. The realization that a mistake on their part or an accident to their equipment can spell certain injury adds to the appeal of the game. If your emotional make-up is of that sort, then inherent danger is of no importance to you. But why punish yourself or expose yourself to ridicule by owning a potential winning outfit if you are afraid of it and don't drive it to its peak? Racing should be enjoyed. Don't allow yourself to make the sport a masochistic courage proving ground. Better to be just a spectator.

Financial considerations, quite naturally, have their place. Select equipment within your means. Racing is available on a reasonably big time competitive scale to everyone with from \$250 to spend for a secondhand piece of equipment to the individual ready and willing to invest \$50,000 and upwards. Upkeep considerations are as important, or even more so in some instances, than initial outlay. If you are an inboarder with a very limited racing budget, it would certainly seem wise that you select the competition class in which the rules limit contestants to stock gasoline fuel. At most large regattas, stock tank fuel is supplied free. If your class permits the use of special racing blends, your operational costs are going to zoom upward in a hurry, for instead of getting your fuel free or for 30c a gallon or less, to keep up with the crowd using hot fuels you will find yourself paying \$1.50 and up a gallon.

What about the cost of replacement parts? Gold Cup Allison engines can still be bought for nearly as little as you would pay for a four cylinder outboard engine but that's just the beginning. Nearly every outboarder can get a replacement for a cracked block or a blown crankcase within a few days' time and at a relatively modest figure.

And on the subject of costs—can you make a living or even a few extra bucks now and again in speedboating?

Most regattas post trophies and merchandise prizes only. The outstanding exception is in the outboard racing hydroplane field where regatta purses of \$750 to \$3000 are not unusual.

For the serious driver who doesn't attach value to an amateur standing, competition in the outboard racing hydro field offers the greatest chance to break even or finish a racing season ahead of the game dollar-wise.

More highly specialized than the utility outboard classes, the strictly-designed-for-racing equipment is today cheaper to maintain (parts are generally less expensive than like utility parts for similar cubic inch displacement engines) than the stock motors. But since nearly all equipment is raced with the special alcohol blended fuels, fuel costs are high.

Isn't inboard competition prohibitively costly? That depends on the class. Several classes of inboards use Ford V-8 60 engines. The newest of these classes, the 136 cubic inch, limits the engine to basically a stock condition. It is quite possible, by building your own hull or buying a secondhand hull, to have a completely set up, well running 136 c.i. for under \$500.

Speedboating, if you tailor your class to suit yourself, can be lots of fun. If you don't plan before buying you may find your contemplated sport is just a huge headache. Consult drivers at regattas, help out as a pit stooge, talk to members and officials of local boating clubs and the national sanctioning bodies. And then only after you have weighed all factors should you go ahead and buy your equipment. (End)



POUGHKEEPSIE-HUDSON MARATHON REPLACES ALBANY-NEW YORK EVENT

WHEN IT WAS announced this year that the Albany-New York outboard marathon would be discontinued for lack of a sponsor, John S. White and other members of the Mid-Hudson Outboard Racing Association said, "We'll have to run one of our own." And they did just that, getting A.P.B.A. sanction for an 80-mile marathon from Poughkeepsie to Hudson and return. Held on July 4th, this stock event drew 81 entries in 6 classes. The above photograph shows the Class A field getting away, while other boats in the foreground are pulling out from the floats to avoid the swells of a downbound tanker.

Thanks to Grant Ball of Millbrook and his Higgins inboard runabout, Harold

Hersey, editor of BOAT SPORT, photographer Nick Carter from Quincy, Mass., and I enjoyed a spin up the Hudson and back and found it a most pleasant way to cover a story.

Class winners were: A:—15-year-old Cliff Miller, Kingston; B:—Denis Grenier, Howard Beach; CM:—John Montesi, Brooklyn; D:—Thomas Whalen, New York; EM:—Wilfred Rogers, Pelham Manor; FM:—William Allard, Pittsfield, Mass.

Congratulations to the Mid-Hudson Outboard Racing Association for keeping marathon racing on the Hudson River.

GEORGE PALMATEER, *Sports Editor*
Poughkeepsie New Yorker

NEW BOOK ON OUTBOARD MOTORS

The American Technical Society of Chicago has just published a new 160 page book titled "Outboard Motors and Other Two Cycle Engines."

The authors are Ernest Venk, Instructor in Auto, Aviation and Marine Mechanics at Fordson High School, Dearborn, Mich.; Irving Frazee, Supervisor of the Service Department Technical Publications Section, Ford Motor Company, and William Langdon, technical writer and promotional service manager, Plymouth Motors Corp. The book is simply and clearly written and profusely illustrated. Its eleven chapters include nearly everything the pleasure boating outboarder needs to know about fundamental principles of operation, the construction, methods of repair and maintenance of the outboard motor. The book also includes an interesting chapter devoted to the Lauson four-cylinder outboard motor. Of particular interest should be Chapter 10, which is devoted to trouble shooting and explains precisely what to do when an engine fails to start, what are the causes of hard-to-start engines, over-heating engines, excessive vibrations and knocking, erratic running and lack of power. The editors of BOAT SPORT feel that they can wholeheartedly recommend this book to the outboarder. The book may be ordered through any book store.

