READ THIS MANUAL THOROUGHLY

If you don't understand any portion, contact your dealer for a demonstration of actual starting and operating procedures.

NOTICE
Throughout this publication, and on your outboard, DANGER, WARNINGS and CAUTIONS, accompanied by the International HAZARD Symbol ⚠, may be used to alert the installer/user to special instructions concerning a particular service or operation that may be hazardous if performed incorrectly or carelessly. OBSERVE THEM CAREFULLY.

These “Safety Alerts” alone cannot eliminate the hazards that they signal. Strict compliance with these special instructions while performing the service, plus “common sense” operation, are major accident prevention measures.

⚠️ DANGER
DANGER - Immediate hazards which WILL result in severe personal injury or death.

⚠️ WARNING
WARNING - Hazards or unsafe practices which COULD result in severe personal injury or death.

⚠️ CAUTION
CAUTION - Hazards or unsafe practices which could result in minor personal injury or product or property damage.

IMPORTANT - Indicates information or instructions that are necessary for proper operation and/or maintenance.

⚠️ WARNING
The operator (driver) is responsible for the correct and safe operation of the boat, the equipment aboard and the safety of all occupants aboard. We strongly recommend that the operator read this Operation and Maintenance Manual and thoroughly understand the operational instructions for the outboard and all related accessories before the boat is used.

⚠️ WARNING
The following advantages and disadvantages of an EMERGENCY STOP SWITCH (lanyard type) should be considered before electing to use, or not to use, such a switch.

ADVANTAGES: The purpose of an EMERGENCY STOP SWITCH is to stop the engine when the operator leaves control station, either accidentally by falling into the boat, or by falling or being ejected overboard. This is most likely in certain types of boats such as low-sided bass boats, high performance boats and light, sensitive handling, fishing boats operated by hand-tiller. It is also likely as a result of poor operating practices such as sitting on the back of the seat at planing speeds, standing at planing speeds, operating at high speeds in shallow or obstacle-infested waters, drinking and driving, or daring, high speed boat maneuvers.
DISADVANTAGES: Inadvertent activation of the switch is also a possibility. This could cause any or all of the following potentially hazardous situations:

- Loss of balance and falling forward of unstable boat passengers - a particular concern in bow rider type boats.

- Loss of power and directional control in heavy seas, strong current or high winds.

- Loss of control when docking.

As we cannot possibly know of and advise the boating public of ALL conceivable boat/outboard types and/or poor operating practices, the final decision of whether or not to use an EMERGENCY STOP SWITCH rests with you, the owner/driver.

We strongly recommend that other occupants be instructed on proper starting and operating procedures so they will be prepared should they be required to operate the outboard and boat in an emergency.

⚠️ WARNING
It is difficult for a person standing or floating in the water to move clear if they see a powerboat heading toward them, even at slow speed. Shift the unit to neutral and shut off engine when your boat is near people in the water.

SERIOUS INJURY IS LIKELY IF A PERSON IN THE WATER IS STRUCK BY A MOVING BOAT, GEAR HOUSING, PROPELLER, OR ACCESSORY RIGIDLY ATTACHED TO YOUR BOAT OR OUTBOARD.

⚠️ WARNING
USE CARE when transporting fuel container, whether in a boat or car. DO NOT fill fuel container to maximum capacity. Gasoline will expand considerably as it warms up and can build up pressure in the fuel container. This can cause fuel leakage and a potential fire hazard.

⚠️ WARNING
The use of accessories not manufactured or sold by Mercury Marine is not recommended for use with your outboard. If your outboard or outboard operating system is equipped with an accessory not manufactured by Mercury Marine, be sure to read the Operation and Maintenance Manual for that accessory before operation. If you haven’t been supplied with such a manual, contact your dealer or the manufacturer of the accessory to secure the applicable manual.
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The description and specifications contained herein were in effect at the time this
guide was approved for printing. Mercury Marine, whose policy is one of continuous
improvement, reserves the right to discontinue models at any time, or to change
specifications, designs, methods or procedures without notice and without incurring
obligation.

Mercury Marine, Fond du Lac, Wisconsin U.S.A. Litho in U.S.A.

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The following are registered trademarks of Brunswick Corporation: Auto-
blend, Jet-Prop, Mariner, Merc, MercAthode, MerCruiser, Mercury, Mercury
1. Top Cowl
2. Shift Handle
3. Water Pump “Tell-Tale” Hole
4. Tilt Lock Lever
5. Tilt Release Lever
6. Clamp Bracket
7. Tilt Cylinder (Power Tilt Models)
8. Driveshaft Housing
9. Anti-Ventilation Plate
10. Water Intake
11. Propeller
12. OIL Fill Plug
13. Skeg
14. Starter Handle

15. Throttle Twist Grip
   (Tiller Handle Models)
16. Throttle Friction Adjustment
   (Tiller Handle Models)
17. Tiller Handle
18. Choke Knob
19. Fuel Connector
20. Lift Handle
21. Tilt Tube
22. Clamp Screws
23. WASH Plug
24. OIL LEVEL Plug
25. Gear Housing
# SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horsepower</td>
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<tr>
<td>Propshaft Kilowatts(^1)</td>
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<tr>
<td>Full Throttle RPM Range</td>
<td>4500-5500</td>
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<tr>
<td>Idle Speed</td>
<td>900-1000 RPM (In Gear)</td>
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<tr>
<td>Piston Displacement</td>
<td>36.13 Cu. In. (592cc)</td>
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<tr>
<td>Bore</td>
<td>2.953 (75mm)</td>
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<tr>
<td>Stroke</td>
<td>2.638 (67mm)</td>
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<tr>
<td>Recommended Spark Plug</td>
<td>NGK-B8HS or AC-S40F or Champion L78</td>
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<tr>
<td>Spark Plug Gap</td>
<td>0.020 - 0.024 in. (0.5 - 0.6 mm)</td>
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<tr>
<td>Recommended Gasoline</td>
<td>Regular Leaded, Premium (Super), Unleaded (Lead-Free) Gasoline</td>
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<tr>
<td>Recommended Oil</td>
<td>Quicksilver 2-Cycle Outboard Oil</td>
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<tr>
<td>Fuel Tank Capacity:</td>
<td></td>
</tr>
<tr>
<td>- U.S. Gallons</td>
<td>6.3</td>
</tr>
<tr>
<td>- Imperial Gallons</td>
<td>5.3</td>
</tr>
<tr>
<td>- Liters</td>
<td>24</td>
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<tr>
<td>Battery Rating</td>
<td>Minimum Reserve Capacity Rating of 100 Minutes and Cold Cranking Amperage of 350 Amperes</td>
</tr>
<tr>
<td>Transom Height</td>
<td>Short Shaft = 15&quot; (38.1cm) Long Shaft = 20&quot; (51cm)</td>
</tr>
</tbody>
</table>

\(^1\) Measured at the propshaft in accordance with ICOMIA 28.

**IMPORTANT:** Fasteners (screws and nuts) used in the manufacture of your outboard are METRIC.

**TOOL KIT**

A tool kit is provided with the outboard (stored in the “Owner’s Literature Packet”).

This tool kit includes a 21mm (13/16”) hex socket (fits spark plug), a double-ended hex socket (10mm for fasteners such as rewind starter housing mounting bolts, and 13mm), torque handle for sockets, 150mm pliers, double-ended screwdriver blade (standard tip and Phillips tip), screwdriver grip, a cooling water flushing attachment, and two spare spark plugs.

**SPARE STARTER ROPE**

A spare starter rope also is supplied with the outboard. The rope may be used as an emergency starter rope, in the event that the rewind starter is inoperable.
WARNING
DO NOT OVERPOWER - Most boats are rated and certified for the maximum horsepower capabilities of the boat. Refer to the boat “Certification Plate” for the maximum horsepower limit. If in doubt, contact your dealer.

LIFT HANDLE

CAUTION
After outboard removal, DO NOT turn outboard upside down or lay on its starboard (right) side. Water could enter powerhead causing damage to internal components.

