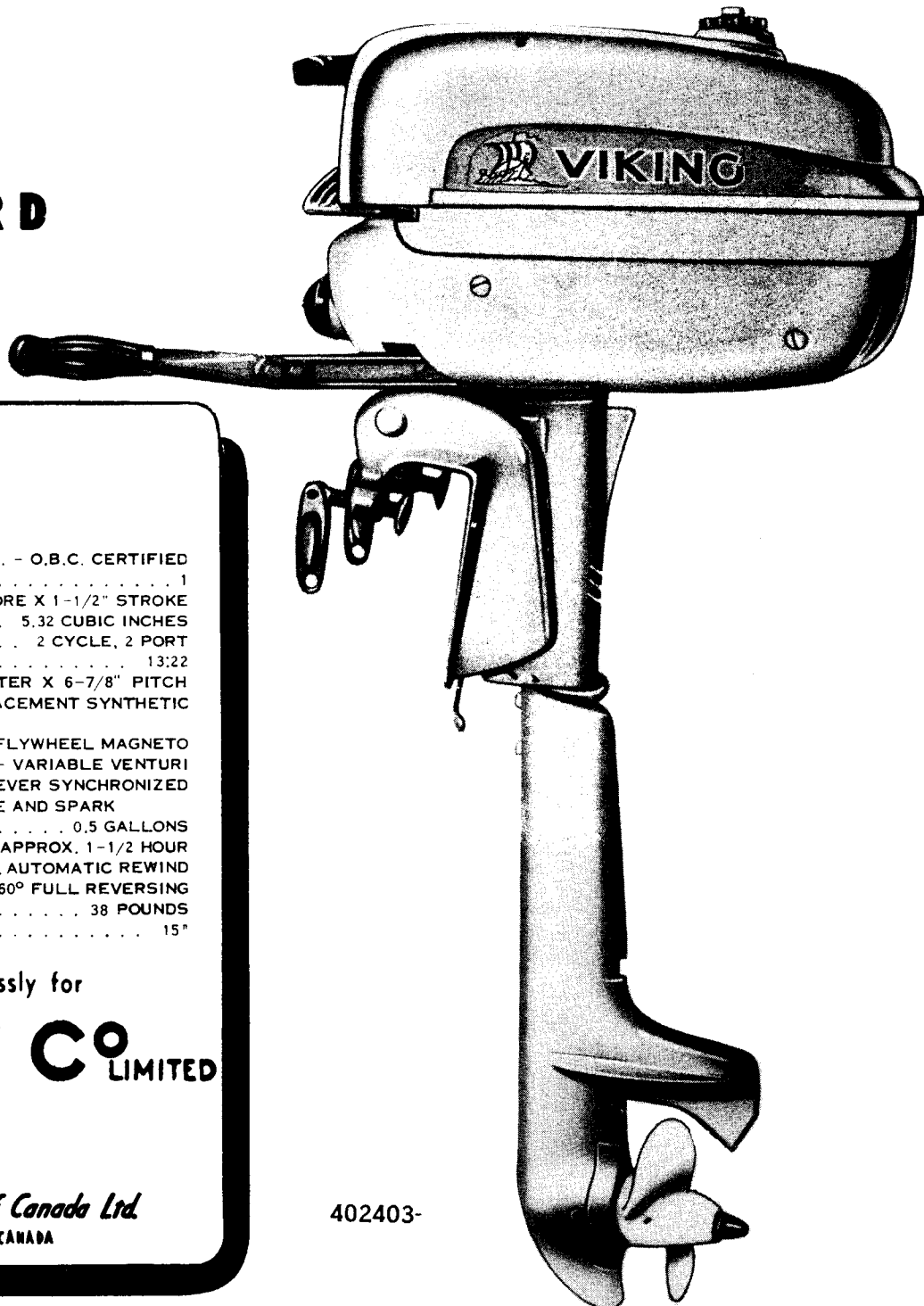


# OWNER GUIDE

OPERATION • MAINTENANCE • PARTS LIST

## EATON'S VIKING

**3 H.P.  
DE LUXE  
OUTBOARD  
MOTOR  
MODEL  
3D13V**



\*\*\*

### SPECIFICATIONS

HORSEPOWER	3.0 AT 4000 R.P.M. - O.B.C. CERTIFIED
NUMBER OF CYLINDERS	1
BORE AND STROKE	2-1/8" BORE X 1-1/2" STROKE
PISTON DISPLACEMENT	5.32 CUBIC INCHES
TYPE OF POWER HEAD	2 CYCLE, 2 PORT
GEAR RATIO	13:22
PROPELLER	2 BLADE, 6-3/8" DIAMETER X 6-7/8" PITCH
COOLING	POSITIVE DISPLACEMENT SYNTHETIC RUBBER ROTOR
IGNITION	BUILT IN FLYWHEEL MAGNETO
CARBURETOR	SINGLE JET - VARIABLE VENTURI
SPEED CONTROL	SINGLE LEVER SYNCHRONIZED THROTTLE AND SPARK
FUEL TANK CAPACITY	0.5 GALLONS
RUNNING TIME (FULL THROTTLE)	APPROX. 1-1/2 HOUR
STARTER	AUTOMATIC REWIND
STEERING	360° FULL REVERSING
WEIGHT	38 POUNDS
RECOMMENDED TRANOM HEIGHT	15"

Manufactured expressly for

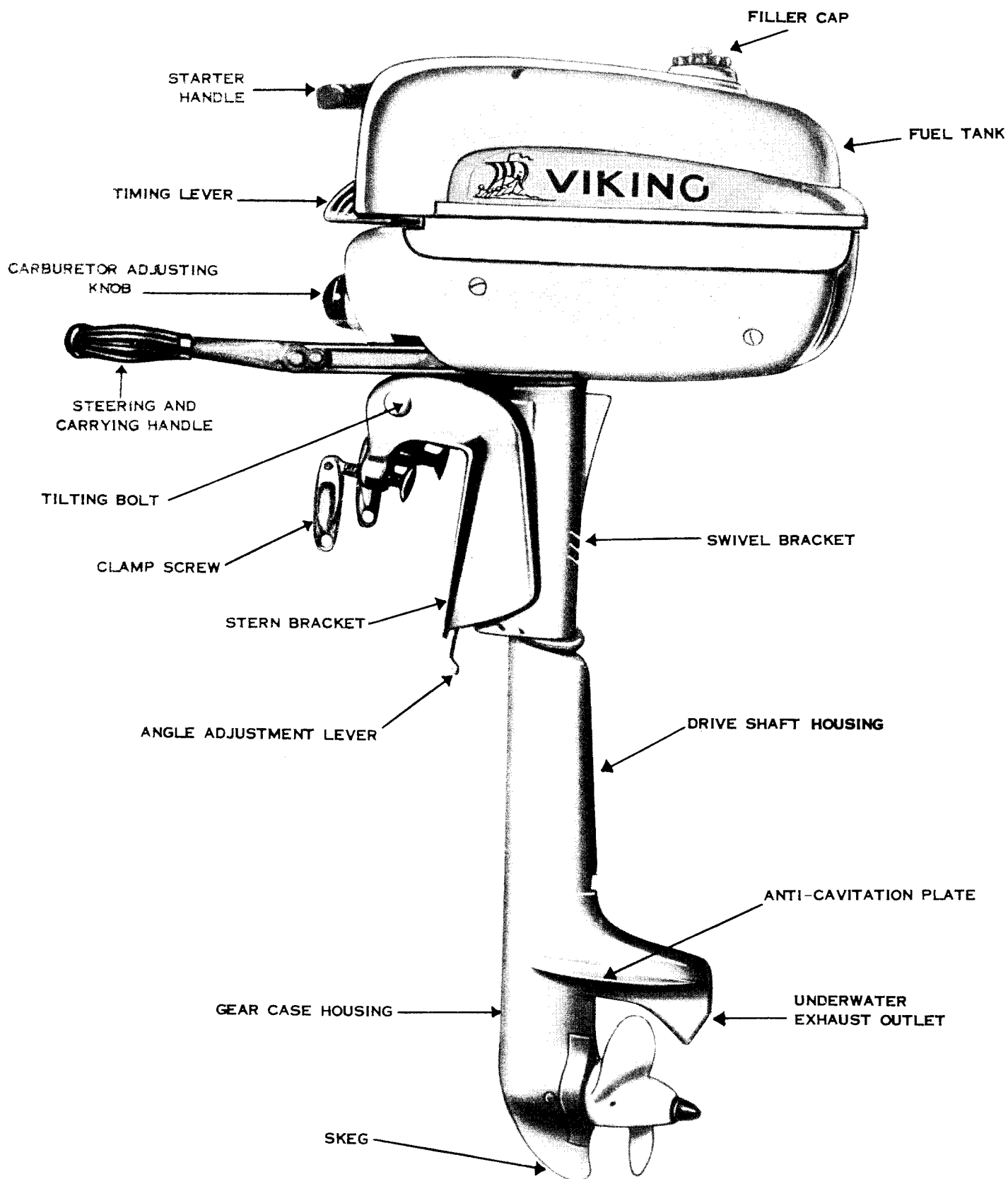
**THE T. EATON CO. LIMITED**

by

**Outboard Marine**

*Corporation of Canada Ltd.*  
PETERBOROUGH — CANADA

402403-



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

**FIGURE 1**

**NOTE**

ALL BOATS POWERED BY MOTORS OF 10 HORSEPOWER OR MORE MUST BE REGISTERED. APPLICATION FORMS FOR BOAT REGISTRATION MAY BE OBTAINED FROM YOUR NEAREST COLLECTOR OF CUSTOMS OFFICE.

