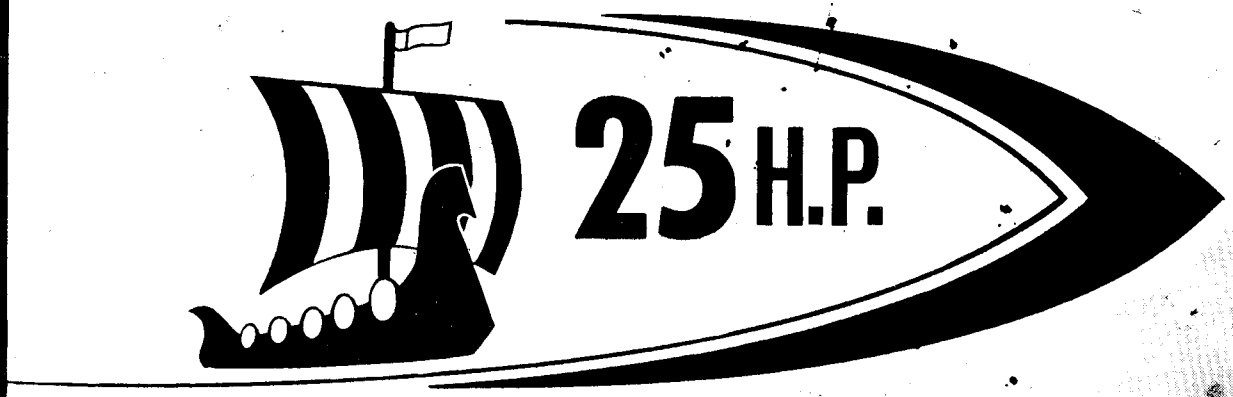
VIKING

OUTBOARD MOTOR



1962

OWNER MANUAL

EATON'S OF CANADA

IMPORTANT

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.

Record Motor Serial Number

WHERE TO FIND MODEL AND SERIAL NUMBER

The model and serial number are stamped on a nameplate attached to the swivel bracket.

Use the space provided here to register the Serial Number of your outboard motor or motors. This information is vital to the recovery of your property should it be lost, or stolen.

RECORD MOTOR SERIAL NUMBER

MOTOR	SERIAL NUMBER	KEY NUMBER (IF USED)	DATE PURCHASED
#1	5353		
#2			

NOTE: For Replacement or Additional Keys See Your Dealer.

Insurance

Insurance on your outboard motor and/or boat should be procured as soon as possible for protection against loss by fire, theft, etc. Consult your local insurance agent.

CONGRATULATIONS

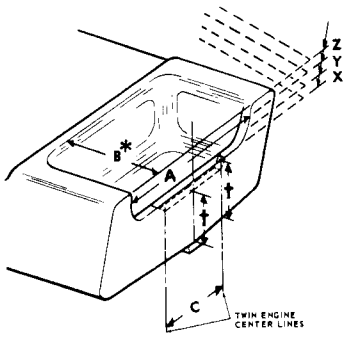
You are to be congratulated on your selection of this outboard motor which will give you years of satisfactory service. The fine materials and high standards of workmanship used in the manufacture of this motor assure you of durability and lasting performance.

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. The operating instructions are concise and easy to follow. Even if you have operated an outboard motor before it will be helpful to practice the step by step procedures 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.

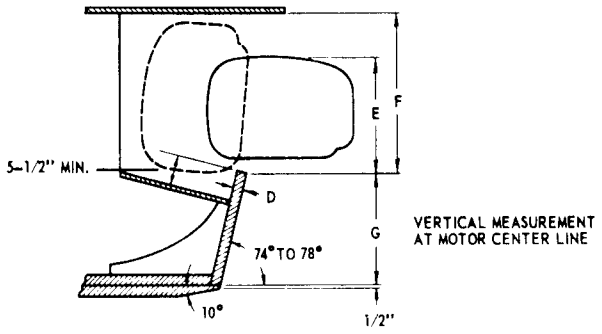
INSTALLING MOTOR

Cutout dimensions are given at three 4" interval planes (X, Y, and Z) above the transom top.



†Where boats having transoms cut for twin motors will be used with only a single motor, and the bottom at the transom has considerable vee or deadrise, provision should be made for readily reducing the transom height at the centerline to provide a standard height for the single motor.

Dimensions shown on this page are recommended by the Outboard Boating Club.



MOTOR HORSEPOWER	NO. OF MOTORS	CUTOUT WIDTH A			CUTOUT LENGTH B*			SPACING C	THICKNESS D		MOTOR CLEARANCE E	COVER HEIGHT F	TRANSOM HEIGHT G
		X HEIGHT	Y HEIGHT	Z HEIGHT	X HEIGHT	Y HEIGHT	Z HEIGHT		MIN.	MAX.			
UNDER 12 H.P.	1	21"	23"	27"	21"	21"	21"	-	1-3/8"	1-3/4"	17"	22-1/2"	15 ± 1/2" OR 20 ± 1/2"
	2	43"	45"	49"				22"					
12 H.P. THRU 40 H.P.	1	28"	34"	34"	21"	21"	21"	-	1-3/8"	2"	21"	29"	15 ± 1/2"† OR 20 ± 1/2"
	2	50"	56"	58"				22"					
OVER 40 H.P.	1	28"	35"	36"	26-1/2"	29"	29"	-	1-5/8"	2-1/4"	28"	32-1/2"	20 ± 1/2"
	2	54"	61"	62"				26"					

*As a safety measure, when the inboard section of the motor cutout is formed by the back of a seat, and it is possible that a passenger's arm may be caught between it and the motor in the event of a sudden tilt-up of the motor, add 3" to dimension B.

† The 20" transom height should be used as a minimum on any boat using 30 H.P. or over unless the boat is fitted with a self-bailing well having adequate drainage.

SAFETY CHAIN

A link is provided on the stern bracket (See Item 1, Figure 8, Page 13) for fastening a chain from the motor to the boat. Secure one end of the chain to the stern bracket and the other to a structural support of the transom. The use of the chain may prevent loss of the motor overboard. WE WILL NOT BE RESPONSIBLE FOR ANY MOTOR DAMAGED OR LOST OVERBOARD.

ANGLE ADJUSTMENT

Put Reverse Lock in RELEASE position. The angle adjustment (Figure 2) can be made in the following manner: Lift up on Angle Adjustment Lever (Item 3, Figure 8, Page 13) and move it ahead or back in the slots in the stern bracket so that motor is in a vertical position. As the load will vary in your boat, always try to place it so the boat runs on an even keel.

TRANSOM PLATE

Available from your dealer is a mounting plate that can be installed on the transom of your boat. (See Figure 1). This plate will prevent any damage to the transom that would be caused by the stern bracket clamps. There are added safety features when this plate is used. When the motor is running and the clamps work loose from the transom, a loud rattle can be heard, warning the operator of the situation. Also a lip on the upper edge of the plate will keep the motor from jumping off the transom when this condition exists.

Transom specifications are shown on page 2. Locate motor on the transom of your boat using these specifications.

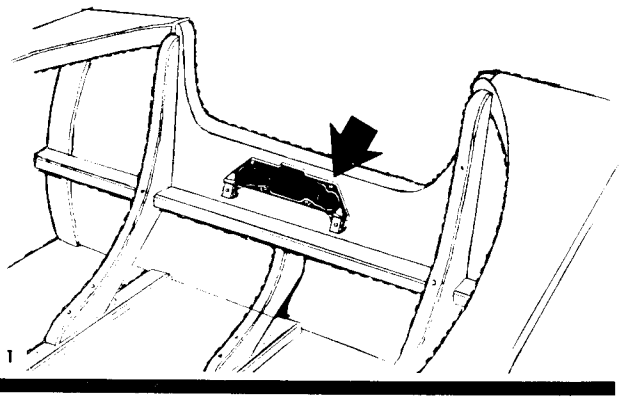
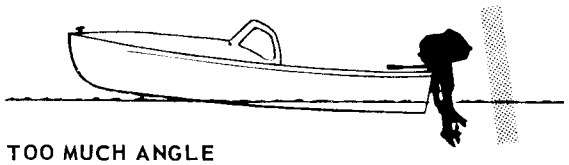
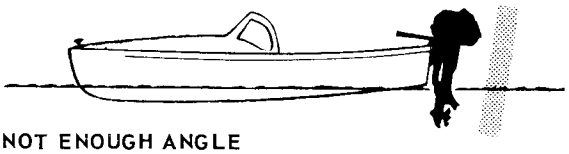


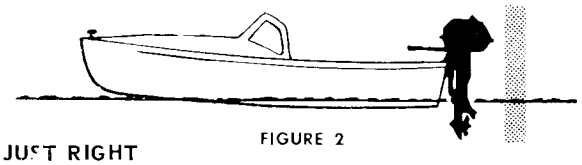
FIGURE 1



TOO MUCH ANGLE



NOT ENOUGH ANGLE



JUST RIGHT

FIGURE 2

GENERAL

Your electric starting motor includes all the electrical equipment required for complete installation except the battery, which can be purchased through local sources. A 12-volt, 11-plate, 60 ampere hour capacity battery with a cold starting rate of 5.5 minutes, at 150 ampere discharge at 0°Fahrenheit, and a 5 second voltage rating of 9.1 volts is recommended.