IMPORTANT: Tilt release lever must be in down position (which locks the reverse hooks over the tilt lock pin) before lifting or carrying the outboard with the lift handle.

1 The lift handle is located at the front of the outboard on the bottom cowl.

2 “Finger grip wells” are located at the top rear of the top cowl and rear of the bottom cowl.

TRANSOM HEIGHT

3 Proper transom height is important for best boating performance. The gear housing anti-ventilation plate should be 1” (25mm) below the boat bottom (flat bottom boats).

MOUNTING OUTBOARD ON TRAN- SOM

WARNING
Before operating, outboard(s) must be secured to boat with 4 bolts into holes provided in clamp brackets. During operation, clamp screws (if so equipped) should be checked occasionally for tightness on the transom. Failure to bolt outboard to transom may result in damage to boat and/or loss of outboard and possible injury to occupants of boat.

Centerline

4 Center outboard on boat transom.

Securing Outboard

5/5A Tighten clamp screws securely (where applicable). Drill through transom and bolt outboard clamp brackets to transom with bolts, nuts and washers provided.

IMPORTANT: Periodically check clamp screws and transom mounting bolts to ensure that outboard is secure on transom.

TILTING OUTBOARD

IMPORTANT: To manually tilt outboard, tilt release lever must be in up position. With Power Tilt, turn release valve fully left (counterclockwise). DO NOT use tiller handle for tilting outboard. To tilt outboard, grasp top rear of cowl and tilt outboard forward.

Tilt Pin (Angle) Adjustment

6 Tilt angle of the lower unit has a distinct effect on performance and handling. Adjust by changing location of tilt pin until boat rides level.

IMPORTANT: Propeller shaft angle will affect boat performance. With the outboard tilted in, propeller force will make the boat want to go into a right hand turn. The situation reverses when the lower unit is tilted out well past vertical. The operator must resist this force to keep the boat on a straight course. Refer to TRIM TAB ADJUSTMENT.

IMPORTANT: DO NOT operate outboard with tilt pin removed.
OUTBOARD INSTALLATION
(Continued)

To Tilt Outboard Up:
1A (With Power Tilt) Turn release valve on power tilt pump fully counter-clockwise (open).
1B (Without Power Tilt) Pull tilt lever up and toward transom.

⚠️ CAUTION
Outboard must not be run in full tilt lock position, as water pickup in lower unit would be out of the water, and water pump and/or engine would be damaged.

2 Grasp outboard “finger grip well” at rear of top cowl and lift (tiit) outboard to full up position.

Tilt Lock Lever
3A/3B Lock outboard in a fully tilted position.

To Disengage Tilt Lock:
Tilt outboard as far as possible and disengage tilt lock lever.

(Without Power Tilt) Lower outboard to normal operating position.

(With Power Tilt) Retain/secure tilt lock lever behind button and lower outboard to normal operating position. Return manual release valve to operating position. Turn valve fully clockwise (closed).

TRIM TAB ADJUSTMENT
IMPORTANT: The trim tab is made of a special alloy to protect outboard housings from galvanic corrosion. DO NOT paint or place protective coating on the trim tab.

4 The trim tab will help to offset steering pull caused by propeller torque at high speeds or extreme tilt angles. If boat pulls to left, loosen cap screw and rotate trailing edge of trim tab to left (as viewed from behind outboard). If boat pulls to right, rotate trim tab to right. Tighten cap screw.

BATTERY AND ELECTRICAL ACCESSORIES

⚠️ CAUTION
Failure to observe correct polarity when connecting battery leads to battery will result in damage to charging system on electric starting models.

IMPORTANT: Secure battery in a favorable position in boat.

Any accessories, such as horns, lights, etc., should be properly fused and installed with connections attached directly to battery terminals.

Install accessories according to instructions in accessory kits.

Harness Connection (Electric Start Models)
5 Thread harness through grommet in front of bottom cowl. Align arrows and connect wiring harness socket and plug. Secure connection with twist lock collar.

MOUNTING FUEL TANK AND CONNECTING FUEL LINES
Secure fuel tank in a convenient location.
6 Connect fuel line to tank. Insert connector and twist 1/8 - turn to lock.

Arrange fuel line so it does not become twisted, kinked, pinched or stretched.
7 Connect fuel line to engine.

IMPORTANT: Models with AutoBlend II refer to INSTALLATION OF AUTO-BLEND II.

CO-PILOT ADJUSTMENT
8 Manual Steering - Proper co-pilot adjustment will keep outboard on a fixed course (during NORMAL operation) while allowing easy steering control.

Turn adjusting screw clockwise to increase friction or counterclockwise to decrease friction.
PROPELLERS

PROPELLER SELECTION

Select a propeller that will allow outboard to operate at or near top of recommended full throttle RPM range with a normal load. Normally, there is a 300 to 500 RPM change between propeller pitches. Full throttle RPM range is listed in SPECIFICATIONS.

If full throttle operation is below recommended range shown in SPECIFICATIONS, propeller MUST be changed to a lower pitch to prevent loss of performance and possible engine damage.
PROPPELLERS
(Continued)

PROPELLER REMOVAL

⚠️ WARNING
Before attempting to remove or install propeller, remove spark plug leads from spark plugs to prevent engine from starting accidentally.

1 Remove top cowl (see COWL REMOVAL AND INSTALLATION) and disconnect spark plug leads.

2 Place wood block between propeller blade and anti-ventilation plate to prevent rotation.

3 Remove cotter pin and turn propeller shaft nut counterclockwise to remove nut.

4 Slide propeller off propeller shaft. Leave thrust washer on shaft unless it is damaged.

PROPPELLER REPAIR

Some damaged propellers can be repaired. Consult your Authorized Dealer.

PROPPELLER INSTALLATION

IMPORTANT: Periodically check propeller nut for tightness during boating season.

5 Apply a liberal coat of one of the following Quicksilver lubricants to propeller shaft: Special Lubricant 101, 2-4-C Marine Lubricant, or Perfect Seal.

6 Slide thrust washer onto propeller shaft (if removed) with “shoulder” toward gear housing.

Slide propeller onto shaft and install propeller nut.

Place a wood block between propeller blade and anti-ventilation plate to prevent rotation.

Turn propeller nut clockwise. Using a socket wrench, TIGHTEN NUT SECURELY [minimum of 55 ft. lbs. (74.6 N-m) of torque] to a point where the pin hole in the propeller shaft is in line with a slot in the propeller nut.

Install cotter pin through nut and propeller shaft hole and spread pin to hold in place.

Reconnect spark plug leads and install top cowl.

IMPORTANT: After first use, remove cotter pin, relighten propeller nut (minimum of 55 ft.lbs.) and install and spread cotter pin to secure nut.

⚠️ CAUTION
Operation with a loose propeller could cause damage to the thrust washer and gear housing during acceleration, deceleration or when shifting gears.
CONDITIONS AFFECTING OPERATION

WEIGHT DISTRIBUTION

Positioning of weight (passengers and gear) inside the boat has the following effects:

A. Shifting weight to rear (stern).
   - Generally increases speed and engine RPM.
   - At extremes, can cause boat to porpoise.
   - Causes bow to bounce in choppy water.
   - Increases danger of the following-wave splashing into boat when coming off plane.

B. Shifting weight to front (bow).
   - Improves ease of planing off.
   - Improves rough water ride.
   - At extremes, can cause boat to veer back and forth (bow steer).
   - Reduces engine RPM.

BOTTOM OF BOAT

To maintain maximum speed the following conditions of the boat bottom should be observed:

A. Clean, free of barnacles and marine growth.

B. Free of distortion, nearly flat where it contacts the water.

C. Straight and smooth, fore and aft.

GEAR HOUSING

If outboard is not tilted up when boat is docked, marine vegetation may accumulate. This growth MUST BE REMOVED before operation; it may clog water inlets and cause engine to overheat.