# OPERATION OF YOUR MOTOR

## ATTACHING MOTOR TO BOAT

This motor is designed for use on a standard 15 inch transom. If transom is higher, it should be cut down to 15 inches so propeller will be at least 2 inches below bottom of boat. Best performance will be obtained only by having the driveshaft vertical and the propeller placed below bottom of the boat. If the above instructions are followed, the lower unit should clear the bottom of the boat when the motor is turned to reverse position; however, some boats may be so constructed that the keel will have to be modified for clearance.

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. Adjust lower unit angle by tilting motor slightly. Lift up on lever (Fig. 4) and move it forward or backward so that lower unit is in a vertical position when boat is loaded and running (see Fig. 2).

### 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 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. (See Fig. 4.)

## 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.

### IMPORTANT

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.

*Important Notice!*

You are to be congratulated on your selection of this outboard motor which is designed and built to give years of satisfactory service. The fine materials and high standards of workmanship used assure durability and lasting performance.

Read these instructions carefully before attempting to operate your motor. It is shipped complete ready for use.

**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.

## STRAIN ALL FUEL

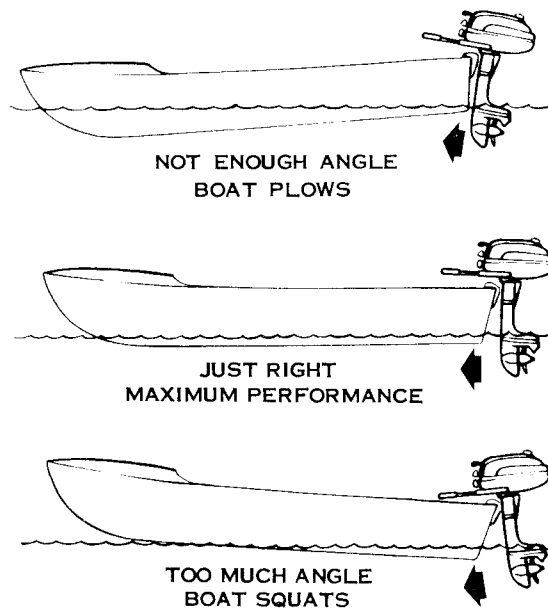
**PROCEDURE.** Pour into the container approximately one-half the amount of gasoline required. Add all the oil required at the ratio of 1/2 pint of oil to each gallon of gasoline. Shake the two together until they are thoroughly mixed. Add the balance of gasoline. Shake container briskly to insure mixing.

**LUBRICATION OF GEAR CASE.** The gear case has been filled at the factory with the correct lubricant. Check lubricant after first 5 hours of operation; then every 50 hours. (See page 5.)

## TAKE CARE OF YOUR MOTOR

The service obtained from your motor is dependent largely upon the care it is given. Following the simple suggestions listed below will assist in its proper maintenance.

1. Remove carburetor and gas tank strainer screens and clean periodically.
2. Inspect spark plug occasionally, clean thoroughly, wipe dry and adjust gap if necessary.
3. Check and adjust breaker points.
4. Draw up all nuts and screws at least once a season.
5. Remove grease and drain plugs periodically, drain off water if any and fill with lubricant.
6. Wipe off motor regularly with a clean oily cloth.
7. Remove propeller periodically to inspect shear pin. Observe condition of propeller.



**FIGURE 2**

# Operation of Your Motor

## BREAK-IN PERIOD

Reasonable care in the operation of the motor during the first several hours of use will improve its performance and insure longer life. Follow the oiling instructions carefully. Do not run continuously at full speed for the first few hours, to give the rings and bearings a chance to become well seated. The motor may not develop full speed and power until after approximately 20 hours operation. No extra oil is required for the break-in period.

## STARTING AND OPERATING INSTRUCTIONS

See Fig. 3.

1. Open air vent screw in fuel tank filler cap.
2. Open fuel shut-off valve under fuel tank.
3. Move speed control lever to position marked START.
4. Turn carburetor knob to left or PRIME position and hold down against spring pressure for 10 seconds; then release.
5. Pull starter handle slowly until starter engages, then pull forcibly. If motor does not start after several pulls, repeat priming instructions. Allow starter cord to rewind before releasing handle. Also, do not pull cord out more than 30 inches.
6. After motor starts, turn carburetor knob slowly to right until motor runs smoothly. Advance speed control lever as desired.
7. Advance speed control lever to FAST position and adjust carburetor knob until motor runs smoothly. Since the speed control lever and carburetor control are synchronized, the full range of speed is obtained without further adjustment of the carburetor knob, except when under unusual conditions.
8. To stop motor, move speed control lever to position marked STOP or beyond.

### NOTE

The above starting instructions are given in step by step form - it is advisable to become familiar with each detail prior to actually operating the motor. A few moments spent in practice are well worth while.

## 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 speed control lever at START position.

## FLOODING

Flooding may occur by over-priming or priming a warm motor. If this occurs, turn carburetor knob to extreme right (lean 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.

## REVERSE

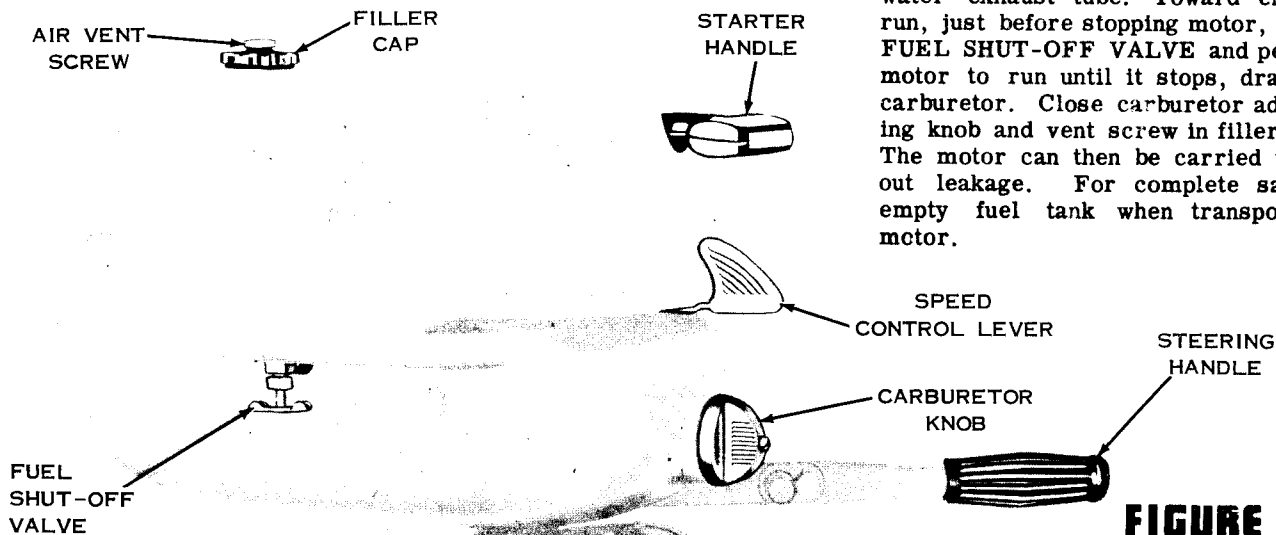
An important feature of the motor is that it can be turned completely around in its pivot bearing, permitting backing up and easy maneuverability. To reverse, simply raise the steering handle and turn the motor around to REVERSE position. With the motor in reverse position, the reverse lock (Fig. 4) prevents the thrust of the propeller from forcing the lower unit out of the water. The reverse lock should be kept lubricated with grease and checked periodically for proper operation. For **SAFETY SAKE** do not attempt to reverse motor at any speed higher than half throttle.

### CAUTION

Be careful not to strike submerged obstruction when in REVERSE - motor does not tilt in reverse position.

