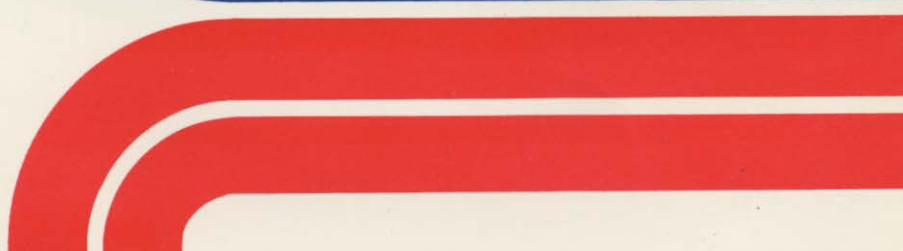




OMC



OMC



OPERATION & MAINTENANCE MANUAL

ENGLISH



212341

150, 150WT, 175



Recommended Lubricant

Use the following *Evinrude*® or *Johnson*® outboard lubricants, which are certified by *NMMA*. These lubricants are formulated by *OMC* to give best engine performance while controlling piston and combustion chamber deposits, providing superior lubrication, and ensuring maximum spark plug life.

2 - 35 HP	TC-W II
40 - 300 HP	TC-W3

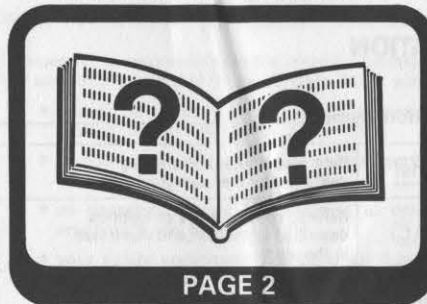
Note Failure to follow these minimum lubricant recommendations could void your engine warranty.

If *Evinrude* or *Johnson* outboard lubricant is not available, use another *NMMA*-certified lubricant with an equivalent or higher rating. Look for the certification information on the container label.

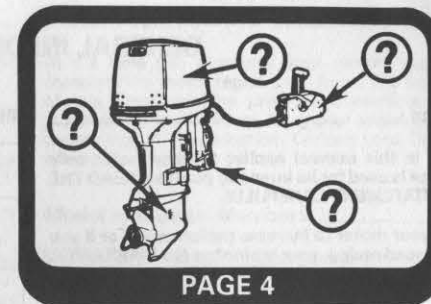
Refer to the **Fuel and Oil** section of this manual before operating your engine. Always keep an ample supply of recommended lubricant on hand. If you have any questions, see your **DEALER**.

Read this manual carefully before attempting to operate your motor.

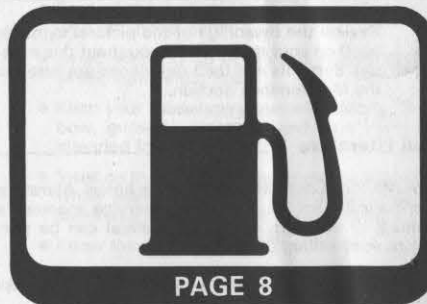
GENERAL INFORMATION



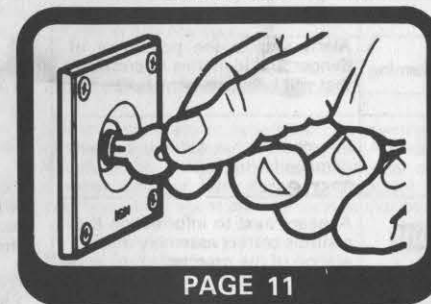
FEATURES



FUEL AND OIL



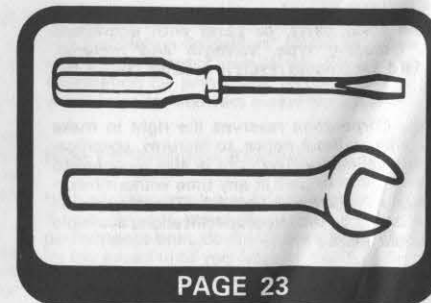
STARTING



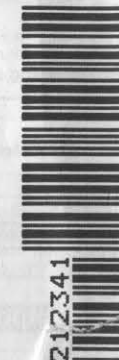
OPERATION



MAINTENANCE



ENGLISH



150, 150WT, 175



GENERAL INFORMATION

Modifications

The warranty in this manual applies to your motor only when the motor is used for its intended purpose. READ THE WARRANTY STATEMENT CAREFULLY.

If you modify your motor to increase performance, or if you use it in sanctioned racing, your motor has NO WARRANTY.

Safety

This manual contains information that can help prevent personal injury and damage to equipment. Understand the following symbols before proceeding:

	Safety Warning	Alerts you to the possibility of danger and identifies information that will help prevent injuries.
	Note	Information that will help prevent damage to machinery.
	Important	Appears next to information that controls correct assembly and operation of the product.

Product References, Illustrations and Specifications

Safety Warning: When replacement parts are required, use genuine OMC parts, or parts with equivalent characteristics, including type, strength and material. Using substandard parts could result in product failure and personal injury.

Outboard Marine Corporation reserves the right to make changes at any time, without notice, to features, specifications, and model availability. The right is also reserved to change any specification or part at any time without incurring any obligation to update older models. The information in this manual is based on the latest specifications available at the time of publication.

Photographs and illustrations used in this manual may not depict actual models or equipment, but are intended as representative views for reference only. The continuing accuracy of this manual cannot be guaranteed.

Certain features or systems discussed in this manual might not be found on all models in all marketing areas.

Illustration Symbols

	Refer to the photo or drawing described by that paragraph.
	Refer to specific items or features described in the text and illustrated in the photo.
	Refer to the general subject of the text.
	Refer to an item or feature that is not clearly visible in the photo.



Review the meanings of the pictorial symbols used on your motor and throughout this manual. Symbols and their definitions are listed in the Maintenance Section.

Technical Literature

Outboard Marine Corporation offers technical literature written specifically for your motor. A service manual, a parts catalog, or an extra operator's manual can be purchased from your selling DEALER.

For the name and location of the nearest OMC DEALER, call 1-800-255-2550.



Boater's Responsibilities

The operator is responsible for the correct operation of the boat and for the safety of its passengers. Make sure:

- one of the passengers knows how to handle your boat in case of emergency.
- all operators read this manual before operating the boat.
- all passengers know the location of emergency equipment and how to use it.
- your safety equipment and personal flotation devices are in good condition and suitable for your type of boat. Always comply with the regulations that apply to your boat.

Basic Safety Rules of Boating

- Shut off the engine when your boat is near people who are in the water.
- Avoid standing up or shifting weight suddenly in small, lightweight boats.
- Keep your passengers seated in seats. The boat's bow, gunwale, transom, and seat backs are not intended for use as seats.
- Insist on the use of life preservers by all passengers when boating conditions are hazardous, and by children and non-swimmers at all times.
- Know the marine traffic laws and obey them.
- Prevent explosion and fire by maintaining your fuel delivery system in top condition. Fuel vapor is volatile; handle fuel with care.
- Keep your boat and equipment neat and in top operating condition. Carry a selection of spare parts for the engine.
- DO NOT OPERATE A BOAT IF YOU ARE UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.

Boat Horsepower Capacity

Safety Warning: Do not overpower your boat by using an engine that exceeds the horsepower indicated on the boat's capacity plate. Overpowering could result in loss of control. If your boat has no capacity plate, contact your DEALER or the boat's manufacturer.

Boats designed specifically for tiller-steered engines have special requirements for horsepower capacity. If you have any questions about the application of your motor, ask your DEALER or boat manufacturer.

Owner's Identification

At the time you purchase your motor, your dealer will complete the motor registration form. The owner's portion of this form provides proof of ownership and date of purchase. The procedure for motor registration will vary depending on your location. Contact your DEALER or distributor for details.

Model and Serial Numbers

The model and serial numbers appear on a plate attached to the stern bracket or swivel bracket. Record your motor's:

Model Number _____

Serial Number _____

Purchase Date _____

Ignition Key Number _____

Stolen Motors

If your motor is stolen, report the loss, in writing, to the OMC Warranty Department, 3145 Central Avenue, Waukegan, Illinois 60085. Include the engine's model number, serial number, and purchase date in your report. Also, contact your insurance agent and the local authorities.