CAVITATION

Cavitation occurs when water flow cannot follow the contour of a fast moving underwater object, such as a gear housing or propeller. Cavitation permits the propeller to speed up and the boat speed to reduce. Cavitation can seriously erode the surface of the gear housing or propeller. Common causes of cavitation are:

A. Bent propeller blade or damaged gear housing skeg.

B. Raised burrs or sharp edges on propeller or gear housing.

C. Weeds or other debris snagged on propeller or gear housing.

VENTILATION

Ventilation is caused by surface air or exhaust gases which are introduced around the propeller resulting in propeller speed up and a reduction in boat speed. Excessive ventilation is annoying and usually caused by:

A. Outboard installed too high on transom.

B. Outboard tilted out too far.

C. A missing propeller diffuser ring.

D. Damaged propeller or gear housing which allows exhaust gases to escape between propeller and gear housing.
INSTALLATION OF AUTOBLEND II™

INSTALLATION GUIDELINES

- Mount as vertical as possible, not to exceed 15° beyond vertical.

- Mount to allow easy access for viewing oil level, testing warning horn, removing, and filling with oil.

- Mount to allow fuel line routing free of kinks and stress, with fuel lines as short as possible.

- Mount at same level as fuel tank.

- Mount in relatively dry and shaded area.

- Mount between primer bulb and fuel tank.

Installing Holder Assembly

⚠️ CAUTION
DO NOT operate outboard without AutoBlend II securely mounted in boat.

1. Mount holder assembly to the side of a bulkhead or transom, or to the floor, allowing 11.5” (29.2cm) vertical clearance for removal and installation of tank from holder assembly.

2. To mount holder assembly on floor, use holder assembly to mark drill holes. Remove holder assembly and drill four 5/32” (4mm) holes. Fasten holder assembly to floor with screws provided.

3. To mount holder assembly to transom or bulkhead, use holder assembly to mark drill holes. Remove holder assembly and drill three 1/4” (6mm) holes. Fasten holder assembly with 3 long bolts, washers and nuts provided.

Mariner 40
INSTALLATION OF AUTOBLEND II™
(Continued)

Installing Tank Into Holder

1 Install tank into holder assembly so slots in back of tank are positioned over holding tabs on bracket.

2 Secure tank to holder assembly with hold-down strap. The strap release can be located in any position around the tank to allow easy removal of tank.

Connecting Fuel Lines

IMPORTANT: Primer bulb must be located between AutoBlend II and engine.

3 Cut remote fuel line to fit between AutoBlend II and fuel tank.

⚠️ CAUTION
Do not install a primer bulb in fuel line between remote fuel tank and AutoBlend II. Pressurizing AutoBlend II with more than 8 psi may cause serious damage.

⚠️ CAUTION
If an electric fuel pump is used, the fuel pressure must not exceed 5 psi. Mount electric fuel pump between AutoBlend II and remote fuel tank.

4 Slide 6” (15 cm) support tube provided over cut end of fuel line to outboard. Remove AutoBlend II front cover. Using hose clamp provided, fasten support tube and fuel line to outlet fitting on AutoBlend II. Tighten hose clamp.

5 Slide 6” (15 cm) support tube provided over cut end of fuel line to fuel tank. Using hose clamp provided, fasten support tube and fuel line to inlet fitting on AutoBlend II. Tighten hose clamp.

⚠️ CAUTION
Support tubes must be installed on fuel lines to eliminate possible kinking of fuel line at AutoBlend II connection.

⚠️ CAUTION
Hose clamps must be securely tightened over both fuel line and support tubes so not to allow air into system.

PERIODIC INSPECTION

• Check oil level in AutoBlend II tank prior to each time the boat is operated. Refill tank as oil level lowers.

• Check fuel filter once a month for any sediment. Replace as necessary.

• Check AutoBlend II low oil warning horn system after each refilling (see OPERATION).

• Check that AutoBlend II tank is securely mounted in holder after each refilling.

• Once a month check that fuel lines are free of stress and kinks and hose clamps are tight.

• Check that AutoBlend II fill cap is tight after each refilling.

• Test condition of 9 volt battery prior to each time the boat is operated (see BATTERY).

• Check oil fill screen before each filling for debris, holes or tears. Remove and clean a dirty screen with kerosene and reinstall. Discard and replace a screen with holes and/or tears.
FILLING TANK

1 AutoBlend II tank has a 3.5 quart capacity with sight level lines in 1/2 quart increments.

⚠️ CAUTION
Before filling with oil, make sure oil fill screen (in fill neck) is in place, free of debris and not damaged with a tear or hole. Screen can be removed and cleaned with kerosene if required.

Use Quicksilver 2 cycle outboard oil. If Quicksilver 2 cycle oil is not available, substitute a high quality 2 cycle oil that is intended for outboard use and meets BIA rating TC-W.

2 Undo hold down strap and lift tank from holder assembly with handle.

3 Remove fill cap and, with oil fill screen in place, add oil to tank. Install fill cap and tighten securely.

Replenish oil as it is used. Check the low oil warning horn after each refilling by turning tank upside-down for a few seconds. This will allow the float to activate the warning horn. If horn does not sound, check battery (see BATTERY).

⚠️ WARNING
DO NOT install battery until AutoBlend II is filled with oil to prevent sparking at the battery and damage to the module.

⚠️ CAUTION
DO NOT use a Nickel Cadmium (Ni Cad) rechargeable battery. Damage to some electronic components may result.

4 Remove front cover from tank by pushing in on tabs on the sides and pulling straight away.

5 Remove battery cover by pulling straight up. Install 9 volt battery by aligning proper terminal connectors and snap together. Install cover onto battery holder. Install front cover by aligning cover openings and pushing on until securely fastened.

IMPORTANT: For longer battery life, an alkaline battery is recommended.

6 A battery test button is provided for easy checking of battery power level. When pressed, the horn will sound if battery is in good condition. If horn does not sound, replace battery and retest.

IMPORTANT: Do not operate with battery cover removed.

7 Replenish fuel supply before outboard runs out of fuel. This will prevent unmixed (straight) oil from entering the fuel line and fuel system.
OPERATION

AutoBlend II delivers a gasoline/oil mixture of 50:1.

Warning Horn

If warning horn sounds and oil level is below 1/4 quart, add oil to the AutoBlend II tank. There is a safety reserve of oil left in the tank after warning is sounded that allows enough oil for approximately 30 minutes of full throttle operation.

If warning horn sounds and the oil level is above 1/4 quart, shut engine OFF and wait 2 minutes.

1. If the horn stops sounding within the 2 minutes, back-flush the AutoBlend II. Kink fuel line outlet hose between primer bulb and engine connector, hold primer bulb inlet (tank end) up and slowly squeeze primer bulb. Operate outboard. If the problem persists, contact your authorized dealer.

If the horn does not stop sounding within 2 minutes, the problem may be a clogged internal oil filter screen in AutoBlend II tank. If this problem occurs, DO NOT run engine with straight gasoline in the remote fuel tank. Engine can be run by connecting a remote fuel tank of 50:1 gas and oil mixture, or in an emergency, add (approximately) a 50:1 ratio of oil from AutoBlend II tank to straight gas. Consult your authorized dealer if internal oil filter screen is clogged.

Break-In Period

During new engine 10 hour break-in period, operate engine using a gasoline and oil mixture of 50:1 in remote fuel tank. This 50:1 mixture, along with the metered oil from AutoBlend II will give a 25:1 gasoline and oil mixture for break-

in. (See FUEL MIXTURE AND FUEL/OIL RECOMMENDATIONS.) During this time, check that oil level in AutoBlend II tank is dropping. This indicates that AutoBlend II system is operating. Consult your authorized dealer if AutoBlend II is not operating.

Preparation For Storage

⚠️ CAUTION

Failure to drain gasoline from AutoBlend II prior to storage may result in diaphragm damage due to high levels of alcohol in gasoline.

2. Remove fuel lines from fuel tank and outboard.

3. Remove AutoBlend II tank from holder assembly.

4. Remove front cover from AutoBlend II.

Remove battery from AutoBlend II. Store in cool, dry area.

5. Remove drain plug. Position fuel connectors above AutoBlend II, unseat fuel connector check valves and drain fuel from fuel lines and AutoBlend II, allowing about 5 minutes for draining. Install drain plug and tighten securely.

