

The **NEW**

KIEKHAEFER

MERCURY

"Super 5"
Antique Boat Museum

MODEL KF-5
5 HORSEPOWER

KIEKHAEFER CORPORATION
Cedarburg, Wisconsin, U.S.A.



86.009.002

KIEKHAEFER

MERCURY OUTBOARD MOTOR

KIEKHAEFER CORPORATION
CEDARBURG, WISCONSIN, U.S.A.



In reply... please address all correspondence to company... not to individual.

Dear Friend and Outboard Enthusiast:
THANKS for selecting a Kiekhaefer MERCURY Outboard..... You are now the proud owner of one of the finest motors that superior engineering design, skill and workmanship can produce.

Before leaving the factory the motor is run in, thoroughly tested and inspected to assure efficient and economical performance, dependable service and many years of pleasure to the owner in its operation.
The maximum efficiency and the exceptional performance and satisfaction built into the Kiekhaefer Mercury has been made possible by continuous research and engineering and the testing of these motors in the largest and most modern equipped laboratory for two-cycle engines in the country.

All self-contained power units require a certain amount of attention. The Kiekhaefer Mercury requires a normal amount of care and by closely following the instructions contained in this instruction book, a maximum of performance will be obtained.

The amount of attention is small but IMPORTANT.
The powerhead and gear case of your new Kiekhaefer Mercury Outboard Motor are equipped with roller and ball bearings.

The Kiekhaefer Mercury is shipped from the factory ready for operation immediately after filling the gas tank with the recommended gasoline and oil mixture.
NOTE 1: The Warranty Period on your motor begins on date of purchase, but warranty is not valid until you have filled out and mailed in your Registration Card. DO THIS AT ONCE. Be sure to list the CORRECT SERIAL NUMBER.

NOTE 2: Warranty does not apply if motor is operated with a propeller other than a Kiekhaefer propeller of type, diameter, and pitch fitted to engine in original factory assembly.

KIEKHAEFER CORPORATION
CEDARBURG, WISCONSIN

FUN

SPEED

FISHING

HUNTING

MERCURY "SUPER 5" -- Light, new 5 H.P. alternate firing twin. Full-Jeweled Power, anti-friction bearing construction throughout. Weighs 37 pounds, performance ranges from slowest trolling to 16 mph. Has full-reverse, easy angle adjustment feature, spring-loaded co-pilot, waterproofed spark plugs, waterproof magneto, weedless propeller, rubber rotor water pump and many other new features. Designed especially for the fisherman and light boat owner.

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KIEKHAEFER
MERCURY "Super 5"

THE FIRST FEW HOURS OF OPERATION ARE IMPORTANT

Like the finest automobile or aircraft engines, the Kiekhaefer MERCURY requires consideration when new. Follow fuel and lubricant instructions on the following pages carefully, and for the first five hours avoid sustained full speed operation. . . . Have your authorized MERCURY Dealer check your motor for adjustments after the first fifteen hours of operation: This check-up will be done free of charge by the dealer from whom the motor was purchased.

PORT AND STARBOARD SIDE OF MOTOR

The Port and Starboard (left and right) side of the MERCURY Outboard Motor is determined by viewing the motor from the rear, (propeller side) looking toward the bow of the boat. Viewing the motor thus, the steering handle is located on the Port (left) side. The opposite side is Starboard or right. This corresponds to the nautical terms as used on a boat or ship.

INSTALLING MOTOR ON BOAT

In order to obtain the best operating results, it is important that the motor be properly mounted on the transom (stern board) of the boat, and that the angle of the motor be adjusted so that the propeller drive is parallel to the travel of the boat when the motor is operated at full throttle.

To accomplish this, place the motor on the center of the transom and be certain to hand tighten (do not use pliers or wrench) the clamping screws, making sure that the motor is securely attached.

Adjust the motor angle by means of the lever located on the left side of the swivel bracket using the tilt handle on the top of the motor for leverage. The drive shaft housing should be perpendicular to the surface of the water for best operation.

Operate the motor at full throttle (when motor is warmed up). If the boat rides with the bow high out of the water, adjust the angle of the motor by tilting the gear case towards the stern of the boat.

If the boat rides with the bow down, adjust the angle of the motor by tilting gear case away from the stern of the boat. The angle of the motor should be adjusted to compensate for varying boat loads (i.e., the number of persons in the boat.) For maximum efficiency the boat should 'plane' or ride on an even keel without 'spanking'.



TRANSOM HEIGHT

The correct relation of the motor to the boat is of great importance, therefore instructions for mounting the motor on the boat and recommended transom height should be carefully adhered to. Recommended transom height for the KF5 is 15 inches.

The transom height is measured from the bottom of the keel to the top of the transom, perpendicular to the keel line.

INSTALLING MOTOR ON BOAT (cont'd)

Lower transoms than recommended will place the gear case too far below the keel and may cause drag resulting in loss of speed, and will increase the danger of striking submerged objects. . . . Transoms higher than recommended will raise the gear case too near the surface of the water which may cause cavitation or excessive slippage.

On boats with heavy or high keels, taper the keel from 20" forward to the stern up to a feather edge at the stern.

CAVITATION

The term cavitation as applied to the operation of an outboard motor is a condition whereby the propeller suddenly loses its load or 'push', permitting the engine to rapidly increase its R.P.M. or race. This loss of load or 'push' is usually attributed to a reduced volume of water around the propeller.

This is generally caused by the action of the propeller pushing the water vertically instead of in a horizontal plane. There are several conditions which may cause cavitation; such as:

1. Transom too high (Propeller too near surface).
2. Rough water.
3. Fast turns.
4. Tilting boat during fast turns (Propeller too near surface).
5. Gear case angled too far from stern of boat (Propeller too near surface.)
6. Design of boat, particularly a wide or high keel, causing water to be diverted from slip stream.
7. Using propeller of type, diameter and pitch other than recommended by the manufacturer.

