

**OUTBOARD**

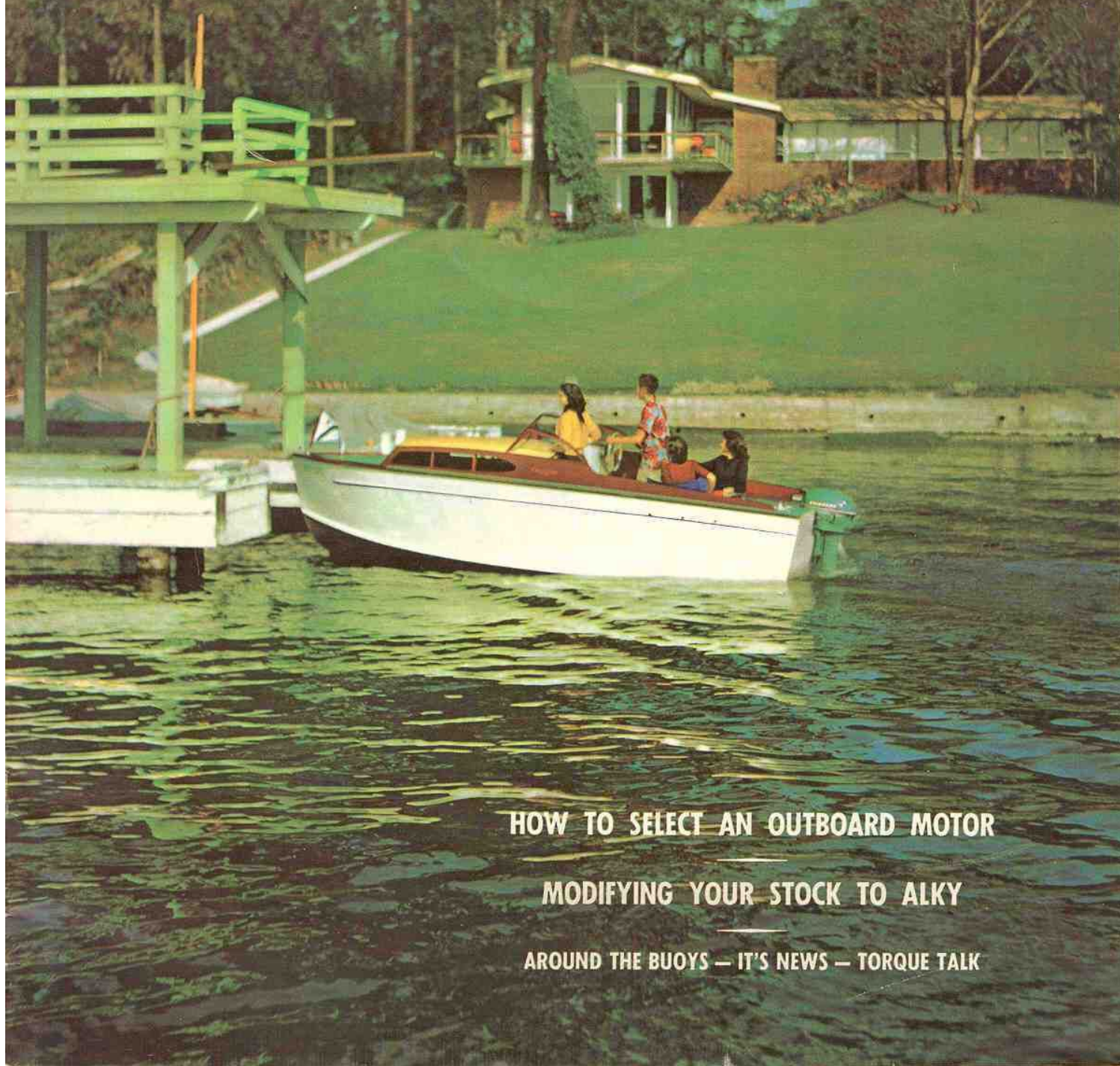
JULY 1955

25¢

**INBOARDS**

# *BOATSPORT*

ANC



HOW TO SELECT AN OUTBOARD MOTOR

MODIFYING YOUR STOCK TO ALKY

AROUND THE BUOYS — IT'S NEWS — TORQUE TALK



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## AROUND THE BUOYS

A.P.B.A. has given final approval for Class DU-1, heretofore a probationary stock racing class though appearing on regatta schedules for the past four years. Stock motors of over 30 and under 36 cubic inches previously could, at the option of regatta sponsors, be raced as a separate class from DU-2 (motors of over 36 c.i. and under 40 c.i.). The DU-1 drivers, who largely helm either Johnson or Evinrude Big Twin 25's on runabouts with over-all driver-boat weight of 435 pounds, were listed in more than 25 race meets during 1954, including such major events as the Detroit Times Marathon, Thousand Islands Marathon and the Needles, California, Marathon. (Cont'd on P. 32)

BOAT SPORT

# BOAT SPORT

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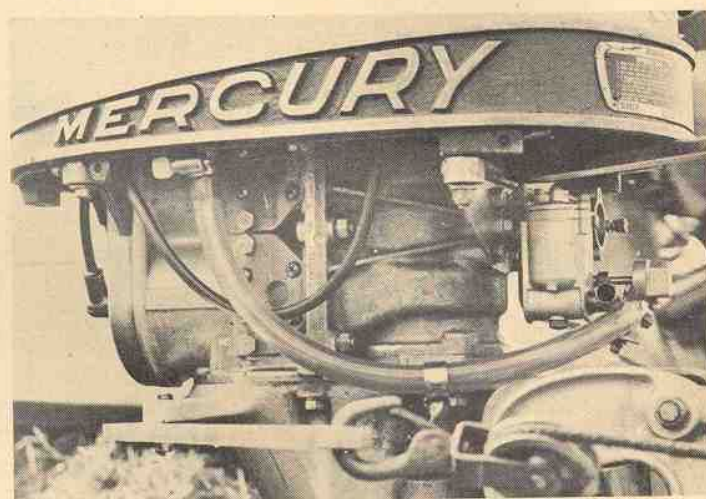
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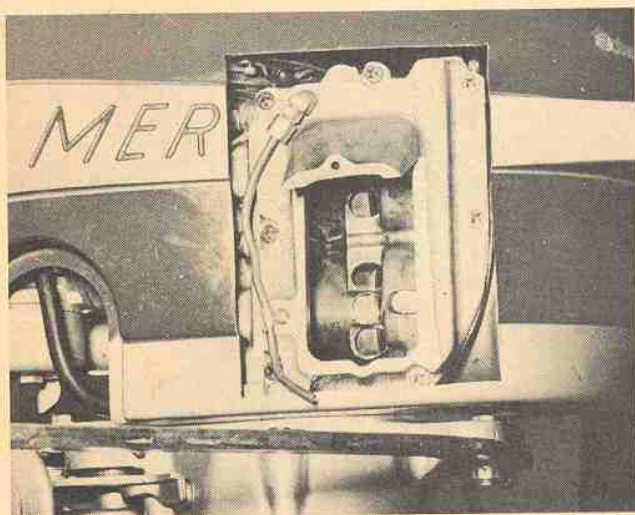




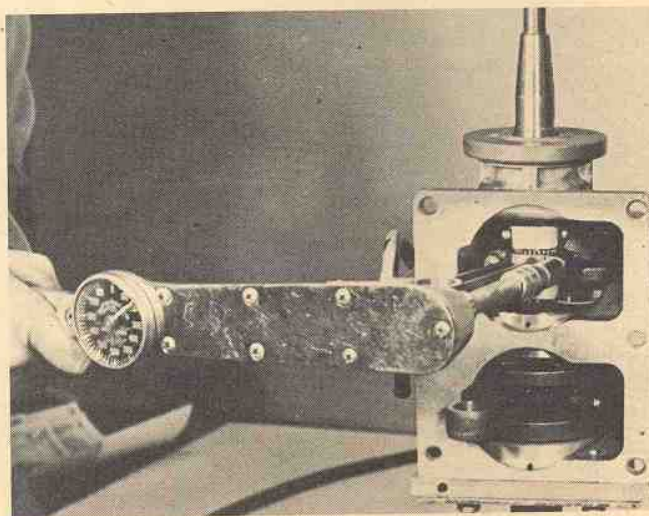
This Merc KG-4 has been modified for competition in Class A against Johnson KR's. Note water relief line, at left center of open stack.



Other side of same alky-converted A engine shows the heavy 3/8" i.d. plastic fuel line and reamed-out carburetor elbow for sluggish fuel.



Close-up of modified Merc 20H shows how the exhaust ports have been cleaned up and enlarged, with care taken not to alter port timing.



Use of a torque wrench in conversions is important. A and B rod nuts should be torqued to 180 inch/lbs.; flywheels to 60 ft./lbs.

MORE THAN A YEAR has passed since the A.P.B.A. authorized stock drivers to modify their rigs and compete with the racing classes in their respective cubic inch piston displacement category. There was no sudden deluge of stock conversions immediately following this rules change but, here and there around the country, stock drivers started to tinker with A, B or D Mercs and periodically these motors were tried out in competition against the regular racing equipment.

Then suddenly, in early August last year, Jack Leek, Seattle, Washington, turned in his fabulous 61.069 mph Class A record with a modified Mercury KG-4. Later, Leek finished third in the

A.P.B.A. Nationals and then in mid-October set a new Class A five-mile competition mark. By then the stock boys realized that they had a power plant with even greater potentials than the Johnson KR's. Also at Seattle, V. J. Spinner, Jr., in a slightly less publicized one-mile run averaged 60.482 mph in a completely stock Mercury 20H burning gasoline. With the Class B alcohol burner record at 64.297, 20H owners also began to get ideas that their rigs could compete with the SRs.

When Burt Ross, Jr., scorched through the traps at Devil's Lake, Oregon, at 75.402 mph with a modified Mercury 40H, the psychological way was paved for D Stock Hydro drivers

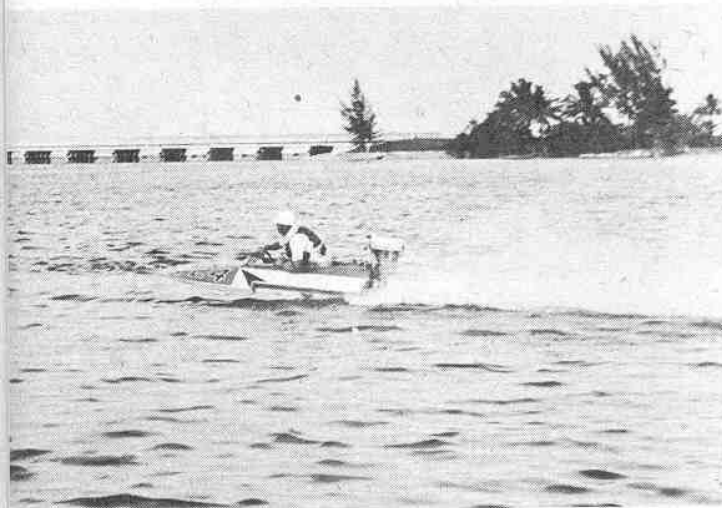
also to get into the alcohol burning ranks in Class F.

During the past winter on the Florida circuit, at least 50% of every Class A and Class B alcohol burning hydro field was made up of modified stock motors. Some of the drivers merely used their strictly stock motors on gasoline fuel with open exhausts, the only attempt at added speed. While this offered some slight increase in over-all speed, it did not give enough bounce for the gasoline burners to compete successfully against the alkyies. It should be pointed out that none of the stock conversions won first spot at a major A or B event sanctioned by A.P.B.A. on the Florida circuit. However, let me quickly point





Don Baldaccini, Miami, 1954 A.P.B.A. National ASH Champion, has added alky-modified A and B motors to his outfit. This is altered A.



Hank Bourret, Sioux City, Iowa, did well with Merc converts on the Citrus Circuit. The "Alcoholics A and B" are no longer anonymous.

## MODIFYING YOUR STOCK TO ALKY

IT'S HOT FOR RACING RIGS  
WHEN A MERC CONVERTS  
TO ALCOHOL . . .

By Hank Wieand Bowman

out, too, that the conversions were not of the Leek caliber and that the modified stockers were competing against some of the fastest A and B equipment in the country, including equipment jockeyed by such long-time alky stars as Bill Tenney, Doug Creech, Mabry Edwards, Bob Cramer, Dennis Martin and Charlie Heston—to name just a few.

Despite this competition Mercury alky conversions did finish in the money consistently against KRs and SRs. Before the new season is completed, it is almost a foregone conclusion that alcohol burning stock motors will be competing regularly against the specially-designed-for-racing alky burn-

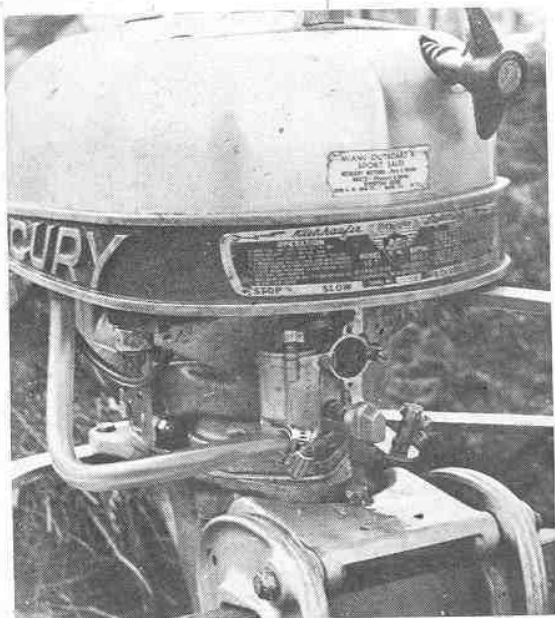
ers at race sites throughout the country and that the alky-stocks should, for reasons to be outlined later, have a far better than average chance of pulling down many of the top money spots. The era of comparing alkies and modified stocks to Offenhausers and Fords in midget racing's heyday is a thing of the past. Properly set up, an alky stocker can be a really going piece of equipment—and, in the long run, its reliability and freedom from temperamental operation will prove to be a distinct advantage.

Since many regattas combine both stock and alcohol burning events on the same card, the stock driver who sets up modified powerheads will be

able to run in twice as many events at such meets at less financial outlay by far than if he were to invest in regular alky-burner equipment. Granted, to do this the driver will have to have two powerheads, but in order to set up an alky conversion stock motor the driver's investment in the stock alcohol burner will be far less than the monetary outlay on the part of the driver of the specially-designed-for-racing equipment. A used KG-4 can frequently be picked up for as little as \$60, and in practically any area a KG-4 powerhead can be bought for \$100 maximum secondhand. Even a dog KR will cost \$200 because of its relative scarcity.

(See Over)





This modified A has a KE-7 gas tank and is equipped with a Tillotson AJ32A carburetor instead of the standard AJ36A.



Stu Gray, Miami, at left, rigs Merc 20H alky burner. Note cutaway Quincy stock and water bleed line. (Below) The same model with SR-PR tank and Tillotson E626J (KR) carburetor.



## MODIFYING YOUR STOCK TO ALKY

(Continued from Preceding Page)

The same lower unit may be used for both the strictly stock gasoline burner and the alky burning stock. Too, in many areas the stock drivers, even though registered as professionals, find that most of the prizes are trophies or merchandise. While at nearly every alcohol burning meet cash prizes are awarded. Lest this argument be misleading, I do want to point out that regardless of purse money posted, it is the rare professional alky burner who more than breaks even during a given season. Any way you face it, professional speedboating is an expensive hobby and not a money maker.

Several approaches can be made to modifying the Class A or B Mercury. The simplest, but most expensive, approach is to send the motor to one of the hop-up specialists who are presently working on a great number of conversions for drivers throughout the country. Randolph Hubbell, 2511 North Rosemead Blvd., El Monte, California, for example, does a complete conversion of a Mercury Class B KG-7 to a Hubbell Merc Wildcat powerhead for a total of \$137. This includes re-boring cylinders and fitting oversize pistons, which, if not necessary, reduces the total price by \$26. Others who also specialize in this work include Ralph E. Johnson, 1921 Hearne St., Blytheville, Ark., and O. F. Christner, 5th and State Streets, Quincy, Illinois. (For a complete list see "Outboard Racing Guide," BOAT SPORT, April '55 issue.)

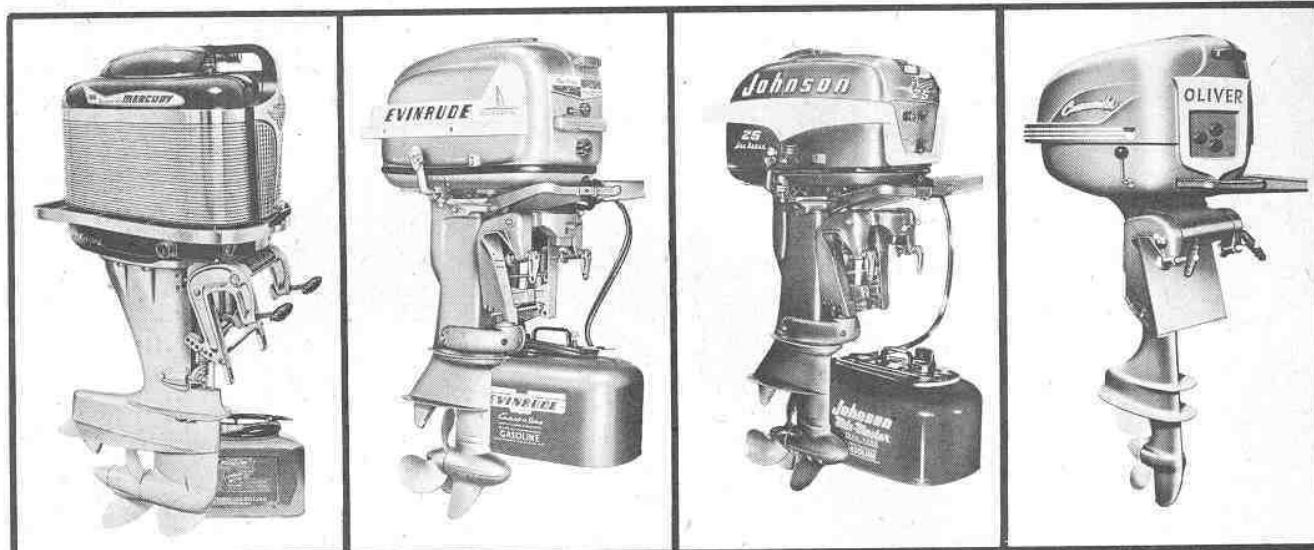
The less expensive approach, and naturally the one that holds greater personal satisfaction, is to do the job yourself.