NOTE: Oil can stay in AutoBlend II tank during storage.

Clean AutoBlend II thoroughly and spray metal parts with corrosion and rust preventive. Install fuel lines to Auto-Blend II if removed.

6. Install front cover on AutoBlend II.
OPERATION OF AUTOBLEND II™
(Continued)

BRINGING OUT OF STORAGE

WARNING
DO NOT install battery until Auto-Blend II is filled with oil to prevent sparking at the battery and damage to the module.

1  Make sure fuel drain plug is tightened securely.
Fill AutoBlend II tank with recommended oil.
Connect fuel lines from AutoBlend II to fuel tank and outboard.
Install battery and test power level.

Check AutoBlend II low oil warning horn system by turning upside down.
Install tank into holder assembly.

MAINTENANCE REQUIREMENTS

Have AutoBlend II diaphragm inspected at beginning of each season by your authorized dealer.

2  Replace AutoBlend II fuel filter at beginning of each season and when sediment is identified inside the translucent fuel filter.
FUEL MIXTURE AND FUEL/OIL RECOMMENDATIONS

⚠️ WARNING
USE CARE when transporting fuel container, whether in a boat or car. DO NOT fill fuel container to maximum capacity. Gasoline will expand considerably as it warms up and can build up pressure in the fuel container. This can cause fuel leakage and a potential fire hazard.

GASOLINE RECOMMENDATIONS

⚠️ CAUTION
Use of improper gasolines and/or oils can cause serious damage to your outboard motor.

IMPORTANT: Always use fresh gasoline. Gasoline forms gum and varnish deposits, and may cause trouble if held in a tank for too long.

Any good grade regular leaded, premium (Super), unleaded (lead-free) gasoline, with a minimum posted octane rating of 86 (research octane number 90) is satisfactory for use in these model outboard motors. However, gasolines containing alcohol, either methyl alcohol (methanol) or ethyl (ethanol) may cause increased:
• Corrosion of metal parts.
• Deterioration of elastomer and plastic parts.
• Fuel permeation through flexible fuel lines.
• Wear and damage of internal engine parts.
• Starting and operating difficulties.

Some of these adverse effects are due to the tendency of gasolines containing alcohol to absorb moisture from the air, resulting in a phase of water and alcohol separating from the gasoline in the fuel tank.

The adverse effects of alcohol are more severe with methyl alcohol (methanol) and are worse with increasing alcohol content.

⚠️ WARNING
FIRE AND EXPLOSION HAZARD: Fuel leakage from any part of the fuel system can be a fire and explosion hazard which can cause serious bodily injury or death. Careful periodic inspection of the entire fuel system is mandatory, particularly after storage. All fuel components including fuel tanks, whether plastic, metal or fiberglass, fuel lines, primer bulbs, fittings, fuel filters and carburetor should be inspected for leakage, softening, hardening, swelling or corrosion. Any sign of leakage or deterioration necessitates replacement before further engine operation. Because of the possible adverse effects of alcohol in gasoline, it is recommended that only alcohol-free gasoline be used where possible. If only alcohol-containing fuel is available, or if the presence of alcohol is unknown, then increased inspection frequency for leaks and abnormalities is required.

OIL RECOMMENDATIONS

⚠️ CAUTION
The use of other than recommended gasoline and Quicksilver 2 Cycle Outboard Oil or an acceptable oil BIA TC-W may cause piston scoring, bearing failure or both. DO NOT, under any circumstances, use multi-grade or other highly detergent automobile oils or oils which contain metallic additives.

In an emergency, if Quicksilver 2-Cycle Outboard Oil is not available, substitute a high quality 2-cycle oil that is intended for outboard use and meets BIA rating TC-W, shown on oil container. Use the oil manufacturer’s recommended gasoline-oil mixture as shown on the label, not to exceed 50:1.
### 25:1 BREAK-IN - WITHOUT AUTOBLEND II

<table>
<thead>
<tr>
<th>Type of Oil</th>
<th>U.S. Measure</th>
<th>Imperial Measure</th>
<th>Metric Measure</th>
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<tbody>
<tr>
<td>Quicksilver 2-Cycle Outboard Oil</td>
<td>32 U.S. oz. to each 6 gallons of gasoline</td>
<td>30 Imp. oz. to each 5 Imp. gallons of gasoline</td>
<td>800cc to each 20 liters of gasoline</td>
</tr>
<tr>
<td>Other Acceptable BIA TC-W Oils</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Use at 25:1 Ratio as shown above.

### 50:1 NORMAL FUEL MIXTURE - WITHOUT AUTOBLEND II AND 50:1 BREAK-IN WITH AUTOBLEND II

<table>
<thead>
<tr>
<th>Type of Oil</th>
<th>U.S. Measure</th>
<th>Imperial Measure</th>
<th>Metric Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quicksilver 2-Cycle Outboard Oil</td>
<td>16 U.S. oz. to each 6 gallons of gasoline</td>
<td>15 Imp. oz. to each 5 Imp. gallons of gasoline</td>
<td>400cc to each 20 liters of gasoline</td>
</tr>
<tr>
<td>Other Acceptable BIA TC-W Oils</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Use at Oil Manufacturer’s Recommendations. DO NOT EXCEED 50:1
MIXING INSTRUCTIONS

WARNING
Observe fire prevention rules, particularly NO SMOKING. Mix fuel outdoors or in well ventilated location.
IMPORTANT: Always use fresh gasoline. Gasoline which is kept in tank too long will form gum and varnish deposits which may cause trouble.
Mix fuel directly into remote tank. Pour small, equal amounts of gasoline and oil into tank. Mix thoroughly, then add remaining oil and gasoline. Mix again. Keep fuel clean and mix each batch of fuel exactly the same way to avoid carburetion problems.
IMPORTANT: Use recommended amount of 2-cycle oil. Too much or too little oil can cause performance problems, as well as serious engine damage.

ENGINE BREAK-IN PROCEDURE (WITHOUT AUTOBLEND II)

CAUTION
Follow break-in procedure carefully.
A. Mix gasoline and oil during break-in (10 hours) at 25:1 ratio as shown in chart.
B. Operate a new outboard at varied throttle setting, not to exceed 1/2 throttle (2500-3500 RPM) for two (2) hours.
C. After first two (2) hours of operation, outboard can be run at any speed. However, avoid sustained operation at idle or full throttle for an additional eight (8) hours.

OUTBOARD CONTROLS - MANUAL START MODELS WITH TILLER HANDLE

1 TILLER HANDLE - Provides a means to steer boat and control engine speed on manually operated outboards.

2 LANYARD IGNITION SWITCH - This is the normal RUN/OFF switch on manual start models. The lanyard, when used with this switch and connected to driver, will stop engine if driver no longer has access to tiller handle.

3 WATER PUMP "TELL-TALE" (All Models) - Water pump operation is indicated by a steady "Tell-Tale" stream of water.
OPERATION - MANUAL START MODELS WITH TILLER HANDLE

BEFORE STARTING

⚠️ CAUTION
This outboard is water cooled. DO NOT operate outboard out-of-water. Serious damage to outboard could result from overheating. DO NOT attempt to shift outboard into REVERSE gear WHEN ENGINE IS NOT RUNNING. Damage to shift mechanism could result.

OPERATOR and PASSENGERS SHOULD BE SEATED WHENEVER ATTEMPTING to START the ENGINE.

Before attempting to start engine, MAKE certain that outboard is shifted into NEUTRAL and that area around boat is clear (to get underway).

1. Check fuel tank for sufficient fuel and that tank is secure in boat.
2. Open air vent on fuel tank cap.

IMPORTANT: Check oil level and operation of AutoBlend II (if so equipped).

3. Squeeze fuel primer bulb until it is firm.
4. Check that lanyard ignition switch is in RUN position.

STARTING

IMPORTANT: MANUAL starting outboards are equipped with a rewind starter “lock-out” mechanism. ELECTRIC starting outboards are equipped with a starter “cut-out” switch - the shift handle and/or remote control handle MUST BE in NEUTRAL position in order to start engine.