Motor Installation

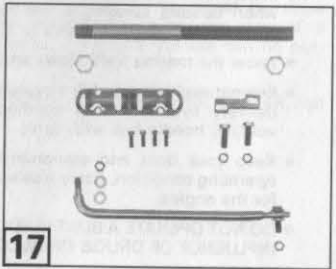
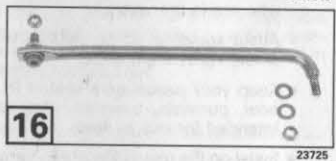
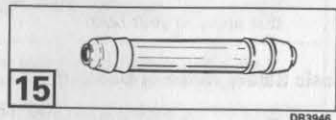
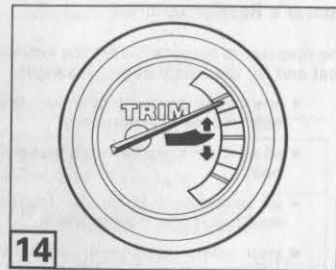
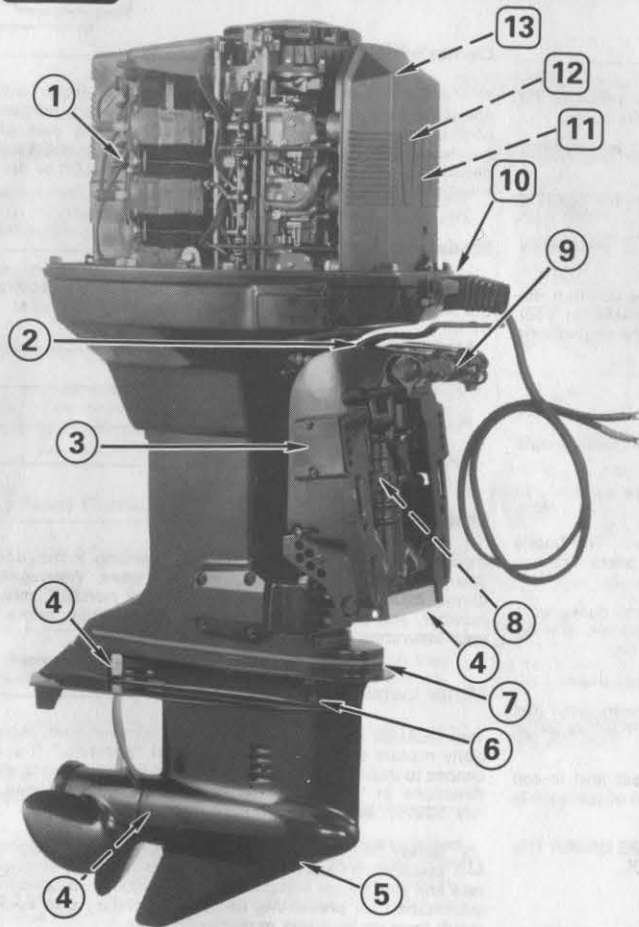
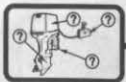
Your DEALER should install the motor on your boat, especially motors too big to be considered "portable." If you choose to install it yourself, you must do so according to the directions in "Outboard Motor Installation Guidelines," P/N 508167, available from your OMC DEALER.

Safety Warning: The instructions in "Outboard Motor Installation Guidelines" MUST be followed for an accurate and safe motor installation. The booklet also contains information for preventing damage and injury that could result from an incorrect motor installation.

High Performance Boating

High performance boats have a high power-to-weight ratio. If you are not experienced in the operation of a high performance boat, do not attempt to operate one at, or near, its top speed until you have gained that experience.

For more information, see your OMC DEALER for a copy of "Introduction to High Performance Boating," P/N 335763.

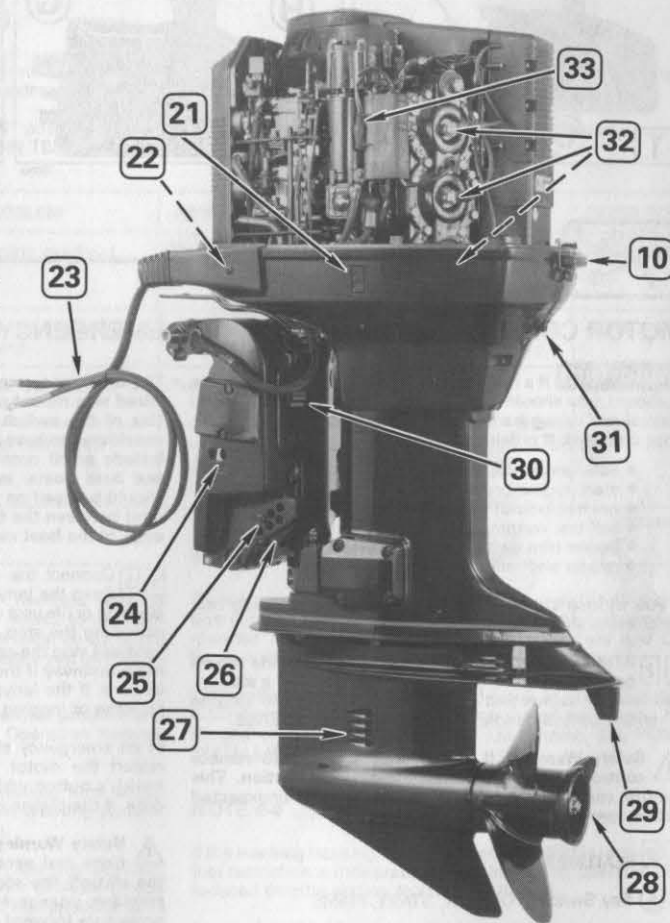
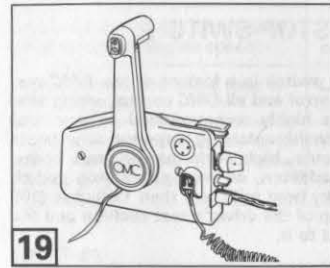
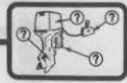


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Item	Description	Page
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Item	Description	Page
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15	Hose Splice for Speedometer Pickup, if equipped	34
16	Steering Connector Kit, Standard Models	•
17	Steering Connector Kit, GL Models	•

① Not supplied in all marketing areas.

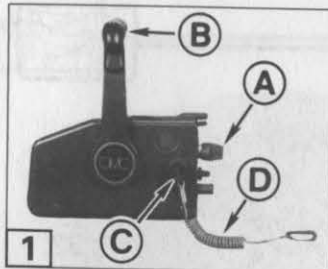


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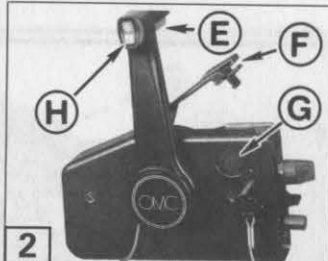
Item	Description	Page
18	Battery (not supplied)	23
19	Remote Control ①	6
20	Oil Tank Kit ①	10
21	Trailer Tilt Switch	21
22	Fuel/Oil Hose Adapter	10
23	Battery Cable	23
24	Power Trim/Tilt Manual Release	17
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Item	Description	Page
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30	Model and Serial Number Plate	3
31	Water Pump Indicator/Flushing Port	25
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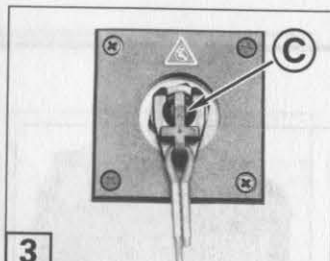
① Not supplied in all marketing areas.



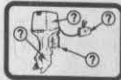
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MOTOR CONTROLS

Important If a remote control is not supplied with this outboard, you should use an *OMC SystemMatched™* remote control and wiring harness that is specifically designed for your outboard. It provides:

- emergency stop switch
- start-in-gear prevention
- neutral lockout tab (side mount units)
- self-test warning horn for oil and cooling systems
- power trim switch (Trim models)
- proper shift and throttle cable strokes

If you choose a non-OMC remote control and wiring harness, make sure it has these features.

1 2 REMOTE CONTROL - The *OMC* prewired side mount control has these features. The control has a start-in-neutral-only switch that prevents the engine from starting when the control handle is in FORWARD or REVERSE.

⚠ Safety Warning: If you choose a non-OMC remote control, it must have start-in-gear prevention. This feature can prevent injuries resulting from unexpected motor operation.

1 2 FEATURES

- (A) Key Switch – OFF, ON, START, PRIME
- (B) Control Handle – FORWARD, NEUTRAL, REVERSE
- (C) Emergency Stop Switch
- (D) Clip and Lanyard
- (E) Neutral Lockout Tab
- (F) Fast Idle Lever
- (G) Warning Horn
- (H) Trim/Tilt Switch

EMERGENCY STOP SWITCH

The emergency stop switch is a feature of the *OMC* prewired side mount control and all *OMC* control wiring kits. Use of the switch is highly recommended on any boat considered to have sensitive steering response. Such boats include small runabouts, high performance sport boats, and bass boats. In addition, an emergency stop switch should be used on any boat with less than 12 inches (305 mm) between the top of the driver's seat cushion and the edge of the boat next to it.

