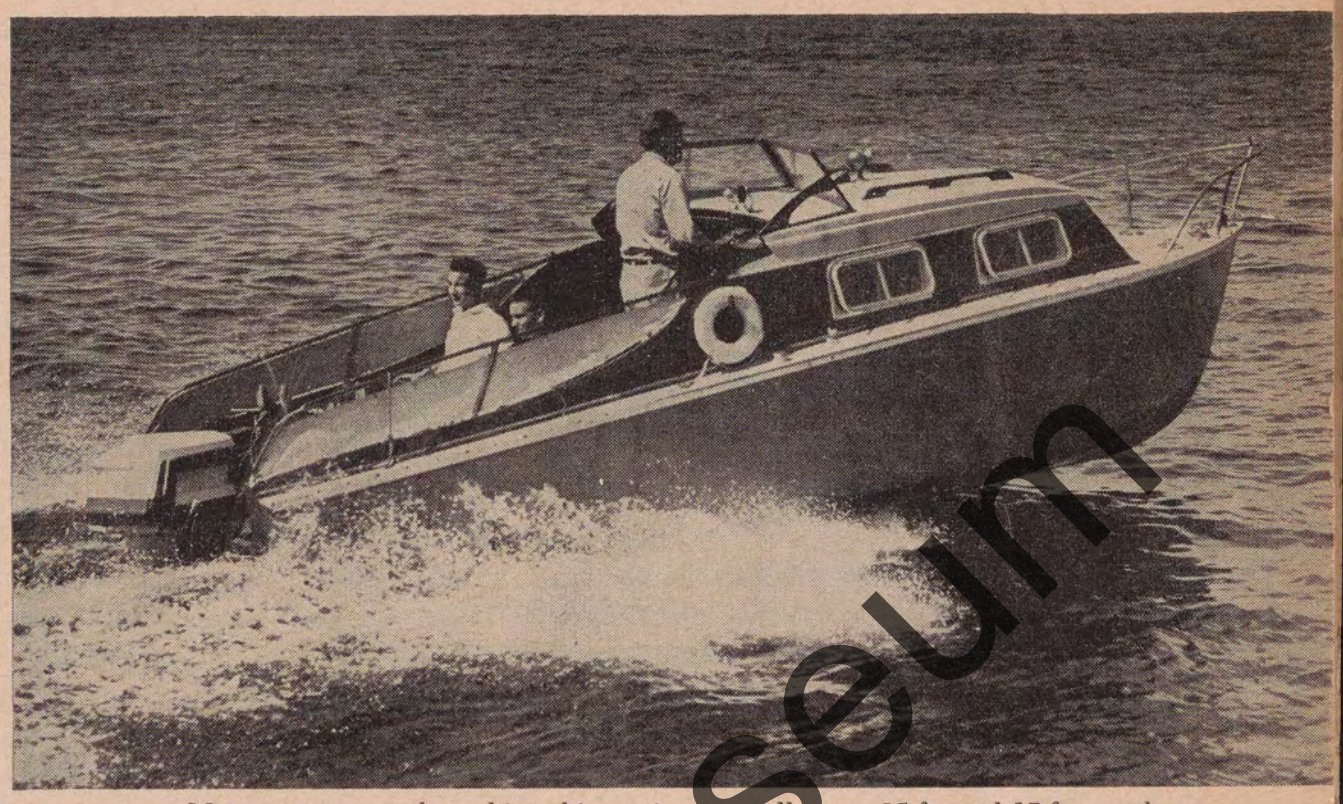
excerpt JUNE 59

OUTBOARD MOTORS



Motors were tested on this cabin cruiser as well as on 15-ft. and 17-ft. runabouts

CU tested the "big babies" of outboard motoring, engines rated at 50 HP and up

Outboard boating enthusiasts, from the novice to the saltiest old hand, are going along with the trend toward bigger, more powerful, and considerably more expensive outboard motors. Only six years ago, the average horsepower of outboard motors sold in this country was a modest 9 HP, and the average purchase price $224. Last year, power-hungry buyers bought motors which averaged over 20 HP, and cost an average sum of $466. The trend is continuing, and this year dealers expect substantial sales of the new king-size outboard motors of 50 HP and up.