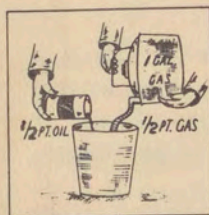
FUEL MIXTURE

The proper selection and preparation of the fuel mixture to be used in your outboard motor is more important than it may seem to the casual outboard user. There is wisdom in selecting fresh gasoline and the recommended brand and grade of oil mixed in the proper proportion. Uniformity in fuel mixture will insure uniformity of carburetor adjustments and consequently uniform and consistent engine operation. Do not use aviation or "doped-up" fuel mixtures of alcohol-ether fuel mixtures which may be injurious to seals and other composition parts. Usually it is a good policy to use the same grade of gasoline and octane rating you would use in your automobile for the simple reason that the fuel, owing to its ready market in the service station, will be fresh and readily available. It is the factory's recommendation that the fuel used in your MERCURY Outboard Motor should have an octane rating of not less than seventy-two (72), and that the oil used be Kiekhaefer Aeromarine Two-Cycle Engine Oil. In an emergency, when the recommended oil is not available, use only a premium grade SAE 30, nationally known standard brand of oil.

MIXING THE FUEL

Thoroughly mix the gasoline and oil in the proportion of $\frac{1}{2}$ pint of oil to each gallon of gasoline. To insure proper mixing, cut the oil first with an equal part of gasoline, then add the remainder of the gallon of gasoline.

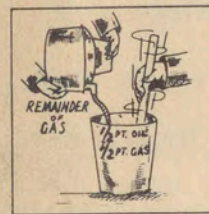
NOTE: Never pour the oil and gasoline into the motor fuel tank separately. Mix the fuel in a separate container, then transfer into a can with a spout or nozzle attached which will enable you to fill the fuel tank without spilling.



1. Cut the oil first with an equal part of gasoline.



2. Mix well in container.

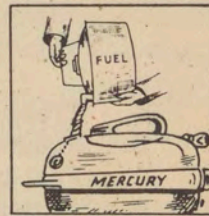


3. Add remainder of gas.

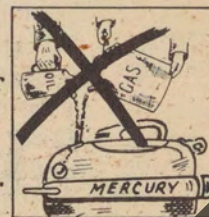
4. Pour back into can.



5. Fill 'er up.



6. NEVER pour the gasoline and oil into the fuel tank separately.



TO START A NEW MOTOR

1. Fill fuel tank with recommended fuel mixture.
2. Open fuel shut-off valve completely and air vent screw on fuel tank cap.
3. Open carburetor needle valve $1\frac{1}{2}$ turns.
4. Set throttle lever at START position.
5. Pull out choke knob.
6. Start motor by pulling starter cable handle.

CAUTION: When pulling starter cable, do not jerk. Pull cable until starter engages. Then pull vigorously. Do not allow starter cable to snap back, but retain hold on starter cable handle to permit cable to rewind slowly.

7. When motor starts, push choke knob in promptly.
8. Allow cold motor to warm up at part throttle for a minute or two before applying full throttle.
9. After motor warms up adjust carburetor needle valve, with throttle advanced, for best performance.

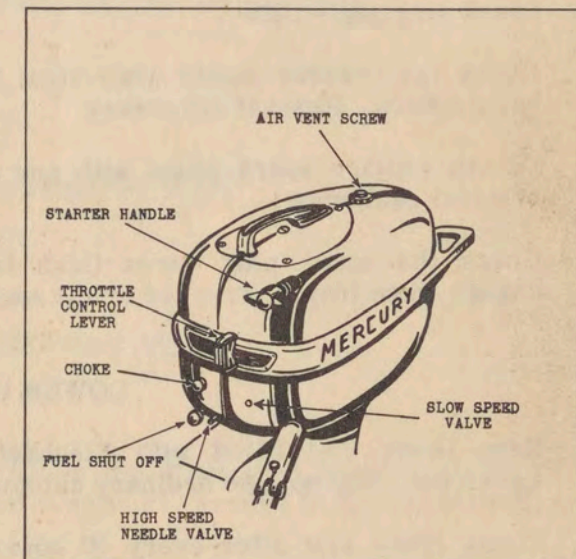
FINAL ADJUSTMENTS

1. High Speed

The carburetor high speed needle valve has been adjusted at the factory. However, it may require resetting for best operation depending on the temperature, altitude, or fuel characteristics. When making high speed carburetor adjustments, the throttle control lever must be on FAST position. Do not attempt to make any high speed adjustments with this lever in any other position. Always allow the engine to warm up before attempting to make final adjustments. Turn the high speed needle valve in, clockwise, to a point where engine begins to slow down, due to lean mixture, then turn valve counter-clockwise approximately one-quarter ($\frac{1}{4}$) of a turn to one-half ($\frac{1}{2}$) of a turn. This adjustment must be made slowly in order to permit the change in the setting a little on the rich side. REMEMBER: Turn valve clockwise to lean mixture and counter-clockwise to richen mixture. This adjustment may be made with screwdriver or coin. Once in proper adjustment no further attention need be given with the exception of compensation for temperature extremes. Of course, a cold engine should be warmed up at part throttle, using choke if necessary. Never operate a cold engine at full throttle. Give it a few minutes to reach operating temperature.

2. Slow Speed

NOTE: High speed needle adjustment must be set correctly before making slow speed adjustment. When making slow speed adjustment, the throttle control lever must be all the way on SLOW position. Do not attempt to make slow speed adjustment with lever in any other position. Use screwdriver to adjust slow speed valve. If motor runs rough with tendency to load, turn valve slowly counter-clockwise until smooth operation is obtained. If motor spits or stops, richen mixture by turning valve clockwise. This adjustment is very fine and only a fraction of a turn is usually required. REMEMBER: Turn valve counter-clockwise to lean mixture and clockwise to richen mixture for slow speed only (opposite to high speed adjustments.)



