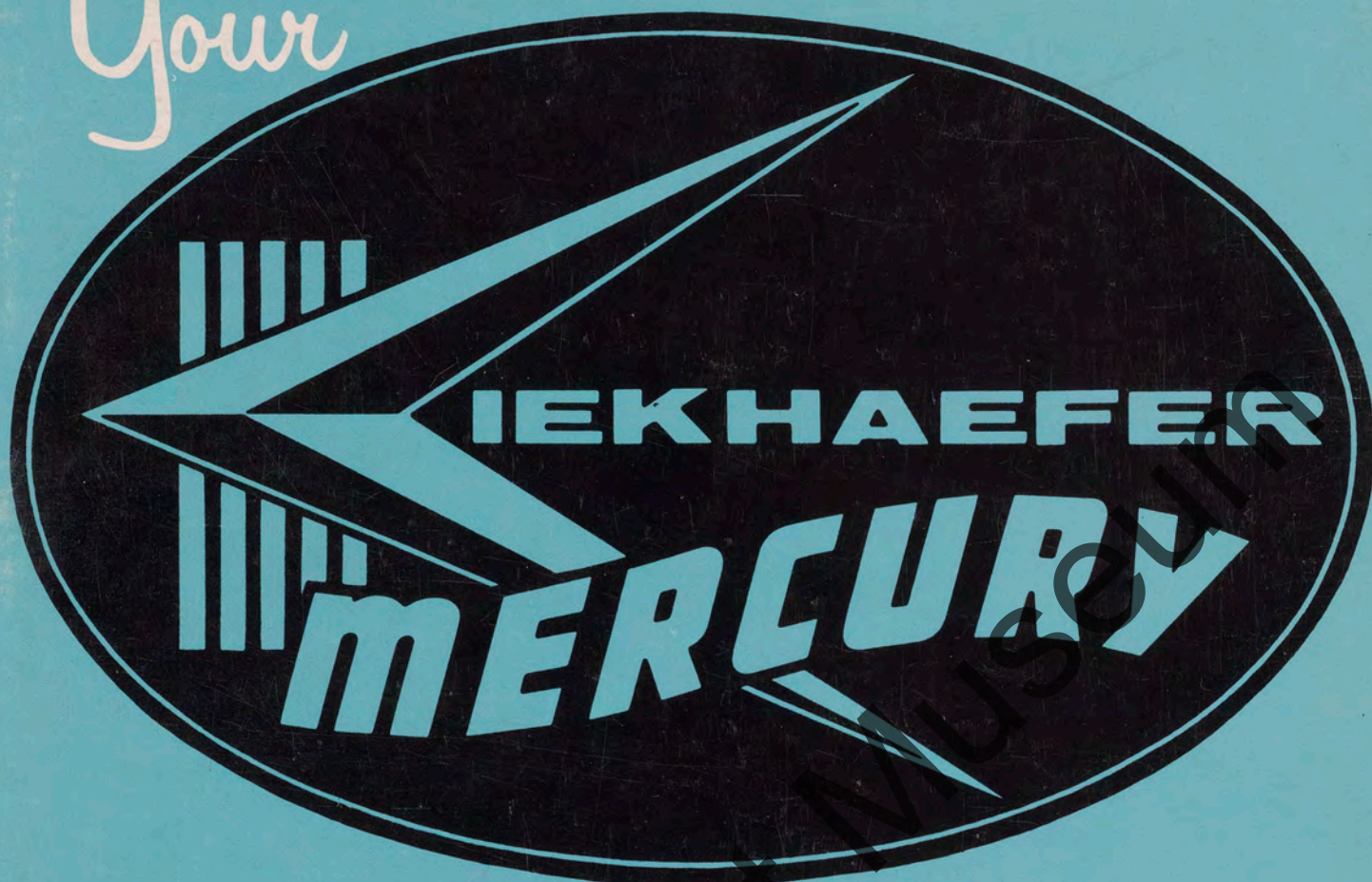


Your



OUTBOARD

Owner's Guide

operation and maintenance

MARK 30-30E and 30H

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KIEKHAEFER CORPORATION
 CEDARBURG, WISCONSIN, U.S.A.
 Manufacturers of
MERCURY
 OUTBOARD MOTORS

MERCURY OUTBOARD OWNER
 In reply... please address all correspondence to company... not to individual.

The Kiekhaefer Corporation takes pride in your particular and distinct selection of one of its superb outboard motors, and welcomes you into that select family of individuals who recognize quality, engineering, and performance.

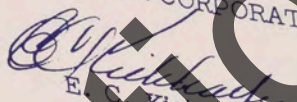
Your Mercury Outboard is the finest motor that superior research, engineering, design, and workmanship can produce.

Satisfaction of maximum efficiency and top performance are built into every Kiekhaefer Mercury Outboard by continuous laboratory research and testing, in the largest and finest equipped country for small, two-cycle engines, manufactured in the

The wide acceptance of this outstanding motor, by sports enthusiasts and commercial users alike, in such a short time, has marked it as the recognized motor of quality, through its proven record and exclusive, famous "firsts".

Failure to use a normal amount of care and maintenance will result in loss of maximum performance and dependable service, originally built into this engine.

A self-contained power unit, such as your outboard, requires a certain amount of attention. A normal amount of care can be exercised by the operator by closely following the instructions contained in this manual.

Sincerely yours,

 E. C. Kiekhaefer
 President

ECK/db



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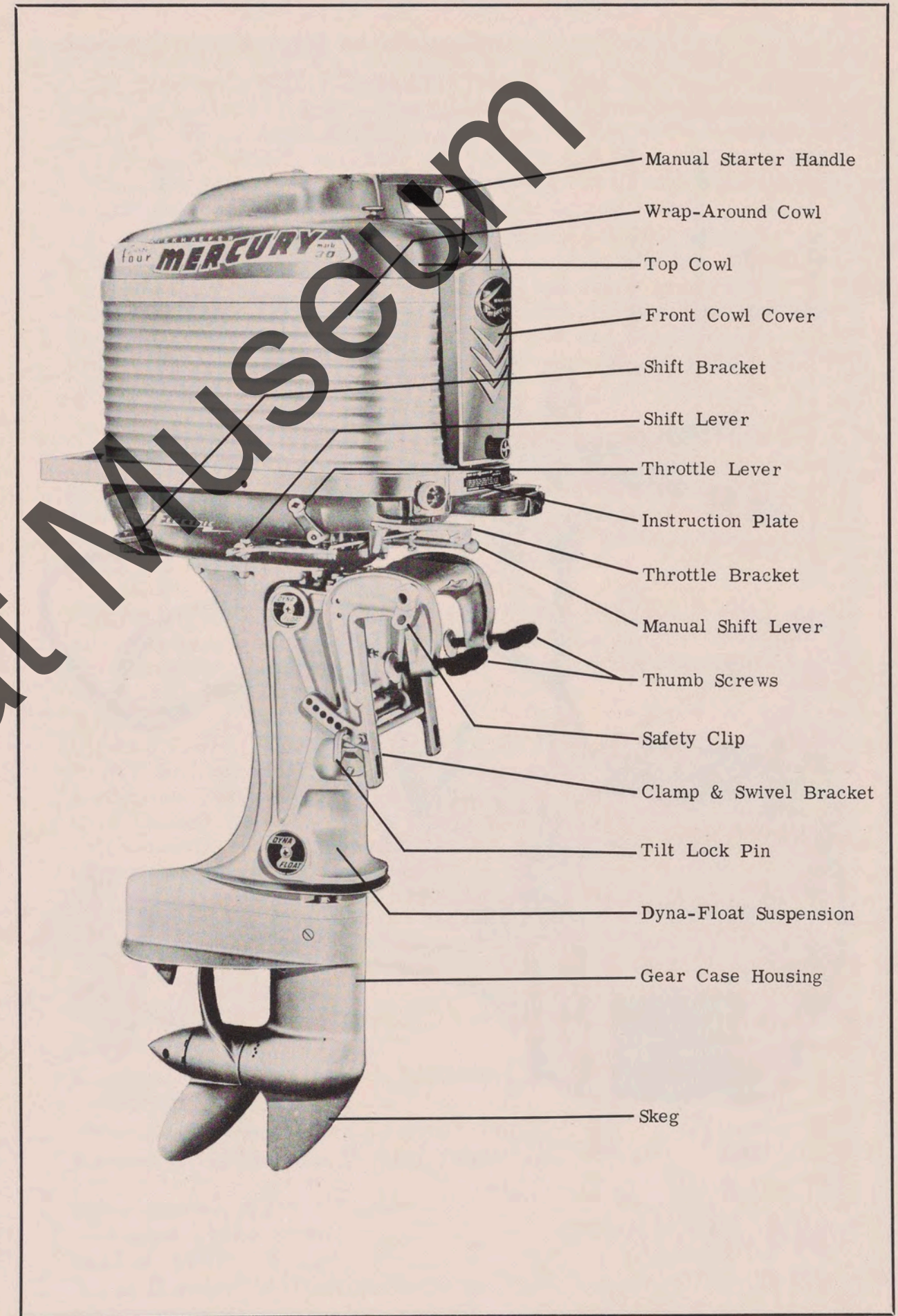