If you are planning to set up a Class A modified Merc for competition against racing motors, Don Baldaccini, who has made up a number of successful conversions, recommends that as a starting point you should pick up a used fishing motor. Don's reason for this is a sound one. The motor through long hours of operation should have a well-seasoned block and all rotating and reciprocating parts should be well worked in and free as a result of long use at steady rpm.

Once you have picked up the second-hand powerhead, it should be stripped down completely. The first step is to take full advantage of permissible cubic inch piston displacement. Since the rules for racing motors permit .025" oversize, the re-bore to get the holes

(Continued on Page 22)





Mercury Mark 55 Mercalastic is 40 hp, four-cylinder motor.

The Evinrude Aquasonic Big Twin Electric is a 25 hp outboard.

The Johnson Sea-Horse 25 also is equipped with electric-starting.

The Oliver Commander is 15 hp model in medium power range.

## HOW TO SELECT

## AN OUTBOARD MOTOR

By Blake Gilpin

LAST YEAR a reported 485,000 new outboard motors were sold, 125,000 used motors found new owners through outboard dealers who had obtained them on trade-ins, and an unestimated number of used motor sales were made by private parties. It was further estimated that 4,500,000 outboard motors were in use at the end of 1954. These are big figures and would seem to indicate that the outboard is here to stay! If you personally want to get in the act and add a motor of your own to the statistics, you may be a bit confused as to which one of the roughly 150 different models of outboard motors to buy.

At the outset the choice may seem to be a hopelessly perplexing one, since gasoline-fed internal combustion type models are available from a tiny 1.7 horsepower single, listing at about \$80, to a gigantic 75 horsepower five-cylinder job selling for \$1,195.

And the choice isn't limited to just

the gasoline operated motor. Several small electrically powered outboard motors are marketed which run on either six or twelve volt batteries, weigh from 20 to 30 pounds, and sell for about \$75. There's even a completely air-propelled outboard type, available in either a 2 or 3½ horsepower version, listing at \$180 or \$215 respectively.

Any one of these, or one of the 140-odd models somewhere in between, may match your budget and your needs.

Selecting the right outboard motor is important but it's not too difficult. However, just as in buying a suit of clothes, a proper fit is an important matter. Actually on this fitting proposition, the easiest approach is usually to match the motor to your boat. Let's understand at the outset that though it would be the ideal situation, there is no all-purpose boat nor all-purpose motor. We won't get into the question of boat materials because this com-

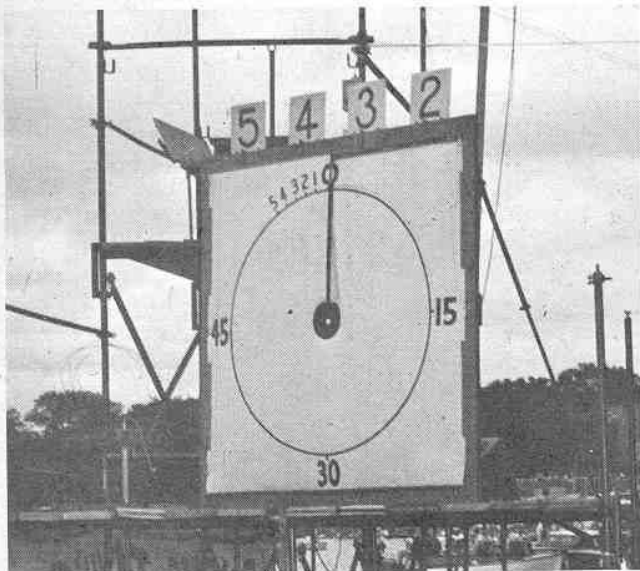
bines a matter of personal choice and initial cost. In fact, we're not even going to tell you what kind of a boat to buy because undoubtedly you already have your own ideas on this. And if you haven't you should find some help in BOAT SPORT's April Boat Show Issue.

Fitting the proper motor to your boat involves a consideration of safety and hoped-for performance. If you're planning to do your outboard motor boating with a rowboat or a canoe, you would be unwise to consider the purchase of a motor larger than 3 horsepower, purely on a basis of safety. Your top speed performance expectancy with motors of this maximum horsepower and hulls of the displacement type will be limited to a maximum of 8 mph.

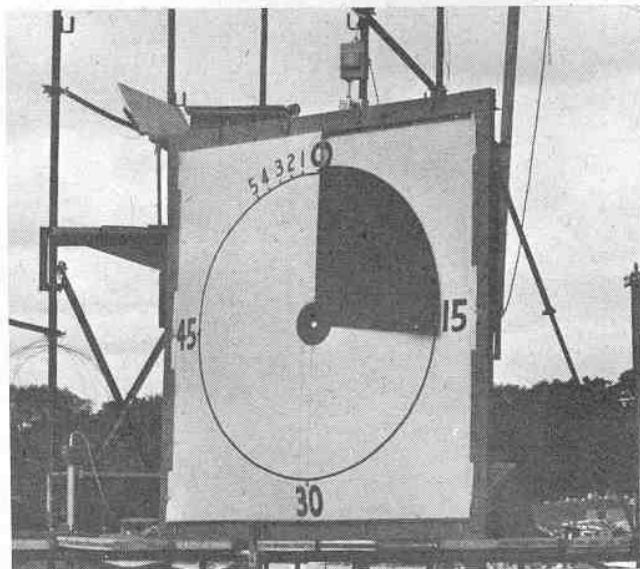
This brings up the need to differentiate between the two distinct types of outboard boats: the displacement type which pushes water away from its bow

(Continued on Page 24)





Acme Industrial Co., Chicago, designed and built this clock for the Outboard Club of Chicago, used successfully at '54 DePere Nationals.



Clock has a yellow plastic face, with black, pie-shaped segment that indicates time passed since one-minute gun, in this case 16 seconds.

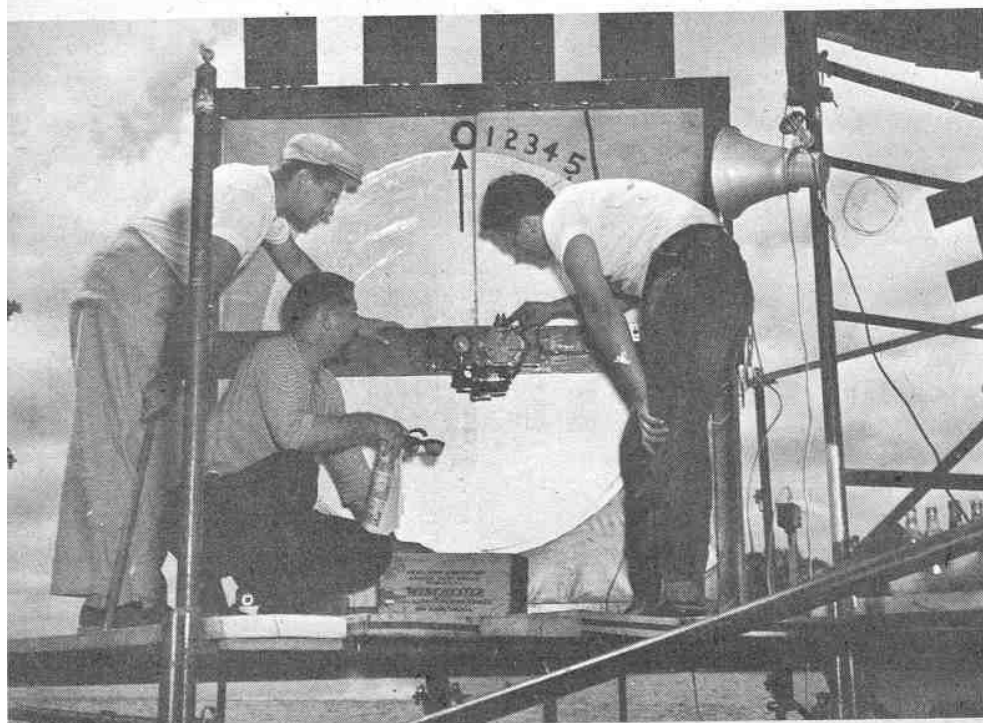
MANY BOAT DRIVERS are, peculiarly enough, a bit hazy about race starting rules. Let it be understood immediately that the official start of a race is neither indicated by the dropping of the starting flag nor the firing of the starting cannon. The race is officially started when the hand of the starting clock reaches 60. The firing of the gun is purely incidental, has no official status but rather is largely a guide for the assembled fans. The dropping of the flag serves as a guide to both the officials and the boats on the course

that the start is official (as opposed to a "false start")—but the official start is determined by only one thing, the clock's having reached the 60-second mark.

Another point that might well be clarified is that the official timing of a race for the purpose of recording the actual speed of the winning and the following boats, is done from the time that the first fairly starting boat crosses the starting line and not when the race is officially started.

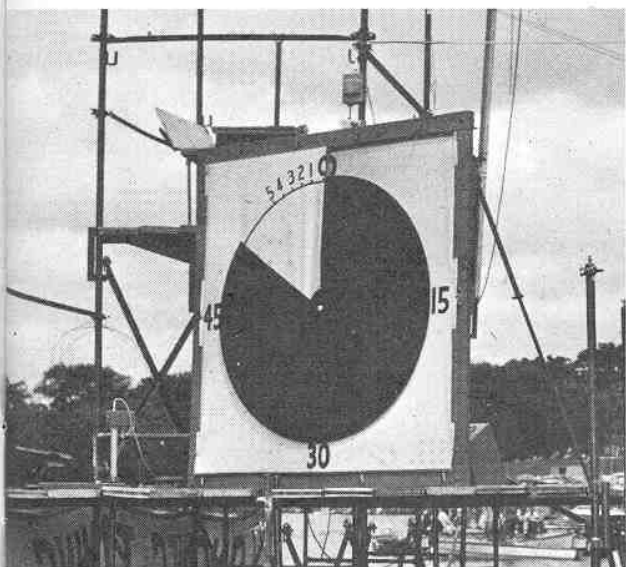
Unfortunately, there is scarcely a

(Below) Electronics engineer Max Riedl, right, and Adam Gabriel, Commodore of the Outboard Club of Chicago, left, explain operation of clock to BOAT SPORT's Technical Editor, Hank Bowman. Squares at top (also see photo above) are automatic 5, 4, 3 and 2 minute indicators.



## HOW TO BUILD A STARTING CLOCK





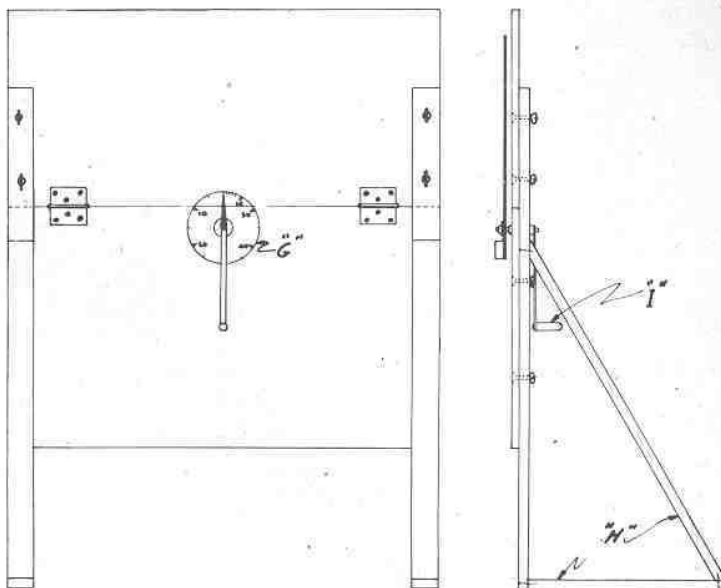
Electrically operated segment clock offers drivers good visibility. At official start, entire face of the clock is black.

driver who has competed in half a dozen or more regattas who has not run at least one heat in which he reasonably or unreasonably felt that the clock had not accurately marked off the passage of the final sixty seconds prior to the official start. This is an unfortunate situation which has in the past led to considerable griping. The problem should be dumped right back into the lap of the referee who condones the not infrequent practice of speeding up the clock when the starting field is nicely bunched and yet appears to be in position to jump the clock by a matter of seconds.

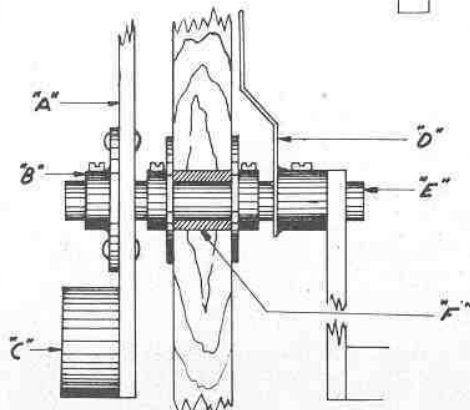
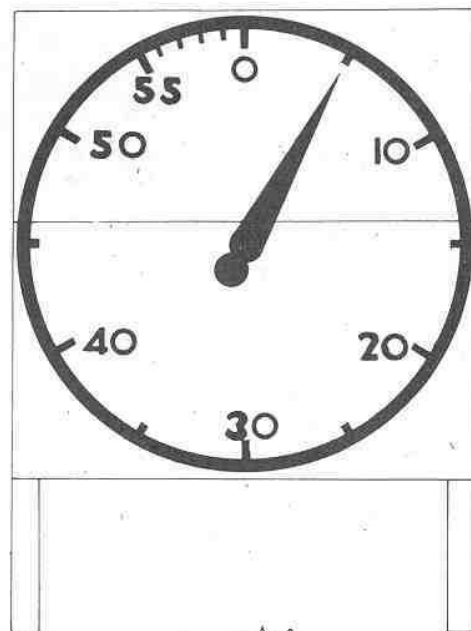
In recent years, clocks with holes through which the individual manipulating the handle on the reverse side could sneak an occasional look at the oncoming field, have wisely and largely been abandoned, though the original purpose of the ports was to reduce wind resistance of clocks in exposed locations and not to provide a peep show for officials. The bulk of sanctioned and unsanctioned speedboating events are still timed by manually operated clocks. If both the operator and the timer, who calls out the five minute warning, the passage of each minute, gives the starting signal at one minute and clearly keeps the clock operator informed of the passage of each ensuing second, are extremely conscientious, there is still the element of human error to be coped with as well as in some instances mechanical failure.

After a casual inspection of a half dozen or more different starting clocks last season, I saw only one of these manually operated clocks that included a counter balance to offset the weight of the sweep second hand. Several of the clocks were wholly inadequate from the standpoint of possible accuracy. Warped hands created friction

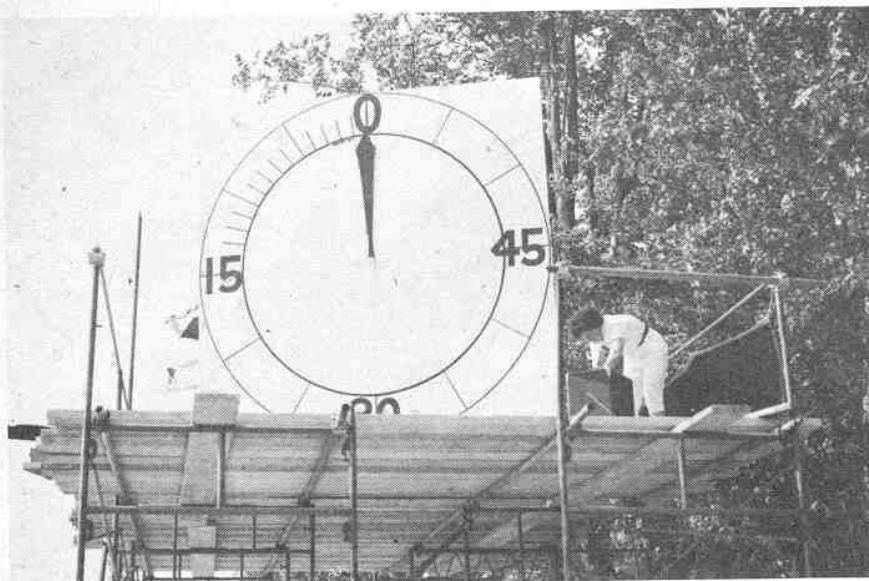
(See Over)



Drawings of a simple-to-construct, hand-operated clock designed by Outboard Boating Club of America. Back and side views are shown above; face and cross-section of operating mechanism, below. See text for explanation. (Drawings courtesy of Outboard Boating Club of Amer.)



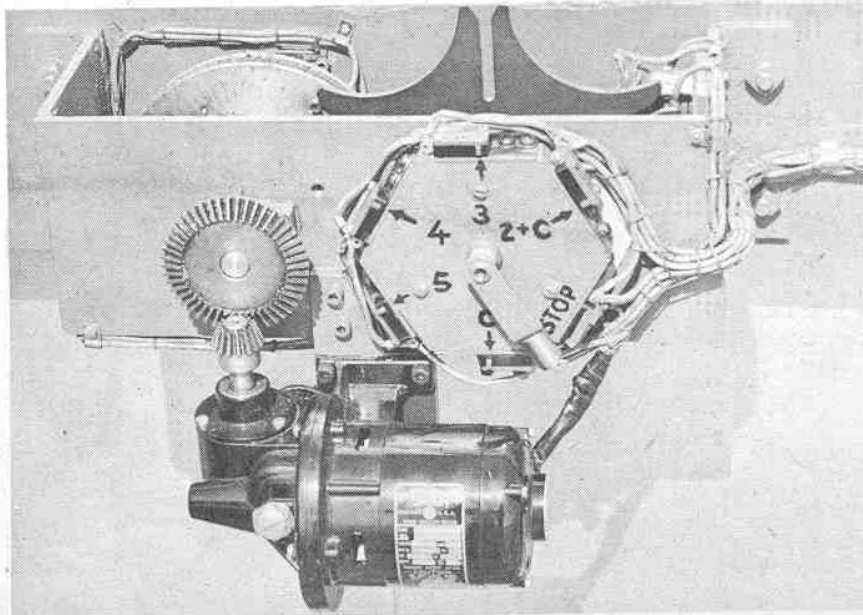




(Above) Clock used to start '53 Stock Nationals at Syracuse has numbers reversed from usual.



(Above) Max Riedl prepares to throw switch to start mechanism to time the start of a heat. Cannon fires automatically but has to be hand loaded. (Below) Close-up shows the 60 cycle, 3 rpm motor with 3:1 gearing, Geneva timer (slotted object) and 1-minute solenoid switches.