3. Adjustments

If adjustments prove to be unstable, check to be sure that the carburetor is free of dirt or other foreign matter. If foreign matter is found in the carburetor and removed with no improvement in the engine performance, it is fairly certain that the ignition system should be checked for proper point setting, spark plug gap setting, and oil soaked, cracked or frayed ignition wires.

TO STOP THE MOTOR

1. Move throttle control lever to STOP position.
2. Motor can also be stopped by closing fuel shut-off valve and running carburetor dry.
3. If the motor is to be removed from the boat, and transported in a position other than vertical; the fuel shut-off valve and the air vent screw in the fuel tank cap should be closed.

IGNITION

1. The magneto contact breaker point setting is .018". However, when adjusting new points, the setting should be .020" inasmuch as the fibre block will wear to fit the contour of the cam and a smaller gap setting will occur.

Resetting of the points should be done when the owner brings his motor to the dealer for a required check-up after the first 15 hours of operation. (This 15 hour general check-up is free of charge if the motor is brought back to the dealer from whom it was purchased.)

2. Spark plug gap - .025".
3. Check the breaker points after first 20 hours and at the beginning of each season. Reset if necessary.
4. Do not replace spark plugs with any make or type different from the original equipment.
5. Check the spark plug wires (high tension leads) periodically and change when frayed, cracked or oil soaked.

LOWER UNIT

1. Keep lower unit filled with Kiekhaefer Aeromarine Special Gear Lubricant. (Do not use ordinary automotive grease.)
2. Check lower unit after every 50 hours of operation and at least once a season.
3. To refill, remove filler plug (10) and air vent screw (11) on right side of gear housing, insert nozzle of grease tube in plug opening and fill until grease overflows at vent hole. Replace screw and plug and tighten firmly to prevent entry of water and loss of grease.

VALUABLE SUGGESTIONS

1. Always fasten clamping screws securely by hand and as an added precaution, use rope or chain to tie motor to boat.
2. Always have a screw driver, pliers, cotter pins, and an extra spark plug handy when motor is being used.
3. Metal plates especially designed on either side of the transom will prevent your boat from becoming marred by the clamp bracket.
4. If your boat is over 16 feet in length and used in navigable waters, you must comply with the Federal Motor Boat Law.

CARE OF MOTOR WHEN USED IN SALT WATER

1. As soon as the motor is removed from the boat, the cooling system should be flushed out. This can be done by operating the motor in a tank or barrel of FRESH water or by using a flushing attachment, Accessory No. M-60-582, attached to a garden hose.
2. While water is flowing through the motor when using a flushing attachment, turn crankshaft by pulling starter cable several times.
3. Be sure to keep motor vertical until motor has been flushed out and properly drained.
4. Rinse off outside of motor with FRESH water.
5. Wipe motor with dry cloth, then wipe with an oily cloth.
6. Always keep motor clean.
7. Remove propeller and grease propeller shaft.

REVERSING MOTOR

Your Mercury Outboard incorporates the convenient feature of full 360 degree reverse. It can be turned completely around to permit backing up and better maneuverability.

With motor in the reversed position a lock prevents the thrust of the propeller from forcing the lower unit out of the water. This means the lower unit is held in a stationary position and cannot kick up when an underwater obstruction is hit; therefore, never use over 1/2 throttle when the motor is operated in the reverse position.

NEVER START MOTOR in the reversed position.

Tension of swivel bracket can be adjusted by means of the spring loaded screw located on steering handle side of drive shaft housing under the clamp bracket. (Tilt motor forward to adjust this screw).

PREPARING MOTOR FOR STORAGE

It is important that care be taken in preparing an outboard motor for storage, especially winter storage. The following precautions should be rigidly adhered to:

1. If motor has been used in salt water, follow the instructions given for CARE OF MOTOR WHEN USED IN SALT WATER.
2. Remove grease plug and air vent screw from gear case and allow sufficient time for any water that may have lodged in the gear case to drain out.
3. Fill gear case with Kiekhaefer Aeromarine Special Outboard Gear Lubricant. Replace the grease plug and air vent screw.
4. Drain the fuel tank, fuel lines, and carburetor.
5. Remove and clean the carburetor and fuel filter.
6. Squirt clean oil in crankcase through carburetor venturi opening. (#20 SAE)
7. Remove spark plugs; pour one tablespoon of clean oil into plug openings.
8. Rotate crankshaft several times by pulling starter cable.
9. Replace carburetor, fuel filter and spark plugs.
10. Wipe all exposed parts with dry rag and oil same.
11. Turn the propeller over two or three revolutions in reverse direction. This will reverse the impeller vanes and assist in draining the water. Leave the vanes in reverse position.
12. Store the motor in a dry place, in a vertical position, and if possible, on a rack in the same position as when mounted on a boat.
13. Cover motor with canvas or replace in original shipping box or carton. KEEP UPRIGHT.

WARRANTY

We warrant each new MERCURY 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 original purchaser, we will exchange free of charge, f.o.b. factory, any part which our examination shall disclose to our satisfaction to be defective.

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

The manufacturer reserves the right to make changes in design or improvements upon its products without imposing any obligation on itself to install the same upon its products theretofore manufactured.

