

INSTRUCTIONS

AND REPAIR PARTS LIST

for

Eaton's

Viking

OUTBOARD MOTORS

3.0 O. B. C. CERTIFIED BRAKE HORSE-
POWER AT 4000 R. P. M.

Standard Single Cylinder
Model No. C 1G6

ALWAYS GIVE COMPLETE MOTOR
MODEL NUMBER WHEN ORDERING
PARTS—

Manufactured expressly for

THE T. EATON COMPANY LIMITED, CANADA

by

OUTBOARD, MARINE & MFG. CO. OF CANADA, LTD. — PETERBORO, CANADA

Part #551275.

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 our satisfaction 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 the factory must be prepaid.

THE T. EATON CO. LIMITED

OPERATION AND CARE OF THE VIKING OUTBOARD MOTOR

This outboard motor 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 the motor.

HOW TO OPERATE THE MOTOR

FUEL AND LUBRICATION—In an outboard motor the bearings, pistons, rings and other moving parts are lubricated by mixing oil with the gasoline.

Use any good grade of medium (regular) gasoline and Medium Heavy S.A.E. 30 motor oil. Mix the oil and gasoline thoroughly. For best results strain the fuel through a chamois or through a funnel with a fine gauge strainer screen. **Never pour gasoline or oil into the tank unmixed.**

Keep the gear housing filled with a good waterproof outboard motor gear grease. To fill the gear housing, remove the grease screw plug in gear housing. Also remove the drain plug screw located in the gear housing cap on the propeller end of housing. (This will allow water to drain out.) Then fill housing with grease thru the grease plug hole. Housing is filled when grease comes out of drain plug hole. Do not use automobile differential or cup grease.

OILING INSTRUCTIONS—1. For first five hours, mix $\frac{3}{4}$ pint of regular Gas-Engine oil, medium heavy S.A.E. No. 30 with each gallon of gasoline.

2. After five hours of operation, reduce oil to $\frac{1}{2}$ pint per each gallon of gasoline.

3. Mix the oil and gasoline thoroughly in a clean separate can before pouring into fuel tank.

4. Keep gear housing filled with outboard motor gear grease.

HOW TO ATTACH THE MOTOR TO THE BOAT—Hang the motor over the stern of the boat with the bracket in the center of the stern board or transom. Tighten the bracket thumb screws securely. Do not use a wrench. Change the angle adjustment on the rear of the stern bracket, if necessary, so that the motor is in a vertical position when the boat is loaded and running. The motor is made for use on a standard 15 inch height stern. If the stern is higher cut down to 15 inches to accommodate the bracket so that the propeller will be at the right depth.

OPERATING INSTRUCTIONS—1. Open gasoline shut-off valve. Open vent screw in filler cap on the gasoline tank. The motor will not operate when vent is closed.

2. Move speed control lever to position marked "START."

3. Turn carburetor control knob to extreme left to word "PRIME" and hold in this position about 8 to 10 seconds then release.

4. Wind starter cord on pulley in clockwise direction and pull forcibly. If motor does not start on first attempt, pull rope 2 or 3 times with control knob set at prime.
5. After motor starts turn carburetor control knob slowly to the right until motor runs smoothly. Advance speed control lever toward "FAST" position to increase speed.
6. When motor warms up it may be necessary to readjust both speed control lever and carburetor control knob in order to attain maximum speed.
7. To stop motor move speed control lever to position marked "STOP."
8. It is not necessary to prime the motor when starting, if it has been warmed up.

REMOVING MOTOR FROM BOAT—When removing motor from boat, lift motor in a straight upward position and hold in this position 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 as this may allow water to enter the powerhead from muffler or underwater exhaust tube.

When the motor is left on the boat, tilt it out of the water so the underwater exhaust outlet is above the water line. The motor should be tilted so that the shaft hangs on an angle that will allow the water to drain from the exhaust tube. A stick inserted between the shaft and stern bracket will hold the motor so it will not drop back in the water from any movement of the boat. If the exhaust pipe is left in the water, water may enter the cylinder.

HOW TO CARE FOR THE 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 at full speed for the first few hours, to give the rings and bearings a chance to become well seated. The motor will develop full speed and power after approximately 20 hours of operation.

MAGNETO—The correct magneto point gap is .020 in. maximum opening. It needs no attention as long as the spark is good. To clean points, use a very finepoint file or nail file. A piece of hard paper drawn between the points will remove dirt and grease. Be careful not to leave any lint from the paper on the points.

SPARK PLUG—The correct spark plug gap is .025 in. Plugs are set properly at the factory and are right when the motor is received. We recommend Champion J-9J or J-10 Commercial J spark plug for replacement. Keep the spark plug cable free from oil and do not permit it to become frayed and broken. Clean the spark plug periodically and reset the gap.

CARBURETOR ADJUSTMENT—The carburetor is adjusted for both high and low speed operation at the factory. If further adjustment is necessary proceed as follows: Run motor for a few minutes with the speed control lever set at "FAST" and then adjust the carburetor control until motor runs smoothly. Now move speed control lever to

"SLOW." Turn idle adjusting screw, located directly above carburetor control knob, until satisfactory low speed performance is obtained.

The carburetor is now adjusted for average conditions. Special setting may be necessary for best performance with a heavy boat or other unusual conditions.

