

OWNER'S GUIDE

OPERATION • MAINTENANCE • REPAIR PARTS

SEA KING
OUTBOARD
MOTOR

MODEL

GG-9002B

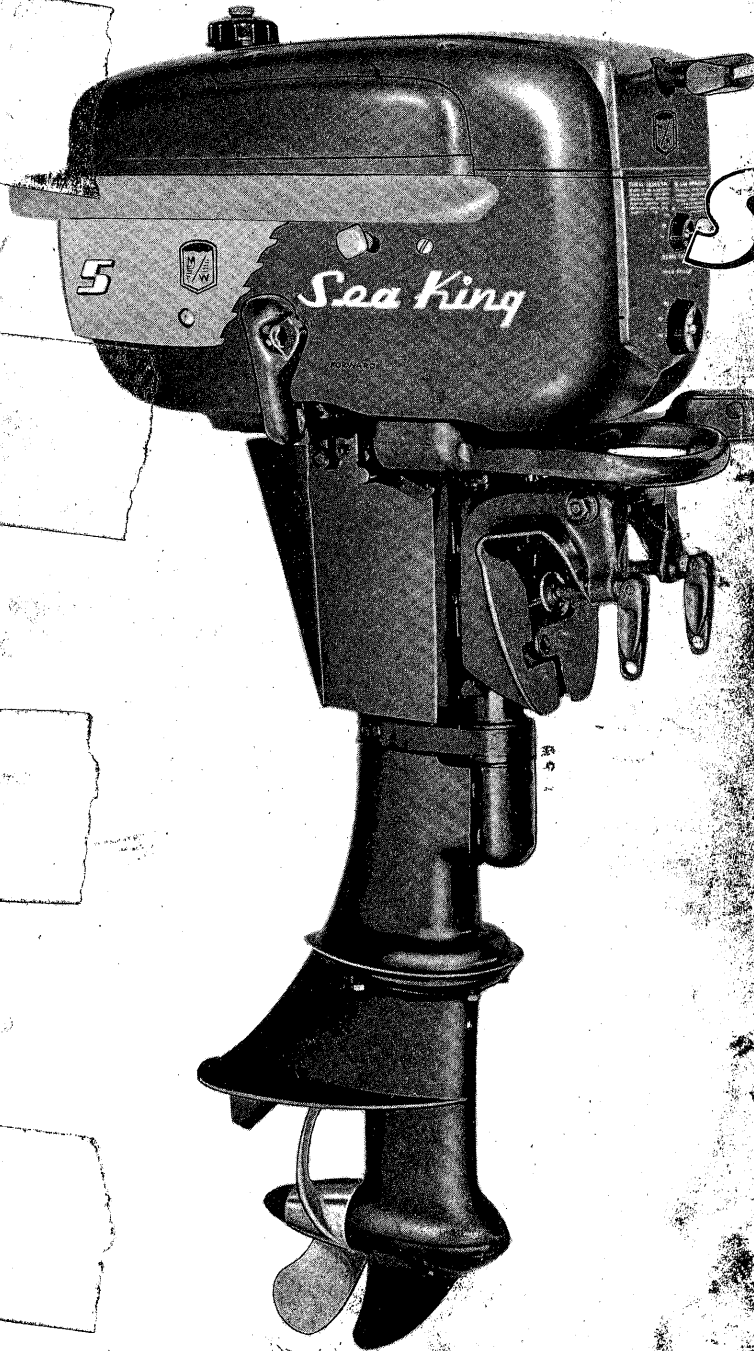
FORM NO. 60H-252B*

1956 GALE

Dale Products

WARDS

SEA KING



5 H.P. DELUXE OUTBOARD MOTOR

SPECIFICATIONS

HORSEPOWER 5.0 AT 4000 R.P.M. - O.B.C. CERTIFIED
NUMBER OF CYLINDERS 2
BORE AND STROKE 1-15/16" BORE X 1-1/2" STROKE
PISTON DISPLACEMENT 8.84 CUBIC INCHES
TYPE OF POWER
HEAD 2 CYCLE, 2 PORT, ALTERNATE FIRING
GEAR RATIO 15:26
PROPELLER 2 BLADE, 8" DIAMETER X 7-1/4" PITCH
COOLING RUBBER BLADE COMBINATION DISPLACEMENT
AND CENTRIFUGAL WATER PUMP
IGNITION BUILT IN FLYWHEEL MAGNETO
CARBURETOR FLOAT FEED, HIGH AND LOW SPEED
ADJUSTMENT, AUTOMOTIVE TYPE CHOKE
SPEED CONTROL SYNCHRONIZED SPARK AND THROTTLE,
TWIST GRIP CONTROL
FUEL TANK CAPACITY 0.9 GALLONS
RUNNING TIME (FULL THROTTLE) APPROX. 1 HOUR
STARTER AUTOMATIC REWIND
GEARSHIFT CONTROL FORWARD-NEUTRAL-REVERSE
WEIGHT 52 POUNDS
RECOMMENDED TRANSOM HEIGHT 15"

M O N T G O M E R Y W A R D

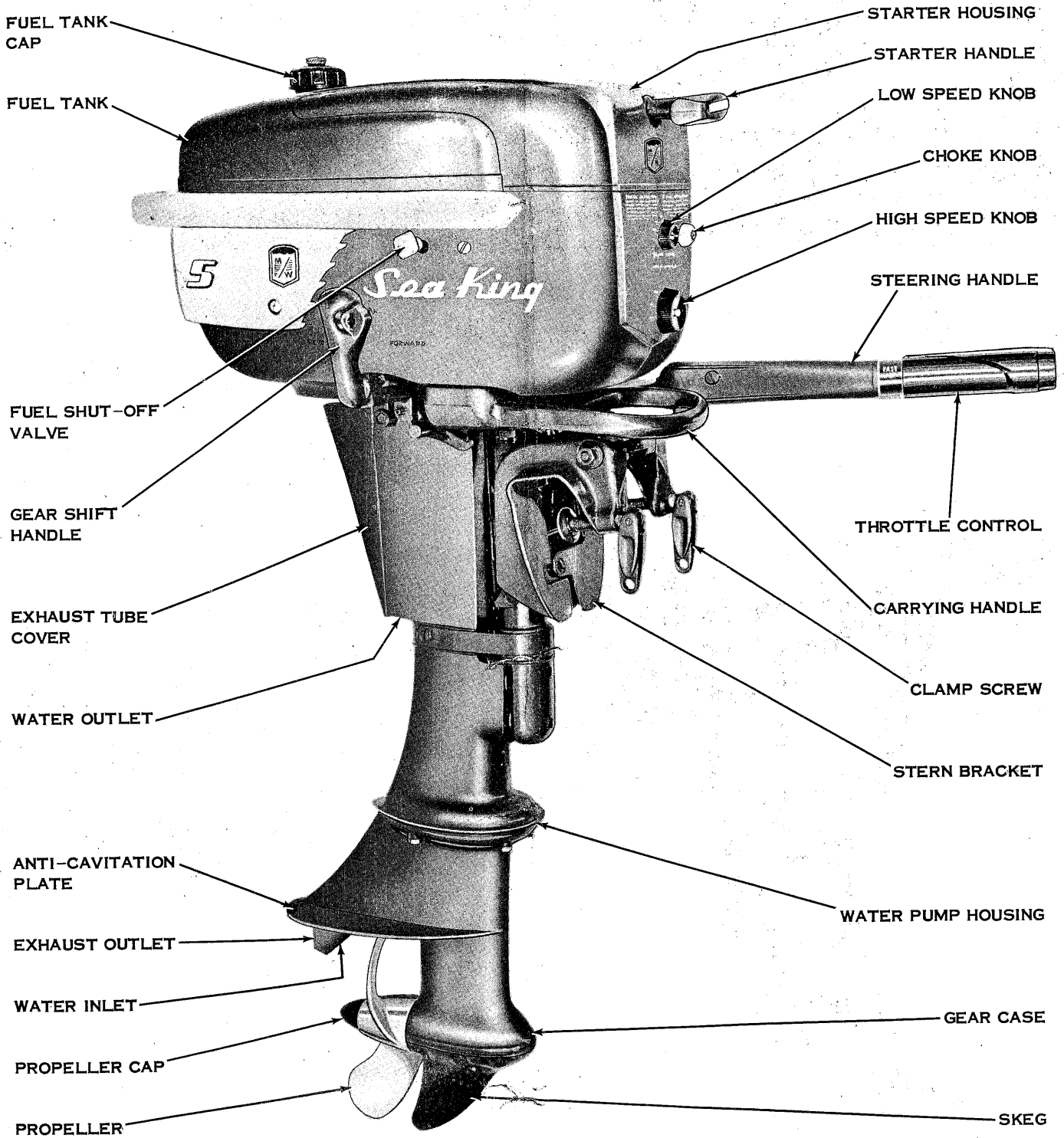


Figure 1

STARBOARD (RIGHT), PORT (LEFT) ARE DESIGNATED WHILE FACING BOW

FEDERAL MOTOR BOAT LAW

CRAFT OPERATING ON NAVIGABLE WATERS IN OR OPENING INTO THE GREAT LAKES, AN OCEAN OR GULF, AND ALL NAVIGABLE WATERS TRIBUTARY TO SUCH WATERS UPSTREAM TO THE FIRST LOCKLESS DAM, ARE UNDER FEDERAL SUPERVISION. YOU CAN OBTAIN INFORMATION CONCERNING OPERATION OF SUCH CRAFT AND EQUIPMENT REQUIRED FROM THE NEAREST COAST GUARD STATION.

FOREWORD

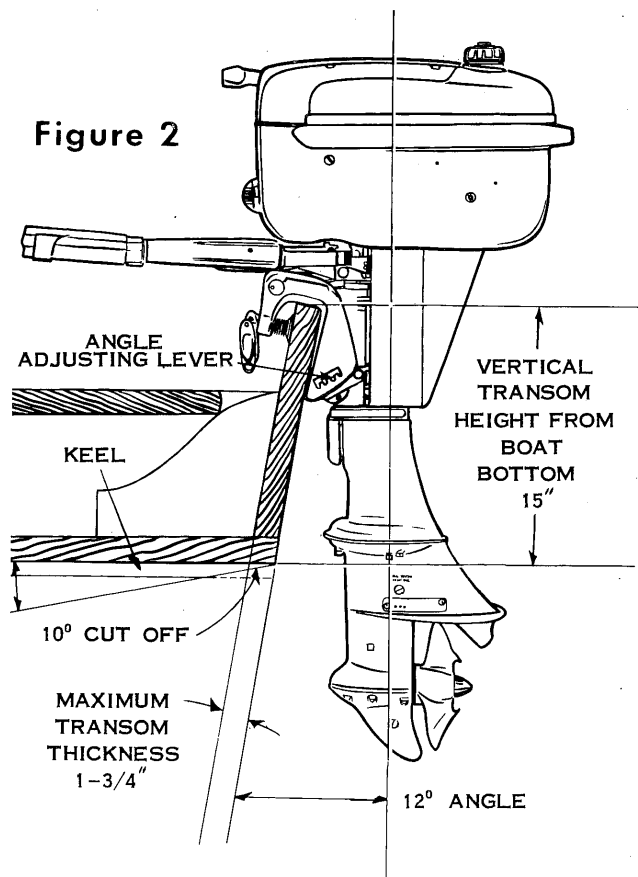
You are to be congratulated on your selection of this outboard motor which will give you years of satisfactory service. The fine materials and high standards of workmanship used in the manufacture of this motor assure you of durability and lasting performance.

Read through this manual carefully before operating the motor. You will find complete operating instructions and recommendations for the care and protection of your motor. Extend the same care to this motor you would give to a new automobile or other personal property of even less value and it will be a constant source of satisfaction to you. Care in handling will prevent scratches and nicks which will mar the appearance.

The operating instructions are concise and easy to follow, even for the beginner. But if you have never operated an outboard motor, it will be helpful to practice the step by step procedure a few times before putting the motor in actual operation.

Outboarding is great sport. Always remember, however, that you have friends on the water. Extend to them the courtesy of thoughtful, safe operation of your motor and boat and you will increase your own enjoyment.

ATTACHING MOTOR TO BOAT



This motor is designed for use on a standard 15-inch transom. If transom is higher, it should be cut down to 15 inches so propeller will be at least 2 inches below bottom of boat. Best performance will be obtained by having the driveshaft vertical to boat travel and the propeller placed below bottom of the boat (see Figure 2). Performance can often be improved by cutting off the keel at a 10° angle as illustrated. This will prevent formation of spray and provide free running performance.

Place motor on stern of boat with stern bracket clamps inside the stern, centered on the transom or stern board. Tighten bracket clamp screws securely by hand.

CAUTION

When motor is running, occasionally check bracket clamp screws to be sure they are tight. We will not be responsible for any motor damaged or lost overboard due to loose clamp screws.

The use of a safety chain or rope attached to motor stern bracket safety chain link (item 1, Figure 5) and boat will guard against loss of motor overboard. Holes are provided in thumb screw handles through which a padlock may be applied to lock the motor on the boat.

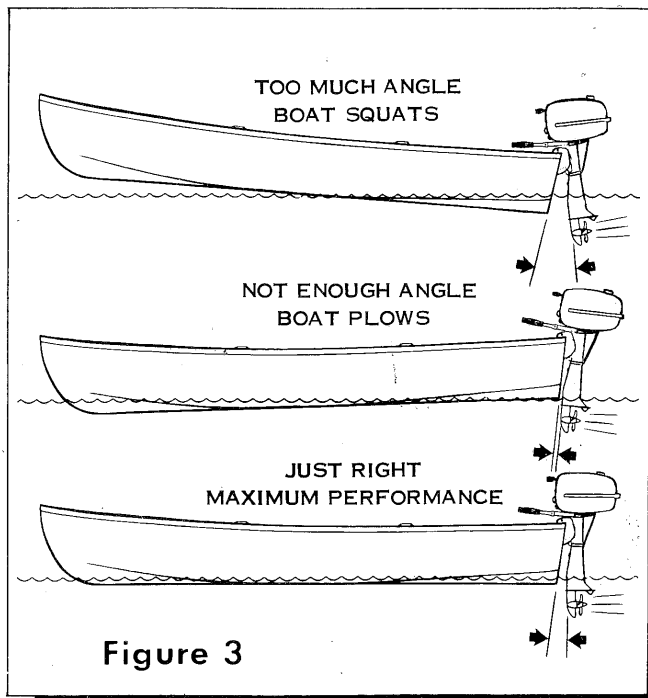
OPERATION OF YOUR MOTOR

ANGLE ADJUSTMENT

A simple means is provided for adjusting the motor to a vertical position to make allowance for angle of the transom.