The same care should be taken when wiring your boat as you would in wiring your house. Keep junction boxes, cables, and batteries in dry areas. See that all cables are placed so that they do not come in contact with moving parts, i.e., steering cables, remote control cables, etc. A pictorial wiring diagram of your motor is located on pages 18 and 19.

JUNCTION BOX INSTALLATION

Install the junction box within the dimensional limits as shown. (See Figure 3). It will be necessary for you to connect the motor cable to the junction box. These directions are all clearly marked on the wiring diagram. (See Page 19). When selecting the location, be sure the junction box cover can be removed and that there is enough slack in the motor cable for full pivoting and tilting of the motor. When installing junction box on metal boats, insulate the junction box from the boat. Install the junction box in a vertical position.

NOTE: Be sure junction box mounting screws do not touch any part of metal hull.

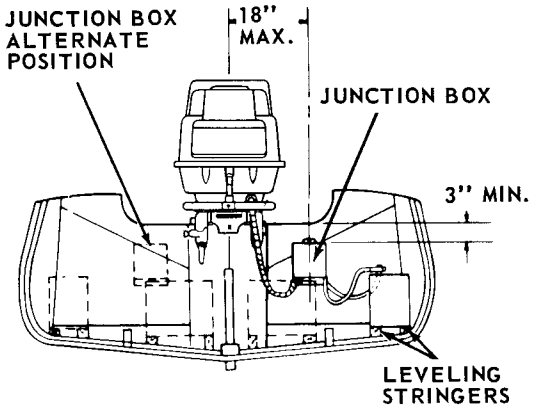


FIGURE 3

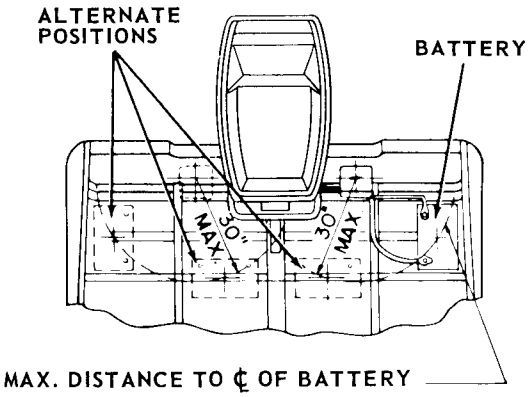


FIGURE 4

SWITCH INSTALLATION

To install the Starting Switch Assembly, follow the directions below.

1. Drill one 5/8 inch hole for the choke switch and one 13/16 inch hole for the starter switch to the right. Centers should be 1½ inches apart on the location selected for mounting.
2. Remove choke button cover and knurled nuts holding switches. (See Figure 5).
3. Insert switches in appropriate holes from rear of dashboard.
4. Place switch plate over both switches and secure with the knurled nuts. Replace choke switch button cover.

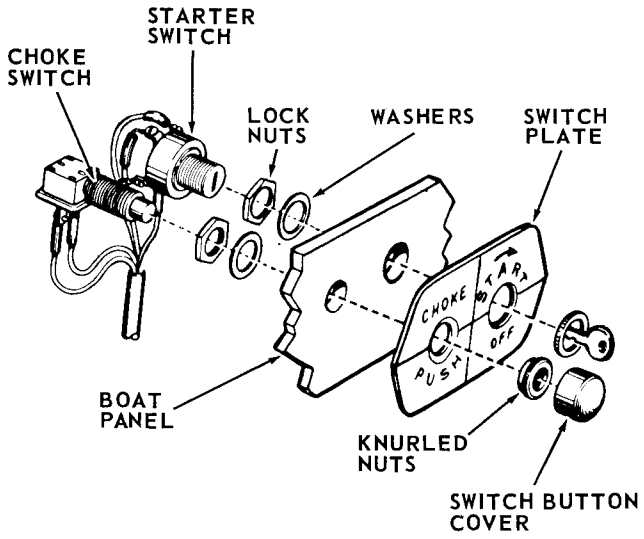


FIGURE 5

BATTERY INSTALLATION

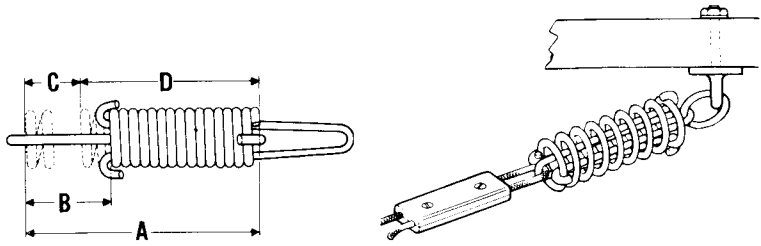
Install the battery near the junction box. Various locations are shown. (See Figure 4). Use a battery mounting frame or box that will securely fasten to the boat. A loose battery can shift in the boat damaging itself or other equipment. If a covered battery box is used, be sure adequate ventilation is provided. Two 5/16 inch holes are sufficient. IMPORTANT — Do not connect leads to battery until motor is installed and all other wiring is completed.

STEERING

Although there are only two basic steering systems generally being used for outboard boats, the variations in the method of installation are quite numerous. The newest system used is commonly referred to as a "push-pull cable". Like the remote controls, after which it is patterned, the main thing to check to insure easy steering is that the cable has no sharp bends, is adequately anchored, and that it is properly lubricated.

The most commonly used steering system is the type using a cable and pulley. In this system, care in installation can result in an extremely smooth, safe steering unit. To help you check or install a steering system properly, complete information with drawings appears in the remote control instruction book furnished with each control unit. An important item often overlooked is the lubrication of the steering wheel and the pulleys in this steering system, which will ease steering effort considerably as well as eliminate annoying squeaks.

In order to eliminate backlash in your cable and pulley steering system, it is advisable to insert a spring in the system which will take care of dimensional changes in your boat due to moisture or dryness. The spring should be attached at the point where the steering cable end is normally attached to the transom. This will allow your boat to shrink or swell and still keep your steering cables



A — Uncompressed spring length
B — Total compressed length
C — Approximate 2/3 total compressed length for single engine — 3/4 for twin engines
D — This spring length will give you correct cable tension

tight. Use a 60 lb. spring for this purpose and tighten the steering cable so that the spring is compressed to two-thirds of its total compressed length. This will put a 40 lb. load on the cable which is ample for a single engine installation. For twin engines, the spring load should be doubled but only one spring should be used. In other words, use a 100 lb. spring and compress to about three-quarters of compressed length for about a 75 — 80 lb. load.

ALWAYS REMEMBER:

1. Use only ONE spring in any installation. Two springs can permit hazardous fishtailing at high speed.

2. Do not use the spring to compensate for improper pulley or cable anchor positioning.

3. Always use through bolts for attaching cable anchors and pulleys. Wood screws can pull loose under high load.

REMOTE CONTROLS

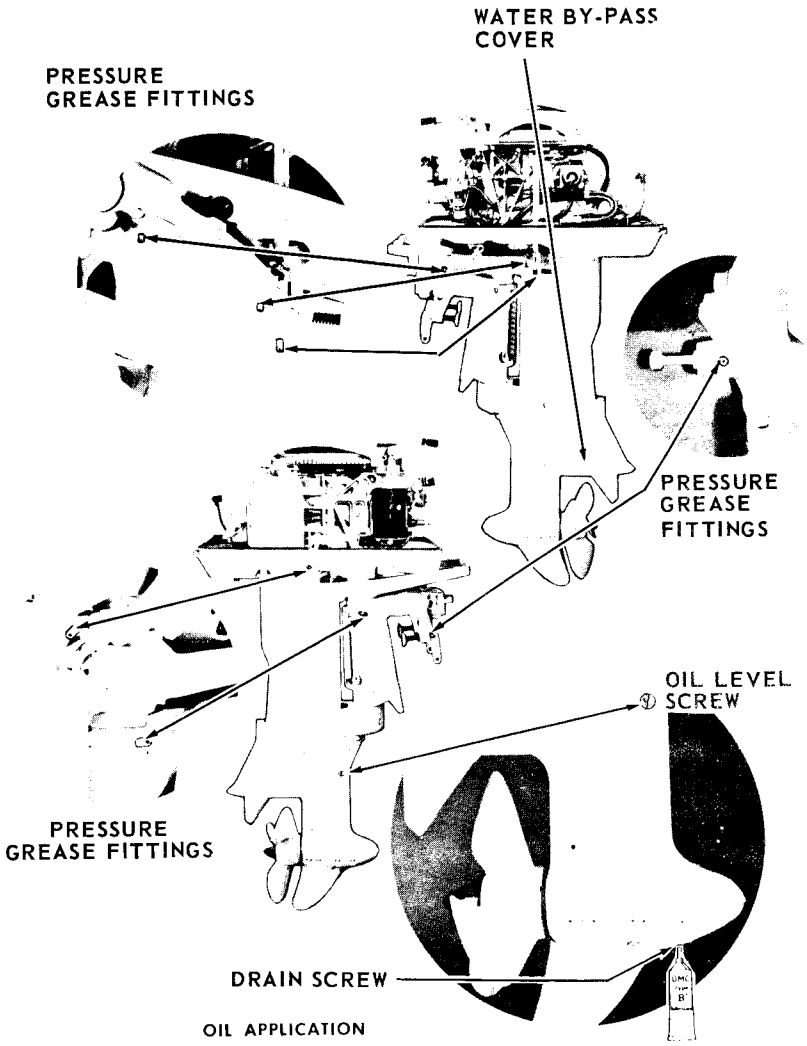
Properly installed and maintained remote controls will provide you with smoothly operating throttle and gearshift levers that will add to your boating pleasure. Care in selecting correct cable lengths will give you free flowing curves. Avoid sharp bends which may cause cables to bind. Remote control cables should be anchored to the boat to maintain neat appearance and minimum backlash. The control head should be lubricated when assembled and linkage at the motor should be lubricated and checked for freedom of movement. Periodic lubrication should be performed to insure continued control freedom. Check motor through its steering arc to be sure cables will not catch on any projection. Complete installation instructions are furnished with each control unit and your dealer is always ready to give you assistance.

PROPELLER SELECTION

Your motor is equipped with a propeller that will perform satisfactorily under average conditions. However, since some boats do have a speed potential which is quite high or low, it may be necessary to install a propeller having an increased or decreased blade pitch to achieve maximum performance.

When operating your motor at full throttle under normal load conditions, the engine RPM and boat speed are the two controlling factors in determining the correct propeller blade pitch for your rig. To obtain peak performance the engine RPM under these operating conditions should be in the upper half of the FULL SPEED RPM OPERATING RANGE. (See Motor Specifications.) If the engine RPM is on the low side of the recommended range install a propeller of reduced pitch and the engine RPM will increase. If the engine RPM is on the high side of the recommended range install a propeller of an increased pitch to reduce engine RPM.

It is suggested that a tachometer and speedometer be utilized to accurately check engine RPM and boat speed. SEE YOUR DEALER. He will be pleased to assist you in obtaining maximum performance from your boat and motor.



OIL APPLICATION
USE OMC TYPE B LUBRICANT FIGURE 6

GEAR LUBRICATION

Your gearcase has been filled at the factory with "OMC TYPE B LUBRICANT".

CAUTION: When adding to, or refilling gearcase, you should use "OMC TYPE B LUBRICANT" which has been formulated to protect against damage to bearings and gears. Improper lubrication of bearings and gears can result in extensive damage. This lubricant is available at your Dealer.
When a complete change of lubricant is required, place motor in vertical position and remove the lower plug and gasket, marked "OIL DRAIN" on the bottom of gearcase. Then remove the upper plug and gasket, marked "OIL LEVEL". Permit oil to drain completely.
We recommend adding to or refilling gearcase as follows. Place a tube of OMC type B lubricant as illustrated and fill gearcase through lower hole marked "OIL DRAIN" until lubricant appears at upper hole marked "OIL LEVEL". Replace upper plug and gasket securely before removing the tube from the lower hole. This will create an air lock and hold the oil in gearcase until lower plug and gasket can be secured.

NOTE - Drain and refill gearcase with recommended lubricant every 50 hours or each season, whichever occurs first.

GREASE FITTINGS

Use Outboard Marine Lubricant Type A. (30 days salt water/60 days fresh water.)

POWERHEAD

The internal portion of the power head of this motor is lubricated by oil mixed with gasoline, (See FUEL). Use a high grade outboard motor oil. If not available, a good grade SAE 30 motor oil is recommended. Avoid use of low-priced, third grade (ML) oils. The use of additive compounds such as "break-in" oil, "Tune-up" compounds, etc., is not necessary or recommended.

SPECIFICATIONS

Horsepower . . . 25.0 at 4500 RPM — Certified by O.B.C.
Operating Range . . . . . 4000-5000 RPM
Propeller — Aluminum, 3 Blade, 10⅜" Diameter x 12½" Pitch
Magneto Breaker Points Setting . . . . . .020"
Spark Plug Gap Setting . . . . . .030"

GENERAL

Your motor is equipped with a remote fuel tank and hose. The hose can be detached from the motor and/or the fuel tank. Install the bulb end of the hose at the tank. Both connections are made in the same manner—line up the connector with the guide and nipple—push the connector on firmly until it snaps into position. To remove—press lever as illustrated and pull on connector until free. A drain screw is provided for the ease of draining and cleaning the tank when necessary and for draining for storage.

CAPACITY OF FUEL TANK

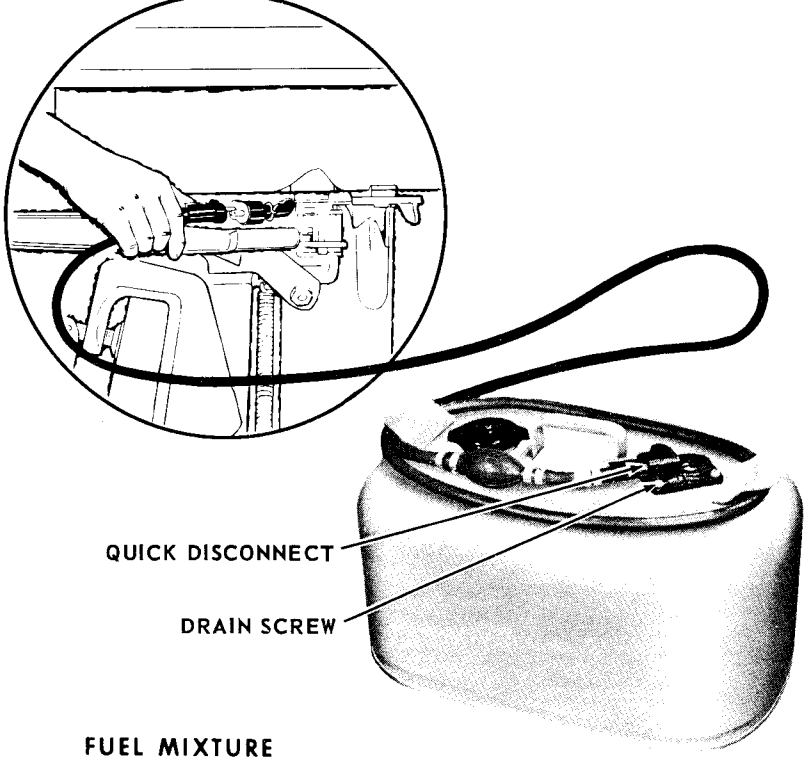
Imperial Gallons

GASOLINE AND OIL RECOMMENDATIONS

Use regular automotive gasoline or Marine white gasoline. Higher octane fuels may be used but generally offer no advantages.

We recommend using a reputable outboard motor oil or a REGULAR SAE 30 automotive engine oil (not heavy duty). Avoid the use of low price, third grade (ML) oils.

The use of additive compounds such as "break-in" oils, "tune-up" compounds, "tonics", "friction reducing" compounds, etc., are entirely unnecessary and are not recommended for use in your motor.



FUEL MIXTURE

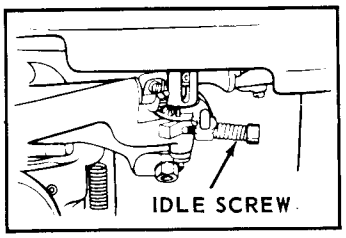
The correct fuel mixture is 1/3 pt. of oil to one gallon of gasoline or a ratio of 1 part oil to 24 parts gasoline.

When filling an empty tank, pour one gallon of gasoline into tank 5 IMP. gallons capacity). Add required oil and then fill tank with gasoline. Be sure that oil and gasoline are always thoroughly mixed and filler cap is secure.

