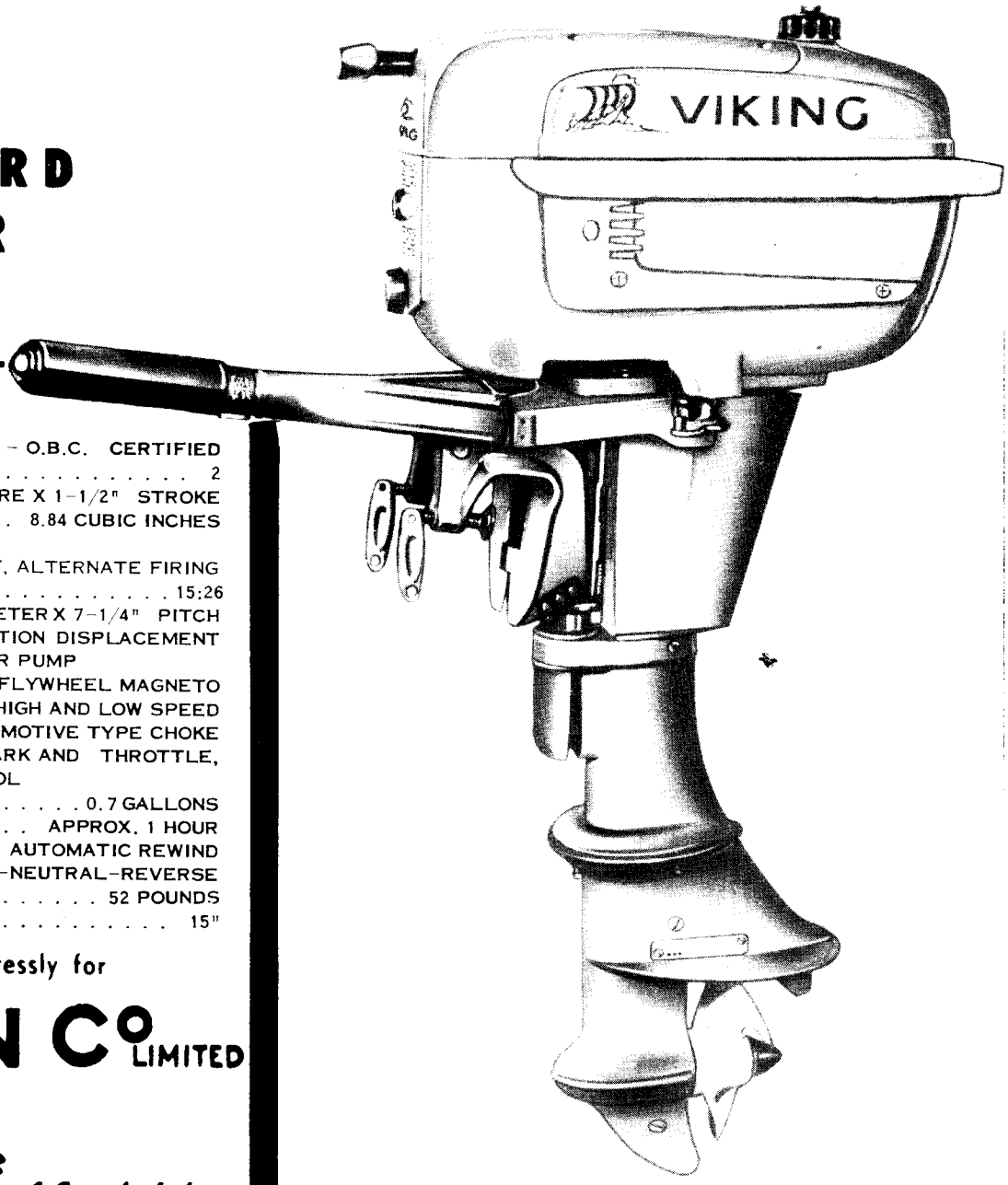
OWNER GUIDE

OPERATION • MAINTENANCE • PARTS LIST

EATON'S VIKING

5 H.P. DE LUXE OUTBOARD MOTOR MODEL 5D14V



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	0.7 GALLONS
RUNNING TIME (FULL THROTTLE)	APPROX. 1 HOUR
STARTER	AUTOMATIC REWIND
GEARSHIFT CONTROL	FORWARD–NEUTRAL–REVERSE
WEIGHT	52 POUNDS
RECOMMENDED TRANSOM HEIGHT	15"

Manufactured expressly for

THE T. EATON Co LIMITED

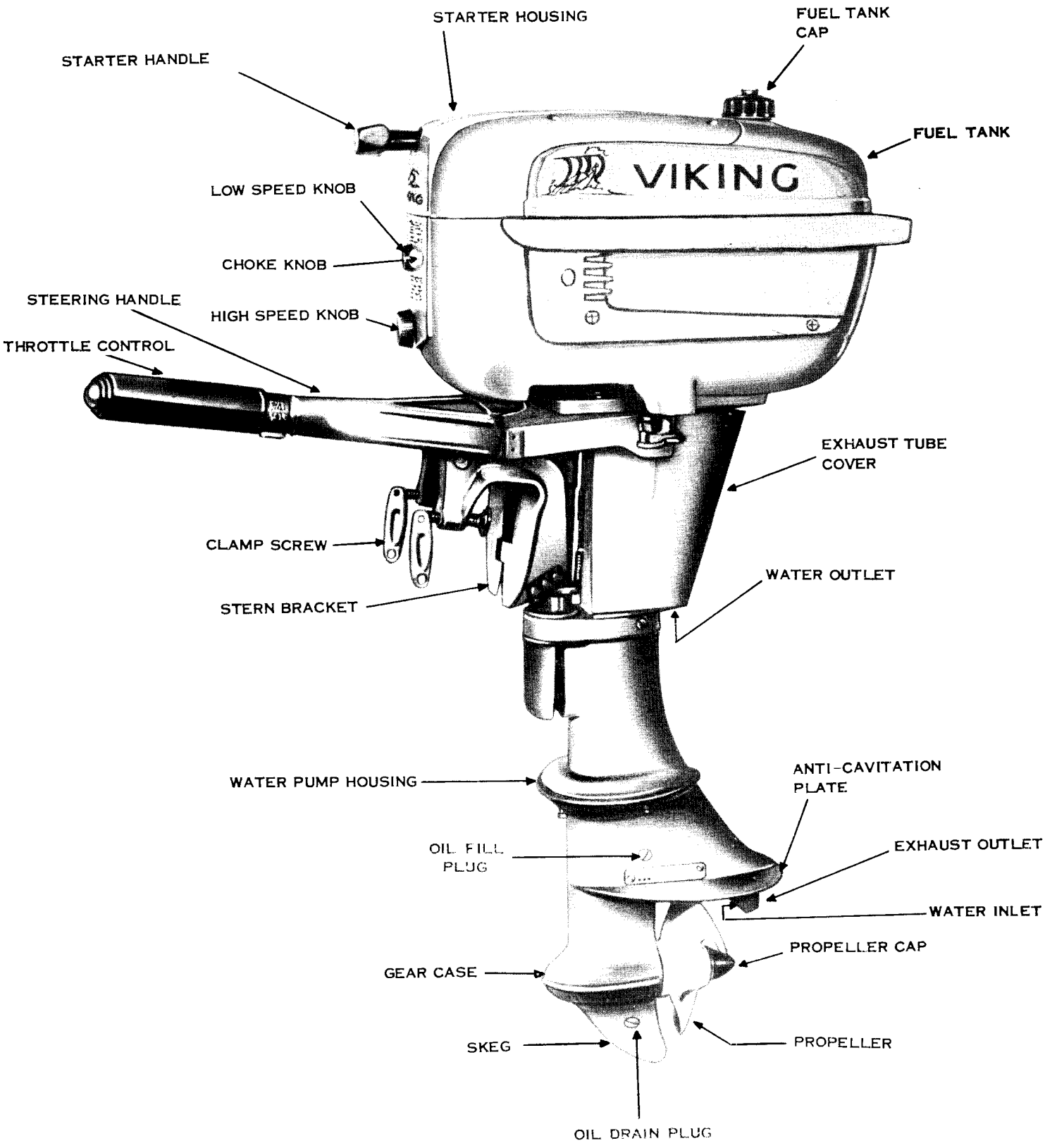
by

Outboard Marine

Corporation of Canada Ltd.

PETERBOROUGH — CANADA

402402—REVISED



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

FIGURE 1

NOTE

ALL BOATS EXEMPT FROM REGISTRY AND POWERED BY MOTORS OF 10 H. P. OR MORE MUST BE LICENSED. APPLICATION FORMS FOR BOAT LICENSING MAY BE OBTAINED FROM YOUR NEAREST COLLECTOR OF CUSTOMS OFFICE.

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.

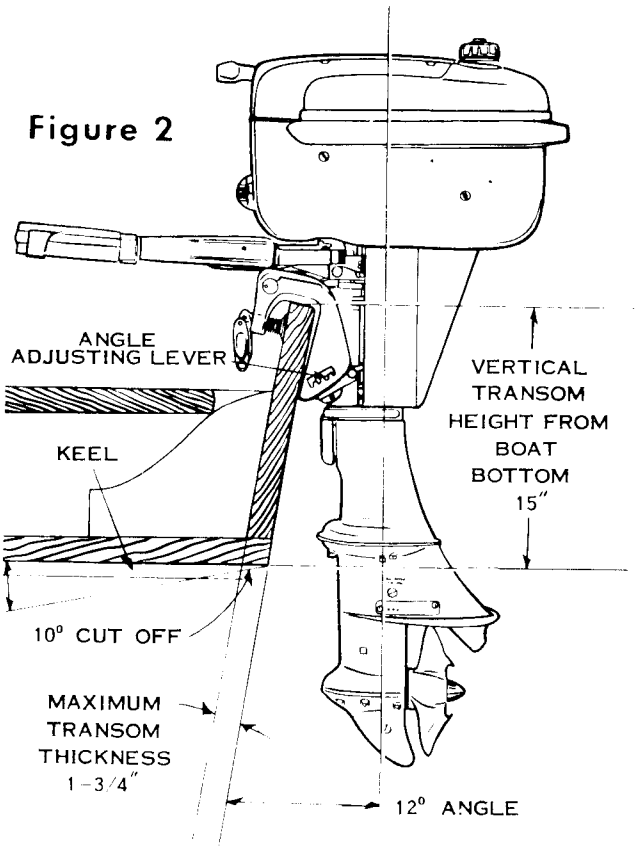
Read through this manual carefully before operating the motor. You will find complete operating instructions and recommendations for the care and protection of your motor. Extend the same care to this motor you would give to a new automobile or other personal property of even less value and it will be 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

Figure 2



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.