Figure 1
Mark 30E Turbo Four MercElectric

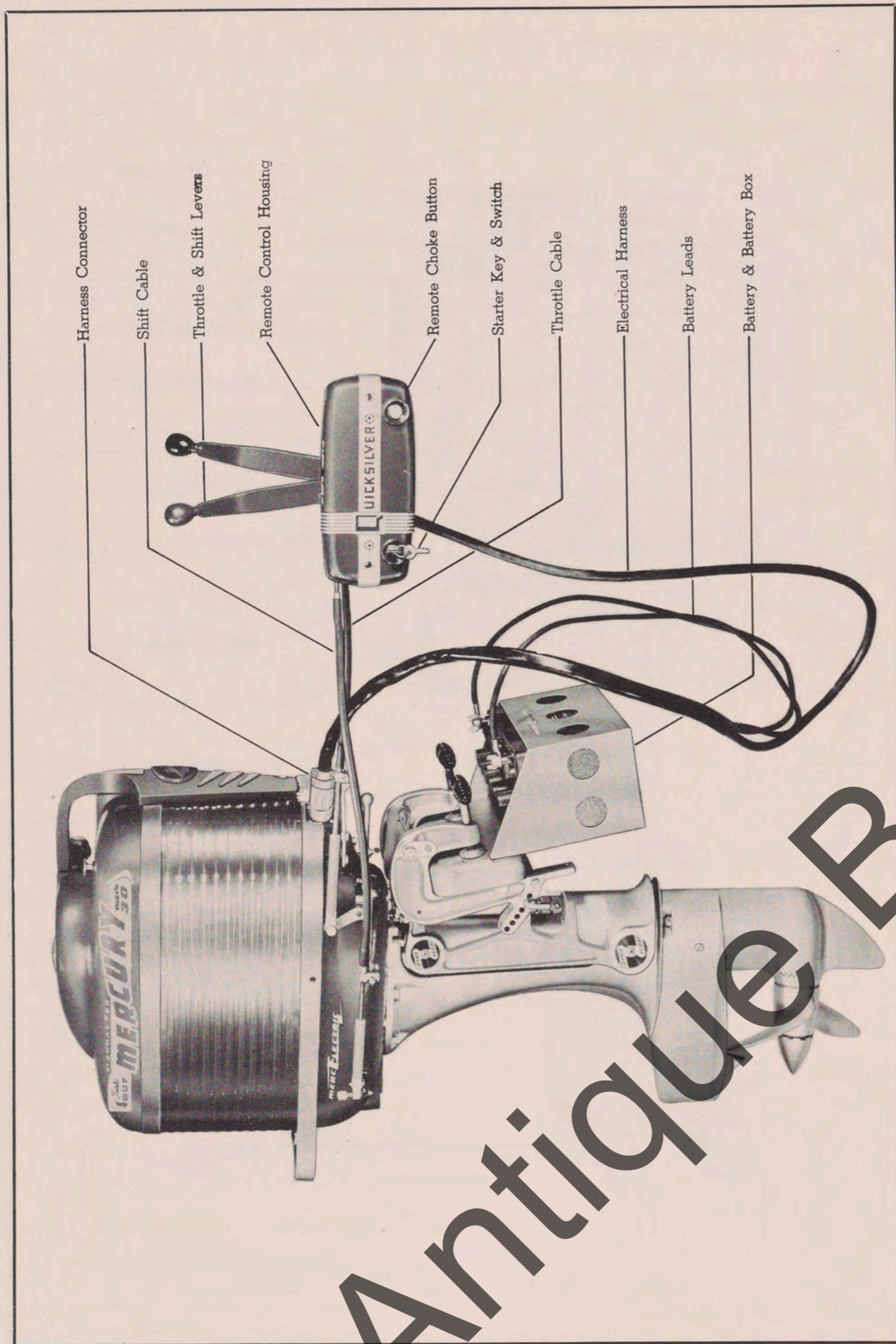


Figure 2
Electric and Remote Control Connections

Section I—General Information

1-1. SERVICE RECOMMENDATIONS. This publication includes operating and service instructions applying to Kiekhaefer Mercury Mark 30, Mark 30E and Mark 30H Outboard Motors. (The "E" following Mark 30 designates "electric starting"; the "H" "hydro.") In the preparation of this handbook, careful consideration was given to such adjusting and service operations as are usually required in normal service.

It is urgently recommended that the owner should not attempt repairs which are not specifically covered in this handbook. Other repairs, particularly those which require extensive disassembly or replacement of internal parts, should be done only by Certified Mercury Service facilities having the necessary factory-designed tools and equipment plus the knowledge and experience required to do the job correctly and economically.

1-2. SERIAL NUMBER. The serial number is stamped into the instruction plate on the front of the bottom cowl. This number is the manufacturer's key to numerous engineering details applying to your motor. When ordering parts, accessories and tools, or when corresponding with the manufacturer or dealer in regard to service matters, always specify model and serial number.

1-3. DIRECTIONAL REFERENCES. Front of boat is bow; rear is stern. Starboard side is right side; port is left side. In this handbook, all directional references are given as they appear when viewing boat from stern, looking toward bow.

1-4. CYLINDER NUMBERING AND FIRING ORDER. The Mark 30-30E-30H Outboard Motors are four-cylinder, alternate-firing internal combustion engines. Cylinders fire at 90° intervals, giving four equally-spaced power impulses for each revolution of the crankshaft. Cylinders are numbered consecutively from top to bottom, top cylinder being number one. Firing order is 1-3-2-4.

1-5. SPECIFICATIONS

MARK 30-30E-30H

Bore	2 7/64"
Stroke	2 1/8"
Total Piston Displacement.....	29.78 Cu. In.
Weight	110 Pounds *
Recommended Spark Plugs (Champion):	
Normal Utility Service.....	J6J
Recommended Spark Plug Electrode Gap.....	.025"
Recommended Magneto Contact Point Gap.....	.010" +.000" -.002"
Recommended Spark Advance:	
Normal Utility Service.....	.235" B.T.D.C.
Mark 30H320" B.T.D.C.
Rated Horsepower (Continuous Duty).....	.30 B.H.P.

* Mark 30

1-6. PROPELLERS. It is not possible to design a single propeller which will give optimum performance under all conditions of engine speed, boat type and speed and load. The propeller installed at the factory has been found to give the best average over-all performance on standard utility boats. Performance of faster, lighter boats or slower, heavier boats often can be improved by fitting propeller pitch and diameter better suited to speed and load conditions. For propeller recommendations applying to your particular boat, see Paragraph 11-5 or consult your Mercury dealer.

1-7. WARRANTY INSTRUCTIONS. Manufacturer's Warranty Agreement appears on the inside back cover of this handbook. A warranty registration card accompanies each motor from the factory. Your dealer will fill out this card and send the designated portion to the factory. He will give you the stub attached thereto.

1-8. WRITE A LETTER OF EXPLANATION. When sending a complete motor, parts or accessories to the factory or to your dealer for service, send an accompanying letter of explanation containing the following information: 1) Serial Number, 2) Model Number, 3) Date Purchased, 4) Dealer from Whom Purchased, 5) Number of Hours Motor Has Been Operated, 6) Details of Trouble Experienced, 7) Special Service Instructions, 8) Date of Shipment, 9) How Packed, 10) How Shipped, 11) Dates of Previous Correspondence, and 12) Copy of Bill of Lading.

1-9. MOTOR SHIPPING INSTRUCTIONS. If the motor contains fuel, drain thoroughly and seal all openings from which fuel might leak during shipment. Clean exterior and all accessible parts. Attach identification tag bearing your name and address, motor serial number and model number. Pack carefully, using original shipping carton, if available. (See Paragraph 8-1.) Ship to your Certified Mercury Service establishment or to:

KIEKHAEFER CORPORATION
SERVICE & PARTS DIVISION
BEAVER DAM, WISCONSIN

All Shipping Charges Must Be Prepaid!

Section II—Preparation for Starting

2-1. INSTALLING STEERING HANDLE. (*Note:* This paragraph pertains only to models equipped with auxiliary twist grip steering handle and throttle control, Kiekhaefer Accessory No. 25825A1. See Figure 3.) Beforehand, bear in mind that inter-lock mechanism between shift control and throttle control cannot operate normally unless tilt lock pin is installed. Tilt lock pin must be in place while installing steering handle assembly, while checking operation of throttle and shift controls and at all times during operation of the motor.

1. Remove steering handle locating screw and lock washer from elbow.
2. Be sure steering handle clamp bolt and nut are loose.
3. Insert steering handle assembly into elbow in any position and engage gears.

4. With steering handle in normal operating position (down, against stop), turn grip clockwise until shifter lever can be moved freely to neutral position; then turn grip counter-clockwise as far as possible.

5. Remove steering handle assembly from elbow and turn grip to position where arrow is in alignment with "START" position on indicator ring.

6. With arrow upward, as near to top as possible, re-insert steering handle assembly and engage gears. Be sure arrow has remained in alignment with "START" position on indicator ring.

7. Install steering handle locating screw with lock washer and tighten securely. If screw cannot be turned all the way down, do not force, but check to be sure tube is properly positioned so screw registers with milled hole in tube.

8. Tighten clamp bolt and nut.

2-2. DETERMINING CORRECT TRANSOM HEIGHT. The Mark 30-30E is designed for a transom height of 15½-17 inches. (See "Cavitation," Paragraph 4-3; Propeller Chart, Paragraph 11-5; and Figure 19.)

2-3. CLAMP BRACKET. Installation of the motor on the transom should be given very careful attention. The clamp bracket must not only support the weight of the motor, but it is subject to thrust loads, shock loads and steering stresses. These forces are applied directly to the transom through the clamp bracket assembly. Therefore, to avoid damage to the transom and to prevent the motor from working loose during operation, it is important that the clamp screws are securely and equally tightened. (See Figure 4.) During operation, clamp screws should be checked occasionally for tightness. For additional security, a safety cable or chain may be connected between boat and clamp bracket to prevent loss of motor if clamps should accidentally work loose during operation.