These new engines have horsepower ratings (50 HP to 70 HP) and piston displacements (63 to 71 cubic inches) rivaling the power plants of many small European cars. They have power and plenty of it—enough to plane a small runabout at speeds approaching 40 mph, enough to pull several water skiers, enough even to plane a fairly heavy outboard cabin cruiser at quite respectable speeds. But power like this has its price, and raises the ante right down the line—in the cost of the motor, the boat, and necessary accessories, to say nothing of the fuel these engines consume so voraciously when running at full throttle.

By the time you are done buying one of these "big babies," the remote controls to operate it, the right propeller for your needs (props generally are not supplied), a battery, and a spare gas tank, you have spent well over $1000—and you're not done yet. You don't attach one of these behemoths to the transom of just any old outboard boat and let 'er rip—not if you want to stay alive. You need a boat designed to utilize safely a power package of this size, one with an OBC (Outboard Boating Club) power rating high enough to indicate you will not overpower the craft. Outboard boats with OBC ratings high enough to accommodate engines of this size may run from $750 for a small runabout up to several thousand dollars for an outboard cruiser. Finally, if no convenient mooring facilities are available, you may even have to buy a trailer—an additional expenditure of $150 or more.

Boats, motors, trailers—all can be financed, and they often are, in much the same manner as a new car. A growing number of banks and commercial credit companies have entered the lucrative field of marine financing. Buyers who have better-than-average credit ratings, at least 25 per cent of the purchase price for a down payment, and a willingness to go into hock should have no difficulty financing their outboard boats, motors and trailers. In addition to the interest rates, they will have to pay for full hull coverage (insurance against fire, theft, and collision) and probably for liability insurance as well. These insurance premiums can be added to the cost of the boat and financed as well, but, of course, with additional interest charges.

In accordance with the 1958 Federal Boating Act, *all* boats, regardless of size, used in Federal waters and propelled by a motor of more than 10 HP (manufacturer's rating) must be registered with the Coast Guard by April 1, 1960, and the numbers assigned must be affixed to the boat. (The law now in effect is limited to boats exceeding 16 feet in length.) As an alternative, the Act provides for regulation and registration of boats by individual states. Persons boating in waters of states having their own laws are subject to the state laws and, if required, must register with the state. In those states, the boat need not be registered with the Coast Guard. In addition, regulations require that certain safety equipment be carried—buoyant cushions or life jackets for each passenger (see CONSUMER REPORTS, May 1956), for example. Rules of the road, with

which all boat operators should acquaint themselves, also are specified. For specific information, contact the Coast Guard or the applicable agency in your state.

Four "big babies"

Whatever the effect on their budgets, thousands of boating enthusiasts are buying king-size engines. CU therefore decided to test the 1959 versions of all four of the more popular motors in the 50 HP and up power class. Readers who are interested in smaller motors (5 HP and up) should turn to page 307 for a listing of all motors CU check-rated in 1958 tests. According to their manufacturers, most of these models remain substantially unchanged for 1959 and their performance can be expected to be about the same as that of the motors tested last year.

The four "big babies" tested for this report were the 70 HP *Mercury Mark 78AE*, the 60 HP *Mercury Mark 75AE*, the 60 HP *Flying Scott*, and the 50 HP *Evinrude Starflite*. All were electric-starting engines, operated by remote control. After inspection, weighing, tune-up, and break-in according to the manufacturers' recommendations, each engine was tested under a variety of boat and load conditions:

- On a 15-foot aluminum runabout weighing somewhat over 300 pounds, both lightly loaded (carrying the driver only) and heavily loaded (driver plus 725 pounds).
- On a 17-foot aluminum runabout weighing about 550 pounds, under the same heavy-load conditions.
- On a 22-foot outboard cabin cruiser weighing over a ton, carrying a moderate load of driver and two passengers.

Under these test conditions, speed trials were conducted in Florida waters over a measured course. Elapsed time and rate of fuel consumption were recorded both at full throttle, and—except with the heavy outboard cruiser—at "economy settings," where the latter could be obtained.

Each engine also was tested for its ability to run the lightly loaded 15-foot boat at speeds sufficiently low for trolling; all proved able to do so, and responded immediately when the throttle was again opened full. During the high-speed test runs, sharp turns were made to determine whether any of the motors had a pronounced tendency toward cavitation—that is, to lose "bite"; none did. During full-throttle runs, too, the engines were stopped suddenly to observe the effects of swamping by a following wave, and all the engines responded properly even after this dunking. Finally, each engine was evaluated for a variety of convenience and safety factors.