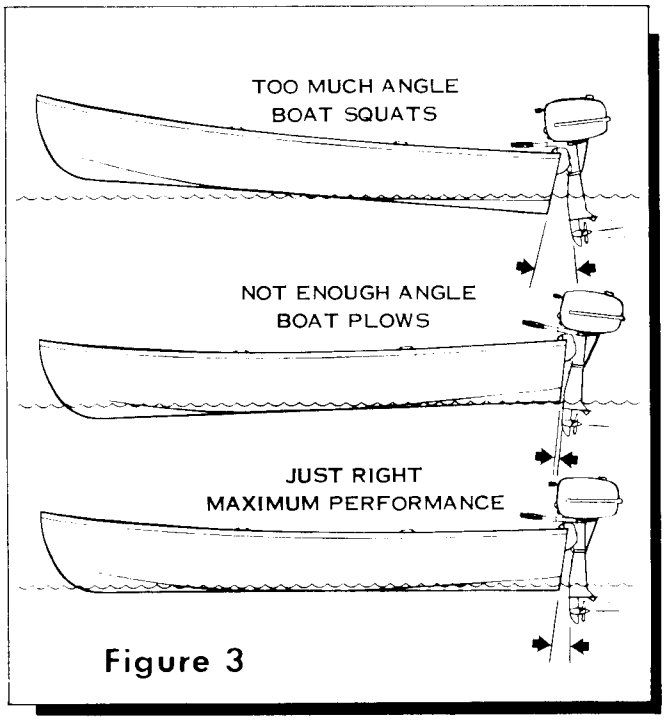


Figure 3

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 for safety afloat.**

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 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.

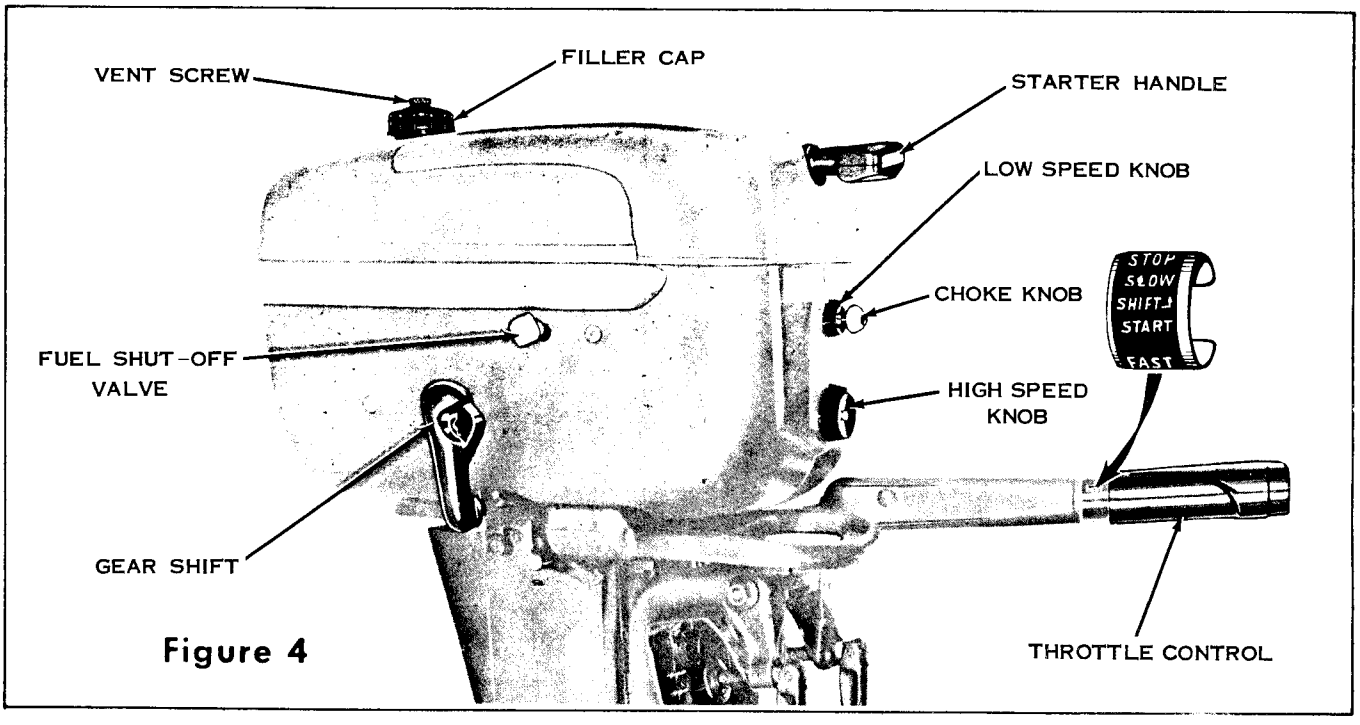


Figure 4

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.

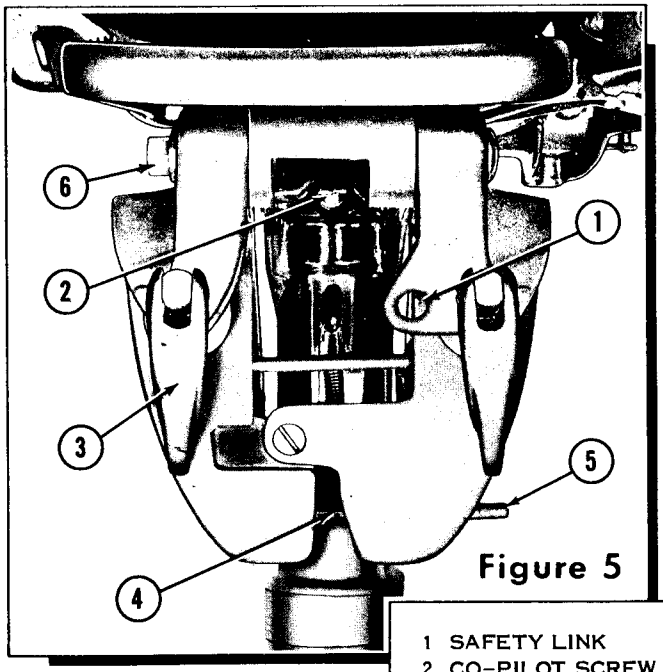


Figure 5

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.

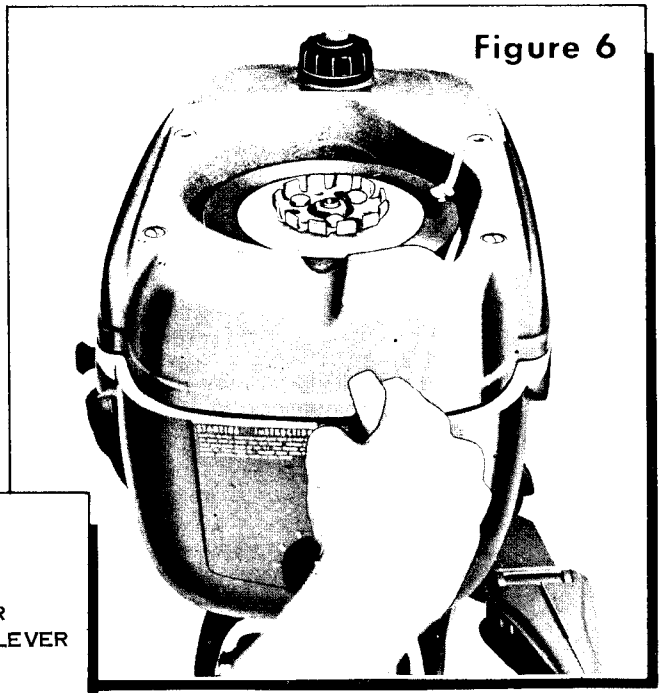


Figure 6

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 motor 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.