2-4. TILT LOCK ADJUSTMENT. Holes are provided in the clamp bracket to permit changing location of tilt lock pin for proper adjustment of tilt angle. (See Figure 5.) Under ideal conditions, efficiency is best with the lower unit operating in level position, as entire thrust is then applied parallel to direction of motion. However, with some boats

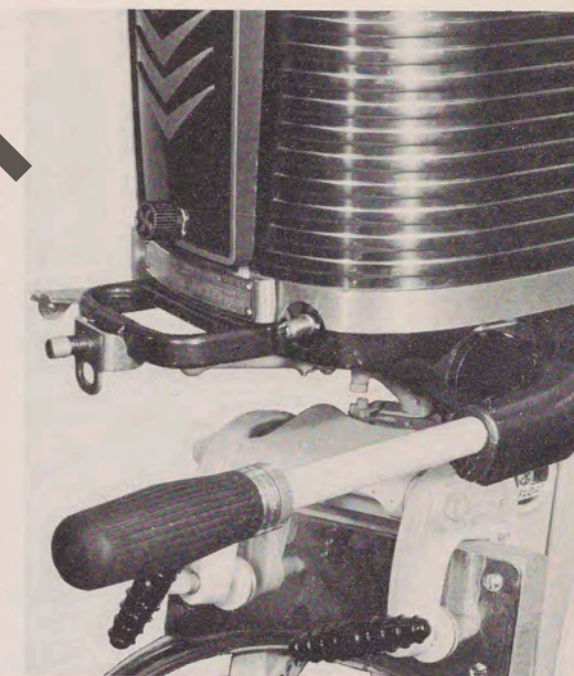


Figure 3
Auxiliary Twist Grip Throttle
and Steering Control

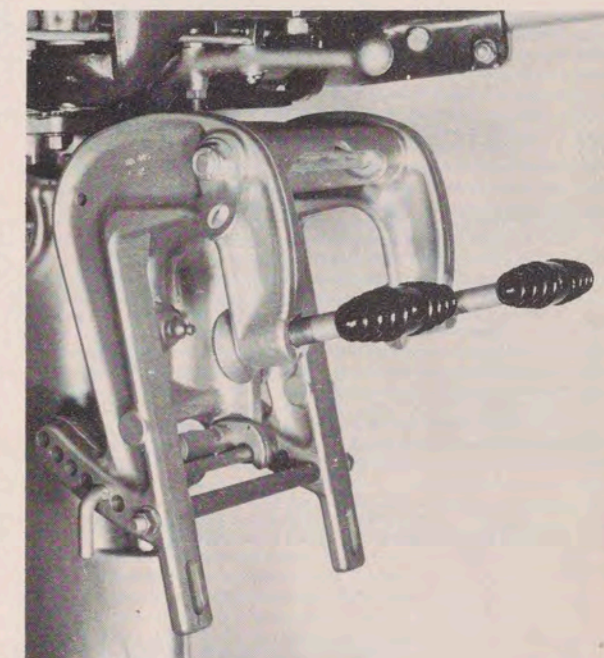


Figure 4
Clamp Bracket

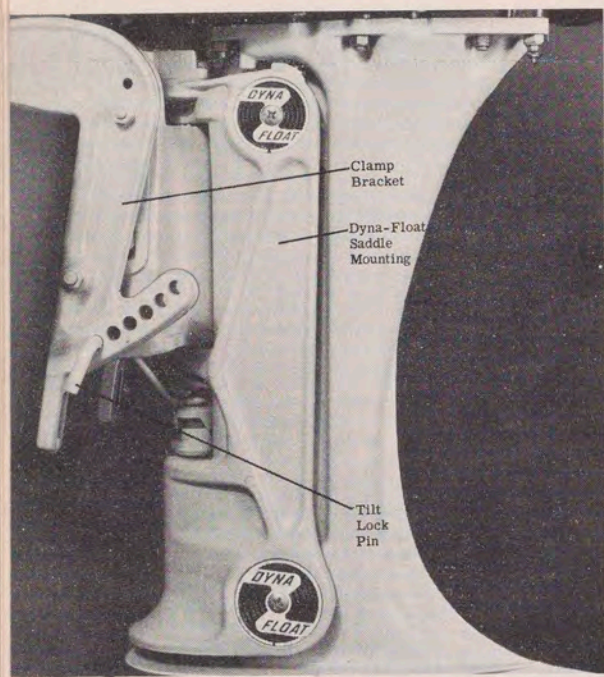


Figure 5
Tilt Lock Pin

and under certain unfavorable conditions of loading, there will be a tendency to ride stern high or bow high. This condition can be corrected considerably by adjusting tilt angle so boat rides level. If boat rides stern-high, increase tilt angle; if boat rides bow-high, decrease tilt angle. It must be considered that operation with excessive tilt will reduce performance noticeably and may induce cavitation. (See "Cavitation," Paragraph 4-3.) It is, therefore, preferable to level the boat by proper loading rather than by extreme adjustment of the tilt angle. Except on very rough water, if tilt angle is correctly adjusted and boat is favorably loaded, a properly-designed boat will ride level and will plane without "spanking" or "bucking."

will turn freely while operating from remote steering wheel. Adjustment is attained by means of hexagon head screw in bottom face of swivel bracket. Tighten the screw to increase friction; loosen to decrease friction. (See Figure 6.)

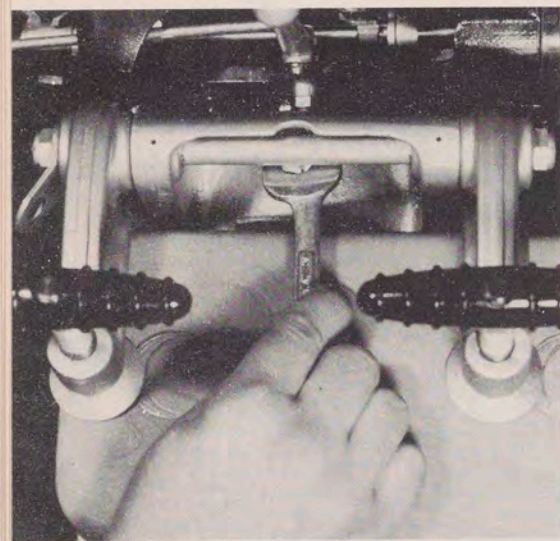


Figure 6
Co-Pilot Adjustment

2-5. ADJUSTING CO-PILOT. The co-pilot provides velvet-smooth friction control in the steering mechanism. Recommended adjustment is such that the motor

2-6. INSTALLING FUEL TANK. Set the fuel tank in approximate correct position in bottom of boat. Connect the fuel line to motor by inserting the twist connector into receptacle on left front side of bottom cowl. (See Figure 7.) Lock by turning $\frac{1}{4}$ turn clockwise. Determine the most favorable position of the fuel tank, bearing in mind the importance of arranging the fuel line in such a manner that it cannot become pinched, kinked, sharply bent or stretched during operation of the motor. Check with the motor in extreme left and right turn positions. Secure tank to bottom of boat. Mercury "Tank Traps" are excellent for this purpose. They are simple, rugged thumb screw clamps which can be permanently installed in the boat. The tank can then be locked in position or freed by a turn of each thumb screw. A set of three "Tank Traps" can be obtained under Kiekhaefer Accessory Number 24016.

2-7. RECOMMENDED FUEL MIXTURE. Thoroughly mix one can of Kiekhaefer Quicksilver 2-Cycle Engine Oil (Figure 8.) with each 2 gallons of good grade gasoline, or if available, the use of marine white,

automotive white or light aircraft gasoline is preferred. In an emergency, when Kiekhaefer Quicksilver Oil is not available, substitute highest quality S.A.E. 30 engine oil and increase proportion of oil to one pint (16 oz.) to each 2 gallons of gasoline. Motors equipped with Quicksilver (hydro) lower units require one can of Kiekhaefer Quicksilver 2-Cycle Engine Oil to each gallon of gasoline.

OPERATION IN CANADA: Use 3 cans (36 oz.) Kiekhaefer Quicksilver Oil to 5 imperial gallons of gasoline in remote fuel tank, or in emergency, use one imperial quart highest quality S.A.E. 30 oil to each 4 imperial gallons of gasoline. For motors equipped with Quicksilver lower units, double the above quantities for the same amount of gasoline.

Check with your dealer. He can make specific recommendations regarding types and brands of fuel in your locality best suited for outboard motor use.

2-8. CORRECT FUEL MIXING PROCEDURE. Observe fire prevention rules, particularly in the matter of smoking. Mix fuel outdoors or at least in a well-ventilated location. Mixing fuel directly in the remote tank is recommended. Measure accurately the required amounts of oil and gasoline; pour oil into remote fuel tank; and add a small amount of gasoline (about the same amount as oil). Mix thoroughly by shaking or stirring vigorously; then add balance of gasoline and mix again. Cleanliness is of prime importance in mixing fuel, as even a very small particle of dirt can cause carburetion trouble.

2-9. IMPORTANCE OF CONSISTENT FUEL MIXTURE. Failure to properly and thoroughly mix oil and gasoline will give an inconsistent fuel mixture which will make it difficult to get a carburetor setting and may burn up pistons or bearings or both.

The consistent use of 1 can Kiekhaefer Quicksilver Engine Oil, thoroughly mixed, with every 2 gallons of gasoline will assure you of top performance and minimum service difficulties.