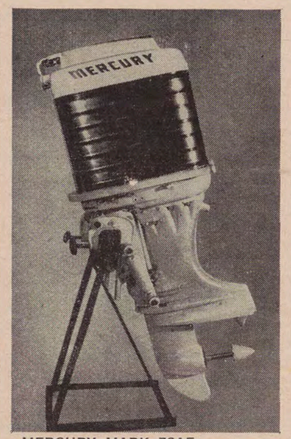
How they performed

Prospective motor buyers will want to study closely the performance data obtained in CU's tests (see Table below), but the essence of the test results can be boiled down to the following observations:

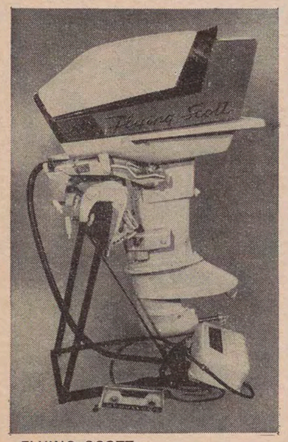
On the 15-foot and 17-foot runabouts, the two *Mercurys* were the best performers, with the 60 HP *Mercury Mark 75AE* judged somewhat the better of the two overall. While it was not quite so fast as the 70 HP *Mark 78AE* (the fastest of the four engines tested), it gave better gas mileage under all test conditions (except with the cabin cruiser) and especially so at the economy setting. Both motors are 6-cylinder, in-line engines, and have the same cylinder displacement; the 10-horsepower advantage of the *Mark 78AE* appears due solely to differences in carburetor design. At full throttle, the *Mark 78AE* planed the 15-foot boat (with light load) at almost 40 mph; under the same conditions, the *Mark 75AE* hit about 39 mph. The *Flying Scott* and the *Evinrude Starflite* were slower at full throttle, and offered little or no economy advantage when throttled back.

On the 22-foot outboard cabin cruiser, the *Mark 78AE*, while still the fastest engine (about 24 mph at full throttle), retained only about a 1-mph speed advantage over the 50 HP *Evinrude Starflite*, and not quite 2 mph over the other

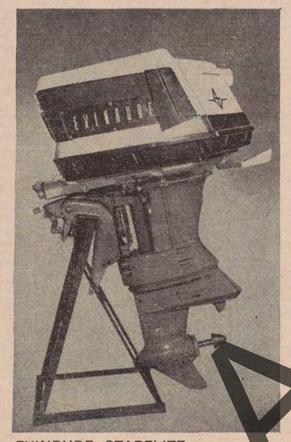
MERCURY MARK 75AE



MERCURY MARK 78AE



FLYING SCOTT



EVINRUDE STARFLITE

SPECIFICATIONS AND PERFORMANCE

	Mfr.'s rating H.P.	WEIGHT: Motor & prop. Lbs.	WEIGHT: Tank empty Lbs.	Fuel capacity Gals.-Qts.	Min. trolling speed M.P.H.
MERCURY MARK 75AE	60	196	14.5	6-3¾	1.3
MERCURY MARK 78AE	70	212	14.5	6-3¾	1.3
FLYING SCOTT	60	206	11	6-2	1.5
EVINRUDE STARFLITE	50	218	15	6-3	1.3

DATA FOR 1959 OUTBOARD MOTORS—50 HP AND UP

15 FT. BOAT LIGHT LOAD: max speed M.P.H.	15 FT. BOAT LIGHT LOAD: fuel cons. M.P.G.	15 FT. BOAT HEAVY LOAD: max speed M.P.H.	15 FT. BOAT HEAVY LOAD: fuel cons. M.P.G.	17 FT. BOAT HEAVY LOAD: max speed M.P.H.	17 FT. BOAT HEAVY LOAD: fuel cons. M.P.G.	22 FT. BOAT DRIVER & 2 PASSENGERS: max speed M.P.H.	22 FT. BOAT DRIVER & 2 PASSENGERS: fuel cons. M.P.G.	ECONOMY SETTING: 15 FT. BOAT LIGHT LOAD: speed M.P.H.	ECONOMY SETTING: 15 FT. BOAT LIGHT LOAD: fuel cons. M.P.G.	ECONOMY SETTING: 17 FT. BOAT HEAVY LOAD: speed M.P.H.	ECONOMY SETTING: 17 FT. BOAT HEAVY LOAD: fuel cons. M.P.G.
38.7	5.2	34.3	4.5	32.5	4.1	22.1	3.1	29.7	8.9	25.7	6.2
39.9	4.4	34.6	3.9	33.6	3.8	23.7	3.0	30.2	7.1	28.1	5.2
37.2	5.2	31.8	4.4	31.1	4.3	21.9	3.1	NO EFFECTIVE ECONOMY SETTING			
36.5	5.4	30.4	4.6	30.2	4.4	22.6	3.1	33.0	6.0	26.2	4.5