5. Position twist grip to START and shift handle to NEUTRAL.
6. If operation of the throttle twist grip feels too tight or too loose, adjust throttle friction by turning the adjusting screw.
7. If cold engine - place choke in ON position (pull knob out).

⚠️ CAUTION
Be prepared to alter throttle setting when engine starts. DO NOT allow engine to exceed 2500 RPM while in NEUTRAL.

8. Grasp starter handle firmly and pull outward slowly until engagement of starter mechanism can be felt, then continue to pull outward with a full, vigorous stroke. DO NOT release starter handle and allow it to snap back; retain grip and allow rope to rewind slowly. Repeat until engine starts.

AFTER STARTING

Place choke in OFF position. If cold engine falters after starting, quickly move choke on and off several times until engine runs smoothly with choke knob in.

Turn twist grip to SLOW position.

9. Check for a steady stream of water from water pump “Tell-Tale”. If intermittent or no flow is observed - STOP ENGINE IMMEDIATELY. Check “Tell-Tale” often during outboard operation.

THROTTLE/SHIFTING GEARS

⚠️ CAUTION
Choke knob must be pushed completely in (off) BEFORE shifting. When engine is running ALWAYS turn throttle speed to SLOW position before shifting into or out of gear. Shift gears with a firm, quick motion to avoid gear chatter.

10. Forward Gear
Operate outboard in forward gear with tilt release lever in down (engaged) position. Release mechanism will allow outboard to “kick-up” when a submerged object is struck while operating in forward gear.

IMPORTANT: After outboard is tilted full up, tilt release lever will return to the down (engaged) position.

⚠️ CAUTION
Exercise extreme care when operating in REVERSE GEAR. DO NOT operate outboard at high speeds when in REVERSE.

Reverse Gear
Operate outboard in reverse gear with tilt release lever in down (engaged) position. This will prevent outboard “kick-up” during reverse operation.

STOPPING

11. To stop engine, position twist grip to SLOW, shift to NEUTRAL and move lanyard ignition switch to OFF.

Mariner 40
1 NEUTRAL LOCK Bar - prevents accidental shift and throttle engagement. Bar must be squeezed before control handle can be moved from NEUTRAL.

2 CONTROL HANDLE - controls forward, reverse motion and engine speed.

3 IGNITION/CHOKE Switch (Electric Start Models) - turns engine OFF and ON, actuates electric starter motor, and actuates carburetor choke.

4 EMERGENCY STOP Switch - Refer to page 1 for explanation. The lanyard cord/clip, when used with the emergency stop switch MUST BE connected to boat driver. Should the driver be unable to reach steering wheel or remote control, the lanyard cord/clip will be pulled from emergency stop switch and the engine will shut OFF. This emergency stop switch SHOULD NOT BE USED as normal engine shut-off.

IMPORTANT: The Emergency Stop Switch can be repositioned to RUN with or without stop clip and tether so that engine can be restarted.

5 FAST IDLE Lever - allows engine throttle advancement, without shifting gears, to assist engine starting.

6 THROTTLE FRICTION ADJUSTMENT Knob - adjusts control handle friction so that engine speed can be set and driver does not have to hold handle. Turn knob clockwise to increase friction. DO NOT thread all the way out.

7 TACHOMETER Receptacle - wiring harness connector for tachometer.

8 TILT Switch - (if so equipped) tilts outboard up by pressing top of switch; tilts outboard down by pressing bottom of switch.
OPERATION - MANUAL START MODELS WITH TILLER HANDLE

BEFORE STARTING

⚠️ CAUTION
This outboard is water cooled. DO NOT operate outboard out-of-water. Serious damage to outboard could result from overheating. DO NOT attempt to shift outboard into REVERSE gear WHEN ENGINE IS NOT RUNNING. Damage to shift mechanism could result.

OPERATOR and PASSENGERS SHOULD BE SEATED WHenever attempting to START the ENGINE.

Before attempting to start engine, MAKE CERTAIN that outboard is shifted into NEUTRAL and that area around boat is clear (to get underway).

1. Check fuel tank for sufficient fuel and that tank is secure in boat.
2. Open air vent on fuel tank cap.

IMPORTANT: Check oil level and operation of AutoBlend II (if so equipped).
3. Squeeze fuel primer bulb until it is firm.
4. Check that lanyard ignition switch is in RUN position.

STARTING

IMPORTANT: MANUAL starting outboards are equipped with a rewind starter "lock-out" mechanism. ELECTRIC starting outboards are equipped with a starter "cut-out" switch - the shift handle and/or remote control handle MUST BE in NEUTRAL position in order to start engine.

5. Position twist grip to START and shift handle to NEUTRAL.
6. If operation of the throttle twist grip feels too tight or too loose, adjust throttle friction by turning the adjusting screw.
7. If cold engine - place choke in ON position (pull knob out).

⚠️ CAUTION
Be prepared to alter throttle setting when engine starts. DO NOT allow engine to exceed 2500 RPM while in NEUTRAL.
8. Grasp starter handle firmly and pull outward slowly until engagement of starter mechanism can be felt, then continue to pull outward with a full, vigorous stroke. DO NOT release starter handle and allow it to snap back; retain grip and allow rope to rewind slowly. Repeat until engine starts.

AFTER STARTING
Place choke in OFF position. If cold engine falters after starting, quickly move choke on and off several times until engine runs smoothly with choke knob in.

Turn twist grip to SLOW position.

9. Check for a steady stream of water from water pump "Tell-Tale". If intermittent or no flow is observed - STOP ENGINE IMMEDIATELY. Check "Tell-Tale" often during outboard operation.

THROTTLE/SHIFTING GEARS

⚠️ CAUTION
Choke knob must be pushed completely in (off) BEFORE shifting. When engine is running ALWAYS turn throttle speed to SLOW position before shifting into or out of gear. Shift gears with a firm, quick motion to avoid gear chatter.

10. Forward Gear
Operate outboard in forward gear with tilt release lever in down (engaged) position. Release mechanism will allow outboard to “kick-up” when a submerged object is struck while operating in forward gear.

IMPORTANT: After outboard is tilted full up, tilt release lever will return to the down (engaged) position.

⚠️ CAUTION
Exercise extreme care when operating in REVERSE GEAR. DO NOT operate outboard at high speeds when in REVERSE.

Reverse Gear
Operate outboard in reverse gear with tilt release lever in down (engaged) position. This will prevent outboard “kick-up” during reverse operation.

STOPPING
11. To stop engine, position twist grip to SLOW, shift to NEUTRAL and move lanyard ignition switch to OFF.
COMPONENTS - REMOTE CONTROL WITH IGNITION/CHOKE SWITCH

1 NEUTRAL LOCK Bar - prevents accidental shift and throttle engagement. Bar must be squeezed before control handle can be moved from NEUTRAL.

2 CONTROL HANDLE - controls forward, reverse motion and engine speed.

3 IGNITION/CHOKE Switch (Electric Start Models) - turns engine OFF and ON, actuates electric starter motor, and actuates carburetor choke.

4 EMERGENCY STOP Switch - Refer to page 1 for explanation. The lanyard cord/clip, when used with the emergency stop switch MUST BE connected to boat driver. Should the driver be unable to reach steering wheel or remote control, the lanyard cord/clip will be pulled from emergency stop switch and the engine will shut OFF. This emergency stop switch SHOULD NOT BE USED as normal engine shut-off.

IMPORTANT: The Emergency Stop Switch can be repositioned to RUN with or without stop clip and tether so that engine can be restarted.

5 FAST IDLE Lever - allows engine throttle advancement, without shifting gears, to assist engine starting.

6 THROTTLE FRICITION ADJUSTMENT Knob - adjusts control handle friction so that engine speed can be set and driver does not have to hold handle. Turn knob clockwise to increase friction. DO NOT thread all the way out.