(End)

TUNING THE MERCURY B FOR STOCK COMPETITION

(Continued from Page 13)

porcelain. If the plugs have a whitish coloration, your engine is running too hot. This may be due to improper breaker point gapping or improper spark lever location.

For the correct operating position of your spark lever, start your motor and allow it to warm up several minutes at slow speed. Then slowly advance the spark lever to the full open position. With throttle wide open, slowly return the spark lever until by ear or by water speedometer or tachometer you note a falling off in speed. From this location, re-advance the spark lever 1/2' and mark its location as a reference point for future use.

If, after setting your breaker points, your plugs still appear to be running too hot, move to J3 Champions, and if still too hot, shift to K3, an even cooler range plug.

If your plugs however, tend to foul and the J6's appear moist or oily with blackish deposits on the porcelain, this will serve as an indication that you're running with too rich a carburetor adjustment or having checked this, that your job requires a set of new rings, or the surfaces of the cylinders have become worn or scored.

After this first superficial ignition check, you are ready to move to the innards of your power plant to see that it is in proper condition. After remov-

ing your gas tank and starter assembly, grasp the flywheel firmly and check it for end play. This is the amount of "give" in a vertical position that the flywheel may be moved without shifting the case itself. That is, it is the clearance or freedom of movement of the crankshaft within the crankcase. Many stock motors have no end play at all; others have too much. I recommend .005" end play as it offsets friction and a tendency to overheat upper and lower main bearings that can occur with either an overly tight or too slack a set-up. The correction of lack of end play or too much end play may be made after the motor has been partially disassembled.

For shims to remove or partially remove end play, ask your Mercury dealer for a selection of shims of different thicknesses, designed for use in the old utility type straight lower units. These, inserted under the lower ball bearing, can be built up to take up the required amount of slop.

To tear down the motor it is suggested that you obtain from a Mercury dealer or distributor a special power head stand. This—a plate for fastening in a vise topped by a male spline—sells for under \$2.00 and will be invaluable to you in your repair and maintenance work. A substitute for this, which you will note being used in the photographs, is a bent or damaged driveshaft clamped in a bench vise, so that the power head stripped down may be held in position by slipping the female couplings of the crankshaft over the male end coupling of the driveshaft.

It is impractical for any stock motor owner to consider completely tuning and servicing his own motor unless he is willing to invest in a minimum set of special tools. The home garage set of end, sock and adjustable wrenches are not enough. Even to disassemble your utility engine calls for special tools to do the job easily and without damage to parts.

To continue your ignition tune-up, you will need first a starter ratchet wrench. This is a metal cylinder with four saw-tooth notches to fit the ratchet. It is equipped with a 1/2" drive hole for a standard socket handle. It is used to remove the starter ratchet nut. Many driver-mechanics use a plumber's chain wrench, such as illustrated here, to hold the flywheel. However, if you can't beg, borrow or jury rig some method of holding the flywheel, when tugging on the starter ratchet nut, Mercury distributors also have a special flywheel holder tool at a reasonable price.

After the starter ratchet nut has been removed, you will next need a flywheel puller tool. This tool consists of three central screws, centered about a cylinder of metal with a central 1/2" screw used to tighten down and draw the flywheel free. This particular tool should be in every stock utility racers tool kit. When used on the Merc B, which has a Scintilla type magneto with a plastic water protective cover, be careful not

(Continued on Page 30)

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TUNING THE MERCURY B FOR STOCK COMPETITION

(Continued from Page 29)

to tighten the three outer screws of the pulley too far through the flywheel or you will run the risk of breaking the plastic mag cover.

After removing the top of the mag plate you are ready to complete the ignition tune-up. One more tool will prove very handy to you. This is a timing gauge, Kiekhaefer part No. M-60-5126. This gauge costs less than \$1.25 and will earn its cost many times over.

With sparkplugs removed, screw the timing gauge into the sparkplug hole. Place your mag advance lever at the midway point between advance and retard. Then with one thumb placing pressure against the end of the timing gauge so that its base will rest against the top of the piston, rotate the powerhead until the moving part of the gauge is fully extended, which indicates that your piston has advanced to top dead center. At this point, the breaker points for this cylinder should be fully open. The recommended gap setting is .018". Rotating the motor 180° will bring the opposite piston to t.d.c. at which time the opposite set of breaker points should also be fully opened and this set, too, should be set at .018". Worn or pitted points should be replaced with a completely new set of points. If points appear in good condition and square up well, clean them by rubbing gently with fine sandpaper and then clean them carefully with a strip of lint-free paper. (Do not use paper on which there is any printing for the graphite may cause short circuiting.)

You will notice a piece of felt which serves as a cam block oiler keeping the crankshaft (which serves as the cam) lubricated so it will not wear the cam follower block. This should be lubricated occasionally by removing it and dipping it into a small amount of vaseline which has been brought to a liquid state by heat. Be particularly careful that none of this grease comes in contact with the breaker points.

To check and be sure that you have proper spark, ground one plug wire and hold the other about ¼" from any metal part of the engine. With spark plugs removed, you will find that you can turn the engine over readily with the flywheel not firmly locked down. If a good

rich blue spark jumps the ¼" gap, you can be sure that your coil serving that high tension line is all right. Test both sides of the magneto in this manner. Failure to get proper spark may indicate only dirty breaker points. Carbon tetrachloride is recommended to remove any remnants of oil or foreign matter which may have been left after sanding.