COOLING SYSTEM—The motor is water cooled. Water enters through two holes in the propeller hub. A positive action rotary pump circulates it through the cylinder jacket. Weeds or mud may clog the water intake and prevent the water from circulating. If the motor heats, turn it off at once and clean out the water inlet passages. To continue to run the motor without the water circulating through the cooling system may cause damage.

REPLACE THE SHEAR PIN—A shear pin is used on the propeller and will shear off when the propeller strikes an obstruction. When the pin shears off the motor continues to run but the propeller will not turn. This prevents damage to the gears and shafts. **Turn off the motor immediately when a pin shears.** To replace the pin, unscrew the propeller shaft nut and slip off the propeller. Remove the old pin and replace it with a new one. Always carry extra shear pins in your tool kit.

REVERSING—An important feature of the motor is that it can be turned completely around in its pivot bearing, permitting backing up and better maneuverability. With the

motor in its reversed position the reverse lock 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'S SAKE do not attempt to reverse the motor at any speed higher than half throttle.

HOW TO REMOVE FLYWHEEL—Hold the flywheel rigid and unscrew the flywheel nut about two full turns until it tightens again. The nut now acts as a flywheel puller. 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 flywheel nut a sharp blow with a hammer. If flywheel does not come off loosen nut a trifle more. 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, draw up the nut that holds it as tight as possible. Use a hammer on the wrench to insure good tightening.

SPEED CONTROL LEVER ADJUSTMENT—Should the speed control lever become so loose that it will not remain in a set position, it can be tightened by tightening the armature base clamp screw underneath the flywheel base.

CARBURETOR CONTROL KNOB ADJUSTMENT—Should the carburetor control knob become so loose that it will not remain in a set position, it can be tightened by drawing down on the packing nut. If tightening of the packing nut will not help, it may be necessary to replace the packing. To replace packing, remove the control knob from carburetor, also packing nut. Remove old packing, replace with new and reassemble.

PROPELLER—Motors are equipped with a propeller to give 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.

MOTOR USED IN SALT WATER—The motor should be removed from the boat when not in service. Flush the motor thoroughly by running it in a tank or barrel of fresh water. Wipe the motor dry and go over all parts with an oily cloth.

DO NOT RUN MOTOR OUT OF WATER—If motor is being run in a tank or barrel of water be sure that the gear housing as well as propeller is fully submerged while running. Watch motor very closely as the churning of the water by the propeller may create an air pocket and cause the motor to race and do serious damage to motor. **DO NOT RUN THE MOTOR IN A TANK FOR MORE THAN TWO MINUTES. NEVER RACE THE MOTOR WHEN RUNNING IN A TANK.**

MOTOR USED IN COLD WEATHER—The motor will not freeze while in use, but when it is idle, drain it by setting it in an upright position and revolving the flywheel. If the motor is to be stored during cold weather be sure that no water is left in the motor or it may freeze.

MOTOR THAT HAS BEEN SUBMERGED—A motor that has been submerged is temporarily out of working order. It must be dried out thoroughly before it can be used again. Remove all the fuel and dry the motor slowly over heat.

The magneto may need special attention. Remove the flywheel and dry the armature thoroughly with a rag and allow to remain open until completely dry. Be sure coil is dry by leaving magneto in open air for 24 hours or bake in a temperature not exceeding 100° F. for an hour. Do not spin flywheel while magneto is wet as it may short coil.

Remove, dry and clean spark plug. Remove carburetor, drain out all water, and flush thoroughly with gasoline.

Rotate motor slowly by means of propeller while pouring a small quantity of lubricating oil through spark plug hole, thus forcing all water out of cylinder and crankcase.

When magneto is thoroughly dry, reassemble on motor and check spark by holding end of ignition cable about 1/8" away from cylinder head while spinning flywheel with starter rope.

Should the above test fail to produce a spark or produces only a weak spark, take it to an authorized service depot. Before starting motor, be sure all parts, including magneto, spark plug, gasoline line and carburetor are reassembled on the motor. Pour two teaspoonfuls of pure lubricating oil in cylinder through the spark plug hole.

TO STORE THE MOTOR—Store the motor in a dry place and be sure it is thoroughly dry before storing. Drain the gasoline tank. Remove the spark plug, put two teaspoons of pure lubricating oil in cylinder and revolve the flywheel several times to spread a coating of oil over the cylinder walls, and replace the spark plug. Pack the gear housing with grease. Wipe the entire motor with a cloth saturated with oil. Wrap the motor in cloth or heavy paper, or place it in the motor shipping box. Store it in a dry place.

PUTTING MOTOR IN USE AFTER STORAGE—Inspect the motor thoroughly before you use it. Pack the gear case full of new outboard motor grease. Do not use ordinary automobile grease. Clean the contact points by running a piece of hard paper or cardboard between them. Be careful not to leave any lint from the paper on the points. If they are very dirty or rough use a fine coil file or a nail file to polish them. Set the points at the proper distance (.020-inch).

Clean the strainer screen in bottom of carburetor. Clean out the tank, the gasoline feed pipe and the carburetor. Mix the oil and gasoline, fill the tank and be sure the gasoline is flowing to the carburetor.

Clean the spark plug and replace with a new one if it is cracked, broken or badly burned.