7 TACHOMETER Receptacle - wiring harness connector for tachometer.

8 TILT Switch - (if so equipped) tilts outboard up by pressing top of switch; tilts outboard down by pressing bottom of switch.
OPERATION - ELECTRIC START MODELS WITH IGNITION/CHOKE SWITCH IN THE REMOTE CONTROL

⚠️ CAUTION
OPERATOR and PASSENGERS SHOULD BE SEATED WHENEVER ATTEMPTING to START the ENGINE. Before attempting to start engine, MAKE CERTAIN that outboard is shifted into NEUTRAL and that area around boat is clear (to get underway).

IMPORTANT: Electric starting outboards are equipped with a starter “cut-out” switch - the shift handle and/or remote control handle MUST BE in NEUTRAL position in order to start engine.

BEFORE STARTING
1. Check fuel tank for sufficient fuel and that tank is secure in boat.
2. Open air vent on fuel tank cap.
3. Squeeze fuel primer bulb until it is firm.
4. Place control handle in NEUTRAL. Check that emergency stop switch is in RUN position.

⚠️ CAUTION
DO NOT operate starter motor for longer than 30 seconds or starter motor may be damaged. Allow at least 2 minutes between starting attempts.

IMPORTANT: Starter circuit is protected by SFE 20 AMP fuse at port side of engine. If starter fails to operate, check for blown fuse. BEFORE replacing fuse, locate and correct cause of overload.

STARTING COLD ENGINE
5. Lift up on FAST IDLE lever.
6. Turn key clockwise past RUN position to START and actuate choke by pressing in on key. As soon as engine starts, allow key to return to RUN position and release choke. If engine falters, push in on key to actuate choke again.

7. After warm-up, return FAST IDLE lever to full down position.

STARTING WARM ENGINE
Turn key clockwise past RUN position to START. As soon as engine starts, allow key to return to RUN position. If engine falters, push in on key to actuate choke.

NOTE: If engine fails to start, follow STARTING COLD ENGINE procedure.

Check for steady stream of water from water pump “Tell-Tale”. If intermittent or no flow is observed, STOP ENGINE IMMEDIATELY. Check “Tell-Tale” stream often during outboard operation.

THROTTLE/SHIFTING GEARS
8 (Without power tilt) operate outboard in forward gear with tilt release lever in down (engaged) position. Release mechanism will allow outboard to “kick-up” when a submerged object is struck while operating in forward gear.

IMPORTANT: After outboard is tilted full up, tilt release lever will return to the down (engaged) position.

(With power tilt) release valve must be in closed (clockwise) position. Tilt outboard fully down/in before getting under way.

9. Squeezing Neutral Lock Bar and pushing control handle forward engages the FORWARD GEAR. Pushing handle further forward increases engine speed.

⚠️ CAUTION
Exercise extreme care when operating in REVERSE GEAR. DO NOT operate outboard at high speeds in REVERSE.

(Without power tilt) operate outboard in reverse gear with tilt release lever in down (engaged) position. This will prevent outboard “kick-up” during reverse operation. Squeezing Neutral Lock Bar and pulling back on control handle engages REVERSE GEAR.

STOPPING
10. Shift to NEUTRAL and turn key counterclockwise to OFF position.

IMPORTANT: In an emergency the engine can be stopped at any speed, in or out of gear. For normal operation, idle engine and shift to NEUTRAL before turning key OFF.
1 NEUTRAL LOCK Bar - prevents accidental shift and throttle engagement. Bar must be squeezed before control handle can be moved from NEUTRAL.

2 CONTROL HANDLE - controls forward, reverse motion and engine speed.

3 IGNITION Switch (Electric Start Models) - turns engine OFF and ON, actuates electric starter motor.

4 CHOKE Switch - actuates carburetor choke.

5 EMERGENCY STOP Switch - Refer to page 1 for explanation. The lanyard cord/clip, when used with the emergency stop switch MUST BE connected to boat driver. Should the driver be unable to reach steering wheel or remote control, the lanyard cord/clip will be pulled from emergency stop switch and the engine will shut OFF. This emergency stop switch SHOULD NOT BE USED as normal engine shut-off.

IMPORTANT: The Emergency Stop Switch can be repositioned to RUN with or without stop clip and tether so that engine can be restarted.

6 FAST IDLE Lever - allows engine throttle advancement, without shifting gears, to assist engine starting.

7 THROTTLE FRICTION ADJUSTMENT Knob - adjusts control handle friction so that engine speed can be set and driver does not have to hold handle. Turn knob clockwise to increase friction. DO NOT thread all the way out.
OPERATION - ELECTRIC START MODELS WITH IGNITION/CHOKE PANEL AND REMOTE CONTROL

⚠️ CAUTION
OPERATOR and PASSENGERS SHOULD BE SEATED WHENEVER ATTEMPTING to START the ENGINE. Before attempting to start engine, MAKE CERTAIN that outboard is shifted into NEUTRAL and that area around boat is clear (to get underway).

IMPORTANT: Electric starting outboards are equipped with a starter “cut-out” switch - the shift handle and/or remote control handle MUST BE in NEUTRAL position in order to start engine.

BEFORE STARTING
1. Check fuel tank for sufficient fuel and that tank is secure in boat.
2. Open air vent on fuel tank cap.

IMPORTANT: Check oil level and operation of AutoBlend II (if so equipped).
3. Squeeze fuel primer bulb until it is firm.
4. Place control handle in NEUTRAL. Check that emergency stop switch is in RUN position.

⚠️ CAUTION
DO NOT operate starter motor for longer than 30 seconds or starter motor may be damaged. Allow at least 2 minutes between starting attempts.

IMPORTANT: Starter circuit is protected by SFE 20 AMP fuse at port side of engine. If starter fails to operate, check for blown fuse. BEFORE replacing fuse, locate and correct cause of overload.

STARTING COLD ENGINE
5. Lift up on FAST IDLE lever.

IMPORTANT: With FAST IDLE lever in up position, control handle cannot be moved into FORWARD or REVERSE gear.

⚠️ CAUTION
Be prepared to alter throttle setting when engine starts. DO NOT allow engine to exceed 2500 RPM while in NEUTRAL.

6. Turn key clockwise past RUN position to START.
7. Move toggle switch up to actuate choke. As soon as engine starts, allow key to return to RUN position and release toggle switch. If engine falters, move toggle switch up again.

8. After warm-up, return FAST IDLE lever to full down position.

STARTING WARM ENGINE
Turn key clockwise past RUN position to START. As soon as engine starts, allow key to return to RUN position. If engine falters, move toggle switch up to actuate choke.

NOTE: If engine fails to start, follow STARTING COLD ENGINE procedure.

Check for steady stream of water from water pump “Tell-Tale”. If intermittent or no flow is observed, STOP ENGINE IMMEDIATELY. Check “Tell-Tale” stream often during outboard operation.

THROTTLE/SHIFTING GEARS
9. (Without power tilt) operate outboard in forward gear with tilt release lever in down (engaged) position. Release mechanism will allow outboard to “kick-up” when a submerged object is struck while operating in forward gear.

IMPORTANT: After outboard is tilted full up, tilt release lever will return to the down (engaged) position.

(With power tilt) release valve must be in closed (clockwise) position. Tilt outboard fully down/in before getting under way.

10. Squeezing Neutral Lock Bar and pushing control handle forward engages the FORWARD GEAR. Pushing handle further forward increases engine speed.

⚠️ CAUTION
Exercise extreme care when operating in REVERSE GEAR. DO NOT operate outboard at high speeds in REVERSE.

11. (Without power tilt) operate outboard in reverse gear with tilt release lever in down (engaged) position. This will prevent outboard “kick-up” during reverse operation. Squeezing Neutral Lock Bar and pulling back on control handle engages REVERSE GEAR.

STOPPING
12. Shift to NEUTRAL and turn key counterclockwise to OFF position.

IMPORTANT: In an emergency the engine can be stopped at any speed, in or out of gear. For normal operation, idle engine and shift to NEUTRAL before turning key OFF.
EMERGENCY OPERATION

STARTING ELECTRIC START MODELS

If desired (or in an emergency) outboard can be operated without a battery (either disconnected or removed).