To adjust points, it is necessary only to loosen the screw which fastens the point breaker plate to the assembly; moving the entire breaker mechanism in the direction of the cam increases the gap and moving it away decreases the gap. Do not loosen the nut on the stationary contact screw.

At the time you have the sparkplugs removed, check the Helicoil threads in the sparkplug holes. These are the spiral spring steel thread inserts, used to carry the plugs into the soft aluminum plug hole. These inserts are used to prevent the soft metal from stripping but if the Helicoils are damaged, they should be replaced. Any Merc dealer can replace these for you very cheaply and it is a necessary safeguard, for buggered threads at a race can put you out of competition but quick.

On the latest models, Helicoil threads have been eliminated.

If after a complete ignition check up, the plugs still appear overly cool, you have no alternative if you want to bring your engine back to snuff but to pull the block and to check into the reason for your compression loss. If rings have worn smooth and the bores are not scored, a new set of rings should put you back in business.

If after inserting a new set of rings you suffer loss of power nearly immediately after running in the new rings, your block needs attention. Since the rules permit running oversize bores up to .020", you can legally have your blocks ground and set up with new pistons. But there's a catch in the rules. You can only put in factory furnished oversize pistons, which are now available. Some drivers have found that by taking an old standard piston and coating it with a coarse valve grinding compound that you can, by moving it in and out a few dozen times with a rotary motion, lap away minute scores and build back lost power for a time at least. This will offer good compression with the stock-sized piston set-up.

If you discover that you have badly scored blocks and you plan to continue to compete in strictly stock classes, you have no alternative but to buy a set of replacement blocks.

Several parts have been found to be subject to breakage under rough competition conditions. One of these is the gas tank bracket which tends to break just above the carburetor manifold. Some drivers have laid a bronze braze in this section (see photo) for added strength.

On some of the newer model lower units, excessive wear to the upper and lower bushings supporting the pin hold-

ing the swivel bracket, has led to friction plate fracture. Keep a careful check on these bushings and for marathon competition, it is a good precaution to replace them before each event.

Carburetor cleanliness is a must. Make a point of flushing and cleaning out the entire fuel system, tank, lines and carburetor before each race meet. As a safety precaution completely close your low speed metering jet, for in the event you are thrown or should flip, your motor will completely shut off. On the high speed jet regulation will vary dependent upon weather, atmospheric conditions, temperature, driver weight and type of boat, but in general, you will find that your motor will probably operate somewhere between three-quarters and a full turn for peak performance.

With good compression in your cylinders, a well worked over ignition system, and a clean, properly functioning fuel system, your Mercury B should run with the best of them. (End)

THE INSIDE STORY OF RACING FUELS

(Continued from Page 22)

60 E. 42nd St., N.Y.C.; Barrett Division, and Eimer & Amend Division, all of N.Y.C.; and from DuPont DeNemours of Wilmington, Delaware; Dow Chemical Co. of Midland, Michigan; Phillips Petroleum Co. of Bartlesville, Okla., and Eastman-Kodak Industrial Division of Rochester, N. Y., to name a few.

Some of the commercially available ethanol solvents such as Ansol or Solox make good racing fuel bases. These are also available in the dry anhydrous grades at extra cost, a handy item to have around in cool weather when fuel-separation troubles are likely to develop with water-soluble fuels.

Corrosive impurities will obviously cause fuel system and engine corrosion effects, especially in the presence of water, air absorption and dissimilar metals. Some types of sulphur and halogen compounds can be troublesome since they may burn inside the engine to form combustion products and thus combine with combustion and crankcase water vapor to form traces of sulphurous, sulphuric and hydrochloric acids. This is still another reason for using the better technically and chemically pure fuel components.

In playing it safe by buying his racing fuels ready-made from a reputable racing fuel supply firm, the racing man should make it a point to get the guaranteed total corrosive impurity and water contents ratings of the specific blends he gets. Only a yo-yo will siphon ½% acetic acid into his fuel tank.

In buying special fuel components, the writer makes an effort to obtain them in grades with total corrosive impurity contents of only .01 to .001%.

Even though chemically pure fuel components are being used, foreign-matter impurity contamination will sometimes occur accidentally somewhere

NEXT ISSUE

FEBRUARY-'54

ON YOUR FAVORITE

NEWSSTAND

DECEMBER 10th

along the line between manufacturer and consumer. This may consist of cloth lint, paint scale, rust, dirt, sediment, slime, cork chips, gasket particles, metal shavings, etc. These can clog up fuel and carb filters, or work their way past them endwise to foul up fuel-pump valves and carb jets, and score up bearing surfaces or cylinder walls. Regardless of the quality of the fuel components used, the blend should be carefully filtered through a porous ceramic or sintered bronze fuel filter in a dust-free and well ventilated room. *Metallic hardware should be grounded together with wire clip-leads to suppress friction and static electric charges, and all toxic-vapor health precautions and explosive liquid chemicals safety regulations rigidly observed. If large quantities of fuel are being poured, the ceramic filters and glass housings should have grounded wire screens fitted to them to help in cooling down the agitated fuels.*

Special fuels vary widely in their water solubility. This is significant since many modern racing fuels contain up to 10% water which has been deliberately introduced for internal-coolant purposes, especially in hot nitro blends. An important point here is the fact that the water-solubility of partially water-soluble fuels is a direct function of temperature. This point has tripped up many a racing man. Another significant point is that fuel solubility in water usually differs considerably from water solubility in the fuel.