1 3 Connect the clip to the emergency stop switch (C). Snap the lanyard to a secure place on the operator's clothing or life vest – not where it might tear away instead of activating the stop switch. Disconnecting the clip and lanyard will stop the engine and prevent the boat from becoming a runaway if the driver moves beyond the range of the lanyard. If the lanyard is too long, it can be shortened by knotting or looping it. DO NOT cut or retie the lanyard.

In an emergency situation, any occupant of the boat can restart the motor. Press and hold the emergency stop switch's button while following the normal starting procedure. If the button is released, the engine will stop.

⚠ Safety Warning: Keep the lanyard free from obstructions and entanglements. Avoid knocking or pulling the clip off the stop switch during normal boating. The resulting unexpected loss of forward motion can throw occupants forward, causing injury.

⚠ Safety Warning: Your emergency stop switch can be effective only when in good working condition.

- Each month, test the system's operation. With the engine running, remove the clip from the switch by pulling the lanyard. If the engine does not stop running, see your DEALER.
- Each month, inspect both clip and lanyard for cuts, breaks, or wear. Replace worn or damaged parts.



WARNING HORN SIGNALS

Important A warning horn is built into the *OMC* prewired remote control or is part of the *OMC* accessory wiring harness. The warning horn has the following distinct signals that will alert you to engine problems.

When the key switch is turned to the "ON" position, the warning horn will beep once as a self-test. If it does not beep, refer to Maintenance Section, **WARNING HORN TEST**.

SIGNAL	PROBLEM	IMMEDIATE ACTION	REFER TO
Horn sounds continuously and engine WILL NOT exceed 2500 RPM	Engine overheat	Reduce engine to IDLE speed and return control handle to NEUTRAL position	NOTE #1
Horn sounds rapid, short tones that vary with engine speed	No oil flow from pump	STOP engine or limit engine speed to a maximum of 1500 RPM	NOTE #2
Horn sounds one short tone every 40 seconds	Low oil level in oil tank	Refill oil tank	NOTE #3
Horn sounds continuously at or near full throttle, but engine speed is NOT affected	Fuel restriction	Reduce engine to IDLE speed	NOTE #4

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NOTE #1

If the engine overheats, the *S.L.O.W.™* overheat warning system will automatically limit engine speed to approximately 2500 RPM. The overheat problem must be corrected and the warning system must be reset before you can return to normal operation.

For information about evaluating the overheat problem and possible "on-the-water" fixes, refer to Operation Section, **ENGINE OVERHEATING**.

After the engine has cooled and the warning horn stops, **shut off the engine to reset the overheat warning system.** Restart the engine for normal operation.

Note If the engine overheats repeatedly, see your DEALER. After an engine overheat, have your DEALER torque the engine's cylinder head screws and, if equipped, exhaust cover screws.

NOTE #2

DO NOT operate the engine above 1500 RPM if the oil pump is not working. See your DEALER for service.

Note When the warning horn signal indicates no oil flow from the pump, operating above 1500 RPM can result in serious engine damage. If you must operate the engine above 1500 RPM to return to harbor, oil must be mixed with the gasoline at a 50:1 (2% oil) fuel/oil ratio. Refer to Fuel and Oil Section, **FUEL MIXING**.

NOTE #3

Oil is at reserve level in oil tank (approximately ¼ full). Avoid operating engine on oil reserve. Refill oil tank with recommended oil as soon as possible. Refer to Fuel and Oil Section, **FILLING OIL TANK**.

Note Failure to refill the tank could result in serious engine damage. If oil tank is run dry, the oil hose must be purged of air. Refer to Fuel and Oil Section, **OIL HOSE INSTALLATION**.

NOTE #4

If the warning horn signal stops as engine RPM is reduced, a fuel restriction is indicated. The engine can be operated at a reduced throttle setting to return to harbor.

Inspect fuel filter for contamination and clean as necessary. Refer to Maintenance Section, **FUEL LINE FILTER**. Continued warning signals could indicate a problem with the boat's fuel supply system. See your DEALER for service.

If the warning horn does not stop when engine RPM is reduced, an engine overheat is indicated. Refer to **NOTE #1**.



Oil Injection System 10

FUEL

Use any regular unleaded, regular leaded, or premium unleaded automotive gasoline that has not been extended with alcohol.

Use of alcohol extended fuels is acceptable **ONLY** if the alcohol content does not exceed:

- 10% ethanol by volume
- 5% methanol with 5% cosolvents by volume

Minimum Octane

Inside the U.S.	87 (R+M)/2 AKI
Outside the U.S.	90 RON
150WT – Inside the U.S.	87 (R+M)/2 AKI
150WT – Outside the U.S.	75 RON

Note The use of premium grade fuels is specifically encouraged when TC-W3 oil is temporarily unavailable for your 40–300 HP engine. Never use an oil with a rating of less than TC-W11. Most national brand premium fuels contain detergent and dispersant ingredients advertised to reduce intake valve and fuel injector deposits. These ingredients also remove and prevent carbon buildup on pistons and rings. These ingredients can extend engine life while maintaining a high level of performance.

OMC products have been designed to operate using the above fuels; however, be aware of the following:

- The boat's fuel system may have different requirements regarding the use of alcohol fuels. Refer to the boat's owner manual.
- Alcohol attracts and holds moisture that can cause corrosion of metallic parts in the fuel system.
- Alcohol blended fuel can cause engine performance problems.
- All parts in the fuel system should be inspected frequently and replaced if signs of deterioration or leakage are found. Inspect at least annually.

Safety Warning: Fuel leakage can contribute to a fire or explosion.

OIL

This is a two-cycle engine that requires oil to be mixed with the gasoline as specified in **Fuel/Oil Ratio**. Refer to the inside front cover for lubricant recommendations by model. These important recommendations must be followed to satisfy the terms of your engine warranty.

Note Recommended oil and gasoline must be properly mixed or serious engine damage will result.

ADDITIVES

Note The only fuel additives approved by *Outboard Marine Corporation* for use in *Evinrude* and *Johnson* outboards are *OMC 2+4*® fuel conditioner and *OMC Carbon Guard*™ fuel additive. Use of other fuel additives can result in poor performance or engine damage.

OMC 2+4 fuel conditioner will help prevent gum and varnish deposits from forming in fuel system components and will remove moisture from the fuel system. It can be used continuously and should be used during any period when your engine isn't being operated on a regular basis. Its use will reduce spark plug fouling, carburetor icing, and fuel system component deterioration.

OMC Carbon Guard fuel additive minimizes carbon deposit buildup in marine engines, when used as directed. Adding *OMC Carbon Guard* additive to your engine's fuel will:

- Reduce piston ring sticking
- Provide better overall engine performance
- Contribute to increased engine life

Note Engines with over 100 hours of service – Decarbonize with *OMC Engine Tuner* before using *OMC Carbon Guard* additive in the fuel. See your DEALER.

FUEL/OIL RATIO

New Engine

During break-in, you must use a **50:1 (2% oil)** fuel/oil ratio in your fuel tank **in addition** to the operation of the oil injection system. Refer to Starting Section, **BREAK-IN**.

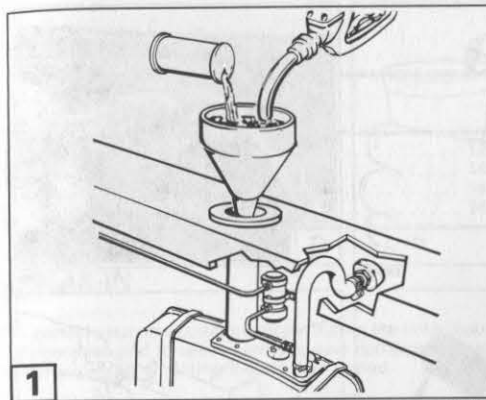
Normal Operation

Your motor is equipped with an oil injection system to automatically mix oil with the fuel.

Note Operating this motor without the oil injection system requires modification that must be performed by your DEALER.

High Performance

During high performance operation you must use a **50:1 (2% oil)** fuel/oil ratio in your fuel tank **in addition** to the operation of the oil injection system.



FUEL MIXING

Safety Warning: Gasoline is extremely flammable and highly explosive under certain conditions.

- Always stop motor before refueling.
- Always mix fuel outdoors, never indoors.
- Never smoke or allow open flame or sparks nearby when mixing or refueling.
- Prevent electrostatic spark by maintaining contact between fuel nozzle and fuel tank or metal funnel while refueling. Do not use a plastic funnel.