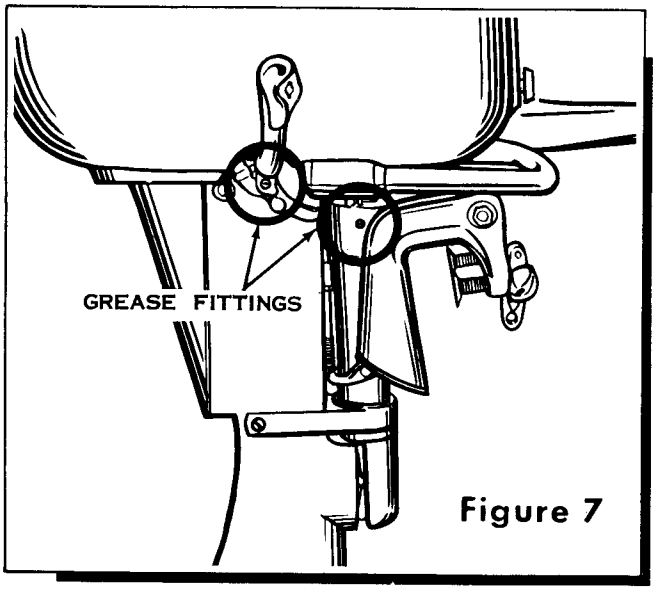


Figure 7

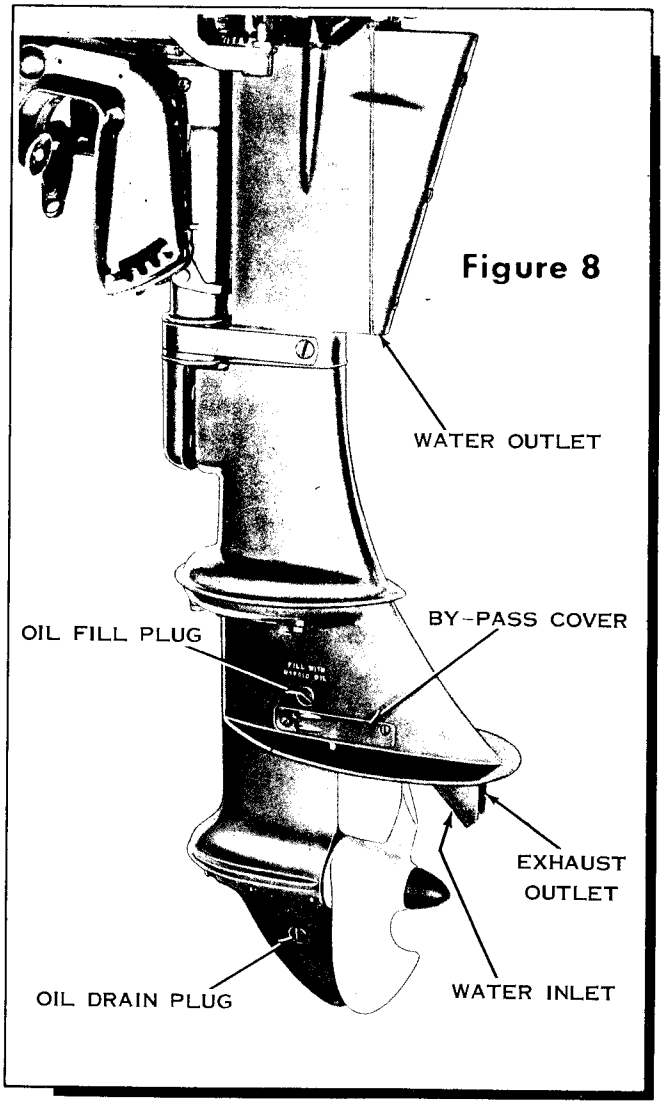


Figure 8

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 powerhead. 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 reset 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

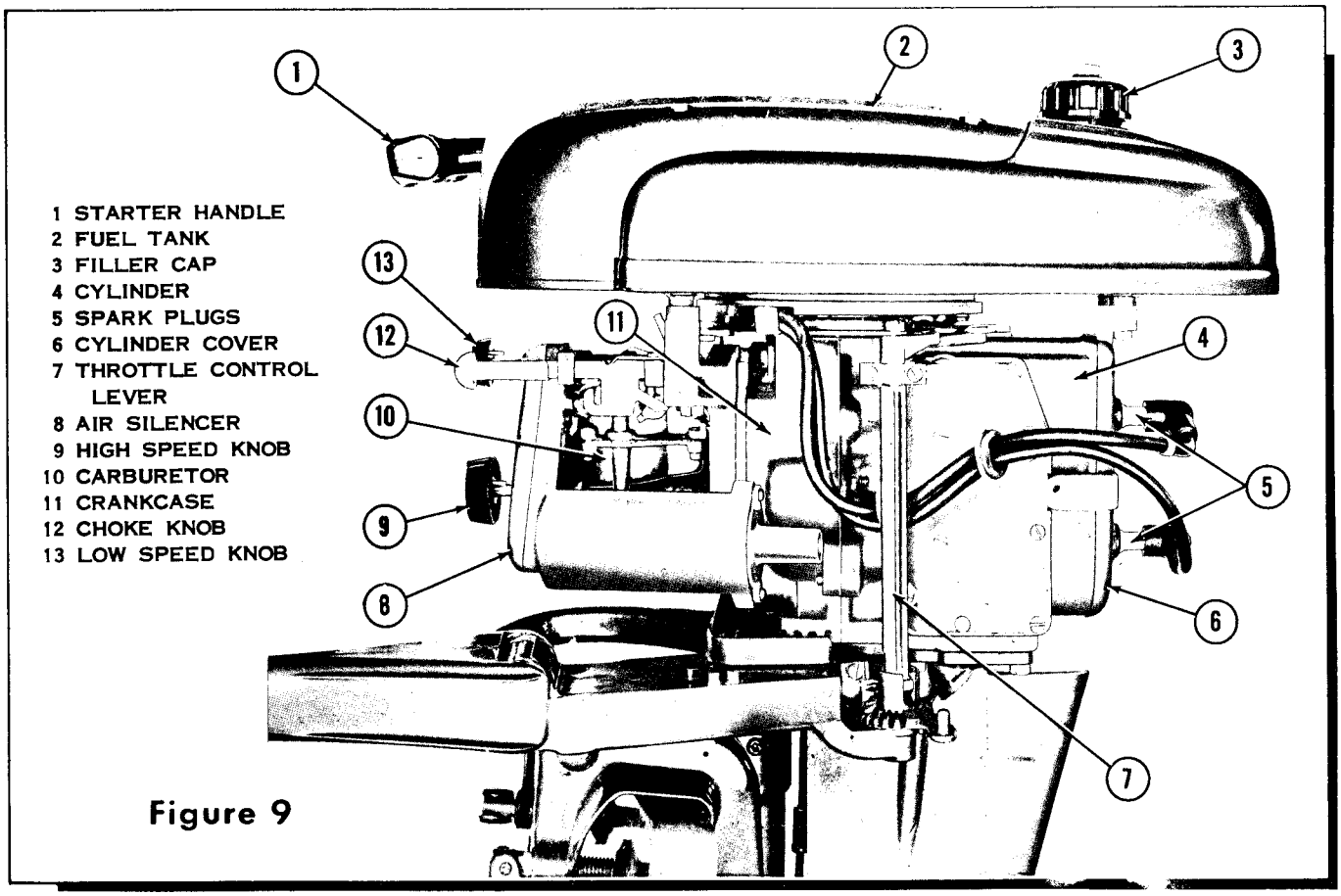


Figure 9

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.

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

1 BREAKER ARM
2 BREAKER POINTS
3 BREAKER ADJUSTING SCREW
4 CONDENSER
5 BREAKER BASE SCREW
6 COIL AND LAMINATION ASSEMBLY
7 BREAKER CAM
8 FELT OILER
9 CRANKSHAFT

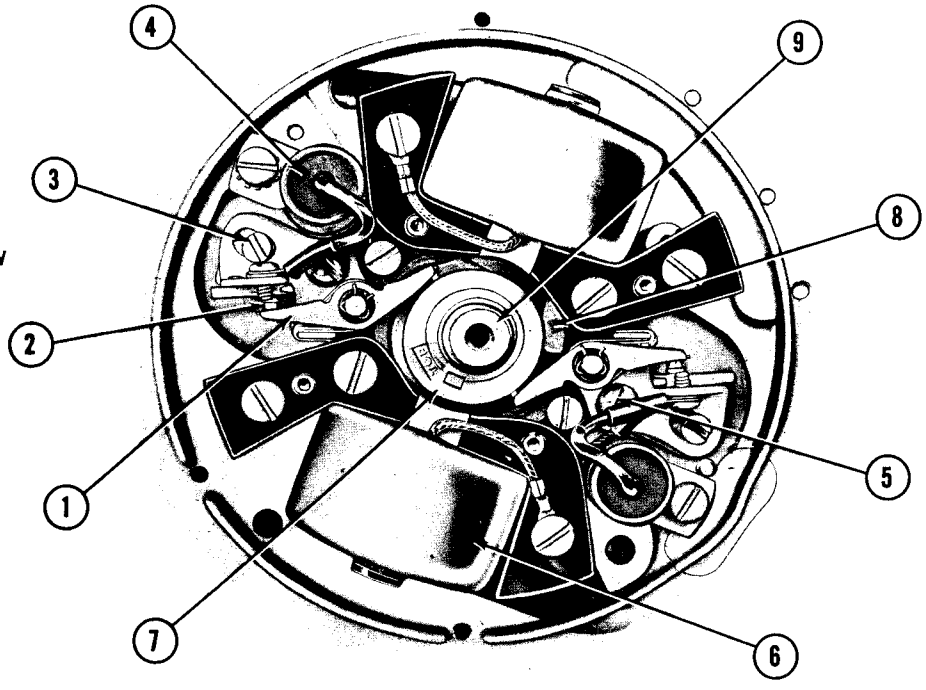
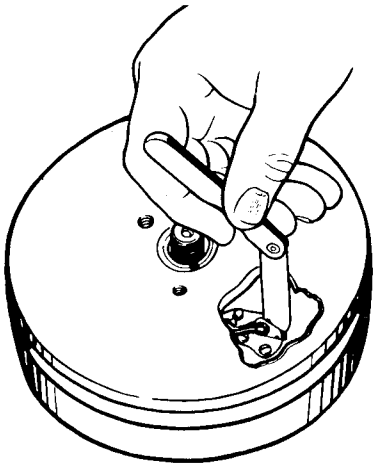


Figure 10

CHECKING BREAKER POINT GAP



ADJUSTING BREAKER POINT GAP

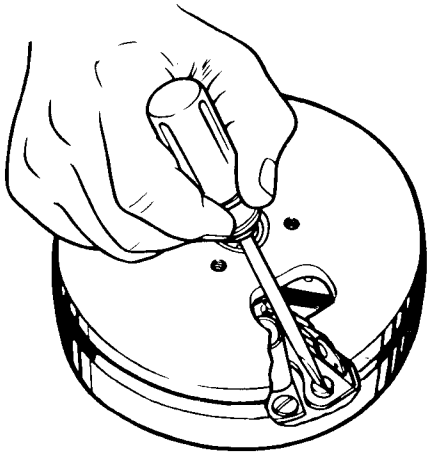


Figure 11

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

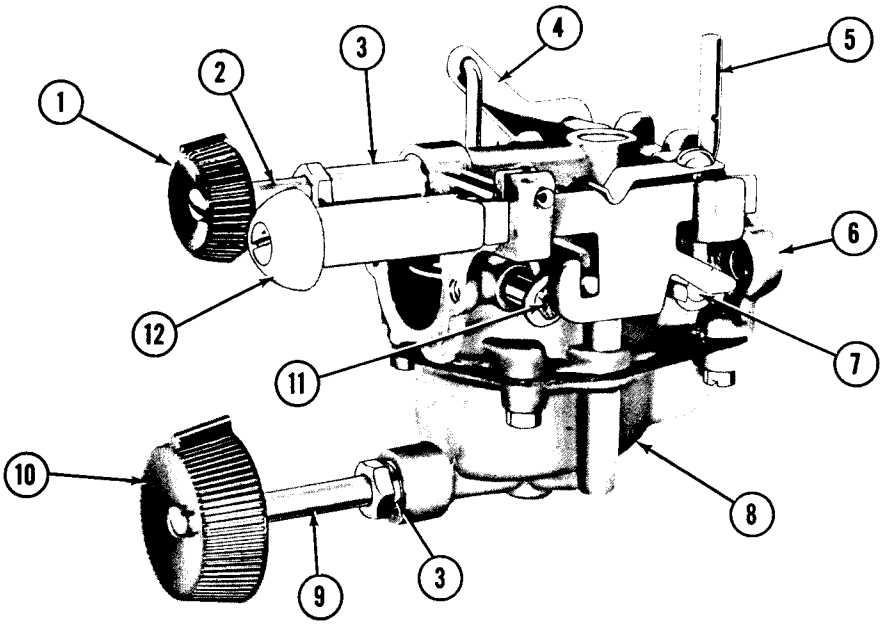


Figure 12

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.