RATINGS OF OUTBOARD MOTORS

Listed in order of estimated overall quality. Except as noted, all had electric starters, self-winding cords for manual starting, remote fuel tanks, full shift (forward, neutral, and reverse), electrical generators, and slip clutches. Unless otherwise noted, none came equipped with a standard propeller, and all had safety interlocks to prevent starting electrically in gear or shifting gears at full throttle. All had housings which could be removed without tools for access to spark plugs. Except as noted, none could have all their spark plugs removed simply with a socket or spark plug wrench. Prices are manufacturers' list or suggested retail F.O.B. factory. Discounts, which may be available on some brands and models, are apt to be small.

ACCEPTABLE

MERCURY MARK 75AE (Kiekhaefer Corp., Fond du Lac, Wis.), $865 (*$1190 in Canada*). 60 HP. Not available without electric starter. Long-shaft model optional at no extra cost. Not quite so fast as the *Mercury Mark 78AE*, below, but more economical to run. Only a single-lever-type remote control available. Motor is always in "gear," and must be stopped and restarted to go into reverse (see story). Fuel economy judged very good at "economy setting."

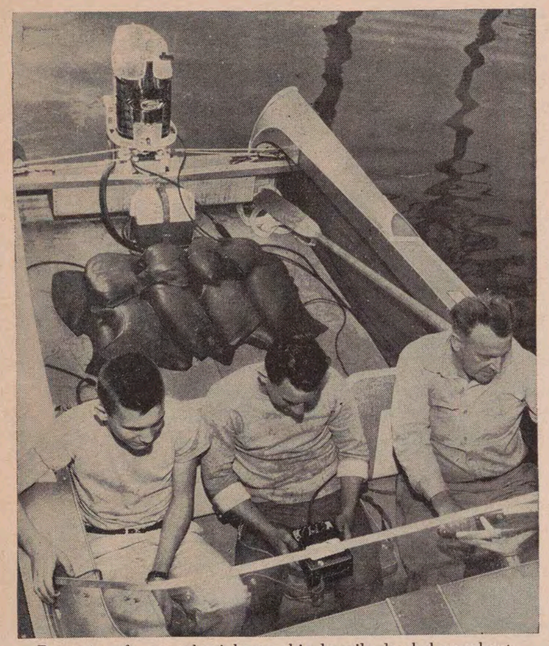
MERCURY MARK 78AE (Kiekhaefer Corp.), $925 (*$1275 in Canada*). 70 HP. Not available without electric starter. Long-shaft model optional at no extra cost. Dyna-Shock and Tilt-Switch Accessory Group optional at $45 extra (*$62 in Canada*); not tested. Fastest motor in CU's tests but only slightly faster and not so economical as the *Mark 75AE*, above. Only a single-lever-type remote control available from manufacturer. Motor always in gear, and must be stopped and restarted to go into reverse (see story). Fuel economy judged very good at "economy setting."

FLYING SCOTT 60 (Marine Prod. Div., McCulloch Corp., Minneapolis), $950 (*Model 6009E, $1150 in Canada*), 60 HP. Not available without electric starter. Long-shaft model optional at no extra cost. Both single- and double-lever remote controls available. No practical "economy setting" (see story). Has Bail-A-Matic, a system of bailing out the boat while the engine is running; although not tested this year, tests in previous years have shown that the Bail-A-Matic operates satisfactorily. Separate rope needed for manual starting.