To accomplish this adjustment, tilt the motor slightly (gear shift lever must be in FORWARD or NEUTRAL), then lift up on angle adjustment lever (see item 5, Figure 5) and move it ahead or back in the slots in the stern bracket so that motor is in a vertical position when lower unit rests against the lever. On some boats it may be necessary to correct angle adjustment to maintain motor in a vertical position when changing load from one to more passengers. Always try to arrange load so boat runs on an even keel.

Transom (stern) angles may vary somewhat; however, range of adjustment is sufficient to accommodate angles found in most boats.



GEAR SHIFT

The motor is equipped with gear shift control to provide operation of the motor in Forward, Neutral, or Reverse by means of a gearshift lever (Figure 4) located on side of motor below the tank. Move the lever as far as possible toward front of tank for "Forward" motion of boat -- toward rear of tank as far as possible for "Reverse" motion of boat. The intermediate position is "Neutral" or out of gear.

When motor is not running the internal gear shift mechanism may be in such a position that gear shift lever cannot be moved from "Neutral" into "Forward" or "Reverse" --- DO NOT FORCE. This may be remedied by pulling on the starter cord with throttle control at STOP to turn gears slightly until the gear shift lever will move to desired position. Extreme care should be taken to prevent bending or striking the lever.

REVERSE

Always retard motor speed to within "shifting range" as indicated on throttle control plate before shifting. A special reverse lock (item 4, Figure 5) built into the swivel bracket locks the motor against tilting when in reverse. Use extra care when running in reverse to avoid striking any obstruction and damaging lower unit parts. The tilting feature functions only in FORWARD or NEUTRAL gear shift position.

LUBRICATION AND FUEL INSTRUCTIONS

Proper lubrication is an important factor in the performance and life of your outboard motor. The following instructions are therefore very important and should be followed carefully.

The oil and fuel mixture referred to in the following instructions should always be thoroughly mixed in a separate container before pouring into motor fuel tank: NEVER POUR SEPARATELY INTO FUEL TANK. Also, all fuel should be poured through a fine mesh strainer to remove dirt and water which may be present. Use only metal containers.

TYPE OF GASOLINE. Use a good grade of regular gasoline.

TYPE OF OIL. Use a high grade outboard oil, or, if that is not available, regular SAE 30 motor oil. Avoid use of low-priced, third grade (ML) oils.

MIXTURE. Mix 1/2 pint of oil with each gallon of gasoline.

PROCEDURE. Pour into the container approximately one-half the amount of gasoline required. Add all the oil required at the ratio of 1/2 pint of oil to each gallon of gasoline. Shake the two together until they are thoroughly mixed. Add the balance of gasoline. Shake container briskly to insure mixing.

LUBRICATION OF GEAR CASE. The gear case has been filled at the factory with the correct lubricant. Check for lubricant after first 5 hours of operation; then every 50 hours. For method of lubrication, see page 5.

EQUIPMENT NECESSARY WHEN OUTBOARDING

Although the following articles may not always be needed, it is advisable to have them aboard when motoring.

1. An extra can of fuel, properly mixed.
2. Funnel with strainer.
3. Tools.
4. Starting cord.
5. Rope or chain to tie motor to boat.
6. Extra spark plug.
7. Oars and all other equipment required by law when outboarding in Federal waters. (Check with your nearest Coast Guard station.)

Operation of your Motor

BREAK-IN PERIOD

Reasonable care in the operation of the motor during the first several hours of use will improve its performance and insure longer life. Follow the fuel and lubrication instructions carefully. After operating motor at part throttle for about one hour, it is permissible to run at full throttle for a few seconds followed by a few minutes of part throttle operation. Repeat frequently, gradually increasing the time of full throttle until another two hours of operation are completed. No extra oil is required for the break-in period.

STARTING INSTRUCTIONS

(See Figure 4.)

1. Open air vent screw in fuel tank filler cap.
2. Open fuel tank shut-off valve.
3. Set high and low speed knobs with pointers straight up. In temperatures below 40° F., turn high speed knob 1/4 turn to the left.
4. Move gear shift lever to NEUTRAL. NEVER START MOTOR IN GEAR.
5. Turn throttle control to START position, as indicated on the throttle control plate located on the steering handle.
6. Pull out choke control knob out all the way.
7. Pull starter handle slowly until starter engages, then pull forcibly. Repeat until motor starts. Allow starter cord to rewind before releasing handle. It is not necessary to pull cord out more than two feet.

8. After motor starts, push choke control knob in slowly.
9. Reduce motor speed before shifting in FORWARD or REVERSE. Throttle control must be within "shifting range." Move gear shift lever quickly into desired position. DO NOT ease into position.
10. WHEN IN FORWARD ONLY, advance throttle control to FAST position. Run motor a few minutes to warm up. Increase speed to full power and adjust high speed knob, turning to left or right, until motor runs smoothly.
11. Reduce speed and adjust low speed knob by turning to left or right, until motor idles smoothly.
12. Turning throttle control to FAST increases speed and to SLOW decreases speed.
13. To stop motor, turn throttle control to STOP position.

WARM MOTOR

It is not necessary to prime motor when starting if motor has been warmed up. Motor can usually be started with carburetor knob in running position and pulling starter handle with throttle control at START position.

FLOODING

Flooding may occur by over-choking or choking a warm motor. If this occurs, turn carburetor knob to extreme right (off position) and pull starter handle several times. When motor starts, allow to run until it stops. Then follow instructions for starting cold or warm motor, whichever applies.

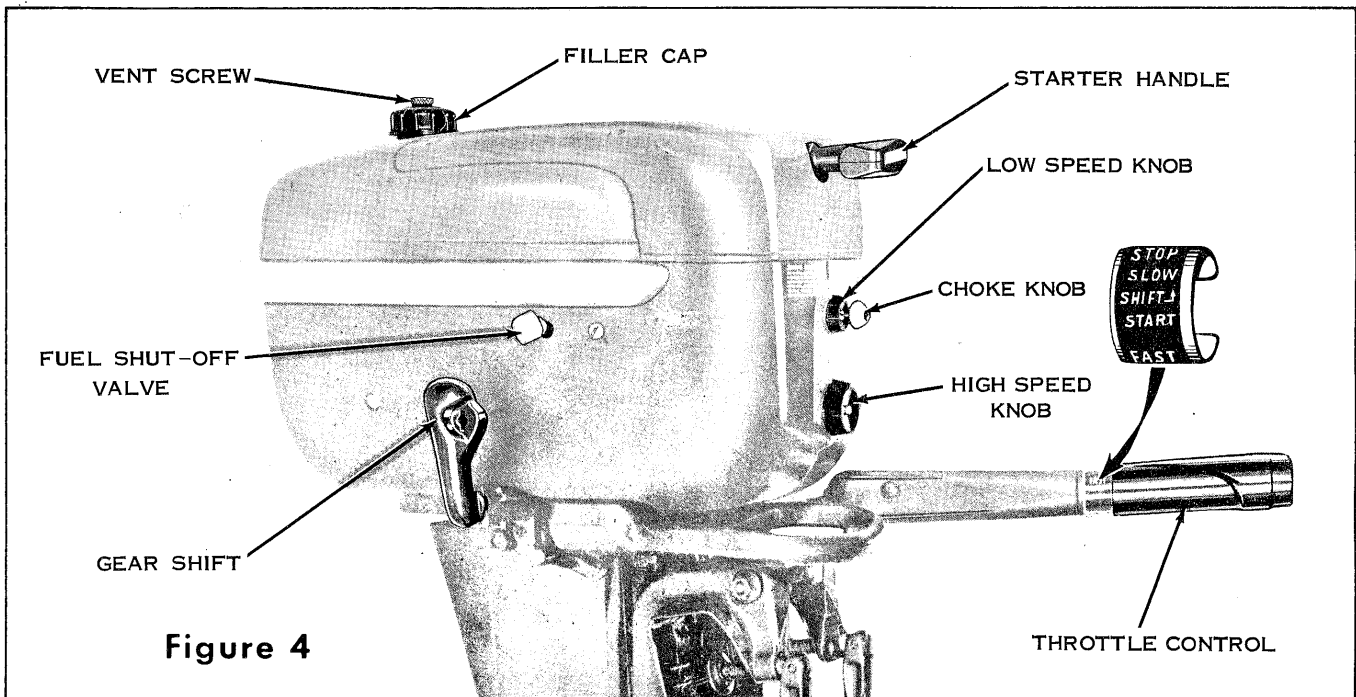


Figure 4

Operation of your Motor

CARBURETOR ADJUSTMENT

The carburetor is designed to operate efficiently at all speeds. Adjustments for high and slow speed are required. Adjustments can be made to your carburetor as received from the factory simply by turning the knobs to the left or right. Turning the knobs to the left (counterclockwise) enriches the mixture (increasing ratio of fuel to air); turning to the right (clockwise) leans the mixture (decreasing ratio of fuel to air). A rich mixture may cause the motor to run "rough," while a lean mixture is indicated by "coughing or spitting" in the carburetor.

These adjustments are sufficient for average conditions. However, for unusual conditions (such as with heavy loads, very slow trolling, unusual atmospheric conditions, or after repairs) adjustment may be required. First loosen, but do not remove, screws in the center of both knobs. Pull knobs out past stops at rear of knobs so that they will turn freely. Then tighten screws. Turn both knobs to the right until needle seats gently. **DO NOT FORCE**, as needle may be damaged. Then back off both knobs about 1-1/2 turns.

HIGH SPEED ADJUSTMENT: Start motor as previously instructed and run at **FAST** until it has warmed up. Then operate motor at full power. Turn knob to left or right to obtain best high speed setting. Loosen center screw. **DO NOT DISTURB POSITION OF NEEDLE.** Adjust knob to point straight up. Push knob back on shaft to original position. Leave enough clearance so knob will turn without binding on motor cover. Tighten center screw to secure knob.

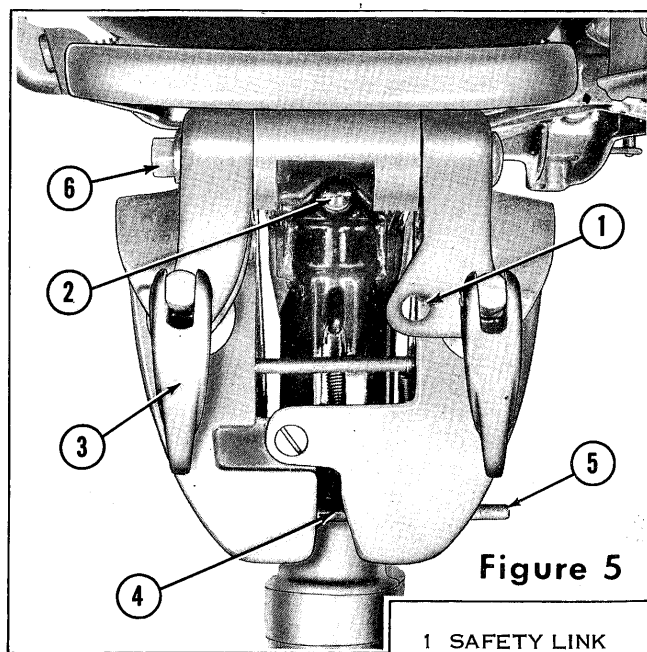


Figure 5

- 1 SAFETY LINK
- 2 CO-PILOT SCREW
- 3 CLAMP SCREW
- 4 REVERSE LOCK LEVER
- 5 ANGLE ADJUSTMENT LEVER
- 6 TILTING BOLT NUT

SLOW SPEED ADJUSTMENT: This adjustment should be performed after high speed adjustment. Operate motor at slow speed. Turn slow speed knob to left or right until top performance is obtained. Then reset the knob as described under High Speed Adjustment.

CO-PILOT

The co-pilot permits the motor to maintain a set course without holding steering handle. It can be adjusted by tightening or loosening the screw, located in the center of the pivot bearing (item 2, Figure 5) to the desired tension.

TILTING OF MOTOR

The tilting feature is designed to permit self tilting when striking any submerged object while running in forward position. Care, however, should be taken in obstructed waters, not to operate motor at too high a speed. This tilting feature is also useful in boat launching, beaching or rowing in shallow waters.

To tilt the motor, grasp the carrying handle and rear of gas tank and pull the motor toward you. The motor can be tilted only when gear shift lever is in **FORWARD** or **NEUTRAL** position. Never try to tilt motor by bearing down on steering handle.

TILTING FRICTION

Proper tilting friction is set at factory, but through continued use, friction may have to be adjusted. To adjust, loosen or draw up on tilting bolt nut (item 6, Figure 5) as required, using a wrench. Tension of tilt need not be too great, but just sufficient to maintain the motor in any position of tilt.

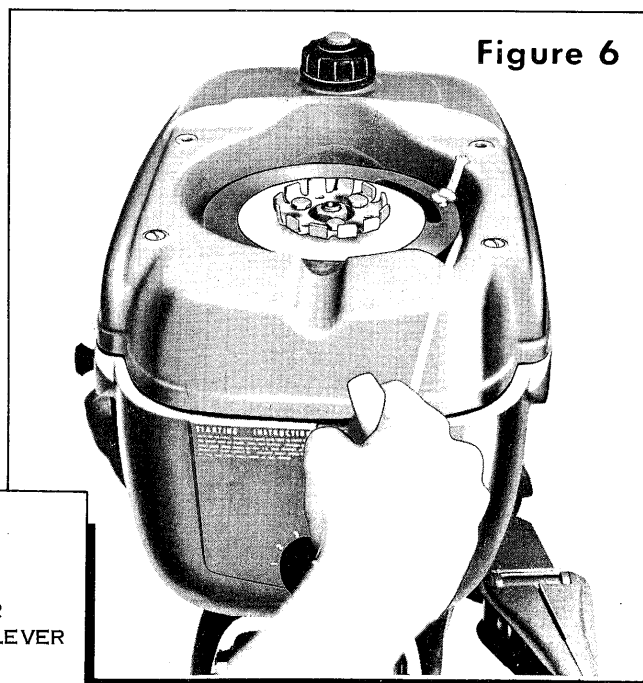


Figure 6

Operation of your Motor

EMERGENCY STARTING

In case of starter failure, you can still use your motor.