2-10. FUEL TANK FEATURES:

1. A primary fuel tank filter is incorporated in bottom of fuel pickup tube.



Figure 7
Inserting Twist Connector



Figure 8
Quicksilver 2-Cycle Engine Oil

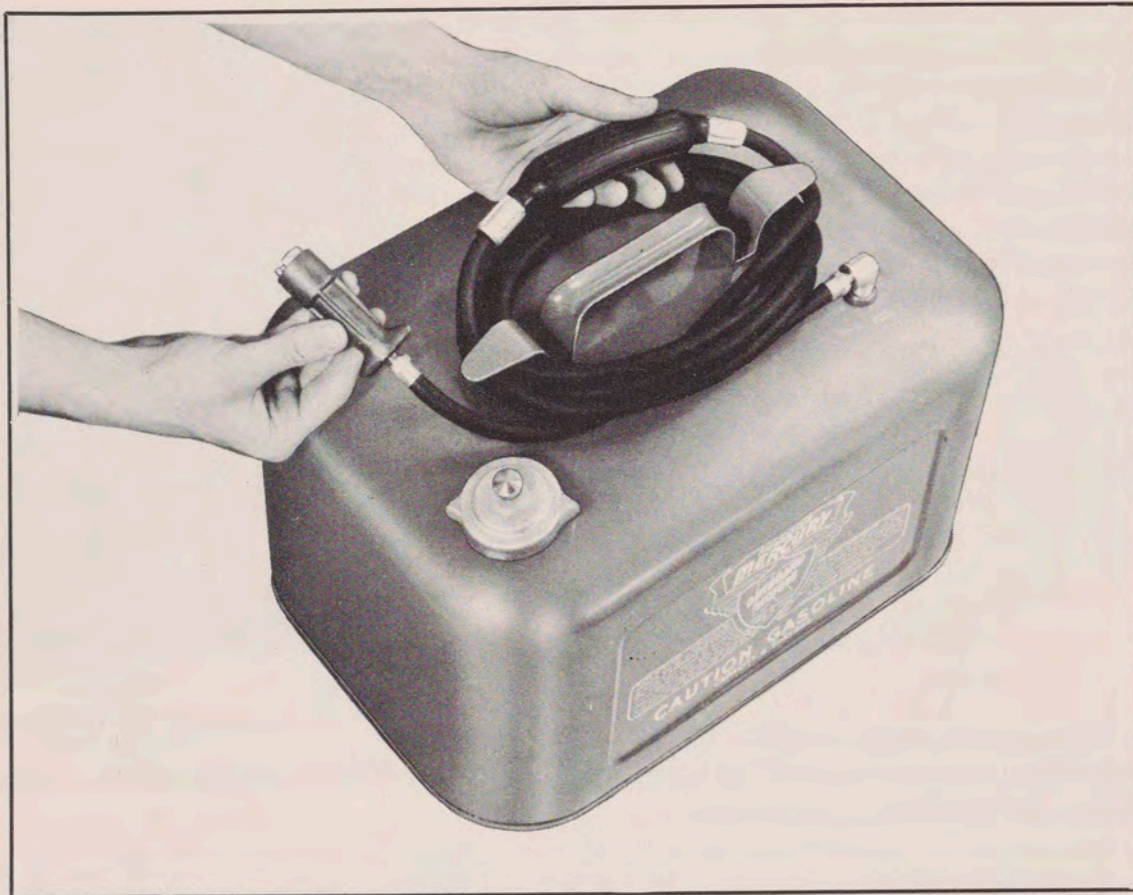


Figure 9
Remote Fuel Tank

2. Check valve in fuel connector prevents loss of fuel after disconnecting.
3. Drain plug on bottom allows convenient draining of tank.

2-11. REMOTE CONTROL ATTACHMENT. Throttle and shift cables are attached to throttle and shift lever clevis yokes on right side of bottom cowl. (See Figure 2.)

1. Hold cables vertically so that clevis yoke pins can be placed through the round brass cable anchor slots. Cables should be above clevises.

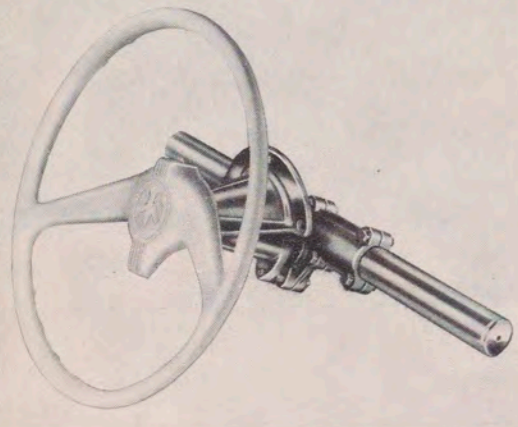


Figure 10
"Ride-Guide" Steering

2. Turn cables down and move throttle and shift levers so that anchor pin in end of nylon guide will fit into the anchor bracket and throttle arm on bottom cowl.

3. Push and turn knurled pin $\frac{1}{4}$ turn after it is extended through slot to anchor it. It may be necessary to adjust brass cable anchor slightly (turns on brass tube) to get full travel.

4. For shifting at control box: Lever forward places motor in FORWARD gear; lever backward places motor in REVERSE gear; center of control is NEUTRAL gear or SHIFT RANGE.

2-12. STEERING CABLE ATTACHMENT. Kiekhaefer "Ride-Guide" Steering is recommended for your safety and pleasure. For attachment, see your local dealer or instructions in "Ride-Guide" Kit. (See Figure 10.) If rope-and-pulley steering is used, make cable connections at removable center swivel lock by pressing in knurled pin $\frac{1}{4}$ turn and release.

Section III—Starting

3-1. NEW MOTOR OPERATING RECOMMENDATIONS. Your motor is ready for normal service when shipped from the factory and does not require "breaking in". A little special consideration during the initial operating period will prevent the possibility of damage. During the first five hours of operation, avoid sustained high speeds.

3-2. FUEL SYSTEM. The fuel flow from tank to carburetor is induced by fuel pumps located on the side of the crankcase and operated from crankcase pressure. After initial priming of the carburetor (Figure 11), fuel is drawn into the pumps and then forced to carburetors under pressure.

3-3. STARTING PROCEDURE.

(NOTE: See Para. 10-4 for Electric Starting Procedure.)

1. Be sure fuel tank contains a sufficient amount of fuel mixture.
2. Make certain that fuel tank is properly secured in boat.
3. Connect fuel line to motor by inserting twist connector into receptacle on control bracket. Lock by twisting $\frac{1}{4}$ turn clockwise, as shown in Figure 7.
4. Open air vent screw on remote fuel tank cap.
5. Prime fuel system by squeezing primer tube on fuel line. (See Figure 11.) When fully primed, pressure will be felt. Should motor begin to falter after starting, continue priming until fuel in carburetor is built up by running of motor.
6. If motor is cold, set choke in closed position (up). (See Figure 12.) Avoid use of choke if motor is warm.
7. Shift into neutral.
8. With throttle about $\frac{1}{4}$ - $\frac{1}{3}$ open, operate starter. As soon as motor starts, move choke to open (down) position. Operate cold motor at reduced speeds for a few minutes until it has reached normal operating temperature. During normal operation, always keep choke in open position.

NOTE: Starter is automatic rewind type. Proper operating technique will



Figure 11
Priming Fuel System



Figure 12
Operating Choke

add many hours of life to starter cable and to starter internal mechanism. Grasp handle firmly and pull outward slowly until engagement of ratchet mechanism can be felt. Then continue outward pull with a full, vigorous stroke. Do not release handle at end of stroke and allow it to snap back. Retain grip on handle and allow cable to rewind slowly. Ratchet release mechanism is designed so starter cannot engage during rewind.

Section IV—Operation

4-1. SHIFTING GEARS. Gear positions for shifter lever are indicated by words "FORWARD," "NEUTRAL" and "REVERSE" on instruction plate and on remote control plate, if remote controls are used. (See Figure 13.) The indicator on the remote throttle control is marked with "SLOW" and "FAST" positions. Inter-lock mechanism between throttle control and shift control permits shifting gears only while in the "SLOW" range. This is a safety feature designed to prevent shifting gears while engine is running too fast. Don't force the shift lever. With shift lever in "REVERSE" or "NEUTRAL" position, reverse lock lever, actuated by a cam on the shift lever shaft, locks motor in normal operating position. This prevents the lower unit from tilting outward, away from the transom, when reverse thrust is applied.

DON'TS

1. Don't operate motor with tilt lock pin removed.
2. Don't try to shift gears unless throttle control lever is in slow position. Forcing the shift lever will result in damage to inter-lock mechanism or remote control parts.
3. Don't try to shift into "REVERSE" while motor is not running. Reverse gear clutch may not be in exact relative position to permit engagement with shifter clutch. Forcing shift lever under this condition will result in bent or damaged shifting mechanism.
4. Don't ease gears into engagement. A firm, quick shift is recommended.
5. Don't force gears into engagement.

4-2. HOW TO DETERMINE WHETHER WATERPUMP IS OPERATING. Normal operation of the waterpump is indicated by a "tell-tale" stream of water issuing from a small hole in the bottom edge of the cowl on the port side. If at any time during operation this stream is not evident, check hole with a piece of wire to be sure that it is not clogged. If clogged, motor may be operated as long as water is discharging from driveshaft housing exhaust relief holes at slow speed. This also indicates that waterpump is operating. STOP if water is not being discharged from exhaust relief holes and avoid further operation until waterpump and cooling system have been checked for defect. Operation of motor with

defective water-pump or with obstruction in the cooling system will cause severe damage due to overheating. Motor should be referred to Certified Mercury Service facilities for inspection and necessary repair.

4-3. CAVITATION. Cavitation is indicated by intermittent or continued overspeed of the engine, accompanied by violent water agitation and a sharp reduction of boat speed. Cavitation occurs when the slipstream (flow of water past propeller) changes from a smooth, consistent flow to a turbulent flow. Under conditions of cavitation, the turbulent area or cavity around the propeller offers very little reaction to propeller rotation. Most commonly, cavitation is caused by one of the following:

1. Propeller operating too close to surface. This may be due to transom being too high; tilt angle adjusted so lower unit is too high; or boat riding stern-high due to improper loading.
2. Turbulence in slipstream due to obstruction such as a wide or deep keel. This can be helped in most cases by tapering keel in both width and depth from a point about 20 inches forward of trailing edge.
3. Propeller fouled by weeds, rope, etc.
4. Damaged or broken propeller blades. Broken blade is usually indicated by excessive vibration.
5. Slipping clutch in propeller. This might be mistaken for cavitation.

4-4. CAUTION FOR SHALLOW WATER OPERATION. As explained in Paragraph 4-1, when shift lever is in "NEUTRAL" or "REVERSE" position, lower unit is locked in normal operating position and cannot tilt up when striking bottom or a submerged object. Shock load of impact could cause transom breakage, particularly when boat is backing up.