## HOW TO BUILD A STARTING CLOCK

(Continued from preceding page)

drag and precluded smooth operation; bearingless center pivots caused binding and created erratic jerky hand movement, and in most instances the clock faces were very poorly defined.

The manually operated starter's clock illustrated here is simple to construct, yet in working out the design, the Outboard Boating Club of America has given consideration to a number of important features. The guide dial on the reverse side of the clock is clearly defined so that even an inexperienced clockman is unlikely to be confused. The front face of the clock measures 6' x 6' as a recommended minimum in over-all size. The outboarder in particular whose hull is bounding in an unstable condition will find that reading numbers on a clock face several hundred yards distant with spray stinging his eyes and his boat cavorting madly is no easy trick. Mere 20-20 vision, doesn't ease the situation.

Preferably, a regatta starting clock that utilizes a sweep second type hand should be 8' square or even larger. The only problem presented is one of supports, since the larger the face, the greater will be the wind resistance and tendency to topple should a stiff breeze be blowing.

Clock faces are largely painted white with the numerals and the second hand painted black. Yet any advertising executive or state highway safety commissioner will tell you that far greater readability could be gained by painting the clock face yellow.

In the drawings on the opening pages of this article showing the back and side of the starting clock designed by the Outboard Boating Club of America, "G" is the guide dial (note that the figures read the reverse of those on the clock face), and "I" is the hand crank which must be turned in a counter-clockwise direction. The clock face is divided into two parts and hinged for simpler transportation. Braces "H" may be designed in any convenient manner, preferably hinged and secured by ring nut bolts if folding and storage are necessary.

(Continued on Page 27)





Mastercraft for 1955, with its five lines and nine models, covers the entire outboard field for boats up to 800 pounds in weight and 16 feet in length. Of particular note is their one-piece waterproof hub, their wide, rust-proof demountable wheels and torqueless twin boom with built-in transom support. Write Mastercraft Trailers, Inc., Middletown, Conn.



The 1955 Model 203 Gator boat trailer features tilt-top attachment making it possible to launch and load without disconnecting trailer from car. Also new is mechanical lifting center roller which raises boat above cradles. Address Peterson Bros., Inc., 1925 East Beaver St., Jacksonville, Fla.



Chris-Craft boat trailers stress rugged construction and smooth riding characteristics. Chassis construction of heavy box-girder sections electrically welded into riding units. Tongue and anti-sway bars are securely bolted to chassis and may be dismantled for convenient storing. Special accessories designed for each trailer. Chris-Craft Corp., Algonac, Mich.



New model E-Z Flote boat trailer is made for one-man loading or launching of craft up to 18 ft. and weighing up to 1500 lbs. Compact, high gear ratio winch assembly eliminates manual lifting. Trailer is strongly constructed and fitted with standard size wheels. Central Mfg. Co., Omaha, Nebraska.

## BREAKING THE BOTTLENECKS OF BOATING

### Part II—Boat Trailers

By Ed Spanke Outboard Boating Club of America

This second in a series of BOAT SPORT articles tells how the boat trailer, a post-war development, has made it possible for everybody to enjoy the relaxation and recreation offered only by boating. This article also describes some of the 1955 trailers available to you as a current or prospective amphibious boater.

"Trailer Tactics" will be the title of the next installment. It will offer suggestions on how to select a trailer to suit your needs and how to use and maintain it.

The final article will be concerned with launching ramps and small-boat marinas.

years. In 1947, the commercially built, scientifically designed, foolproof small-boat trailer became available in quantity for the first time.

Actually, some trailers had been factory-built earlier than that. In 1939, the first boat trailer firm came into being, and sold some 1,000 units. But the threat of war and the clamp-down on the use of strategic materials for other than military purposes caused this pioneering producer to halt operations for the duration.

By 1947, the first trailer builder was back in business, and he had his first competitor. That year 3,790 units were sold.

In 1952, sales totaled 39,220, in 1953 72,350 units. The 1954 total, with a score or more manufacturers in the field, was approximately 100,000 units—or about one trailer sold for every five outboard motors sold.

Few industries—in the marine or any other field—have ever chalked up such a remarkable growth record. The reason is not difficult to find: Completing the package of boating fun—other components are the outboard boat and motor—the boat trailer has made it possible to give fulfillment to that nearly universally inherent urge to become a sailor. Now even dwellers in deserts and cliff-like city apartments can take to the waterways—and they're doing it.

In Wyoming, members of the Cheyenne Boating Club find nothing unusual in trailering their boats 300 to 400 miles for a few hours of fishing or cruising.

From Chicago, members of the South and Suburban Boat Club will take their boats by trailer to Canada this summer.

Man-made lakes and the outboard

(Continued on Page 28)

THE PROBLEM of getting boats to and into the water has harrassed boat owners and prospective owners for many

BOAT SPORT



A view of cabin interior in the 22' 8" Star of the North outboard cruiser shows seats ready for day use. At night, the seat backs raise to make two upper bunks so that four people may sleep aboard.



(Below) A typical scene anywhere in America during the height of the boating season will include plenty of the younger generation.



WHILE NOT SPECIFICALLY devoted to boating, the New York Sports and Vacation Show, held early in March at the Kingsbridge Armory in the Bronx, did have a considerable amount of exhibit space filled with boats and outboard motors. And besides that, there was hardly a product on display that could not in some way be connected with outboarding.

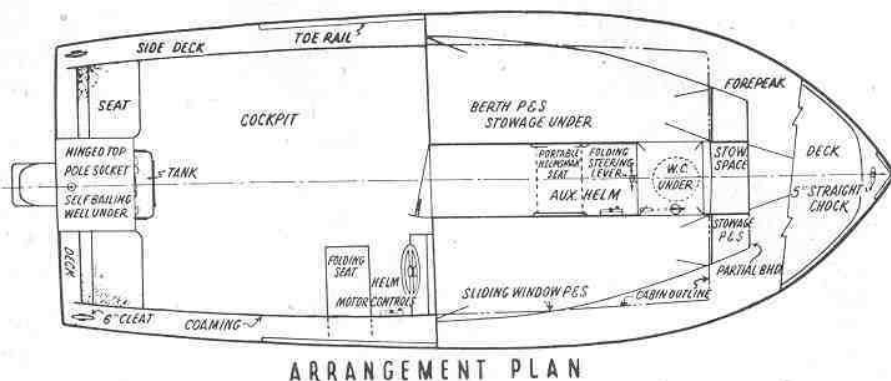
The main emphasis was on fishing—and that certainly ties in with our pet subject. After all, even with the growth of cruising and other water sports within the outboard realm, it still is a fact that over 60% of all outboard motors are bought primarily for fishing purposes.

Then there were large displays, plus indoor exhibitions, of water skiing equipment and skin diving gear. These, too, are being given their biggest impetus through the expanding interest in outboarding.

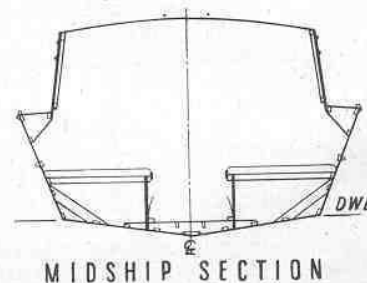
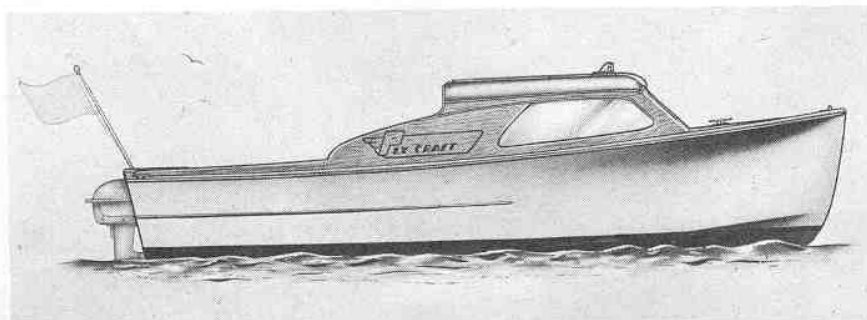
And hunting and camping can not be ruled out either. Outboards play a very important part in both of these outdoor activities.

All this, of course, is the reason for the great popularity of outboard boating. To start with, it is economical and within reach of almost every family in the country; and then next, it is a fundamental sport to which various specialized activities can be added whenever one wishes. Just boating alone is plenty of fun and healthful relaxation by itself, but when you consider that owning an outboard opens up to you any number of other fascinating recreational fields—fishing, hunt-

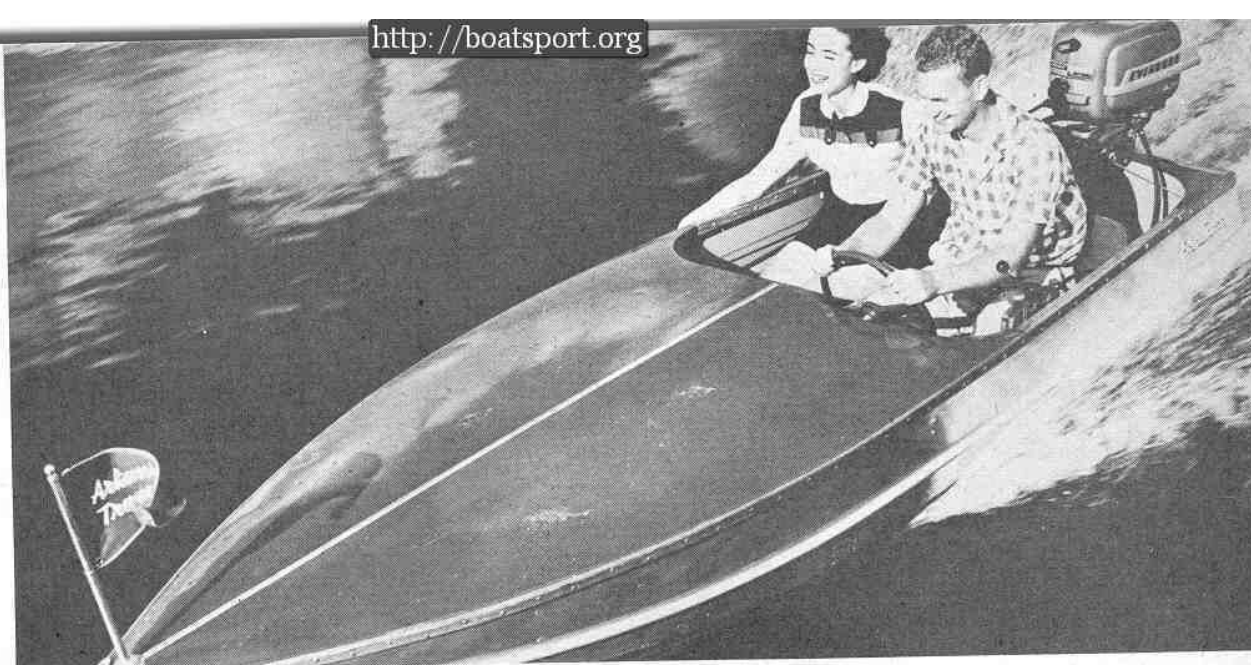
(Continued on Page 30.)



The Lawrence Ply Craft outboard cruiser has two bunks, with storage space underneath, a head forward in the cabin, and an auxiliary helm inside. Fuel tank fits under hinged top over self-bailing well.







A "sports car" version for the water is this Arkansas Traveler rakish 12' runabout, a two-seater with an extremely long fore-

deck. This aluminum model is designed for best performance when powered with an outboard motor in the 15 to 16 hp class.



(Above) Grumman aluminum canoe has a special bracket so that outboard can be mounted on side since there is no transom.

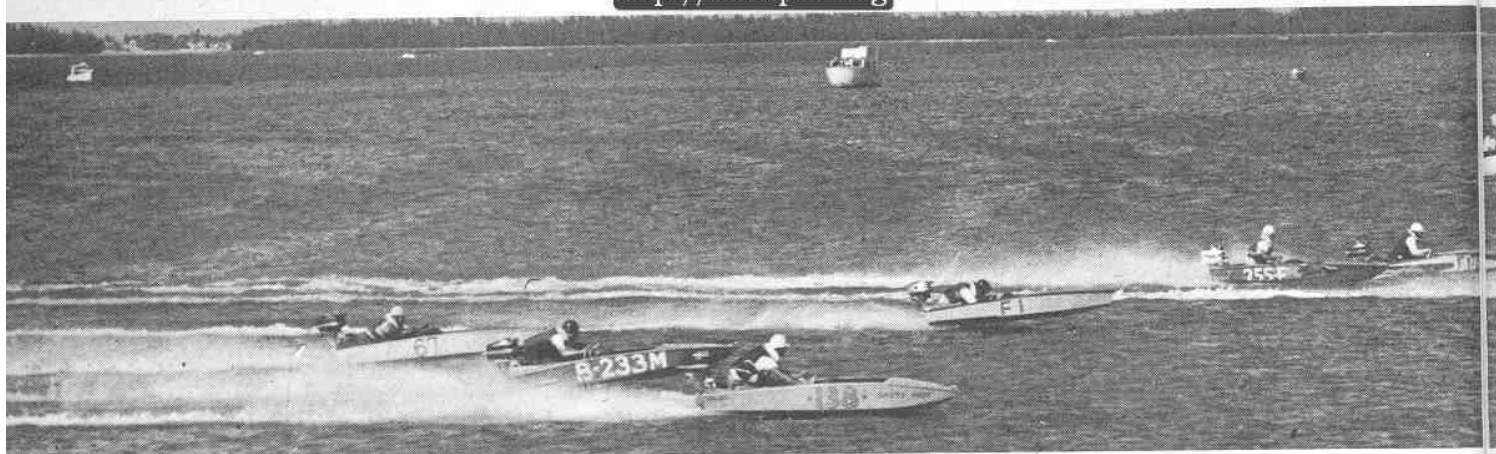
(Below) The Tomahawk Sweet Sixteen is a day cruiser model of sleek lines, with a large cockpit and a roomy shelter cabin.



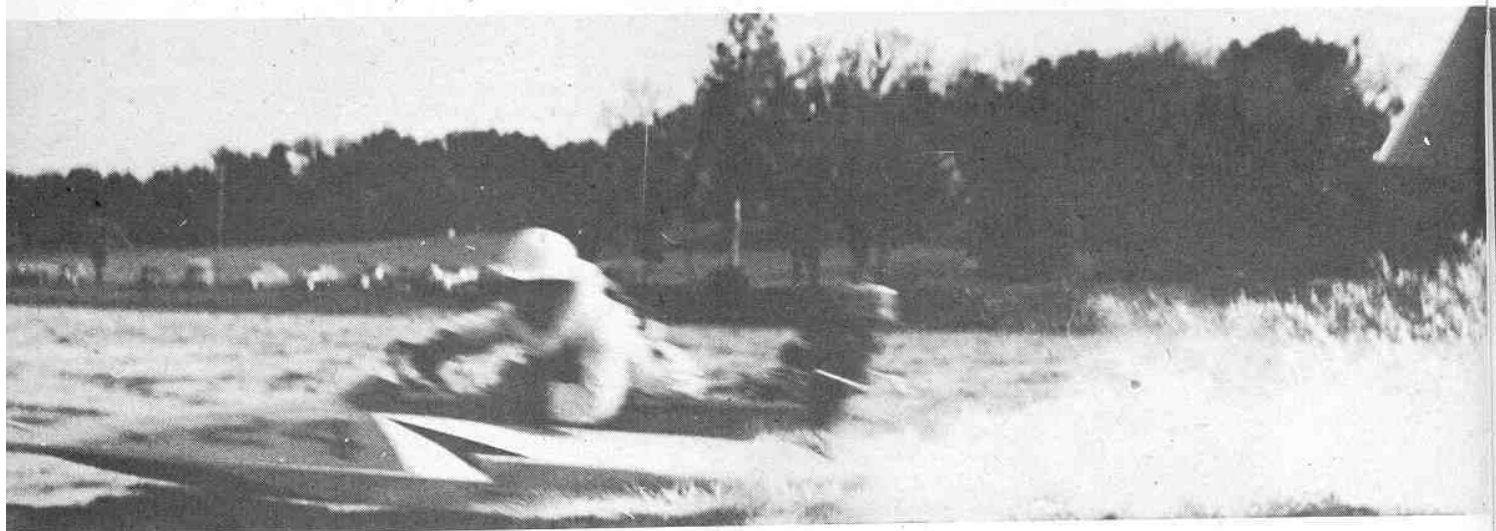
## OUTDOORS WITH THE OUTBOARDS

By Richard Van Benschoten





John Mueller, Spring Lake, Michigan, in B-233-M, moved up through the field to win this B Stock Runabout heat on Biscayne Bay, Miami.

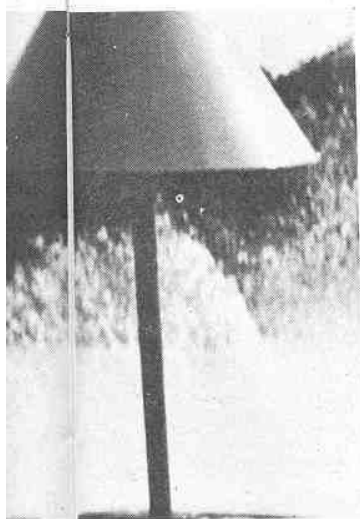


Cold weather and choppy water were the earmarks of the Lakeland event held at Lake Hollingsworth nevertheless 158 boats registered.

## BOAT SPORT COVERS THE



Buddy Smith, F-10, looked like sure winner in C Racing Runabout but C. R. Watson, F-62, won. (Photo: City of Miami News Bureau.)



## CITRUS CIRCUIT

FLORIDA during the winter of 1955 was somewhat reminiscent of pre-World War II days in the number of outboard regattas scheduled and the turn-out of equipment. Such locations as Miami, Lakeland, Lake Alfred, Tampa, Punta Gorda, St. Petersburg and Clearwater all had one or more big scale events. Numerous smaller regattas filled in any existing gaps so that the winter months were booked nearly solidly every weekend by the shingle drivers. Several new records were set both for speed and number of entrants at a Citrus Circus regatta, competition in general was keen, some new trends were established, the usual number of flips and blown motors added headaches for the drivers and a few of the drivers turned big game fishermen.

The over-all picture was a healthy one, foretelling outboard racing's biggest season in a decade or more.