## REMOVING MOTOR FROM BOAT

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 magneto or carry with the magneto down before draining water, as this may allow water to enter the powerhead from underwater exhaust tube. Toward end of run, just before stopping motor, close FUEL SHUT-OFF VALVE and permit motor to run until it stops, draining carburetor. Close carburetor adjusting knob and vent screw in filler cap. The motor can then be carried without leakage. For complete safety, empty fuel tank when transporting motor.



**FIGURE 3**

# Operation 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 SHEAR PIN

If the propeller strikes an obstruction, a shear pin in the propeller shaft may shear off, preventing damage to propeller, gears or shaft. When the pin shears the motor will suddenly speed, but propeller will not turn. **SHUT OFF MOTOR IMMEDIATELY.** Remove cotter pin, propeller shaft nut, and slip off propeller. Remove broken pin from propeller shaft and replace with new shear pin. Reassemble and tighten nut firmly against propeller but not tight enough to partially shear the pin. Replace cotter pin.

## THE CO-PILOT

The co-pilot permits the motor to maintain a set course without holding the steering handle. It can be adjusted by tightening the screw, located under front of pivot bearing (Fig. 4) to the desired tension.

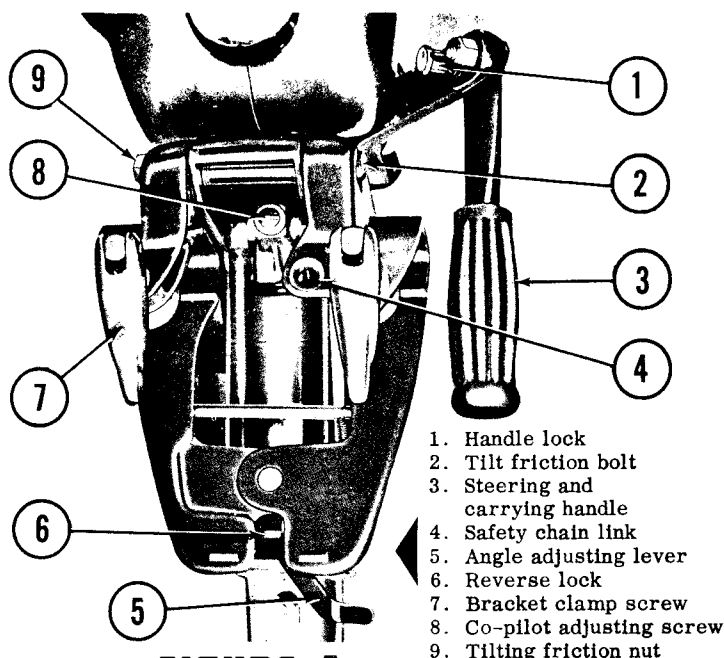
## TILTING FRICTION

To adjust tilting friction, tighten or loosen nut (Fig. 4) on side of stern bracket to desired tension. Tension should not be too great, but only enough to maintain motor in a tilt position. Never tilt motor by using steering handle. Grasp rear of tank at sides, then tilt.

## EMERGENCY STARTING

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

Remove the screws holding starter housing to fuel tank. Lift off entire starter housing assembly. To start the motor, wind a 3/16-inch rope with a



**FIGURE 4**

knot in one end clockwise on the pulley on top of the flywheel. Start motor in the usual manner. (Fig. 5.)

When replacing 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.

## CARRYING HANDLE

The carrying handle is a part of the steering handle. To use, raise handle grip slightly, press spring loaded steering handle lock (Fig. 4) and push handle all the way down. Release lock and handle will automatically lock in position. To again use as steering handle, press lock and raise handle.

## CARBURETOR ADJUSTMENT

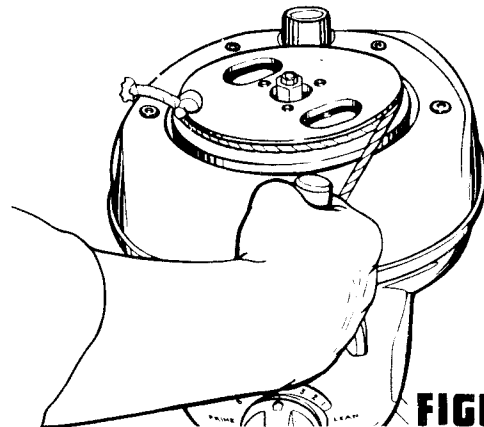
The carburetor is adjusted for both high and low speed operation at the factory. If further adjustment is necessary proceed as follows: With port motor cover removed, start motor as previously instructed, and operate at FAST, adjust carburetor knob until motor runs smoothly. Now move speed control lever to SLOW. Turn low speed adjusting screw, located on right hand side of carburetor (Fig. 7) toward RICH or LEAN until satisfactory low speed performance is obtained.

**NOTE:** Turning low speed adjusting screw or carburetor knob to the left enriches the mixture, that is, increases the ratio of fuel to air. Turning to the right leans the mixture, reducing the ratio of fuel to air. A rich mixture may cause motor to run "rough" and a lean mixture is indicated by "coughing" or "spitting" in the carburetor.

The carburetor is now adjusted for average conditions. Special setting may be necessary for best performance with heavy boat loads or very slow trolling.

## RUNNING MOTOR IN TEST TANK

1. Do not run motor out of water.
2. Do not "break-in" motor in tank.
3. When running in tank be sure gear housing and propeller are submerged.
4. Do not race motor in tank.
5. Use test propeller when testing motor in tank.
6. 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.



# CARE OF YOUR MOTOR

## CARE OF MOTOR IN COLD WEATHER

The motor will not freeze while in use, but when it is idle, water in the cylinder or pump might freeze and damage the motor. Drain by setting the motor in an upright position and revolving the flywheel with speed control lever 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 "Storing Your Motor.")

## SALT WATER INSTRUCTIONS

When using a motor in salt water it should be removed from the boat when not in service. Flush the motor thoroughly either by running it in a tank of fresh water or by removing WATER FLUSH PLUG (Fig. 6) in gear housing and, using an adapter, (available through your regular Service Parts Source), run fresh water through cooling system. Wipe the motor dry and go over all parts with an oily cloth. This should be done as soon as possible after removing motor from boat.

## STORING YOUR MOTOR

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

## PREPARATION FOR STORAGE

Remove all plugs in the gear case housing, (Fig. 6) to allow water (if any) in the gear case and water remaining in the cooling system to drain off. To make certain all water has been drained, rock motor from side to side. If operated in salt water, flush cooling system with fresh water.

Refill gear case with gear lubricant.

Remove spark plug - pour about a tablespoon of clean oil through spark plug opening. Turn flywheel slowly to distribute oil on cylinder walls. Replace spark plug.

Drain all fuel from gas tank, gas line and carburetor. Remove and clean carburetor and gas tank screens. (Located at bottom of carburetor bowl and attached to fitting in outlet of gas tank.)

\*\*\*

## 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.

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.

## PUTTING MOTOR IN USE AFTER STORAGE

Remove spark plug and ground ignition lead to some part of motor. (THIS IS IMPORTANT.) Spin motor by pulling on starter cord to remove excess oil from cylinder. Clean spark plug and replace. Install new plug if it is cracked, broken, or badly burned. Tighten all screws and nuts. Check adjustments such as tilting friction, co-pilot, and carburetor knob.

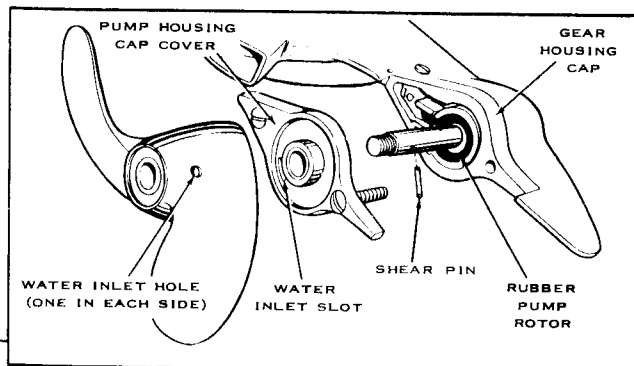
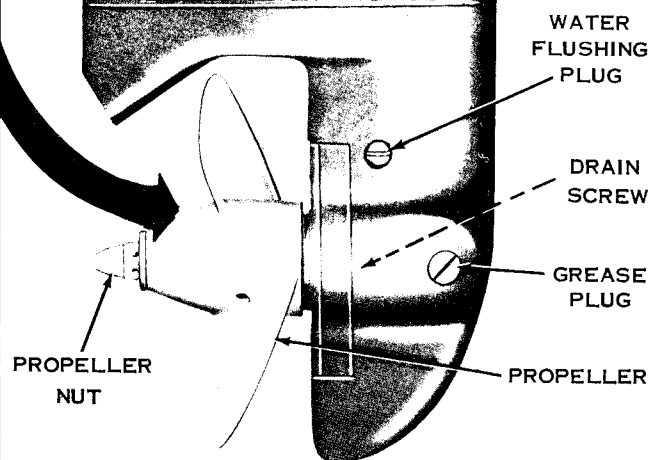


FIGURE 6



# Care of Your Motor

## GEAR LUBRICATION

Keep gear housing filled with grease at all times. To fill, remove grease plug in right side of gear housing and also drain screw on opposite side (Fig. 6). Do not lose washers on each. Insert grease through plug hole until grease comes out of drain screw hole. Replace screw and plug securely. We recommend a good grade outboard gear grease. Do not use automotive differential or cup grease.