CARE OF MOTOR WHEN DROPPED OVERBOARD

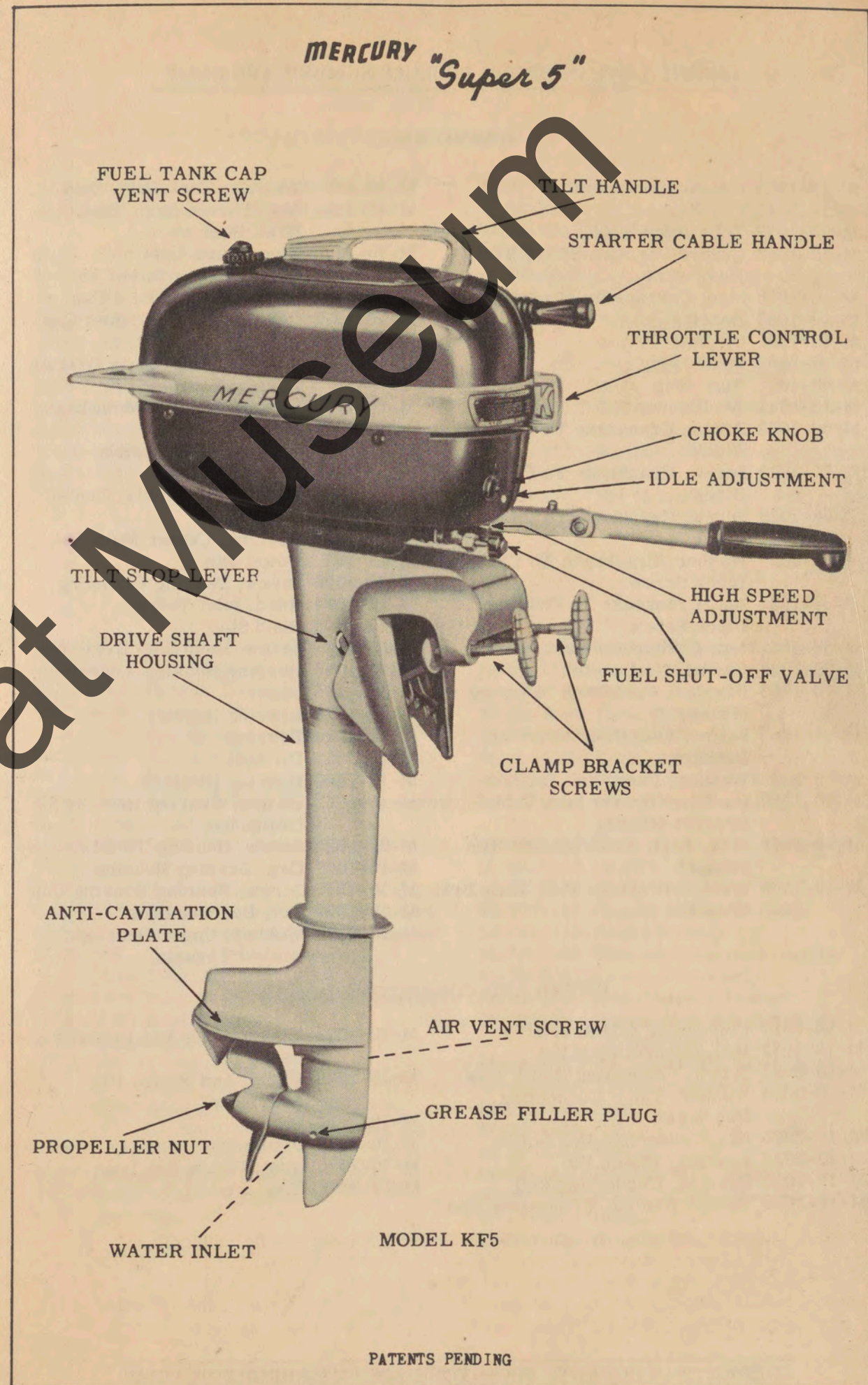
RECOVER MOTOR AS SOON AS POSSIBLE AND SERVICE IMMEDIATELY DO NOT ATTEMPT TO START A MOTOR AFTER IT HAS BEEN DROPPED OVERBOARD UNTIL AFTER YOU HAVE DONE THE FOLLOWING:

1. Remove starter and flywheel.
2. Remove fuel tank, fuel line, carburetor, crankcase cover plate and spark plug.
3. Drain as much water from the crankcase and the cylinder as possible by shaking the motor in upright, vertical, and horizontal positions.
4. Turn motor by propeller in all three positions to force any remaining water in crankcase through the ports and spark plug opening.
5. Wash out with gasoline using same procedure as above.
6. Pour a tablespoonful of oil into the cylinder through the spark plug opening.
7. Turn propeller several revolutions to distribute the oil through the cylinders.
8. Blow off magneto with compressed air, if available; or, spray with carbon tetrachloride and carefully wipe magneto dry.
9. Wipe spark plug wires dry.
10. Drain and clean the fuel tank, fuel line, carburetor; wipe and dry spark plug.
11. Check, and if necessary, adjust contact points and spark plug gaps.
12. Fill fuel tank with proper mixture.
13. Open fuel shut-off valve and with throttle and spark control lever at STOP position, operate starter several times. This will assist in removing any remaining drops of water.
14. Move throttle and spark control lever to START position and start motor; run until motor is warmed up and dried out.
15. CAUTION: If the motor is noisy when started up, stop motor and dismantle powerhead as the crankshaft or rods may be bent or the rings broken.
16. CAUTION: Do not operate motor without water in the cooling system and water pump. Use tank or barrel of water or attach hose to water inlet on gear case.

FAILURE TO COMPLY WITH THE PRECEDING INSTRUCTIONS MAY RESULT IN THE FOLLOWING:

1. MOTOR WILL NOT START: (proceed as follows to determine the cause.)
 - (a) Be sure that there is fuel in the tank.
 - (b) See that the fuel shut-off valve and air vent on the fuel tank cap are open.
 - (c) Mixture may be too lean. (See FINAL ADJUSTMENTS.)
 - (d) Carburetor may be flooded. Close high speed needle valve and crank engine several times.
 - (e) Remove high speed needle valve to be sure gasoline is getting to carburetor.
 - (f) If not getting gasoline, check shut-off valve and clean filter.
2. MOTOR OVERHEATS AND STOPS:
 - (a) May be caused by insufficient oil in gasoline. Be sure instructions under FUEL MIXTURE have been followed.
 - (b) If above instructions have been followed, check water pump impeller and replace if necessary. When pump is operating properly a spray of water can be observed being discharged from exhaust relief holes at rear of drive shaft housing.
3. MOTOR DEVELOPS LOW COMPRESSION:
 - (a) Check for loose spark plugs.
 - (b) Check powerhead gaskets for leaks and if necessary replace.
 - (c) Install new piston rings.
4. MOTOR MISSES:
 - (a) Be sure fuel tank cap vent screw is open.
 - (b) Check spark plugs, wiring and points.
 - (c) Check coil and condenser.
 - (d) Inspect cylinder for cracks.
5. MOTOR WILL NOT START WHEN HOT:
 - (a) Do not use choke excessively.
 - (b) Check spark when coil is warm. A defective coil sometimes functions normally when cold.
6. MOTOR DOES NOT PRODUCE FULL POWER OUTPUT:
 - (a) See that propeller is free of weeds.
 - (b) Check spark plugs for fouling.
 - (c) Check contact point gap.
 - (d) Anti-cavitation plate should be approximately 1" below the bottom of the boat.
7. LOWER UNIT DEVELOPS A NOISE:
 - (a) Refill the lower unit with Kiekhaefer Aeromarine Special Outboard Gear Lubricant.
 - (b) Tighten clamp bracket screws.
8. MOTOR SWIVELS TOO EASILY OR TOO HARD
 - (a) Adjust tension to suit.

STRICT COMPLIANCE WITH THE OPERATING INSTRUCTIONS CONTAINED IN THIS BOOK WILL INSURE EFFICIENT OPERATION AND LONG LIFE FOR YOUR MOTOR



CRANKCASE

M-10-1093 Crankcase Assembly	M-60-337 Washer, Tank Brkt. Stud
M-10-1055 Crankcase	M-60-214 Nut (Elastic Stop) Tank Brkt. Stud
M-10-1087 Tube Pivot N.S.S.	M-10-1070 Cap, Water Inlet
M-10-1088 Groove Pin, Crankcase To Pivot Tube	M-60-1017 Screw, Water Inlet Cap
M-10-1078 Stud, Carburetor Mounting	M-10-1071 Gasket, Water Inlet Cap
M-10-1068 Bearing	M-10-1072 "O" Ring, Water Inlet Cap
M-10-1069 Oil Seal	M-40-1021 Pipe, Water Inlet
M-10-336 Welch Plug	M-60-1030 Screw, Center Main Bearing Lock
M-60-402 Pipe Plug	M-10-1076 Washer, Center Main Lock Screw
M-10-1061 Jet Bleeder N.S.S.	M-10-1094 Crankshaft Assembly
M-60-1032 Screw, Crankcase To Cylinder Block	M-10-1077 Crankshaft
M-60-1027 Screw, Crankcase To Cylinder Block	M-10-1095 Bearing Assembly, Center Main
M-60-1028 Screw, Crankcase To Cylinder Block	M-10-1073 Bearing, Center Main
M-60-302 Washer, Crankcase To Cylinder Block Screw	M-10-167 Dowel Pin
M-60-203 Nut, Crankcase To Cylinder Block Screw	M-60-1029 Screw, Bearing Clamping
M-60-203 Nut, Carburetor Stud	M-10-1074 Reed, Inlet Valve
M-20-1012 Gasket, Carburetor	M-10-1075 Reed Stop
M-10-1063 Bracket, Fuel Tank Mounting (Front)	M-60-101 Screw, Reed Stop Retaining
M-60-186 Screw, Fuel Tank Mounting Bracket	M-10-1096 Bearing Housing Assembly Upper
M-60-319 Washer, Fuel Tank Bracket	M-10-1056 Bearing Housing
M-10-1064 Bushing (Hycar) Fuel Tank Bracket (Front)	M-10-1058 Bearing
M-10-1065 Stud, Brkt. To Protector Rim (Front)	M-60-403 Oil Seal
M-10-1066 Washer (Rubber) Fuel Tank Brkt. (Front)	M-10-1060 Bearing (Roller)
	M-10-1062 Gasket, Bearing Housing To Crankcase
	M-60-1025 Screw, Housing To Crankcase
	M-10-1057 Cap, Bearing Housing
	M-60-1026 Screw, Bearing Housing Cap
	M-10-1059 Nut, Bearing Lock
	M-10-1090 Washer, Upper Bearing, Dished Thrust

PISTON AND CONNECTING ROD

M-10-2021 Connecting Rod Assembly	M-10-2028 Piston, Ring And Piston Pin Assembly
M-10-2022 Rod, Connecting N.S.S.	M-10-2029 Piston And Piston Pin Assembly
M-10-2023 Screw, Connecting Rod & Cap	M-10-2017 Piston
M-10-2024 Washer, Tab - Connecting Rod Screw	M-10-2019 Piston Pin
M-10-2025 Nut, Connecting Rod Screw	M-10-2020 Ring, Piston Pin Lock
M-10-2027 Bearing, Piston Pin	M-10-2018 Ring, Piston
M-10-2027 Bearing, Connecting Rod	
M-10-2026 Thrust Washer, Connecting Rod	

CYLINDER AND WATER JACKET

M-10-3039 Cylinder Block Assembly	M-60-1031 Screw, Cylinder Cover
M-10-3040 Cylinder Block And Water Tube Assembly	M-60-336 Washer, Cylinder Cover Screw
M-10-3041 Cylinder Block N.S.S.	M-60-209 Nut, Cylinder Cover Screw
M-10-3042 Water Tube N.S.S.	M-60-1017 Screw, 10-24x $\frac{1}{2}$
M-10-3057 Sleeve, Cylinder N.S.S.	M-10-3048 Gasket, Crankcase To Cylinder Block
M-10-3053 Bleeder, Jet	M-10-3049 Bushing (Hycar) Fuel Tank Bracket - Rear
M-10-3024 Helicoil Inserts	M-10-3050 Stud, Fuel Tank Bracket - Rear
M-10-336 Welch Plug	M-10-3051 Washer, Fuel Tank Bracket - Rear (Rubber)
M-10-3043 Welch Plug	M-60-337 Washer, Fuel Tank Bracket Stud
M-10-3044 Cover, Cylinder	M-60-214 Nut (Elastic Stop) Fuel Tank Bracket Stud
M-10-3045 Gasket, Cylinder Cover	
M-10-3046 Intake Cover Plate	
M-10-3047 Gasket, Intake Cover Plate	