Several new stars are in the making and some of the older stars continue to run true to form. The two stellar throttle jockeys in the alcohol burning ranks were Bill Tenney of Dayton, Ohio, and Bud Wiget of Concord, California. Though no official tally of the winter's scoring has as yet been made, Tenney is almost certain to be well out in the front, though for high-point score in a single class, Wiget should get the nod in CSR. Tenney continued to be one of the busiest of the outboard drivers, competing in nearly every scheduled A, B and C Hydro, C Racing Runabout event and frequently pitting his C in competition against the larger F Hydros. While it was by no means a foregone conclusion that Bill would win every race he entered, he most certainly showed an aggressive driving technique and dispelled any misconception.

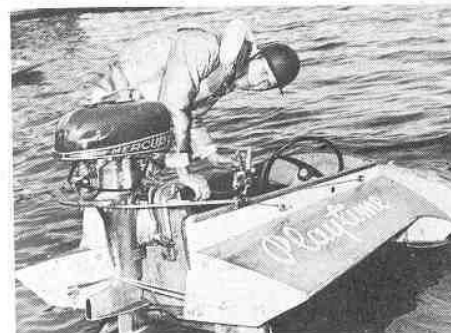
(See Over)



Bud Wiget and his partner, wife-mechanic Ethel.

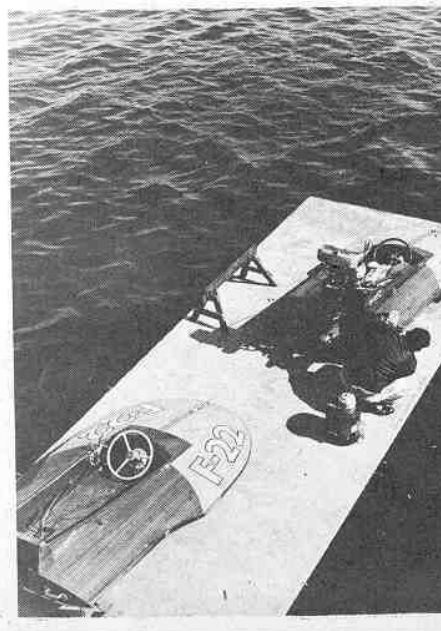


Tommy Hagood, Orlando, had bad luck this year.



(Above) Chris Erneston suffered motor trouble.

(Below) Mabry Edwards' A and B alkyl burners.

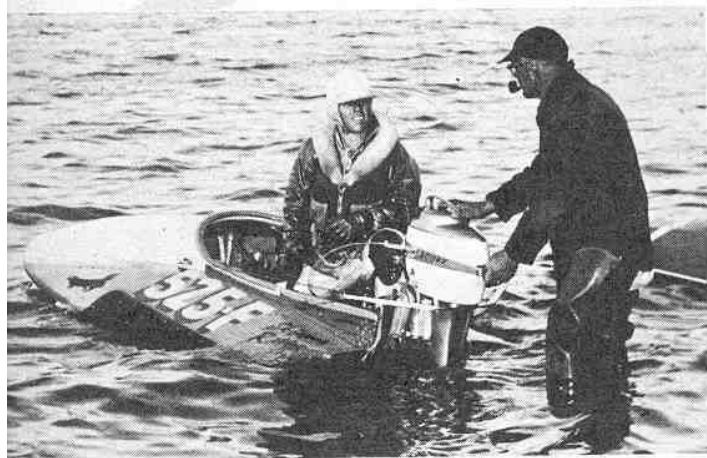




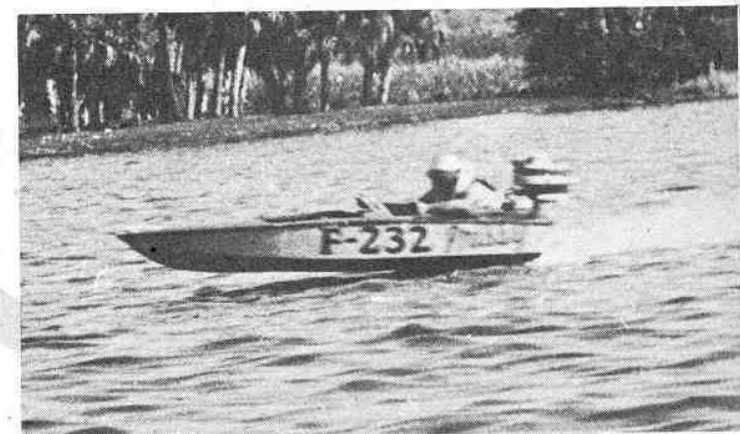
## THE CITRUS CIRCUIT

(Right) Bud Wiget in his DeSilva hull "Crosswind" in which he set a new CSR A.P.B.A. record during the winter activities down South.

(Below) Skipper Ritter was consistently a front runner throughout last winter's Citrus Circuit in both B Stock Hydro and B Runabout.



(Above, right) Bud Wiget shown scorching across Lake Maggiore on his way to a new A.P.B.A. five-mile record for Class F Hydroplanes.



(Right) Don Baldaccini dashes toward the checkered flag, well ahead of the thirteen other BU contestants in the 2nd heat at St. Pete.

(Continued from Preceding Page)  
tion that he is either strictly a fair-weather driver or unable to come up from the rear.

Here's a sampling of what the Dayton flash did in competition. At Lakeland, he scored one second place in Class A Hydro, two firsts in C Hydro, a first and second in C Racing Runabout and a first and second in F Hydro to win the Orange Cup title for the highest point scoring. At Punta Gorda, Bill took two seconds in Class A, two firsts in B and two fourths in C. At St. Petersburg, he took a second in one heat of B, a first and second place in Class A, two firsts in C Racing

Runabout, two firsts in C Hydro and a second and third in Class F. This St. Pete-go totalled up to a payoff in cart-wheel dollars to nearly twenty pounds of silver for an afternoon's work.

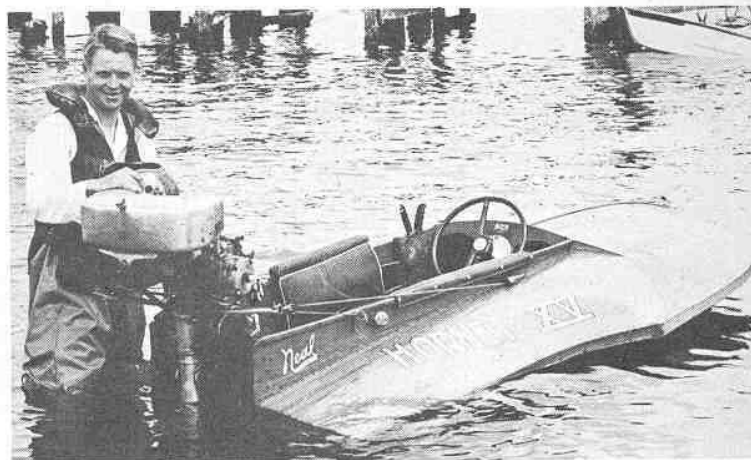
Payoffs at these specific grapefruit events varied considerably. At Lakeland, the purse was \$65 a heat, payable \$30 for first, \$20 for second, \$10 third and \$5 fourth. At Punta Gorda, the first four places paid \$25, \$15, \$10 and \$5, and at St. Petersburg, \$40, \$30, \$20 and \$10 was the order of pay. At those three events, Tenney took in a total of \$565 purse money.

Wiget, who doesn't work quite so

hard in any given day, usually drives C Service Runabout, C Racing Runabout and F Hydro. At these same three events, Bud won \$365, taking six straight heats of C Service Runabout, two firsts and two seconds in C Racing Runabout, two firsts in Class F hydro and established two new world's records.

Bud's first record was set at Lakeland, Florida, on a near frigid day over angry looking water in a DeSilva C Service Runabout. Bud throttled his ancient 1939 Evinrude (the same motor with which he has established nine A.P.B.A. records in the last fifteen years) three times around the big mile

(Right) Multi-record holder Bill Tenney, Dayton, Ohio, shown with his class D Hydro at Punta Gorda.



(Left) Tenney (in foreground) proves he can move up from the rear. Last of ten Class A Hydros into first turn, he took second place.

(Right) Al Cali took a first and third at Lakeland and made clean sweep at Tampa in B Stock Hydro.

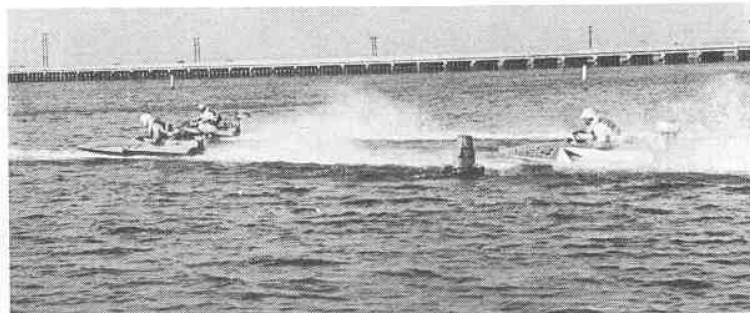


and two-thirds oval at an average speed of 48.283. This speed average wiped from the books the former 47.872 mph mark established by Rocky Stone, Willamina, Oregon, last October at Devil's Lake in a MacDonald run-about Evinrude powered.

Bud seemed destined, however, not officially to recapture the five-mile F Hydro mark which Burt Ross, Jr., Seattle, Washington, had copped from Bud at Devil's Lake last fall with a speed average of 63.779 in a Swift hydro powered by a modified Mercury D. On January 30 at Lakeland, with better water conditions and a slightly

(Continued on Page 29)

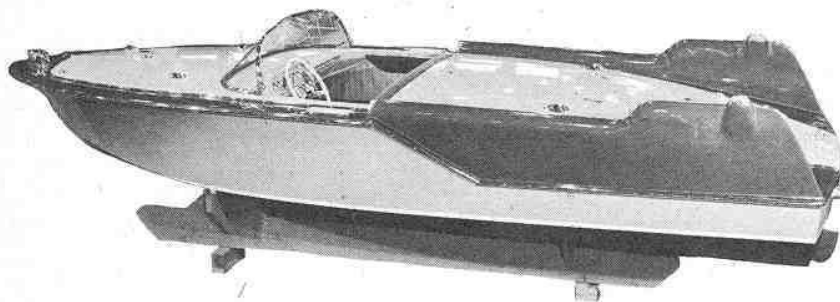
(Below) Three top "B's" in an A heat, from left: Bennett Baldaccini, Bourret.







(Above) Century "Coronado" 20 has the distinct styling of sports craft—a new boating trend.



(Above) Another example of sports car design on the water is the Don Arena "Barracuda" model.



(Above) Chris-Craft is in the sports craft field with its sleek model called the "Cobra."

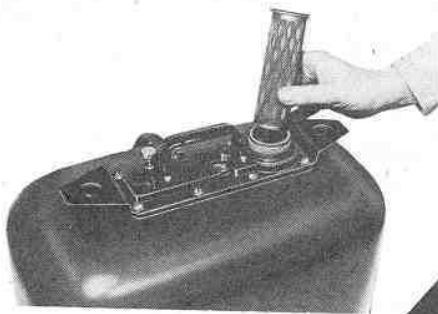
## TORQUE TALK

BY LOU EPPEL

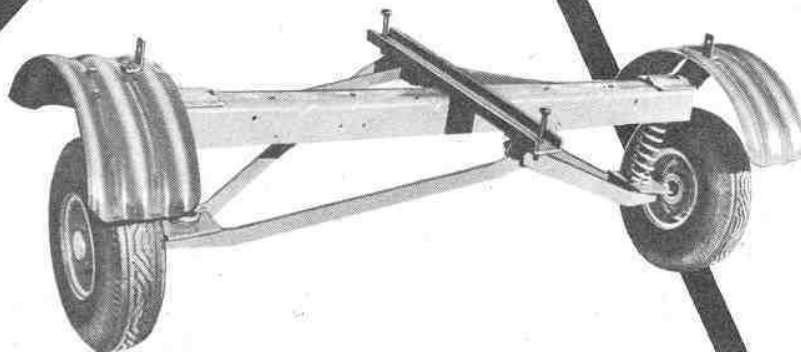
WITH THE introduction at this year's Boat and Sports Shows of the Chris-Craft "Cobra," the Dan Arena "Barracuda" and the Century "Coronado," the Jaguar-and-MG-set have become more than a little interested in transposing their activities to the waterways rather than the highways. What with such power plants as the Cal Connell Cadillac, the Dearborn Interceptor and the big Chryslers furnishing *mucho* rpm's and hp's, these sports boats can easily get into the fifty-mile-an-hour bracket without the cares and worries normally associated with speeds of this category. We had a chance, at a couple of the shows, to talk to quite a few folks who were most enthusiastic about organizing a Sports Craft Club of America, to be based on existing Sports Car Club principles. Projecting ahead a bit, it seems to us that such an organization could have a whale of a lot of fun holding rallies, precision driving tests, over-the-bottom runs, as well as endurance and straight competitive events. Some of those who seemed most interested were former inboard hydro drivers who have found the speeds and competition of today's hydro events too much for their slowing reflexes, and family and business responsibilities. With so many waterways available throughout the country, all sections could hold rallies or what-have-you without all of the needed course surveys, elaborate pit facilities, etc., usually associated with closed course hydroplane and runabout racing.

Guntersville, Alabama, has a Jaycee organization that in the past couple of years has sponsored some of the finest inboard racing found anywhere in the U. S. Figuring that their one-and-two-third-mile course with wide, four-buoy turns was ideal for championship caliber races, Guntersville has applied for three National Championships this year. In their bid for the 135, 225 and 266 Nationals, Guntersville has come up with an idea which we feel has a great deal of merit. In addition to \$240 per heat to fourth place, they are also offering \$100 appearance money for the defending champion, which is, to our knowledge, the first time this has ever been offered. Surely a triple header such as the Jaycees are talking about could really be one of the biggest and best events in inboard hydroplane racing history, and should be a snap to pull full coverage from all media.

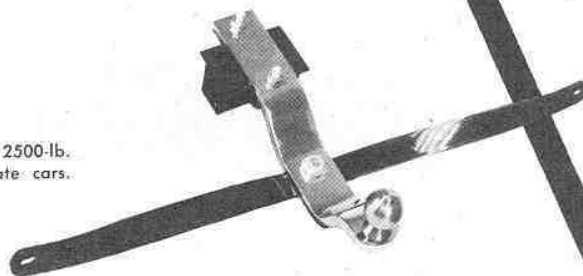
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Lafayette fuel filter for use on remote fuel tanks of outboards.



Miller Trailer Kit for assembling trailers up to 1000-lb. capacity.



Crane Tow-Rite trailer hitch has 2500-lb. capacity; is designed for most late cars.

## NEW PRODUCTS AND PARTS . . .

**It's**

**NEWS**

### UNIVERSAL TRAILER HITCH

H. W. Crane Company, 15 N. Ninth Ave., Maywood, Illinois, manufactures a complete line of trailer hitches, clamps and couplings. The Crane Tow-Rite hitch pictured here has a 2500 pound capacity and is custom designed for late model Fords, Chevrolets, Plymouths, Dodges and Buicks. It is designed for easy mounting with no holes to drill and lists at \$11.75. A free catalogue of the complete line of trailer and towing accessories is available by writing directly to the manufacturer at the address above.

### TRAILER KIT

An economy measure for the home hobbyist is the new 1955 Miller Trailer Kit. Kits are available for carrying capacities of 500, 750 and 1000 pounds. The kits include 4:80x8 General Wheel

assemblies with Timken tapered roller bearings and marine seals. The purchaser completes the kit with a locally obtained 2" pipe. Easy-to-follow directions are furnished with the kit which may be assembled in about an hour's time. Prices of kits range from \$79.50 to \$99.50 dependent upon load carrying capacity desired. For full particulars and prices on additional accessories, write Miller Coach Company, P.O. Box 218, Irving, Texas.

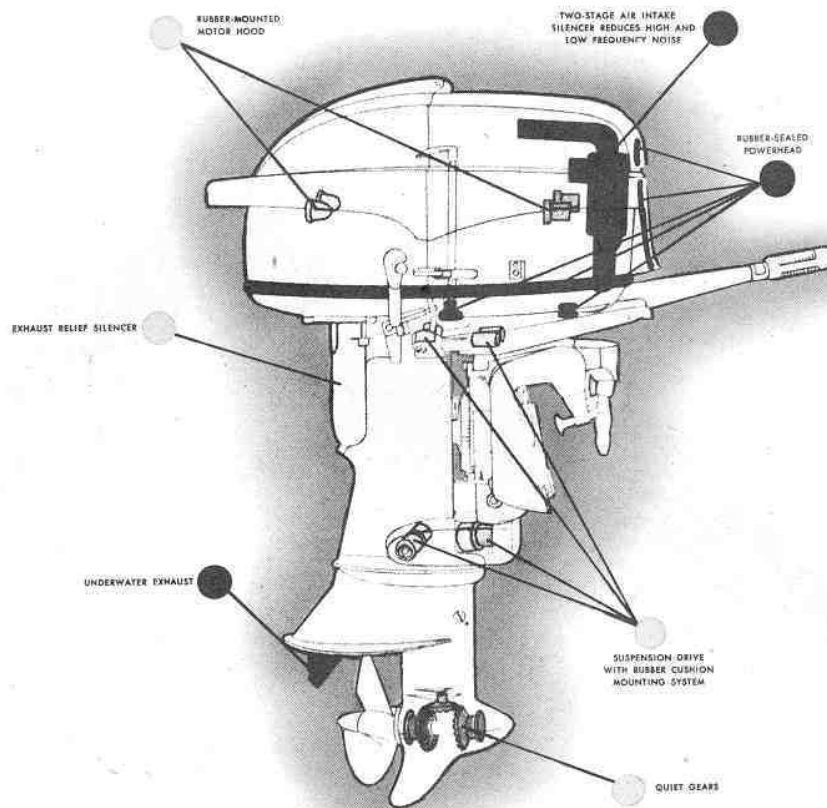
### FUEL FILTER

A fuel filter designed to keep all dirt out of outboard motor auxiliary fuel tanks has been announced by the Lafayette Supply Company, West La-

fayette, Ohio. The Filter is placed directly in the fuel tank opening and need only be removed for periodic cleaning of accumulated sediment and foreign matter. The top of the filter is flanged to fit the fuel tank opening and a hook is provided inside the flange for attaching the cap retainer chain. The filter contains 25 square inches of copper screening built within a steel framework. The entire unit is cadmium plated and dichromated for rust prevention. A neoprene gasket is furnished to form a seal. The Lafayette filter lists at \$1.95.