Remove two rear starter housing screws and two long front screws attaching starter housing and fuel tank to bracket. Lift off entire starter housing assembly. Replace front screws to secure tank. To start motor, wind a 3/16 inch rope (with a knot

in one end placed in the notch on the flywheel pulley) clockwise on the pulley on top rim of flywheel (Figure 6).

When reassembling the starter housing assembly, set in position and start the mounting screws. Holding starter in position, pull handle slowly until starter engages. Tighten screws and again check engagement.

CARE OF YOUR MOTOR

GEAR LUBRICATION

Where a complete change of lubricant is required, remove both the fill and drain plugs (Figure 8) with water in upright position. Drain out all of the oil, water, or residue, replace the drain plug, then fill the gear case through the fill plug with a pump type oil can. Replace plug.

We recommend a good grade SAE 90 automotive (hypoid) gear lubricant. In case of emergency it is permissible to use a good grade SAE 30 engine oil, but only until such time as proper lubricant can be obtained.

The gear case should be checked for presence of water at frequent intervals. When checking, the motor must have been idle for some time to allow oil and water to separate. To check, remove the oil fill plug and loosen the oil drain plug partly to allow enough of the lubricant to drain out to determine whether or not water is present. If no water is present the drain plug may be retightened without excessive loss of lubricant. Be sure to refill the gear case to the fill plug level. If water is present, drain gear case and refill. After running motor for several hours, again check for water. If presence of water persists, have seals in gear case checked.

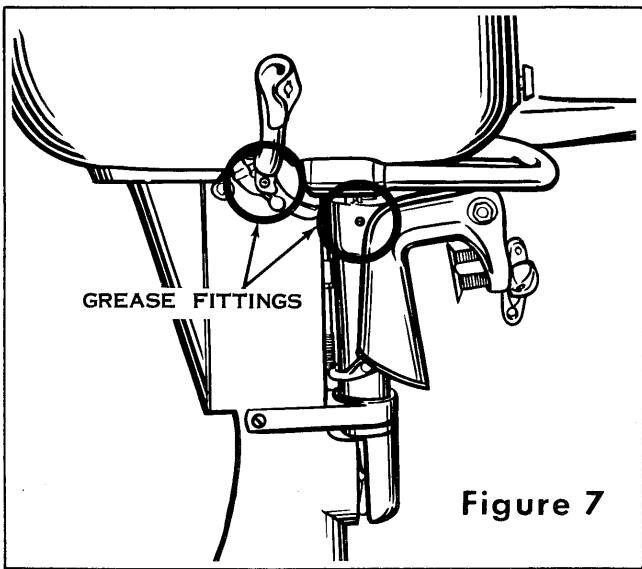


Figure 7

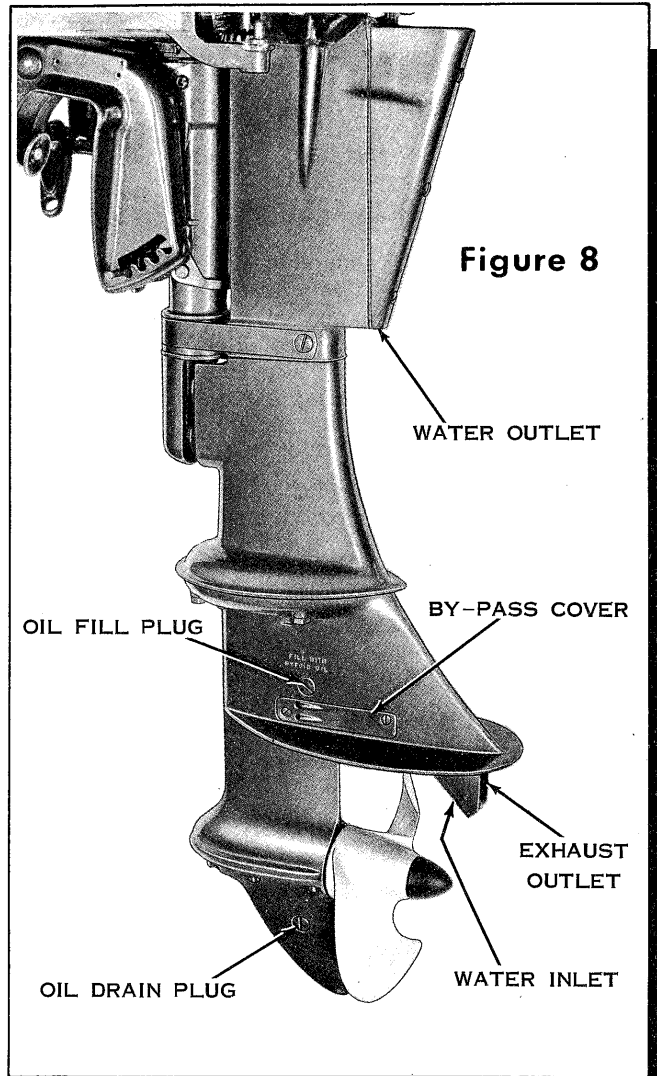


Figure 8

GREASING

There are two Zerk type grease fittings on the motor which should be greased occasionally. These fittings are located on the swivel bracket and below gear shift lever, on the starboard side. A good grade of waterproof grease is recommended for these fittings. Use an automotive type. See Figure 7.

Care of your Motor

PROPELLER

Motors are equipped with a propeller which gives the best all around performance on the average boat. Adding a high speed propeller to a motor will not increase the speed of the boat unless the boat itself is light and designed to develop higher speed. We cannot be responsible for wear or damage to a motor used for racing or equipped with a racing propeller.

PROPELLER DRIVE PIN

Should the propeller strike an underwater obstruction forcibly, the propeller drive pin may shear. This should rarely, if ever, occur, because of the shock absorber. **TURN OFF MOTOR IMMEDIATELY.** Remove rubber cap. Remove broken pin by driving parts out with a punch. Examine propeller. A blow forceful enough to shear the drive pin may also have damaged the propeller seriously. Propeller should be replaced if badly damaged. Drive a new pin in place, securing propeller to the shaft. Replace rubber cap.

SHOCK ABSORBER

The shock absorber assembly (item 38, page 18) consists of a comparatively strong spring inserted tightly into a retainer and pilot. The retainer is locked to upper driveshaft and pilot pinned to lower driveshaft. Action of the slip clutch assembly is such that when the propeller strikes an underwater obstruction the spring is caused to coil slightly in either the retainer or pilot, or in both, releasing its grip, thereby absorbing shock of sudden impact.

REMOVING SIDE MOTOR COVERS

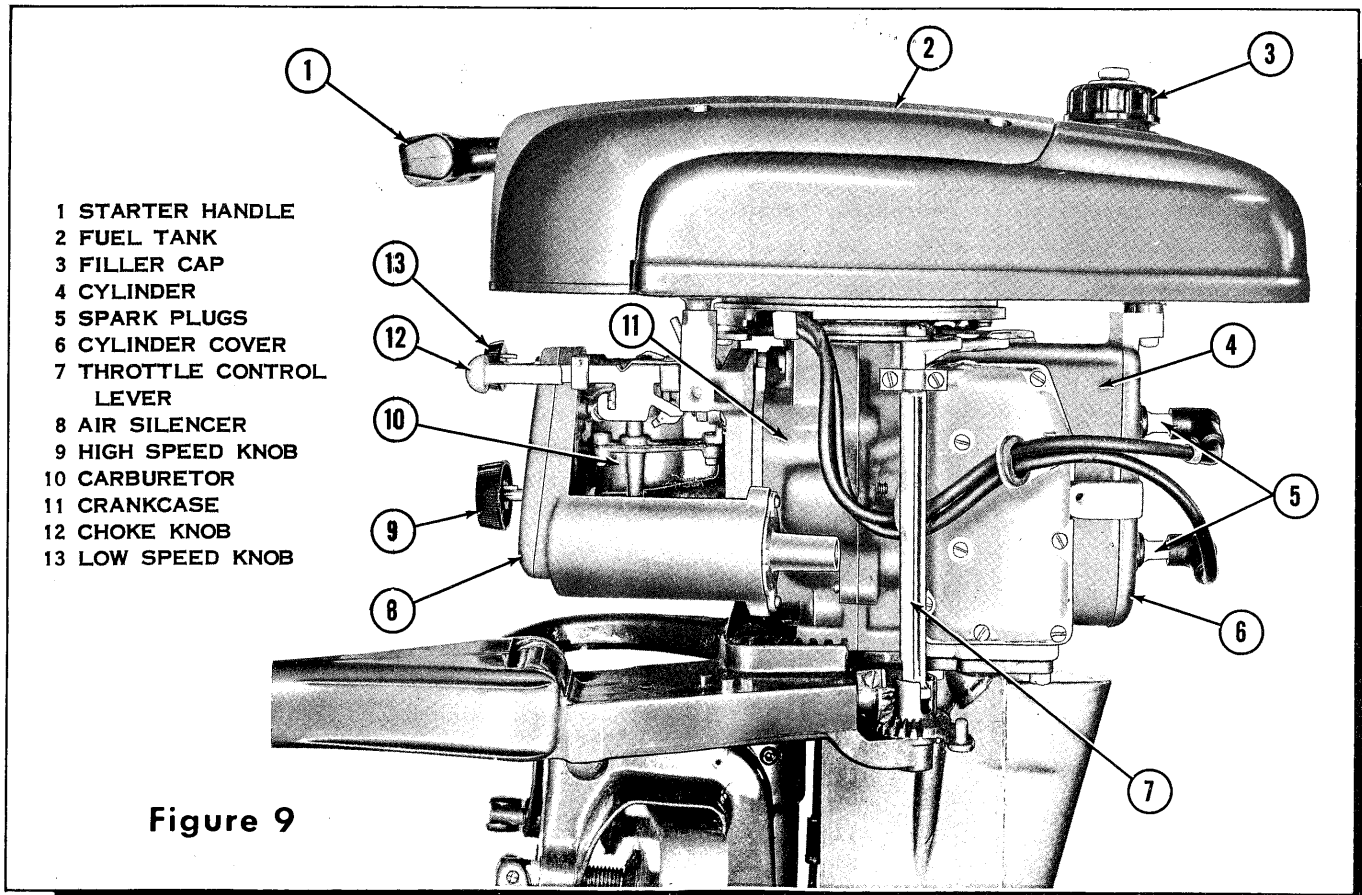
You may desire to remove the side motor covers to inspect spark plugs or other parts of the power-head. To remove port cover, simply remove two mounting screws and choke knob. For the starboard cover, you need remove just the two side mounting screws. Pull out hinged gear shift lever until it can be turned to point down. Then lift off cover.

SPARK PLUG

The correct spark plug gap is .030 inch. Plugs are set properly at the factory and are right when the motor is received. We recommend Champion J6J or Auto Lite A3X spark plugs, or equivalent for replacement. Keep the spark plug cables free from oil and do not permit them to become frayed or broken. Clean the spark plugs periodically and re-set to the proper gap setting. Be sure gaskets are intact. For access to spark plugs, remove port motor cover.

COOLING SYSTEM

Water for cooling purposes is provided by action of the single stage rubber impeller centrifugal pump located between the upper and lower housing of the lower unit. This functions as a displacement pump at slow motor speeds and as a centrifugal pump during operation in the higher speed range. There are two water inlets in the gear case. During FORWARD operation of the motor, water enters the slot, equipped with a screen, located directly below



exhaust outlet, and is forced through the cooling system, later to be discharged at the outlet in the exhaust tube provided for this purpose. Water enters the cooling system through the holes in the water by-pass cover above the anti-cavitation plate when operating in REVERSE. (See Figure 1 for locations of cooling system parts.)

NOTE

If, while operating motor at full speed, it should show signs of slowing down, immediately check water discharge at water outlet (Figure 8) located at rear of the motor directly below cylinder. In case no water is being discharged, immediately shut off the motor and check water inlet (Figure 8) for obstruction. If no obstruction is found, it may indicate worn pump parts.

REMOVING MOTOR FROM BOAT

At end of run, with motor running in NEUTRAL, close fuel shut-off valve and permit motor to run until it stops, draining carburetor. Close air vent screw in filler cap. The motor can then be carried without fuel leakage. For safety, always drain fuel tank before transporting motor. Also drain water thoroughly as in "Care of Motor in Cold Weather." When removing motor from boat, lift motor in a straight upward position and hold this position for a brief period until all water is drained from the underwater exhaust tube and water cooling system. Do not stand motor on top or carry with the top down before draining water, as this may allow water to enter the power head from underwater exhaust tube.

CARE OF MOTOR IN COLD WEATHER

The motor will not freeze while in use, but when it is idle, water in the cylinders or pump might freeze and damage the motor. Drain by setting the motor in an upright position and pulling starter cord several times with speed control grip in STOP position. If the motor is to be stored during cold weather, be sure that no water is left in the motor or it may freeze. (See "Preparation for Storage.")

SALT WATER INSTRUCTIONS

A little time spent in caring for your motor when used in salt water will aid in not only keeping it in good running order but help in retaining its finish and appearance. Tilt the motor out of the water when it is not in use. At the end of the day or when not using the motor for a period of time it is advisable to remove it from the boat and to flush it by running it in a tank of fresh water. Wipe the motor dry and go over all parts with an oily cloth. This should be done as soon as possible after removing the motor from the boat.

PREPARATION FOR STORAGE

No outboard motor should be placed in storage without considering the necessary precautions. If motor

is operated in salt water, flush by running in a tank of fresh water. Drain and refill gear case with the proper lubricant. See page 5.