Section V—Stopping

5-1. STOPPING. If the motor is to remain installed on the boat, ready for immediate re-start, stop by merely actuating the magneto shorting switch on the remote control station to "OFF" position.

If the motor is to remain idle for a period of time, or if the motor is to be removed from the boat, stop by disconnecting the fuel line from the motor and allowing motor to run at idling speed until it stops of its own accord, indicating that carburetors have run dry.

Close the fuel tank air vent knob.

5-2. REMOVING MOTOR FROM BOAT. Disconnect the remote controls and electrical starting harness from the motor, if it is so equipped. Disconnect the fuel line. Loosen the clamp bracket screws and disconnect safety cable or safety chain, if so equipped.

CAUTION: Keep the motor in an upright position, resting on its skeg, until all water has drained from the driveshaft housing. If the motor is placed on its side while the water remains trapped in the driveshaft housing, some water may drain into the powerhead and enter the cylinders through the exhaust ports.

Section VI—Adjustments and Minor Repairs

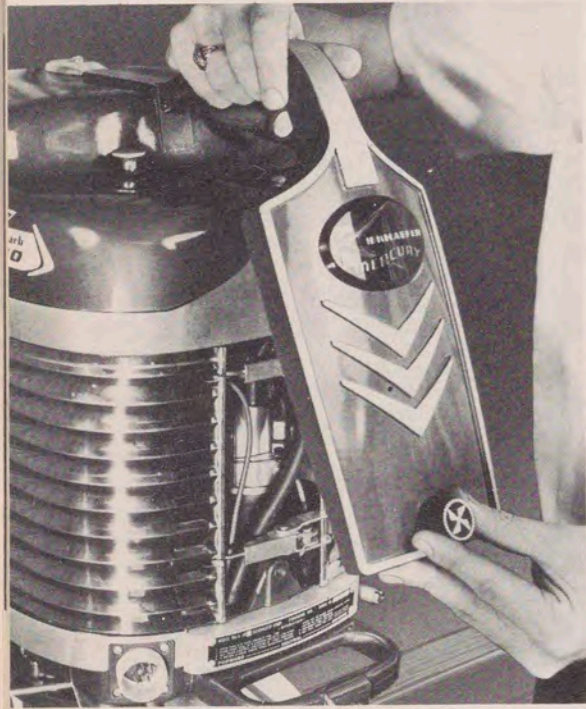


Figure 13
Lifting Cowl Plate

6-1. REMOVING COWLING.

1. Remove front cover plate by loosening the knurled knob on the bottom of the plate and lifting up until the hinge disengages at the pivot point. (See Figure 13.)

2. Release the two fastening clamps to permit the cowl band to be removed from the engine.

CAUTION: Under normal conditions, all engine parts that need adjustment are now exposed. It is not necessary to remove the top cowl. If, in an emergency, it becomes necessary to remove the top cowl, remove the choke knob by unscrewing the hex screw from the end of the choke rod (right hand thread). The top cowl is secured by four nuts under the cowl, two on each side. With these nuts removed, cowl may be lifted off.

6-2. ADJUSTING CARBURETORS.

Before attempting to correct faulty engine performance by readjusting carburetors, check for other possible causes of trouble as outlined in the "Trouble Chart," Paragraph 11-3. Carburetors are pre-set at the factory.

6-3. ADJUSTMENTS PROVIDED. Each carburetor is provided with two adjustments: 1) The high speed mixture adjusting needle (with knob), and 2) The low speed mixture adjusting needle (with knurled screw). (See Figure 14.) The high speed mixture adjusting needle turns clockwise for leaner mixture, counterclockwise for richer mixture. Low speed mixture adjusting needle also turns clockwise for leaner mixture, counterclockwise for richer mixture.

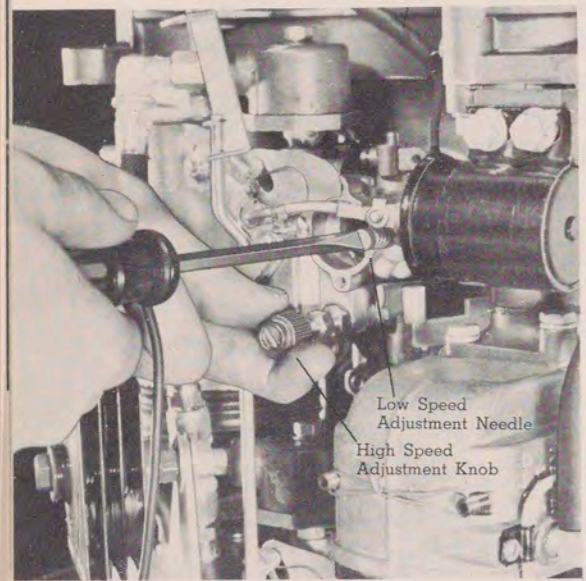


Figure 14
Carburetor Adjustments

6-4. APPROXIMATE INITIAL SETTING. If the carburetors are so badly out of adjustment that the motor cannot be started, an approximate initial setting can be attained as follows: Turn both high speed and low speed mixture adjusting needles inward (clockwise) until they seat lightly. Do not turn tight because doing so will damage needle and seat. Back out high speed mixture adjusting needle $1\frac{1}{2}$ turns and low speed needle one turn. This setting will permit starting but will be found too rich for normal operation; therefore, as soon as motor starts, make cor-

rect final adjustments as instructed under "High Speed Mixture Adjustment" and "Low Speed Mixture Adjustment," following.

NOTE: In making final adjustment of carburetors, bear in mind that top two cylinders (1 and 2) are fed by top carburetor and bottom two cylinders (3 and 4) are fed by bottom carburetor. Therefore, adjustments on each carburetor will affect mixture to corresponding cylinders only.

6-5. HIGH SPEED MIXTURE ADJUSTMENT. Warm motor up thoroughly and set choke in open position (down). While operating motor at wide open throttle, slowly turn high speed mixture adjusting needle counterclockwise until corresponding bank of cylinders start to "four cycle" and motor begins to slow down (See "Caution" below). Then turn high speed mixture adjusting needle clockwise through range where cylinders fire normally to point where motor again slows down, indicating that mixture is becoming too lean. Determine this critical "leaning out" point as accurately as possible and back adjusting needle out *one-half turn* from that point, as shown in Figure 14. When in doubt, it is better to set mixture slightly rich, rather than too lean, because an excessively lean mixture will cause overheating and loss of power. Sustained full-throttle operation with an excessively-lean mixture may cause severe engine damage.

CAUTION: "Four cycling" refers to a condition of operation under which cylinders fire every other revolution instead of once every revolution. It is indicated by a loss of power and a characteristic low-frequency exhaust note. If, in making high speed mixture adjustment, it is found that "four cycling" cannot be induced, even though high speed mixture adjusting needle is turned to full-rich position, it is possible that a restriction in fuel flow exists between fuel tank and carburetors. Operation of engine under condition of reduced fuel flow may cause damage due to lean fuel mixture and resultant overheating.

6-6. LOW SPEED MIXTURE ADJUSTMENT. With the motor running at idling speed while in forward gear, turn the low speed mixture adjusting needle counterclockwise until affected cylinders start to "load up" or fire unevenly due to over-rich mixture. Then slowly turn the needle clockwise until cylinders fire evenly and motor picks up speed. (See Figure 14.) Do not adjust leaner than necessary to attain reasonably smooth idling. When in doubt, it is preferable to have the mixture set slightly rich rather than too lean.

6-7. SERVICING FUEL TANK FILTER. Remove the fuel line from elbow and unscrew to remove fuel pick up tube. The filter disc, a fine wire mesh, can be cleaned by rinsing in clean benzol (benzine).

6-8. SERVICING ENGINE FUEL FILTER.

1. Remove wrap-around cowl as instructed in Paragraph 6-1.
2. Remove fuel lines from upper and lower filters and the screw from the top of each.
3. Remove fuel filter covers.
4. Inspect filters, fuel lines and fittings for signs of wear or leakage.

5. Drain and clean filters.
6. Replace filter covers, tighten screw; and install cowl.

NOTE: Fuel filter is more than adequate to take care of all requirements under normal use. If, after all other checks, it is determined that the fuel filter is the cause of the trouble, the filter element should be replaced.

6-9. SERVICING SPARK PLUGS. Operation with defective or wrong type spark plugs will be reflected by engine performance as indicated by hard starting, fouling, missing, overheating, pre-ignition or lack of normal power. Therefore, whenever engine performance indicates that the spark plugs are in need of attention (See "Trouble Chart"), service as follows:

1. Remove cowl band as instructed in Paragraph 6-1.
2. Disconnect spark plug leads.
3. Remove spark plugs, clean and inspect. If the tip of the insulator is rough, cracked, broken or blistered or if the electrodes are burned away to the extent that they are thin and cannot be satisfactorily adjusted to the recommended .025" gap, replace with new plugs. Replace only with Champion spark plug type J6J.
4. Install spark plugs. Be sure that gaskets are in good condition. Start the threads one or two turns with fingers to avoid danger of cross-threading. After seating plug finger tight on gasket, a 1/2 turn with a wrench will generally be sufficient. Do not overtighten, thereby stripping threads.
5. Connect the spark plug leads. Be sure each lead is connected to its respective spark plug.

NOTE: If high tension lead insulation is damaged or deteriorated, new leads must be installed. Defective insulation will cause hard starting and mis-firing due to intermittent shorting of the high tension circuit.