Water is essentially insoluble in the hydrocarbons and only slightly soluble in the light ethers and nitro-hydrocarbons. It is fairly soluble in the heavier alcohols, ketones and esters, and in most of the acetals (di-ethers). It is completely miscible in all proportions in the light alcohols, ketones and esters and some of the special unsaturated ethers such as propylene oxide. In general, the lighter and simpler members of any given chemical family series of fuels and solvents usually possess a higher water solubility or "tolerance."

Straight gasolines dissolve only about .005% water at normal temperatures. The more volatile aviation gasolines dissolve about .007%, the higher solubility aromatics (benzol, toluol, the xylols, cumene, etc.) about .046 to .062% or about ten times that much, and aromatic gasolines about .02%. This indicates another slight power advantage of benzol over the gasolines in the way of a much higher moisture content and better internal-coolant action and ignition, if we ignore benzol's higher flame temperature. At normal temperatures, ethyl ether dissolves 1.3%, nitrobenzol 0.2%, nitromethane 2%, methylal 33%, butanol 20%, methyl-isobutyl ketone 2.2%, ethyl acetate 3.3%. Methanol, ethanol, isopropanol, acetone, methyl-ethyl ketone and methyl acetate are all completely miscible with water and some of them ionize slightly with it to form partial true-solutions.

In the base of blends, gasoline-aromatic hydrocarbon blends absorb about .01 to .03% at normal temperatures, gasoline-ethers about .01 to .34%, gaso-

line-ethanol 0.3 to 1.1%, gasoline-propanol 0.4 to 2.1% and heavy hydrocarbons acetone .03 to 1.8%. The exact amounts absorbed depend upon the fuel mixture ratio and temperature. An important point here, and another one which has tripped some racing men, is the fact that water can combine with fuels to form binary and ternary azeotrope semi-compounds which may hold much greater percentages of water than normally soluble in the fuel or fuels.

Since water-solubility of fuel blends consisting of non-water-soluble and water-soluble fuels, varies inversely with temperature, we have a tricky little item here which can cause a lot of grief in cool weather. A 90-10% blend of gasoline-ethanol, for instance, dissolves about 0.4% water at 95° F. but only 0.25% at 32°. Hence, under fuel conditions of high relative humidity and high temperature followed by a cold spell, fuel separation troubles may develop in unsealed fuel tanks as the excess water drops out of solution and settles to the bottom. The fuel blend may settle out into two or three specific-gravity-separated layers of different compositions, causing hard-starting, power loss, misfiring and stalling troubles. Water soluble fuel components intended for blending with non or low-water-solubility components in cool weather, should be obtained in the more expensive dry anhydrous grades. Additions of a few percent of the high solvency acetone, methyl-ethyl ketone and/or ethanol, help out here as water tolerance boosters and blend stabilizers.

A simple test for checking fuel-blend water-separation tendencies in cool weather, is to place a sample in a tightly sealed partly filled glass bottle to exclude air moisture and place it in a refrigerator for a few hours.

(Continued on Page 32)

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THE INSIDE STORY OF RACING FUELS

(Continued from Page 31)

The solvent and blend solvent powers of special motor fuels affects their mixing capabilities with each other and deterioration effects upon fuel system components. Generally speaking, most of the lighter special fuels have good or high solvent powers and will mix freely with each other in all proportions, especially if fairly anhydrous. This includes the lighter alcohols, ketones, ethers, esters, acetals and nitro-hydrocarbons. The few exceptions to this are some gasoline blends, such as gasoline-methanol, gasoline-nitromethane, benzol, ether and nitro blends with wet alcohols. When hi-hydrocarbon blends are being used for long distance racing, fairly dry ethanol and anhydrous methanol should be used, plus some high-solubility stabilizer like acetone or ethanol to get the gasoline and methanol to mix thoroughly and to prevent fuel separation. Nitrobenzol will not mix very well with gasolines if too much moisture is present and similar troubles may be encountered with wet methanol, hence blending agents may also be required for this nitro fuel. Most of the higher nitrohydrocarbons above nitromethane will blend in with gasolines if not too wet. Nitromethane will mix in with gasoline if some ketone or ester is blended in, or if an equal amount of a 50-50 mixture of nitropropane-1 and 2 are blended in.