Replace any damaged parts. Tighten all screws and nuts.

After long continuous, hard service, a very complete overhauling by an expert is advisable.

HOW TO OBTAIN SERVICE—If your Outboard Motor refuses to operate or does not perform properly and you can find nothing in this booklet which covers the possible cause for failure, we suggest that you take the motor to your

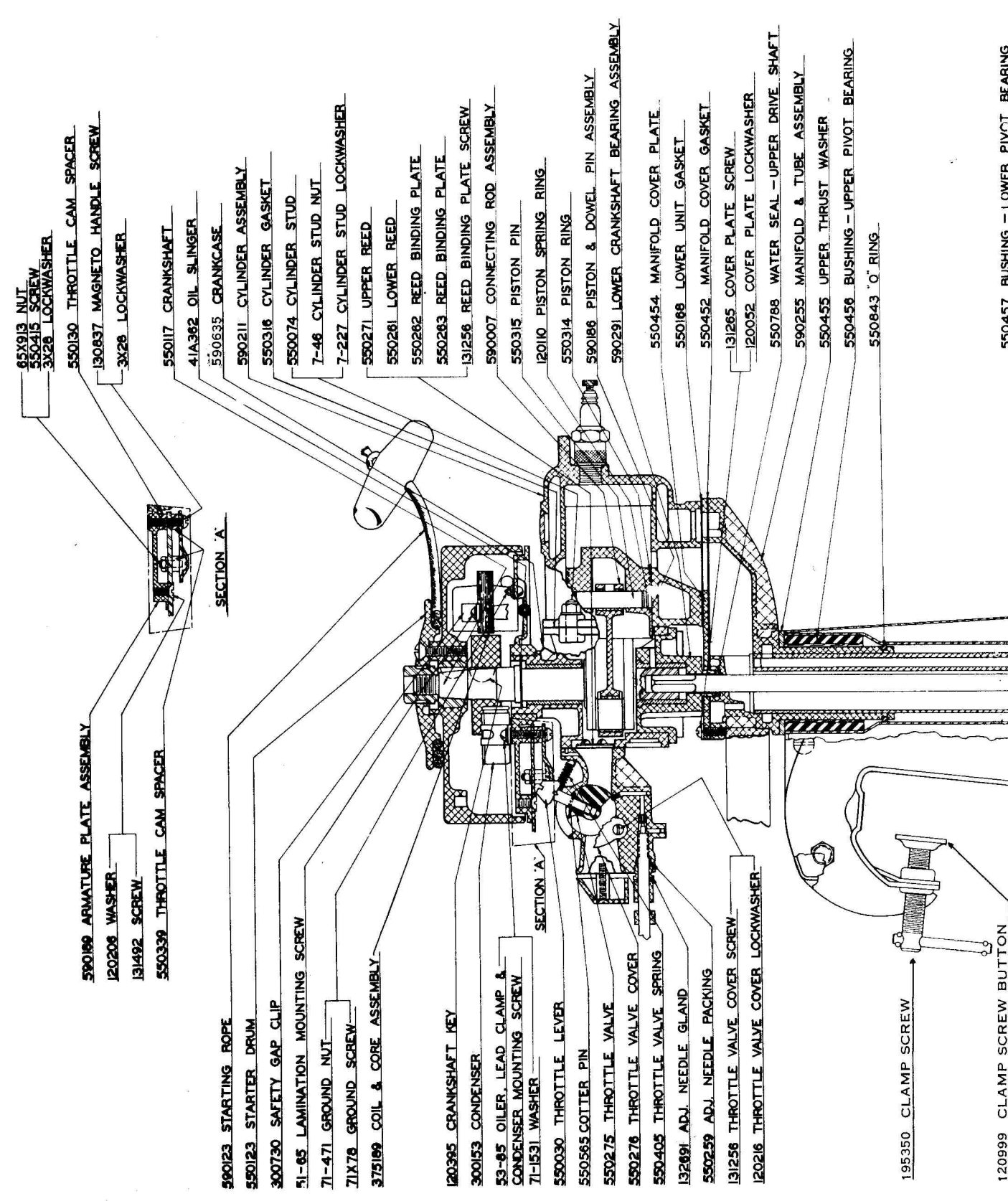
dealer or nearest authorized service depot.

HOW TO ORDER REPAIR PARTS—This instruction book gives you a complete repair parts list for your Outboard Motor. Should you need to order repair parts they may be obtained through the nearest dealer or parts distributor.

If you order repair parts, we need the following information to enable us to fill your order correctly:

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

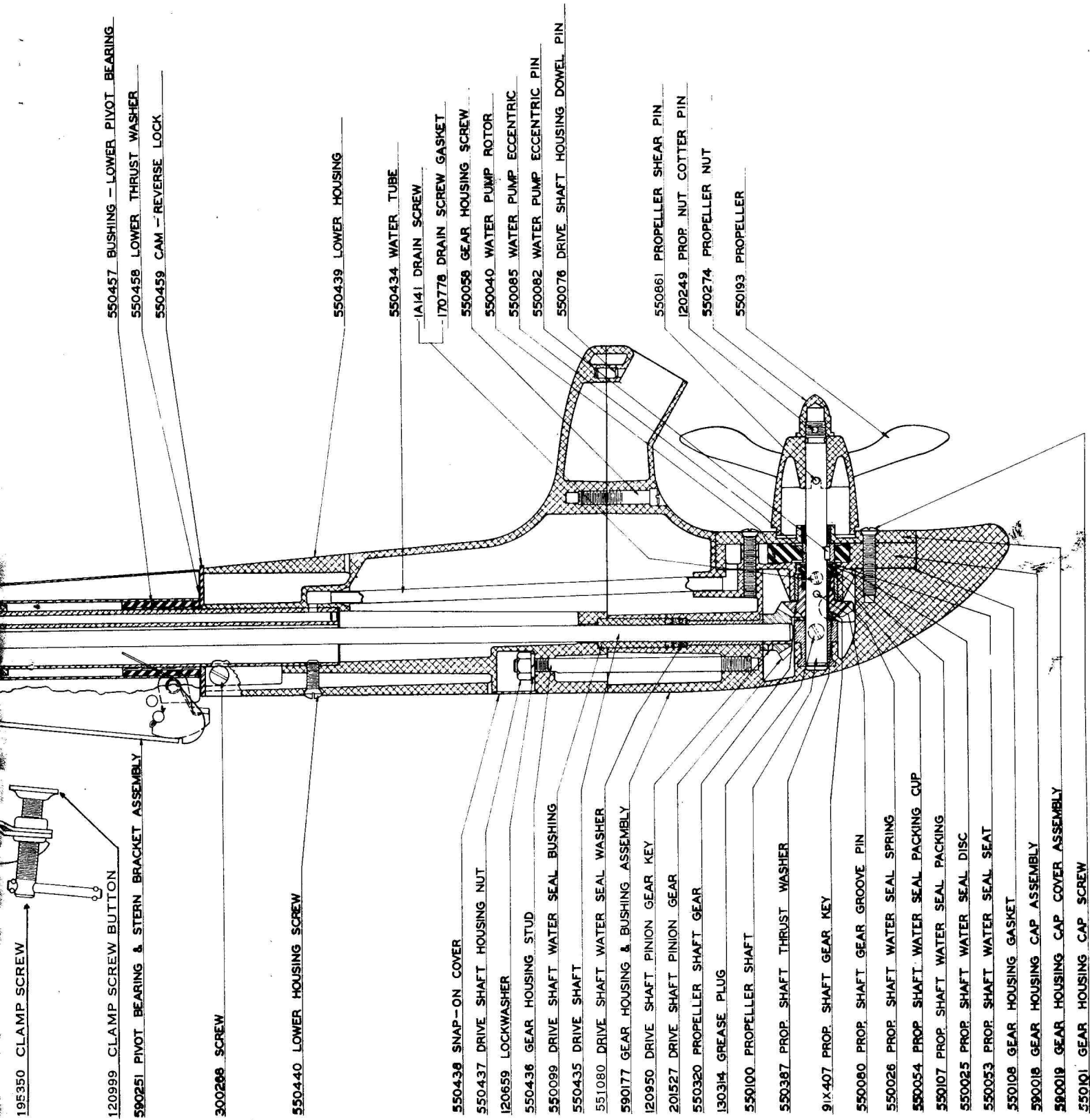
Order By Part Number and Name Giving Motor Model and Serial Number



- 590189 ARMATURE PLATE ASSEMBLY
- 120208 WASHER
- 131492 SCREW
- 550339 THROTTLE CAM SPACER
- 65X913 NUT
- 550415 SCREW
- 3X28 LOCKWASHER
- 550130 THROTTLE CAM SPACER
- 130637 MAGNETO HANDLE SCREW
- 3X28 LOCKWASHER
- 550117 CRANKSHAFT
- 41A362 OIL SLINGER
- 590635 CRANKCASE
- 590211 CYLINDER ASSEMBLY
- 550316 CYLINDER GASKET
- 550074 CYLINDER STUD
- 7-46 CYLINDER STUD NUT
- 7-227 CYLINDER STUD LOCKWASHER
- 550271 UPPER REED
- 550281 LOWER REED
- 550282 REED BINDING PLATE
- 550283 REED BINDING PLATE
- 131258 REED BINDING PLATE SCREW
- 590007 CONNECTING ROD ASSEMBLY
- 550315 PISTON PIN
- 120110 PISTON SPRING RING
- 550314 PISTON RING
- 590186 PISTON & DOWEL PIN ASSEMBLY
- 590291 LOWER CRANKSHAFT BEARING ASSEMBLY
- 550454 MANIFOLD COVER PLATE
- 550186 LOWER UNIT GASKET
- 550452 MANIFOLD COVER GASKET
- 131265 COVER PLATE SCREW
- 120052 COVER PLATE LOCKWASHER
- 550788 WATER SEAL - UPPER DRIVE SHAFT
- 590255 MANIFOLD & TUBE ASSEMBLY
- 550455 UPPER THRUST WASHER
- 550456 BUSHING - UPPER PIVOT BEARING
- 550843 O RING
- 550457 BUSHING - LOWER PIVOT BEARING