*(Continued on Page 26)*





Quiet and electric starting, too! Cutaway view illustrates various methods to silence new Johnson Motors for 1955. The motor is actually isolated with rubber cushions to reduce noise and vibration. Johnson uses an improved suspension drive principle. Isolation is complete at both low and high speeds, and throughout the speed range. Intake silencers, exhaust relief silencer, cushioned mounting system, and complete sealing-in of the power head make this possible with 1955 Johnsons.

LAST YEAR Johnson startled the industry when it introduced its 5½ that proved to be no noisier than a sewing machine. The big news in the Johnson line for 1955 is the application of this same basic quieting method to both its 10 and 25 and a further improvement on the 1954 design so that the 5½ no longer purrs but merely whispers to its owner.

The 1955 line was demonstrated at first to a gathering of boating editors and writers at Brown's Lake, Wisconsin. Here's what happened. The 1954 model Johnson was equipped with the conventional means of silencing. Considering its potent horsepower, it had been accepted by the boating public as just about as quiet a generous sized horsepower plant as one could hope for. The 1954 motor was driven at high speed some fifteen or twenty yards off the beach parallel to the gathering along the shore line. Despite its underwater exhaust, a definite and under the circumstances, more than somewhat annoying sound was noticeable. A hundred yards or more beyond the gathering, the 1954 model 25 was stopped. Then, following the exact same course, another runabout equipped with the new 1955 25 horsepower motor came

zipping by. Surprisingly enough, one could hear the wash of the waves against the hull more clearly than any sound from the motor.

Later, comparison demonstrations were given with passengers riding first in runabouts equipped with 1954 models and then follow-up circuits of the lake were made in similar boats powered by the whispering 1955s. The difference between the two was even more apparent in the underway demonstration.

Even more noticeable than the near absence of noise was the freedom from hull vibration when the 1955 motors did the pushing. And in this absence of boat vibration largely lies the explanation of the new motors' amazing silence.

Johnson research engineers have put in many years studying the noise factor of the outboard motor. They realized that one of the principal objections to the use of large horsepower motors on many of the waterways throughout the United States was due to their greater noise annoyance feature. The engineers very quickly realized that the bulk of the sound was not created by exhaust noises, which had already been largely eliminated by means of the nearly universally adopted underwater

exhaust system, but rather was due to boat vibration. The motors vibrated transoms of the hulls to which they were attached. These transom vibrations were radiated to all parts of the boat, so that the outboard hull in fact acted like a sounding board.

The engineers knew, for example, that if a violin string were to be tightly strung across an open area between two supports and stroked with a violin bow, practically no noise would result. The string would vibrate but with no sounding board to catch and reflect the vibrations, no audible tone would result. They knew of course that the same violin string stretched over a cigar box and stroked would create audible sounds. It became obvious then that further silencing of the outboard motor could be accomplished only by eliminating vibrations or baffling the vibrations in such a manner that they would not be picked up by the hull of the boat. This was true since a boat serves as a sounding box as did the cigar box or the conventional violin.

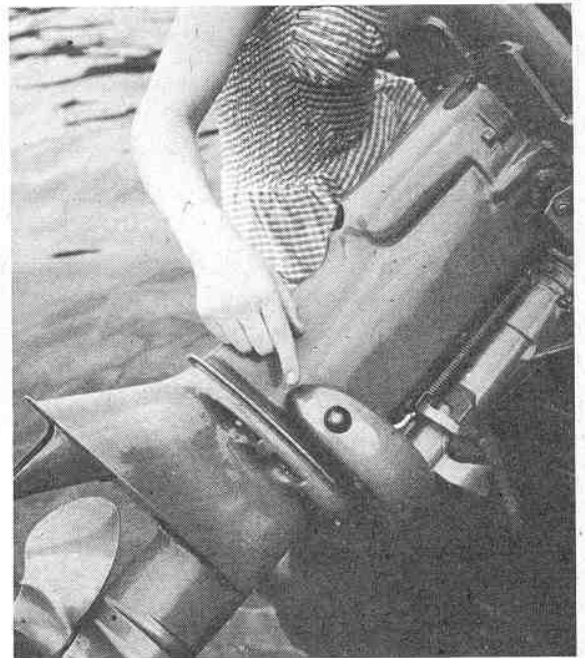
This is what has been done to dampen motor vibrations. The powerhead of the Johnson motor has been redesigned to float like a bowl of Jello on the

(Continued on Page 32)



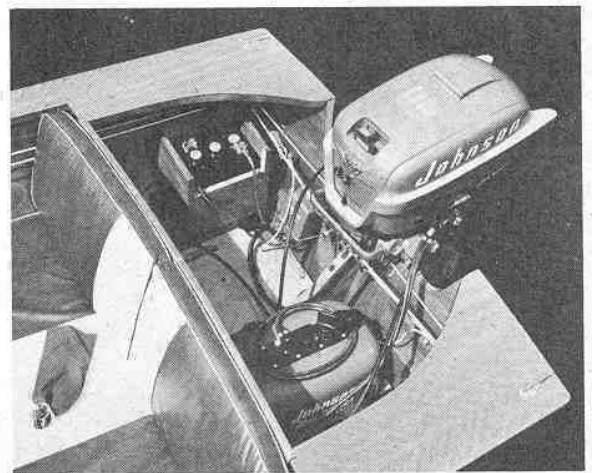
Johnson Motors offer four-way salt water protection for all their Sea Horses. Corrosion-resistant aluminum alloy used in all underwater parts. Lyfanite, a special chemical coating, is added to all these parts. High-grade varnish is baked on all internal water-jacketed parts. Drive shafts and prop shafts of stainless steel.

(Below) A horseshoe-shaped bracket on leading side of driveshaft housing hides rubber-cushion mounting system of 1955 Johnsons.



## SILENT AS A WHISPER

By Henry Hotchkiss



(Above) Johnson Electric 25 is compact with push-button electric choke and starting, yet is also equipped for manual steering.



## Modifying Your Stock to Alky

(Continued from Page 6)

back in perfect shape should be given careful consideration. If you plan to check out the motor with cylinder liners in cast iron state, have the block ground .025" oversize (i.e. over original factory specifications). Later if the block appears to be a good one, you will probably have it ground out another .005" and hard chrome-plated back to legal dimensions. The hard chrome will maintain cylinders longer in perfect condition and prevent ring scuff and wear on the cylinder walls, but the job is expensive—\$25 to \$40—and shouldn't be done until you have a proved set of blocks.

On a Class B KG-7 block, it is recommended that you have aluminum inserts heli-arc welded into the head end to increase the compression ratio. This is unnecessary on a 20H block as the compression ratio is greater than on the KG-7. Hubbell makes these compression ratio inserts changes at \$12.50 for the complete job, parts and labor. Keep in mind that the heat used in welding in the inserts may cause block distortion so that the grinding should be done after the compression blocks have been fitted in order to restore the block to perfect roundness.

Oversize pistons will cost approximately \$9 a set, including a pair of pistons and racing piston rings.

No compression blocks are available for the Class A Mercury, but racing parts suppliers do stock high-dome pistons which will materially increase the compression ratio. With a set of high dome pistons in a KG-4, recommended compression chamber volume at top dead center is 15 c.c.'s to the top of the spark plug hole threads. This point of compression chamber volume should be stressed. Your greatest success with the modification will be based upon complete balance of all rotating and reciprocating parts, but balance will not be complete without an equalization of combustion chamber volume. In order to measure the volume, as a first tool in your alky burning home-shop kit, you should have a cubic centimeter burette. This is simply a graduated glass tube which you will use for measuring. Your local pharmacist can order one for you. I would recommend that you get a tube with at least a 30 c.c. volume.

To make a measurement, fill the c.c. tube with a solution of lightweight machine oil cut with gasoline or kerosene. Tilt the motor so that the combustion chamber end of the cylinder blocks is upright in a manner so that a level of the face of the cylinder head will be parallel to the floor. Make a careful notation of the exact fluid level in the c.c. tube. Next rotate the flywheel until the cylinder hole to be checked has its piston at top dead center. Then carefully, to avoid any spillage, pour the fluid into the spark plug hole until the fluid has reached

the precise level of the gasket seat in the spark plug hole. The compression chamber volume is then determined simply by subtracting the reading of the level of the fluid still remaining in the c.c. tube from the original recording. Repeat for the other cylinder. Volume of 2 cylinders must be balanced.

Perfect balance may be achieved by carefully filing away metal from the top of the piston of that cylinder which has the least volume.

If you find that either with the A or the B your volume is considerably greater than the recommended 15 or 18 c.c.'s respectively, you may mill down the bottom face of the block. In so doing, however, you must realize that you will be altering both your intake and exhaust port timing so that, prior to removing any metal, you must carefully make the distance from head to cylinder block base. After milling you must then, with a grinder, raise both the intake and exhaust ports an amount equivalent to the thickness of the metal removed. Work slowly and remove only a slight amount of metal at a time. In order to improve both intake and exhaust porting, you may safely enlarge the horizontal dimension (looking at the block with the cylinder base sitting on your work bench) of the ports as much as 1/16".

Both the intake ports and the intake manifold fuel passages should be carefully polished and the fuel passages should be enlarged as much as possible. All sharp contouring must be smoothed out.

On the Class B Mercury, the recommended volume of 18 c.c.'s gives a compression ratio of approximately 10:1. If, with your present Class B motor, you plan to run the standard factory pistons, it is recommended that you remove the lower of the three piston rings since two rings will be ample and will present far less drag.

Another added item which will materially improve the breathing of your motor is the use of a set of transfer passage reed blocks which provides a controlled supply of additional air essential to proper carburetion at high rpm. Transfer passage reed blocks are available from Hubbell and, if you are having head inserts welded into your blocks, the reed blocks installed cost \$12.50 a cylinder and should be done at the same time, although no heat is used on these. You should note, of course, that the use of transfer passage reed blocks will call for approximately a half-a-turn needle valve opening in excess of your standard opening.

Your next step will concern refinements to the crankcase. The intake manifold should be enlarged as much as possible and it should then be polished by the use, first, of fine emery cloth followed by crocus cloth and then the use of a buffing wheel in a handy grinder. The buffing wheel should be saturated with a good metal polish such as Al. Be sure to flush away all residue of metal grindings and abrasives or serious damage will be done to bearing surfaces.

Next the reed cage should be worked over. With the reeds removed, the flat surfaces of the reed cage should be lapped to perfect smoothness. This is done by making a mixture of fine valve grinding compound and light machine oil and spreading this solution on a piece of perfectly flat plate glass. The reed cage should then be placed flat on the glass and worked with a figure-eight motion on both faces until they are both completely free from any scores and have been given a high polish. Next, the reed passages should be opened up as large as possible without sacrificing strength, either with a file or a rotary grinder. Once they have been opened up, the passages should then be worked over with emery cloth followed by crocus cloth, then with a buffing wheel, as was the intake manifold. The top edge of the reed stops should be ground or filed away so that they can be opened to permit a 7/32" reed stop opening and still offer crankshaft clearance. This combined enlargement of the reed cage ports and increase of reed stop opening will permit a greater amount of vaporized fuel to reach the cylinders, hence more volumetric efficiency will result. With a new set of reeds installed, bend each reed slightly so that there is an opening of approximately .006" to .007" between the reed cage and the bottom of the reed when the reeds are tightened down. Since the standard bearing in the KG-4 powerhead tends to wear quickly and get sloppy at high rpm, some drivers substitute a No. 205 B.C.A.-type thrust ball bearing, which is recommended for speeds up to 12,000 rpm, far higher than the A will wind. As another suggestion, Baldacchini machines the bearing seat to take a No. 2553 Orange bearing, which he considers a very smooth functioning bearing and far sturdier than the stock piece. The old type bearing seal will work with this bearing.

Two possibilities exist for carburetion which have been tried and proved. On the KG-4 a Tillotson Model AJ32A should be substituted for the standard AJ36A carburetor. To convert the carburetor to alcohol, the high-speed discharge nozzle should be drilled out with a #40 drill. The high-speed adjusting orifice should be enlarged with a #33 drill. All other passages should be opened up as much as possible and a 3/8" i.d. fuel line should be used to replace the standard line since alcohol-based fuels are more sluggish and require a larger diameter line so that the motor will not starve for fuel. Be particularly careful that there are no obstructions in the fuel passage. It does no good to open up the jets and install a heavy fuel line and then fail to enlarge the elbow connection between the carburetor bowl and the fuel line.

On the B, the standard AJ32A carburetor on the pre-20H models is satisfactory when modified as above, or the Carter carburetor may be used by opening up the jets to the above dimensions. Another successful approach is to use the 31/32" venturi Tillotson

model E626J, which is already set up for alcohol use since this is the standard carburetor used on the Johnson KR.

Some owners of Mark 20Hs have substituted the latter carburetor for the Carter type.

Also some modifiers of the 20H prefer to have the cockpit of their hulls uncluttered so that they have greater freedom of movement and weight distribution in competition. They have substituted a Johnson SR-PR-type fuel tank for the remote tank and have made up a set of adapter brackets to mount it on the powerhead.

As concerns ignition, the bulk of the modified Class A stocks which I noted running on the Florida circuit used the standard Phelon type magneto. However, a few have used the Bendix scintilla type by preference. With the scintilla type, a pre-1953 KG-7 solid type flywheel may be used. Although this weighs the same as the KG-4 standard flywheel, it can, however, be machined down to reduce its over-all weight by 1½ pounds or more, which will offer quicker acceleration coming out of the turns.

Points on the A and B should be set at .018". A good basic location to set the timing is at .210" from t.d.c., which represents a timing of approximately 32.5 deg. b.t.d.c. With the Mark 20H, the full advance adjustment is located at the left side of the motor, viewed from the cockpit. Final spark adjustment must be made underway at full speed, with the motor mounted on the transom in competition adjustment. No definite location may be given for spark advance since it will be dependent upon the motor condition, driver weight, hull design and condition, and water condition, as well as type of propeller.

You will find an adjustment which will permit a greater or lesser full advance to the spark lever. The restraining nut on the adjustment should be loosened and, by observation of water speedometer and/or tachometer, the final best advance setting should be determined by underway experimentation and then the adjustment nut should be locked so that the spark may always be advanced to the same location.

For racing purposes, with alcohol fuels, spark plugs should be gapped at .025", and new gaskets used. Either K-2 or K-3 Champion plugs will offer you the proper heat range. Your selection between the two will be determined after experimentation. The K-2, being the colder, will probably run better on long courses with wide looping turns.

The lower unit should be filled with a 30-weight oil, and every other blade should be cut off the water pump impeller to cut down on friction drag. The lower unit should then be polished carefully and reduced to minimum allowable specifications.

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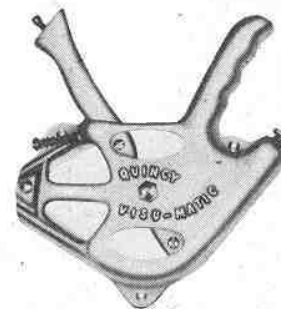
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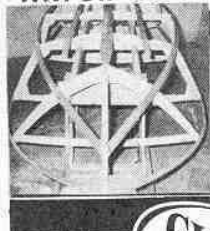
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## Modifying Your Stock To Alky *(Continued from preceding page)*

Louis 7, Mo., and Quincy Welding Works, 5th and State, Quincy, Ill., make open stacks for all models. Most drivers further modify these by cutting away all shielding material and drilling and tapping water bleed holes as shown in the illustrations. You can fabricate your own exhaust, but remember to make provisions for water circulation. In general, you will save time and effort by buying the specially prefabricated items.

Your final problem is one of fuel. If you plan to make your own, a safe fuel mixture is as follows: 4 gallons pure methanol alcohol, 1 quart benzol, 1 quart castor oil. (Note: this mixture should not be used in other than modified Mercury engines since lubrication would be insufficient for KR's, SR's or PR's.) You will note, too, that since the benzol additive is a solvent (though used to prevent castor from separating here) after any running with an alcohol based fuel you should run approximately a pint of gasoline-oil fuel mixture through your motor to clean out all residue of the alcohol fuel mixture

before storing the motor even for a short period of time to prevent damage to any synthetic fittings or gaskets.

Since the bulk of the fast running alcohol equipment today is achieving much of its top speed by use of nitrated fuels, you will unquestionably have better luck buying pre-mixed fuels from one of the fuel specialists. (A list of racing fuel suppliers appeared in the April '55 issue of BOAT SPORT.)

Speed expectancy from the modified KG-4 set up for competition will be in the neighborhood of 51 to 53 mph. You should expect a horsepower increase from a peak condition of 15 hp at 6000 rpm to better than 19 hp at 6500. The Mercury B powerhead, which on winning motors will pull about 18 hp at 6000 rpm in a stock condition, should, when modified to alcohol, develop approximately 24 hp at 6500 rpm. You may expect a modified B to clock between 56 and 62 set up for closed course competition. With either of these modifications, you should be able to run successfully against either KR's or SR's. (END)

## How to Select an Outboard Motor

*(Continued from Page 7)*

and moves through the water, and the planing type which skims along on the top of the water. Usually boats of the displacement type are limited for practical performance purposes to motors not in excess of 7½ horsepower, although the average motor used on this type boat is considerably smaller. The reason for this is that motors of larger horsepower fail to offer any appreciably greater top speed and do tend to overpower the boat, creating an unsafe condition.

Doubling or even tripling the power at the stern of a displacement type boat will only increase the speed slightly—if you get to use it before you swamp.

The planing type outboard hull, which is the design of most boats made specially for outboard motor application, are, however, displacement boats at low speed and, if underpowered, never achieve a planing condition. To own, for example, a well-designed 16' runabout and power it with a 5 or 7 horsepower outboard motor would be about as impractical as attempting to install a Crosley engine in a Cadillac.

To make your selection easier, here's about what you'll need in the line of power for varying types of boats. A standard double-end canoe which weighs between 60 and 90 pounds, will run about 4 to 6 mph with a 1.7 to 2 horsepower motor and up to 8 mph with a motor of 3½ horsepower. Beyond 3½ horsepower, little added performance gain can be expected and the canoe becomes definitely overpowered. If you value your large horsepower motor, keep it off the side of a canoe. Square ended canoes, which are

usually somewhat shorter than double enders and with a broader beam, averaging about 40" to 44", are normally designed for motors of 2½ to 6 horsepower and a speed expectancy of from 5 to 8 mph is average. Some few square enders are designed for greater horsepower and planing speeds of 10 mph and above.