## COOLING SYSTEM

This motor is water cooled. Water enters through two holes in the propeller hub and into the positive action rotary water pump located directly back of the propeller (see Fig. 6). The water is circulated through tubes to the cylinder jacket and expelled from the motor through exhaust relief slots in rear of lower unit above the water line.

### NOTE

When motor is in operation, periodically check water pump operation by noting whether water is expelled as explained above. If no water is expelled or motor heats abnormally it may indicate worn pump parts or clogged intake in propeller or pump cap.

## SPARK PLUG

The correct spark plug gap is .030 inch. The plug is set properly at the factory and is right when the motor is received. We recommend Champion J6J

### CAUTION

THE CYLINDER REAR COVER IS PERMANENTLY ATTACHED TO THE CYLINDER AND ENCLOSES THE CYLINDER COOLING CHAMBER. DO NOT ATTEMPT TO REMOVE IT.

spark plug, or equivalent for replacement. Keep the spark plug cable free from oil and do not permit it to become frayed or broken. Clean the spark plug periodically and reset to the proper gap setting.

## CARBURETOR ADJUSTING NEEDLE FRICTION

Should the carburetor adjusting needle become so loose that the carburetor knob will not remain in a set position, it can be tightened by drawing down on the packing nut (Fig. 7). If tightening of the packing nut will not help, it may be necessary to replace the packing. To replace packing, remove the carburetor knob, motor covers, primer cam, adjusting needle, packing nut, washer, packing and spacer. Install new packing and reassemble. Be sure all of old packing is removed before inserting new.

### NOTE

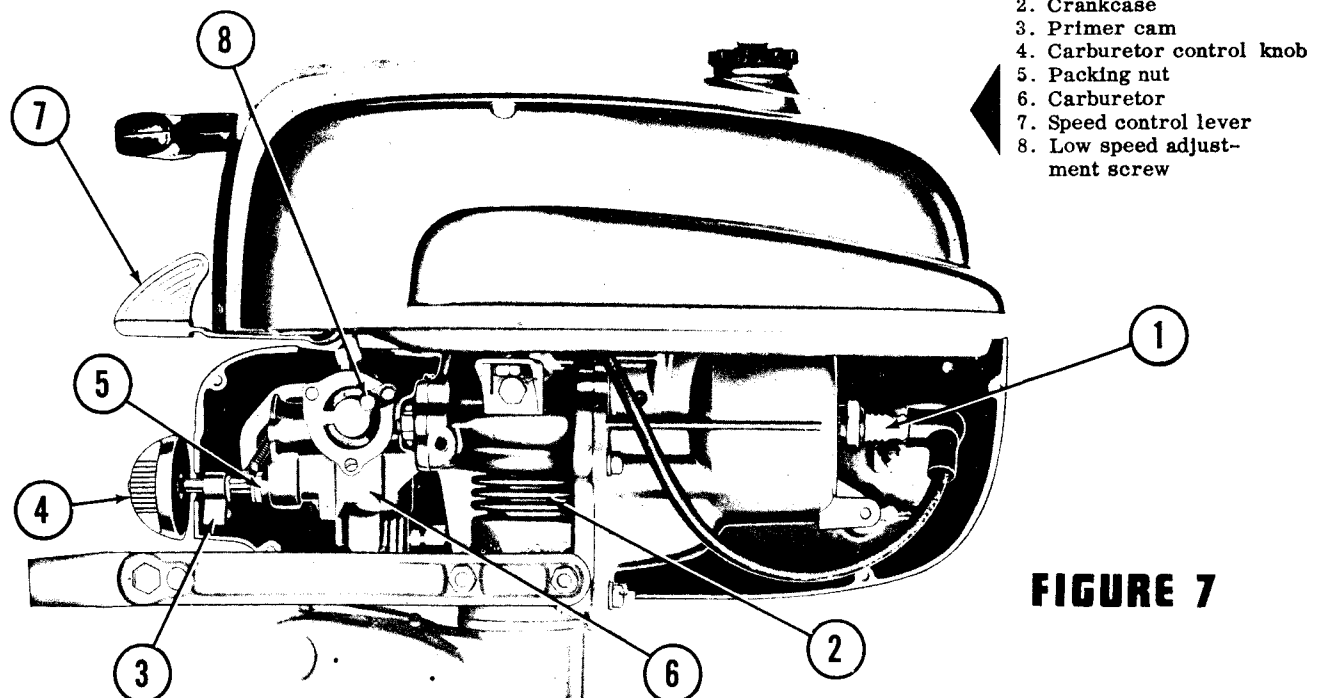
Turn carburetor knob to "Prime" position when tightening packing nut to prevent damage to needle seat.

## 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 and carburetor by removing the fuel tank filler cap and turning motor upside down.



**FIGURE 7**

## Care of Your Motor

2. Remove and dry spark plug. Ground spark plug wire from magneto by attaching to cylinder of motor, and crank motor to remove water from cylinder and crankcase.

3. Check spark by holding spark plug wire about 1/4 inch from cylinder and cranking motor rapidly.

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

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

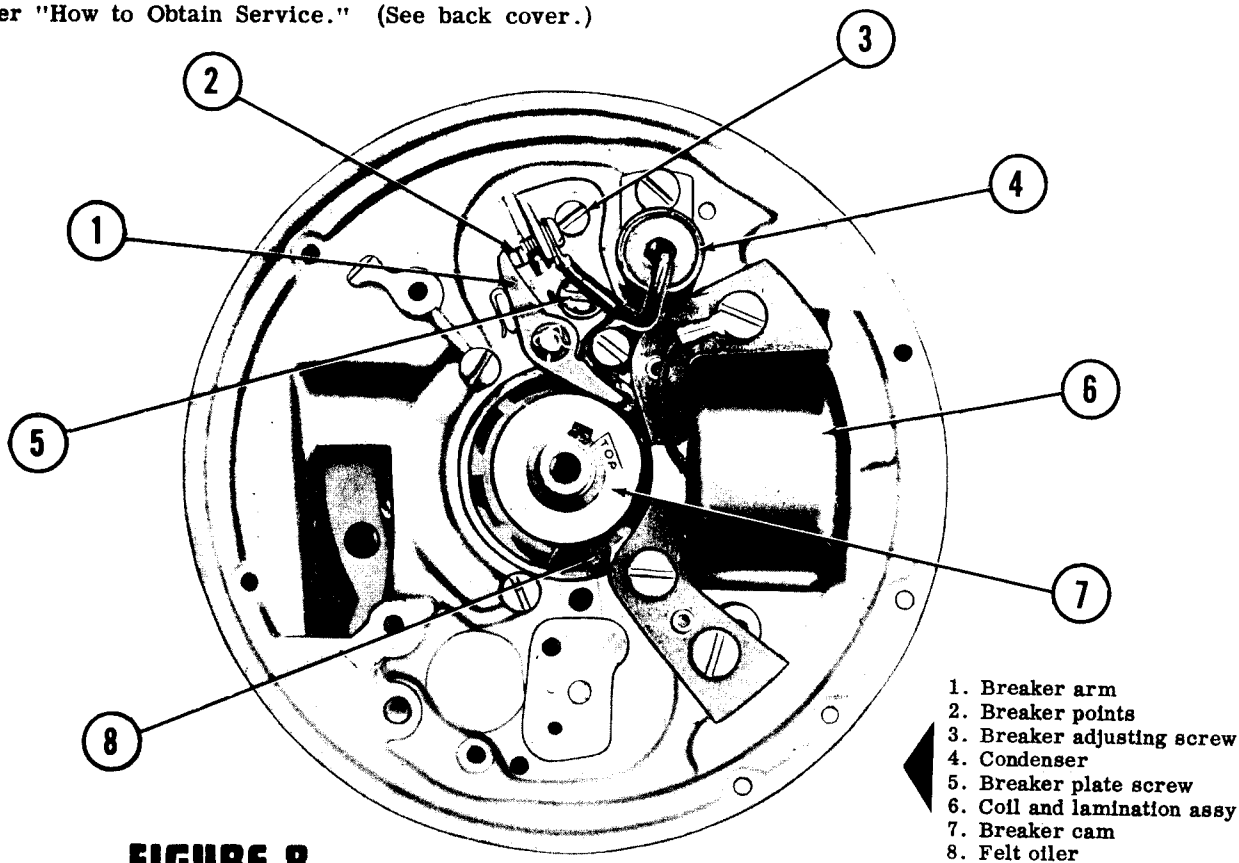
## MAGNETO

It may be necessary occasionally to inspect the magneto. If so, it is necessary to remove the starter housing, side covers, gas tank and flywheel. However, if cleaning or adjusting of points only is required, remove the starter housing, (see page 3, "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. When adjusting points use the opening in the flywheel which is farthest from the emergency starting rope notch on rim of flywheel.