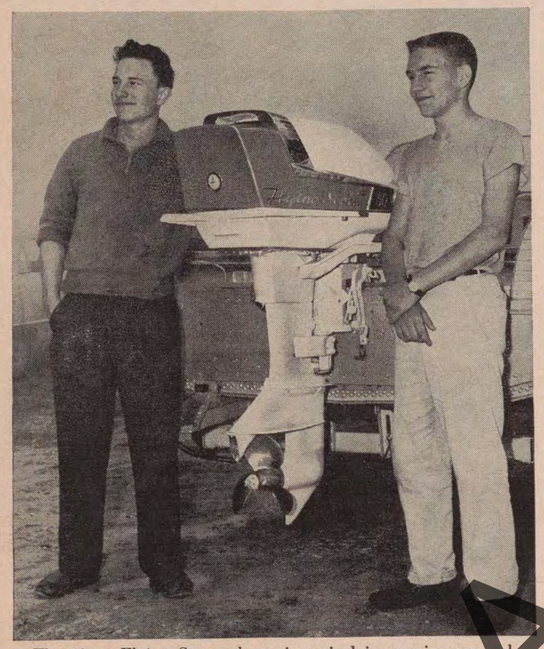
SEARS ELGIN "60" Cat No. 6060 (Sears, Roebuck), $840 plus shipping, includes propeller (*not available in Canada*). 60 HP. Long-shaft model optional at no extra cost, *Cat. No. 6061*. Appears basically similar (except for housing and trim) to the *Flying Scott*, above. Performance may be expected to be substantially the same. Not tested.

EVINRUDE STARFLITE (Evinrude Motors, Milwaukee, Wis.), $850 without generator but with a "standard" propeller and a choice of either long or short shaft (*$1004 in Canada*). 50 HP. Only engine tested also available in manual-starting version as *Model "Four-Fifty,"* $750 (*$883 in Canada*) without generator. Generator available for *Starflite*, $69.50 extra (*$85 in Canada*). Both single- and double-lever remote controls available. Slowest of all motors in CU's tests on the 15- and 17-foot runabouts. Fuel economy judged not so good as *Mercury's* on "economy setting." Only engine tested which had safety interlocks which prevented starting manually in gear at full throttle. All spark plugs could be removed with a socket or spark plug wrench.

JOHNSON SUPER SEA-HORSE V-50 (Johnson Motors, Waukegan, Ill.), $850, without generator but with a "standard" propeller and a choice of either long or short shaft (*$1004 in Canada*). 50 HP. Also available in manual-starting version as *Sea-Horse V-50*, $750 (*$883 in Canada*) without generator. Generator available for *Super Sea-Horse* at $69.50 extra (*$85 in Canada*). Appears basically the same (except for housing and trim) as the *Evinrude Starflite*, above. Performance may be expected to be substantially the same. Not tested.



Preparing for speed trials on this heavily loaded runabout, assistant in center holds tachometer. Speed data are based on at least four full-throttle runs over a measured course



The 60-HP Flying Scott, above, is typical in massiveness and weight (it's a hefty 206 pounds) of the new king-size engines CU tested for this report on 1959 outboard motors

engines tested. At full throttle, there was little to choose from in terms of gas economy; with remarkable uniformity, these engines delivered about 3 mpg under the test conditions. No attempt was made to run the engines at "economy settings" with the 22-foot cruiser. If you are buying an engine for a boat of this size, none of the four models tested offers a marked performance advantage over another. The choice might therefore be made on the basis of the various convenience features that are offered (see Ratings) or other considerations.

Economy settings

At full throttle, the king-size engines, not unexpectedly, had a much greater appetite for fuel than most of the smaller engines tested last year. The *Mercurys*, however—when throttled back to their "economy settings"—gave gas mileage as good as or better than many of the smaller engines, and delivered higher speeds than most of the smaller engines did at full throttle.

The *Mark 75AE* dramatically illustrates the advantages of economy operation. On the 15-foot boat, with light load, the *Mark 75AE* delivered 5.2 mpg at full throttle; at "economy setting," where the speed dropped from 38.7 mph to 29.7 mph, the engine delivered 8.9 mpg—an increase of over 70 per cent in fuel economy. The *Mark 78AE* did almost as well at "economy setting," the *Evinrude* not nearly so well. On the *Flying Scott*, the owner's manual makes no reference to an economy setting. CU's best attempts to find one resulted in negligible fuel economy; for all practical purposes, the *Scott* has no economy setting.