MOTOR WILL NOT START

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.

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.

NO COMPRESSION
Leaking gasket or stuck reed valve.

SPARK PLUG TROUBLE
Fouled.
Porcelain cracked.
Center electrode (pole) loose.
Points not set at .030 inch gap.

MOTOR KNOCKS

Flywheel hub loose.
Flywheel nut loose.
Incorrect spark plug pre-igniting.

MOTOR IS STIFF AND CRANKS HARD

No lubricant in gear case.

WATER STOPS CIRCULATING

Clogged water pump inlet.
Gear housing not setting deep enough in water.

MOTOR RUNS BUT PROPELLER DOES NOT TURN

Drive pin sheared.

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.

MOTOR MISSES

WIRING
Loose or broken ignition wire.
Broken or oil-soaked insulation on wire.

MAGNETO
Weak or broken breaker point spring.
Corroded or dirty breaker points.
Breaker points not set at .020 inch.

CARBURETOR
Nozzle or feed hole dirty.
Water or foreign matter in strainer.
Carburetor passages clogged.

MOTOR LOSES POWER

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.

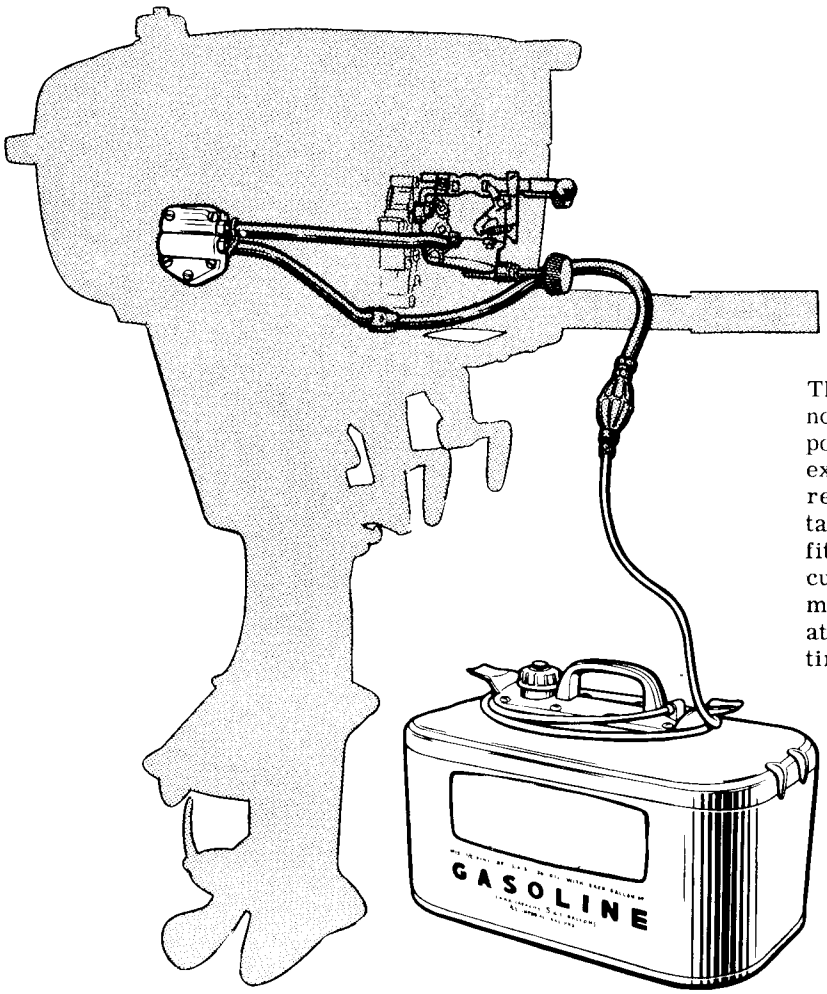
MOTOR VIBRATES

Faulty ignition or carburetion.
Loose pivot bearing.
Bent or broken propeller blade or motor loose on boat.

MOTOR RUNS BUT BOAT MAKES LITTLE OR NO PROGRESS

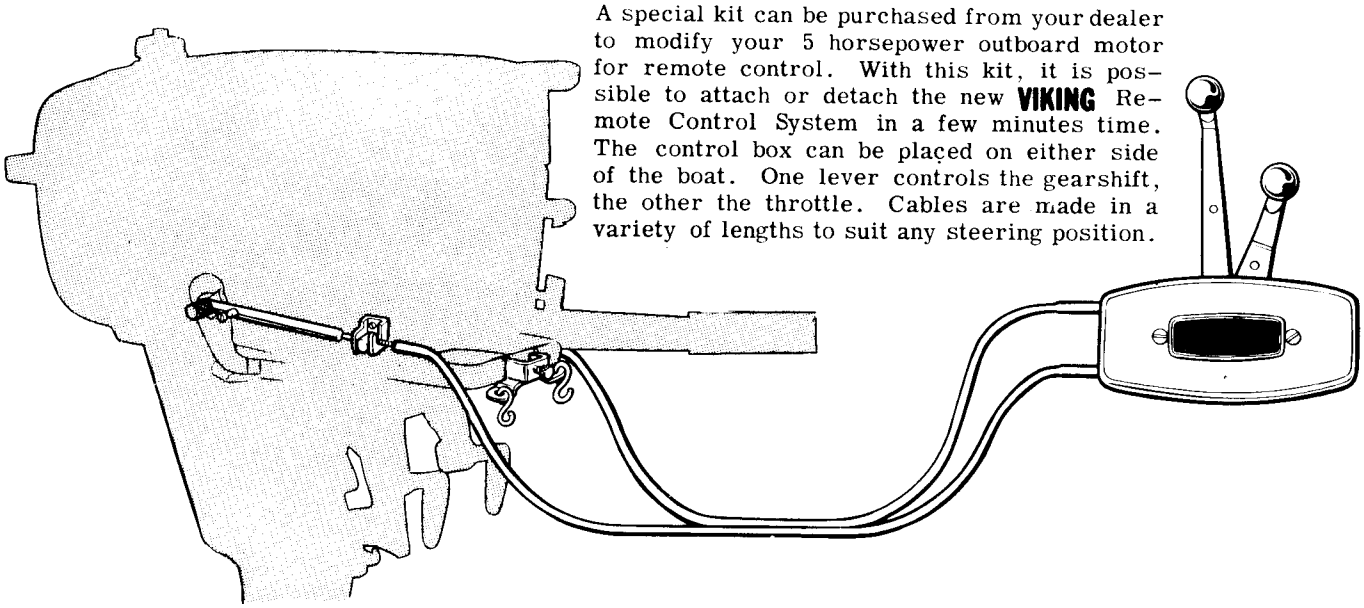
Badly bent propeller blades.
Weeds or rope wound around propeller.
Rope or other obstruction dragging in water.