Ratio	Gasoline		
	6 U.S. gallons	3 U.S. gallons	1 litre
50:1	16 fl. oz. oil	8 fl. oz. oil	20 ml oil
25:1	32 fl. oz. oil	16 fl. oz. oil	40 ml oil

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Above 32° F (0° C)

1 Pour oil slowly with the gasoline as tank is filled.

Below 32° F (0° C)

2 In a separate container, mix all oil needed with 1 gallon (4 litres) or more of gasoline. Pour this mixture slowly with gasoline as tank is filled.

FUEL SYSTEM

Important ALL fuel distribution system components must meet minimum specifications and be properly installed so fuel can flow at the rate required by your engine.

Minimum inside diameters for fuel system components:

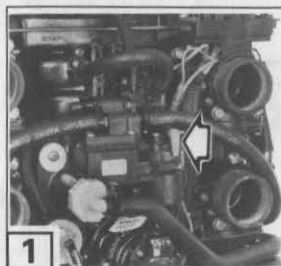
- Fuel lines – 3/8 in. (9 mm)
- Fuel fittings – 1/2 in. (7,1 mm)

Note Be sure the components in your boat's fuel distribution system meet these minimum specifications. Check components such as anti-siphon valves and filter/primer units that could be undersize. Undersize components restrict fuel delivery, causing performance loss and, eventually, engine damage.

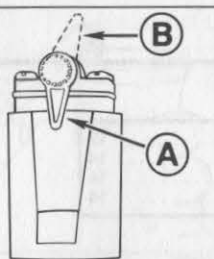
If you have trouble determining the specifications of your fuel system components, see your DEALER. For more information about accepted marine industry standards, refer to:

- Standard H-24 – American Boat and Yacht Council
- Standard 17 – International Council of Marine Industries Association

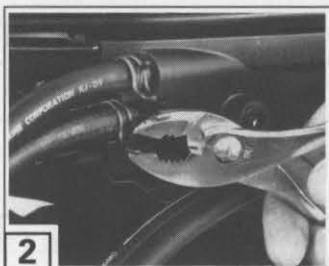
Note To avoid difficulty when restarting, never run the engine with the fuel hose disconnected or run the engine out of fuel.



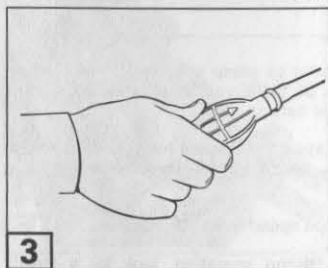
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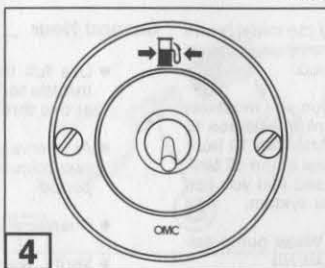
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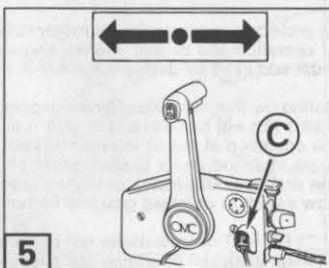
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STARTING

Important BEFORE cranking your engine, connect the battery as instructed in Maintenance Section, **BATTERY**. If you start and run your engine without a battery connected, the electrical system will be damaged.

Note Failure to follow the **BREAK-IN** procedure can result in serious engine damage.

Note DO NOT operate motor out of water. Water pump can be damaged or engine can overheat.

Lower motor to the RUN position. Refer to Operation Section, **POWER TRIM AND TILT** or **Tilting**.

1 Make sure the lever on the primer solenoid is at RUN position **A**.

Warning: To avoid explosion and fire hazard, the lever on the primer solenoid must be set at RUN position **A**. With a pressurized fuel tank connected and the lever at **MANUAL START** **B**, fuel could leak through the carburetor's air inlet.

2 Slide fuel hose onto large nipple of fuel/oil hose adapter. Secure with clamp provided.

3 If equipped, open vent screw on fuel tank filler cap. Squeeze primer bulb, outlet end up, until firm.

4 If the boat's fuel system is equipped with an electric primer pump, activate the pump for 20 to 30 seconds.

5 Attach clip and lanyard assembly **C** to the emergency stop switch. Attach lanyard to secure place on clothing.

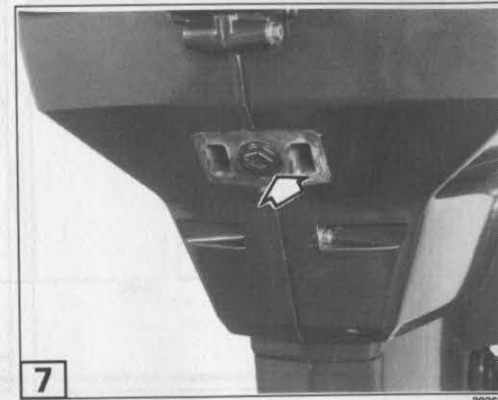
5 Move remote control handle to NEUTRAL.

Note To avoid engine damage after start-up:

- DO NOT exceed 2500 RPM in NEUTRAL.
- DO NOT exceed 1500 RPM in NEUTRAL for extended periods of time.



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Cold Engine

6 Starting a cold engine normally requires use of the engine primer. To activate the primer, PUSH and HOLD IN the key switch while cranking or running the engine.

Important DO NOT raise the fast idle lever unless you need to clear a flooded engine. Raising the fast idle lever overrides the *QuikStart*™ electronic starting system. After the cold engine starts, this system will hold the engine at fast idle until warm, then will automatically reduce it to normal idle speed.

Turn key switch clockwise to the START position, then push and hold key IN to prime. Crank the engine no longer than 10 seconds. Release the key upon start-up.

Note Starter motor can be damaged if operated continuously for more than 10 seconds.

Warning: DO NOT attempt to shift the motor into gear when the engine is running at fast idle. Shifting under this condition can cause gear damage, and the resulting sudden boat movement could cause injury.

If the engine did not start, release the key momentarily, then try again.

Note Do not overprime, or the engine will flood. If the engine floods or does not start, refer to Maintenance Section, **TROUBLE CHECK CHART**.

After Engine Starts

6 If the engine starts but needs more fuel to prevent stalling, briefly push key IN several times until the engine warms and runs smoothly.

7 Check the water pump indicator. A steady stream of water indicates the water pump is working. Direct the water stream so it can be seen from the helm. With dual engines, direct each stream so both can be seen. Refer to Maintenance Section, **FRESHWATER FLUSHING**.

Note If a steady stream of water is not visible, stop the engine and refer to Operation Section, **ENGINE OVERHEATING**.

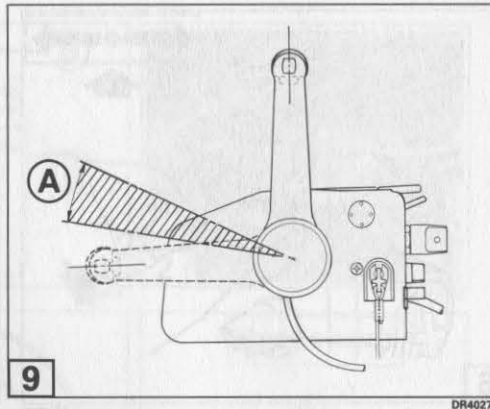
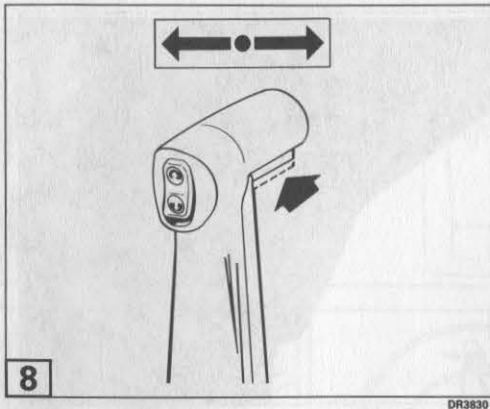
Note DO NOT turn the key switch to the START position while the engine is running. Damage to the starter and flywheel will result.

Warm Engine

Follow Cold Engine procedure except warm engines do not normally require priming. If your engine fails to start, then prime.

Important Immediately after the warm engine starts, the *QuikStart*™ electronic starting system will hold the engine at fast idle for about 5 seconds, then will automatically reduce it to normal idle speed.

Warning: DO NOT attempt to shift the motor into gear when the engine is running at fast idle. Shifting under this condition can cause gear damage, and the resulting sudden boat movement could cause injury.



SHIFTING and SPEED CONTROL

Note Carefully check the function of all control and engine systems before leaving the dock.

Note DO NOT shift motor into FORWARD or REVERSE when the engine is NOT running.

8 With the engine running, lift neutral lockout tab on control handle and move handle briskly to FORWARD or REVERSE.

After shifting, continue to move the handle slowly in the same direction to increase speed.