- 590123 STARTING ROPE
- 590123 STARTER DRUM
- 300730 SAFETY GAP CLIP
- 51-65 LAMINATION MOUNTING SCREW
- 71-471 GROUND NUT
- 71X78 GROUND SCREW
- 375189 COIL & CORE ASSEMBLY
- 120395 CRANKSHAFT KEY
- 300153 CONDENSER
- 53-85 OILER, LEAD CLAMP & CONDENSER MOUNTING SCREW
- 71-1531 WASHER
- 550030 THROTTLE LEVER
- 550565 COTTER PIN
- 550275 THROTTLE VALVE
- 550276 THROTTLE VALVE COVER
- 550405 THROTTLE VALVE SPRING
- 132691 ADJ. NEEDLE GLAND
- 550259 ADJ. NEEDLE PACKING
- 131256 THROTTLE VALVE COVER SCREW
- 120216 THROTTLE VALVE COVER LOCKWASHER
- 195350 CLAMP SCREW
- 120999 CLAMP SCREW BUTTON

- 590123 STARTING ROPE
- 590123 STARTER DRUM
- 300730 SAFETY GAP CLIP
- 51-65 LAMINATION MOUNTING SCREW
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- 195350 CLAMP SCREW
- 120999 CLAMP SCREW BUTTON