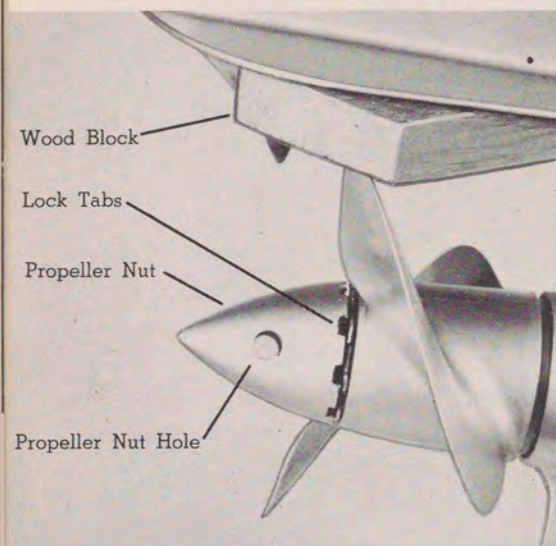


Figure 15
Removing Propeller

6-10. HOW TO REMOVE PROPELLER.

1. **CAUTION:** Because of the motor's ease in starting, place a block of wood between the anti-cavitation plate and propeller to prevent accidental starting and to protect the hands from propeller blades while removing the propeller nut. (See Figure 15.)
2. Bend lock tabs away from propeller nut with screwdriver.
3. Insert screwdriver into hole in propeller nut and turn counterclockwise to remove.
4. Slide propeller off. If tight, a light tap with a piece of wood on back of the propeller will loosen.

NOTE: When replacing the propeller, apply a thin coat of grease on splines of the propeller shaft, especially if operated in salt water, to

aid in removing at any future time. Also be sure the spacer washer is in place behind the propeller.

Section VII—Preventive Maintenance

7-1. LOWER DRIVE UNIT LUBRICATION. Every 25 hours of operation, lubricate the lower drive unit with Kiekhaefer Aeromarine Special Outboard Gear Lubricant as follows:

1. Remove the air vent screw, located on the starboard side of the gearcase, just underneath the cavitation plate. Never apply grease to the lower unit without first removing this air vent screw, as the injected grease displaces air which must be allowed to escape, otherwise the gearcase cannot be completely filled as required.
2. Remove the grease filler plug, located in lower port side of gearcase. (See Figure 16.)
3. Insert grease tube into filler plug hole and inject grease until excess grease starts to flow out of air vent screw hole, indicating that the housing is filled.
4. Replace air vent screw and grease filler plug, taking special care that the gasket is in place under the head of each so that water will not leak past the threads into the gearcase.

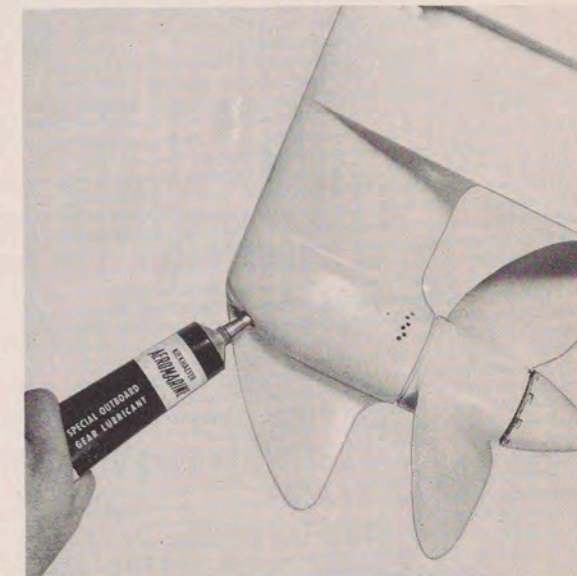


Figure 16
Lower Unit Lubrication

CAUTION: Do not use regular automotive grease in the lower drive unit. In an emergency, when Kiekhaefer Aeromarine Special Outboard Gear Lubricant is not immediately available, use best quality waterproof marine gear lubricant.

7-2. CONTROL LINKAGE LUBRICATION. Occasionally apply a drop of S.A.E. 30 engine oil or DC4 Compound to bushings, control linkage joints, etc. Keep the reverse lock cam well lubricated with good quality water-resistant grease. (DC4 Compound, Kiekhaefer Accessory No. 92-24108 is recommended). Apply grease to the cam guide slot in the driveshaft housing and to the cam faces. Lack of lubrication at this point will cause binding or sticking of the shifting mechanism.

7-3. 25-HOUR INSPECTION. Periodic, systematic inspection is the simplest and most positive way of discovering and correcting defects before they can cause inconvenience or mechanical damage.

The recommended 25-hour inspection interval is based on average operating conditions in utility service. Under severe conditions of continuous heavy duty or high speed operation, the inspection interval should be shortened. The inspection includes the following:

1. Clean the entire unit thoroughly, including all accessible powerhead parts.
2. Lubricate the lower drive unit as instructed in Paragraph 7-1.
3. Lubricate control linkage as instructed in Paragraph 7-2.

4. Remove propeller and inspect. Trim nicks and burrs with a file, being careful not to remove more metal than absolutely necessary. Inspect for cracks, damage or bent condition. If condition is doubtful, refer to Certified Mercury Service facilities for inspection. Before reinstalling the propeller, lubricate the propeller shaft with graphite grease or DC4 Compound (Kiekhaefer Accessory No. 92-24108.)

5. Service the spark plugs as instructed under Paragraph 6-9.

6. Inspect spark plug leads and electrical leads for damage or deterioration, particularly where insulation comes in contact with metal parts. Be sure to reconnect each lead to its respective post.

7. Inspect fuel lines for damage or deterioration.

8. Inspect the finish for damage or corrosion. Thoroughly clean damaged or corroded areas and apply matching paint (Kiekhaefer Merchromatic Spray Paints - See your local dealer).

9. Check entire unit for loose, damaged or missing parts. Tighten or replace as required.

10. Service the fuel filters as instructed under Paragraphs 6-7 and 6-8.

11. Check controls. Be sure all connections and fittings are in good condition, properly secured and correctly adjusted.

12. Grease swivel bracket through alemite fitting located on underside of bracket.

13. Lubricate magneto adaptor and pilot through alemite fitting on adaptor with high temperature grease.

NOTE: The magneto contact points should not be disturbed as long as the engine is operating satisfactorily. Servicing of magneto contact points should be done by Certified Mercury Service facilities. If the points are cleaned and adjusted at the time of the inter-season checkover, they will normally require no further attention for at least 100 hours of operation.

Section VIII—Special Care Required

8-1. PREPARATION FOR STORAGE OR SHIPMENT. In preparing the motor for storage or shipment, two precautions must be taken into consideration: 1) The unit must be protected against physical damage; and 2) the unit must be protected from rust, corrosion and dirt. Original shipping carton is ideal for storage or shipment but, if it is no longer available and a new container must be made, it should be so constructed that weight of the unit is supported by the clamp bracket. Also, suitable blocking and bracing should be provided to hold the motor securely in place regardless of the position in which the container might be set. The opening should be sealed against entry of dirt, but an vent should be provided to prevent moisture accumulation due to condensation. Before placing the motor in a container, the following preventive measures should be applied to protect external and internal parts from rust and corrosion:

1. Disconnect the fuel line from the motor and allow motor to run at idling speed until it stops of its own accord, indicating that carburetors have run dry.

2. Drain fuel tank and fuel lines.

3. Remove cowling.

4. Service fuel filters as instructed in Paragraphs 6-7 and 6-8.

5. Lubricate lower drive unit as instructed in Paragraph 7-1.

6. Lubricate control linkage as instructed in Paragraph 7-2.

7. Remove spark plugs.

8. Rotate crankshaft to position where the number one (top) piston is at bottom dead center position. This can be determined by inserting a pencil or stick into the spark plug hole. Apply about 2 ounces of Kiekhaefer Quicksilver Engine Oil into the spark plug hole of the No. 1 cylinder, allowing time for some of the oil to drain into the crankcase via transfer ports. Repeat this operation on No. 2, 3 and 4 cylinders, then install spark plugs and operate the starter vigorously to distribute oil around the inside of the crankcase and cylinders.

9. Again remove the spark plugs, clean and re-install.

10. Connect the spark plug cables. Be sure each cable is connected to its respective spark plug.

11. Clean the motor thoroughly, including all accessible powerhead parts. Install the cowling and apply a thin film of clean, fresh engine oil to all painted surfaces.

12. Remove the propeller; apply graphite grease or DC4 Compound to the propeller shaft; and re-install the propeller. (See Paragraph 6-10.)

13. Lubricate swivel bracket. See Paragraph 12, Page 18.

14. Lubricate magneto adaptor and pilot. See Paragraph 13, Page 18.

15. Battery storage and care. See Paragraphs 10-11 and 10-12.

8-2. ATTENTION REQUIRED FOLLOWING OPERATION IN SALT WATER OR SILT. Tests show that it is not necessary to flush your motor after use in salt water. All parts are scientifically processed to provide salt water protection.

Occasionally, remove propeller and apply graphite grease or DC4 Compound to propeller shaft splines. This will retard corrosive action of salt on propeller hub and propeller shaft.

8-3. ATTENTION REQUIRED FOLLOWING COMPLETE SUBMERSION. Motor which has been submerged must be completely disassembled for cleaning and inspection. This requires the facilities and experience of Certified Mercury Service facilities and should be accomplished as soon as possible after recovery. Delayed action will encourage rust and corrosion of internal parts. If Certified Mercury Service is not immediately available, follow instructions in steps 6 through 12 under Paragraph 8-1. This will temporarily retard rust and corrosion. Basically, the points to remember are these:

1. Recover motor as quickly as possible.

2. Wash entire motor with fresh, clean water to remove mud, weeds, etc.

3. Get as much water as possible out of powerhead. Most of the water can be eliminated by removing spark plugs and operating starter with spark plug holes facing downward.

CAUTION: If motor does not turn over freely when starter is operated, do not force. This may be an indication of internal damage such as a bent connecting rod or a broken piston.

on the positive side. Negative side of battery is connected through connector to ground of engine.

2. Starter Circuit: Consists of a 12-volt motor and starter engaging mechanism. A starter solenoid prevents full starting current from passing through the ignition switch.

3. Choke Circuit: To operate choke, key must be in "ON" position. While using electric choke, manual choke must be in down position; however, manual choke can be operated at all times, if necessary.