Note When shifting from FORWARD to REVERSE or from REVERSE to FORWARD, pause at NEUTRAL until motor is at idle speed and boat has slowed.

STOPPING ENGINE

Move control handle to NEUTRAL position.

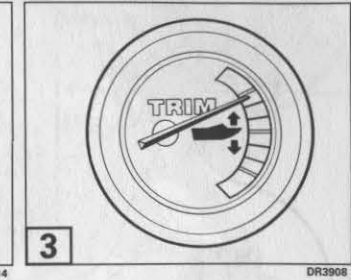
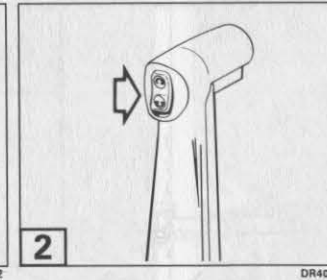
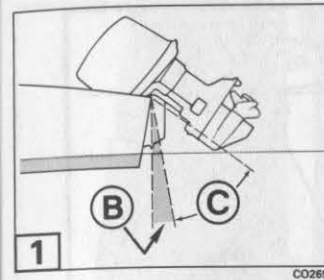
Turn key switch counterclockwise to the OFF position.

Important Leave the key switch in the OFF position when the motor is not running to prevent battery from discharging. Remove key when boat is unattended.

Note To avoid difficulty when restarting, never run the engine with the fuel hose disconnected or run the engine out of fuel.

FUEL ECONOMY

9 The economy throttle range **A** can save fuel, depending on boat load and hull design. When boat reaches top speed, throttle back from FULL SPEED to the economy throttle range. You will save fuel without a noticeable loss of speed.



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POWER TRIM AND TILT

⚠ Safety Warning: Any malfunction of the power trim and tilt unit could result in loss of shock absorber protection if an underwater obstruction is hit. Malfunction can also result in loss of reverse thrust capability.

1 Your motor's power trim and tilt system features a trim range **ⓐ** of 21°:

- Move the motor to any position within this range while underway and at any boat speed.
- The power trim is normally used to improve acceleration, speed, and ride quality and to adjust for changing water conditions.

1 Your motor's power trim and tilt system will tilt your motor an additional 54°:

- While positioned within the tilt range **ⓐ**, DO NOT run the engine faster than idle speed. If idling a tilted engine, keep its water intakes submerged at all times.
- The power tilt is normally used to tilt the motor for clearance when beaching, launching from a trailer, or mooring.

Tilting

2 To operate the power tilt, push and hold the trim/tilt switch in the bow-up **ⓐ** or bow-down **ⓑ** position. The motor will tilt up or down until the switch is released or the motor reaches the end of its travel.

If the tilted engine's cover contacts the boat's motor well, limit the maximum tilt by following the procedures in Maintenance Section, **ADJUSTMENTS, Tilt Limit Switch**.

Trimming

2 To operate the power trim, push and hold the trim/tilt switch in the desired bow direction, either bow-up **ⓐ** or bow-down **ⓑ**. The motor will move until the switch is released or the motor reaches its maximum position.

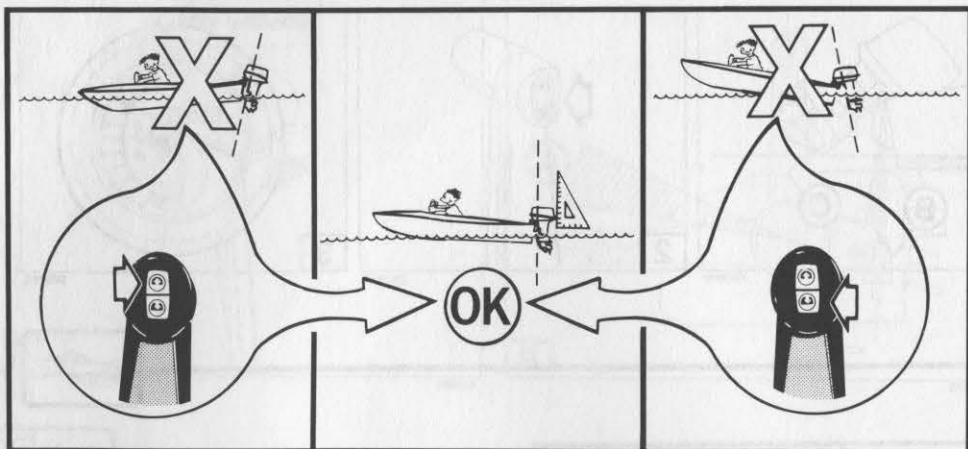
The boat will be properly trimmed when the trim angle provides a bow position that results in the best boat performance for your operating conditions.

You must use a speedometer and tachometer to determine boat and motor performance at different trim positions.

To familiarize yourself with power trim, make test runs with the boat's bow at various positions. Note the time it takes for the boat to plane, the tachometer and speedometer readings, and the ride and action of the boat.

Trim Gauge

3 The trim gauge indicates the bow position that is achieved by the trim angle of your motor.



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Bow-Up

BOW-UP position will give the best fuel economy and highest top speed.

Operating Conditions:

- In the bow-up position, your boat may tend to pull to the left. If this condition exists, correct it by applying a clockwise force with the steering wheel to keep on a straight path. The trim tab can also be adjusted to compensate for steering wheel torque, but adjust the trim tab only if bow-up is commonly used. Refer to Maintenance Section, **Trim Tab**.
- When the motor is trimmed to full bow-up position, the boat's bow will tend to rise above the water.
- Excessive bow-up trim may cause propeller ventilation, resulting in propeller slippage.

⚠ Safety Warning: When operating in rough water or crossing a wake, excessive bow-up trim may result in the boat's bow suddenly rising skyward; possibly ejecting occupants.

⚠ Safety Warning: Some boat/motor/propeller combinations may encounter boat instability and/or high steering torque when operated at high speed at or near the motor's trim range limits (full bow-up or bow-down). Boat stability and steering torque can also vary due to changing water conditions. If any adverse conditions occur, reduce throttle and/or adjust trim angle to maintain control. If you experience boat instability and/or high steering torque, see your DEALER to correct these conditions.

Bow-Down

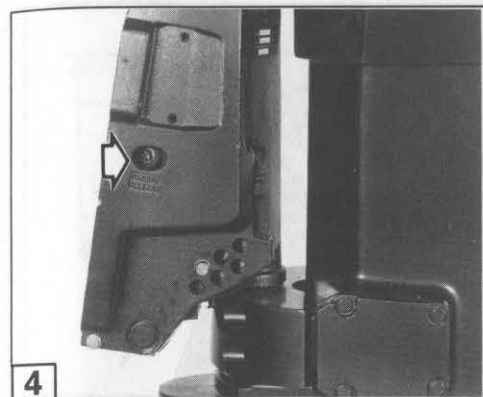
BOW-DOWN position will give the best acceleration onto plane and the best towing power for skiing. The bow-down position is normally used for accelerating from a standing start or from idle speed.

Operating Conditions:

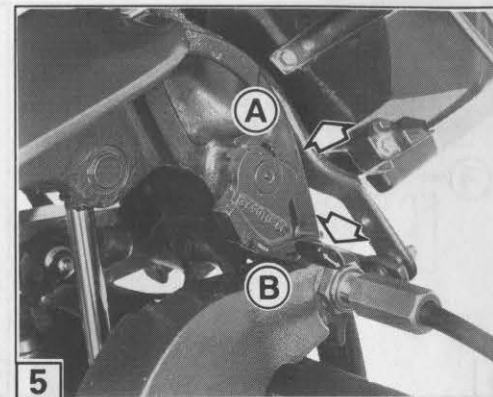
- In the bow-down position, your boat may tend to pull to the right. If this condition exists, correct it by applying a counterclockwise force with the steering wheel to keep on a straight path. The trim tab can also be adjusted to compensate for this steering wheel torque, but adjust the trim tab only if bow-down is commonly used. Refer to Maintenance Section, **Trim Tab**.
- When the motor is trimmed to full bow-down position, the boat's bow will tend to go deeper into the water (plow).

Important Some boats plow, or are difficult to plane, when operated in the trim's lowest position. If your boat handles unsuitably when trimmed fully bow-down, set the angle adjusting rod or trim limiter rod to limit the travel of the power trim. If your motor is not equipped with this rod, purchase one from your DEALER.

⚠ Safety Warning: If the bow of the boat plows the water at high speeds, the boat may bow steer or spin suddenly; possibly ejecting occupants.



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Power Trim/Tilt Manual Release

4 If necessary, you can tilt the motor up or down manually:

- Turn the manual release screw counterclockwise, slowly, until it **lightly** contacts its retaining ring – about 3½ turns.
- Reposition the motor.
- Tighten the manual release screw to hold the motor in its new position.