## HOW TO REMOVE FLYWHEEL

Remove motor covers, disconnect fuel line, and remove fuel tank. 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 the key by which the flywheel is held in engagement with the shaft. When again replacing flywheel, be sure key is in place and fits snugly, then draw up the nut as tight as possible. Use a hammer on the wrench to insure good tightening.





## Care of Your Motor

### MAGNETO LUBRICATION

The magneto is equipped with a felt oiler to lubricate the cam and reduce wear on the cam block of the breaker (Fig. 8). 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. 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. When adjusting points use the opening in the flywheel which is farthest from the emergency starting rope notch on rim of flywheel. Check with .020 inch feeler gage. If opening is under or over .020 inch, loosen breaker plate screw (item 5, Fig. 8) slightly. Turn adjusting screw (item 3, Fig. 8) to right or left until required setting is obtained. Tighten breaker plate screw and re-check with gage.

### CARBURETOR (See Fig. 9.)

It is important that the carburetor be kept clean. Dirt, sediment or water may accumulate in the carburetor and cause hard starting or irregular performance.

To clean the carburetor and reed valve, disconnect the fuel line, and remove two nuts and lockwashers which attach the carburetor to the crankcase. Remove the carburetor carefully to prevent damage to the gasket between crankcase and carburetor. If the gasket is damaged, replace it with a new one.

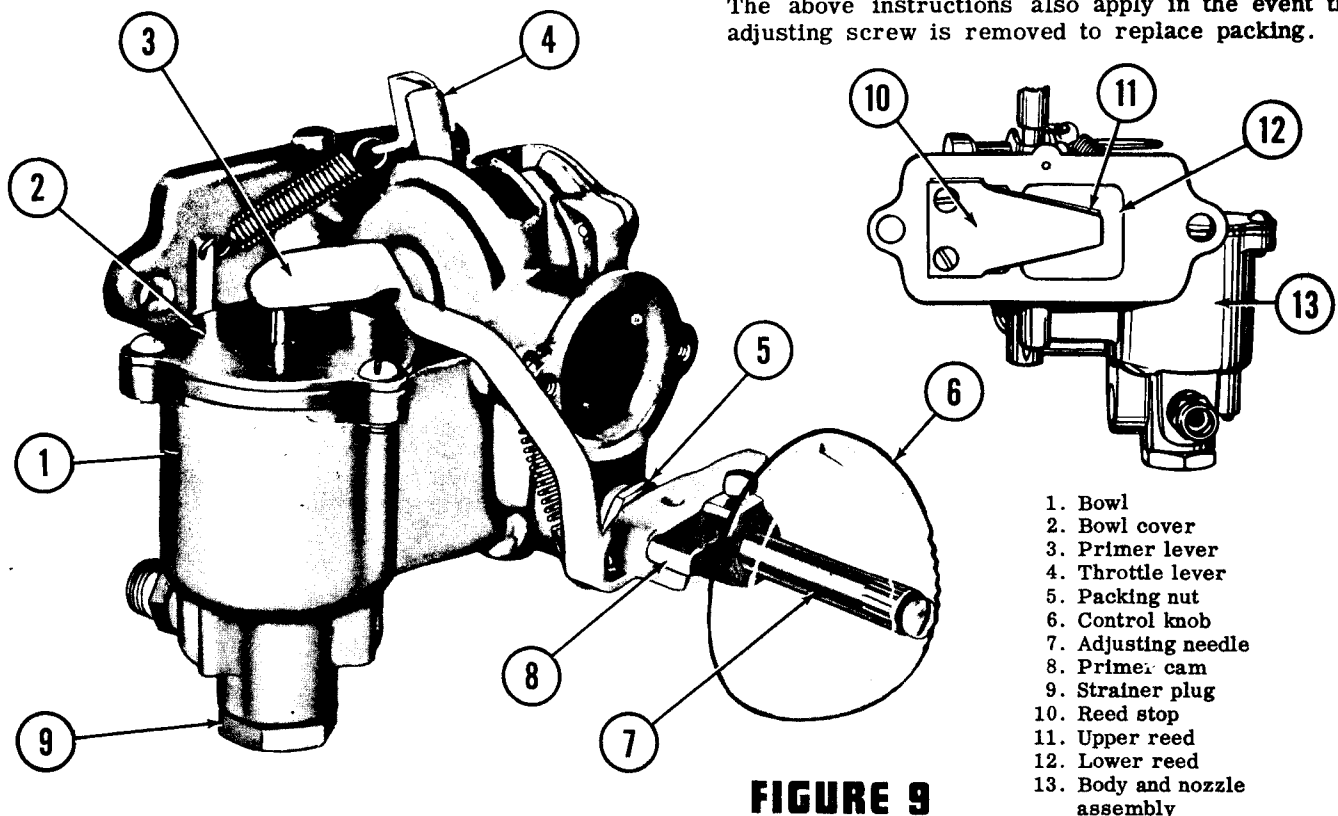
Check the reed valve carefully for dirt between the lower reed and reed plate, or for damaged reed. Remove the float bowl drain plug and screen. Remove the float bowl cover. Flush out the float bowl and entire carburetor including the strainer screen. Remove adjusting needle and blow out fuel passage with compressed air. (See Item 7, Fig. 9.)

Reassemble and install the carburetor on the motor. Be sure gasket is in good condition and is in place to form an air tight seal. When installing gasket, be sure side of gasket with small hole is at top to line up with drain hole in crankcase and carburetor.

After reassembling carburetor with exception of carburetor knob and primer cam and attaching to Motor, it is necessary to make initial adjustment of the adjusting needle before installing carburetor knob or fastening primer cam to adjusting needle. Turn adjusting needle in (clockwise) with screwdriver until seated (DO NOT FORCE). Then back out (counterclockwise) one-half turn. Slip primer cam on adjusting needle leaving 1/16" clearance between it and primer lever. Point primer cam up and tighten set screw. Replace Motor covers and fasten carburetor knob to adjusting needle with arrow pointing straight up.

Refer to Low Speed adjustment on Page 2 for final adjustment of Low speed adjusting screw.

The above instructions also apply in the event the adjusting screw is removed to replace packing.



**FIGURE 9**

# Care of Your Motor

## Trouble Check Chart

This chart will provide an outline for the systematic tracing of trouble with the least amount of effort. Once you have found the trouble, the remedy is usually self-evident.

### 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 screens in carburetor, or 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.  
Coil or condenser faulty.

#### NO COMPRESSION

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

#### 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 grease in gear case.  
Driveshaft or propeller shaft gear broken.

### WATER STOPS CIRCULATING

Clogged water pump inlet. Worn or damaged water pump.  
Broken or clogged water tube.  
Gear housing not setting deep enough in water.  
Leaks at water tube connections.

### 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.

### 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.  
Weak coil, condenser or magnet.

#### CARBURETOR

Nozzle or feed hole dirty. Fuel line clogged.  
Water or foreign matter in strainers.  
Carburetor passages clogged.  
Fuel shut-off valve partly closed.