4. Magneto Circuit: Motor is stopped by grounding the magneto, not by choking. This is accomplished by turning key to "OFF" (left) position.

10-4. STARTING PROCEDURE.

(NOTE: See Para. 3-1 and 3-2.)

1. Be sure tank contains a sufficient amount of fuel mixture and that tank is properly secured in boat.
2. Connect fuel line to motor by inserting twist connector on end of fuel line into receptacle in cowl. Lock by twisting $\frac{1}{4}$ turn clockwise.
3. Open air vent screw on fuel tank cap.
4. Check that choke is in down position. Avoid use of choke if motor is warm.
5. Attach remote control cables as instructed in Paragraph 2-11.
6. Fasten connector plug on end of electrical wiring harness to receptacle on right front side of motor.
7. Connect battery leads. Install battery lugs on end of lead wires and fasten securely to *correct terminals on battery*. Use grease to prevent corrosion of terminals. (See Figure 18.)
8. Prime carburetors by squeezing priming tube on fuel line.
9. Shift into neutral.

WARNING: Do not operate starter motor continuously for more than 30 seconds without pausing to allow the motor to cool off for 2 minutes. The motor is not designed for continuous operation, and serious damage may result.

10. With throttle about $\frac{1}{4}$ to $\frac{1}{3}$ open, actuate electric starter by turning ignition key to "START" or full right position.

CAUTION: If motor is cold, engage starter with key in full right position and, simultaneously, depress choke button on the remote control box. Operate cold motor at reduced speeds for a few minutes until it has reached normal operating temperature. During normal operation, do not depress the choke button.

NOTE: If, for any reason, manual starting is required, switch key to "ON" or middle position and start motor manually, choking if cold.

10-5. OPERATION. (Observe Section IV.) If it should be necessary to run without a battery connected to the engine, disconnect the alternator

leads (yellow) from the rectifier at the "pull" disconnects provided for this purpose. Then tape the two alternator leads individually and secure on the engine to prevent breakage or short circuiting.

10-6. TWIN INSTALLATION. When operating two Mark 30E motors on the same boat with one battery, it is imperative that only ONE engine's GENERATING UNIT be used to recharge the battery. Disconnect one of the alternators as described in Paragraph 10-5, above.

10-7. STOPPING PROCEDURE. Simply turn key to "OFF" position. (Observe Section V.)

10-8. MAINTENANCE. This electrical system is as trouble-free and as simple as our research and engineering departments have been able to make it. If, for any reason, some part of the electrical system is not in operation, do not attempt to fix it yourself, but refer to your nearest certified Mercury Service Facilities. (See Sections VI, VII and VIII.)

10-9. ELECTRICAL ACCESSORIES. Any accessories, such as horns, running lights, etc., should be installed with electrical connections attached directly to the battery terminals via the screws on the battery lugs.

10-10. BATTERY. A strong battery must be maintained. If the battery shows less than $9\frac{1}{2}$ volts when under starting load, it should be recharged. Check with a DC voltmeter. A reading under $9\frac{1}{2}$ volts indicates insufficient voltage and subsequent shortage of power, with the result that the motor will not turn fast enough to start.

NOTE: Check can also be made with a Hydrometer. If the reading is below 1.150 (specific gravity), recharge or replace the present battery.

10-11. MAINTENANCE OF BATTERY. All lead acid batteries (See Figure 18) have an inherent, self-discharge characteristic when it is not in use. Owner can maintain battery by:

1. Recharging every 60 days or when specific gravity drops below 1.150. (Recharge rate should not be over 6 amperes. Discontinue charging when gravity reaches 1.280.)

2. Observing water level when adding distilled water. Level should be not more than $\frac{3}{16}$ " above perforated baffles.

10-12. WINTER STORAGE CARE OF BATTERY.

1. Remove battery from its installation as soon as possible and remove all grease, sulfate and dirt from top surface with water hose and compressed air hose or other means.



Figure 18
Quicksilver Battery (Part No. 25221)

2. Cover plates with distilled water, but not over 3/16" above perforated baffles.

3. Grease terminal bolts well with cup grease or vaseline.

4. Store battery in a COOL-DRY place in a dry carton box.

5. Remove battery from storage *every* 60 days. Check water level and put on charge for 5 to 6 hours at 6 amperes. DO NOT FAST CHARGE.

6. When ready to place the battery back into service, remove excess grease from terminals (leaving small amount on); recharge as necessary; and reinstall in your equipment.

If unable to have above performed by your local Mercury dealer, contact your local automotive garage.

Section XI—Maintenance Suggestions

11-1. CUSTOMER SATISFACTION. Mercury dealers acknowledge responsibility to Mercury owners for their continued satisfaction. Owners, in turn, may further increase this satisfaction by accepting the following suggestions:

1. Follow recommendations of complete lubrication. Be sure to use Kiekhaefer Quicksilver 2-Cycle Engine Oil and Kiekhaefer Aeromarine Grease at all times.

2. Follow factory recommended maintenance schedule in Preventive Maintenance Section (Sec. VII) of this manual and adhere to factory recommended operating procedures. Use only factory recommended propellers.

3. Dealer will test and adjust motor for the owner at the time of purchase, and he will demonstrate the correct operating procedures.

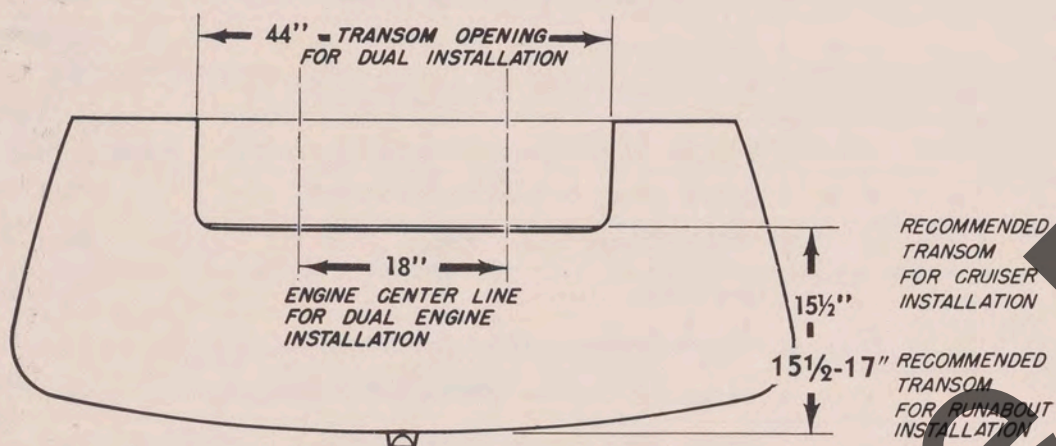
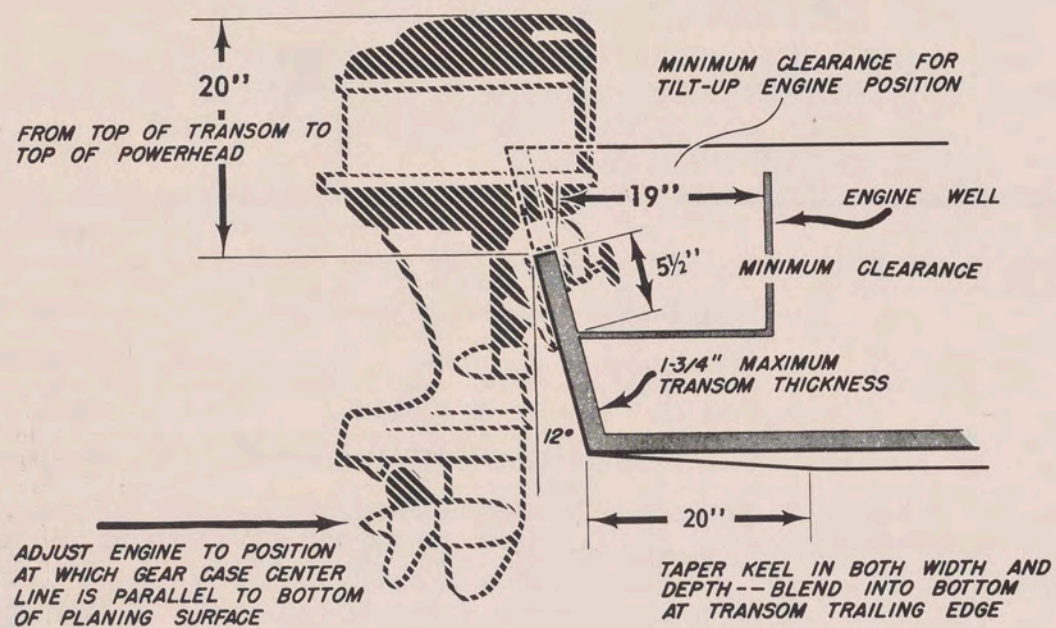
11-2. 10-HOUR CHECKUP. New owners are entitled to a 10-hour free checkup from the selling dealer. He will:

1. Adjust points.
2. Clean carburetor and fuel system.
3. Check grease in lower unit and fill if required.
4. Check waterpump. Tell-tale water outlet hole must be clear.
5. Lubricate control linkage.
6. Check and tighten all nuts and bolts.
7. Test and adjust motor after completing tuneup.

11-3. TROUBLE CHART.