Prior to storing the motor, run it for about one-half (1/2) minute in choke position. Shut off motor without pushing choke back to normal position. Purpose of this operation is to flood the inner parts of the powerhead with oil (oil in fuel mixture) while in storage.

Drain all water from the cooling system. See "Care of Motor in Cold Weather."

Drain all fuel from fuel tank, gas line and carburetor.

Under no circumstances should the motor be stored in an inverted position. It should be hung on a rack similar to the manner in which it is mounted on the boat. Store in a dry place. Wrap the motor in a piece of canvas, old blanket, or heavy paper.

PUTTING MOTOR IN USE AFTER STORAGE

Pull off spark plug leads and remove spark plugs. If rubber spark plug hoods have been removed from ignition leads, be sure to ground leads to some part of motor to prevent possibility of spark. (THIS IS IMPORTANT.) Spin motor by pulling on starter cord to remove excess oil from cylinders. Clean spark plugs, check gap and replace. Install new plugs if they are cracked, broken, or badly burned. Tighten all screws and nuts. Check adjustments such as tilting friction, co-pilot, and carburetor knob.

RUNNING MOTOR IN TEST TANK

1. Do not run motor out of water.
2. Do not "break-in" motor in tank.
3. Remove water by-pass cover (small metal strip on lower port side of upper pump housing, Figure 8).
4. When running in tank be sure gear housing and propeller are submerged.
5. Do not race motor in tank.
6. Use test propeller when testing motor in tank.
7. Cavitation (air pocket around propeller) may occur when operating motor in tank with regular propeller. Motor will then not perform properly or it may race and be damaged as a result.

MOTORS THAT HAVE BEEN SUBMERGED

Precaution should be taken to prevent a motor going overboard (see page 1). However, if a motor has been submerged, it should be recovered as quickly as possible.

Since the motor is temporarily out of working order, do not attempt to operate it until the following procedure has been used to restore it to service.

Care of your Motor

1. Drain fuel tank by removing fuel tank filler cap and turning motor upside down.

2. Remove plug at very bottom of carburetor (item 52, Page 12) thereby draining water and fuel from carburetor. Pour enough fresh fuel into gas tank to remove any water from fuel line, by permitting fuel to run out of carburetor drain plug hole (fuel tank shut-off valve should be open). When all traces of water are removed, replace plug.

3. Remove and dry spark plugs. If rubber spark plug hoods have been removed, be sure to ground wires somewhere on motor. Lay motor down on gear shift handle side and crank motor. Turn motor so that spark plug holes are down and again crank motor until no further water is expelled.

4. Check spark by inserting screw or other small metal object into rubber spark plug hood to make contact with terminal spring in hood and holding screw about 1/4 inch from cylinder and cranking motor rapidly. Check spark from both leadwires. If rubber hoods are not on leadwires, be sure to ground one lead while checking the other.

5. Replace all parts removed, fill tank with new fuel mixture, and start motor. It may be necessary to clean water from points of spark plugs several times as there is a possibility of small drops of water remaining in the cylinder, which may short the plugs.

The above instructions are primarily for motors that have been submerged in fresh water. For motors submerged in salt water a few additional precautions, listed below, may be necessary.

1. Remove carburetor and fuel tank, and wash with fresh water. Dry thoroughly.

2. Remove flywheel, and wash magneto with fresh water.

3. It is advisable to wash external working parts, such as the starter mechanism, with fresh water and lubricate. Internal working parts are lubricated by the fuel mixture.

If motor will not operate after the above instructions have been followed, disassemble and wipe all parts dry. Coat with oil to prevent rust and follow instructions under "How to Obtain Service." (See back cover.)

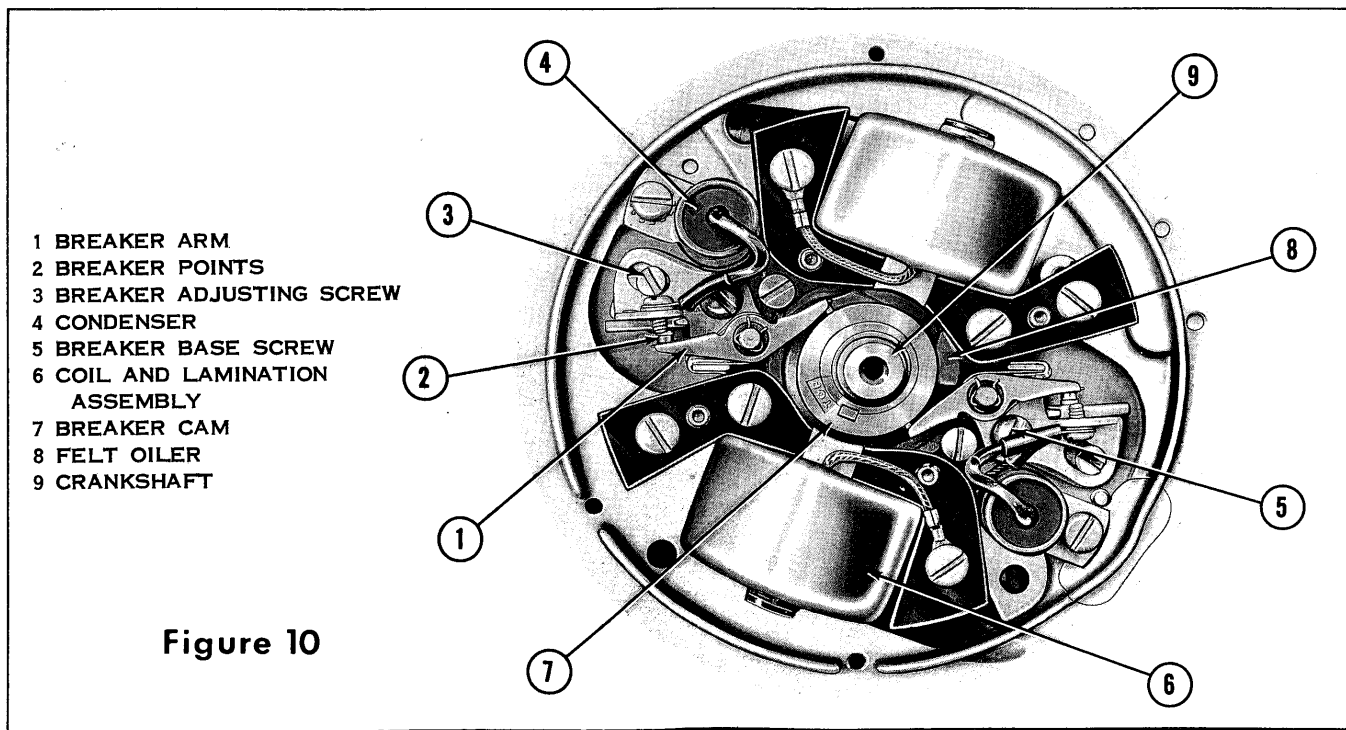
MAGNETO

It may be necessary occasionally to inspect the magneto. If so, it is necessary to remove the gas tank and flywheel. However, if cleaning or adjusting of points is required, remove the starter housing, (see page 5, "Emergency Starting") and the three screws releasing the starter ratchet and flywheel cover. Access to the points for cleaning or adjusting is possible through the opening on the top of the flywheel.

HOW TO REMOVE FLYWHEEL

Disconnect fuel line and remove fuel tank. Use flywheel puller if available. If not, hold flywheel rigid and unscrew the flywheel nut about two full turns. Have someone lift up on the flywheel and then place a piece of bar solder or a block of lead over the flywheel nut and tap a sharp blow with a hammer. If flywheel does not come off, loosen nut a trifle more and repeat procedure.

When flywheel comes off, use care not to lose key by which flywheel is held in engagement with shaft. When



CHECKING BREAKER POINT GAP



ADJUSTING BREAKER POINT GAP

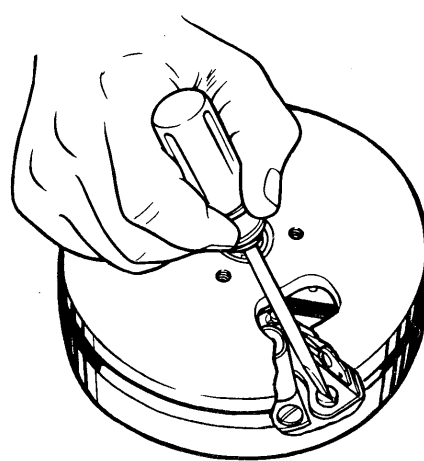


Figure 11

again replacing flywheel, be sure key is in place and fits snugly, then draw up nut as tight as possible. **IMPORTANT:** Tapers on flywheel and crankshaft must be perfectly clean and dry before reassembling.

MAGNETO LUBRICATION

The magneto is equipped with a felt oiler to lubricate the cam and reduce wear on the cam block of the breaker (Figure 10). A few drops of light oil should be put on the felt once or twice a year.

CLEAN AND ADJUST BREAKER POINTS

After removing starter ratchet and flywheel cover, revolve flywheel until opening is directly over breaker (there are two breakers on this magneto). Carefully spread points with small screwdriver.

Insert point dresser. (Sandpaper, fine coil file, nail file, etc. **NEVER USE EMERY CLOTH.**) Release points, work dresser up and down to smooth. Follow same procedure with piece of thick smooth paper to remove traces of foreign particles which might be left on points.

After cleaning, reset point gap to .020 inch maximum opening as follows: When hole in flywheel is directly over the breaker, maximum opening of the breaker is obtained. Check with .020 inch feeler gage. If opening is under or over .020 inch loosen breaker base screw (item 5, Figure 10) slightly. Turn adjusting screw (item 3, Figure 10) to right or left until required setting is obtained. Tighten breaker plate screw and re-check with gage. See figure 11.

- 1 LOW SPEED KNOB
- 2 LOW SPEED NEEDLE
- 3 PACKING NUT
- 4 CAM FOLLOWER LEVER
- 5 THROTTLE CAM FOLLOWER
- 6 CARBURETOR BODY
- 7 THROTTLE SHAFT
- 8 FLOAT BOWL
- 9 HIGH SPEED NEEDLE
- 10 HIGH SPEED KNOB
- 11 CHOKE SHAFT
- 12 CHOKE KNOB

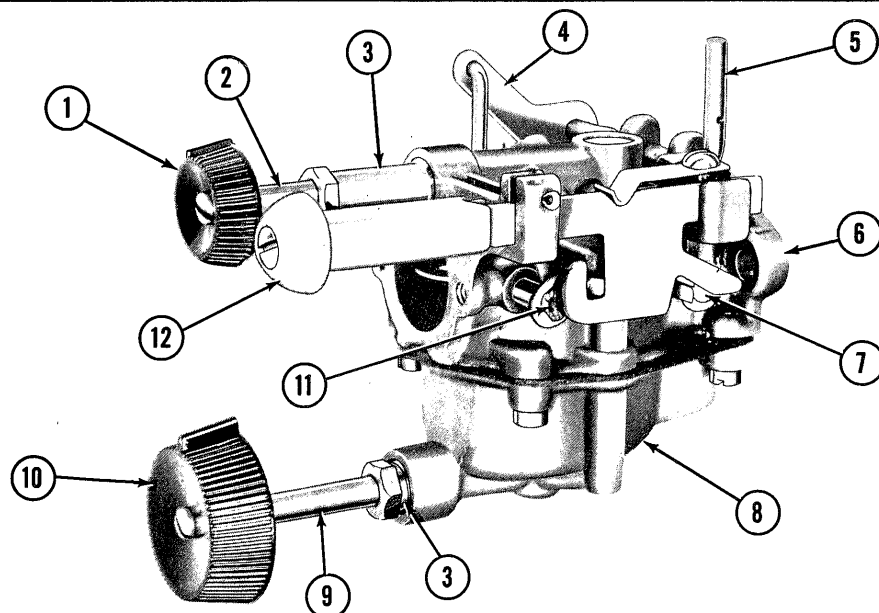


Figure 12

Care of your Motor

CARBURETOR AIR SILENCER

The air silencer does not function as a filter, therefore it is never necessary to remove it for cleaning purposes under normal use. Its only function is for quiet motor operation.

CARBURETOR ADJUSTING NEEDLES

Should the adjusting needles become so loose that the knobs will not remain in a set position, they can usually be tightened by drawing down on the

packing nuts (item 3, Figure 12).

NOTE

Turn carburetor knobs counterclockwise 1/2 turn before tightening packing nuts to prevent damage to needle seats.

If tightening of the packing nut will not help, it may be necessary to replace the packing. To replace packing remove the air silencer, needles, packing nuts, washers, and ALL of the old packing. Install new packing and reassemble.

Check Chart

This chart will provide an outline for systematic tracing of operating difficulties. The causes listed are those which the average owner can locate with little difficulty. Once you have located the cause, the remedy is usually self-evident. If faulty motor operation cannot be traced to any of the causes listed, we recommend that you see your dealer.