⚠️ CAUTION
Battery leads to outboard must be taped off (insulated). Electrical wiring harness on Electric Start Remote Control Models MUST REMAIN CONNECTED in order to stop engine with key.

Start outboard with rewind starter as described in OPERATION - MANUAL START MODELS.

MANUAL AND ELECTRIC START MODELS

If rewind starter won’t work the engine can be cranked (use spare starter rope supplied) in the following manner.

1 Remove top cowl (refer to COWL REMOVAL AND INSTALLATION).

Squeeze primer bulb until firm.

2 Disconnect starter “lock-out” mechanism from rewind starter housing.

3 Remove 3 bolts and remove manual rewind housing. Raise lanyard ignition switch to RUN position.

Place control handle (or shift handle) in NEUTRAL position.

(With Remote Control) If engine is cold, lift FAST IDLE lever up. Turn key to RUN position and check that emergency stop switch is in RUN position.

(With Tiller Handle) Move shift handle to NEUTRAL position. Twist grip to START position.

Set manual choke in closed (out) position. Avoid use of choke if engine is warm.

4 Tie knot in end of spare rope. Hook rope knot in flywheel notch and wind rope CLOCKWISE around flywheel at least 2 turns.

⚠️ CAUTION
Be prepared to alter throttle setting when engine starts. DO NOT allow engine to exceed 2500 RPM while in NEUTRAL.

5 Grasp handle firmly and pull with a full, vigorous stroke. If engine has not started by second pull, open choke and pull again.

When engine starts, move manual choke to OFF position. Check for steady stream of water from water pump “Tell-Tale”. If intermittent or no flow is observed STOP ENGINE IMMEDIATELY.

IMPORTANT: During normal operation, always keep choke in open (in) position.

⚠️ CAUTION
DO NOT reinstall rewind housing or cowl with engine running.
COWL REMOVAL AND INSTALLATION

⚠️ CAUTION
DO NOT ATTEMPT TO REMOVE OR INSTALL COWL WHILE ENGINE IS RUNNING.

REMOVAL
STOP ENGINE

1. Push lever on rear of bottom cowl down.
2. Tip cowl up and forward to disengage hook on front of cowl. Remove top cowl.

INSTALLATION

3. Engage front hook of top cowl, push back and down and lower cowl into position.
4. Pull lever on rear of bottom cowl up to lock.

IMPORTANT: Make sure seal on top cowl seats correctly on bottom cowl.
POWER TILT

⚠️ CAUTION
If outboard will be operated in the tilt position (beyond tilt pin), these precautions must be followed:

- **DO NOT** operate above idle RPM.
- Check that water level is above water intake ports to avoid overheating or water pump impeller damage.

**IMPORTANT:** Power Tilt electrical system is protected by a SFE 20 amp fuse. If Power Tilt fails, check for a blown fuse. BEFORE replacing fuse, locate and correct the cause of the overload.

**OPERATION WITH TILT SWITCH IN CONTROL HANDLE**

Power Tilt can be used to tilt outboard up for shallow water operation, beaching, loading and launching at idle RPM.

1. The control handle is equipped with a tilt switch which tilts the outboard up and down. Refer to REMOTE CONTROL.

2. To tilt outboard up - reduce engine speed to idle RPM; push top of tilt switch.

3. To tilt outboard down - reduce engine speed to idle RPM; push bottom of tilt switch.

**OPERATION WITH TILT SWITCH PANEL**

4. The tilt switch actuates the Power Tilt system

5. To tilt outboard up - reduce engine speed to idle RPM; move switch lever up.

6. To tilt outboard down - reduce engine speed to idle RPM; move switch lever down.

⚠️ CAUTION
Outboard must be tilted fully down/in before operating above idle speed.

**CHECKING OIL LEVEL**

Check Power Tilt oil level periodically as follows:

⚠️ CAUTION
DO NOT open fill screw while outboard is in down/in position. The reservoir is under pressure and oil may blow out of fill hole.

7. Tilt outboard to full up position and support with tilt lock lever.

8. Remove fill/level plug from pump reservoir.

Fluid level should be visible in fill hole; if not, add Automotive Transmission Fluid (ATF).

Reinstall fill/level plug.

9. Tilt outboard full up and release tilt lock lever. Lever must be retained/secured behind button.

If air is suspected in system, operate tilt through full range several times to purge air from system. Recheck fluid level.

**IMPORTANT:** If Automotive Transmission Fluid (ATF) is not available, SAE 10 or SAE 20 oil can be used if remaining ATF is drained out first.

⚠️ CAUTION
DO NOT mix ATF and SAE oil.

**TILTING OUTBOARD MANUALLY**

Turn release valve (see OUTBOARD INSTALLATION) fully to the left (counter-clockwise) to allow outboard to be tilted either up or down manually.

⚠️ CAUTION
Before operating outboard, manual release valve must be turned fully clockwise (closed).
<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>TYPE OF LUBRICANT</th>
<th>FRESH WATER FREQUENCY</th>
<th>SALT WATER FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Throttle/Shift Linkage (All Pivot Points)</td>
<td>A</td>
<td>Every 60 days</td>
<td>Every 30 days</td>
</tr>
<tr>
<td>2</td>
<td>Tilt Release/Lock Levers</td>
<td>A</td>
<td>Every 60 days</td>
<td>Every 30 days</td>
</tr>
<tr>
<td>3</td>
<td>Swivel Pin/Bracket</td>
<td>A</td>
<td>Every 60 days</td>
<td>Every 30 days</td>
</tr>
<tr>
<td>4</td>
<td>Outboard Exterior</td>
<td>Clean and Inspect</td>
<td>Once a season</td>
<td>Every 30 days</td>
</tr>
<tr>
<td>5</td>
<td>Trim Tab</td>
<td>Inspect - Replace if Necessary</td>
<td>Every 30 days</td>
<td>Every 30 days</td>
</tr>
<tr>
<td>6</td>
<td>Propeller</td>
<td>Inspect and Tighten Prop Nut</td>
<td>Every 50 hours</td>
<td>Every 50 hours</td>
</tr>
<tr>
<td>7</td>
<td>Propeller Shaft</td>
<td>A</td>
<td>Once a season</td>
<td>Every 60 days</td>
</tr>
<tr>
<td>8</td>
<td>Gear Housing</td>
<td>B</td>
<td>Check and fill after 1st 10 days, then every 30 days.</td>
<td>Check and fill after 1st 10 days, then every 30 days.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Drain and refill after 1st 25 hours, then after every 100 hours, or once a year before storing</td>
<td>Drain and refill after 1st 25 hours, then after every 100 hours, or once a year before storing</td>
</tr>
<tr>
<td>9</td>
<td>*Ride-Guide Steering Cable</td>
<td>A</td>
<td>Every 60 days</td>
<td>Every 30 days</td>
</tr>
<tr>
<td>10</td>
<td>Tilt Tube</td>
<td>A</td>
<td>Every 60 days</td>
<td>Every 30 days</td>
</tr>
<tr>
<td>11</td>
<td>*Steering Link Rod Pivot Points</td>
<td>D</td>
<td>Every 60 days</td>
<td>Every 30 days</td>
</tr>
<tr>
<td>12</td>
<td>*Clamp Screw</td>
<td>A</td>
<td>Every 60 days</td>
<td>Every 30 days</td>
</tr>
<tr>
<td></td>
<td>All Bolts, Fasteners, etc.</td>
<td>Check Tightness</td>
<td>Every 100 hours</td>
<td>Every 100 hours</td>
</tr>
<tr>
<td></td>
<td>*Power Tilt Pump Oil Level</td>
<td>C</td>
<td>Every 100 hours or once a season</td>
<td>Every 100 hours or once a season</td>
</tr>
</tbody>
</table>

*If Equipped

**Type of Lubricants**

A = Quicksilver 2-4-C Marine Lubricant  
B = Quicksilver Gear Lube  
C = Automotive Transmission Fluid (ATF)  
D = SAE 30W Motor Oil  
Mariner 40
CAUTION

Have gear housing checked by your local service dealer if any of the following are found:
• Water drains from filler hole.
• Metal particles are present in lubricant.