- A. DOES NOT START
- B. RUNS IRREGULARLY OR MISSES
- C. STARTS MOMENTARILY AND CUTS OUT
- D. DOES NOT IDLE PROPERLY
- E. ENGINE SPEED FASTER THAN NORMAL
- F. ENGINE SPEED SLOWER THAN NORMAL
- G. DOES NOT DEVELOP NORMAL BOAT SPEED
- H. MOTOR OVERHEATS

A	B	C	D	E	F	G	H	POSSIBLE CAUSE	Service Reference
x		x						Fuel Tank Empty.....	Refill
x		x						Fuel Line Not Connected.....	Para. 2-6
x	x	x			x	x	x	Fuel Line Pinched or Kinked.....	Para. 2-6
						x	x	Fuel Filter in Need of Cleaning.....	Para. 6-7
x	x	x			x	x	x	Air Leak in Vacuum System.....	Para. 2-10
				x				Low Speed Needle Valves Mal-adjusted.....	Para. 6-6
				x		x	x	High Speed Needle Valves Mal-adjusted.....	Para. 6-5
						x	x	Wrong Oil in Fuel Mixture.....	Para. 2-7
						x		Wrong Gasoline in Fuel Mixture.....	Para. 2-7
						x	x	Not Enough Oil in Fuel Mixture.....	Para. 2-7
	x		x		x	x	x	Too Much Oil in Fuel Mixture.....	Para. 2-7
x								Engine Flooded	Para. 3-3
x	x		x		x	x	x	Spark Plugs Fouled or Defective.....	Para. 6-9
		x			x	x	x	Wrong Type Spark Plugs.....	Para. 6-9
x								No Spark	Para. 6-9
x	x	x	x		x	x	x	Weak Spark or Intermittent Spark.....	Para. 6-9
x	x	x	x		x	x	x	Magneto Contact Points Need Attention.....	Para. 7-3
x	x					x	x	Spark Plug Leads Interchanged.....	Para. 7-3
						x	x	Water Pump Failure.....	Para. 4-2
						x	x	Cooling System Clogged	Para. 4-2
				x		x		Cavitation	Para. 4-3
				x		x		Propeller Damaged	Para. 7-3
				x		x		Tilt Angle Not Correctly Adjusted.....	Para. 2-4
				x	x	x		Boat Improperly Loaded.....	Para. 2-4
						x		Transom Too Low.....	Para. 2-2
				x		x		Transom Too High.....	Para. 2-2
	x				x	x	x	Excessive Spark Advance.....	Para. 1-5
					x	x		Insufficient Spark Advance.....	Para. 1-5
				x	x	x		Propeller of Wrong Pitch or Diameter.....	Para. 1-6



In setting up a boat for maximum speed, run the first test with the engine way in, close to the transom; then move it out one tilt pin hole at a time until maximum performance is reached.

When satisfactory transom height is found, it is recommended that the engine be secured to boat by the two bolts placed thru the transom into the slot provided at the bottom of the clamp bracket.

- Lower transom height for heavy loads; a higher transom height for higher speeds with light loads.

Figure 19
General Specifications—Transom Mounting

11-4. RECORDING ELECTRIC STARTER KEY NUMBER.

RECORD YOUR ELECTRIC STARTER KEY NO. HERE 	If Key is Lost, Write Directly To: KIEKHAEFER CORPORATION SERVICE & PARTS DIV. 111 E. BURNETT ST. BEAVER DAM, WIS. For New Key at Nominal Charge, Give Key Number When Writing.
--	--

11-5. PROPELLER RECOMMENDATIONS. The factory selects and equips the assembled motor with a standard type propeller and sets the spark advance on the magneto to give good performance on the average type of boat. Specific results cannot be guaranteed because of variable use. It is, therefore, the user's choice to select the right propeller for the type of boat being used. The change to a lower pitch propeller on a heavy boat will improve performance by easing strain on the motor allowing it to regain its normal revolutions per minute (RPM).

Propeller Description	Propeller		Boat Length	Lbs. Boat Weight	Pounds Gross Load	Transom Height	Speed Range
	Number	Pitch					
2 Blade Bronze	48-25518A1	12.5	12-14'	Up to 275	Up to 650	16"-17"	32-36 m.p.h.
2 Blade Aluminum	48-25419A2	11.6	14-16'	275-550	600-850	15 1/2"-16 1/2"	27-32 m.p.h.
2 Blade Bronze	48-25663A1	11.6	14-16'	275-550	600-850	15 1/2"-16 1/2"	27-32 m.p.h.
2 Blade Aluminum	48-23647A1	11	15-16 1/2'	550-800	850-1400	15 1/2"-16 1/2"	21-27 m.p.h.
2 Blade Bronze	48-25662A1	11	15-16 1/2'	550-800	850-1400	15 1/2"-16 1/2"	21-27 m.p.h.
3 Blade Bronze	48-25551A1	9	17-20'	750-1300	1300-1850	15 1/2"	16-22 m.p.h.

Section XII—Mark 30H (Hydro)

12-1. TRANSOM SETTING. Due to the great difference in utility runabouts and hydroplanes, it is impossible to recommend a specific transom height or engine angle setting for all boats. Transom heights are 12" to 14 1/2", which represent the range at which best performance can be attained.

To arrive at the best set-up position, first find the correct or fastest engine angle setting; then raise the transom by the use of shims placed under the clamp bracket until performance drops off or until the boat becomes unstable. Finally, remove approximately 1/4" shim from the transom height at which performance drops off. This should be the best setting; however, removing only 1/8" shim many times will be the perfect setting.

12-2. FUEL RECOMMENDATIONS. Mark 30H motors and Mark 30 motors equipped with Quicksilver lower units require 3/4 pint (1 can) Kiekhaefer Quicksilver 2-Cycle Engine Oil to each gallon of gasoline.

Failure to properly and thoroughly mix oil and gasoline will give an inconsistent fuel mixture which will make it difficult to get a carburetor setting and may burn up pistons or bearings or both.

12-3. GEAR HOUSING. Remove gearcase cover with Kiekhaefer Tool No. 91-24117 and lubricate needle bearings in cone with Lubriplate 130A or DC4 Compound (92-24108). When replacing cover, torque to 125 ft. lbs. to prevent cone from working loose while running. Frequent lubrication of the needle bearing in the cover cone is recommended.

12-4. SPARK PLUGS. Use Champion K3 type spark plugs.

12-5. QUICKSILVER CLASS "C" PROPELLERS.

Class C Utility.....	2 Blade Stainless Steel	48-25845
Class C Hydro.....	2 Blade Stainless Steel	48-25844

Antique Boat Museum

CERTIFIED SERVICE ORGANIZATION

In order to provide prompt and efficient service on Mercury Outboard Motors, Distributors and Certified Service Organizations are located in principal cities of the United States and Canada.

Each Certified Mercury Service organization or Distributor carries a stock of original Mercury repair parts. Each is equipped with factory service tools and factory trained mechanics, assuring expert repair service on all Mercury Motors.

Genuine Kiekhaefer parts and service will assure continuous motor satisfaction. Our long experience in motor maintenance prompts us to urge all service work be done by our Certified Service Organization or at our factory. Mechanics or individuals not acquainted with Kiekhaefer products, or without proper service tools, should not be permitted to work on or make major repairs.

WARRANTY: The Kiekhaefer Corporation warrants each new Mercury outboard motor manufactured by it to be free from defects in material and workmanship.

The Company's obligations shall be limited to replacing for the original purchaser Free of Charge, any part or parts found upon examination at our factory at Beaver Dam, Wisconsin, to be defective under normal use and service, on account of defects in material or workmanship, for ninety (90) days from date of purchase by the original purchaser. Provided further that purchaser gives written notice to the Distributor or the Company of such defects, and that during said period the motor is properly cared for, operated under normal conditions, and that all transportation charges on part or parts submitted for replacement under this warranty must be borne by the purchaser.

The correction of such defects by repair or replacement shall constitute a fulfillment of all the Company's obligations to the purchaser.

This warranty is in lieu of all other warranties, expressed or implied, and any and all other obligations or liabilities on its part contractual or otherwise.

No employee, agent, distributor, or dealer of the Kiekhaefer Corporation shall have the right to modify or change this warranty without written authorization signed by an officer of the Kiekhaefer Corporation.

This warranty shall not apply to any motor which shall have been repaired or altered outside of our factory, or authorized repair service facilities in any way so in our judgment affects its operation or reliability or to any motor which has been subject to misuse, negligence, or accident, or which has been used for racing or equipped with a propeller not of our manufacture, or in any other manner than that recommended by the Company.

This warranty shall not apply to any motor or accessory part which in the opinion of the manufacturer has been damaged due to mishandling, improper storage, rust, corrosion, deterioration, etc. that may have occurred due to extreme dampness, heat, cold, storage, floods, or conditions beyond the control of the Company, or to any equipment where a grade of fuel or lubricating oil used results in engine malfunction.

This warranty expressly does not cover the free replacement of parts made inoperative because of wear occasioned by use. Further, this warranty shall not apply to any motor which is not registered with the manufacturer.

All rights are reserved to change or improve design in later models at any time without incurring any obligation to install same on any motor previously purchased.

KIEKHAEFER CORPORATION
BEAVER DAM, WISCONSIN

**KIEKHAEFER
MERCURY**

— FIRST
IN THE
INDUSTRY

Full Jeweled
Power:
Ball and
Roller
Bearings
Throughout

Multiple Disc
Safety
Clutch

Full Feathered
Safety
Steering

Waterproof
Ignition
Components

Dyna-Float
Suspension
Silencing

Colorful
Color
Combinations

Automatic
Rewind
Starter

Vari-Timed
Valves

Flo-Torq
Propeller
Drive

Variable
Volume
Waterpump

Uni-Cast
One-Piece
Gear Housing

You can be proud
you own a

**KIEKHAEFER
MERCURY**

Soon you will take your new Mercury on its first run . . . with the family on a lake cruise . . . for a spin on the river . . . or just fishin'. When you do, you are in for the surprise of your life . . . for, Mercury's engineers and designers have built into your new motor the smoothest operation, unexcelled power and speed and precise idling which have combined in 17 years to earn Mercury its enviable position in modern outboard leadership. Compare your new motor any time, any place . . . feature for feature . . . pound for pound . . . performance for performance . . . and you can be PROUD you own a MERCURY!



KIEKHAEFER CORPORATION

Parts and Service Division

BEAVER DAM, WISCONSIN