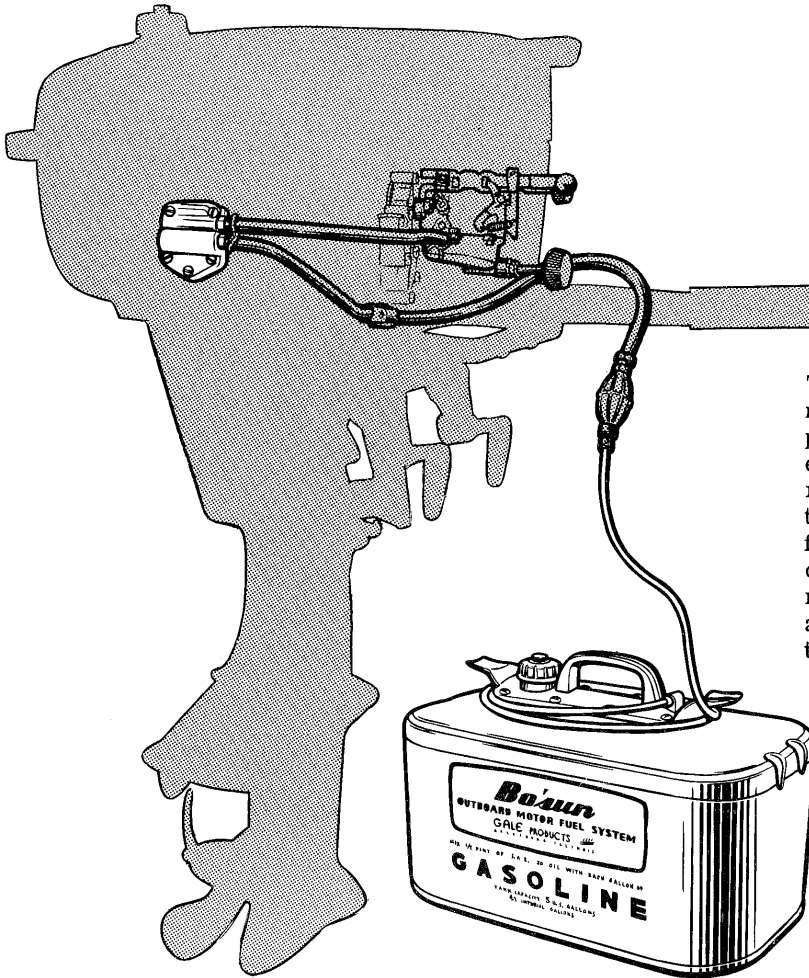
Always make sure that you have been using the correct gasoline-oil mixture, and are following operating instructions accurately.

Spark plugs are one of the most common sources of trouble. It may save considerable time if spark plugs, then the other ignition parts, are checked first.

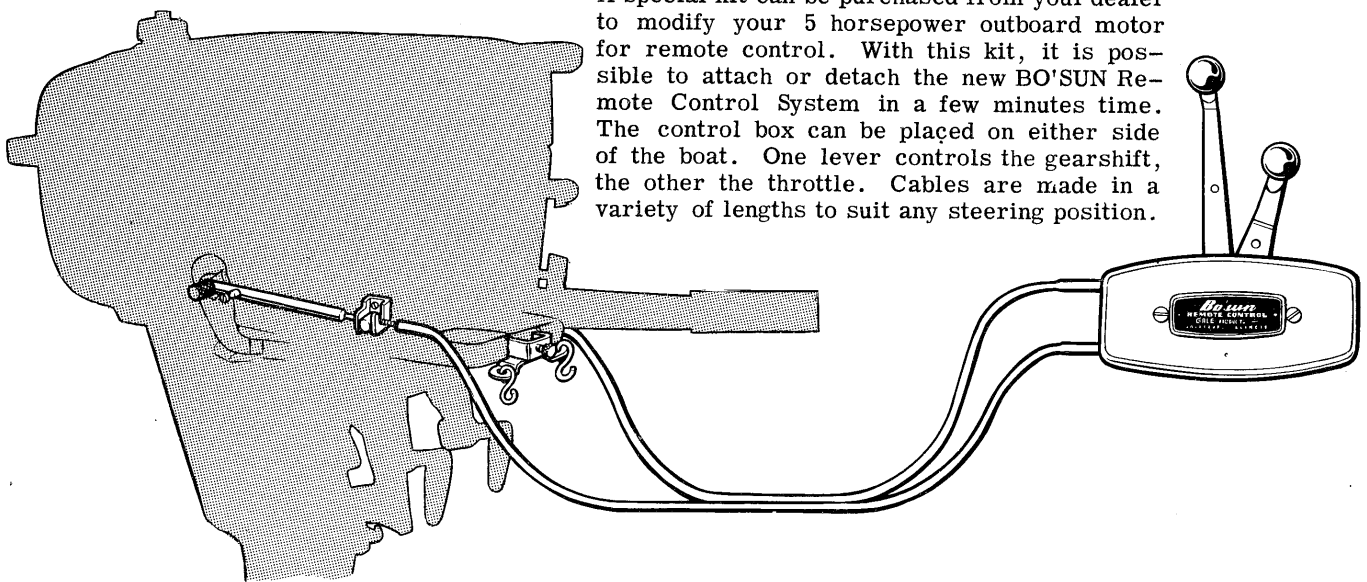
<p>MOTOR WILL NOT START</p> <p>FUEL TROUBLE Tank empty. Shut-off valve closed. Filler cap vent closed. Water in carburetor, tank or strainer. Carburetor nozzle or passages clogged. Strainer screen between shut-off valve and gas tank clogged. Fuel line clogged. Improper fuel and oil mixture.</p> <p>NO SPARK TO PLUG Lead to spark plug disconnected or grounded. Breaker points not set at .020 inch gap. Breaker points corroded. Loose or broken wire in magneto.</p> <p>NO COMPRESSION Leaking gasket or stuck reed valve.</p> <p>SPARK PLUG TROUBLE Fouled. Porcelain cracked. Center electrode (pole) loose. Points not set at .030 inch gap.</p> <p>MOTOR KNOCKS Flywheel hub loose. Flywheel nut loose. Incorrect spark plug pre-igniting.</p> <p>MOTOR IS STIFF AND CRANKS HARD No lubricant in gear case.</p> <p>WATER STOPS CIRCULATING Clogged water pump inlet. Gear housing not setting deep enough in water.</p> <p>MOTOR RUNS BUT PROPELLER DOES NOT TURN Drive pin sheared.</p>	<p>MOTOR WILL NOT IDLE Carburetor not adjusted properly. Improper gasoline and oil mixture. Throttle stuck open. Dirty or defective spark plug. Clogged carburetor. Improperly set breaker points.</p> <p>MOTOR MISSES</p> <p>WIRING Loose or broken ignition wire. Broken or oil-soaked insulation on wire.</p> <p>MAGNETO Weak or broken breaker point spring. Corroded or dirty breaker points. Breaker points not set at .020 inch.</p> <p>CARBURETOR Nozzle or feed hole dirty. Water or foreign matter in strainer. Carburetor passages clogged.</p> <p>MOTOR LOSES POWER</p> <p>INCORRECT FUEL MIXTURE Too rich - motor slows down and four cycles (fires every other compression stroke). Too lean - motor slows down and may back fire.</p> <p>MOTOR VIBRATES Faulty ignition or carburetion. Loose pivot bearing. Bent or broken propeller blade or motor loose on boat.</p> <p>MOTOR RUNS BUT BOAT MAKES LITTLE OR NO PROGRESS Badly bent propeller blades. Weeds or rope wound around propeller. Rope or other obstruction dragging in water.</p>
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AUXILIARY EQUIPMENT

BO'SUN ACCESSORIES AVAILABLE FOR YOUR MOTOR

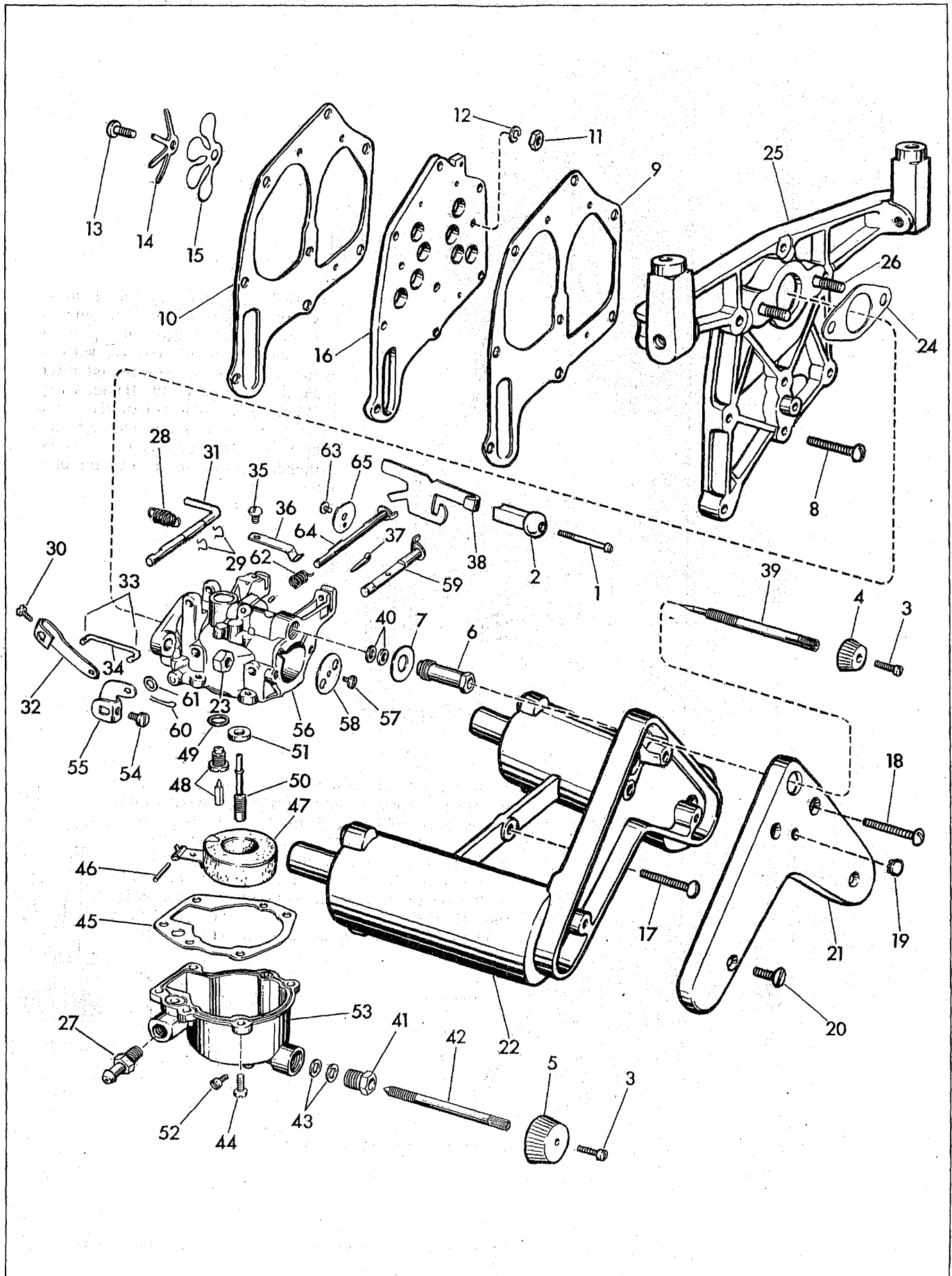


The BO'SUN Auxiliary Fuel System, now available for your 5 horsepower outboard motor, will give you extra hours of outboarding without refueling. The system includes the tank, pump, hoses and all necessary fittings. All required drilling and cutting has been incorporated in the motor and the fuel system can be attached easily in a few minutes time.

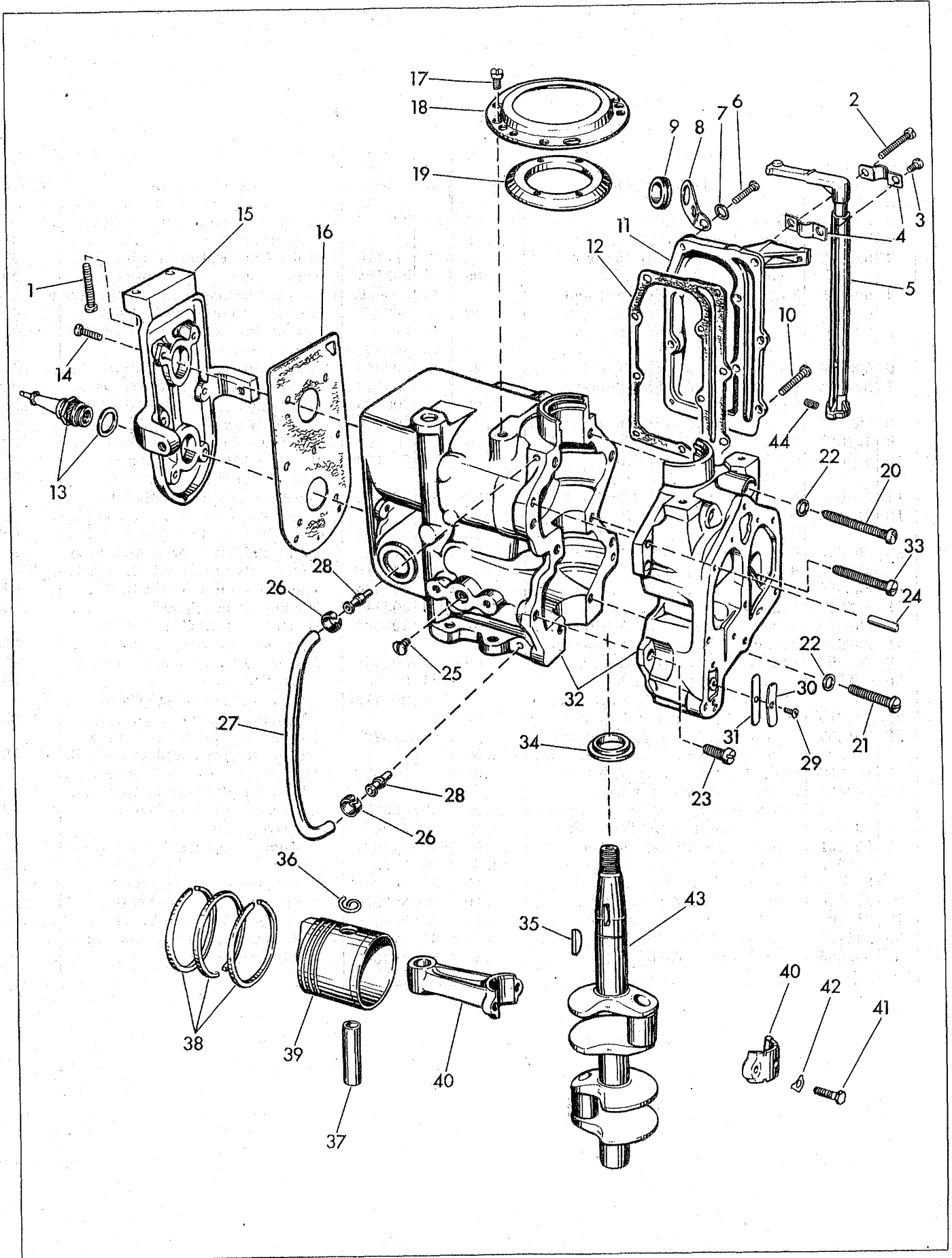


A special kit can be purchased from your dealer to modify your 5 horsepower outboard motor for remote control. With this kit, it is possible to attach or detach the new BO'SUN Remote Control System in a few minutes time. The control box can be placed on either side of the boat. One lever controls the gearshift, the other the throttle. Cables are made in a variety of lengths to suit any steering position.