Use only the recommended oil to gasoline mixture ratios, regardless of the claims made for some lubricants.

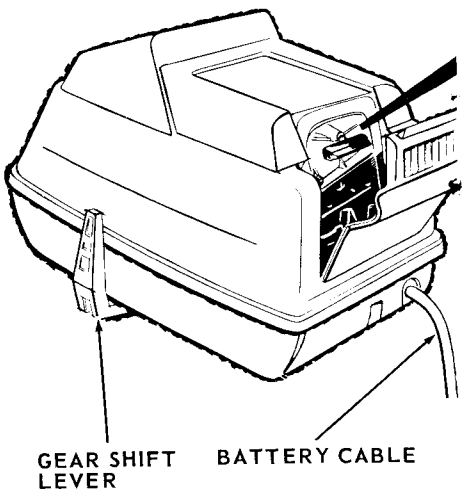
TO START ELECTRIC MODELS

1. Attach fuel connectors to fuel tank motor. (Bulb end at tank.)
2. Squeeze bulb in fuel line several times. Do this only until you feel the pressure build up. It is normally necessary to do this only after attaching fuel line.
3. Set reverse lock to LOCK position.
4. Set high and low speed knobs with pointer straight up. (Necessary only when first starting motor.)
5. Move throttle control to SLOW position.
6. Move gearshift control to NEUTRAL position. NEVER START MOTOR IN GEAR.
7. Move throttle control to START position.
8. Turn starter key to START and press CHOKE button simultaneously. The starter switch is spring loaded and it will be necessary to hold the key against this spring action to energize the electric starter. When motor starts it may be necessary to press the choke button occasionally until the motor warms up. PLEASE NOTE: A safety switch will prevent the electric starting action if the throttle is set beyond one-half throttle.
9. When the motor is warm and while underway, readjust high and low speed controls.
10. To stop motor — move throttle control to SLOW — shift into NEUTRAL and turn key OFF.



IDLE SCREW ADJUSTMENT

IF DESIRED, THE IDLE SCREW MAY BE ADJUSTED, TO PERMIT IDLING WHEN THE THROTTLE CONTROL IS PLACED IN SLOW POSITION. TO ADJUST, REDUCE MOTOR SPEED TO DESIRED IDLING SPEED, THEN TURN IDLE SCREW IN UNTIL IT TOUCHES THE THROTTLE CONTROL BRACKET.



TO START ELECTRIC MODELS MANUALLY

Follow steps 1 thru 7 above, then —

8. Turn starter key to center position.
9. Pull out manual choke on motor.
10. Pull out manual starter handle slowly until starter engages, then out forcibly. Repeat until motor starts.
11. Push choke in slowly.

NOTE: If ignition key is lost or temporarily mislaid, your motor can be started in the following manner. In the junction box, disconnect all cables coming from the motor. Start motor as per manual starting instructions above. CHOKE MOTOR TO STOP.

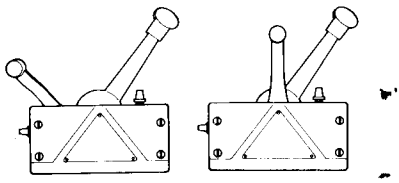
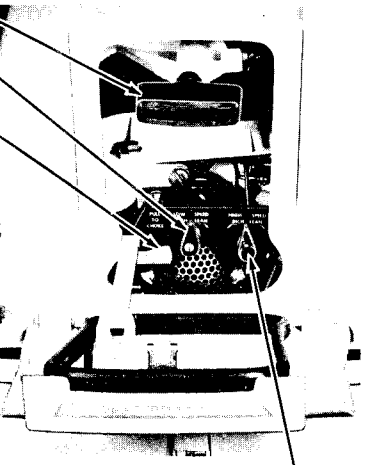


FIGURE 7

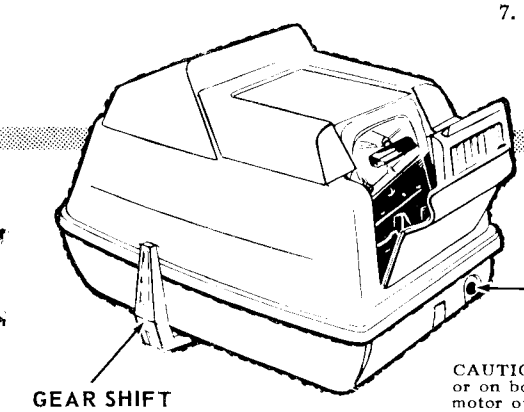


HIGH SPEED KNOB

TO START MANUAL STARTING MODELS

1. Attach fuel line connectors to fuel tank and motor. (Bulb end at tank.)
2. Squeeze bulb in fuel lines several times. Do this only until you feel the pressure build up. It is normally necessary to do this only after attaching fuel line.
3. Set Reverse lock to LOCK position.
4. Set High and Low speed knobs with pointer straight up.
5. Move throttle control to SLOW position.
6. Move gearshift control to NEUTRAL position. NEVER START MOTOR IN GEAR.
7. Move throttle control to START position.
8. Pull out choke knob all the way (cold motors only).
9. Pull starter handle slowly until starter engages — then pull forcibly. Wait until starter rope is rewound then repeat until motor starts.
10. Push choke knob in slowly — reduce motor speed with throttle control to start or slower before shifting gears.
11. When motor is warm and while underway, readjust high and low speed controls.
12. To stop motor — move throttle control to SLOW — shift into NEUTRAL and press STOP BUTTON.

If Remote Controls are used refer to Step 5 and 6 as illustrated.



STOP BUTTON

GEAR SHIFT LEVER

CAUTION: Operate motor only in a test tank or on boat with lower unit in water. To start motor out of water may result in serious damage to the water pump.

GEAR SHIFT

The motor is equipped with a gear shift control to provide operation of the motor in FORWARD, NEUTRAL, AND REVERSE. When the motor is not running — DO NOT FORCE THE SHIFT LEVER — pull the starter handle until the shift lever slips into position. Shift gears with a quick, positive, action when motor is running.

BREAK-IN

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 operation for another two hours. No special or extra oil is required for the break-in period.

REVERSE LOCK

Your motor will tilt automatically when the lower unit strikes an underwater object. This is made possible through the reverse lock. (See Figure 8, Page 13.) The reverse lock has two positions — LOCK and RELEASE.

RELEASE POSITION

In RELEASE position, the motor can be manually tilted to any position desired for beaching or other purposes.

LOCK POSITION

In LOCK position, the motor is held in a semi-locked vertical position. The lock will maintain the motor in a vertical position while pulling the manual starter handle. In reverse gear the lock prevents the reverse thrust of the propeller from pulling the lower unit from the water. In forward gear, the lock will release upon sudden contact of the lower unit with an underwater object and allow the motor to tilt up. The bumper under the reverse lock prevents transom damage. After passing over the obstruction, the lower unit will return to the vertical position and reset the lock. OPERATE YOUR MOTOR WITH THE REVERSE LOCK IN LOCK POSITION. IN SHALLOW OR OBSTRUCTED WATER, PUT LOCK IN RELEASE POSITION.

When manually tilting the motor, it is possible to lock it in a full tilt position. If this is desired, push in on Tilt Lock. (See Item 7, Figure 8, Page 13.)

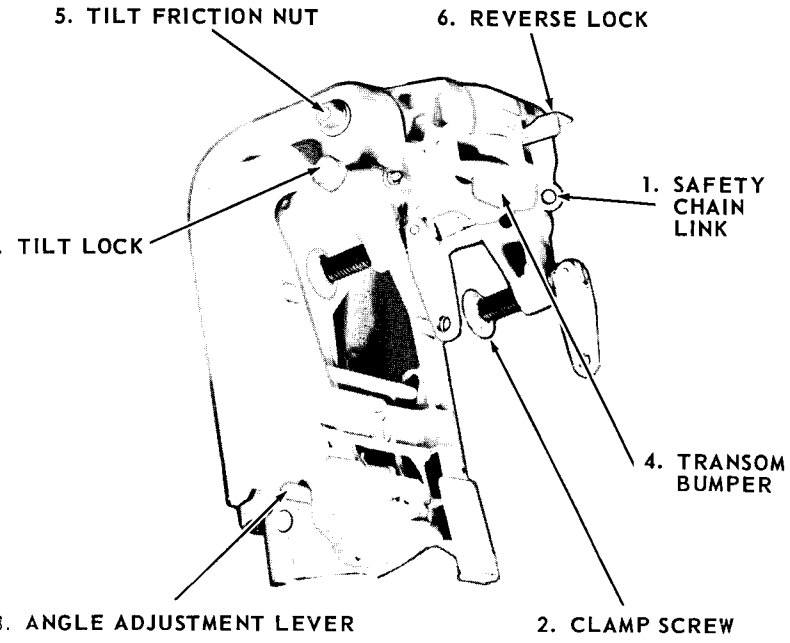


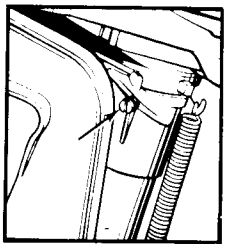
FIGURE 8

TILTING FRICTION

Proper tilting friction is set at the factory but through continued use, the friction may have to be adjusted. This is done by tightening or loosening the Tilt Friction Nut (See Item 5, Figure 8) 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.