Since most of the special fuels are also industrial solvents they can cause solvent action troubles with fuel pump diaphragms, flexible fuel lines, fuel system gaskets and paint finishes. This is especially true in the hot engine compartment area since most solvents' solvent power increases with elevated temperatures. The highly solvent ketones such as acetone will quickly snafu most synthetic rubber pump diaphragms, flexible fuel lines and gaskets. Special ketone resistant plastics should be used which will not harden up, fall apart or dissolve away. The light alcohols and esters have some softening action upon some of the synthetic rubbers and the aromatics slowly dissolve some of them. This is one of the reasons for the fuel pump diaphragm "sieving" trouble when using the excellent high octane aromatic motor fuels. The more common saturated ethers do not seem to bother fuel system plastics very much. Most of the special fuels have some softening swelling and drying actions upon fuel system cork gaskets which even the relatively mild hydrocarbons also do. The above general solvent damage remarks, of course, must be modified where fuel blends are involved because of the blend

solvent power factor which is hard to predict. Check small samples of the components fuel might be expected to damage in a solution of new or unfamiliar fuels. New and unfamiliar fuels should also be set aside in small jars in a cool and ventilated room. In blending mix, small amounts should first be poured in test tubes with the aid of glass pipettes or eye droppers. Plastic eye shields and light asbestos gloves are also a good insurance policy here in the event the mixture should erupt into an uninvited chemical geyser, with its attendant boiling, steaming and spattering.

Fuel odor is useful for identification purposes and as a rough indication of fuel purity. The mildly pungent gasoline, fermented beverage alcohol and cloyingly sweetish "hospital" ether odors are familiar enough to most of us to obviate the need for any comments on them. The aromatics of the benzol family have a tangy resinous pine smell, the ketones a pleasant fruity odor, the esters a perfumy "banana oil" odor, the nitros a strong and penetrating nut and "shoe-polish" odor, and the acetals and diethers a milder "ether" smell. When chemically impure, their odors tend to become soured and fouled, especially by sulphur compounds. In the case of commercial racing fuel blends, the components' characteristic odors are generally masked by the blending or else deliberately camouflaged by perfume scents to help cover up their "secret" formulas (most of which can be found in motor fuel patents dating back to World War I days.).

The toxicity ratings of special fuels are available in standard organic solvents and chemistry handbooks. These should be carefully studied by all racing pros. The aromatic hydrocarbons are deadly even in very small concentrations as low as 1% in the air when breathed continuously over extended periods. Methanol and the nitros are also lethal in light concentrations, especially the toxic nitrobenzol. Practically all of these toxic chemicals must now carry the ominous skull-and-cross-bones in most States. Even the gasolines are toxic in 2% or 3% levels in air, especially if the poisonous T.E.L. or T.A.L. are present.

Since most modern racing fuels involve one or more of the above components, *care must be exercised not to allow their absorption by the body via the lungs, mouth or skin. Extra care must be taken to prevent the race driver or pilot from coming into contact with any fuels or their vapors just before a race event or test run. To do so will materially affect his eyesight, judgment and reflexes. Nitro fuels, benzol, methanol and leaded fuels should never be allowed to touch the skin, their fumes must not be inhaled and they should never be sucked out of tanks via a rubber hose and mouth suction.*

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

BOAT SPORT VISITS THE PITS

(Continued from Page 14)

Lawrence Freeman, Milwaukee, Wis., Class C, 2 18:32 for an average of 39.84 m.p.h. in a Johnson powered Willis hull and Bob Murphy, Springfield, Ill., 2 23:58 for an average of 38.58 m.p.h. in a Johnson powered Speedliner.

Second and third spots in each class were, respectively: Class A—Lee J. Mei, Grand Rapids, Mich., Mercury Motor, Wagemaker hull, 2 39:06; William Neil, Columbus, Ohio, Mercury Motor, Champion Hull, 2 40:01. Class B—Ronald Zuback, Morgan, N. Y., Sid-Craft hull, Mercury motor—42.77 m.p.h.; Marvin Hergert, Oshkosh, Wis., homemade hull, Mercury motor—42.48 m.p.h. Class C—Ken C. Dreusicke, Wautoma, Wis., Switzer hull, Johnson motor—39.48 m.p.h.; Michael D. Ahern, Fond du Lac, Wis., Lakecraft hull, Johnson motor—35.16 m.p.h. Class D—second place, Walter E. Robbins, Springfield, Mass., Switzer, Mercury—50.76 m.p.h.; third place, Stan Adrian, Lee's Summit, Mo., Switzer, Mercury, 50.28 m.p.h. Class D1, Ralph G. Davis, Milwaukee, Wis., Switzer, Johnson—37.02 m.p.h. and Dick Hansen, Menasha, Wis., Thompson boat, Johnson motor, 36.84 m.p.h. (End)

"SLO-IV" . . . ONCE MORE

(Continued from Page 19)

of 160 m.p.h. The resultant unbalance naturally twisted the drive shaft into a kink that tore a sizable hole in the stern. Through quick action and a measure of good luck, Fageol got her into eight feet of water before she settled and sank. Seattle's Gold Cup hopes seemed to sink with her. It was all up to "Slo-Mo-Shun IV" then!

All boats had qualified by Thursday evening except "Miss United States," a new and untried boat. On Saturday, "Such Crust III," the twin-Allison behemoth of Jack Schafer's, struck a piece of drift in a practice run. As luck would have it, she, too, got to shore before she sank. Her transom was all but knocked out.

The crews of both "Such Crust III" and "Slo-Mo-Shun V" worked feverishly to get their crafts ready for the Sunday morning go. "Such Crust III" came through in fine shape. "Slo-Mo-Shun V" was in the water, but just not in racing condition. She never qualified. "Miss United States" qualified early Sunday morning.