The popular pram or dinghy in 8' to 10' lengths makes a suitable boat for motors of 1.7 horsepower to 3½ horsepower but both types are considered overpowered with larger motors. Speed expectancy for these is about the same as for the double ended canoe.

The flat, hammock-bottomed type rowboat of a standard 14' length will offer from 3 to about 7 mph with motors of 1.7 to 6 horsepower. The round bottom rowboat, however, is slightly better designed for outboard motor application and can be used safely with motors of up to 7½ horsepower and yet will function satisfactorily with motors as small as 1.7. The speed potential with a driver and a passenger will range from 4 to approximately 10 mph.

Though not as popular as any of the foregoing but still handy for the occasional outboard boatman who wants to pack both his boat and motor into a compact unit, the collapsible type kayak or small deflatable rubber raft boat will stand motors up to 3 horsepower. Above that little gain is to be had performance-wise and safety becomes marginal. Speed expectancy at this recommended horsepower is seldom above 5 mph. All of these boats would fall into the displacement boat category.

Among the planing type hulls, greater horsepower is required to take ad-

vantage of the planing performance of the hulls, but like the displacement boats, the maximum size of motor from the standpoint of safety is dependent upon the size of the hull. It must be remembered, too, that the maximum safe horsepower recommended here is for general family use of the boat and not for racing purposes where the safety factor is largely secondary to top speed and is also determined by a set of hull weight and dimension specifications matched to various motors and established by the national rules governing organizations.

Among the planing hulls designed for general family utility use are four basic types: the utility runabout, sports runabout, day cruiser and weekend cruiser. The utility runabout is the most popular of all outboard boats. Of the utilities, the 13' to 15' type are most numerous. The utility runabout is usually of a V-type bottom design forward which gives way gradually to a flat or partially rounded bottom surface at the stern. It is also usually equipped with two or more seats but no true foredeck or windshield. The sports runabout, by contrast, usually has the same bottom design, the same basic handling characteristics but is more ostentatiously finished with forward deck, amidships deck, spray windshield or windshields, and frequently upholstered seats and cockpit coaming. The boatman gets greater comfort in a sports runabout, more eye appeal and, usually, because of the added weight of the fancier trimmings and appurtenances, a slightly reduced speed expectancy.

The day cruiser, which is becoming increasingly popular, is usually 15' or longer, of the V-type bottom tapering back to flat or semi-round at the stern. It is customarily equipped with a sturdy forward windshield with a substantial foredeck covering locker space or even very limited bunk space.

The weekend type cruiser invariably includes bunks in a cabin which may occupy a half to three-quarters of the over-all interior space of the boat. The more lavishly designed types include galley equipment as well as sink and toilet. Since weight is a determining factor in performance, the weekend type cruiser, which is the heaviest of the outboard powered boats, requires the greatest horsepower.

The popular 14' utility ranges in weight from about 225 pounds to as high as 350 pounds, dependent upon materials and type of construction. Its beam will vary from as narrow as 50" to as broad as 70". A lightweight 14 footer may be made to plane with a motor as small as 6 horsepower but with that type power, speed expectancy will not exceed 10 to 12 mph. The motor range which can be considered safe will be largely dependent upon the beam. Broad beamed types of about 55" to 70" are capable of handling motors up to 40 horsepower and speed expectancy will range from about 14 mph with a 10 horsepower motor to as

high as 38 mph with a 40 horsepower, including a driver and passenger.

Sports runabouts in the 14' and 15' category are usually considered underpowered with motors of less than 15 horsepower. Most sports runabouts can readily handle motors up to 40 horsepower. Speed expectancy will range from about 15 mph in the lower horsepower brackets to 35 mph with the larger motors.

The day cruiser is usually sturdily designed for rough water and offshore use with higher freeboard, broad beam and excellent sea-keeping qualities. However, the sturdier and more seaworthy construction adds to the boat's weight and takes its toll of speed. To offset this the boatman wanting peak performance from a day cruiser type is usually better satisfied if he equips his hull with a minimum of 25 horsepower. Most of the contemporary day cruisers may be safely powered with dual motor installations offering as much as 80 horsepower from the combined plants.

The weekend cruiser, because it is the heaviest laden with equipment of all, will seldom perform with any degree of sprightliness without at least a single 25 horsepower installation. The largest and heaviest of the 22' cruisers can safely swing a pair of 75s, if the owner's budget can stand it.

Generally speaking, a 20' cruiser of about 1400 to 1500 pounds can be expected to peak out at about 16 to 18 mph with a single 25 horsepower installation, make about 19 to 20 mph with a 30, and about 22 mph with a 40. Twins of 50 horsepower will offer approximately 22 to 24 mph.

The Outboard Boating Club of America, as an aid to the potential boat buyer, has established a uniform method by which the boat manufacturer may rate his boat both for safe load carrying capacity and maximum horsepower. Since the majority of the major boat manufacturers have realized that it is to their advantage to have their boats properly and safely powered, many of them list the O.B.C.'s horsepower and load carrying recommendations. This O.B.C. rating will also prove to be an excellent guide in selecting the motor of the proper power for a given manufacturer's boat.

Thus far we have a guide as to the approximate horsepower one will need on a variety of popular models and sizes of boats. However, if you have been looking over the market of new motors, you have doubtless already noted that a considerable price variation may exist between one manufacturer's motor of a given horsepower and that of the same horsepower produced by another manufacturer.

Is one manufacturer's motor superior to another, or is every motor in a similar horsepower bracket approximately the same? In general a difference in price between two brands of motors in the same horsepower bracket will be reflected in better quality in the

(See Over)

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## How to Select an Outboard Motor

(Continued from preceding page)

more expensive model. These refinements are usually apparent after checking over the motor's specifications. The cheaper motor, for example, may have no means of reverse while the more expensive model may be equipped with a full pivot reverse or more likely with a complete forward-neutral-reverse type gear shift. Assuming that both models are equipped with a gear shift, the entire shifting mechanism of the more expensive model may be expected to be far more sturdily constructed. Internally there may be a vast difference. Frequently, comparative specifications will reveal this. The more expensive motor is likely to be equipped with heavy duty bearings or the ball, roller or needle type, while the competitively priced job may be fitted throughout with bronze bushings. It's probable that the more expensive model will use dropped forged steel connecting rods while the less expensive motor may have cast aluminum rods.

Usually the more costly motor is better engineered so that throttle and ignition controls are coupled together in a single efficient regulator. Such items as driveshaft housings and motor clamp brackets may be far more sturdily constructed, more simple and efficient to regulate. Further refinements may be represented in a better ignition system, carburetion system or more painstakingly finished machining of internal parts.

In general the outboard motor, though basically a relatively simple mechanism, may reflect quality in many ways. The top-price-bracket motors are more likely to include finer metals and greater care will be taken in treatment of internal water passages to offset corrosion.

One manufacturer of motors which sell in the higher price brackets recently selected at random a group of motors from the production line and gave the motors' gear shift mechanisms an automatic cam-operated durability test. The

gear shift mechanisms were still functioning adequately after 40,880 full shifts. A series of cheaper priced competitive products were simultaneously checked. These less expensively constructed motors all experienced gear shift failures somewhere between 3000 and 5000 shifts. Again, however, the average number of shifts estimated for the average operator of a full shift type outboard motor is about 250 per year. On this basis, even the poorest gear shift mechanism under normal expected operating conditions, should, with even lax maintenance, be good for ten years or more. However, only you will be able to answer the question of how much use your motor will be given.

The decision between the expensive model and the cheaper model can then, at least partially, be based upon your own estimate of planned operation. Quite frankly, you get just about what you pay for in an outboard motor. The more expensive models' manufacturers work on approximately the same proportionate profit margin in relation to their costs as do the manufacturers of the cheaper models.

Another consideration concerns the area in which you plan to operate your motor and the prevailing conditions at the site of operation. A few manufacturers produce air-cooled models. With water always available to the boatman water would seem the most reasonable means to accomplish cooling. And, generally speaking, water cooling is used since the water-cooled motors are lighter in weight. Air cooling requires the addition of some kind of fan mechanism mounted on the flywheel and air radiation fins built into the cylinder block casting as well as the exhaust manifold, all of which add to the bulk and over-all weight of the motor. Yet there are operating conditions, for example, in shallow, silt and mud bottomed lakes or constant salt water use, under which the air-cooled motor with its designed freedom from damaging effects of corrosion or coolant passage clogging, offers a distinct advantage. The air-cooled type motor, however, is usually available only in the smaller horsepower range so that the purchaser

is immediately limited in expected performance.

The majority of outboard motors are designed on the two-cycle principle. The two-cycle has distinct advantages since it is basically simple in design and since it is lighter in weight per developed horsepower. Nearly all manufacturers use the two-cycle principle. There is, however, one decided drawback to the two-cycle type motor in contrast to the four-cycle, and that is fuel consumption. While the two-cycle develops nearly double the horsepower for a given cylinder size, it also consumes nearly twice as much fuel through less efficient valving. So the four-cycle, though heavier and more expensive initially, is far more economical to operate. Thus consideration between the two-cycle and four-cycle is based on a comparison of initial price versus operational economy and developed horsepower versus weight per horsepower.

In the final analysis, the buyer, of course, must make his own selection. But a consideration of all these factors involved should make the choice considerably easier. (END)

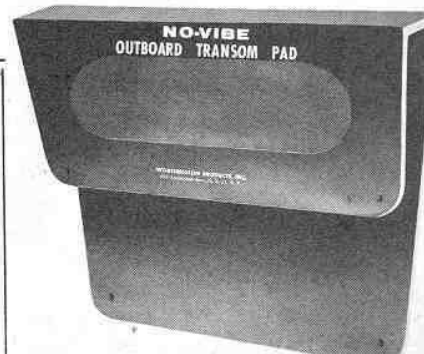
## Cover Story

OUR COVER this month shows an almost idyllic spot in which to live, as far as boating is concerned. This modern home, right on the water's edge, with a combined dock, swimming and diving platform out in front, offers just about everything anyone could ask for. And to complete the story, here also is a trim 18' Chris-Craft Express Cruiser, with room in the cabin for two full-length bunks, a compact galley and a toilet. The outboard motor is a 25 hp Evinrude Big Twin electric-starting model with Aquasonic quieting.

## It's News

### IMPROVED NO-VIBE TRANSCOM PAD

The new No-Vibe Transcom Pad, designed to reduce outboard noise and vibration by insulating engine from transom with double layers of resilient Neoprene, fits all thicknesses of boat transoms and all types and models of outboard motors.



Introduced by Worthington Products, Marine Division, 441 Lexington Avenue, New York 17, N. Y., the new No-Vibe Transcom Pad offers 150 square inches of bearing surface with a recessed Formica insert to provide a firm hold and prevent clamps from cutting through the rubber. (cont'd on page 33)

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## How to Build a Starting Clock

(Continued from Page 10)

The clock face, shown in another drawing, is made of  $\frac{3}{4}$ " fir plywood with frames of 2" x 4" pine.

In the drawing showing a cross-section of the operating mechanism, the hand ("A") is made of  $\frac{1}{2}$ " marine plywood or seasoned walnut. "B" is the collar and set screw brazed to over-size washer and riveted to hand "A". "C" is a counterweight made of lead to give trim and perfect balance to the hand movement. "D", the pointer or guide dial on the back of the clock, is brazed to the crank collar. "E" is the main shaft, and "F" is a bronze bushing, or better, a needle loaded bearing.

If your club is one with limited funds, this manually operated clock, or one of similar construction, will be your only practical choice. It is recommended that your officiating personnel be given advance pre-regatta practice with the clock so that they are completely familiar with its operation. The clock operator and clock timing personnel should be impressed with the importance of being guided only by stop watch or chronometer and the hand operating mechanism on the reverse side of the clock, and trained to ignore the oncoming field of boats. All too many racers have through long experience and practice learned to gauge hitting the starting line right to the split second and should not be handicapped by a clock operator who figures, "The field looks good with ten seconds to go, so I better pick up the tempo so the lead boats won't arrive before the sweep second hand reaches the 60-second marker." The character who had planned his start right on the button finds himself getting away in the rear of the pack and next time out will probably crowd the clock in self defense.

One extremely active and aggressive racing club, the Outboard Club of Chicago, had like others long been faced with continual gripes about the conduct of its manually operated clocks. Last year, the Commodore of the O. C. of C., Adam F. Gabriel, agreed to check into the advisability of creating a mechanically operated starting clock.

In the past, a number of attempts have been made to create spring and electrically operated starting clocks. The results were for the most part unsatisfactory. Rather than attempt to copy or modify any existing designs, Gabriel, who is one of the owners of the Acme Industrial Company of Chicago, a manufacturer of precision hardened and precision ground machine parts, turned over the problem to one of his designing engineers. The engineer, Max Riedl, had until a year ago resided in West Germany. Riedl had never seen an outboard race. In fact the first speedboat race of any sort that Max witnessed was when his clock was successfully introduced at DePere, Wisconsin, at the 1954 Stock Outboard Nationals. Quite frankly,

Riedl today is far more interested in the bouncing shingles than he is in his starting clock, but that may be another story if Max ever enters actively into outboard racing, which is one of his present ambitions.

The clock that Riedl designed and Gabriel and his Acme Industrial Company built is basically simple and not exorbitantly expensive to construct. A rough estimate, since no accurate costs were kept, would be about \$200 for parts plus time and labor involved. Quite frankly, the O. C. of C. clock is not a design that just any club member can build in his spare time in a home hobby shop. But it is a clock which can be duplicated by any qualified electrical or electronics technician.

The clock itself is completely automatic from the time the starting impulse button is pressed. The five-minute warning gun is automatically fired. Electrically controlled supports drop the minute fingers, fire the one-minute cannon, start the timing mechanism of the clock for its one-minute sweep and simultaneously with the clock's reaching the 60-second mark, the starting cannon is again activated and fires in perfect synchronization as the clock face becomes obliterated.

After the clock had been initially designed and tested, it was found that due to difficulty of triggering the cannon, an added recoil mechanism was needed to provide the assist. This season the Outboard Club of Chicago plans to add a Polaroid camera to the equipment. The camera also will be triggered automatically, zeroed in with the timing of the clock, so that the clock will not only be able to put an end permanently to beefs about "fast" and "slow" clocks but will also, by means of the Polaroid camera, stop all arguments about gun jumping. In fact, the only automatic feature lacking in the entire mechanism, and the reason the clock is termed "near-perfect" rather than perfect, is a means to reload the cannon shells. Reloading must be done manually as must be the turning of the dial backwards to the starting position for the next run of the clock.

Another outstanding feature of Gabriel's clock is the face design. The face itself is constructed of a flexible yellow plastic which may, for ease of transportation, be unclipped from the clock frame and rolled. The front face of the clock is split from the 0-60 section to slightly below the center section. As the clock mechanism is actuated during the final minute, a black disc gradually, second by second, moves through 360° until the entire face of the clock is obliterated. Drivers at DePere reported that the clock, even with its modest face size of considerably less than 6 in. in diameter, offered the greatest clarity of any clock they had ever previously witnessed.

Though the Acme Industrial Co. is in no way interested in commercial

(Continued on Page 32)

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pocketbook; emergency repairs; complete overhaul of engine and accessories; step-by-step instructions for disassembly, analysis, repair and assembly; preparing stored engine for service; motors that have been submerged. Trouble Shooting: hard starting, engine skips or misses, overheats, low compression, excessive vibration or noise, lack of power, spark plugs burn or foul, engine races. Boats: selection, loading, safety first, riding out rough weather, navigating in strange waters, docking, mooring, winter storage, painting. Federal and State regulations.



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## Breaking the Bottlenecks of Boating

(Continued from Page 11)

motor and boat and the boat trailer are teamed together to return Bismarck, N. D., to the pre-eminence it once enjoyed as a prairie center of boating activity. Before the turn of the century, the nearby Missouri River was heavily trafficked with steamboats carrying passengers and supplies for the Northwest. But completion of transcontinental rail facilities through North Dakota removed steamboat captains, river men and other colorful waterfront characters from the scene. Development of Garrison Dam, the largest earth-filled structure in the world, has now created a gigantic lake some 185 miles long. Leading their boats to water by trailer, Bismarck area sportsmen have created scenes reminiscent of the pioneer steamboating days as they follow the water trails of Lewis and Clark, General Custer, Teddy Roosevelt and other pioneers of a past boating era.

At Oshkosh, Wis., and other terminals of group cruises, it is not uncommon to see license plates indicating that boat owners have brought their craft hundreds of miles overland for 50 or 60 miles of water travel.

Today the trailer is as much a part of the boating picture as the boat or the motor.

With the portability provided by the small-boat trailer, all boating waters have been put within reach of the boating enthusiast. Vacationing by boat is a standard practice for many; the fishing devotee puts his boat on wheels and follows the fishing.

Another big advantage to ownership of a trailer is the avoidance of storage problems. The trailer-borne boat may be stored in the family garage where it is protected from the harmful effects of bad weather.

While boat and motor manufacturers have been lending their engineering and production skills to furthering the comfort, safety and convenience of the

boater, trailer manufacturers have been devoting similar efforts to assuring the comfort and the safety of the boat.

New companies have entered the field—and existing companies have taken on the building of trailers—and competition has become intense. As a result, the boating enthusiast finds himself the recipient of a great deal of research and engineering improvements.

In their efforts to serve the amphibious American better, trailer builders recently organized the Boat Trailer Manufacturers Association. One of the new group's primary aims is to set up quality standards. Among the new association's first actions was to set up this membership requirement: Every manufacturer must make spare parts available for a minimum of three years for every model he puts on the market.

The 1955 trailer "roads" far better than its predecessors. Redesigned shock absorbers, springs and wheel suspensions allow for smooth riding even when the boater strays from the beaten path to seek out new boating waters.

Improved keel and transom supports and tie-downs prevent damage to the boat by keeping it properly aligned over the trailer during transit, even at high speeds.

Loading and unloading has been made an easy, one-man operation which doesn't even require the boater to get his feet wet. Improvements in this direction include tilting cradles, which eliminate the need for detaching the trailer from the car and permit the boat to slide easily down into the water.

Some manufacturers have added a collapsible third wheel in front to serve as a caster for unloading or loading and as a tongue rest in parking.

Specifically, here are some of the 1955 offerings of trailer manufacturers:

The trailers of the Ajax Boat Trailers Company, Hazel Park, Mich., fea-

ture a dolly which travels the full length of the trailer under and with the boat during the launching and loading operations. Metal guide rods, adjustable for width, keep the boat over the trailer center. Midship cradles and bow fork are also adjustable as is the column upon which the geared winch is mounted.