CO-PILOT

The co-pilot permits the motor to maintain a set course. It can be adjusted by tightening or loosening the co-pilot screw.



CO-PILOT ADJUSTING SCREW

SHROUD REMOVAL

Release latch on front of shroud. Grasp shroud and lift up shroud front slightly.

A hook on the lower motor cover secures the shroud on rear of motor. Slip shroud off hook. The shroud can now be lifted free of the motor. To replace, mount shroud in reverse order — be sure that it is properly seated in the rubber seal before securing latch.

SPARK PLUGS

The correct spark plug gap is .030 inch and they are set properly at the factory. We recommend Champion J4J, AC M-42K or Auto-Lite A21X spark plugs 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 shroud.

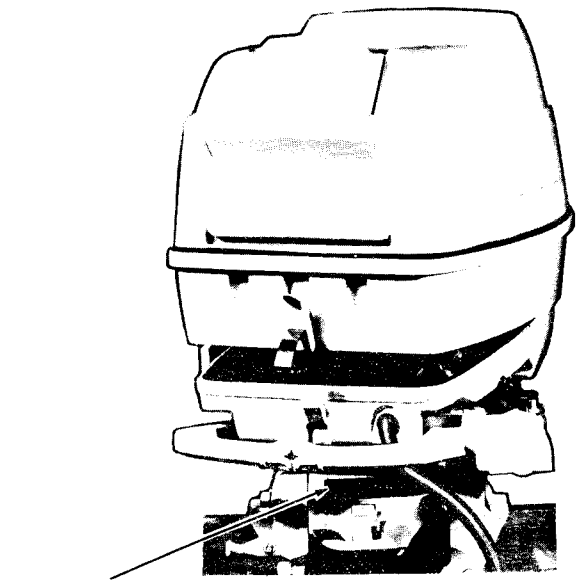


FIGURE 9

EMERGENCY STARTING

In case of starter failure, follow the procedure below.

1. Remove shroud. See "Shroud Removal." (Fig. 9, Page 14.)

2. Remove starter lock screw and spring. (See Figure 11.)

3. Remove three screws mounting starter assembly to powerhead — lift off starter assembly. (See Figure 11.)

4. Wind a 1/4 inch rope with a knot in one end, clockwise on the flywheel pulley. (See Figure 10.)

5. Start motor in usual manner. BE SURE SHIFT LEVER IS IN NEUTRAL.

COOLING

Cooling is accomplished by means of a single stage, rubber impeller water pump located in the lower gear housing. At low speeds it acts as a displacement pump — at higher speeds, as a centrifugal pump. During FORWARD operation of the motor, water enters through a screen covered slot below the exhaust outlet; in REVERSE, water enters through holes in the water by-pass cover. (See Lubrication.) While the motor is in operation, check periodically to see if water is being discharged from the water outlet. DO NOT OPERATE MOTOR IF NO WATER IS COMING FROM WATER OUTLET.

PROPELLER CARE

Unusual or excessive vibration may indicate a bent or unbalanced propeller. Avoid or limit operation under these conditions. Carry a spare propeller and you will be equipped to replace the damaged propeller as soon as practical. SEE YOUR DEALER. He is equipped to straighten and balance your damaged propeller.

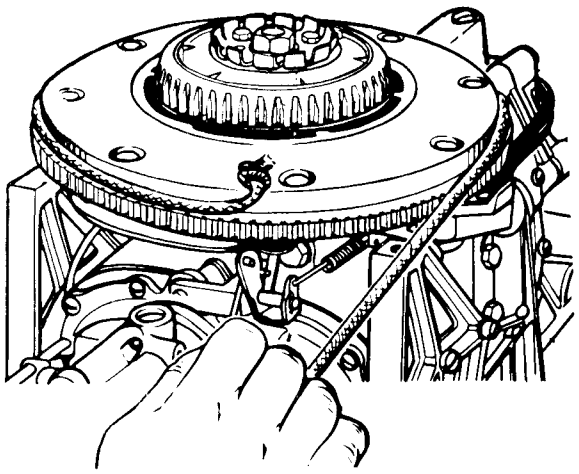


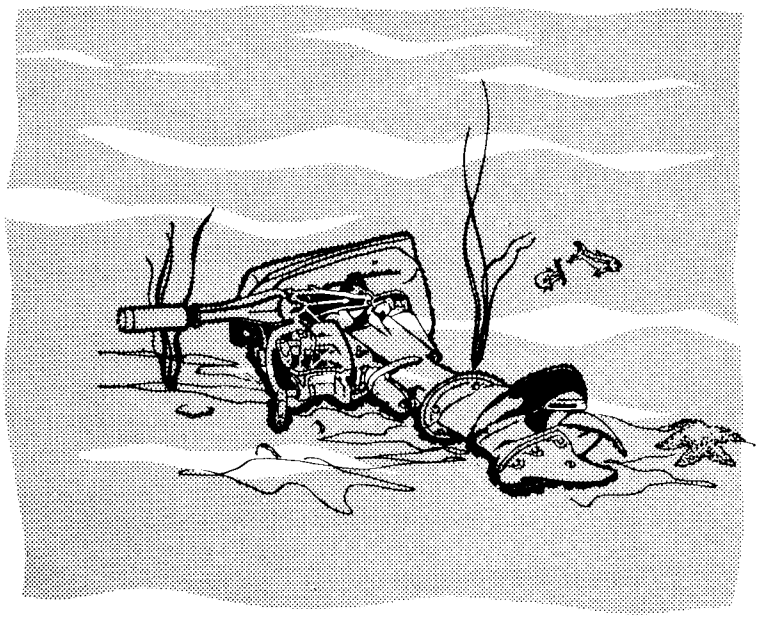
FIGURE 10

We cannot be responsible for wear or damage to a motor used for racing or equipped with a racing propeller. The propeller has a slip clutch to prevent shearing the drive pin. To replace a damaged drive pin — STOP MOTOR. MOVE SHIFT LEVER TO NEUTRAL. Remove cotter pin, nut, and broken pin. Replace with a new pin and reassemble.

IF YOUR MOTOR HAS BEEN SUBMERGED

CAUTION:

MOTOR MUST BE STARTED OR DISMANTLED AND CLEANED WITHIN ONE HOUR AFTER RECOVERY IF SUBMERGED IN EITHER FRESH OR SALT WATER.



NOT MORE THAN 4 HOURS

1. Do not run motor until all water has been removed.
2. Drain carburetor.
3. Remove and dry spark plugs. Ground spark plug leads. Lay motor on side with spark plug holes downward. Crank the motor until no more water is expelled.
4. Check spark from both lead wires.
5. Replace parts and start motor.

FOR SEVERAL DAYS OR

If motor was running when submerged, a major overhaul may be necessary. The presence of water, which is not compressible, in the cylinders may have caused major damage to the crankshaft or connecting rods. See front cover for service information.

NOTE: To start submerged motors equipped with electric starters — do not use electric starter — start manually.

COLD WEATHER OPERATION

The motor will not freeze while in use, but when it is idle, water in the cooling system might freeze and damage the motor. Drain by setting the motor in an upright position and pulling starter cord several times with throttle control turned fully to SLOW position. If the motor is to be stored during cold weather, be sure no water is left in the motor or it may freeze. (See "Preparation For Storage.")