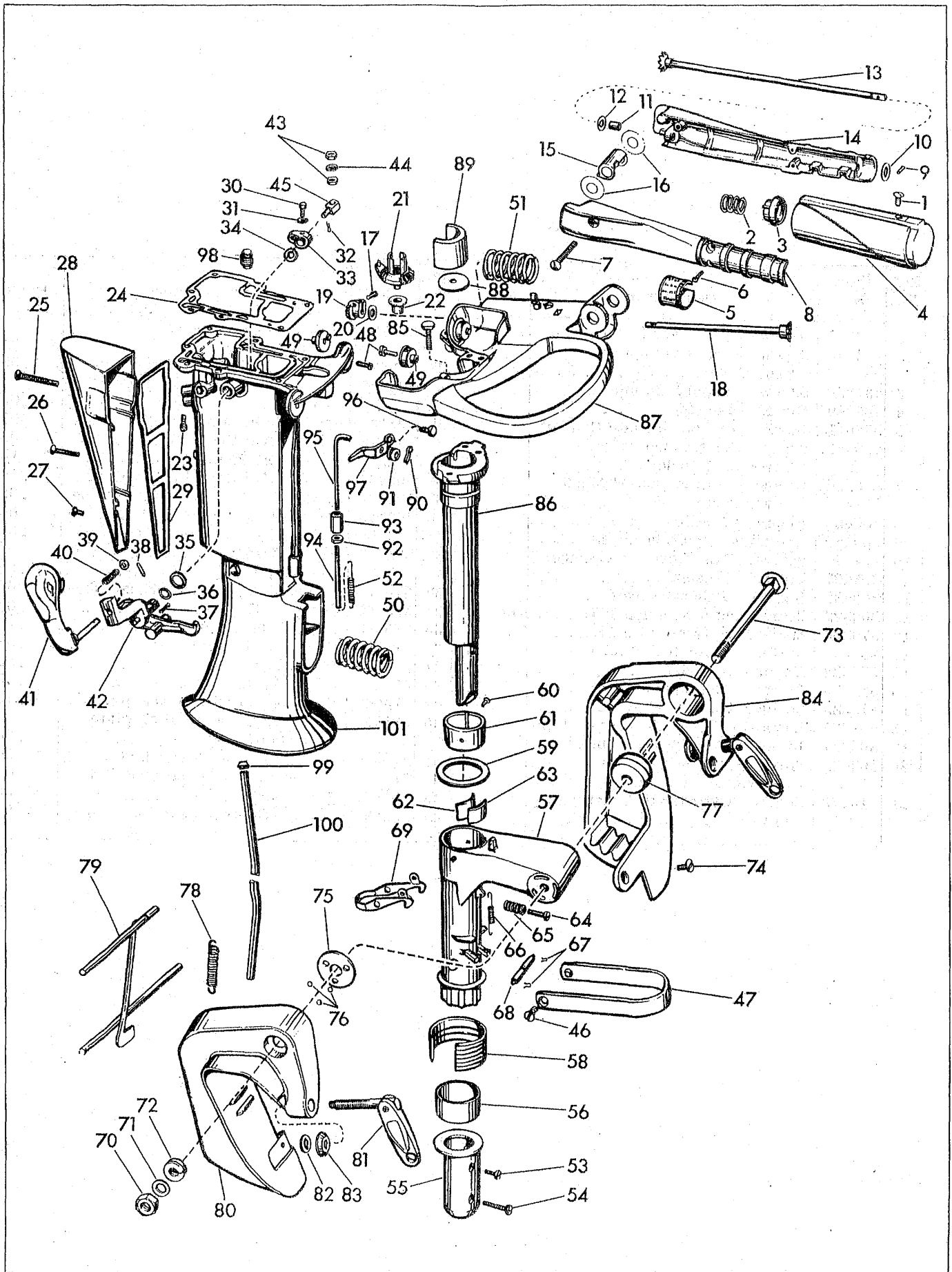
FOR FURTHER INFORMATION, ASK THE DEALER FROM WHOM YOU OBTAINED THE MOTOR



Ref. No.	Part No.	Description	Price	Ref. No.	Part No.	Description	Price
1	552203	Screw - Choke Knob	\$.05	32	376726	Lever & Screw Assy. - Cam	\$
2	552204	Knob - Choke Control . . . . .	.55			Follower Incl. #30 . . . . .	.35
3	551517	Screw - Carburetor Control Knob . . . . .	.05	33	41-110	Pin - Cam Follower Link . . . . .	.025
4	591279	Slow Speed Control Knob and Stop Pin Assembly . . . . .	.40	34	203164	Link - Lever to Follower . . . . .	.20
5	591482	High Speed Control Knob and Stop Pin Assembly . . . . .	.40	35	302430	Screw - Spring to Carburetor Body	.025
6	303479	Nut - Slow Speed Needle Valve . . . . .	.25	36	302977	Spring - Choke Control Rod . . . . .	.05
7	203355	Washer - Carb. Slow Speed Valve Nut . . . . .	.025	37	21-163	Cotter Pin - Choke Control Rod . . . . .	.025
8	133451	Screw - Manifold to Crankcase . . . . .	.025	38	302997	Rod - Choke Control . . . . .	.35
9	552622	Gasket - Manifold to Leaf Plate . . . . .	.10	39	303448	Needle Valve - Slow Speed . . . . .	.65
10	552623	Gasket - Leaf Plate to Crankcase . . . . .	.10	40	43-123	Packing - Slow Speed Valve . . . . .	.025
11	85-64	Nut - Leaf to Leaf Plate Screw . . . . .	.025	41	300179	Nut - High Speed Needle Valve . . . . .	.10
12	71-1487	Washer - Lock, Leaf to Leaf Plate Screw . . . . .	.025	42	303476	Needle Valve - High Speed . . . . .	.65
13	301858	Screw - Leaf Attaching . . . . .	.05	43	43-123	Packing - High Speed Valve . . . . .	.025
14	552608	Stop - Leaf . . . . .	.35	44	71-1589	Screw - Float Chamber to Carburetor Body . . . . .	.025
15	552614	Leaf . . . . .	.45	45	302994	Gasket - Float Chamber to Carburetor Body . . . . .	.10
16	552609	Plate - Leaf	1.30	46	300096	Hinge Pin - Float Arm . . . . .	.025
17	43-259	Screw - Silencer to Manifold . . . . .	.025	47	375919	Float and Float Arm Assembly . . . . .	.60
18	200931	Screw - Silencer to Carburetor . . . . .	.05	48	375918	Float Valve and Seat Assembly	1.25
19	203652	Plug - Button, Air Silencer . . . . .	.05	49	301996	Washer - Float Valve Seat . . . . .	.025
20	302124	Screw - Cover Plate to Silencer Body . . . . .	.025	50	303447	Nozzle - High Speed . . . . .	.45
21	552615	Plate - Air Silencer Cover . . . . .	.60	51	302984	Gasket - Float Chamber to Carburetor Body Boss . . . . .	.025
22	591569	Loading Tube and Air Silencer Body Assembly	2.60	52	303041	Screw - Float Chamber Drain . . . . .	.05
23	19-136	Nut - Carburetor to Manifold . . . . .	.025	53	552606	Float Chamber	1.80
24	303437	Gasket - Carburetor to Manifold . . . . .	.05	54	304572	Screw - Throttle and Cam Follower Lever . . . . .	.025
25	591570	Intake Manifold and Stud Assy.	2.30	55	376725	Lever & Screw Assy - Cam Follower to Throttle Shaft Incl. #57	.30
26	85-101	Stud - Carburetor to Manifold . . . . .	.05	56	376531	Carburetor Body - Plug and Throttle Valve Assembly	4.00
27	303492	Nipple - Gas Line . . . . .	.20	57	303760	Screw - Choke Valve . . . . .	.025
28	203166	Spring - Cam Follower . . . . .	.10	58	303444	Choke Valve . . . . .	.10
29	71-1052	Clip - Cam Follower . . . . .	.025	59	375921	Choke Shaft and Lever Assy . . . . .	.65
30	304572	Screw - Cam Follower . . . . .	.025	60	303049	Cotter Pin - Throttle Shaft . . . . .	.025
31	552605	Follower - Throttle Cam . . . . .	.45	61	303048	Washer - Throttle Shaft . . . . .	.025
				62	302996	Spring - Throttle Shaft . . . . .	.05
				63	303760	Screw - Throttle Valve . . . . .	.025
				64	375922	Throttle Shaft & Lever Assy . . . . .	.75
				65	304326	Throttle Valve . . . . .	.05



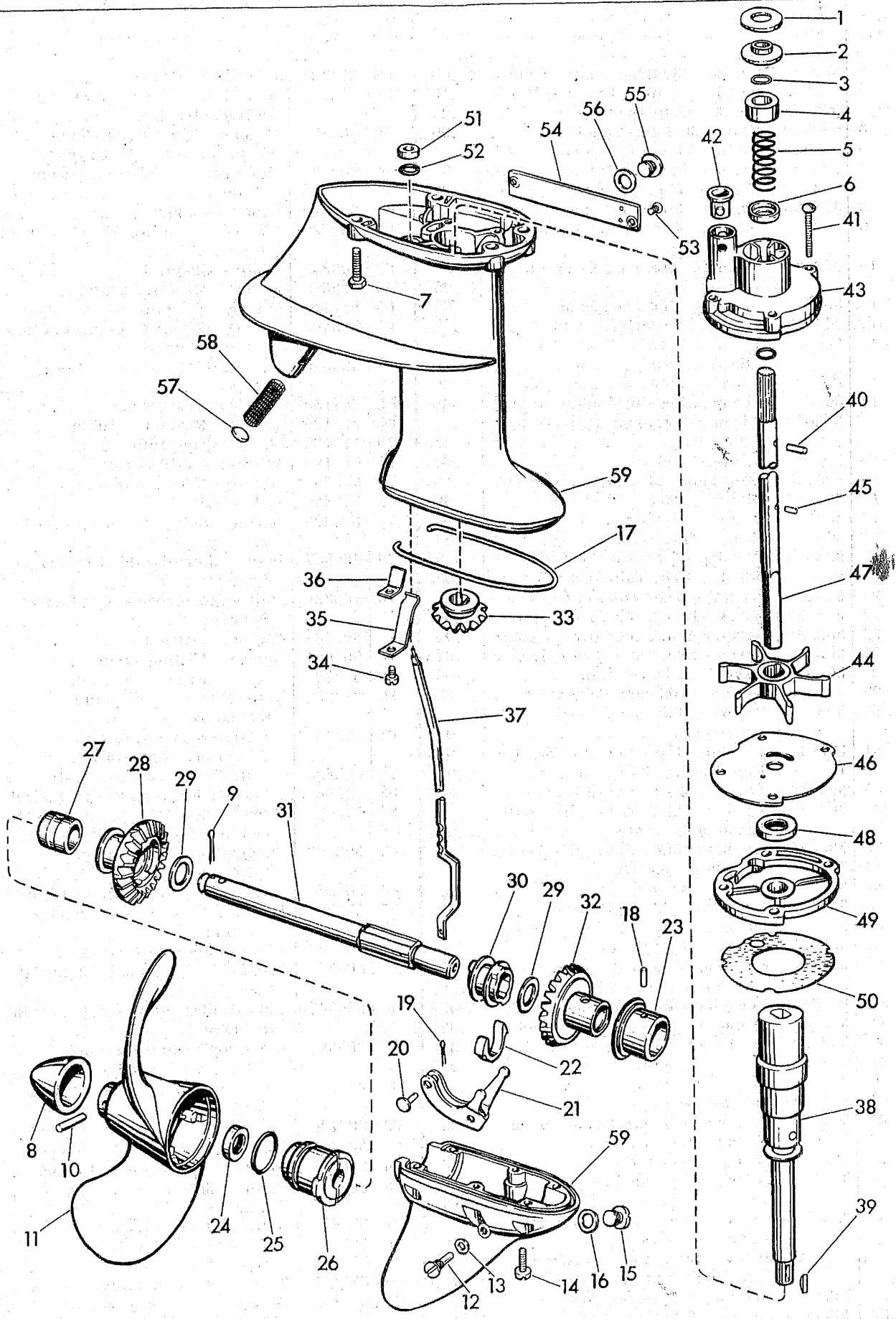
Ref. No.	Part No.	Description	Price	Ref. No.	Part No.	Description	Price
1	300646	Screw - Cyl. Cover to Fuel Tank	\$.05	22	300399	Washer - Cylinder to	
2	132123	Screw - Brg. Clamp and Exh. Cover . . . . .	.025	23	51-47	Crankcase Screw	\$.025
3	43-156	Screw - Bearing Clamp . . . . .	.025	24	300402	Screw - Cylinder to Crankcase .	.025
4	303109	Clamp - Bearing . . . . .	.025			Pin - Taper, Cylinder to Crankcase . . . . .	.05
5	552611	Lever - Armature Plate Control	.40	25	303125	Screw - Fuel Pump Outlet Plug .	.05
6	132346	Screw - Anchor and Exhaust Cover to Cylinder . . . . .	.025	26	303473	Clamp - Oil Return Hose . . . . .	.025
7	300154	Washer - Anchor and Exhaust Cover Screw . . . . .	.025	27	552613	Hose - Oil Return . . . . .	.10
8	300455	Anchor - Ignition Leads . . . . .	.05	28	303423	Nipple - Oil Hose to Cylinder . .	.15
9	300454	Grommet - Ignition Leads . . . . .	.10	29	19-191	Screw - Leaf Valve to Crankcase	.025
10	25-74	Screw - Exh. Cover to Cylinder	.025	30	203248	Plate - Leaf Valve	.05
11	303407	Cover - Exhaust . . . . .	.85	31	203235	Valve - Leaf, Crankcase Drain .	.25
12	303439	Gasket - Exhaust Cover . . . . .	.10	32	591922	Cyl. & Crankcase Assy. Incl. #20, 21, 22, 23, 24, 33	38.50
13	200322	Spark Plug (Champion J6J)	Net .93	33	27-17	Screw - Cyl. to Crankcase, Center	.025
13	376290	Spark Plug (Auto-Lite A3X)	Net .87	34	303649	Slinger - Oil . . . . .	.025
14	25-74	Screw - Cover to Cylinder . . . . .	.025	35	120395	Key - Crankshaft . . . . .	.10
15	552624	Cover - Cylinder	1.10	36	120110	Ring - Lock, Piston Pin . . . . .	.025
16	552625	Gasket - Cylinder Cover . . . . .	.10	37	303333	Pin - Wrist . . . . .	.30
17	41-223	Screw - Support Plate . . . . .	.025	38	41-333	Ring - Piston . . . . .	.35
18	591857	Support & Stop Assy. - Arm. Plate	1.80	39	376067	Piston & Dowel Pin Assembly .	2.40
19	303277	Ring - Arm. Plate Retaining . . . . .	.85	40	591919	Connecting Rod and Lockplate Assembly	5.00
20	302431	Screw - Cylinder to Crankcase, Upper . . . . .	.05	41	41-44	Screw - Connecting Rod . . . . .	.05
21	41-178	Screw - Cylinder to Crankcase, Lower . . . . .	.025	42	41-17	Lockplate - Connecting Rod . . . . .	.025
				43	552607	Crankshaft	15.00
				44	303236	Spring - Control Lever to Gear .	.05