ACCESSORIES AVAILABLE FOR YOUR MOTOR

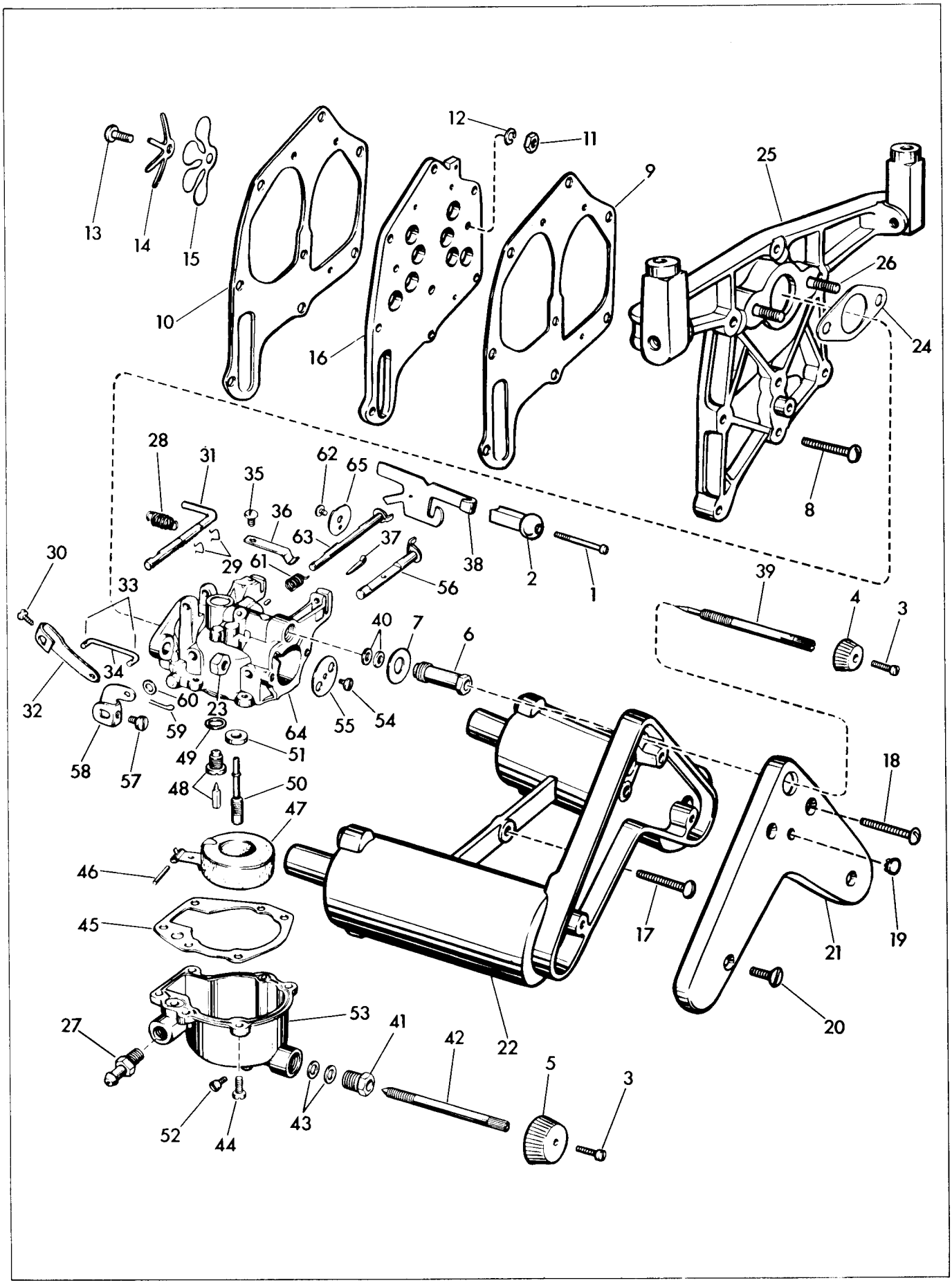


The **VIKING** Auxiliary Fuel System, now available for your 5 horsepower outboard motor, will give you extra hours of outboarding without refueling. The system includes the tank, pump, hoses and all necessary fittings. All required drilling and cutting has been incorporated in the motor and the fuel 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 **VIKING** 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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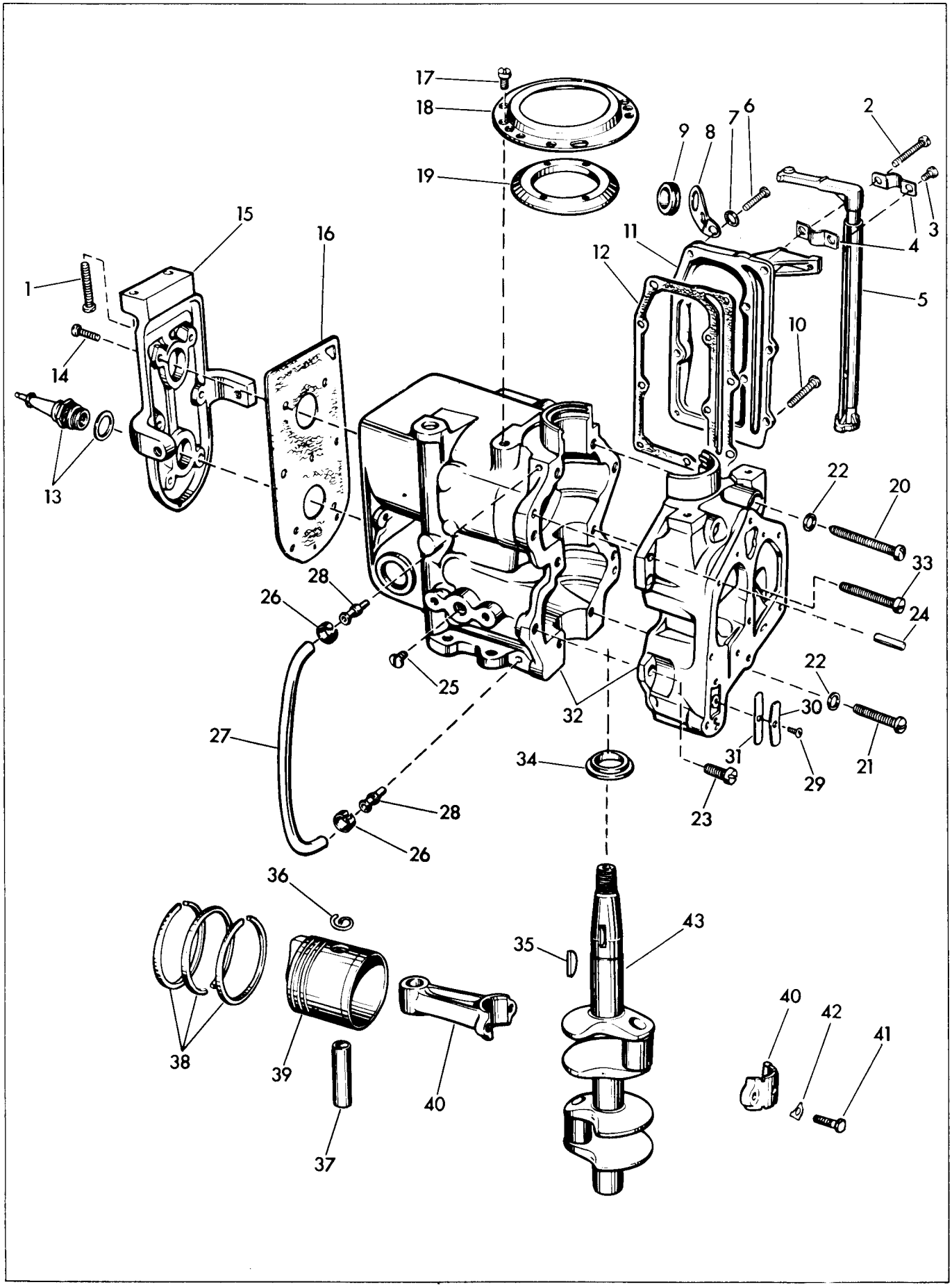
Ref. No.	Part No.	Description
1	552203	Screw - Choke Knob
2	552204	Knob - Choke Control
3	551517	Screw - Carburetor Control Knob
4	591279	Slow Speed Control Knob and Stop Pin Assembly
5	591482	High Speed Control Knob and Stop Pin Assembly
6	303479	Nut - Slow Speed Needle Valve
7	203355	Washer - Carb. Slow Speed Valve Nut
8	133451	Screw - Manifold to Crankcase
9	552622	Gasket - Manifold to Leaf Plate
10	552623	Gasket - Leaf Plate to Crankcase
11	85-64	Nut - Leaf to Leaf Plate Screw
12	71-1487	Washer - Lock, Leaf to Leaf Plate Screw
13	301858	Screw - Leaf Attaching
14	552608	Stop - Leaf
15	552614	Leaf
16	552609	Plate - Leaf
17	43-259	Screw - Silencer to Manifold
18	200931	Screw - Silencer to Carburetor
19	203652	Plug - Button, Air Silencer
20	302124	Screw - Cover Plate to Silencer Body
21	552615	Plate - Air Silencer Cover
22	591569	Loading Tube and Air Silencer Body Assembly
23	19-136	Nut - Carburetor to Manifold
24	303437	Gasket - Carburetor to Manifold
25	591570	Intake Manifold and Stud Assy.
26	85-101	. Stud - Carburetor to Manifold
	591545	Carburetor Assembly Complete
27	303492	. Nipple - Gas Line
28	203166	. Spring - Cam Follower
29	71-1052	. Clip - Cam Follower
30	71-1038	. Screw - Cam Follower
31	552605	. Follower - Throttle Cam
32	203163	. Lever - Cam Follower
33	41-110	. Pin - Cam Follower Link
34	203164	. Link - Lever to Follower
35	302430	. Screw - Spring to Carburetor Body
36	302977	. Spring - Choke Control Rod
37	21-163	. Cotter Pin - Choke Control Rod
38	302997	. Rod - Choke Control
39	303448	. Needle Valve - Slow Speed
40	43-123	. Packing - Slow Speed Valve
41	300179	. Nut - High Speed Needle Valve
42	303476	. Needle Valve - High Speed
43	43-123	. Packing - High Speed Valve
44	71-1589	. Screw - Float Chamber to Carburetor Body
45	302994	. Gasket - Float Chamber to Carburetor Body
46	300096	. Hinge Pin - Float Arm
47	375919	. Float and Float Arm Assembly
48	375918	. Float Valve and Seat Assembly
49	301996	. Washer - Float Valve Seat
50	303447	. Nozzle - High Speed
51	302984	. Gasket - Float Chamber to Carburetor Body Boss
52	303041	. Screw - Float Chamber Drain
53	552606	. Float Chamber
54	303760	. Screw - Choke Valve
55	303444	. Choke Valve
56	375921	. Choke Shaft and Lever Assy.
57	71-1038	. Screw - Throttle and Cam Follower Lever
58	302978	. Lever - Cam Follower to Throttle Shaft
59	303049	. Cotter Pin - Throttle Shaft
60	303048	. Washer - Throttle Shaft
61	302996	. Spring - Throttle Shaft
62	303760	. Screw - Throttle Valve
63	375922	. Throttle Shaft & Lever Assy
64	376531	. Carburetor Body - Plug and Throttle Valve Assembly
65	304326	. . Throttle Valve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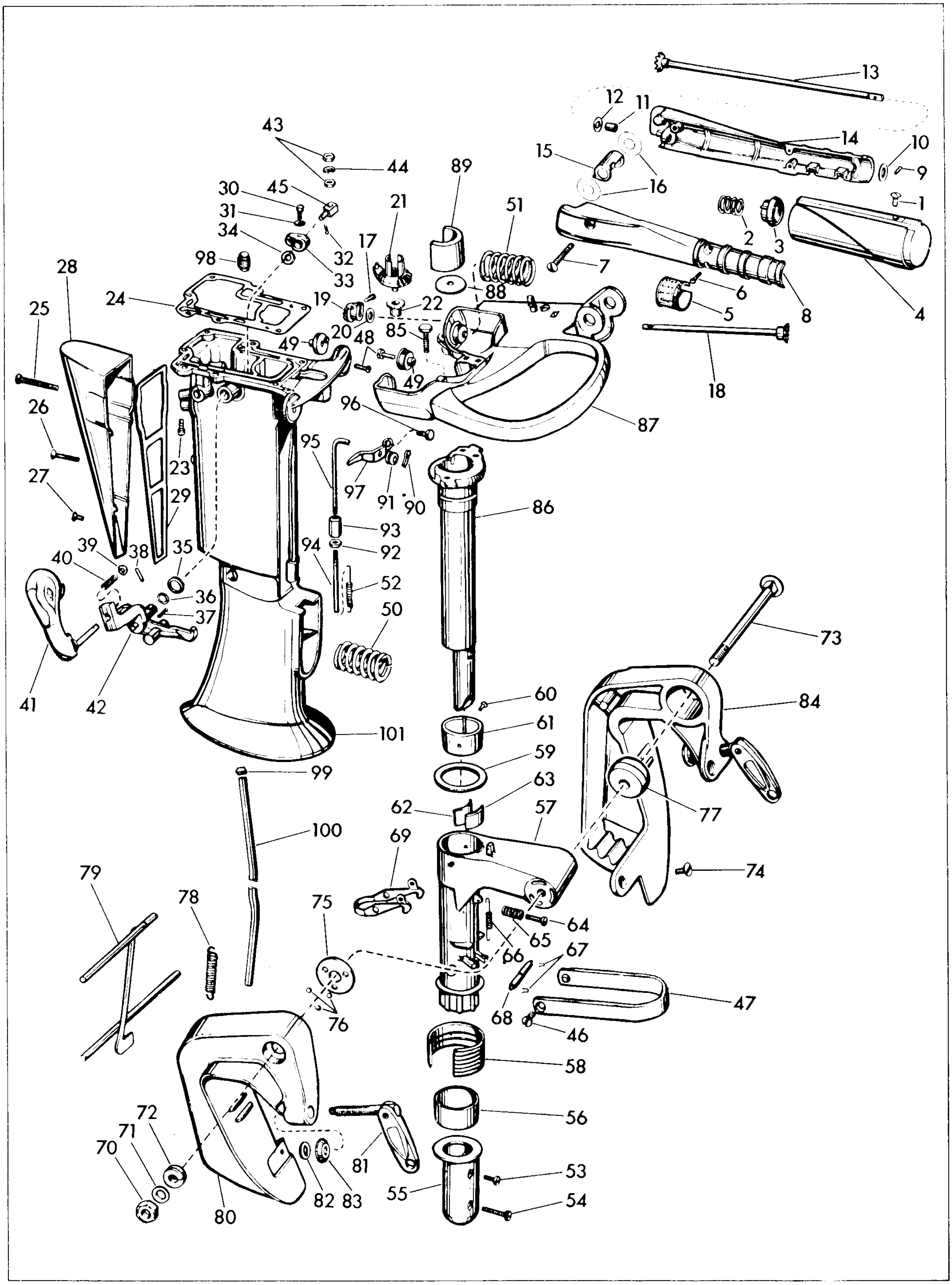
Ref. No.	Part No.	Description		Ref. No.	Part No.	Description	
1	300646	Screw - Cyl. Cover to Fuel Tank		22	300399	Washer - Cylinder to Crankcase Screw	
2	132123	Screw - Brg. Clamp and Exh. Cover		23	51-47	Screw - Cylinder to Crankcase	
3	43-156	Screw - Bearing Clamp		24	300402	Pin - Taper, Cylinder to Crankcase	
4	303109	Clamp - Bearing		25	303125	Screw - Fuel Pump Outlet Plug	
5	552611	Lever - Armature Plate Control		26	303473	Clamp - Oil Return Hose	
6	132346	Screw - Anchor and Exhaust Cover to Cylinder		27	552613	Hose - Oil Return	
7	300154	Washer - Anchor and Exhaust Cover Screw		28	303423	Nipple - Oil Hose to Cylinder	
8	300455	Anchor - Ignition Leads		29	19-191	Screw - Leaf Valve to Crankcase	
9	300454	Grommet - Ignition Leads		30	203248	Plate - Leaf Valve	
10	25-74	Screw - Exh. Cover to Cylinder		31	203235	Valve - Leaf, Crankcase Drain	
11	303407	Cover - Exhaust		32	591579	Cylinder & Crankcase Assembly	
12	303439	Gasket - Exhaust Cover		33	27-17	. Screw - Cylinder to Crankcase, Center	
13	200322	Spark Plug (Champion J6J)		34	303649	Slinger - Oil	
13	376290	Spark Plug (Auto-Lite A3X)		35	120395	Key - Crankshaft	
14	25-74	Screw - Cover to Cylinder		36	120110	Ring - Lock, Piston Pin	
15	552624	Cover - Cylinder		37	303333	Pin - Wrist	
16	552625	Gasket - Cylinder Cover		38	41-333	Ring - Piston	
17	41-223	Screw - Support Plate		39	376067	Piston & Dowel Pin Assembly	
18	303278	Support - Armature Plate		40	591542	Connecting Rod and Lockplate Assembly	
19	303277	Ring - Arm. Plate Retaining		41	41-44	. Screw - Connecting Rod	
20	302431	Screw - Cylinder to Crankcase, Upper		42	41-17	. Lockplate - Connecting Rod	
21	41-178	Screw - Cylinder to Crankcase, Lower		43	552681	Crankshaft	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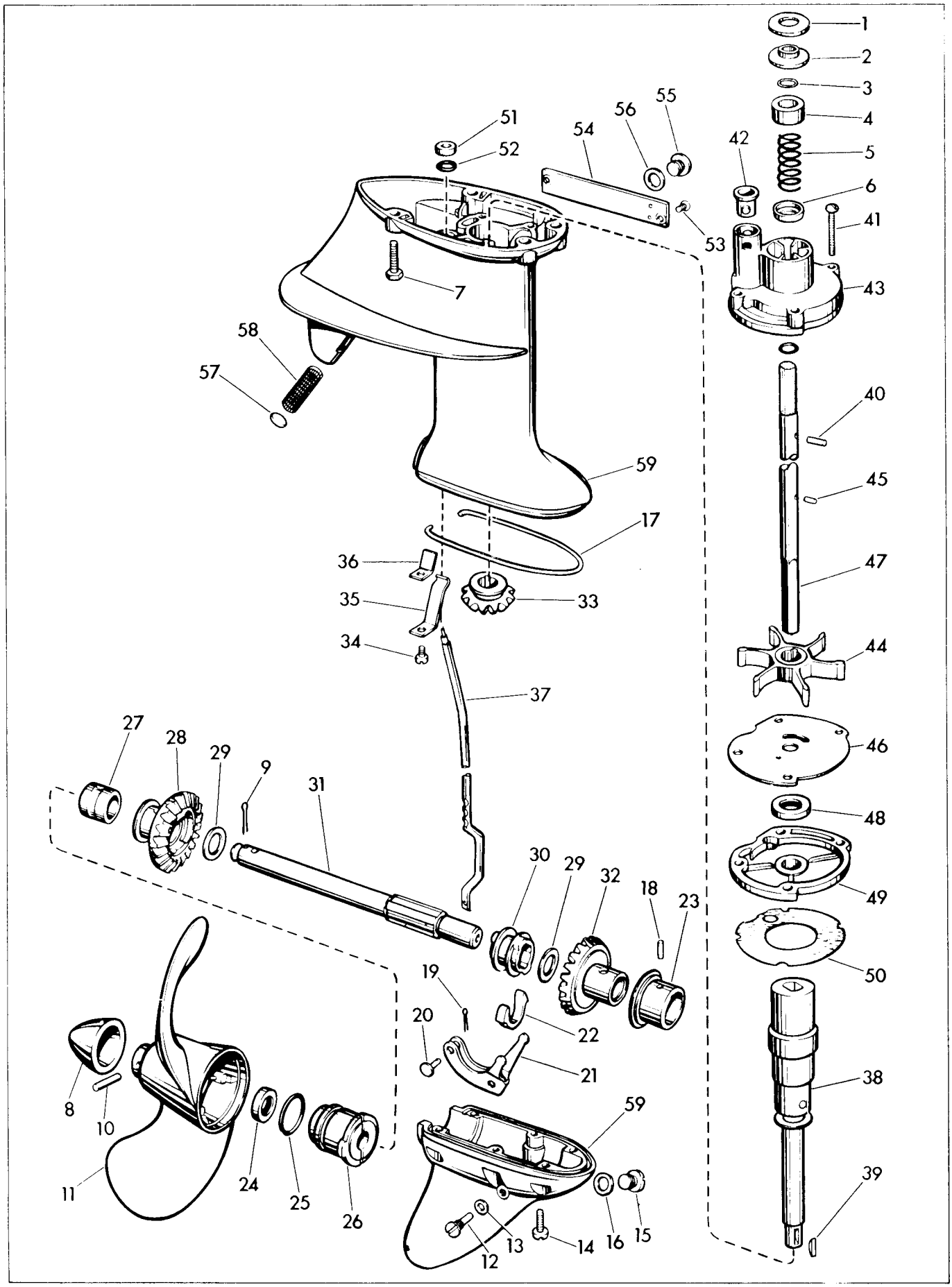
Ref. No.	Part No.	Description
1	302710	Screw - Steering Handle Grip
2	301656	Spring - Grip to Friction Block
3	303282	Block - Grip Friction
4	552209	Grip - Steering Handle
5	203260	Plate - Throttle Control
6	133452	Screw - Steering Handle Halves
7	303078	Screw - Steering Handle Halves
8	303093	Handle - Steering, Inner Half
9	300346	Pin - Groove, Gear and Shaft Assembly
10	303252	Washer - Steering Handle to Spring
11	302717	Bushing - Steering Handle
12	302712	Washer - Steering Handle
13	376691	Throttle Control Gear and Shaft Assembly, Long
14	376042	Handle - Steering, Outer Half