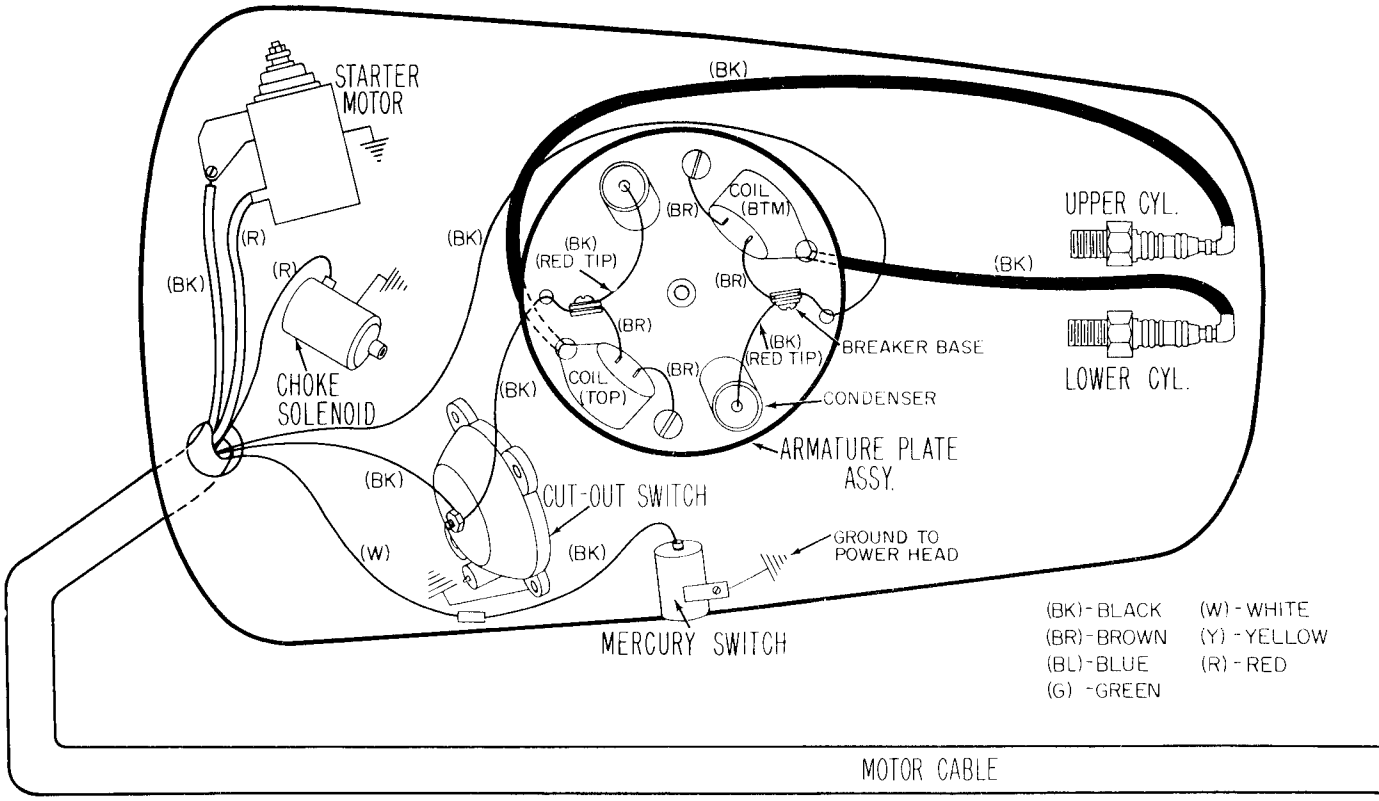
SALT WATER OPERATION

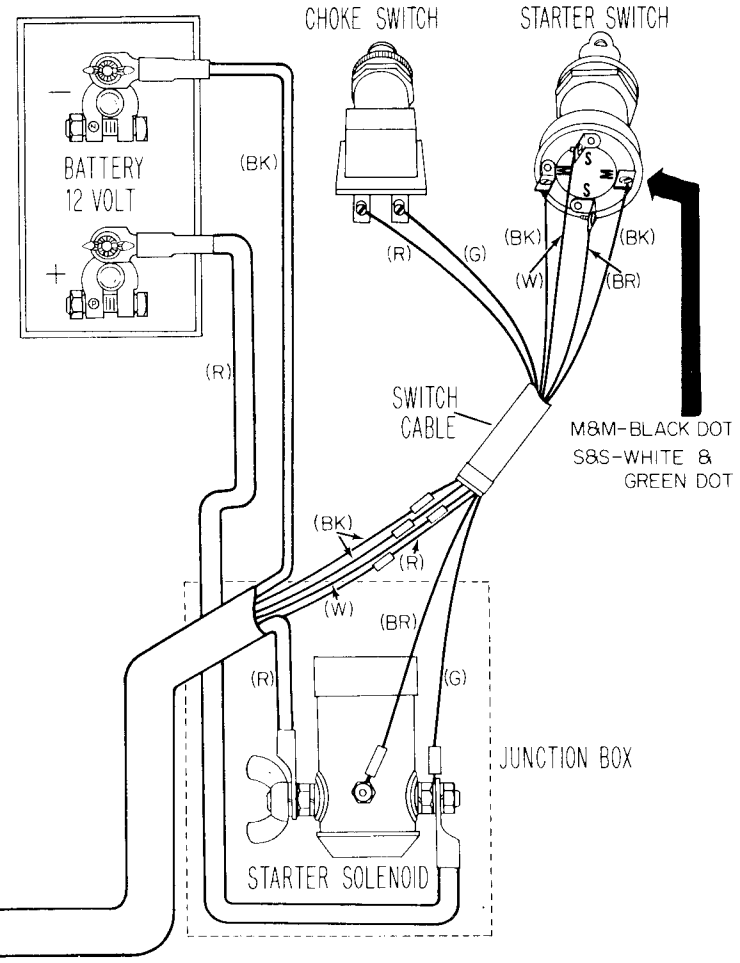
This motor is designed for use in either fresh or salt water and through the use of various material and finishes has been made as resistant to salt water corrosion as possible. A little time spent in caring for your motor when used in salt water will aid not only in keeping it in good running order but will help in retaining its finish and appearance.

Make it a habit to tilt the motor out of the water when riding at anchor or when the boat is docked. It is good practice to flush the motor with clean, fresh water occasionally. Wipe motor down with oily cloth after using motor. Lubricate all external moving parts frequently.

Check all electrical connections periodically. Use powdered graphite in switch to avoid possible corrosion.

ELECTRIC MODELS ONLY





ELECTRIC MODELS ONLY

1. Check all electrical connections periodically. Be sure they are tight.
2. IF LEADS ARE REMOVED FROM THE KEY SWITCH, BE SURE THEY ARE RECONNECTED TO THE ORIGINAL TERMINALS. SEE WIRING DIAGRAM.
3. See your dealer for replacement keys.
4. Keep battery terminals free of corrosion.
5. If electrical accessories are to be installed on the boat, check with your dealer for further information.

CARBURETOR ADJUSTMENT

To adjust needle valves, tighten loose HIGH, or SLOW speed levers, follow the directions below.

1. Remove shroud.
2. Slip lower link off HIGH speed adjusting shaft.
3. Remove HIGH and SLOW speed adjusting knobs and screws from their shafts.
4. Turn slotted HIGH speed shaft to right until it seats gently, then turn it back (left) ¾ turn.
5. Turn SLOW speed shaft to right until it seats gently, then turn it back (left) 1½ turns.
6. Start engine. When motor is warm, move throttle control to FAST and adjust HIGH speed needle valve (right or left) until motor runs smoothly. CAUTION: If underway, have operator at steering controls while making carburetor adjustment.
7. Move throttle control to SLOW and adjust SLOW speed needle valve (right or left) until motor runs smoothly.
8. Recheck adjustments—replace knobs so pointers are straight up. Replace screws and link.

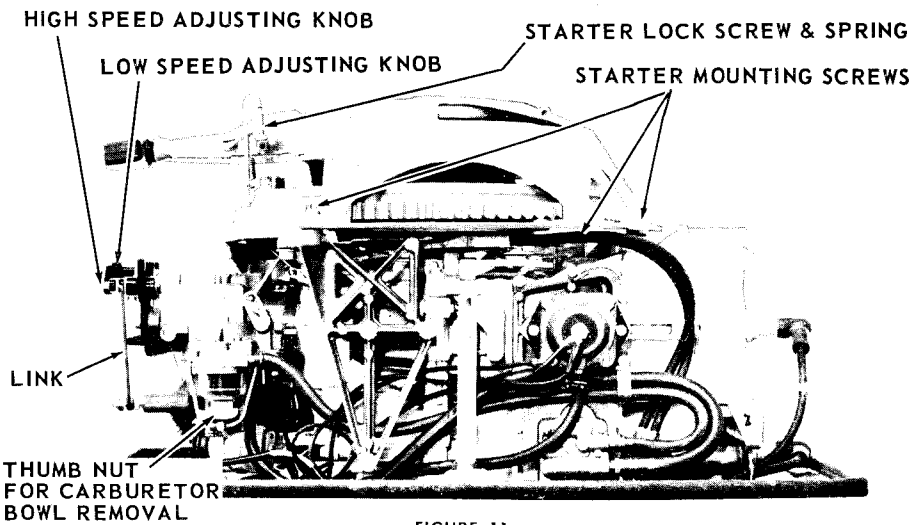


FIGURE 11

PREPARATION FOR STORAGE

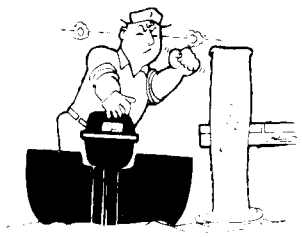
1. Run motor in a test tank or on boat for one-half hour. Pull out choke knob all the way until motor stops.
2. Flush cooling system with fresh, clear water.
3. Remove gear case "OIL LEVEL" and "OIL DRAIN" plugs.
4. Stand motor vertically and rock it from side to side to make certain all water (if any) has drained out.
5. Refill gear case with OMC Type B Lubricant—replace plugs.
6. Drain all fuel from gas line and carburetor.
7. Store in an upright position in a dry and well ventilated area.