Even the manufacturers of the *Mercurys* and the *Evinrude* are quite vague as to the location of the economy setting on their engines. In CU's tests, it was located by setting the speed control at a point where the throttle was closed as far as possible while the spark remained fully (or nearly so) advanced. There seems no reason why these positions could not be unmistakably indicated on the engines by the manufacturer, by means of a detent or light on the remote control.

Incidentally, speaking of fuel economy, if you do run an outboard motor this year, remember to take advantage of the refund available on the Federal excise tax levied on gasoline. This tax is refundable if the gasoline is used on outboard motors or in any other way than in a highway vehicle. Application for refund of this tax on gasoline used during the period July 1 to June 30 may be made on Internal Revenue Service Form 843, and filed with the District Director of Internal Revenue no later than September 30. In addition, most states grant full or partial refund of the tax on gasoline used in motor boats. Consult your State Department of Taxation.

The right prop

Of the engines tested, only the *Evinrude* came equipped with a "standard" prop; for the other engines, the propeller is bought separately. In virtually all of CU's tests, better performance was obtained on the *Evinrude* with a propeller other than the "standard" one supplied. The other engines, too, were tested with various propellers to suit different boat and load conditions, as recommended by their respective manufacturers or dealers, or as determined by test. The data in the Table on page 304, and the Ratings, are based on the best performance obtained for the various boat and load conditions. CU suggests that you seek the dealer's advice in determining the right prop for your needs; some dealers will even permit you to try out a few propellers before buying one. In such circumstance, you might even try some propellers with a higher or lower pitch than the one recommended; in CU's tests, such experimentation often paid off with better performance.

Convenience factors

Looking over the various conveniences and inconveniences uncovered in CU's tests and examinations, the following appear most significant:

▪ The single-lever remote control of the *Mercurys*—the only type available from the manufacturer—was judged somewhat less than ideal. This single lever provides one-hand control of choke, start, stop, throttle, forward and reverse. But there are drawbacks to this arrangement. The *Mercury* motors have no neutral position, and must be started in "gear," although a safety interlock does prevent starting electrically at full throttle. Also, in order to go into reverse, the motors must be stopped, shifted into reverse and then restarted. Although CU's testers experienced no difficulty in restarting the engines, poor condition of the engine and the battery could possibly bring about such a difficulty. If this should happen, say, while approaching a dock, and the engine should not immediately restart in reverse as desired, one could wind up in trouble. It is therefore especially important to keep these engines in top condition.

▪ The *Scott*, on the other hand, offered a single-lever remote control with no such shortcomings. The *Scott* does have a neutral position, and a button on the remote control permits warm-up bursts while in neutral gear. However, the *Scott* has no built-in manual starter for emergency use. If the *Scott* fails to start electrically, and must be started manually, a separate rope must be used. Other engines provided self-rewinding starter cords for such emergency use—a much more convenient arrangement. Another inconvenience of the *Scott* was the manner in which its electrical cables were integrally fastened to the motor; every time the motor is removed, the electrical "harness" must be dragged along with it. Of course, motors of this size and weight (each of the four engines weighed about 200 pounds) are rarely removed from the boat, but when it does become necessary, it is more convenient, in CU's opinion, to have a "harness" of the quick-disconnect type.

▪ The *Evinrude Starflite* offers either single- or double-lever remote controls, and has a full shift (forward, reverse, and neutral) like the *Scott*. It was the only engine tested in which the spark plugs are completely exposed when the housing is removed, permitting all the plugs to be reached with a socket wrench. Such accessibility is a convenience. (Even more convenient in this respect is the 50 HP *Johnson*, which is virtually identical to the *Evinrude*, but has small ports through which the plugs can be removed without removal of the entire engine housing.)

OUTBOARD MOTORS: 5 HP TO 45 HP

¶ *Unless otherwise noted, the 1959 versions of the motors listed below—all of which were check-rated in June 1958—have had changes which, according to the manufacturers, are for appearance only, or which are of such a nature that performance may be expected not to have changed substantially from that of the 1958 models tested. They are listed in order of estimated overall quality within horsepower groups, based on CU's 1958 tests. The 1958 check-rated model names and prices are given; their 1959 nomenclature and prices are indicated in parentheses.*

5 TO 6 HORSEPOWER

JOHNSON SEA-HORSE "5½", $230 (same; $230). A thermostat has been added to the cooling system; according to the manufacturer, the change should result in improved fuel economy.