⚠ Safety Warning: Keep everyone clear of a tilted motor when backing out the manual release screw. The motor could drop suddenly and forcibly. Be sure to tighten the manual release screw after manually repositioning the motor. Tightening the screw also reactivates the motor's shock absorber protection and reverse thrust capability.

If you lower the motor to its full bow-down position, be sure to operate it in a suitable manner. Refer to **Bow-Down**.

TILT SUPPORT

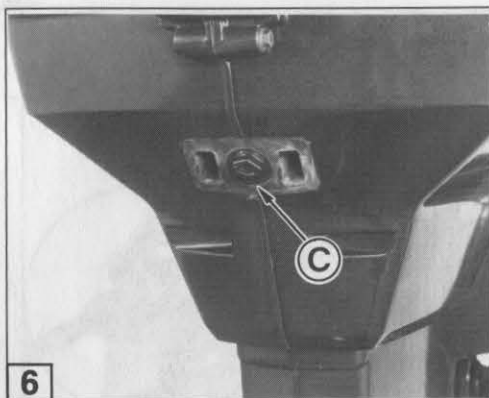
5 Engage the tilt support if you intend to leave the motor fully tilted for a period of time:

- Raise motor to full TILT position. Refer to **Tilting**.
- Rotate the tilt support to its down position ⓐ.
- Lower the motor until its tilt support rests on the stern brackets.

5 To disengage tilt support:

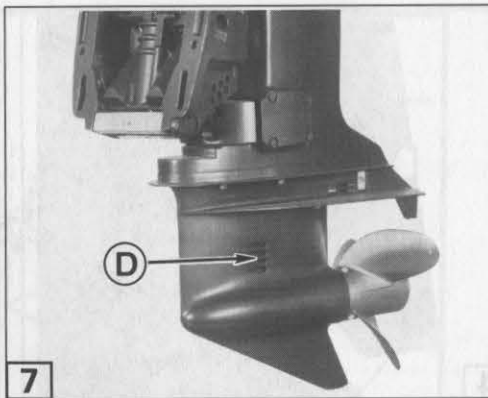
- Raise motor to full TILT position. Refer to **Tilting**.
- Rotate the tilt support to its up position ⓐ.
- Lower the motor to desired position.

Note DO NOT use the tilt support while trailering. Refer to **TRAILERING**.



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ENGINE OVERHEATING

Note DO NOT operate the engine if a steady stream of water is not coming out of the water pump indicator.

If the engine overheats, the S.L.O.W.[™] overheat warning system will automatically limit engine speed to approximately 2500 RPM. The overheat problem must be corrected and the warning system must be reset before you can return to normal operation.

6 IF water flow at the water pump indicator © stops, becomes intermittent, or the warning horn sounds, reduce engine speed to IDLE and:

- Shift to REVERSE. Operate at slow speed for 15 seconds, then shift back to NEUTRAL. This could clear debris that might be blocking the water intake screens. Refer to **FEATURES**.

6 **7** IF the water pump indicator is still **not discharging** a steady stream of water, STOP the engine and:

- Remove the emergency stop switch clip and lanyard
- Raise engine to the TILT position
- Clean water intake screens © and water pump indicator
- Lower engine to RUN position
- Start engine and check water pump indicator. If the water pump indicator is not discharging a steady stream of water, STOP the engine immediately.

Note DO NOT operate the engine if a steady stream of water is not coming from the water pump indicator. The engine must be serviced or serious damage will result. See your DEALER.

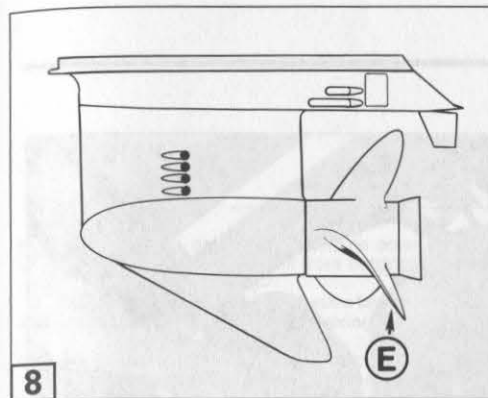
IF the water pump indicator is **discharging** a steady stream of water, run the engine at fast idle in NEUTRAL.

Important You might have to run up to two minutes in NEUTRAL to allow the engine to cool and the horn to stop sounding.

- If the warning horn does not stop sounding within two minutes, STOP the engine. See your DEALER.

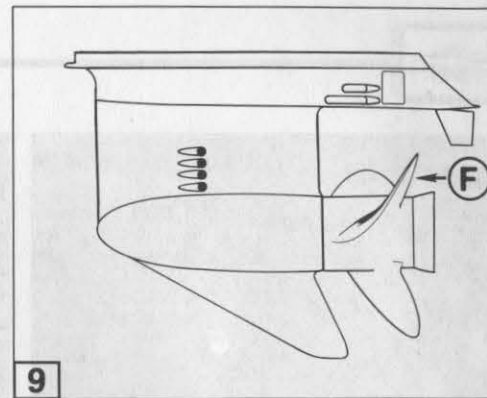
After the engine has cooled and the warning horn stops, **shut off the engine to reset the overheat warning system.** Restart the engine for normal operation.

Note If the engine overheats repeatedly, see your DEALER. Have your DEALER torque the cylinder head screws after an engine overheat.



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PROPELLER SELECTION

To select the correct propeller for your boating application, your boat and motor **MUST** be water tested. See your DEALER for assistance.

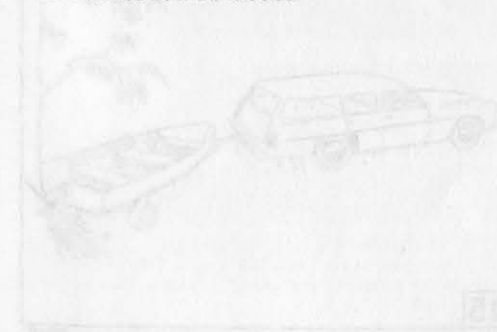
Refer to Maintenance Section, **PROPELLER**, before removing or installing propeller.

Note The correct propeller for your boat, under normal load conditions, will allow the engine to run near the midpoint of the RPM operating range at full throttle. Refer to Maintenance Section, **SPECIFICATIONS**.

Right-Hand

8 Right-hand propellers are considered standard rotation propellers. When propelling a boat forward, the propeller rotates in a right-hand (clockwise) direction as viewed from the rear.

To identify a right-hand propeller, note the angle © of the blade as viewed from the left side.

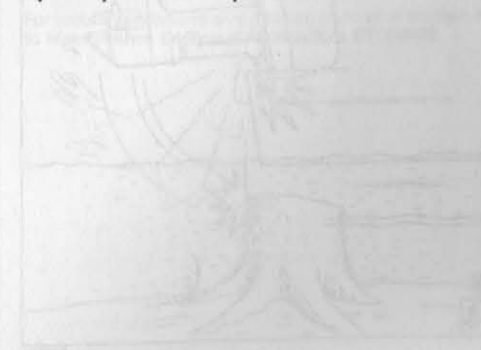


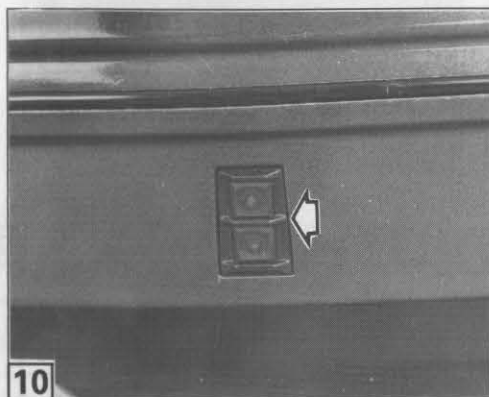
Left-Hand

9 Left-hand propellers are considered counter-rotation propellers. When propelling a boat forward, the propeller rotates in a left-hand (counterclockwise) direction as viewed from the rear.

To identify a left-hand propeller, note the angle © of the blade as viewed from the left side.

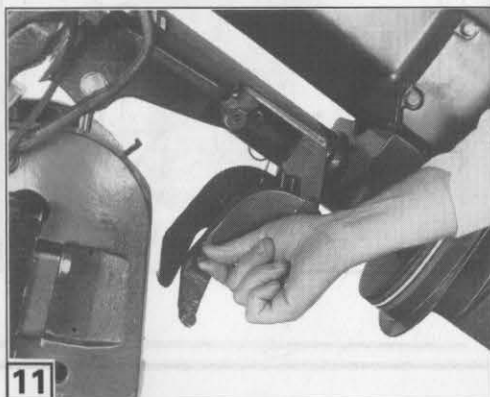
⚠ Safety Warning: If you have a dual engine installation that includes a counter-rotating engine and you remove the propellers, always check to be sure they are installed on the correct engines before aggressively operating your boat. Shift each motor individually into FORWARD or REVERSE, at idle speed only. If the boat moves opposite the direction indicated by the remote control handle, the wrong propeller has been installed on the motor being checked. Install the correct propeller and confirm your installation using the above method before any attempt is made to operate the boat.