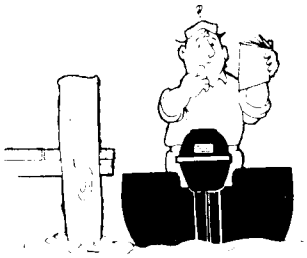
REMOVAL FROM STORAGE

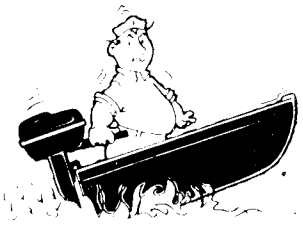
1. Remove spark plugs and ground leads to motor.
2. Spin flywheel to remove excess oil.
3. Clean spark plugs and replace if broken or cracked.
4. Tighten all screws and nuts—check adjustments.

TROUBLE CHECK LIST

RETURN MOTOR TO YOUR DEALER IF REPAIRS ARE NECESSARY







FUEL TROUBLE

Tank empty.
Water in carburetor, tank or strainer.
Carburetor nozzle or passages 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.
Coil or condenser faulty.

NO COMPRESSION

Piston rings stuck in grooves.
Cylinder wall scored.
No crankcase compression due to leaking gasket or stuck reed valves.

SPARK PLUG TROUBLE

Fouled.
Porcelain cracked.
Center electrode (pole) loose.
Points not set at .030-inch gap.
Plug shorted internally.

MOTOR KNOCKS

Flywheel hub loose.
Flywheel nut loose.
Excessive carbon in cylinder.
Motor overheated and pre-igniting.
Incorrect spark plug pre-igniting.
Loose or worn bearings. Badly worn cylinder, piston and pin.
Water pump worn. Insufficient cooling.

MOTOR IS STIFF AND CRANKS HARD

Fuel or water in cylinder; rust in cylinder.
Crankshaft or driveshaft bent.
No lubricant in gear case.
Driveshaft or propeller shaft gear broken.

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.
Lack of compression.
Dirt under leaf valve.

IGNITION

Loose or broken ignition wire.
Broken or oil-soaked insulation on wire.
Weak or broken breaker point spring.
Corroded or dirty breaker points.
Breaker points not set at .020 inch.
Weak coil, condenser or magnet.
Spark plug trouble.

CARBURETOR

Nozzle or feed hole dirty. Fuel line clogged.
Water or foreign matter in strainers.
Carburetor passages clogged.

INCORRECT FUEL MIXTURE

Too rich—motor slows down and four cycles (fires every other stroke).
Too lean—motor slows down and may back fire.

LACK OF COMPRESSION

Improper gasoline and oil mixture.
Worn or stuck piston rings.
Worn or scored cylinder.

MOTOR VIBRATES

Faulty ignition or carburetion.
Loose pivot bearing.
Bent or broken propeller blade or motor loose.
Major casting broken, cracked, or loose.

If boat speed slows down after a period of use—check bottom of boat for marine growth.

EQUIPMENT FOR YOUR BOAT

You are required by law, to have the following equipment in a boat not over 18 feet.

A Department of Transport approved lifejacket or buoyant cushion, for each person aboard.
Two oars and rowlocks or two paddles.
One bailer or one manual pump.
One Class B 1 fire extinguisher, depending on size of boat and equipment used.

For further information on boats over 18 feet, write - Public Relations Department, Outboard Marine Corporation of Canada Ltd., Peterborough, Ontario., or direct to the Director, Marine Regulations Branch, Department of Transport, Ottawa, Ontario.

TO INCREASE YOUR BOATING ENJOYMENT, THE FOLLOWING ADDITIONAL EQUIPMENT IS SUGGESTED:

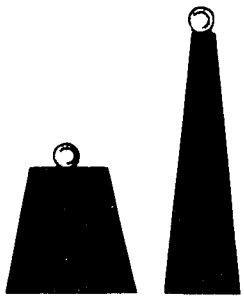
Flashlight or lantern.

Tool kit, which should contain basic tools for minor repairs.

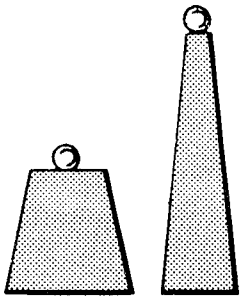
Spare parts, such as spark plugs, shear pins, extra propellers, etc.

First aid kit.

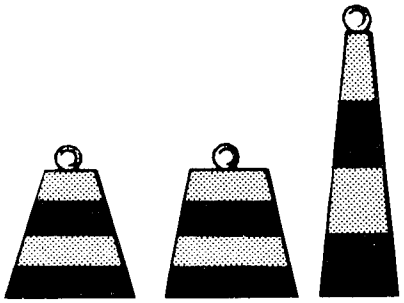
BUOY COLORS — and what they mean



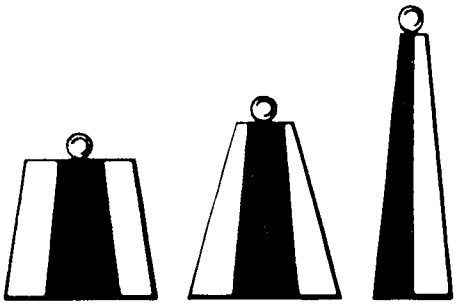
BLACK — ODD NUMBERS
Keep buoy on port side returning.



RED — EVEN NUMBERS
Keep buoy on starboard returning.



RED AND BLACK HORIZONTAL STRIPES
Danger and obstructions, steer clear.



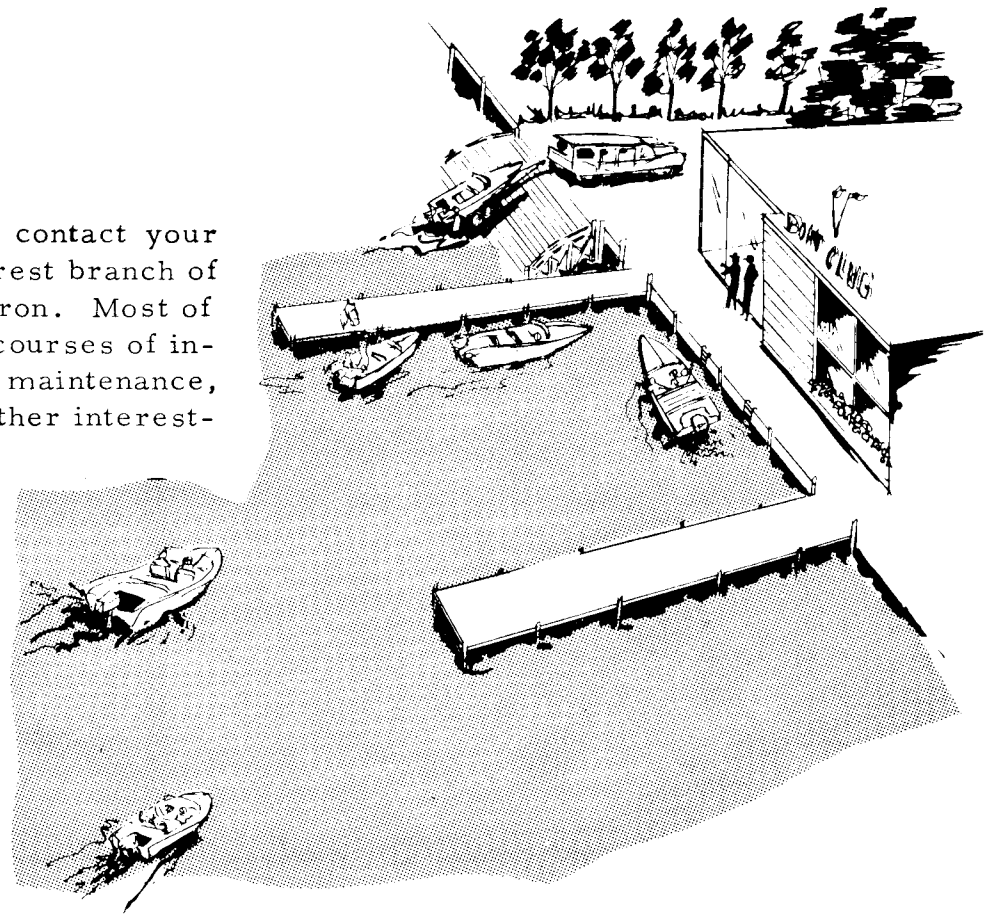
BLACK AND WHITE VERTICAL STRIPES
Mid channel — pass close.