Repair Parts List

MANIFOLD & BRACKET

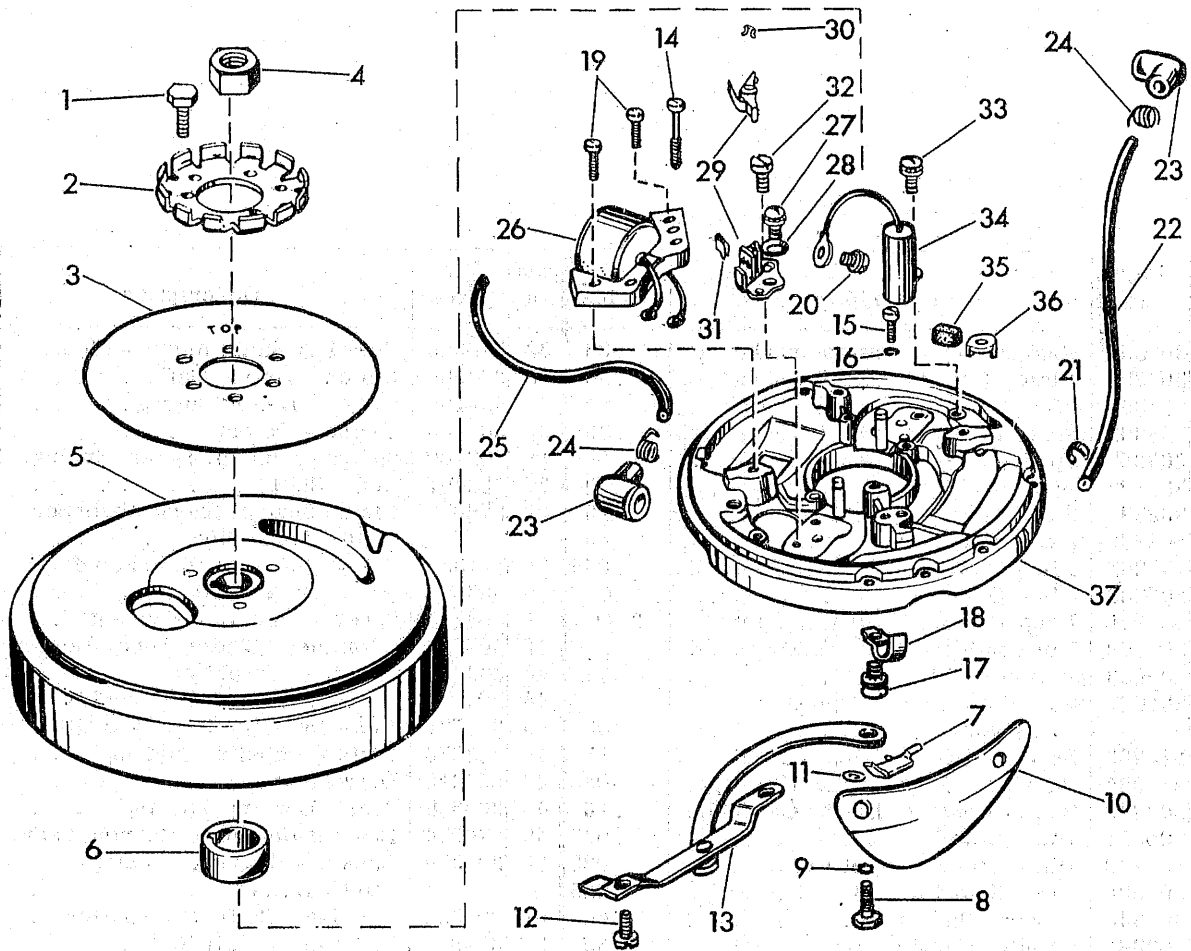
Ref. No.	Part No.	Description	Price	Ref. No.	Part No.	Description	Price
1	302710	Screw - Steering Handle Grip	\$.025	57	304131	Bracket - Swivel	\$2.50
2	301656	Spring - Grip to Friction Block	.15	58	303371	Absorber - Shock, Lower Swivel Bracket	.10
3	303282	Block - Grip Friction	.20	59	303359	Washer - Thrust, Steering Bracket to Swivel Bracket	.15
4	552209	Grip - Steering Handle	2.00	60	303696	Pin - Swivel Bracket to Upper Liner	.025
5	203260	Plate - Throttle Control	.35	61	303370	Liner - Upper	.60
6	133452	Screw - Steering Handle Halves	.025	62	303697	Spacer - Co-pilot Plate to Upper Liner	.05
7	303078	Screw - Steering Handle Halves	.025	63	303363	Plate - Co-pilot	.15
8	303093	Handle - Steering, Inner Half	.90	64	132679	Screw - Co-pilot Plate	.025
9	300346	Pin - Groove, Gear and Shaft Assembly	.025	65	551113	Spring - Co-pilot Plate Screw	.10
10	303252	Washer - Steering Handle to Spring	.05	66	303464	Spring - Reverse Lock Rod to Swivel Bracket	.10
11	302717	Bushing - Steering Handle	.05	67	303049	Pin - Cotter, Reverse Lock Shaft	.025
12	302712	Washer - Steering Handle	.025	68	304130	Rod - Reverse Lock	.10
13	376691	Throttle Control Gear and Shaft Assembly, Long	1.40	69	304129	Lever - Reverse Locking	.85
14	303094	Handle - Steering, Outer Half	1.60	70	17-182	Nut - Tilting Bolt	.05
15	303096	Cover - Steering Handle Gears	.40	71	25-196	Washer - Tilting Bolt	.05
16	303079	Washer - Steering Bracket to Handle	.025	72	302051	Spring - Tilting Bolt	.40
17	71-1352	Screw - Pinion	.025	73	303349	Bolt - Tilting	.15
18	376689	Gear and Shaft Assembly, Short	1.15	74	303396	Screw - Stern Bracket, Port to Starboard	.05
19	303142	Pinion - Throttle Control	.40	75	202617	Shim - Stern Bracket to Swivel Bracket	.10
20	303107	Washer - Pinion Gear	.025	76	160084	Ball - Stern Bracket to Swivel Bracket	.025
21	303800	Gear - Throttle Control	.80	77	301983	Washer - Conical	.25
22	303140	Bushing - Throttle Control	.10	78	202021	Spring - Tilting Lever	.15
23	51-47	Screw - Exh. Tube to Cylinder	.025	79	376395	Tilting Lever Assembly	.45
24	303467	Gasket - Exh. Tube to Cylinder	.15	80	376082	Stern Bracket Assembly, Starboard	2.50
25	303589	Screw - Exh. Tube Cover, Upper	.10	81	375744	Clamp Screw, Plate and Retainer Assembly	.85
26	303588	Screw - Exh. Tube Cover, Center	.05	82	302420	Retainer - Swivel Plate	.05
27	303587	Screw - Exh. Tube Cover, Lower	.025	83	41-48	Plate - Clamp Screw Swivel	.05
28	303585	Cover - Exhaust Tube	.60	84	376081	Stern Bracket Assy., Port (Also Includes Items 81, 82 and 83)	2.60
29	303586	Gasket - Exhaust Tube Cover	.10	85	303398	Screw - Steering Bracket to Pilot Shaft	.025
30	303714	Screw - Shift Lever Shaft Assembly	.05	86	303500	Shaft - Steering Bracket Pilot	2.40
31	303715	Washer - Shift Lever to Shaft	.025	87	376269	Steering Bracket and Bushing Assembly	4.50
32	15-268	Pin - Cotter, Shift Rod	.025	88	303353	Plate - Steering Bracket	.025
33	304254	Lever - Shaft to Shift Rod	.30	89	303350	Support - Drive Shaft Casing to Steering Bracket	.20
34	303775	Washer - Shift Lever and Shaft Assembly, Inner	.025	90	550565	Pin - Cotter, Reverse Lock Link to Lever	.025
35	303864	Washer - Shift Lever and Shaft	.05	91	303364	Grommet - Reverse Lock Arm to Reverse Lock Link	.15
36	303191	"O" Ring - Shift Lever	.05	92	85-64	Nut - Lock, Reverse Lock Pin Coupling	.025
37	303236	Spring - Washer	.05	93	303706	Coupling - Reverse Lock Link	.15
38	552497	Pin - Straight, Shift Handle	.025	94	303705	Link - Reverse Lock, Lower	.15
39	552499	Washer - Shift Handle Pivot Pin	.025	95	303408	Link - Reverse Lock, Upper	.30
40	552498	Spring - Shift Handle	.15	96	303368	Screw - Shoulder, Reverse Lock Arm	.20
41	591479	Shift Handle and Pin Assembly	1.20	97	303409	Arm - Reverse Lock	.20
42	591583	Shift Shaft and Arm Assembly	1.30	98	303348	Nut - Water Tube	.25
43	85-64	Nut - Shift Rod to Connector	.025	99	7-261	Gland - Water Tube	.05
44	303701	Washer - Lock, Shift Rod Nut	.025	100	376459	Water Tube Assembly	.85
45	303702	Connector - Shift Rod to Lever	.30	101	376079	Driveshaft Casing, Exhaust Tube and Core Plug Assembly	9.00
46	303397	Screw - Friction Band	.05				
47	303392	Band - Friction	.30				
48	303394	Screw - Spring Retainer	.05				
49	303369	Retainer - Upper Mount Spring	.20				
50	303461	Spring - Lower Mount	.75				
51	303458	Spring - Upper Mount	.65				
52	303465	Spring - Reverse Lock Rod to Reverse Rod	.15				
53	303393	Screw - Steering Bracket to Retainer, Upper	.05				
54	302677	Screw - Steering Bracket to Retainer, Lower	.05				
55	303372	Retainer - Steering Bracket	.40				
56	303362	Sleeve - Friction Band	.30				