CARBURETOR

M-20-1071 Carburetor (Tillotson AJ-30A)	M-20-155 Screw, Throttle Shutter
M-20-1103 Body N.S.S.	M-20-1108 Lockwasher, Throttle Shutter Screw
M-20-159 Screw, Throttle Stop Lever	M-20-1094 Float Bowl Cover
M-20-128 Gasket, Gland	M-20-1099 Plug, Screw
M-20-127 Gland, Main Adjustment	M-20-1109 Tube, Air Bleed
M-20-125 Nut, Gland	M-20-1110 Screw, Idle Adjusting
M-20-126 Packing	M-20-1111 Screw, Needle Valve Adjusting
M-60-308 Lockwasher, Bowl Cover Screw	M-20-1112 Stud, Choke Control Lever
M-20-1104 Lead Shot, Channel Plug	M-20-1113 Gasket, Flange
M-20-1046 Lead Shot, Channel Plug	M-20-1114 Gasket Set
M-20-1089 Gasket	M-20-1115 Repair Kit Carburetor
M-20-108 Welch Plug	M-20-1116 Body, Service
M-20-114 Spring, Cotter Float Retaining	M-20-1060 Throttle Lever Assembly
M-20-137 Spring, Idle Adjustment Screw	M-20-1041 Lever, Throttle
M-20-156 Spring, Throttle Return	M-20-1065 Pin, Throttle Lever
M-20-1090 Plug, By Pass	M-60-126 Screw, Throttle Lever To Carburetor
M-20-1105 Inlet Valve And Seat Assembly	M-20-1027 Fuel Shut-Off Valve Assembly
M-20-1060 Inlet Valve N.S.S.	M-20-1028 Valve, Fuel Shut Off
M-20-1106 Inlet Valve Seat N.S.S.	M-20-1029 Body
M-20-157 Lever, Throttle Stop	M-20-1030 Nut
M-20-151 Shaft, Throttle	M-20-1031 Washer
M-20-1063 Nozzle, Outlet Tube N.S.S.	M-20-1043 Packing
M-20-133 By Pass Tube Assy. (Idle Jet)	M-20-1033 Stem
M-20-1066 Tube, By Pass N.S.S.	M-20-1049 Knob
M-20-1006 Gasket, Float Bowl	M-20-1026 Groove Pin
M-20-1107 Throttle Shutter	
M-20-1003 Float	

PARTS LIST . . . ORDER BY PART NUMBER AND NAME

CHOKE

M-20-2022	Choke Lever Assembly	M-60-155	Screw, Choke Shutter
M-20-2023	Lever, Choke N.S.S.	M-20-2019	Rod, Choke
M-20-2015	Pin, Choke Lever N.S.S.	M-20-2005	Cotter Pin, Choke Rod Retaining
M-20-2004	Stud, Choke Lever	M-20-2016	Knob, Choke
M-60-307	Washer, Choke Lever Stud	M-60-209	Nut, Choke Knob Stop
M-20-2003	Pin, Choke Lever Rod	M-20-2020	Equalizer, Choke
M-20-2024	Shutter, Choke	M-20-2021	Link, Choke Equalizer
M-20-2007	Spring, Choke Shutter		

FUEL TANK

M-20-3124	Fuel Tank Assembly	M-20-3009	Spring, Vent Screw
M-20-3125	Fuel Tank	M-20-3078	Washer, Vent Screw Spring
M-20-3050	Cable Guide	M-20-3008	Chain, Filler Cap
M-20-3051	Gasket	M-20-316	Spring, Filler Cap Retaining
M-20-3052	Nut, Cable Guide	M-20-2017	Cotter Pin
M-20-349	Fuel Filter Assembly	M-20-3095	Vent Screw
M-20-350	Adapter Nut	M-20-3092	Serial Number And Name Plate
M-20-371	Gasket, Seal	M-60-146	Drive, Screw
M-20-352	Washer (Rubber)	M-20-3121	Protector Rim Assembly
M-20-353	Filter Element	M-20-3081	Rim, Protector
M-20-354	End Cap	M-20-3086	Spring Nut
M-60-210	Nut, Elastic Stop	M-20-3090	Rivet
M-20-355	Stud, Filter	M-60-113	Screw, Rim To Tank
M-20-3038	Connector, Fuel Line	M-60-324	Washer, Protector Rim Screw
M-20-3083	Fuel Line Assembly	M-20-3122	Cowl Assembly
M-20-3084	Fuel Line	M-20-3082	Cowl
M-60-411	Nut, Compression	M-20-3020	Grommet, Choke Rod
M-60-410	Sleeve, Compression	M-20-3086	Spring Nut
M-20-3093	Filler Cap Assembly	M-20-3088	Stud (Rear)
M-20-3094	Filler Cap	M-20-3089	Stud (Sides)
M-20-3080	Gasket, Filler Cap	M-20-3087	Cross Pin
M-20-317	Gasket, Vent Screw	M-20-3091	Rivet
M-60-305	Washer, Vent Screw		

MAGNETO - SCINTILLA K2A-3
(Used On Motors # 338336 - 340835)