### MOTOR LOSES POWER

#### 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 RUNS BUT PROPELLER DOES NOT TURN

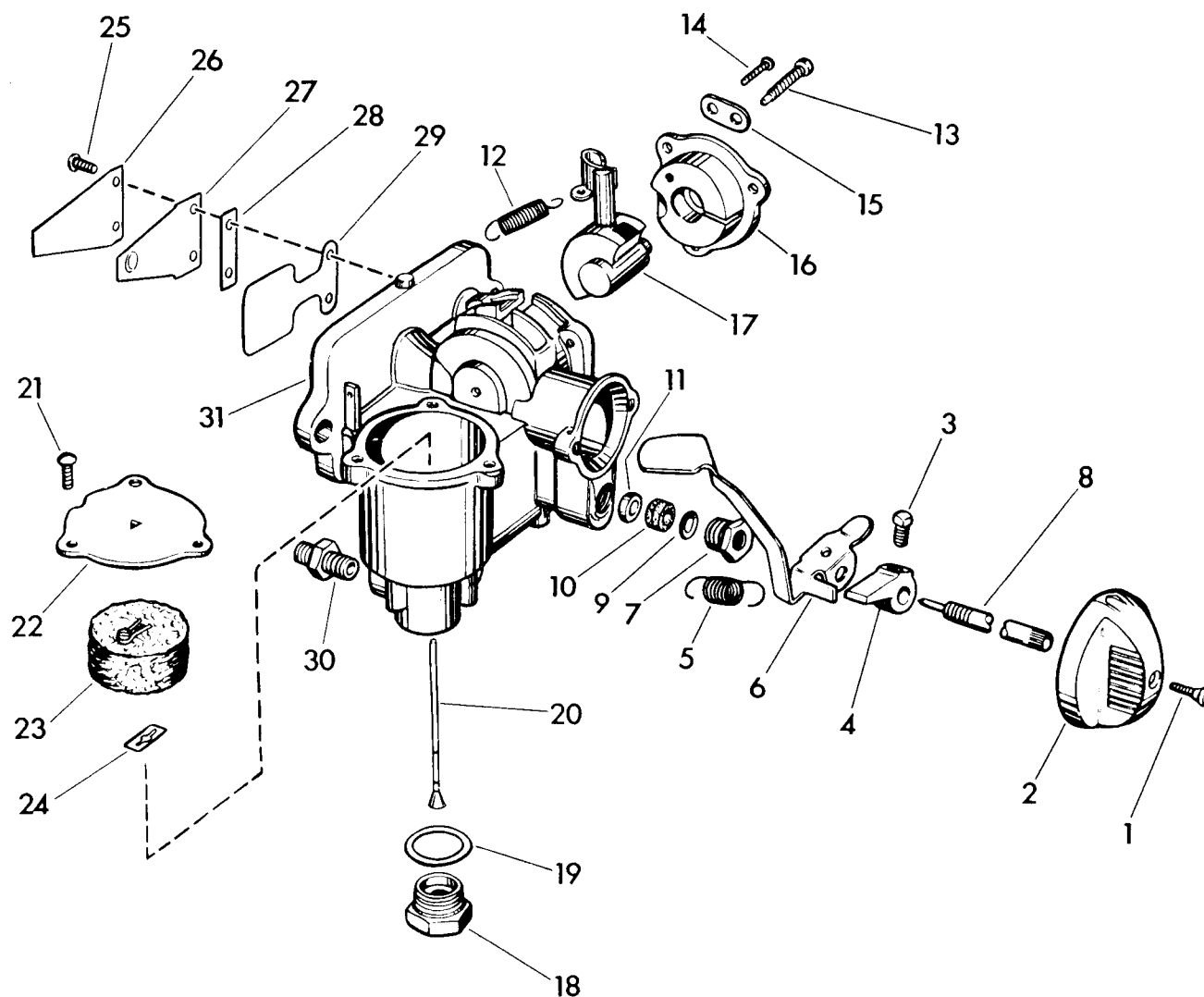
Shear pin sheared. Propeller shaft broken.  
Gears broken or drive shaft broken.  
Gear pin sheared.

### MOTOR VIBRATES

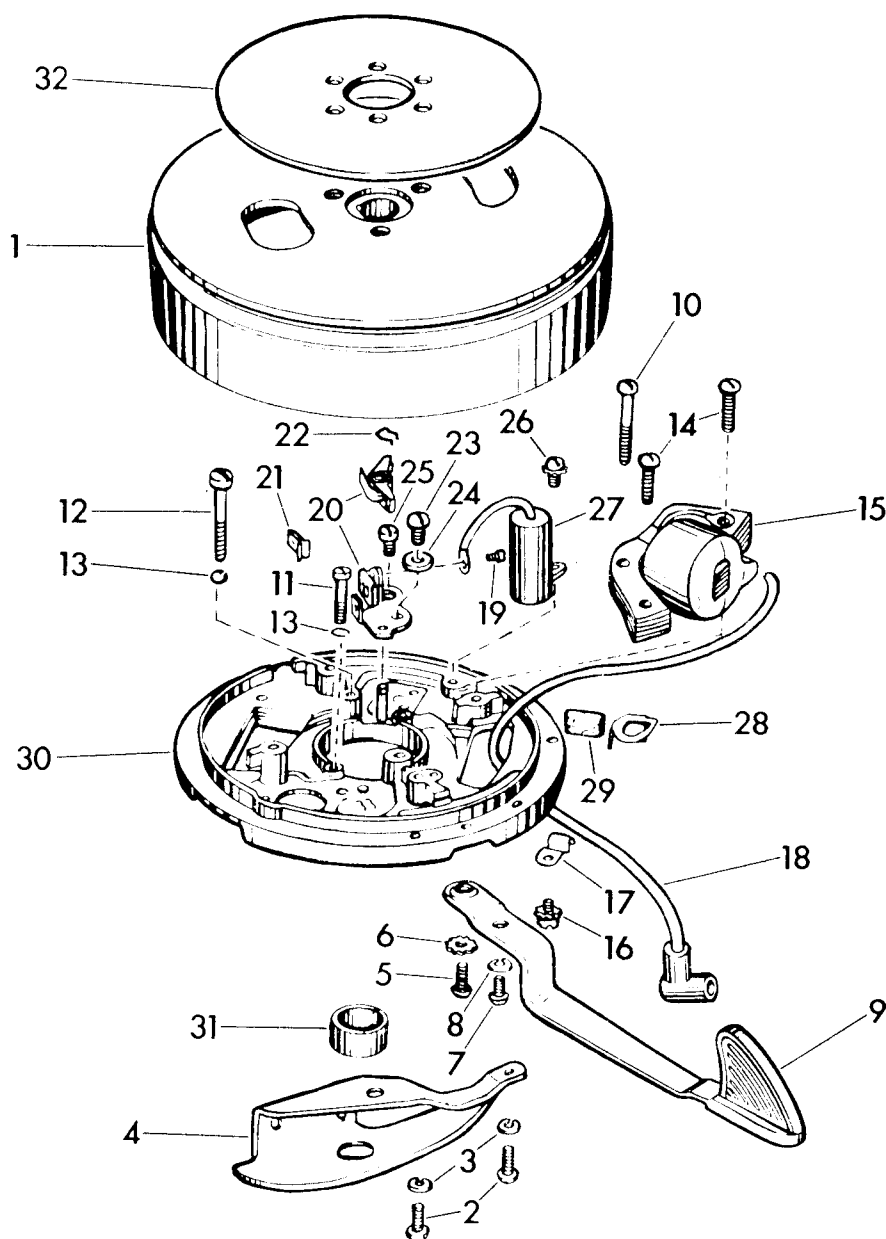
Faulty ignition or carburetion.  
Loose pivot bearing.  
Bent or broken propeller blade or motor loose on boat.

### MOTOR RUNS BUT BOAT MAKES LITTLE OR NO PROGRESS

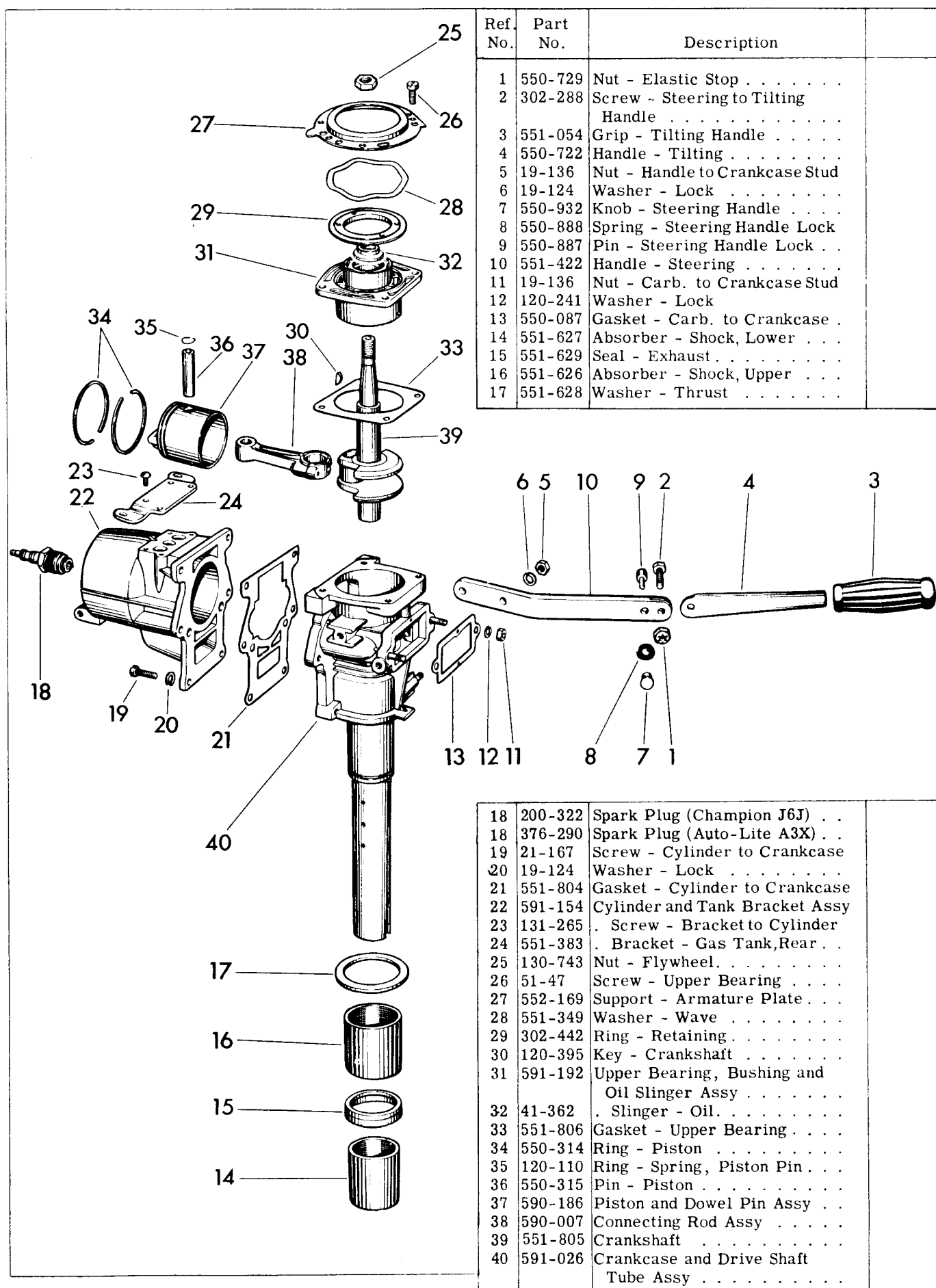
Badly bent propeller blades.  
Weeds or rope wound around propeller.  
Rope or other obstruction dragging in water.