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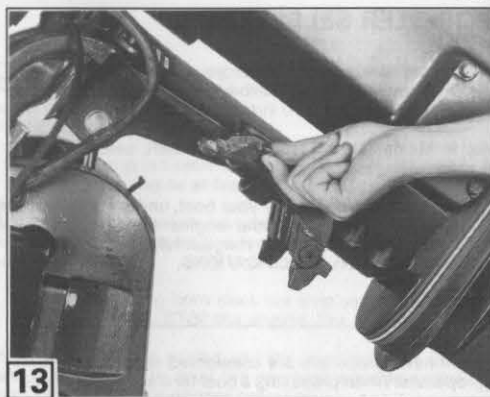
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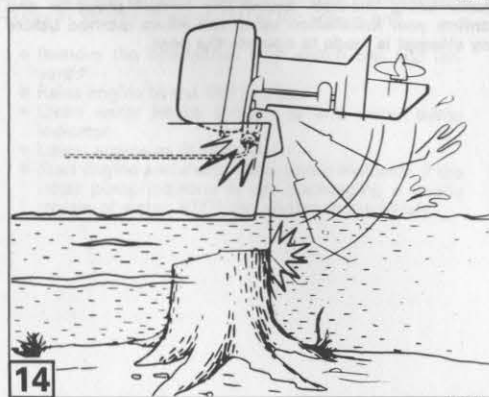
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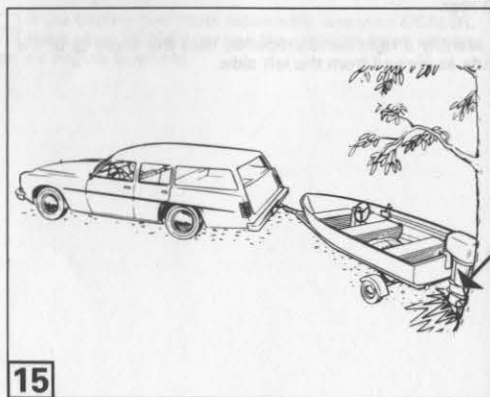
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TRAILERING

Trawling Tilt Switch

- 10 Use the switch on the lower engine cover to conveniently operate the power tilt from outside the boat.

⚠ Safety Warning: Keep clear of stern brackets and stern area of boat when tilting or lowering the motor.

Trail your boat with the motor in a vertical position. If your trailer does not provide adequate road clearance, the motor can be trailered while tilted by using the motor's trawling bracket.

Trawling Bracket

To engage bracket – Tilt the motor fully using the tilt switch inside the boat or the trawling tilt switch.

- 11 Pull down the trawling bracket. A detent will hold the bracket in position.

- 12 Lower the motor until the trawling bracket locks into place in the stern brackets.

To disengage bracket – Tilt the motor fully.

⚠ Safety Warning: Use the power tilt to lift and support the motor BEFORE disengaging the trawling bracket. If the system has lost oil pressure while on the trawling bracket and will not tilt the motor off of it, manually tilting the motor could allow it to cause injury by dropping suddenly and unexpectedly when the trawling bracket is disengaged.

- 13 Return the trawling bracket to its stow position.

Lower the motor to its vertical position.

IMPACT DAMAGE

- 14 15 Your boat and motor can be seriously damaged by a collision at high or low speeds, while trailering, or while in the water.

If you hit any object, stop immediately and examine the motor for loosening of attaching hardware or clamp screws, if equipped. Inspect for damage to swivel and stern brackets, steering components, and components in the area of impact. Also, examine the boat for structural damage. Tighten any loosened hardware. If collision occurred in the water, proceed slowly to harbor. Before boating again, have your DEALER thoroughly inspect all components.

⚠ Safety Warning: Failure to inspect for damage could result in sudden, unexpected component failure and loss of boat control. Unrepaired damage could reduce your boat and motor's ability to resist future impacts.

MOORING

You may moor your boat with the motor's gearcase out of the water by using its tilt feature. Depending on the model, refer to **TILTING** or **POWER TRIM AND TILT**.

Also, refer to **TILT SUPPORT**.

STORAGE

Note To avoid difficulty when restarting, never run the engine with the fuel hose disconnected or run the engine out of fuel.

Note If you must tilt the motor to remove it from the water, lower it and allow the cooling system to drain completely as soon as you clear the launch area.

Between uses, store your motor in a vertical position.

For recommendations on extended periods of storage, refer to Maintenance Section, **OFF-SEASON STORAGE**.



SPECIAL OPERATING CONDITIONS

Salt Water

Fresh water internal flushing is recommended after use in salt, polluted, or brackish water to prevent deposits from clogging cooling passages. Your motor has a built-in flushing port to facilitate freshwater flushing. Refer to Maintenance Section, **FRESHWATER FLUSHING**.

Note During use in salt or brackish water, additional anodic protection for the boat and motor may be required.

During long periods of mooring, tilt the motor so its gearcase is out of the water unless the temperature is below 32° F (0° C). Upon removing your motor from salt water, leave it in a vertical position until its cooling system has drained completely.

Weedy Water

Weeds can block your motor's water intakes and cause it to overheat. Weeds on the propeller will cause the motor to vibrate.

Run in REVERSE at slow speed frequently to clear weeds from the propeller and water intakes. Check the water pump indicator often.

If REVERSE operation does not clear away weeds, SHUT OFF the engine. Remove weeds from propeller area and water intakes before operating in open water.

Shallow Water

Note DO NOT operate your motor with its gearcase dragging on the lake bed; damage can occur. Refer to **POWER TRIM AND TILT**.

Boat's Bottom

The condition of your boat's bottom affects performance. A covering of marine growth reduces speed. For maximum performance, keep the boat's running surface clean by wiping it dry after each use and washing it occasionally.

External Finish

Your motor has a baked enamel finish designed for use in either fresh or salt water.

After operating in **FRESH** water, wipe motor with a dry cloth. Periodically, wash entire motor with soapy water, and apply a coat of automotive wax.

After operating in **SALT** water, rinse motor with fresh water and wipe dry. Apply **OMC Anti-Corrosion Spray** to any surface where corrosion is likely to occur. Periodically, wash entire motor with soapy water, then wax it.

Note Leave engine cover in place when washing motor.

Freezing Weather

BEFORE operating your motor in freezing temperatures, check its gearcase lubricant. Refer to Maintenance Section, **LUBRICATION, Gearcase**. If you find evidence of leakage, the gearcase requires service. See your DEALER.

DURING operation in freezing temperatures, keep the gearcase submerged at all times.

Upon removing your motor from the water, leave it in a vertical position until its cooling system has drained completely.

Note Water that leaks into the gearcase, or is left in the cooling system, can freeze when the motor is removed from water. The expansion of water freezing can cause serious damage.

Note If your motor's gearcase is equipped with an integral speedometer pickup, all water must be cleared from the hose to prevent gearcase damage. Refer to Maintenance Section, **OFF-SEASON STORAGE**.

High Altitude

If you operate your boat at altitudes above 3000 ft. (900 m), your motor should benefit from a lower pitch propeller or a change of carburetor calibration, or both. See your DEALER.

Note To avoid permanent powerhead damage, be sure that an engine modified for high altitude operation is properly identified and returned to original calibration and propeller selection if operated below 3000 ft. (900 m).

Submerged Motor

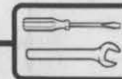
If your motor is submerged, **have it serviced immediately upon recovery**. If immediate service is unavailable, resubmerge the motor in fresh water to avoid prolonged exposure to the atmosphere.

After submersion, all boat and engine electrical, fuel, and oiling systems must be inspected for signs of water intrusion. Your DEALER should perform this service.

Dual Engine Maneuvering

When leaving or approaching the dock, or for any other close maneuvering at slow speed, both engines should be running. Leave the stand-by engine idling in NEUTRAL, and use the engine with the control closer to you for maneuvering. If the engine you're using stops running, you can go immediately to the other engine that has been on stand-by.

Note The stand-by engine must be running during maneuvering or water may be forced back through the underwater exhaust outlet, causing serious damage to the powerhead.



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⚠ Safety Warning: To avoid accidental starting of engine while servicing, twist and remove all spark plug leads.

⚠ Safety Warning: When replacement parts are required, use genuine OMC parts, or parts with equivalent characteristics, including type, strength and material. Using substandard parts could result in product failure and personal injury.