M-30-2012	Magneto (Scintilla K2A-3)	M-30-229	Breaker, Complete
M-30-228	Plate Assembly, Stator	M-60-106	Screw, Breaker Attaching And Adjust
M-30-203	Plate Stator	M-60-307	Washer, Breaker Attaching Screw
M-30-204	Coil, Ignition	M-60-301	Washer, Breaker Adjusting Screw
M-30-205	Clamp, Coil Core Fastening	M-60-201	Nut, Primary Connectors To Breaker
M-30-206	Insulator, High Tension Lead	M-60-306	Washer, Primary Connector To Breaker Nut
M-30-207	Lead, High Tension, Short	M-60-238	Magnet, Rotating
M-30-208	Lead, High Tension, Long	M-30-216	Spring, Stator Plate Tension
M-30-209	Clamp, High Tension Lead	M-30-217	Plate, Stator Plate Tension Spring
M-60-307	Washer, High Tension Lead Clamp Screw		
M-30-210	Condenser		
M-60-106	Screw, Condenser Attaching		
M-60-307	Washer, Condenser Attaching Screw		

PARTS LIST . . . ORDER BY PART NUMBER AND NAME

MAGNETO SCINTILLA K2A-3 (Continued)

M-60-111	Screw, Stator Plate Tension Spring	M-30-226	Plug, Friction Shoe Spring
M-60-309	Washer, Stator Plate Tension Spring Screw	M-30-2013	Flywheel Assembly
M-30-224	Shoe, Friction	M-30-2014	Flywheel N.S.S.
M-30-225	Spring, Friction Shoe	M-30-2015	Cam And Hub N.S.S.
		M-30-2011	Key, Flywheel
		M-10-149	Thrust Washer, Magneto Pilot

MAGNETO - SCINTILLA K2A - 201
(Used On Motors # 340836 And Up)

M-30-2009	Magneto (Scintilla) K2A-201 Complete	M-30-2044	Coil
M-30-2020	Stator Plate Assembly	M-30-205	Clamp, Coil
M-30-2021	Stator Plate	M-30-2045	Lead, H. T. - Short
M-30-2036	Magnet, Rotating	M-30-2046	Lead, H. T. - Long
M-30-2032	Breaker, Assembly	M-30-206	Insulator, H. T. Connection
M-30-2037	Support, Breaker Contact	M-30-209	Clamp, H. T. Lead
M-30-2038	Lever, Breaker Contact	M-60-106	Screw And Lockwasher H. T. Lead
M-30-2039	Washer, Plain, - Breaker Assembly Screw	M-30-2024	Spring, Stator Plate Tension
M-30-2040	Bushing, Insulating	M-30-2025	Plate, Stator Tension Spring
M-30-2041	Washer, Insulating	M-30-2029	Screw And Lockwasher
M-30-2031	Lockwasher	M-30-2018	Tensioning Assembly
M-30-2042	Screw, Breaker Assembly	M-30-224	Screw, Adapter Tension
M-30-2043	Nut, Breaker Assembly	M-30-225	Spring, Adapter Tension
M-60-301	Washer, Plain - Breaker Assy. Securing	M-30-226	Plug, Magneto Pilot Friction
M-30-2033	Screw And Lockwasher Breaker Assy. Mounting	M-30-2026	Gasket, Cover
M-60-201	Nut, Primary Connector To Breaker Assembly	M-30-2027	Cover, Magneto
M-30-2030	Condenser	M-30-2047	Washer, Felt
M-60-105	Screw And Lockwasher, Condenser	M-30-2048	Ring, Lock
		M-30-2035	Washer, Cover Screw
		M-30-2034	Screw And Lockwasher, Cover
		M-30-2010	Flywheel
		M-30-2011	Key, Flywheel
		M-10-149	Thrustwasher, Magneto Pilot

SPARK CONTROL LEVER AND STARTER

M-30-4095	Throttle Handle Assembly	M-30-4102	Protector, Spark Plug
M-30-4096	Handle, Throttle N.S.S.	M-30-4062	Starter Assembly, Complete
M-30-4097	Cam, Throttle N.S.S.	M-30-4030	Starter Cover Assembly
M-30-4047	Pin, Throttle Cam N.S.S.	M-30-4031	Cover, Starter
M-30-408	Spacer, Throttle Cam	M-30-455	Pin, Anchor, - Housing
M-60-159	Screw, Spacer	M-60-407	Pin, Sheave Shaft
M-60-339	Washer	M-30-4098	Auxiliary Handle, Starter Cover
M-60-102	Screw	M-60-1034	Screw, Auxiliary Handle
M-60-310	Lockwasher	M-30-4063	Starter Sheave Assembly
M-30-4093	Knob, Throttle Handle	M-30-4042	Sheave, Starter
M-60-160	Screw, Throttle Handle Knob	M-30-4103	Pin, Retainer
M-30-420	Spark Plug J7J		

PARTS LIST . . . ORDER BY PART NUMBER AND NAME

SPARK CONTROL LEVER AND STARTER (Continued)

M-30-4044 Retainer, Starter Pawl	M-30-4037 Magnet, Starter Pawl
M-30-4099 Collar	M-30-4038 Spring, Coil
M-30-4111 Wave Washer	M-30-4039 Plate, Friction
M-30-4104 Washer, Sheave Shaft	M-60-128 Screw, Friction Plate To Cover
M-60-1018 Screw	M-30-4003 Screw, Sheave Shaft To Cover
M-30-4027 Thread Guard	M-30-4040 End Cap
M-30-459 Pin, Anchor, Sheave	M-30-465 Handle, Starter
M-30-4100 Shaft, Sheave	M-30-4101 Ratchet, Starter
M-30-4028 Bearing, Sheave Shaft	M-60-1019 Screw, Starter Cover
M-30-4018 Shim, Sheave Shaft	M-30-4053 Harness Clamp, Ignition Wires
M-30-4032 Cable Assembly, Starter	M-60-1035 Screw, Clamp Retaining
M-30-4033 Cable, Starter	M-30-4110 Cable Support
M-30-464 Anchor, Cable	M-30-425 Bushing, Ignition Wires
M-30-4035 Starter Pawl Assembly	
M-30-4036 Pawl, Starter	