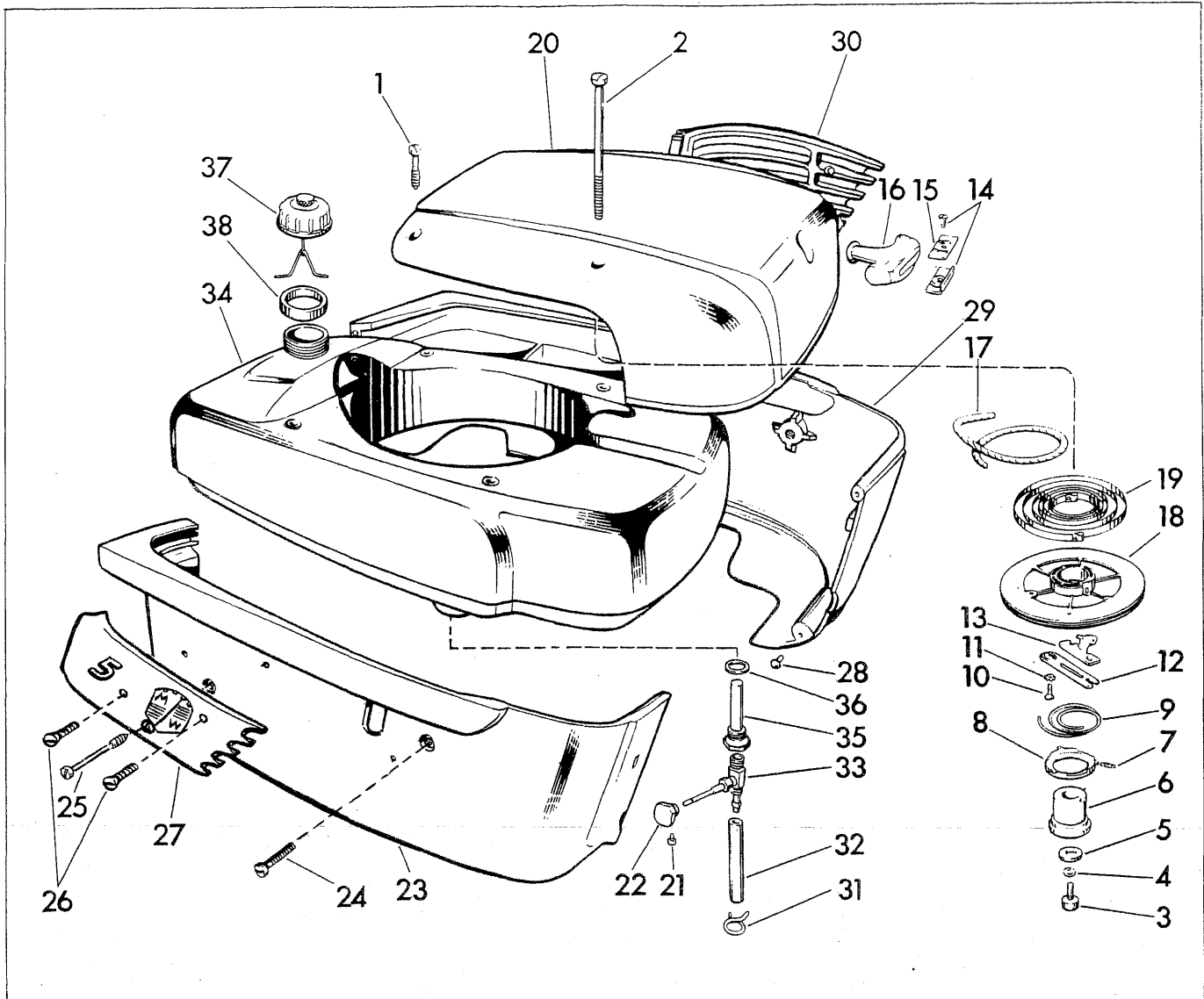
Repair Parts List

GEAR CASE

Ref. No.	Part No.	Description	Price	Ref. No.	Part No.	Description	Price
1	303355	Gasket - Driveshaft to Crankcase	\$.05	32	376345	Gear & Bushing Assy. - Front	\$ 6.00
2	303356	Plate - Driveshaft to Crankcase	.50	33	304009	Pinion - Drive Shaft	1.90
3	303347	"O" Ring - Seal, Driveshaft	.10	34	43-156	Screw - Detent Spring	.025
4	303391	Seal - Lower Bearing to Driveshaft	.35	35	303466	Spring - Detent	.10
5	303357	Spring - Lower Bearing Seal	.15	36	303700	Spring - Backup, Detent Spring	.05
6	303327	Washer - Spring Retaining	.10	37	303401	Rod - Shift	.90
7	302325	Screw - Exh. Tube to Gearcase	.10	38	376073	Pinion Shaft & Shock Absorber Pilot Assembly	10.50
8	303365	Cap - Propeller	.15	39	1-135	Key - Pinion to Pinion Shaft	.025
9	13-332	Pin - Cotter, Propeller Shaft	.025	40	303261	Pin - Drive Shaft	.025
10	302333	Pin - Drive	.05	41	303395	Screw - Impeller Housing	.05
11	591978	Propeller & Bushing Assembly	3.10	42	302497	Grommet - Water Tube, Lower	.10
12	303358	Pin - Shifting Lever Pivot	.25	43	303442	Housing - Impeller	1.00
13	304083	Washer - Pivot Pin	.05	44	277181	Impeller & Insert Assembly	1.80
14	304071	Screw - Lower to Upper Gearcase	.05	45	300771	Pin - Impeller to Driveshaft	.025
15	27-283	Screw - Grease Plug (Drain)	.15	46	303376	Plate - Impeller Housing	.65
16	27-284	Washer - Grease Plug (Drain)	.025	47	552610	Driveshaft	4.40
17	303328	Seal - Upper to Lower Gearcase	.10	48	300599	Seal - Bearing Housing	.85
18	300611	Pin - Dowel	.025	49	376074	Bearing Housing & Bearing Assy.	1.80
19	15-268	Pin - Cotter, Pivot Pin	.025	50	303339	Gasket - Bearing Housing to Gearcase	.05
20	302504	Pin - Shift Rod	.025	51	303332	Bushing - Shift Rod, Lower	.10
21	303340	Lever - Shifter	.45	52	301877	"O" Ring - Shift Rod	.10
22	303381	Cradle - Shifter	.35	53	302681	Screw - By-pass Cover	.025
23	303380	Bearing - Front, Gearcase	2.00	54	304579	Cover - Water By-pass	.15
24	303345	Seal - Gearcase Head	1.15	55	27-283	Screw - Grease Plug, Fill	.15
25	303360	"O" Ring - Gearcase Head	.15	56	27-284	Washer - Grease Plug, Fill	.025
26	376776	Gearcase Head & Bearing Assy.	2.10	57	300314	Plug - Water Intake Screen	.05
27	303998	Bushing - Rear Reversing Gear	.55	58	303331	Screen - Water Intake	.20
28	304010	Gear - Rear Reversing	4.50	59	376775	Gearcase Assy (Incl. #14, 15, 16, 17, 18, 51, 52, 55, 56, 57, and 58)	18.75
29	303361	Washer - Thrust	.10				
30	376078	Clutch Dog Shifter Assembly	2.50				
31	552582	Shaft - Propeller	6.60				



Ref. No.	Part No.	Description	Price	Ref. No.	Part No.	Description	Price
1	302468	Screw - Ratchet to Flywheel . . .	\$.05	18	510259	Clamp - High Tension Lead . . .	\$.05
2	202111	Ratchet - Starter . . . . .	.30	19	510195	Screw - Lamination Mounting . . .	.025
3	303249	Cover - Inspection Hole . . . . .	.15	20	510194	Screw - Breaker Terminal . . . . .	.025
4	301988	Nut - Flywheel . . . . .	.05	21	120783	Marker - Upper Lead . . . . .	.025
5	580150	Flywheel	11.50	22	580178	High Tension Lead Assembly - Upper . . . . .	.95
6	510168	Cam - Magneto . . . . .	.30	23	510232	Cover - Rubber, Sparkplug . . . . .	.25
7	303146	Clip - Spring, Armature Plate Link . . . . .	.15	24	510231	Terminal - Spring Lead . . . . .	.025
8	302750	Screw - Throttle Cam to Plate . . . . .	.025	25	580179	High Tension Lead Assembly - Lower (Also Includes Items 23 and 24) . . . . .	.95
9	71-1487	Washer - Lock . . . . .	.025	26	580118	Coil and Lamination Assembly	6.20
10	552642	Cam - Throttle . . . . .	.90	27	510278	Screw - Breaker Mounting . . . . .	.025
11	71-1531	Spacer - Throttle Cam . . . . .	.025	28	510208	Washer - Bow . . . . .	.025
12	510193	Screw - Linkage Assembly to Armature Plate . . . . .	.025	29	580148	Breaker Assembly	1.45
13	376064	Throttle Control Plate and Link Assembly . . . . .	.90	30	71-1032	Clip - Spring . . . . .	.025
	580182	Armature Plate Assembly	28.25	31	510204	Clip - Breaker Spring . . . . .	.025
14	510191	Screw - Armature Plate Mounting . . . . .	.025	32	510185	Screw - Eccentric . . . . .	.15
15	510192	Screw - Armature Plate Mounting . . . . .	.025	33	510193	Screw - Condenser Mounting . . . . .	.025
16	3-28	Washer - Lock . . . . .	.025	34	510173	Condenser	1.00
17	510193	Screw - High Tension Lead Clamp Mounting . . . . .	.025	35	510189	Wick - Oiler . . . . .	.025
				36	510188	Clip - Oiler . . . . .	.05
				37	580168	Armature Plate and Post Assembly	4.70



Ref. No.	Part No.	Description	Price	Ref. No.	Part No.	Description	Price
1	21-167	Screw - Starter to Tank	\$.025	21	552461	Screw - Knob to Valve	\$.025
2	552389	Screw - Starter to Bracket . . . . .	.05	22	202912	Knob - Shut Off Valve . . . . .	.45
	591814	Starter Assembly - Complete	16.50	23	591705	Shroud Assembly - Starboard	10.00
3	131991	. Screw - Hub to Housing . . . . .	.10	24	552224	. Screw - Shroud to Tank Support . . . . .	.10
4	13-51	. Washer - Lock . . . . .	.025	25	552424	. Screw - Shroud, Rear . . . . .	.10
5	202356	. Washer - Starter Spindle . . . . .	.025	26	552415	. Screw - Applique to Shroud . . . . .	.025
6	276643	. Spindle and Pin Assembly . . . . .	.85	27	552419	. Applique - Starboard	1.60
7	202155	. Spring - Pawl . . . . .	.10	28	203290	Bumper - Shroud . . . . .	.025
8	202114	. Cup - Equalizer . . . . .	.25	29	591704	Shroud Assembly - Port (Also Includes Items 24, 25, 26, 30)	10.25
9	302222	. Spring - Friction . . . . .	.15	30	552418	. Applique - Port	1.60
10	302104	. Screw - Retainer . . . . .	.025	31	552199	Clamp - Hose . . . . .	.025
11	71-1026	. Washer - Lock . . . . .	.025	32	552612	Hose - Shut Off Valve to Carburetor . . . . .	.10
12	202317	. Retainer - Starter Pawl . . . . .	.05	33	591398	Valve - Shut Off	1.10
13	202470	. Pawl - Starter . . . . .	.15	34	591454A	Fuel Tank Assembly	29.50
14	591214	. Clamp and Screw - Rope . . . . .	.35	35	591380	. Screen and Connector Assembly . . . . .	.90
15	551205	. Clamp - Rope . . . . .	.05	36	171318	. Gasket - Tank Outlet . . . . .	.025
16	551226	. Handle - Starter . . . . .	.75	37	590774	. Filler Cap Assembly	1.45
17	304097	. Rope - Starter . . . . .	.75	38	551463	. Gasket - Filler Cap . . . . .	.25
18	376377	. Starter Pulley and Pin Assembly	3.00				
19	41-197	. Spring - Starter . . . . .	.90				
*20	591378	. Starter Housing Assembly	4.20				

*IMPORTANT: Color of old parts must be specified when ordering new parts.

WARRANTY

WARDS SEA KING OUTBOARD MOTOR

We warrant each new outboard motor to be free from defect in material and workmanship under normal care and use and, when operated according to these instructions. Any part which might fail due to defective materials or workmanship will be replaced by Montgomery Ward.

This warranty shall not apply to any motor which has been subject to misuse, alteration, or accident; or which has been used for racing or equipped with a racing propeller.

MONTGOMERY WARD

IMPORTANT - ALL PRICES IN THIS LITERATURE ARE SUBJECT TO CHANGE WITHOUT NOTICE AND ARE SUBJECT TO AN ADDITIONAL CHARGE TO COVER ANY APPLICABLE SALES TAX, USE, OCCUPATION, OR OTHER TAX AFFECTING OUR PURCHASE OR SALE OF MERCHANDISE.

How To Obtain Service

If the operation is not satisfactory and you can find nothing in this literature which covers the possible cause of failure, we suggest that you follow this procedure to obtain service.

Write or contact your nearest Wards Retail Store, Mail Order House or Catalog Office and request service if you live within the normal trading area of the Branch (usually 25 miles). Otherwise, write or contact the nearest Wards Branch for service information.

Provide the following:

1. Model, serial number and all of the other data shown on the model plate.
2. The date the merchandise was purchased and the Wards Branch from which it was purchased.
3. State briefly the trouble you are having with the merchandise.

How To Order Repair Parts

Repair Parts may be ordered from your nearest Wards Retail Store, Mail Order House or Catalog Office. To have your order filled promptly and correctly, please furnish the following information:

1. Model and Serial Number. Give all the information which appears on the model plate.
2. Part Number and Name of Part (or complete description of part wanted).

You pay charges from shipping point. Shipping charges are based on size and total weight of order.

Use any one of the following shipping methods:

- PARCEL POST . . limit 70 lbs. with certain restrictions at First Class Postoffices. Add postage to remittance.
- EXPRESS . . fastest for unmailable or bulky items.
- FREIGHT . . cheapest for unmailable or bulky items.

When goods arrive by express or freight, pay station agent. If there is no agent, add estimated shipping charges to remittance. See War latest General Catalog for estimated shipping charges. In all cases, any excess will be refunded.

Correct Lubricants For Your Motor

POWER HEAD. The entire power head of this motor is lubricated by oil mixed with the gasoline. It is important therefore to be sure the correct oil is used and that it is properly mixed. (See page 2.)

We recommend the use of a high grade outboard oil, or if that is not available, regular SAE 30 motor oil. Avoid use of low-priced third grade (ML) oils.

GEAR CASE: We recommend a good grade of SAE 90 automotive (hypoid) gear lubricant. If hypoid lubricant is not available, in an emergency use a good grade SAE 30 engine oil until recommended lubricant can be obtained.

FACTS

WARDS SEA KING 5 DELUXE TWIN OUTBOARD MOTOR

5.0 H.P. AT 4000 R.P.M.—Certified by the Outboard Boating Club of America.

BALANCED POWER—Two cylinder alternate firing; vibration insulated and greater flexibility.

GEAR SHIFT—Permits starting in neutral or shifting to forward or reverse while the motor is running. Adaptable to remote control.

PISTON DISPLACEMENT—8.84 cu. in.; bore—1¹³/₁₆ in.; stroke—1¹/₂ in.

GASOLINE TANK—Easy to fill; holds approximately one gallon of fuel.

RUNNING TIME—1 hour per tank of fuel.

CARBURETOR—Concentric type float. Fast and slow speed needle valve mixture control. Oil is mixed with gasoline for automatic lubrication. Air intake silencers.

AUTOMATIC REWIND STARTER—Braided nylon rope—just pull knob to start, always ready.

(over)

MONTGOMERY WARD

WATERPROOF MAGNETO—Provides stronger spark, easier starting, waterproof coil and condensers, automotive type breaker assembly.

SPEED CONTROL—Twist grip control lever synchronizes throttle and spark advance.

SPIRAL BEVEL GEARS—15 to 26 ratio.

SEMI-WEEDLESS PROPELLER—Two blades with 8 in. diameter and 7/4 in. pitch, spring overload clutch in gear housing eliminates propeller damage and need for shear pin.

ADJUSTABLE CO-PILOT CONTROL—For direct or remote motor control.

MOUNTED IN SPRINGS—for complete vibration insulation.

WATER PUMP—Positive and centrifugal, synthetic rubber rotor.

STREAMLINED ALUMINUM UNDERWATER UNIT—Designed and treated to resist corrosion in fresh or salt water.

QUIET UNDERWATER EXHAUST—Fumeless.

SPEED—11½ to 12 M.P.H.

WEIGHS ONLY 52 LBS.—Convenient carrying handle.

DIV. 60 NO. 9002

60H-233T

MONTGOMERY WARD