NOTE: Presence of a small amount of fine metal particles (resembling powder) indicates normal wear.
• Lubricant appears milky brown.
• Large amounts of lubricant must be added to fill gear housing.

IMPORTANT: DO NOT use automotive lubricant in gear housing. Use only Quicksilver Gear Lube.

CHECKING LUBRICANT LEVEL

1  Remove OIL plug and washer.
2  Insert lubricant tube into OIL hole.

3  Remove OIL LEVEL plug and washer.

IMPORTANT: Never add lubricant to gear housing without first removing OIL LEVEL plug, as trapped air will prevent housing from being filled. Fill gear housing only when outboard is in operating position.

4  Add lubricant to gear housing until excess starts to flow from OIL LEVEL hole. If this requires more than 2-3 fl. oz. of lubricant, refer outboard to authorized dealer.

At this point, drain approximately one fluid ounce (30 ml) from gear housing to permit expansion of lubricant.

Install OIL LEVEL plug and washer.

Remove lubricant tube and install OIL plug with washer.
GEAR HOUSING LUBRICATION
(Continued)

DRAINING AND REFILLING GEAR HOUSING LUBRICANT

Place outboard in operating position, so that all lubricant in gear housing will drain out OIL hole and into a clean container.

1. Remove OIL plug and washer.

2. Remove OIL LEVEL plug with washer and allow sufficient time for all lubricant to drain.

Note amount of metal particles in lubricant. Refer to caution preceding.

IMPORTANT: Never add lubricant to gear housing without first removing OIL LEVEL plug, as trapped air will prevent housing from being filled. Fill gear housing only when outboard is in operating position.

3. With outboard in operating position, insert lubricant tube into OIL hole.

4. Fill gear housing with lubricant, until excess starts to flow from OIL LEVEL hole (approximately 11.2 fl oz. [330 ml] of Quicksilver Gear Lube). At this point, drain approximately one fluid ounce (30 ml) from gear housing to permit expansion of lubricant.

Install OIL LEVEL plug and washer.

Remove lubricant tube and install OIL plug with washer.
FLUSHING OUTBOARD COOLING SYSTEM

⚠️ CAUTION
When flushing, be certain the area around propeller is clear, and no one is standing nearby. To avoid possible injury, remove the propeller.

To prevent silt and/or salt buildup in cooling system, flush with fresh water periodically.

1 Remove WASH plug from lower unit. Install water flush plug (supplied in tool kit) in WASH plug hole.
   —or—
1A Install Quicksilver Flushing Attachment (or equivalent) over water intake openings.

2 Connect hose between flushing device and water tap.

3 With outboard in normal operating position, open water tap.

4 Check that water is running from “Tell-Tale”. Shift outboard to NEUTRAL and start engine.

⚠️ CAUTION
DO NOT over rev. Run at slower speeds only.

With engine running at IDLE speed, in NEUTRAL, continue flushing until water becomes clear (3 to 5 minutes for salt water units).

Stop engine, turn-off water and remove flushing device.

IMPORTANT: Keep outboard in upright position until all water has drained out. Water left trapped in outboard could cause engine damage.

Install WASH plug in lower unit, if removed.

Clean outboard surfaces and wipe with Quicksilver Corrosion Guard to protect finish.
IGNITION MAINTENANCE

CAUTION
DO NOT touch or disconnect any ignition system parts while engine is running, as high voltage is present.

If electrical/ignition system is not operating, DO NOT attempt to repair, but refer to your authorized service facility.

SPARK PLUGS

Periodic inspection, regapping, cleaning and/or replacement of spark plugs will enhance outboard performance. Always replace spark plugs with type specified in SPECIFICATIONS.

Replace spark plugs as follows:

1. Disconnect spark plug leads and use 13/16” (21 mm) wrench (supplied in tool kit) to remove spark plugs.

2. Adjust spark gap if necessary, check that gaskets are in place and install new plugs.

Thread spark plugs in by hand until finger-tight. Use wrench to tighten an additional 1/4 turn. DO NOT OVER-TIGHTEN.

3. Reconnect spark plug leads to correct plugs.

Inspect spark plug leads for damage - replace as necessary.
CLEANING FUEL FILTERS

⚠️ WARNING
Be careful when cleaning fuel filter elements; gasoline is extremely flammable and highly explosive under certain conditions. Always stop the engine and DO NOT smoke or allow open flames in the area while cleaning fuel filter elements.

FUEL TANK FILTER
1 Disconnect fuel line from tank.
2 Loosen 4 screws and remove fuel pickup tube with gauge and float.
3 Clean filter by rinsing in clean gasoline.

4 Reinstall on fuel tank.

SIGHT BOWL FUEL FILTER
5 Unscrew sight bowl from filter cover. DO NOT allow cover to twist or turn.
6 Pull filter from cover. Rinse sight bowl and filter in clean gasoline.
7 Check that rubber seal ring is properly positioned in bowl.

Push filter into cover and hand tighten sight bowl onto cover
Prime fuel system and check for fuel leaks.

Mariner 40
CARBURETOR ADJUSTMENTS

The carburetor has been calibrated and pre-set at factory to provide best performance under normal conditions. However, extreme changes in weather and/or elevation may necessitate further carburetor adjustments.

IMPORTANT: To maintain peak engine performance when operating at HIGHER ELEVATIONS, it will be necessary to install a LEANER fixed high speed jet. (See your authorized service facility.)

LOW SPEED MIXTURE

1. Pre-set low speed mixture screw as follows:
   A. Lightly tighten screw - turn clockwise.
   B. Back-out screw 1-1/4 turns counterclockwise.

Start engine - Allow to run at IDLE for several minutes.

With engine at IDLE, shift to FORWARD GEAR.

2. Turn screw counterclockwise until engine starts to "load-up" or fire unevenly. (TOO RICH.)

3. Slowly turn screw clockwise until engine fires evenly and RPM increases.

Continue turning clockwise until RPM decreases and engine misfires (TOO LEAN).

Set low speed mixture screw at point mid-way between TOO RICH and TOO LEAN. When in doubt, set slightly RICH rather than TOO LEAN.

Repeat this procedure for each carburetor.

4. Idle RPM should be 900-1000 RPM in gear. Idle speed can be adjusted by turning idle speed screw. Turn screw clockwise to increase idle speed and counterclockwise to decrease idle speed.

TRAILERING BOAT/OUTBOARD

When trailering or transporting the boat/outboard, it is recommended that outboard remain in normal operating position.

⚠️ CAUTION

Tilt lock mechanism is NOT intended to support outboard during trailering. Damage to boat or outboard could occur if additional support is not used.

If adequate road clearance presents a problem, either remove the outboard from the transom and store securely, use TRANSOM SAVER device, or place outboard in full tilt-up position (see OUTBOARD INSTALLATION - TILTING OUTBOARD and place a suitable block of wood between swivel bracket and clamp brackets to support outboard. MAKE CERTAIN that block is positioned to provide adequate clearance for the reverse lock hooks, then, disengage tilt lever and lower outboard to rest on block.
INSPECTION AND MAINTENANCE

Inspect outboard often, and at regular intervals, to help maintain its top operating performance, and correct potential problems before they occur. The entire outboard should be checked carefully, including all accessible engine parts.

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

Lubricate and check gear housing oil level per LUBRICATION GUIDE.

Service spark plugs. Check spark plug leads, spark gap and electrical leads for damage.

Inspect fuel lines for damage. Service fuel filters.

Remove and inspect propeller. If badly nicked, bent or cracked, refer to Authorized Service Facilities. (Refer to PROPELLER INSTALLATION.)

Repair nicks and corrosion damage on finish. Use Quicksilver spray paints - see your Dealer.

Inspect trim tab. Replace if 50% of tab has been eroded away.

IMPORTANT: DO NOT apply paint or protective coatings to trim tab.

Check that remote control harness is connected and control (if equipped) is correctly adjusted.

Check Power Tilt pump oil level. Add ATF as needed.