The impressive field looked like this: "Miss United States," owned by George Simon and driven by Dan Arena, her designer-builder. Jack Schafer brought the big "Such Crust III" driven by veteran Chuck Thompson, and "Such Crust V" driven by Bill Cantrell. "Gale II" was back for another try after her 1951 layoff. She is owned by Joe Schoenith and driven by son Lee Schoenith. "Miss Great Lakes II" was also back for another try. Owned by Al Fallon, she was driven this time by Danny Foster.

THE AUGUST '53 ISSUE OF BOAT SPORT FEATURES

ELEVEN INTERESTING ARTICLES

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It was a thundering flotilla that hit the line as the starting cannon exploded. First over was "Slo-Mo-Shun IV," followed closely by "Miss Great Lakes," "Such Crust V," "Miss United States," "Such Crust III," and "Gale II." "Miss Great Lakes" suffered a similar fate to last year . . . she went dead in the water at the first turn. This time she lost a shaft and prop.

On the back stretch, "Slo-Mo-Shun IV" showed up still in the lead, but "Gale II" had come up through the pack and was pressing the second place "Such Crust V." During the second lap "Gale II" succeeded in taking second place. The boats then spaced out and finished in that order.

Lou Fageol was at the wheel of "Slo-Mo-Shun IV" for the second heat. Crossing the line they were: "Such Crust III," "Miss United States," "Such Crust V," "Gale II," and "Slo-Mo-Shun IV."

Fageol went through the field before the first turn, and was coming up on "Such Crust V" in the back stretch when Cantrell coasted to a stop after losing the prop. This put "Slo-Mo-Shun IV" in the lead, with "Gale II" close behind in the rooster tail.

Coming around the first turn of the second lap, "Gale II" turned the trick by passing "Slo-Mo-Shun IV." On the long stretch of the third lap Fageol had to really let her out to regain the lead. It turned out to be fast lap of the day, 104.231 m.p.h. During the seventh lap, "Gale II" slowed perceptibly with a broken cooling line. Hot water was discharging into the boat. "Such Crust III" was able to overtake her, and they finished "Slo-Mo-Shun IV," "Such Crust III," "Gale II" and "Miss United States."

For the third heat, Joe Taggart was again in the driver's seat of "Slo-Mo-Shun IV." "Miss United States" did not

start. It was "Such Crust V," "Slo-Mo-Shun IV," "Gale II" and "Such Crust III" across the line. "Slo-Mo-Shun IV" gained the lead with "Gale II" close behind. "Such Crust V" coasted dead in the water. "Gale II" was trailing "Slo-Mo-Shun IV" by not more than six or seven seconds for the next three laps. On the fifth lap the lead was increased and they finished "Slo-Mo-Shun IV," "Gale II" and "Such Crust III."

"Such Crust III" had the unusual distinction of being one of the few twin engine craft to race the full ninety miles without mishap. Final point standings were:

Slo-Mo-Shun IV	2000 points
Gale II	825
Such Crust III	694
Miss United States	..	294
Such Crust V	225
Miss Great Lakes II		DNF

Points are awarded on a basis of 400 points for a first, 300 for second, 225 for third, and 169 and 127 for fourth and fifth. In addition, 400 points are awarded for best heat, and 400 points for best race.

By winning, "Slo-Mo-Shun IV" became the second boat in history to win three times. "El Lagarto" did it in 1933-34-35.

George Simon, owner of "Miss United States," declared his intentions of returning next year with the best he can muster. Jack Schafer, owner of the Crust boats, was a bit dejected and said he was not returning. In fact, he declared that three years was too long for one city to have the event, and he sparked a move to have the event returned to Detroit. The effort failed.

At any rate, you can rely on the ultimate in speed-boating to arrive in Seattle next summer in an attempt to wrest the Gold Cup from the grip of Stanley Sayres. (End)

AMERICA FINDS ITS FUN AFLOAT

(Continued from Page 11)

your customers. See OBC address above.

BOAT NOTES

Blue Manufacturing Co., Inc., has moved its plant from Goddard, Kansas, and is now in full operation in its new location, 2221 N. Main, Miami, Okla., near Grand Lake, which is well-known for its fishing and boating and where the new models of the Blue Star aluminum line will be tested, one of which, an aluminum hydroplane, will be in production for 1954 along with the regular 12' and 14' fisherman's models and the runabout.

Trojan Boat Co., Lancaster, Pa., has entered the outboard cruiser field with its 20' Sea Breeze. More details about it later.

Trailorboat Engineering Co., 923 Francisco Blvd., San Rafael, Calif., maker of aluminum boats plans to introduce 15' and 16' outboard cruisers to sell for under \$1,000.

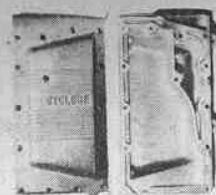
Feather Craft, Inc., 450 Bishop St., N. W., Atlanta, Ga., were held up by

aluminum curtailments in getting into production on the 20'6" outboard cruiser announced at boat show time. Aluminum allocations were discontinued in early summer and production got underway then, with deliveries planned for fall. This cruiser, equipped with galley and head and claimed to be non-sinkable, will sleep four in a cabin with 5'8" headroom.