15	303096	Cover - Steering Handle Gears
16	303079	Washer - Steering Bracket to Handle
17	71-1352	Screw - Pinion
18	376689	Gear and Shaft Assembly, Short
19	303142	Pinion - Throttle Control
20	303107	Washer - Pinion Gear
21	303800	Gear - Throttle Control
22	303140	Bushing - Throttle Control
23	51-47	Screw - Exh. Tube to Cylinder
24	303467	Gasket - Exh. Tube to Cylinder
25	303589	Screw - Exh. Tube Cover, Upper
26	303588	Screw - Exh. Tube Cover, Center
27	303587	Screw - Exh. Tube Cover, Lower
28	303585	Cover - Exhaust Tube
29	303586	Gasket - Exhaust Tube Cover
30	303714	Screw - Shift Lever Shaft Assembly
31	303715	Washer - Shift Lever to Shaft
32	15-268	Pin - Cotter, Shift Rod
33	304254	Lever - Shaft to Shift Rod
34	303775	Washer - Shift Lever and Shaft Assembly, Inner
35	303864	Washer - Shift Lever and Shaft
36	303191	"O" Ring - Shift Lever
37	303236	Spring - Washer
38	552497	Pin - Straight, Shift Handle
39	552499	Washer - Shift Handle Pivot Pin
40	552498	Spring - Shift Handle
41	277626	Shift Handle and Pin Assembly
42	591583	Shift Shaft and Arm Assembly
43	85-64	Nut - Shift Rod to Connector
44	303701	Washer - Lock, Shift Rod Nut
45	303702	Connector - Shift Rod to Lever
46	303397	Screw - Friction Band
47	303392	Band - Friction
48	303394	Screw - Spring Retainer
49	303369	Retainer - Upper Mount Spring
50	303461	Spring - Lower Mount
51	303458	Spring - Upper Mount
52	303465	Spring - Reverse Lock Rod to Reverse Rod
53	303393	Screw - Steering Bracket to Retainer, Upper
54	302677	Screw - Steering Bracket to Retainer, Lower
55	303372	Retainer - Steering Bracket
56	303362	Sleeve - Friction Band
57	304131	Bracket - Swivel
58	303371	Absorber - Shock, Lower Swivel Bracket
59	303359	Washer - Thrust, Steering Bracket to Swivel Bracket
60	303696	Pin - Swivel Bracket, to Upper Liner
61	303370	Liner - Upper
62	303697	Spacer - Co-pilot Plate to Upper Liner
63	303363	Plate - Co-pilot
64	132679	Screw - Co-pilot Plate
65	551113	Spring - Co-pilot Plate Screw
66	303464	Spring - Reverse Lock Rod to Swivel Bracket
67	303049	Pin - Cotter, Reverse Lock Shaft
68	304130	Rod - Reverse Lock
69	304129	Lever - Reverse Locking
70	17-182	Nut - Tilting Bolt
71	25-196	Washer - Tilting Bolt
72	302051	Spring - Tilting Bolt
73	303349	Bolt - Tilting
74	303396	Screw - Stern Bracket, Port to Starboard
75	202617	Shim - Stern Bracket to Swivel Bracket
76	160084	Ball - Stern Bracket to Swivel Bracket
77	301983	Washer - Conical
78	202021	Spring - Tilting Lever
79	376395	Tilting Lever Assembly
80	376082	Stern Bracket Assembly, Starboard
81	375744	. Clamp Screw, Plate and Retainer Assembly
82	302420	. . Retainer - Swivel Plate
83	41-48	. . Plate - Clamp Screw Swivel
84	376081	Stern Bracket Assy., Port (Also Includes Items 81, 82 and 83)
85	303398	Screw - Steering Bracket to Pilot Shaft
86	303500	Shaft - Steering Bracket Pilot
87	376269	Steering Bracket and Bushing Assembly
88	303353	Plate - Steering Bracket
89	303350	Support - Drive Shaft Casing to Steering Bracket
90	550565	Pin - Cotter, Reverse Lock Link to Lever
91	303364	Grommet - Reverse Lock Arm to Reverse Lock Link
92	85-64	Nut - Lock, Reverse Lock Pin Coupling
93	303706	Coupling - Reverse Lock Link
94	303705	Link - Reverse Lock, Lower
95	303408	Link - Reverse Lock, Upper
96	303368	Screw - Shoulder, Reverse Lock Arm
97	303409	Arm - Reverse Lock
98	303348	Nut - Water Tube
99	7-261	Gland - Water Tube
100	376459	Water Tube Assembly
101	376079	Driveshaft Casing, Exhaust Tube and Core Plug Assembly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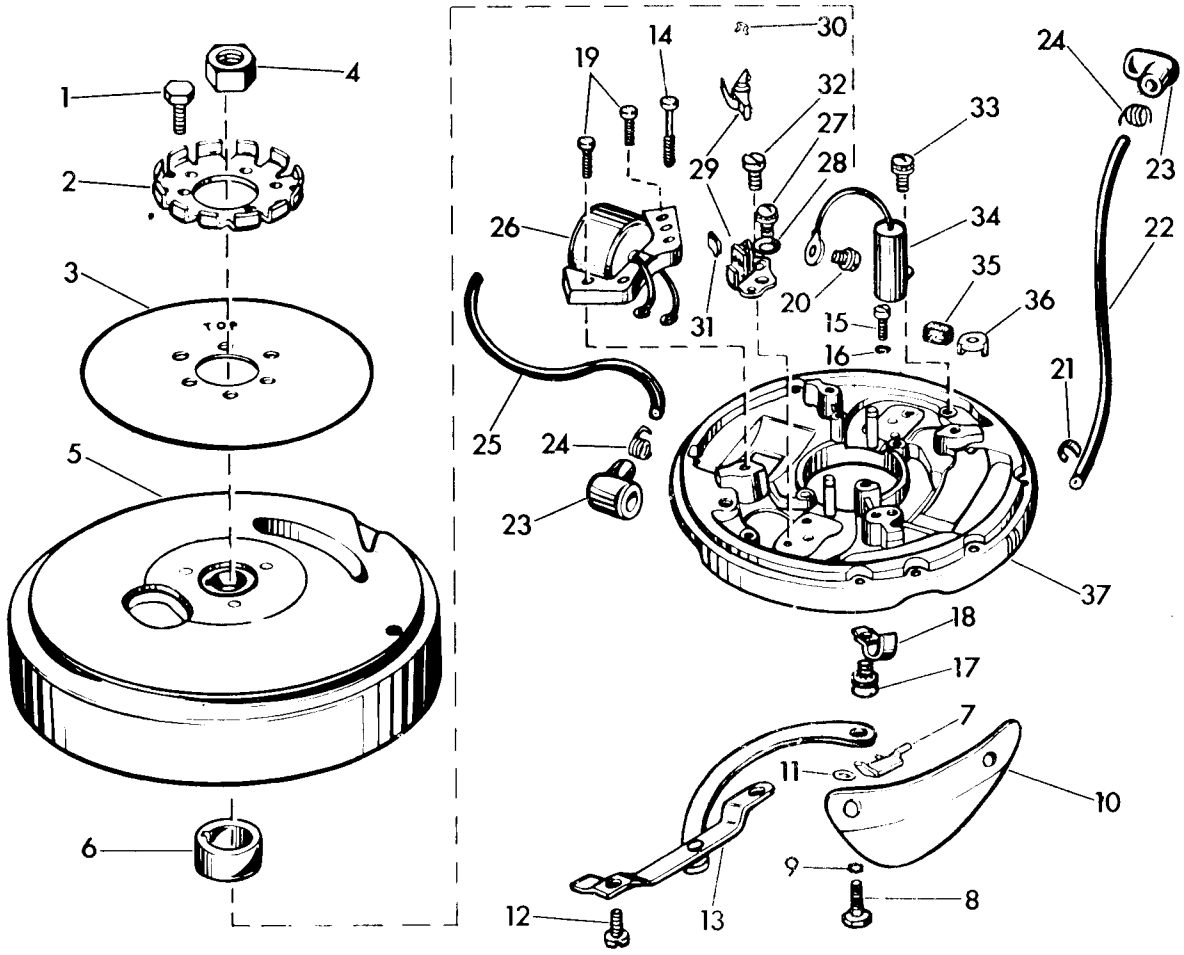
Ref. No.	Part No.	Description
1	303355	Gasket - Driveshaft to Crankcase
2	303356	Plate - Driveshaft to Crankcase
3	303347	"O" Ring - Seal, Driveshaft
4	303391	Seal - Lower Bearing to Driveshaft
5	303357	Spring - Lower Bearing Seal
6	303327	Washer - Spring Retaining
7	302325	Screw - Exh. Tube to Gearcase
8	303365	Cap - Propeller
9	13-332	Pin - Cotter, Propeller Shaft
10	302333	Pin - Drive
11	376968	Propeller & Bushing Assembly
12	303358	Pin - Shifting Lever Pivot
13	304083	Washer - Pivot Pin
14	304071	Screw - Lower to Upper Gearcase
15	27-283	Screw - Grease Plug (Drain)
16	27-284	Washer - Grease Plug (Drain)
17	303328	Seal - Upper to Lower Gearcase
18	300611	Pin - Dowel
19	15-268	Pin - Cotter, Pivot Pin
20	302504	Pin - Shift Rod
21	303340	Lever - Shifter
22	303381	Cradle - Shifter
23	303380	Bearing - Front, Gearcase
24	303345	Seal - Gearcase Head
25	303360	"O" Ring - Gearcase Head
26	376776	Gearcase Head & Bearing Assy.
27	303998	Bushing - Rear Reversing Gear
28	304010	Gear - Rear Reversing
29	303361	Washer - Thrust
30	376078	Clutch Dog Shifter Assembly
31	552582	Shaft - Propeller
32	376345	Gear & Bushing Assy. - Front
33	304009	Pinion - Drive Shaft
34	43-156	Screw - Detent Spring
35	303466	Spring - Detent
36	303700	Spring - Backup, Detent Spring
37	303401	Rod - Shift
38	376073	Pinion Shaft & Shock Absorber Pilot Assembly
39	1-135	Key - Pinion to Pinion Shaft
40	303261	Pin - Drive Shaft
41	303395	Screw - Impeller Housing
42	302497	Grommet - Water Tube, Lower
43	303442	Housing - Impeller
44	277181	Impeller & Insert Assembly
45	300771	Pin - Impeller to Driveshaft
46	303376	Plate - Impeller Housing
47	303441	Driveshaft
48	300599	Seal - Bearing Housing
49	376074	Bearing Housing & Bearing Assy.
50	303339	Gasket - Bearing Housing to Gearcase
51	303332	Bushing - Shift Rod, Lower
52	301877	"O" Ring - Shift Rod
53	302681	Screw - By-pass Cover
54	304205	Cover - Water By-pass
55	27-283	Screw - Grease Plug, Fill
56	27-284	Washer - Grease Plug, Fill
57	300314	Plug - Water Intake Screen
58	303331	Screen - Water Intake
59	376775	Gearcase Assembly (Also Includes Items 15, 16, 17, 18, 51, 52, 55 and 56)