195350 CLAMP SCREW

120999 CLAMP SCREW BUTTON

590251 PIVOT BEARING & STERN BRACKET ASSEMBLY

300268 SCREW

550440 LOWER HOUSING SCREW

550439 LOWER HOUSING

550434 WATER TUBE

1A141 DRAIN SCREW

170778 DRAIN SCREW GASKET

550058 GEAR HOUSING SCREW

550040 WATER PUMP ROTOR

550085 WATER PUMP ECCENTRIC

550082 WATER PUMP ECCENTRIC PIN

550076 DRIVE SHAFT HOUSING DOWEL PIN

550861 PROPELLER SHEAR PIN

120249 PROP. NUT COTTER PIN

550274 PROPELLER NUT

550193 PROPELLER

550436 SNAP-ON COVER

550437 DRIVE SHAFT HOUSING NUT

120659 LOCKWASHER

550436 GEAR HOUSING STUD

550099 DRIVE SHAFT WATER SEAL BUSHING

550435 DRIVE SHAFT

551080 DRIVE SHAFT WATER SEAL WASHER

590177 GEAR HOUSING & BUSHING ASSEMBLY

120950 DRIVE SHAFT PINION GEAR KEY

201527 DRIVE SHAFT PINION GEAR

550320 PROPELLER SHAFT GEAR

130314 GREASE PLUG

550100 PROPELLER SHAFT

550387 PROP. SHAFT THRUST WASHER

91X407 PROP. SHAFT GEAR KEY

550080 PROP. SHAFT GEAR GROOVE PIN

550026 PROP. SHAFT WATER SEAL SPRING

550054 PROP. SHAFT WATER SEAL PACKING CUP

550107 PROP. SHAFT WATER SEAL PACKING

550025 PROP. SHAFT WATER SEAL DISC

550053 PROP. SHAFT WATER SEAL SEAT

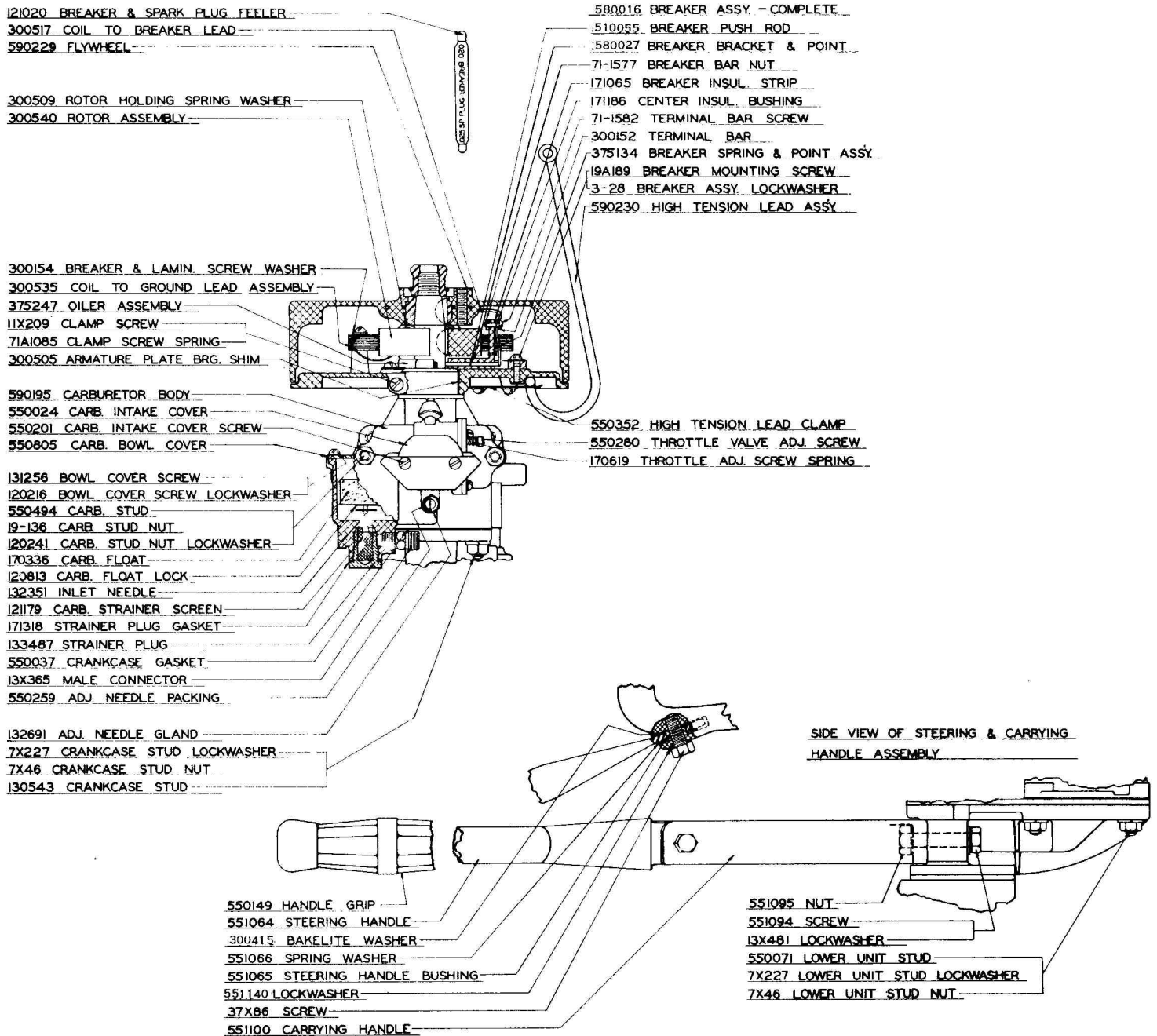
550108 GEAR HOUSING GASKET

590018 GEAR HOUSING CAP ASSEMBLY

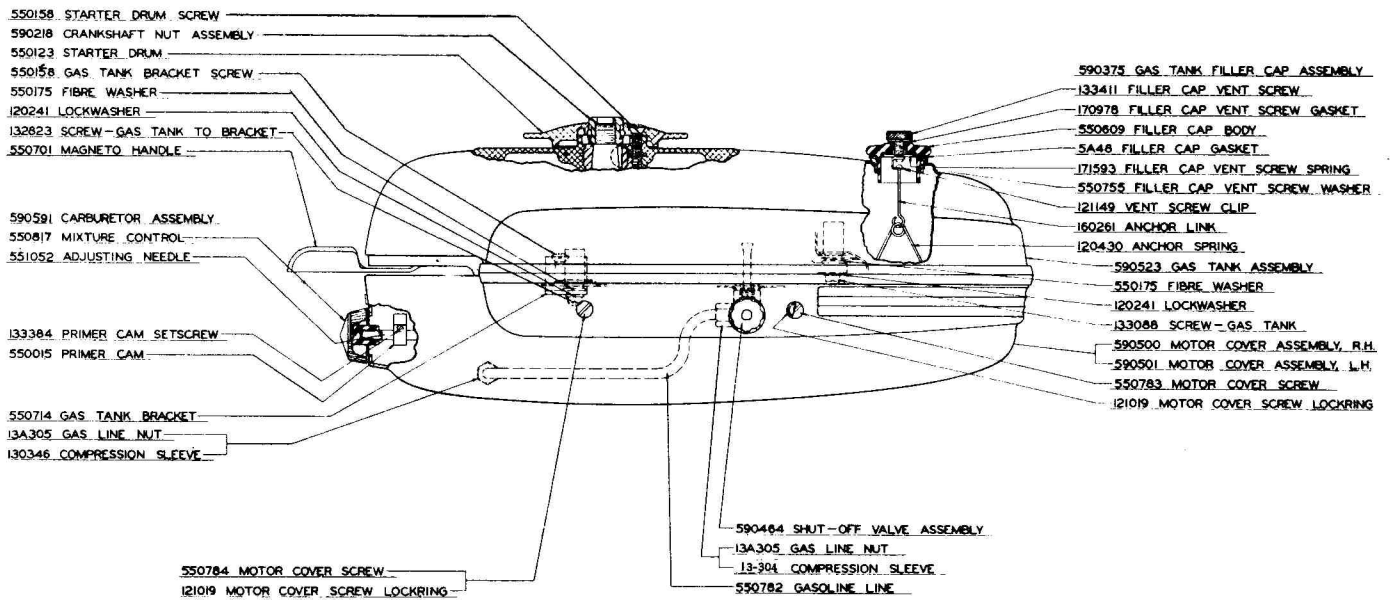
590019 GEAR HOUSING CAP COVER ASSEMBLY

550101 GEAR HOUSING CAP SCREW

Order By Part Number and Name Giving Motor Model and Serial Number



Order By Part Number and Name Giving Motor Model and Serial Number



REPAIR PARTS

ORDER BY PART NUMBER AND NAME GIVING MOTOR MODEL AND SERIAL NUMBER

Part Number	Part Name
1-141	Drain Screw.....
3-28	Breaker Assembly Lockwasher.....
5-48	Filler Cap Gasket.....
7-46	Crankcase, Cylinder Stud Nut.....
7-227	Crankcase Stud Lockwasher.....
11-209	Clamp Screw.....
13-304	Compression Gland.....
13-305	Gas Line Nut.....
13-365	Male Connector.....
13-481	Lockwasher.....
19-136	Nut.....
19-189	Screw.....
37-86	Screw.....
41-362	Oil Slinger.....
51-65	Lamination Mounting Screw.....
53-85	Oiler and Lead Clamp Mounting Screw.....
65-913	Nut.....
71-78	Screw.....
71-471	Nut-Terminal Screw.....
71-1085	Spring.....
71-1531	Washer.....
71-1577	Bar Nut-Breaker.....
71-1582	Terminal Bar Screw.....
91-407	Propeller Shaft Gear Key.....
120-052	Lockwasher.....
120-110	Piston Spring Ring.....
120-206	Lockwasher.....
120-216	Lockwasher.....
120-241	Lockwasher.....
120-249	Cotter Pin.....
120-395	Crankshaft Key.....
120-430	Anchor Spring.....
120-659	Lockwasher.....
120-813	Float Lock.....
120-950	Drive Shaft Pinion Gear Key.....
120-999	Clamp Screw Button.....
121-019	Lock Ring.....
121-020	Breaker Point Feeler Gauge.....
121-149	Clip.....
121-179	Carburetor Strainer Screen.....
130-314	Grease Plug.....
130-543	Stud.....
130-837	Screw.....
131-256	Screw.....
131-265	Screw.....
131-492	Screw.....
132-351	Inlet Needle.....
132-691	Gland.....
132-823	Screw.....
133-088	Gas Tank Screw.....
133-384	Set Screw.....
133-411	Vent Screw.....
133-487	Strainer Plug.....
160-261	Anchor Link.....
170-336	Float.....
170-619	Spring.....
170-778	Gasket.....
170-978	Gasket.....
171-065	Insulation Strip.....