Special features of the Ace Tipper trailer of Ace Trailer Company, Corpus Christi, Tex., include a coil-spring assembly, which mounts behind the pivot-type axle to offer minimum road shock, and a transom support with full-length wooden channel mounted on two-inch steel tubing frame for keel support.

Five minutes' time, one man and a wrench are all that's needed to assemble or disassemble the new Twin Trailer being offered to the boating public by C & F Machine Works, St. Paul, Minn.

The basic chassis can be used as an adjustable boat trailer for boats from 12 foot to 18 foot or as a 1,000-pound capacity utility box trailer.

Trailers from Correct Craft, Inc., Titusville, Fla., include a 26-foot model with tandem axle for small cruisers.

New features introduced by Peterson Brothers, Inc., Jacksonville, Fla., and Fort Wayne, Ind., include a tilt-top attachment making it possible to launch and load the boat without disconnecting the trailer and the car.

Also new is the mechanical lifting center roller which raises the boat above the cradles for easy launching and loading.

New type under-trussing, heavier axle tube and improved adjustment on transom bunks feature the 1955 models of Speedway Trailers, Inc., Oshkosh, Wis. Other improvements include all-steel rollers, rubber torsion bar bearings to ease road shock and new "V" block, adjustable, for all boats.

Latest developments in trailers by Sterling Products Company, Salem, O., is the tilt-glide attachment, which acts as a second tongue and permits launching or loading without unhitching the car and trailer.

Low-slung, smoothly curved lines gives sports-car styling to the new trailers of Tee Nee Trailer Company, Youngstown, O. Deeply-dished steel fenders enclose the top portion of the trailer wheels, and the winch stand has been placed in a stream-lined enclosure. Tee Nee provides a transom support accessory which utilizes white synthetic rubber rollers to provide additional support for the boat transom with motor attached.

As one manufacturer put it, the trailer industry has put launching and loading devices on wheels and has made every boating enthusiast his own yacht club.

Or, stating it another way, you can take it with you.



The Kompak Sportsmen's Trailer combines a living compartment, kitchen and boat in one unit. Inverted hull of 12' Fiberglass boat forms trailer roof, which can also be covered with protective canvas. Manufactured by Dwight Johnson, Medford, Ore.

(The next installment of this series of articles will appear in our August issue—on the newsstands July 1.)

## Boat Sport Covers the Citrus Circuit

(Continued from Page 17)

less cool temperature, Bud won one heat of F Hydro at an average speed of 64.332 in a Neal three-pointer powered by an O.M.C. 4-60. The mark could not stand as official since the rules call for at least three boats of the same class to finish the heat. There were only three finishers including second-place driver, Bill Tenney, who was helming a PR-65 Johnson C. Bud clocked slightly over 64 the following week at Lake Alfred, but again an insufficient number of Fs were in the finishing field. At St. Petersburg, on February 27, the weather was balmy and Lake Maggiore, though not so conducive, to world's records as Lakeland or Lake Alfred because of a triangular rather than oval shaped course, was relatively calm and a good field of boats was listed for Class F. Of the thirteen, nine came out for the start, including, in addition to Bud's own legitimate F: Hap Owens of Bedford, Indiana, with a scorching 4-60 which had won for him both the A.P.B.A. and N.O.A. 1954 titles; veteran J. B. Broadus of Lake Wales, Florida, and Al Holub, Berwyn, Illinois, both with 4-60s; plus Merle Oliver, Greenville, Ohio, with a Modified Merc and three good Cs to increase traffic conditions. Bud really had his 4-60 winding, and reached the first pin just a shade ahead of the pack. From then on he aired out, clocking a new A.P.B.A. mark of 64.194. To give you an idea of the gap Bud built up over the seven other finishers, second place driver Hap Owens averaged 60.810 mph for the distance.

It's a good thing Bud did it that heat for, in the second heat, Owens took the Concord, California, petroleum engineer's measure at the first buoy and, on the backstretch, Bud's engine missed a few beats, then died cold when a condenser wire vibrated free. Owens' own time in winning the second heat was far better than respectable, averaging 62.893.

Two other alky veterans who were Florida standouts were Doug Creech, Charlotte, N. C., and Mabry Edwards, Jacksonville. Creech scored a heat win in A, at Lakeland, finished first and second in two heats of B and a second in one heat of C. At Punta Gorda, he ran second and third in Class B and took two straight heats of C. At St. Petersburg, he bounced out a fourth and second place finish in Class B and a third and second in Class A. Edwards, who was limiting his driving to A and B classes, copped a second and first heat finish in A, at Lakeland, and a third and first in B. At St. Petersburg, he took one first in A and one first in B, drawing blanks in the second heats of both classes—in A due to motor failure and in B for jumping the gun.

Another veteran and one-time Class A alky burning record holder, Bob Cramer, 44-year-old marine dealer from Fort Pierce, Fla., trailered into

Punta Gorda to take two straight A heats but nearly pulled a blank in St. Petersburg, eking out a fourth place spot in the second heat of A Hydro.

Among the stock drivers, the record for sensationalism will probably go down in the books in the names of 18-year-old Ross Bennett, Fort Lauderdale, and William "Skipper" Ritter, Halkendale, Fla. The two drivers were competing in Miami's Biscayne Bay regatta at the Haulover course, on February 19 (originally scheduled for February 12 and 13 and postponed because of bad weather), in a heat of AU. On the second lap a school of porpoises moved onto the course and joined in the competition. Almost simultaneously Bennett and Ritter both tagged porpoises. Bennett tore his transom loose but didn't know it. Skip was flipped. Bennett rushed to Skip's rescue thinking he was hurt (which he was not) and to Ross's surprise when he stopped his motor, his boat sank out from under him. Score: one five-foot-long porpoise. Winner of the heat was Charlie Lovelace, Tampa, in a Mercury KG-4 powered homemade hull. Charlie was a double winner at that event, also winning the second heat for BU.

One of the outstanding stock drivers on the Citrus Circuit was Don Baldaccini, Miami, who is the 1954 A.P.B.A. A Stock Hydro National Champion. At the same Biscayne Bay regatta, Don made a clean sweep of both A Stock Hydro heats and won the second heat of B Hydro, though earlier at Miami, on January 23, on a course off Rickenbacker Causeway, on the South Bay, Baldaccini had flipped twice. At Lakeland, where a Citrus Circuit record turnout of 158 boats were on hand, including 26 ASH entries, Don won his elimination heat and the final. In B Stock Hydro, with 29 entries, he finished third in his elimination and went on to win the final heat.

At Punta Gorda, in AU, Baldaccini moved up from sixth to second spot in the first heat and, in the second heat, again getting away to a rather poor start, Baldaccini managed to pick his way up to third. Two BU thirds were the best the Miamian could eke out, and since no other stock events were listed, Baldaccini ran modified Mercs in both A Hydro and B Hydro classes, finishing fourth in Class A and pulling a blank the rest of the day. At St. Pete, one third in AU, two firsts in BU and a third in B alcohol hydro running a modified 20H brought his average back to a fairly high level. This, coupled with a consistent group of wins at Miami, around the turn of the New Year, made Don one of the dominant factors in the stock ranks.

Another stock standout was Charlie Lovelace, 22-year-old contractor from Tampa. Charlie was consistently among the top rank stock drivers during the entire season and really came into his own at the Florida Federation of Out-

(See Over)

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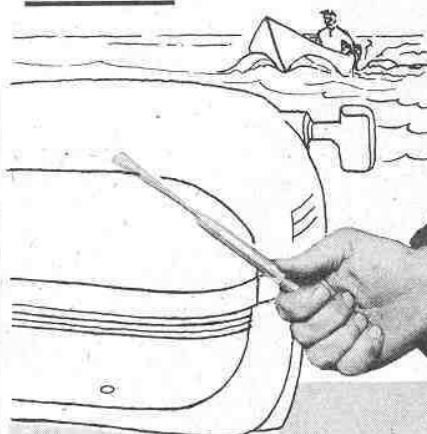
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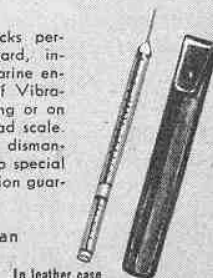
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## Citrus Circuit

(Continued from preceding page)

board Clubs' sanctioned Dixie National Speedboat Regatta on his home grounds at Tampa, the 20th of February. This event was originally to have been held under A.P.B.A. sanction but at the last moment was conducted under the F.F.O.C. banner. Charlie upheld local honors by taking one heat of ASH and two consecutive heats for A Runabouts to finish the day with high points.

Another consistent Florida stock driver, Jack Sellers, St. Petersburg, took two second places in BU, two seconds in BSH and a fourth in ASH at the Tampa races. At Punta Gorda, Lovelace moved up from sixth spot to take the first heat of AU, broke out into the front at the beginning of the second heat and was never headed, to make a clean sweep of the class. He also took one second in BU. At St. Petersburg, the following day, in the first heat, which surprisingly enough brought seventeen AU starters onto the course, Lovelace moved out in front and stayed there. In the second heat, with sixteen starters, he finished second to Curtis Jackson of St. Petersburg. Sellers again appeared in the money ranks with a third spot in the first heat of BU.

Generally speaking, Florida drivers dominated the stock classes, with those already named in the forefront. Others such as Al Cali, Lakeland, who took two BSH heats at Tampa and a first and third at Lakeland, Dave Alsop, a very promising 20-year-old BU and BSH driver of Fort Lauderdale, Skipper Ritter, Dave Gilman, Jim Hammock and Stu Gray, all of Miami, appeared frequently in the money ranks. Out-of-staters who also made a good showing for themselves included: Norman Jeffery, 21-year-old farmer from Chatham, Canada; Hank Bourret of Sioux City, Iowa; Dean Chenoweth, Xenia, Ohio; Jon Culver, Dayton; and John Mueller of Spring Lake, Michigan.

Indications would be that the bulk of the stock drivers are considerably younger than the alcohol burning clan, and the out-of-staters were largely either still tied up in school and not free to travel the winter circuit, or, if beyond school age, have not as yet arrived at a state of affluence that will permit a long Florida vacation or expensive periodic weekend jaunts.

One very noticeable trend during the past Florida regatta series was the very full alcohol burning A and B heats, bolstered by conversions of Mercury KG-4s and 20Hs to alcohol. Though the Merc conversions did not win any alcohol heats, the Merc drivers definitely made their presence felt and were not tail-end runners by any means. For example, Johnny Laing, Tallahassee, in a thirteen boat entry list, including some far better than average Johnson KR's, captured two third spot finishes at Lakeland. Sam Brooks, Madera Beach, Florida, won a second place with a modified 20H

at the same location. Baldaccini ran fourth in one heat of A Hydro at Punta Gorda, and Ross Bennett, with another Merc conversion, took a third spot in the second heat. Dave Alsop took a third in B Hydro at Punta Gorda, with Stu Gray in another Merc conversion taking a fourth. George Taylor, Orlando, ran a fourth among fourteen starters in the first heat at St. Petersburg for Class A, and Baldaccini, already mentioned, finished third in the second heat of B. In general this indicates that during the coming season more and more Mercury conversions to alcohol will be successfully competing with the regular specially-designed-for-racing alky motors. This is a healthy sign since it will offer added interest to the alky events, larger starting fields and introduce some younger faces. From the stock drivers' standpoint, it will mean that at regattas where both outboards and stock outboards are listed, the members of the newer division of the sport will have added opportunities to run.

## LAST MINUTE NEWS FROM FLORIDA

Bud Wiget, during the A.P.B.A. winter outboard racing campaign in Florida won the Colonel Green Star Island Trophy, emblematic of the high point total in a single class.

The Californian took this top winter honor for the nation's outboard drivers with five consecutive victories in his record-holding C service runabout "Crosswind." This craft won class contests sanctioned by the A.P.B.A. at Miami, Lakeland, Lake Alfred, Punta Gorda and St. Petersburg.

Runner-up to Wiget with three triumphs and a fourth place in the C hydro class with his "Hornet XV" was Bill Tenney, thirty-nine-year-old research engineer from Dayton, Ohio. Tenney compiled 1,369 points in only four events in this class to place second to Wiget. The outcome of the Star Island Trophy was mathematically assured, according to Carl Johnson, A.P.B.A. secretary, after the first five regattas in Florida waters with the result that neither Wiget nor Tenney participated at Clearwater.

The extent to which Wiget and Tenney dominated the competition did not surprise veteran observers in view of the fact that Wiget holds 33 per cent of the straightaway and competitive records recognized by the A.P.B.A. Tenney holds 22 per cent of them. Although Wiget turned in the best performance in any one class, Tenney accumulated a grand total of 5,265 points.

Other well known drivers of the alcohol-burning outboards who figured in the final standings for the winter award included Bob Cramer, Fort Pierce, Fla., the 1954 winner; Doug Creech, Charlotte, N. C.; Buddy Smith, Miami, Fla.; Hap Owens, Bedford, Ind.; Charles Watson, St. Petersburg, Fla.; Pacifico Gaetano, Milwaukee; Ralph Dowling, Cleveland, and Mabry Edwards, Jacksonville, Fla. (END)

## Outdoors with The Outboards

(Continued from Page 13)

ing, cruising, camping, skiing and aquaplaning, skin diving and spear fishing—then you realize the potential dividends that your outboard investment can pay you and your family over the years to come.

But now the shows are all over and the boating season is fully under way in all parts of the country. And there is no mistaking that it will be the biggest season yet—which means that more people than ever will be out on the water, a good many of them for the first time on their own, and so it behooves all of us who love boating to make sure that it is also the safest season, too. Let's not forget the fundamental point of "Safety Afloat," which is just good plain common sense. *Don't overload your boat. Don't take chances. Carry the required safety equipment at all times—a life jacket for every child or non-swimmer and at least a buoyant cushion for every adult. Don't overpower your boat with too large an outboard motor. Watch out for others on or in the water. Head into the waves. Don't make sharp turns. And watch the weather.*

## BOY SCOUTS AND SAFETY AFLOAT

Starting this summer, the Boy Scouts of America will institute a national program of small boat handling and safety afloat which will ultimately teach the fundamentals of seamanship to more than 3,500,000 members of the organization.

The program, which has been more than a year in planning, will be carried out as a joint venture of the National Council of the Boy Scouts of America and the Evinrude Boating Foundation, an organization devoted to an educational program of safety afloat, small boat handling and conservation of fish and wildlife.

In announcing the project, Donald M. Higgins, National Director, Health and Safety Service, Boy Scouts of America, said: "For many years we have recognized the need for an intensive boat safety education program. Ours has always been a nation of boatmen—whether on coastal waters, inland lakes or rivers. We not only have a boating heritage, but, today, hundreds of thousands of us spend our recreation and leisure time on the water. With this in mind, we are ready to initiate a program which will effect a large segment of the Scouting movement. Safe boating practices will become an integral part of Scout training."

At the outset, the program will center around the training of adult scout leaders—camp, program and waterfront directors of scout units throughout the country.

Initial courses in safety and small boat handling will be given this summer at reservations in Morristown,

N. J., Parkman, Ohio, New Harmony, Md., Osage Beach, Mo., and Grayford, Texas.

One aspect of the program will be the production of television films for distribution as a public service. The films will stress the need for boat safety, courtesy afloat, water conservation and the need to protect natural resources in lake and river areas. Four such films have already been completed and are scheduled for distribution to 400 television stations.

The Audio-Visual Department of the B.S.A. recently completed a photographic expedition to Tampa, Fla., where still and motion picture films were taken for the project.

Mr. Higgins had this to say about the social and moral aspects of the program: "Boating is a clean, healthful sport and recreation. Such a program will bring boating within the reach of thousands of boys who wouldn't ordinarily be able to go afloat. In addition to the sheer fun of boating, the boys who participate will share in a common program of enjoyment and education."

#### OF MICE AND MOTORS

Since a lot of people are just getting their outboards out of mothballs about this time, we'd like to pass on this information from L. K. Chrisman, who is an Evinrude dealer in Pennsville, N. J.

It seems that just about a year ago a customer who had had his Big Twin winterized by Mr. Chrisman the fall before brought it back in after his first run of the season and complained that it wasn't working right. The motor was torn down and quantities of wiping waste were found in the leaf valves, also the cylinder walls were badly scored.

After some good detective work Mr. Chrisman arrived at a solution, and as he said: "Although I won't go into detail about what the customer said when I told him his motor had been damaged by mice, here is what happened. The man had stored his motor on the floor of his basement beside his furnace with the carburetor side up. A mouse had built a nest in the throat of the carburetor with waste picked up from the floor and the work bench on which there were steel filings and shavings. When the motor was started, the waste was sucked into the carburetor and trapped in the valves, but the small pieces of steel passed the valves and ultimately reached the cylinders."

This may not happen again for a long, long time, but, at any rate, it isn't a bad idea to take a few more pains when you "de-mothball" your motor.

We have heard of a jelly fish getting into the cooling system and pretty well discumbobulating an outboard, and there was some story about a squirrel—although we can't remember just what he did, unless he loosened some of the nuts—but we still think Mr. Chrisman's story is the best so far.

(END)

## Torque Talk

(Continued from Page 18)

The 1955 edition of the Gold Cup race, again scheduled at Seattle, Washington, seems to be looming up not only as a battle between the eastern, or Detroit, contingent and the western cup defenders, but also as an intra-sectional race. Probably the field for this year's event will prove to be one of the best ever congregated, with several new names coming into the picture, and possibly a couple of "retired" Unlimited owners and drivers getting back into the picture.

With all of the hot rumors emanating from around the Detroit area, you can rest assured that Stan Sayres and all of his associates have been busy making sure that the two "Slo-mo-shuns," which have dominated the classic for the past five years, will again present a solid front against all comers. It will be most interesting to see whether the designing skill of Ted Jones, who was responsible for the "Slo-mo-shun IV" and "Slo-mo-shun V," has lost any of its greatness, as the 1955 entry lists will include at least one brand new Jones-designed boat now being finalized at Bay City, Michigan, for Seattle-ite Willard E. Rhodes. This outfit, along with the Murphy boat from Piedmont, California, known as the "Breathless," and the ever present "Hurricane IV," owned by Bill Stead of Reno, Nevada, should give a real tough time to the invaders of the west who annually trek to the shores of Lake Washington in what has been a futile attempt to bring the race and the Gold Cup back east of the Rockies.