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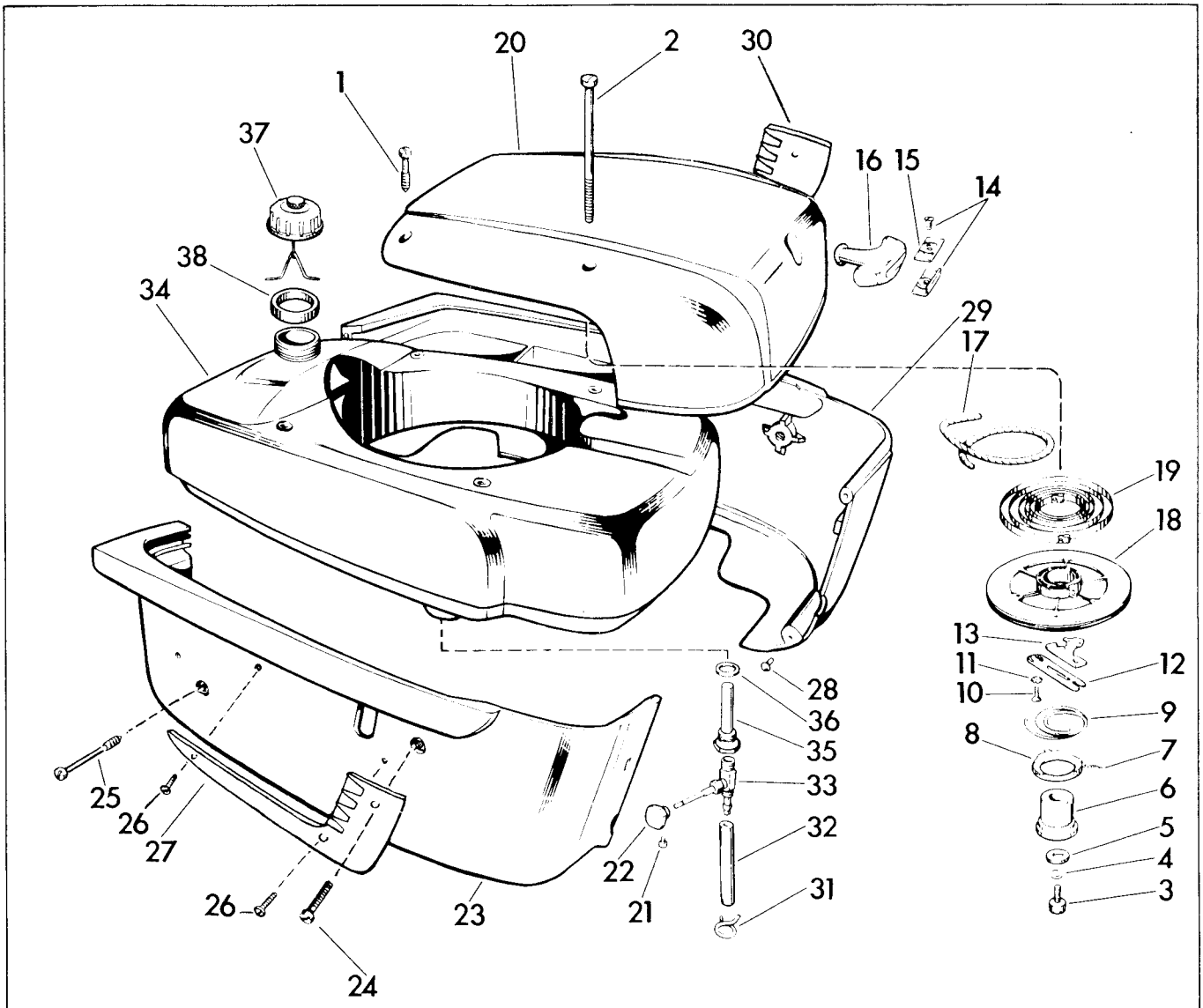
1	302468	Screw - Ratchet to Flywheel
2	202111	Ratchet - Starter
3	303249	Cover - Inspection Hole
4	301988	Nut - Flywheel
5	580150	Flywheel
6	510168	Cam - Magneto
7	303146	Clip - Spring, Armature Plate Link
8	302750	Screw - Throttle Cam to Plate
9	71-1487	Washer - Lock
10	552642	Cam - Throttle
11	71-1531	Spacer - Throttle Cam
12	510193	Screw - Linkage Assembly to Armature Plate
13	376064	Throttle Control Plate and Link Assembly
	580182	Armature Plate Assembly
14	510191	. Screw - Armature Plate Mounting
15	510192	. Screw - Armature Plate Mounting
16	3-28	. Washer - Lock
17	510193	. Screw - High Tension Lead Clamp Mounting
18	510259	. Clamp - High Tension Lead
19	510195	. Screw - Lamination Mounting
20	510194	. Screw - Breaker Terminal
21	120783	. Marker - Upper Lead
22	580135	. High Tension Lead Assembly - Upper
23	510232	. . Cover - Rubber, Sparkplug
24	510231	. . Terminal - Spring Lead
25	580146	. High Tension Lead Assembly - Lower (Also Includes Items 23 and 24)
26	580118	. Coil and Lamination Assembly
27	510278	. Screw - Breaker Mounting
28	510208	. Washer - Bow
29	580148	. Breaker Assembly
30	71-1052	. . Clip - Spring
31	510204	. . Clip - Breaker Spring
32	510185	. Screw - Eccentric
33	510193	. Screw - Condenser Mounting
34	510173	. Condenser
35	510189	. Wick - Oiler
36	510188	. Clip - Oiler
37	580121	. Armature Plate and Post Assembly