171-186	Bushing-Insulation.....
171-318	Strainer Plug Gasket.....

Part Number	Part Name
171-593	Vent Screw Spring.....
195-350	Clamp Screw.....
201-527	Pinion.....
300-152	Bar Washer Breaker Spring.....
300-153	Condenser.....
300-154	Washer Breaker & Lamination Screw.....
300-268	Oval-Fillister Head Screw.....
300-415	Bakelite Washer.....
300-505	Bearing Shim.....
300-509	Spring Washer.....
300-517	Lead-Coil to Breaker.....
300-535	Lead-Coil to Ground.....
300-540	Rotor.....
300-730	Clip-Safety Cap.....
375-134	Breaker Spring Assembly.....
375-189	Coil & Lamination Assembly.....
375-247	Oiler Assembly.....
510-055	Push Rod.....
550-015	Primer Cam.....
550-024	Carburetor Intake Cover.....
550-025	Propeller Shaft Water Seal Disc.....
550-026	Propeller Shaft Water Seal Spring.....
550-030	Throttle Lever.....
550-037	Crankcase Gasket.....
550-040	Water Pump Rotor.....
550-053	Propeller Shaft Water Seal Seat.....
550-054	Propeller Shaft Water Seal Packing Cup.....
550-058	Screw.....
550-071	Stud, Lower Unit.....
550-074	Cylinder Stud.....
550-076	Drive Shaft Housing Dowel Pin.....
550-080	Propeller Shaft Gear Pin.....
550-082	Eccentric Pin.....
550-085	Eccentric.....
550-099	Drive Shaft Water Seal Bushing.....
550-100	Propeller Shaft.....
550-101	Screw.....
550-107	Propeller Shaft Water Seal Packing.....
550-108	Gear Housing Gasket.....
550-117	Crankshaft.....
550-123	Starter Drum.....
550-130	Throttle Cam Spacer-Short.....
550-149	Handle Grip.....
550-158	Screw.....
550-168	Lower Unit Gasket.....
550-175	Washer.....
550-193	Propeller.....
550-201	Screw.....
550-259	Packing.....
550-261	Reed-Lower.....
550-262	Reed Binding Plate.....
550-263	Reed Binding Plate.....
550-271	Reed Upper.....
550-274	Propeller Nut.....
550-275	Throttle Valve.....
550-276	Cover-Throttle Valve.....
550-280	Adjusting Screw.....
550-314	Piston Ring.....
550-315	Piston Pin.....
550-316	Gasket.....

REPAIR PARTS

ORDER BY PART NUMBER AND NAME GIVING MOTOR MODEL AND SERIAL NUMBER

Part Number	Part Name	Price
550-320	Propeller Shaft Gear.....	4.50
550-339	Throttle Cam Spacer.....	.05
550-352	Clamp.....	.05
550-387	Propeller Shaft Thrust Washer.....	.20
550-405	Spring.....	.05
550-415	Screw.....	.025
550-434	Tube-Water.....	.60
550-435	Drive Shaft.....	5.00
550-436	Stud-Gear Housing.....	.45
550-437	Nut-Drive Shaft Housing.....	.025
550-438	Snap-on Cover.....	.05
550-439	Lower Housing Drive Shaft.....	5.00
550-440	Screw-Lower Housing.....	.05
550-452	Cover Plate Gasket.....	.10
550-454	Cover Plate.....	.85
550-455	Thrust Washer-Upper.....	.05
550-456	Bushing-Upper Pivot Bearing.....	.65
550-457	Bushing-Lower Pivot Bearing.....	.65
550-458	Thrust Washer-Lower.....	.025
550-459	Cam-Reverse Lock.....	.20
550-494	Stud.....	.15
550-565	Cotter Pin.....	.025
550-609	Filler Cap Body.....	.30
550-701	Magneto Handle.....	.75
550-714	Gas Tank Bracket.....	.20
550-755	Filler Cap Vent Screw Washer.....	.025
550-782	Gasoline Line.....	.35
550-783	Motor Cover Screw.....	.025
550-784	Motor Cover Screw.....	.025
550-788	Water Seal-Upper Drive Shaft.....	.05
550-805	Carburetor Bowl Cover.....	.10
550-817	Mixture Control.....	.45