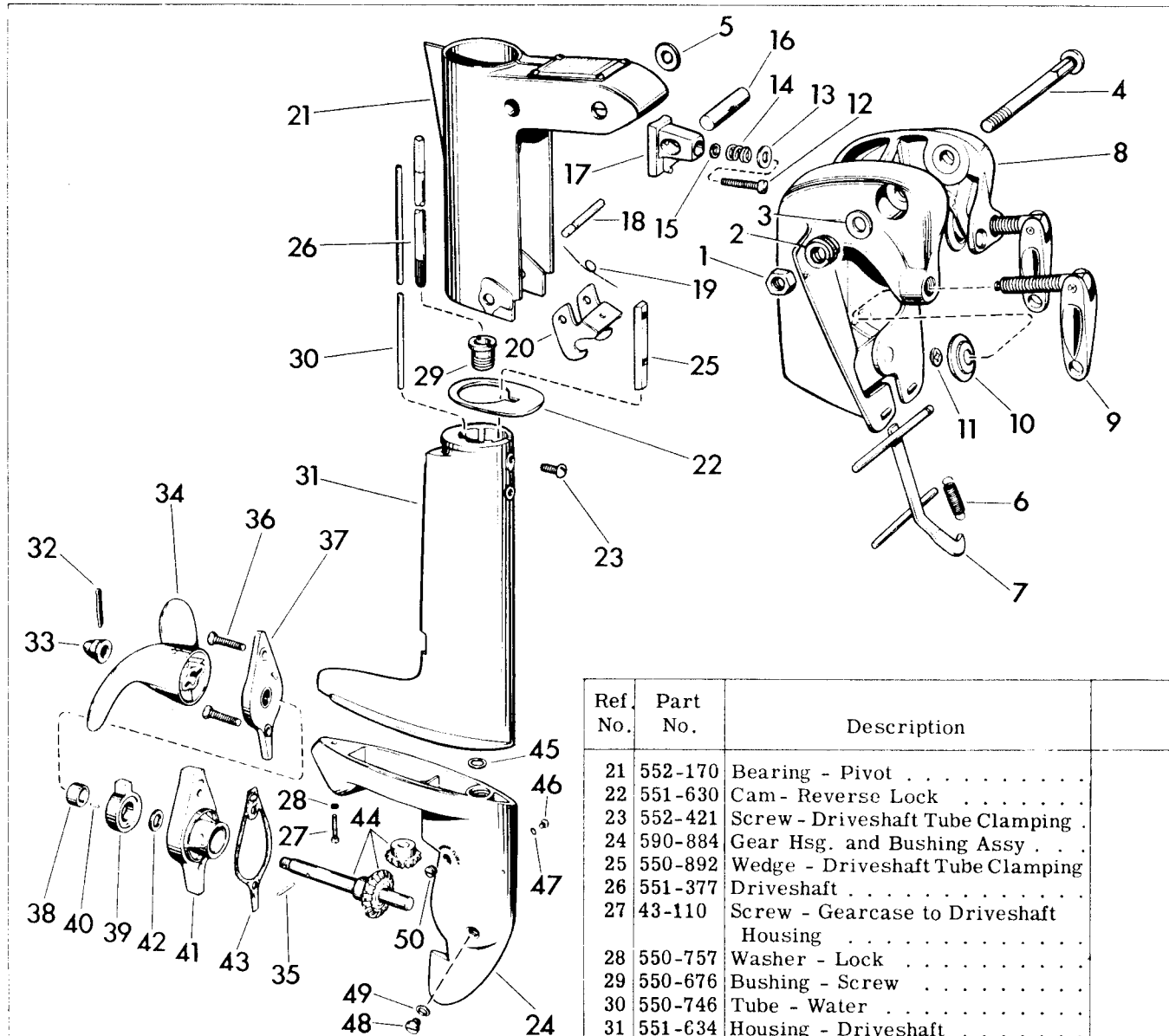


Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	551-517	Screw - Carburetor Knob . . .	16	550-276	Cover - Throttle Valve . . . .
2	552-410	Knob - Carb. Mixture Control	17	591-028	Throttle Valve and Lever Assy
	591-184	Carburetor Assy. . . . .	18	133-487	Plug - Strainer . . . . .
3	133-384	Screw - Set . . . . .	19	171-318	Gasket - Strainer Plug . . . .
4	550-015	Cam - Primer. . . . .	20	132-351	Needle - Inlet . . . . .
5	551-988	Spring - Primer. . . . .	21	302-227	Screw - Cover . . . . .
6	551-068	Lever - Primer . . . . .	22	550-805	Cover - Carburetor Bowl . . .
7	132-691	Gland - Adjusting Needle . .	23	591-188	Float Assembly . . . . .
8	551-881	Needle - Carburetor Adjusting	24	120-813	Lock - Float. . . . .
9	551-953	Washer - High Speed Needle	25	131-256	Screw - Reed . . . . .
10	550-259	Packing . . . . .	26	551-659	Stop - Reed . . . . .
11	551-954	Spacer - High Speed Needle.	27	552-214	Reed - Upper . . . . .
12	550-405	Spring - Carburetor Throttle	28	550-262	Spacer . . . . .
13	550-280	Screw - Throttle Adjusting .	29	550-261	Reed - Lower . . . . .
14	302-227	Screw - Throttle Cover . . .	30	13-365	Connection - Straight . . . . .
15	551-465	Plate - Friction . . . . .	31	590-718	Carb. Body and Nozzle Assy .