Ref. No.	Part No.	Description	Price
1	21-167	Screw - Starter to Tank	
2	552389	Screw - Starter to Bracket	
*	591453	Starter Assembly - Complete	
3	131991	. Screw - Hub to Housing	
4	13-51	. Washer - Lock	
5	202356	. Washer - Starter Spindle	
6	276643	. Spindle and Pin Assembly	
7	202155	. Spring - Pawl	
8	202114	. Cup - Equalizer	
9	302222	. Spring - Friction	
10	302104	. Screw - Retainer	
11	71-1026	. Washer - Lock	
12	202317	. Retainer - Starter Pawl	
13	202470	. Pawl - Starter	
14	591214	. Clamp and Screw - Rope	
15	551205	. Clamp - Rope	
16	551226	. Handle - Starter	
17	304097	. Rope - Starter	
18	376377	. Starter Pulley and Pin Assembly	
19	41-197	. Starter Spring Assembly	
*20	591378	. Starter Housing	
21	552461	Screw - Knob to Valve	
22	202912	Knob - Shut Off Valve	
*23	552715	Shroud Assembly - Starboard	
24	552416	. Screw - Shroud, Front	
25	552423	. Screw - Shroud, Rear	
26	552415	. Screw - Applique to Shroud	
27	552407	. Applique - Starboard	
28	203290	Bumper - Shroud	
*29	552714	Shroud Assembly - Port	
30	552406	. Applique - Port	
31	552199	Clamp - Hose	
32	552612	Hose - Shut Off Valve to Carburetor	
33	591398	Valve - Shut Off	
*34	591808	Fuel Tank Assembly	
35	591380	. Screen and Connector Assembly	
36	171318	. Gasket - Tank Outlet	
37	590774	. Filler Cap Assembly	
38	551463	. . Gasket - Filler Cap	

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

WARRANTY

VIKING OUTBOARD MOTOR

We warrant each new outboard motor to be free from defects in material and workmanship under normal use and when operated according to these instructions. Within 90 days from date of sale to the original purchaser we will exchange free of charge any part which our examination shall disclose to be defective.

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.

All transportation charges on motors or parts returned to us must be prepaid.

EATON'S OF CANADA

How To Obtain Service

If your **VIKING** motor refuses to operate or perform properly and no instructions in this book cover the probable cause of failure, please follow this procedure.

1. Take your **VIKING** motor to a local outboard motor service station. Most service and repair work can be handled locally.

2. If no local service is available, contact the concern from which you purchased your motor stating type of failure, date of purchase, model number, motor serial number, and horsepower.

Do not return motor to the factory.

How To Order Repair Parts

This book gives you a complete repair parts list for your outboard motor. Should you need to order repair parts, they may be obtained direct from the concern from which you purchased your motor.

If you order repair parts the following information is needed to fill your orders properly:

1. Part number and description of part as shown in this catalog.

2. Complete motor model number and serial number. These numbers will be found stamped on the instruction plate located on the front of the stern bracket.

Do not order parts from the factory.

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.**

We recommend Mobiloil Outboard, or other good grade outboard oil, or a regular SAE 30 grade automotive engine oil. Avoid use of low price third grade (ML) oils.

GEAR HOUSING. The gear housing is filled with hypoid gear oil for lubrication of gears and bearings. We recommend Mobilube GX90 or any other good grade of SAE 90 automotive (hypoid) gear lubricant. If hypoid lubricant is not available, in an emergency it is permissable to use Mobiloil Outboard or other SAE 30 engine oil until recommended lubricant can be obtained.