Apparently, the boys from the Detroit area are going to try to out-horsepower the westerners, what with at least three twin Allison jobs being readied, along with a very representative fleet of single-engined craft. Joe Schoenith, owner of the two "Gales," which were driven with great success in 1954 by his son Lee and Bill Cantrell, is setting up a tandem Allison outfit for the 1955 event. Another outfit with twin Allisons driving twin screws has been built at the Arena shops for Fred Saille of Detroit, whose 1954 entry, "Miss Cadillac" (nee "Miss Great Lakes"), was no slouch and was the boat which we thought might possibly be the dark horse entry in 1954. Jack Schafer, whose several "Such Crusts" have constantly been a threat, is said to be readying the big tandem Allison "Such Crust" for this year's race. With at least three of the dual Allison boats out on the course, the skilled driving tactics of Fageol and Joe Taggart will be put to a great test, for even with the proven dominance of the "Slo's," the sheer weight of the challenging fleet, might make the difference this year. Regardless, the 1955 Gold Cup race at Seattle will be something to see this year.

(END)

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## Around the Buoys

(Continued from Page 3)

One of the most active areas for the DU-1, or "36 c.i." class, is in Illinois where in 1954 more than a dozen of the boats competed every other Sunday at Manteno, Illinois, under the banner of the Chicago-Midwest Racing Association. Prominent in the drive for A.P.B.A. recognition of the class was Pete Guibor, Ottawa, Illinois, who is also a consistent front-rank driver in his Johnson powered Speedliner D-169-V.

The class has been recognized for three years by N.O.A. and events open to D-1 drivers under N.O.A. sanction have been of both runabout and hydroplane types. Since the class had not been officially recognized by A.P.B.A. until 1955, no A.P.B.A. records for the class have as yet been recorded. However, in order to give those not familiar with the class some idea of its speed potentialities, the five-mile N.O.A. competition record for D-1 runabout is 34.495 m.p.h. with a mark of 56.384 m.p.h. for the D-1 hydro mile straight-away.

In 1955 with the class officially approved, many more DU-1 events should appear on closed course programs and the class will be well represented at the country's major regattas.

Big news in the motor field for the stock racer is the production of a new model Wizard motor available soon through Western Auto Supply Co., 2107 Grand Avenue, Kansas City 8, Missouri. The new Wizard is a four-cylinder-in-line design of just under 30 cubic inch piston displacement that promises to give the Johnson PO's in stock Class CU a real run for their money.

The new Wizard is sure to inject new blood into the CU class and as soon as A.P.B.A. and N.O.A. approve specs on the job, we prophecy that CU competition and mile records will be increased in short order. In pre-production tests, the Wizard 30 c.i. performed even better than factory claims.

Though it may take some time before the sanctioning bodies approve a racing type unit for the new motor, when the nod is given for use of a Quickie-type or something similar, the motor may also be an economy answer for alcohol conversion to run in Class C with the alkali burners. Either as a strictly-stock or stock modification, the entry of Wizard into the racing picture is certain to provide added interest to the game.

D. C. Kiesacker, Miami, Florida, in Tommy Gore's 266 c.i. inboard hydro "Miami Boy," made a clean sweep of early season major regattas on the Grapefruit Circuit. In addition to his convincing performance in winning the International Grand Prix at the Orange Bowl at Miami Beach, Kiesacker won the Governor's Cup at Fort Lauderdale, took the Past President's Trophy in the Jaycees Biscayne Bay Regatta and the Washington Birthday Regatta at Lake Worth.

BOAT SPORT'S European Correspondent, Paolo Speroni of Villaguardia, piloted his Mercury 40-H powered Molinari hull to the 1954 Championship of Italy in Class DU (Italian 650 c.c. Turismo Class) with riding teammate Cesare Scotti. Speroni in 1955 will campaign the European circuits with both his two-man DU outfit and a Swift DSH.

H. W. B.

## Silent as a Whisper

(Continued from Page 21)

driveshaft housing and the clamping bracket. When the motor is at rest, should you push against the powerhead you would notice that it moves about freely, but the powerhead motion is not transmitted to the clamping bracket. A rubber cushion mounting system has been used to accomplish this. Starting at the top of the motor, the motor hood itself is mounted on rubber shock absorbers of the same type that are used in military aircraft to mount and absorb vibrations so that highly sensitive electronic gear is not subjected to disturbance.

The powerhead is rubber sealed and the drive connection between the powerhead and the lower unit is rubber mounted. Improved quieter gears in the lower unit gear box, a newly designed exhaust relief silencer and an improved underwater exhaust all contribute to the new whispering operation.

One more problem, however, had to be overcome. Any automobile owner who's ever removed his carburetor's oil bath silencer has observed that the motor noise is increased tremendously. Yet an automotive-sized carburetor silencer could scarcely be incorporated into an outboard powerhead without making the unit inordinately bulky. Johnson engineers have devised a compact two-stage air intake silencer which has reduced both high and low frequency noises encountered in the conventional outboard carburetor without increasing the motor's bulk.

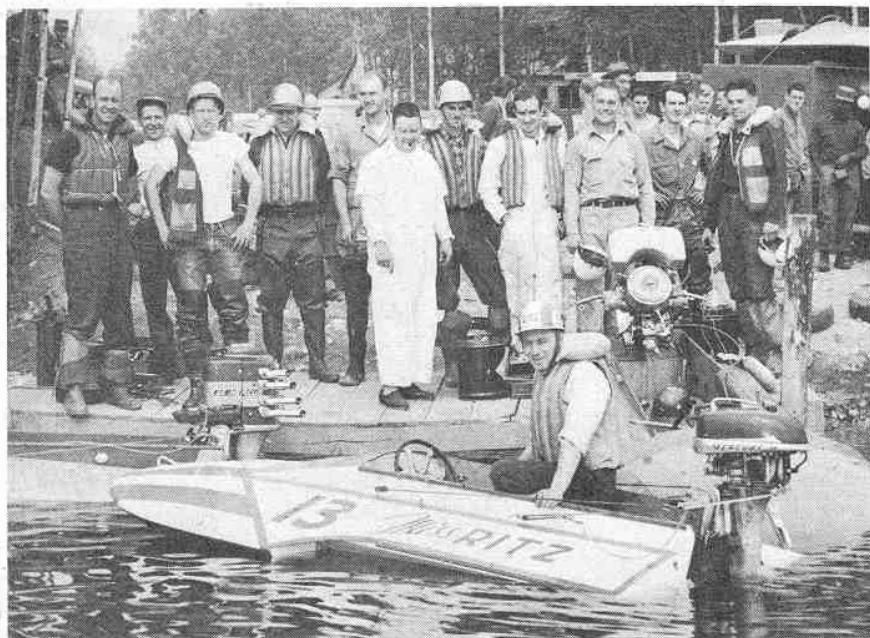
Don't think that all of these new innovations have made the motors vibration free. No motor can ever be devised that is, but the rubber and spring mounted and completely sealed powerhead units, now standard equipment on the Johnson 5½, 10 and 25, direct the vibrations away from the boat itself so that those which are not absorbed by the shock absorbers are directed practically soundlessly into the atmosphere. This is the big news in the Johnson line for 1955.

## Starting Clock

(Continued from Page 27)

clocks, having built the Out. C. of C. clock merely through its special interest in that one particular club, Adam F. Gabriel or the Outboard Club of Chicago, Suite 1402, 1360 Lake Shore Drive, Chicago 10, have agreed, in the interest of racing, to answer any questions concerning construction of its all-electric clock.

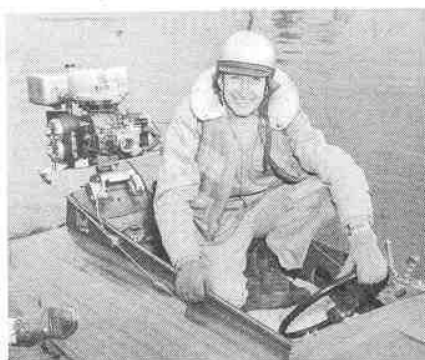
Some members of the O. C. of C., though in a minority, felt that in deference to its builder, the Chicago club's clock should throw into the discard the traditional starting cannon and substitute a horn. Aside from this minority view, the club's members think Gabriel's clock is terrific, and club officials report a refreshing tapering off of rhubarbs. (END)



Sourdough Alaskan drivers at Lake Lucille, June, 1954, where competition was keen and hot dogs cost 40c. In foreground is Leo Gagne, O.A.C.'s Commodore this year, in his Joe Swift Mercury powered hydro. Left to right on dock: Pit Pickens, Harry Lyons, Harvey Young, Merle Young, Vic Manley, Lewis Fitzgerald, Merton Shaw, Bill Oswald, West Hillman and Paul Ambacher. Anchorage Outboard Club is a very active group.



Bill Oswald, proprietor of the Grizzly Trailer Court, Spenard, Alaska, in the modified C Service hydro which he pilots on the Alaskan circuit.



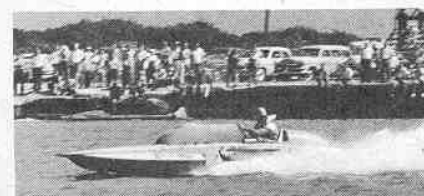
Fastest outboard driver in the United States is P. H. Cornwell, who averaged 77.922 mph in a 4-60 powered Neal three-point hydroplane.



Fastest A.P.B.A. clocked mile was set by Burt Ross, Jr., at 75.402 mph with modified alky burning 40 cubic inch Mercury on his hydro.



BOAT SPORT's European correspondent, Paolo Speroni, on his way to winning of Italian 1954 DU championship. Shown here as he rounds buoy.



D. C. Kiesacker winning the 266 c.i. hydro event Feb. 19th at Haulover course, Biscayne Bay, Fla.



Pit shot of the DU-1 driver, Pete Guibor, at Martens, Ill., with his fast Speedliner boat. He worked hard for A.P.B.A. acceptance of Class DU-1.



Bob Parish, A.P.B.A. stock high-point winner, 1954, pictured in his speedy Merc powered boat.

## It's News

### CLEANING COMPOUND

Ideal for post-race clean-up is a new special type cleaning compound marketed by Sudbury Laboratory, South Sudbury, Massachusetts. The compound which works five times faster than ordinary soap in either salt or fresh water is called Boat-Zoap and sells at \$1.29 a pint.

### SPARK CHECKER

A handy device for checking ignition, which is designed not only to determine which plug is not firing but also whether the spark plug or the magneto is at fault, is sold by Stevens Experimental Company, 2015 Grand Avenue, Waukegan, Illinois, at \$1.95.

### WISECO PISTON CO.

The Wiseco Piston Co. announces that it now has a new, full permanent mold racing pistons for the Modified Mercury A, B and D motors, Johnson-Evinrude 25 hp. motors, Evinrude Ser. C and Johnson PR motors. These pistons can be furnished semi-finished .050 over, or finished turned to specified sizes. Rings are available as well as button end wrist pins. This company also has a new KR Johnson piston, large enough for the 15 cubic inch blocks. Address the Wiseco Piston Co., 30200 Lakelord Blvd., Wickliffe, Ohio. (See over)

**VAN PELT** 16 inch Authentic RACING MODEL KITS for miniature ALLYN Outboard Motors as advertised elsewhere in this magazine. Get these Wonderful KITS and have FUN building authentic MODEL RACING BOATS—Finest Design and Construction—Enjoy MODEL BOAT building.



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## It's News

(Continued from preceding page)

### RACING FUEL CONCENTRATES

Bud Wiget, petroleum engineer and currently holder of four A.P.B.A. national records, has announced a money-

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Make remittance payable to BOAT SPORT, Classified Advertising Dept., 215 Fourth Ave., New York 3, N. Y.

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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.

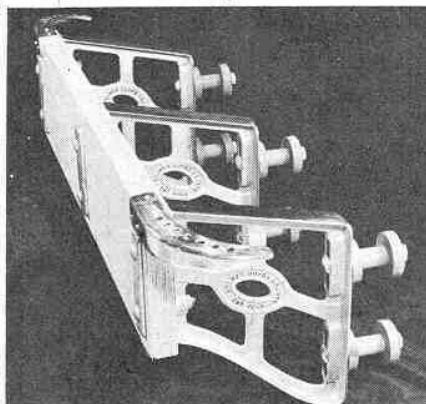
**MOTOR BARGAINS**—Clearance Sale On . . . Mercury, Scott-Attwater, Champion, and Martin motors. Substantial Discounts offered. Write for specific information. Sports Craft, Inc., 2228 East Douglas, Wichita, Kansas.

**BOAT TRAILERS**—\$79.50 & up. All Sizes—Free Catalogue. Selma Trailer & Mfg. Co., P. O. Box 237S, Selma, Calif.

saving approach to fuel blending which will permit any racing driver using alcohol based fuels to purchase concentrated fuel components and hence save freight charges and gain advantage of bulk purchases of methanol locally. The Wiget Nitro Concentrate includes lubricant, nitro methane and other blending compounds, ready for mixing with pure synthetic methanol. The complete, ready-to-run racing fuel is made by mixing one part (by volume) of the Wiget concentrate with two parts of methanol. Nitro Concentrate sells for \$17 a five gallon container or \$170 for a 54 gallon drum and is obtainable from Bud Wiget, 200 Wiget Lane, Concord, California.

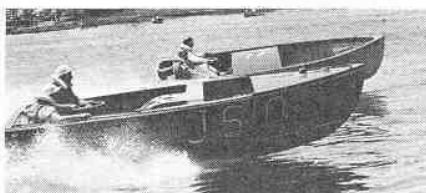
### TWO-MOTOR OUTBOARD MOTOR MOUNT

Holmes Motor Mount, 500 San Leandro Blvd., San Leandro, California, are manufacturers of a variety of outboard motor mounts, which because of their mounting from the transom permit use



of outboard motors on high transom hulls, offering more usable interior boat space. The Holmes mounts, made of aluminum alloy of 2½ tons tensile strength, are fitted with rubber shock absorbers which aid in the elimination of unpleasant noises and vibrations. The model DS-2 pictured here sells for \$58.95 and is designed to carry two motors. Information on other single and dual motor mounts may be obtained through your local outboard dealer or by writing directly to Holmes Motor Mount.

### Jersey Speed Skiffs



A pair of increasingly popular Jersey Speed Skiffs in hot competition at Long Branch, N. J. These boats can always be counted on to give a real thrill to the spectators at any race.

### RACING FUEL COMPONENTS

For the racing driver who plans to blend his own fuel, St. Louis Solvents and Chemical Company, with general offices at 4470 Duncan Avenue, St. Louis 10, Missouri, offers components for specially tailored motor fuels. Prices are as follows:

Methanol	\$ .48 per gallon
	\$25.92 per 54 gallon drum
Benzene	.97 per gallon
	4.85 per 5 gallon drum
Castor Oil	2.00 per gallon
	10.00 per 5 gallon drum
Nitromethane	2.73 per gallon
	13.65 per 5 gallon drum

The prices listed include the cost of containers.

The St. Louis Solvent and Chemical Company is anxious to be of service to racing drivers and the prices listed are extremely reasonable.

The Los Angeles Speedboat Association, which last year had nine Class C alky burners campaigning in West Coast events, expects to have four new C's to be pushed in club competition during the coming season. Congratulations to L.A.S.A.'s high-point winners for 1954: Craig Spencer, Class M; Johnny Drake, Class A; Tommy Ingalls, B and C hydro; Bob Helgeson, C Service hydro; Lew Morphy, C Racing runabouts; Manuel Carnakis, C Service runabouts; George Peake, F hydro and John Toprahanian, F runabouts. L.A.S.A. already has eleven alky regattas scheduled for 1955 with more in the offing.

Kenny Wolff was elected Commodore of the Niagara Frontier Boat Racing Association, along with Emerson Haas as Vice Commodore, Dick Nelson as Secretary and Earl Warfield as guardian of the treasury. The Buffalo and Tonawanda Power Boat Association, which was formed last year and sponsors the "Around Grand Island" Inboard race, has Al Boyd as Commodore and Joe Less as Vice Commodore, with Ed Chodacki and Bill Oldfield as Secretary and Treasurer. Without doubt, the race boys in the upper N. Y. area are giving racing in all categories a terrific shot in the arm. Kenny Wolff, whose alky burning outboards have long been front runners, announced that he had lined up at least six races for the alky boys, who with the new rules on lower units look forward to a tremendous season. The opening of the doors on the lower ends, plus the startling performances of Jack Leck's converted Mercury A and Burt Ross's alky burning "Thunderbolt" in Class F, should do much to add impetus to the constantly growing revived interest in the cut and carve outboard ranks. Seems that with the snow-balling stock outboard program and the awakened alcohol burning gang getting more and more regattas, we are going to be sorely pressed for suitable places to hold all of the races which are indicated for 1955. (END)



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**BOAT SPORT**

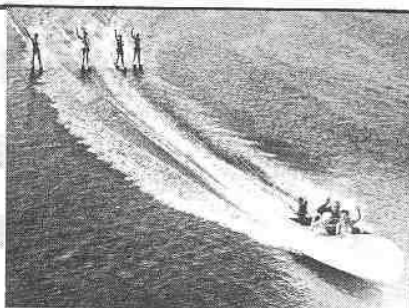
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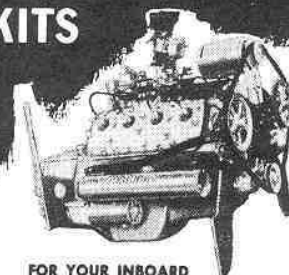
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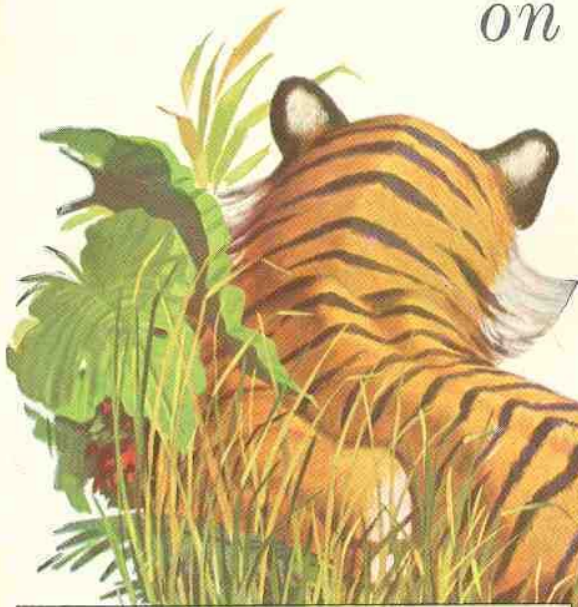
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