EVINRUDE FISHERMAN, $230 (same; $230). Although not tested, this motor in 1958 appeared basically the same as the *Johnson* "5½" above.

MERCURY MARK 6, $225 (*Mercury Mark 6A*, $225).

10 TO 12 HORSEPOWER

MERCURY MARK 10, $330 (*Mercury Mark 10A*, $310).

WARDS SEA KING 12 HP Deluxe Cat. No. 9005R, $367 plus shipping, for electric-starting model; $309 plus shipping for manual-starting model (same; $359 plus shipping for electric-starting model; $299 plus shipping for manual starting model).

GALE BUCCANEER 12 HP Deluxe, $350 (*Gale Buccaneer* 12 HP; $325) Although not tested, this motor in 1958 appeared basically the same as the *Wards Sea King 12* above. Not available with electric starting.

JOHNSON SEA-HORSE "10", $310 (same; $310). A thermostat has been added to the cooling system; according to the manufacturer, the change should result in improved fuel economy.

EVINRUDE SPORTWIN $310 (same; $310). Although not tested, this motor in 1958 appeared basically the same as the *Johnson "10"* above.

SCOTT-ATWATER FAMILY SCOTT, $324.50 (*Scott 10*; $319.95). Some mechanical modifications have been made; according to the manufacturer, the changes should result in improved durability. In CU's opinion, performance could differ—for better or worse—from that of the 1958 model.

SEARS ELGIN 12 Cat. No. 5896, $279.95 plus shipping (*Cat. No. 5898*, $285 plus shipping).

18 HORSEPOWER

JOHNSON SEA-HORSE "18", $475 for electric-starting model; $395 for manual-starting model (same; $395 for manual starting model; electric-starting kit, $72.50 extra). A thermostat has been added to the cooling system; the manufacturer claims the change should result in improved fuel economy.

EVINRUDE FASTWIN, $475 for electric-starting model; $395 for manual-starting model (same; $395 for manual-starting model; electric-starting kit, $72.50 extra). Although not tested, this motor in 1958 appeared basically the same as the *Johnson "18"* above.

45 HORSEPOWER

MERCURY MARK 58E, $750 for electric-starting model, $630 for manual-starting model (*Mercury Mark 58AE*, $720 for electric-starting model; $600 for manual-starting model). Propeller not supplied.

STATION WAGONS

CU'S ANNUAL REPORT INCLUDES RATINGS OF ALL STANDARD U.S. MODELS, AS WELL AS ROAD-TEST REPORTS ON SOME SPECIAL-PURPOSE TYPES

Year after year, passenger-car manufacturers allocate increasing percentages of their output to station-wagon models, the high among the "Big Three" being reached by the Chrysler Corporation, whose wagon production last year totaled 20 per cent of all the vehicles it turned out.

The reasons for the wagon's popularity are valid and simple: It offers more space and the space is adaptable to more uses than is true of any other passenger-car body type. Not only is there a big floor area available, but the conversion from cargo-carrying floor to seats for passengers is quick. The wagon's play (or napping) space makes it much more suitable than a sedan for traveling with children, while the three-seat models, with a few exceptions, are the only standard-production vehicles available that will carry more than six passengers in relative comfort. Boats are made to go into wagons or on top of them. Tents attach to wagons in all sorts of ways.

Camping, touring, trucking, car pooling, neighborhood shopping—all demonstrate the station wagon's versatility.

Before putting down your money for a station wagon, however, CU suggests that you consider the relative importance *to you* of a wagon's major and minor drawbacks.

The drawbacks

First of all, there is the matter of cost. A wagon costs more ($300 to $500) to buy and—despite the fact that it returns, at present, a superior percentage in resale value—somewhat more to own. A wagon is harder to heat, noisier, and rattles more than a sedan. In most models, luggage or valuables which otherwise might be hidden in a trunk must remain in plain sight—an invitation to theft. (Some *Mercury* and Chrysler-built models solve this particular problem by offering "secret" lockable storage spaces.) If you buy a wagon with two seats, the rear seat very probably will be less wide and less comfortable, due to the exigencies of its folding mechanism, than a sedan's rear seat. You may also find discomfort, if you are tall, in the fact that a wagon's front seat may not move back as far as a sedan's front seat,

INTERNATIONAL TRAVELALL

RAMBLER AMERICAN

OLDSMOBILE 88 FIESTA