DRIVE SHAFT HOUSING

M-40-1014 Drive Shaft Housing	M-60-211 Nut
M-40-1015 Top, Drive Shaft Housing	M-40-1020 Stud, Long
M-40-1027 Screw, Drive Shaft Housing Top	M-60-315 Washer, Tab, Stud Nut
M-40-1017 Plate, Anti-Cavitation	M-60-205 Nut
M-60-112 Screw, Anti-Cavitation Plate	M-40-1022 "O" Ring, Water Inlet Pipe
M-60-309 Washer, Anti-Cavitation Plate Screw	M-60-1036 Screw
M-40-1019 Stud, Short	M-60-302 Washer, Stud Nut
	M-60-313 Washer, Drive Shaft Housing Top Screw

STEERING ASSEMBLY AND CLAMPING BRACKET

M-40-2072 Steering Handle And Bracket Assembly	M-40-256 Shock Absorber Assembly
M-40-2074 Steering Handle Assembly	M-40-257 Pin, Shock Absorber
M-40-2075 Handle, Steering	M-40-258 Shell, Shock Absorber
M-40-2076 Bushing, Steering Handle	M-40-259 Groove Pin Type 3
M-40-2077 Grip And Tube Assembly	M-40-2084 Groove Pin, Special
M-40-2078 Blade, Screw Driver	M-40-2051 Clamp Bracket Assembly
M-40-2082 Groove Pin, Type 3	M-40-2052 Bracket, Clamp Assembly (Right Half)
M-60-1023 Screw	M-40-2060 Thumb Screw Assembly
M-60-213 Nut, Elastic Stop	M-40-2061 Thumb Screw N.S.S.
M-40-2073 Bracket, Steering Handle	M-40-2063 Groove Pin N.S.S.
M-40-2018 Rivet, Spring Release	M-40-220 Washer, Thumb Screw
M-40-269 Spring, Spring Release Rivet	M-40-2053 Bracket, Clamp Assembly (Left Half)
M-60-335 Washer, Spring Release Rivet	M-40-2060 Thumb Screw Assembly
M-40-262 Spring, Handle Bracket	M-40-2061 Thumb Screw N.S.S.
M-60-165 Screw, Handle Bracket Spring Retaining	M-40-2063 Groove Pin N.S.S.
M-60-319 Washer, Handle Bracket Spring Retaining Screw	M-40-220 Washer, Thumb Screw
	M-40-2054 Rod, Tie

PARTS LIST . . . ORDER BY PART NUMBER AND NAME

STEERING ASSEMBLY AND CLAMPING BRACKET (Continued)

M-60-116 Screw, Tie Rod	M-40-2057 Nut, Tie Stud (Right Hand)
M-60-319 Washer, Tie Rod Screw	M-40-2058 Cover Plate
M-40-2055 Stud, Tie	M-40-2059 Pivot Pin
M-40-2056 Nut, Tie Stud (Left Hand)	

SWIVEL BRACKET

M-40-2079 Swivel Bracket Assembly	M-40-2067 Bushing, Co-Pilot Lower Shell
M-40-2064 Swivel Bracket	M-40-2068 Ring, Co-Pilot Lower Bushing
M-40-2071 Bushing, Co-Pilot Ring (Bonded Assy.) N.S.S.	M-40-2080 Latch, Shoe Assembly
M-40-2069 Ring, Co-Pilot	M-40-2044 Latch, Shoe N.S.S.
M-40-2070 Spring, Co-Pilot	M-40-2045 Pin, Latch N.S.S.
M-60-1022 Screw, Co-Pilot Ring	M-40-2046 Lever And Pin Assembly
M-60-303 Washer, Co-Pilot Screw	M-40-2047 Lever N.S.S.
M-40-2065 Bushing, Co-Pilot Upper Shell	M-40-2048 Pin, Lever N.S.S.
M-40-2066 Ring, Co-Pilot Upper Bushing	M-40-2049 Groove Pin
	M-40-2050 Spring, Tilt Lock

LOWER UNIT

M-50-229 Gear Housing Assembly Complete	M-50-225 Propeller Shaft And Gear Assembly
M-50-224 Gear Housing Assembly	M-50-228 Shaft, Propeller
M-50-188 Housing, Gear	M-50-203 Gear, Propeller
M-50-195 Bearing, Drive Shaft Needle	M-50-204 Pin, Propeller Gear
M-50-196 Bearing, Propeller Shaft Needle	M-50-205 Bearing, Ball
M-50-189 Shaft, Drive	M-50-206 Snap Ring
M-50-190 Pinion, Drive Shaft	M-50-219 Spacer, Gear To Bearing (.003) Optional
M-60-1024 Screw, Drive Shaft Pinion	M-50-220 Spacer, Gear To Bearing (.005) Optional
M-50-191 Lockwasher, Special	M-50-221 Spacer, Gear To Bearing (.007) Optional
M-50-192 Case, Seal	M-50-207 Impeller, Assembly
M-50-193 Seal, Oil	M-50-208 Pin, Impeller
M-50-1032 Screw, Grease Fill	M-50-211 Clutch Assembly, Multiple Disc.
M-50-1033 Washer, Grease Fill Screw	M-50-212 Thrust Plate
M-60-181 Screw, Gear Housing Vent	M-50-226 Friction Disc (Shaft)
M-60-326 Washer, Vent Screw	M-50-227 Friction Disc (Propeller Hub)
M-50-194 Bearing, Ball - Drive Shaft	M-50-215 Spring, Compression
M-50-197 Shim, Drive Shaft	M-50-217 Propeller
M-50-198 Housing, Water Pump	M-50-222 Tabwasher, Prop Nut
M-50-140 Oil Seal	M-50-223 Nut, Propeller
M-50-199 Washer, Sealing	M-50-216 Shim, Propeller Shaft Bearing
M-50-200 Washer, Pump Housing Sealing	
M-50-201 Cover, Water Pump	
M-50-218 Spacer, Water Pump Housing	
M-50-230 Shim, Clutch (Optional)	



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