SAFETY PROMOTES BOATING PLEASURE

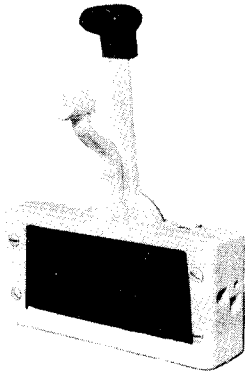
1. Do not overload your boat.
2. Do not leave shore in a leaky or poorly constructed boat.
3. Observe the pilot rules.
4. Liquor and safe boating do not mix.
5. Have life preservers readily available and wear when conditions warrant.
6. Check your weather and tides before going out and have due regard for them.
7. Gasoline filler pipes outside of combing and extending to bottom of gas tanks (with built-in tanks).
8. Fuel tanks vented (built-in tanks).
9. Bilges free from oil, waste, grease, etc.
10. Electrical equipment and wiring in accordance with good marine practices.
11. Have adequate fuel filter.
12. Check battery and its ventilation.
13. Do not operate near swimmers in the water.
14. Do not use gasoline stoves.
15. Do not sit upon kapok-filled life preservers. Such action compresses the filler and reduces its efficiency.
16. Provide lifebelts for children.
17. Do not be afraid of the boat — respect it.
18. Do not forget your wake can damage others.
19. Reduce speed through anchorage areas.
20. When lying at anchor, line should be at least three times depth of water.

CLUBS

For full boating pleasure, contact your local boat club, or the nearest branch of the Canadian Power Squadron. Most of these organizations offer courses of instruction on navigation, maintenance, safety and also promote other interesting group activities.

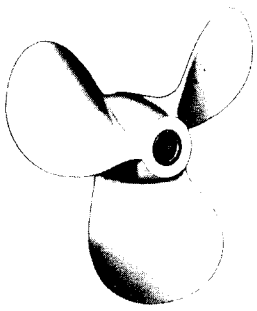


For more fun afloat use



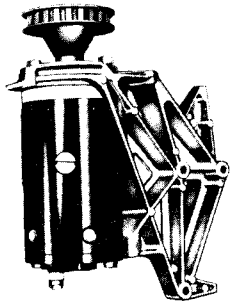
REMOTE CONTROLS

Operate with ease from up-front where boating is best. Easily installed . . . no special tools needed. Adaptable to all models except the 3 H.P. Deluxe.



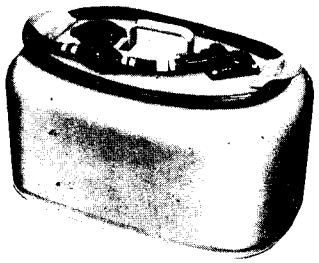
SPECIAL PROPELLERS

Accessory propellers for your particular load requirements. Available for 25 H.P., 40 H.P. and 60 H.P. motors. Always consult your dealer before changing propellers.



GENERATOR KIT

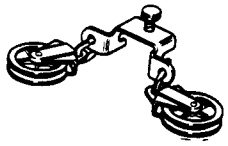
Generator kits for 60 H.P. and 40 H.P. motors. Keeps your 12 volt battery satisfactorily charged always.



REMOTE FUEL TANK

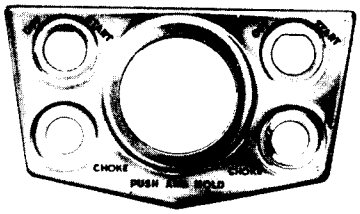
For extra mileage, extra pleasure and extra safety make the addition of an extra tank a must on your accessory list. Adaptable to all models except the 3 H.P.

factory engineered accessories



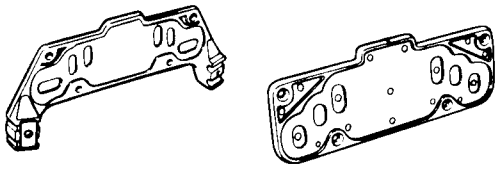
REMOTE STEERING CONNECTOR KIT

Equip your rig with effortless "like power steering" control with this new Steering Kit



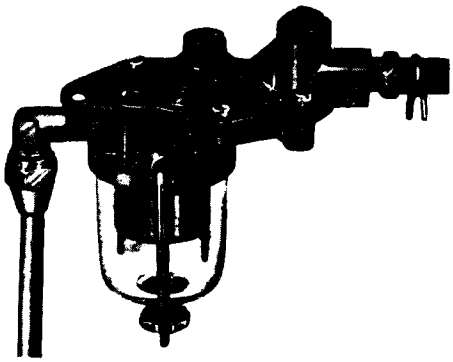
DUAL SWITCH PLATE

Enjoy complete control of your twin motor installation with this attractive dual switch plate — has openings for two choke buttons, two starter switches and ammeter.



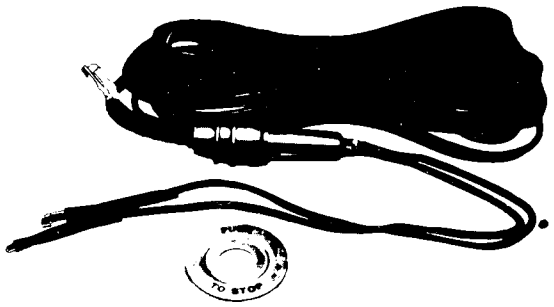
TRANSOM PLATES

Protect your transom from clamp damage and hold the motor securely in place. Either style fits all 1961 motors.



PRIMER PUMP KIT

Special for built-in fuel systems. For dual installation simply order one kit for each motor along with a half union, twin shut-off valve assembly and a twin fuel line assembly.

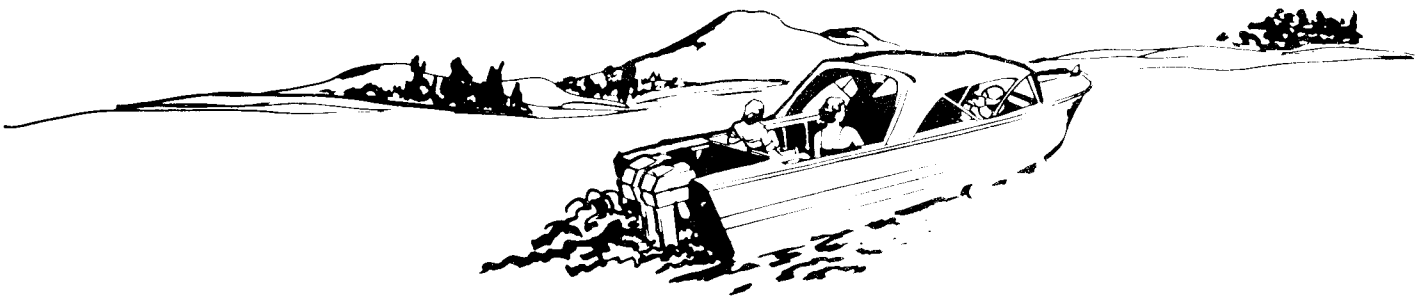


REMOTE STOP BUTTON KIT

For manual starting motors. Stop your 15 H.P., 25 H.P., 40 H.P., and 60 H.P. motors "up front," simply and positively by installing this kit on your dashboard.

YOU ARE THE CAPTAIN

Your craft may be small compared to some, but you are still legally responsible for all occupants of your boat. Instruct at least one of your passengers or "crew" in basic fundamentals of handling your boat in case you should become disabled, and, without alarming them, see that all hands know what to do in an emergency. Show all hands the location of emergency equipment and how to use it. Observe the rules of the road.



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

LICENCE YOUR BOAT

If you intend to operate on navigable waterways you should be familiar with the regulations governing your craft as set forth in the Canada Shipping Act. If there is any doubt concerning regulations in your locality, write to the Chairman, Board of Steamship Inspection, Ottawa, Ontario.

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.

Extra copies of this OWNER MANUAL and also an illustrated parts list for this motor are available upon written request from the factory Service Department.

Manufactured expressly for

EATON'S OF CANADA

by

OUTBOARD MARINE

Corporation of Canada Ltd

PETERBOROUGH - CANADA

PART No. 403250