TRAILERS

Mastercraft Trailers, Inc., 10 Factory St., Middletown, Conn., now have new heavy-duty boat trailer, Model SC1200, whose special design makes it suited for heavy outboards and outboard cruisers. Adjustable cradles and chocks, which are also reversible, fit almost any hull. Introduced earlier was a new line of all-steel camp trailers and two lines of conversion kits—camp trailer to boat trailer conversion and boat trailer to camp trailer.

Ranger Trailer Corp., P. O. Box 3125, Corpus Christi, Texas, is now making national distribution of Ranger Air Lift Trailers, which were introduced in April
(Continued on Page 34)



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AMERICA FINDS ITS FUN AFLOAT

(Continued from Page 33)



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CONVERSIONS for all model Ford, Mercury, Lincoln and Jeep Engines. Free Catalog. Lehman Manufacturing Company, Dept. K, 972 Broad Street, Newark 2, N. J.

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of this year at sport shows in Houston and Dallas and have been available only in the Texas area to date. Two models are offered: two-wheeled, with capacity of 1000 lbs. with 4-ply tires, 1500 lbs. with 6-ply; and four-wheeled Cruiser Carrier (for boats up to 22') capacity 2000 lbs. with 4-ply, 2400 lbs. with 6-ply. Both models operate on dry ice, which is packed inside a pressure tube and works on the jack cylinders at each wheel to lift rear end of trailer when taking boat out of water. Wheels resemble retractable landing gear of airplane. When launching, trailer wheels are put at water's edge and valve opened to release pressure, which allows stern of boat to settle into water. Dry ice capacity of 25 lbs. is said to be enough to lift a 700 lb. boat 50 to 75 times; average cost of dry ice is from 5 to 10 cents per lb.

PEEKING OVER THE TRANSOM

"Trying to beat the record of the Robert E. Lee—Outboard Bill!" Guess Steamboat Bill will have to move over now that Homer O. Cash of Memphis has gone and done it in an outboard. The famous old stern paddle-wheeler made the 1000-mile run from New Orleans to St. Louis in 90 hours and 13 minutes; and according to the song, Steamboat Bill tried but couldn't beat the record. He got up so much steam by chopping up the cabin for fuel that his boilers busted and Bill went up with them. Don't know how much Mr. Cash beat the record by but he did it in his 11-foot outboard while his wife and two daughters drove along in the car to meet him periodically with food and fuel.

We were over on Cape Cod awhile this summer (this is not the editorial we because it includes all of our family—yours truly, Betty, Dickie and Tony—plus Robbie Drake who went along with the boys) and were delighted to see that Wellfleet has built a new town pier and that an active outboard rental service has been started there. Ed Dickey and Al Curth have set up the Wellfleet Marine Corp., with a nice fleet of Delano 14' skiffs and 16' DeLux skiffs. These boats are designed for Cape Cod waters and made by Delano Boat & Supply Corp., Marshfield, Mass. You can rent them for a minimum of four hours with a choice of new Mercury Mark 5's, 7's or 15's for power at reasonable rates. We went for a day's trip out through Wellfleet Bay, which opens into Cape Cod Bay, in one of the Delano 14' skiffs with a new Mercury Mark 5 on the transom. It was our first experience with the Mark 5 since the new push-button neutral clutch has been added. It worked very well indeed, and the boys each took turns at being skipper.

Although not many people know it, Wellfleet Harbor was explored about the same way we did it—but not in an outboard—as far back as December 6th, 1620. Miles Standish was one of the group from the ship "Mayflower." Yes,

the Pilgrims landed at Provincetown, at the tip of the Cape, and explored along that inland shore before they ever saw Plymouth Rock, although a lot of people prefer to forget this bit of history. Out in the Bay, Billingsgate Island once had a lighthouse and several homes on it. Today there's nothing there, and at high tide there isn't even any island! We saw it at low tide, and it's quite a place.

Speaking of islands, there's a new book out called "One Million Islands for Sale" by Robert Froman (Duell, Sloan & Pearce—Little, Brown; 235 pp.; \$3.50) which tells how and where you can go home hunting by boat. It seems there are about that many islands for sale or rent along the coasts and inland waterways. Since a boat is a requisite for this kind of living, the author gives a list of outboard boat builders (which, incidentally, is far from complete) but his sole reference to outboard motors lists the models of only one manufacturer.

FOR THE PAINT LOCKER

When you're all set to do some work on your boat, there's nothing more annoying than opening up an old can of paint and finding it all dried up or with a skin on it as thick as a pancake. A friend of ours told us how he got around this. It seems he heard of a product called PAINT-SAV which prevents the formation of this skin. You add 1/2 oz. (1 tablespoon or about 1/2 jigger—which ever you're more accustomed to) to each quart of paint left in the can each time you are through using it, and when you open it up again the paint is smooth and clear. Our friend has also used it for varnish, and it's supposed to work just as well for enamels and even for keeping putty and caulking compounds fresh and ready for use. Ask your paint dealer for further information or write Ames Laboratories, Inc., 132 Water St., South Norwalk, Conn.