Part Number	Part Name	Price
550-843	"O" Ring.....	
550-861	Shear Pin.....	
551-052	Adjusting Needle.....	
551-064	Steering Handle.....	
551-065	Steering Handle Bushing.....	
551-066	Spring Washer.....	
551-080	Drive Shaft Seal Washer.....	
551-094	Screw.....	
551-095	Nut.....	
551-100	Carrying Handle.....	
551-140	Lock Washer.....	
580-016	Breaker Assembly.....	
590-007	Connecting Rod Assembly.....	
580-027	Breaker Bracket.....	
590-018	Gear Housing Cap Assembly.....	
590-019	Gear Housing Cap Cover Assembly.....	
590-123	Starter Rope.....	
590-177	Gear Housing Assembly.....	
590-186	Piston.....	
590-189	Armature Plate Assembly Less Handle.....	
590-195	Carburetor Body Single.....	
590-211	Cylinder Block Assembly.....	
590-218	Crankshaft Nut.....	
590-229	Flywheel.....	
590-230	High Tension Lead Assembly.....	
590-251	Pivot Bearing & Stern Bracket Assembly.....	
590-255	Manifold & Tube Assembly.....	
590-291	Lower Crankshaft Bearing.....	
590-375	Gas Tank Filler Cap Assembly.....	
590-464	Shut-off Valve Assembly.....	
590-500	Motor Cover Assembly, R. H.....	
590-501	Motor Cover Assembly, L. H.....	
590-523	Gas Tank Assembly.....	
590-591	Carburetor Assembly.....	
590-635	Crank Case Assembly.....	

TROUBLE CHART

The following chart aims to provide an outline for the systematic tracing down of trouble with the least amount of effort. Finding the cause of trouble usually suggests the remedy.

MOTOR WON'T START

GASOLINE TROUBLE

- Tank empty.
- Shut-off Valve closed.
- Carburetor flooded, if motor is warm.
- Mixture too thin, if engine is cold.
- Too much oil mixed with gasoline.
- Water in carburetor, tank or strainer.
- Pipe clogged.
- Spray nozzle or feedhole in carburetor clogged.
- Vent in filler cap closed.

NO SPARK

- Wire to contact screw disconnected.
- Wire to spark plug disconnected.
- Water, oil, or carbon on magneto breaker points.
- Magneto breaker points do not come together when flywheel is revolved.
- Magneto breaker points do not separate when flywheel is revolved.

SPARK PLUG FAULTY

- Fouled with carbon, oil or moisture.
- Porcelain cracked.
- Center pole loose.
- Points not properly adjusted—should be apart .025

MOTOR OVERHEATS—

- Lack of oil or water.
- Wrong propeller.

MOTOR KNOCKS—

- Flywheel nut loose.
- Carbon in cylinders (caused by too much oil in gasoline).
- Motor too hot, causing pre-ignition.
- Bearings loose or worn.
- Piston or cylinder worn.

MOTOR IS STIFF OR CRANKS HARD—

- Rust in cylinders.
- Bearings out of line.
- Crankshaft bent.
- Gear shaft bent.
- No grease in gear case.

WATER STOPS CIRCULATING—

- Obstruction in water intake.
- Leak at water pipe connections.
- Broken water pipe.
- Motor not setting deep enough in water.
- Worn pump rotor.

POOR COMPRESSION—

- Piston rings carbonized and stuck in groove.
- Cylinder scored.

MOTOR MISSES—

WIRING

- Broken or loose wiring.
- Poor insulation.
- Wires short circuited with moisture, oil or foreign material.

MAGNETO

- Breaker points corroded.
- Breaker points improperly spaced.
- Weak coil.
- Weak condenser.
- Weak magneto.
- Foreign matter or oil on breaker points.

CARBURETOR

- Foreign matter in spray nozzle or needle valve or feed hole.
- Gasoline line restricted.
- Water or foreign matter in carburetor strainer.
- Water in carburetor.

MOTOR LOSES POWER—

IMPROPER MIXTURE

- Too rich (will slow down).
- Too thin (will backfire or "spit" as well as slow down).

LACK OF COMPRESSION

- Improper gas and oil mixture.
- Scored cylinders.
- Worn rings.

MOTOR RUNS BUT PROPELLER DOES NOT REVOLVE—

- Propeller pin sheared off.
- Broken drive on Propeller shaft.

MOTOR VIBRATES—

- Faulty ignition.
- Loose pivot bearing.
- Bent propeller wheel.
- Motor loose on boat.

MOTOR RUNS BUT BOAT MAKES LITTLE OR NO PROGRESS—

- Propeller blades bent.
- Rope or other obstruction dragging in water.
- Weeds on propeller.

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