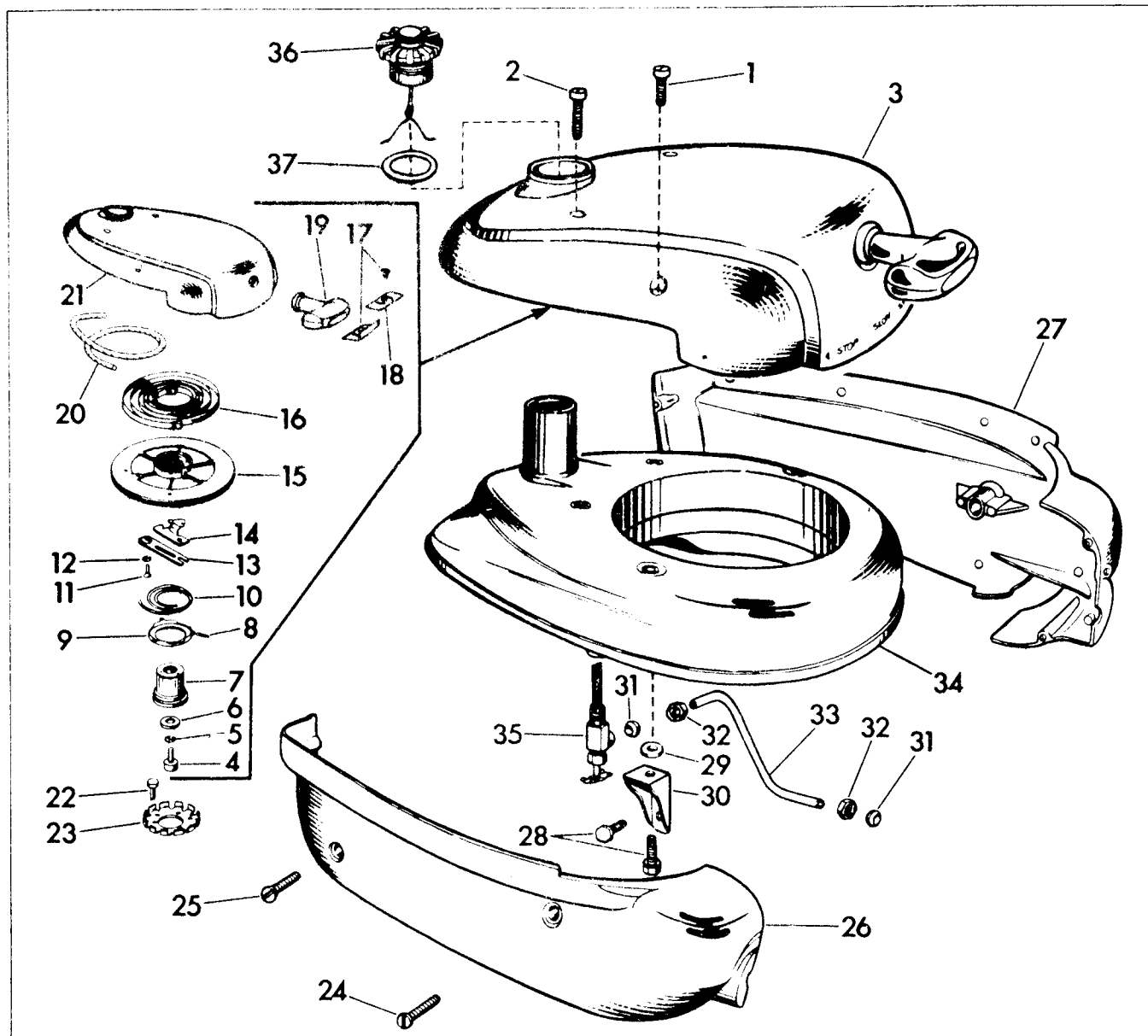
Ref No.	Part No.	Description	Ref No.	Part No.	Description
1	580-106	Flywheel . . . . .	17	510-218	Clamp - High Tension Lead . .
2	71-765	Screw - Cam to Armature Plate.	18	580-142	Lead - High Tension . . . . .
3	3-28	Washer - Lock . . . . .	19	510-194	Screw - Breaker Terminal . .
4	551-803	Cam - Throttle . . . . .	20	580-148	Breaker Assy Complete . . . .
5	71-1106	Screw - Handle to Plate . . . .	21	510-204	. . Clip - Spring, Breaker . . .
6	71-1026	Washer - Lock . . . . .	22	71-1052	. . Clip - Spring . . . . .
7	39-169	Screw - Handle to Plate . . . .	23	510-278	Screw - Breaker Mtg. . . . .
8	3-28	Washer - Lock . . . . .	24	510-208	Washer - Bow . . . . .
9	591-600	Timing Lever Assembly . . . .	25	510-185	Eccentric - Breaker . . . . .
	580-128	Armature Plate - Complete . .	26	510-193	Screw - Condenser Mtg. . . . .
10	510-191	. Screw - Armature Plate Mtg.	27	510-173	Condenser . . . . .
11	510-192	. Screw - Armature Plate Mtg.	28	510-188	Clip - Oiler . . . . .
12	510-200	. Screw - Armature Plate Mtg.	29	510-189	Wick - Oiler . . . . .
13	3-28	. Washer - Lock . . . . .	30	580-121	. Armature Plate and Post Assy .
14	510-195	. Screw - Lamination Mtg. . .	31	510-167	Cam - Magneto . . . . .
15	580-118	. Coil and Lamination Assy . .	32	303-249	Cover - Inspection Hole . . . .
16	510-193	. Screw - High Tension Lead Mtg.			





Ref. No.	Part No.	Description
1	130-743	Nut - Lock, Stern Brkt Bolt . . . .
2	202-027	Spring - Stern Bracket Bolt . . . .
3	202-026	Washer - Stern Bracket Bolt . . . .
4	203-179	Bolt - Stern Bracket. . . . .
5	202-036	Washer - Friction. . . . .
6	202-021	Spring - Tilting Lever. . . . .
7	276-417	Tilting Lever Assy. . . . .
8	277-176	Stern Bracket Assy . . . . .
9	375-744	Clamp Screw Assy(Incl. 10 & 11)
10	41-48	Plate - Swivel, Clamp Screw.
11	302-420	Retainer - Clamp Screw Button
12	21-124	Screw - Shock Absorber Clamp.
13	21-165	Washer . . . . .
14	551-113	Spring - Shock Absorber Clamp.
15	300-399	Washer. . . . .
16	551-631	Bar - Shock Absorber Clamp . . . .
17	551-632	Clamp - Shock Absorber . . . . .
18	200-671	Pin - Reverse Lock . . . . .
19	200-672	Spring - Reverse Lock . . . . .
20	200-583	Lock - Reverse . . . . .

Ref. No.	Part No.	Description
21	552-170	Bearing - Pivot . . . . .
22	551-630	Cam - Reverse Lock . . . . .
23	552-421	Screw - Driveshaft Tube Clamping .
24	590-884	Gear Hsg. and Bushing Assy . . . .
25	550-892	Wedge - Driveshaft Tube Clamping
26	551-377	Driveshaft . . . . .
27	43-110	Screw - Gearcase to Driveshaft Housing
28	550-757	Washer - Lock . . . . .
29	550-676	Bushing - Screw . . . . .
30	550-746	Tube - Water . . . . .
31	551-634	Housing - Driveshaft . . . . .
32	53-275	Pin - Cotter, Propeller Nut . . . .
33	550-680	Nut - Propeller . . . . .
34	551-401	Propeller . . . . .
35	29-210	Pin - Shear . . . . .
36	550-685	Screw - Cover to Gear Housing . . .
37	591-263	Cover - Gear Housing Cap Assy (Includes Item 36) . . . . .
38	550-671	Eccentric - Water Pump . . . . .
39	550-683	Rotor - Water Pump . . . . .
40	550-672	Pin - Eccentric, Water Pump . . . .
41	590-465	Gear Housing Cap and Grease Seal Assy . . . . .
42	550-684	Seal - Gear Housing Cap . . . . .
43	550-681	Gasket - Gear Housing Cap to Gearcase . . . . .
44	590-955	Propeller Shaft and Matched Gear Set . . . . .
45	550-749	Seal - Grease, Driveshaft . . . . .
46	551-676	Screw - Drain . . . . .
47	170-778	Gasket - Drain Screw . . . . .
48	27-283	Plug - Grease . . . . .
49	27-284	Gasket - Grease Plug . . . . .
50	130-314	Plug - Water Flushing . . . . .



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	27-17	Screw - Starter Hsg. to Tank, Front	19	202-479	Handle - Starter
2	302-238	Screw - Starter Hsg. to Tank, Rear	20	304-097	Rope - Starter
*3	591-731	Starter Assy, Complete	*21	591-599	Starter - Housing Assy
4	131-991	Screw - Spindle to Starter Hsg.	22	302-468	Screw - Ratchet to Flywheel
5	13-51	Washer - Lock	23	202-111	Ratchet - Starter
6	202-356	Washer - Spindle Screw	24	552-224	Screw - Side Cover Mtg., Front
7	276-643	Spindle and Pin Assy	25	552-416	Screw - Side Cover Mtg., Rear
8	202-155	Spring - Equalizer Cup	*26	551-429	Cover - Side, Starboard
9	202-114	Cup - Equalizer	*27	551-430	Cover - Side, Port
10	302-222	Spring - Friction	28	551-793	Screw - Fuel Tank Mtg.
11	302-104	Screw - Retainer	29	302-401	Washer - Fuel Tank to Bracket
12	71-1026	Washer - Lock	30	551-394	Bracket - Fuel Tank
13	202-317	Retainer - Starter Pawl	31	13-304	Sleeve - Fuel Line
14	202-470	Pawl - Starter	32	13-305	Nut - Fuel Line
15	376-377	Starter Pulley Assy	33	551-400	Line - Fuel
16	41-197	Spring - Starter	*34	591-741	Fuel Tank Assy
17	591-214	Clamp and Screw - Rope	35	590-732	Shut-Off Valve and Screen Assy
18	551-205	Clamp - Rope	36	591-152	Filler Cap Assy
			37	5-48	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.

## Correct Lubricants For Your Motor

**POWER HEAD.** The entire power head of this motor is lubricated by oil mixed with the gasoline. It is important therefore to be sure the correct oil is used and that it is properly mixed. (See page 1.)

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 CASE.** The gear case of this motor is filled at the factory with gear grease for lubrication of gears and bearings. We recommend Outboard Mobile Grease for best results. Do not use Automotive differential or cup grease.