Before closing, we'd like to mention the interesting letters that flew our way over both the Atlantic and Pacific oceans: Jussi Nordquist wrote from Pori, Finland, and Henry Tseng reached us from Hong Kong. So, "happy outboarding" in all languages! (End)

LAST MINUTE NEWS

Just as we go to press, we had word from our European Correspondent Paolo Speroni, that at a meeting of the Federation Italiana Motonautica in Milan, final arrangements were made for Italian racing boat pilots, Castoldi, Verga and Selva to compete at Miami (see European coverage story). Present at the meeting were Mr. Giolito, President of the FIM, Como branch; Mr. Belgir, President of the FIM, Milano branch, Commander Mansfield, representing the Miami regatta committee, Mr. Borromeo, President of the FIM and Paolo Speroni, BOAT SPORT'S correspondent.



SPEED SHOTS

(Left) Picture taken by Bernard Abrams, Wilmington, N. C., during the A.P.B.A. Divisionals at Solomons Island, Md., shows smashed bow of a Class A stock hydro that went through wake of a cruiser. Unidentified driver (from either N. C. or S. C.) indicates how this hydro nosed down.



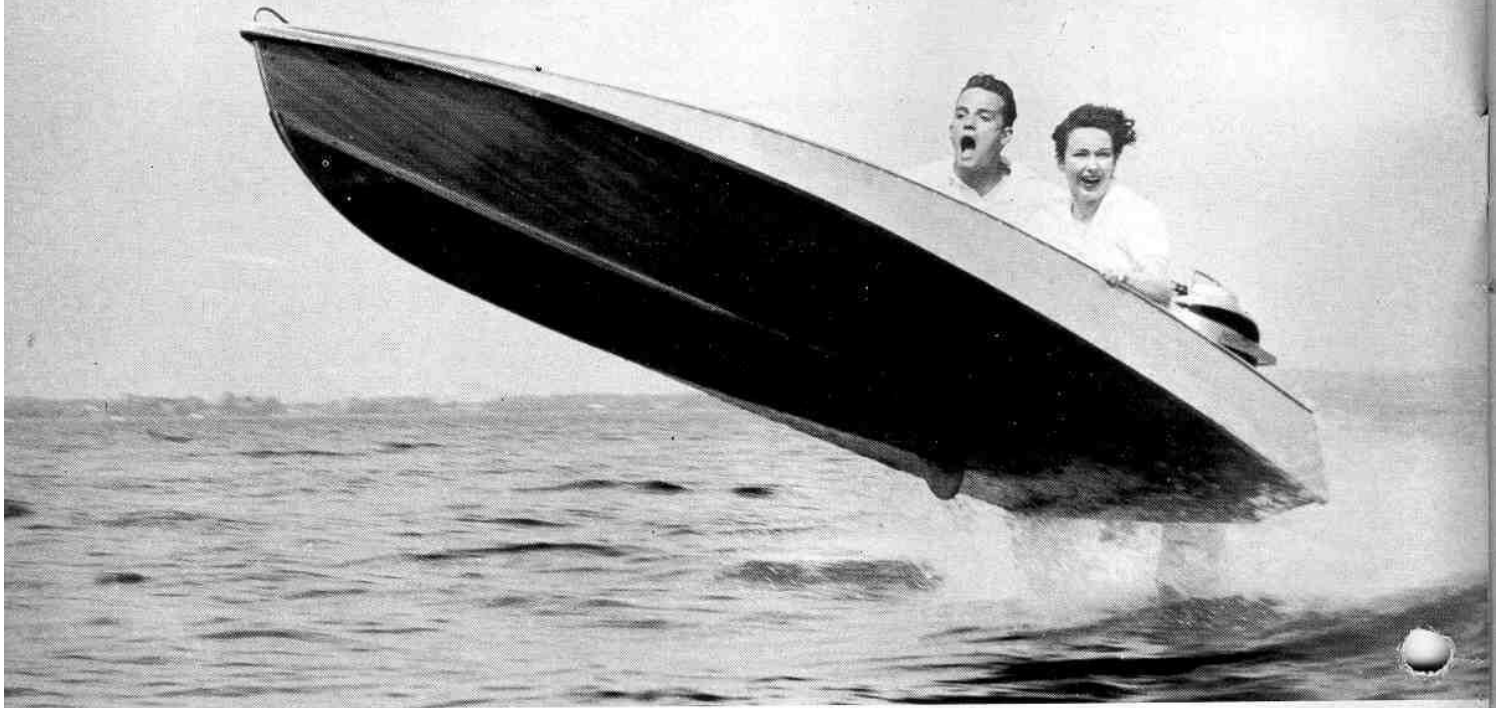
(Above) The popularity of Class B stock hydro is indicated by the fact that at most regattas elimination heats are required. This scene during first turn battle is typical of this class.

(Right) John Jordan, a Freeport, Kan., farmer, drives a Blue Star hydro. He won firsts in A and B stock hydro at Oshkosh, Wis., in his all-aluminum hull made by Blue Star Mfg. Co. of Miami, Okla. Other firsts were at Indianapolis & in Oklahoma.



(Left) The new "Miami Boy", 266 c.i. hydroplane, owned by Tommy Gore of Detroit and Miami, is put through her test run by D. C. Keisacker. First competitive start will be in Miami's Orange Bowl Regatta, Dec. 28th, against international entries. Speed was not revealed but is well over 100 mph.

THIS IS NO SCUTTLEBUTT...



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