BATTERY

Batteries, terminals, and restraint systems are not supplied with the motor.

Batteries must be heavy-duty, marine construction and either vented/refillable, maintenance-free, or deep-cycle with a **CCA** or **MCA** rating. Refer to **SPECIFICATIONS** for battery requirements.

Johnson,® *Evinrude*,® and *OMC SystemMatched*™ batteries meet all requirements. See your DEALER.

Note Use bolts and nuts to secure battery cables to the battery. DO NOT use wing nuts even if they were supplied with the battery. Wing nuts will work loose. Loose battery cables can cause errant warning horn signals or damage to the electrical system.

Note Service electrical components only while the motor is NOT running. Be careful when identifying positive and negative battery cables and posts. If you touch the wrong post with a battery cable, even briefly, the motor's charging unit will be damaged.

When servicing the battery or the engine, always disconnect both battery cables from the battery, BLACK (negative) cable first. Do not allow metal objects to contact either battery post.

⚠ Safety Warning: Battery electrolyte is an acidic solution and should be handled with care. If electrolyte contacts any part of the body, immediately flush the exposed area with liberal amounts of water and seek medical aid as soon as possible.

Installation

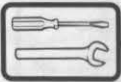
Read and understand the safety information supplied with your battery BEFORE you begin installation.

⚠ Safety Warning: Failure to ensure clean and tight battery connections might result in sparks that can ignite fuel vapors under the engine cover.


Important

- Install the battery in a vented and securely mounted restraint.
- Connect the BLACK battery cable to the battery's negative (-) post. Tighten firmly.
- Connect the RED battery cable to the battery's positive (+) post. Tighten firmly.
- Apply **OMC Triple-Guard**® grease to exposed areas of battery posts and cable connections to reduce corrosion.

Note Inspect the battery frequently and maintain it following manufacturer's recommendations. Check often to see that connections stay clean and tight. Use bolts and nuts to secure battery cables to the battery. Loose battery cables can cause errant warning horn signals or damage to the electrical system.

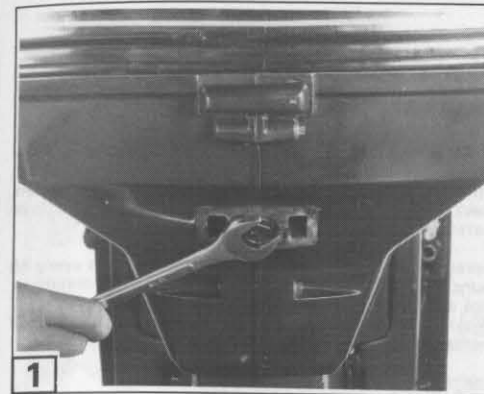


SPECIFICATIONS

	Specification	Page
Power *	150 - 150 HP (112 kw) @ 5000 RPM 175 - 175 HP (131 kw) @ 5000 RPM	•
Full Throttle Operating Range	4500 to 5500 RPM	•
Engine Type	Two-Cycle, 60° V, 6-Cylinder, Loop-Charged	•
Displacement	158 cu. in. (2589 cc)	•
Fuel Requirements	87 Pump Posted AKI (90 RON) - Refer to  150WT - 87 Pump Posted AKI (75 RON)	8
Fuel/Oil Ratio	Supplied by oil injection system	8
Fuel Filter	OMC P/N 433190	32
Fuel Tank	Not supplied	9
Battery, Minimum	12-Volt, 500 CCA (620 MCA), 90 Minutes Reserve Capacity (60 Ampere-Hours)	23
Alternator	35-Amp, Fully Regulated	•
Fuse	20-Amp, OMC P/N 510884	31
Ignition Features	QuikStart™ and S.L.O.W.™	7
Spark Plug (6) <i>Champion</i> : ★ Sustained High Speed Operation Torque	QL77JC4 @ 0.030 in. (0.8 mm) gap QL16V - fixed gap 18-21 ft. lbs. (24-27 N-m)	32
Gearcase - Lubricant Capacity	OMC Ultra-HPF™ Gearcase Lube 33 fl. oz. (980 ml)	26
Power Trim/Tilt - Fluid Capacity	21 fl. oz. (622 ml)	26
Propeller	Refer to Operation Section, PROPELLER SELECTION	19
Transom Height	L Models: 19½ to 20" (495 to 508 mm) X Models: 24½ to 25" (622 to 635 mm)	•
Weight	150 L Models: 370 lbs. (168 kg) 150 X Models: 375 lbs. (170 kg) 175 L Models: 370 lbs. (168 kg) 175 X Models: 375 lbs. (170 kg)	•

* Rated at the propeller shaft, according to NMMA and ICOMIA (ISO) standards.

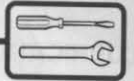
★ Use of non-suppression spark plugs (L77JC4, L16V) will cause ignition problems.



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FRESHWATER FLUSHING

You should flush your motor for approximately five minutes after using it in salty, polluted, or brackish water. Flushing with fresh water will minimize the formation of deposits that can clog cooling passages.

1 2 You should flush your motor while it is in the operating (vertical) position. The motor can be running or not running. If you run the motor while flushing, do not start it until:

- Motor is in the operating position (vertical)
- Water supply is on
- Control handle is in NEUTRAL
- Throttle is at slow idle speed
- Propeller has been removed

⚠ Safety Warning: Prevent injury from accidental contact with rotating propeller - remove it before beginning the flushing procedure.

Note If you must flush the motor while it is tilted, the motor **MUST NOT** be running.

To flush your motor

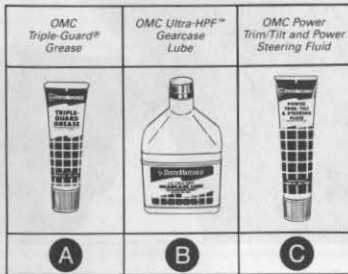
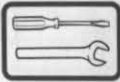
Note Water pressure must be at least 20 psi (140 kPa).

Make sure the motor is in NEUTRAL and the propeller has been removed.

- 1** Remove the plug from the water pump indicator.
- 2** Connect a water hose to the flushing port. Turn water on.

Note If you flush a running motor, be sure its speed does not exceed slow idle in NEUTRAL. The volume of water through the flushing port is not sufficient to cool the engine above idle.

When you reinstall the plug, position the water outlet so the stream of water from the water pump indicator is easy to see from the helm during engine operation.



DR4850

LUBRICATION

Frequency

- At least every 30 days - salt or polluted water
- At least every 60 days - fresh water
- Before a period of storage
- More often, as experience indicates

Note The recommended OMC lubricants have been formulated to protect bearings and gears. They must be used to avoid damage caused by improper lubrication.

Figure	Lubrication Point	Lubricant
1	Gearcase*	B
2	Steering*	A
3	Power Trim/Tilt Reservoir	C
4	Swivel Bracket	A
5	Tilt Tube	A

*Recommended Dealer Performed Service.

Gearcase

Replace gearcase lubricant after first 20 hours of operation. Check level and condition of lubricant after next 30 hours of operation. Add lubricant if necessary.

Thereafter, check level and condition of lubricant every 50 hours. Replace lubricant every 100 hours of operation or once each season, whichever occurs first. Refill with OMC Ultra-HPF™ gearcase lube. If not available, use OMC Hi-Vis® gearcase lube. See your DEALER.

With motor in normal operating position:

1. Remove drain/fill plug ① and lubricant level plug ② from side of gearcase and completely drain gearcase of old lubricant.
2. Examine drained lubricant for metal filings, milky appearance, or black color with burnt odor. If old lubricant has any of those characteristics, see your DEALER. If drained lubricant is in good condition, continue.
3. Place tube of lubricant in drain/fill hole and fill slowly until lubricant appears at lubricant level hole. See SPECIFICATIONS for gearcase capacity.
4. Install lubricant level plug ② before removing tube from drain/fill hole. Drain/fill plug ① can then be installed without loss of lubricant.
5. Securely tighten both plugs.

Steering System

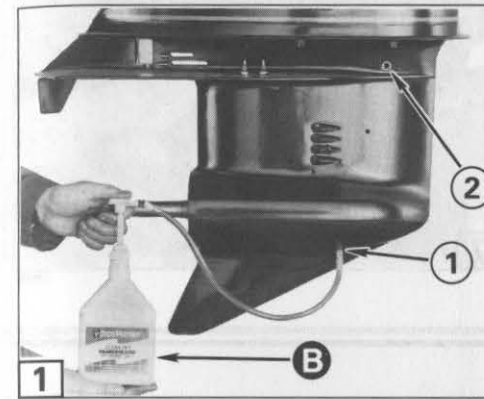
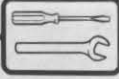
2. The installer was instructed to grease the steering cable ram during installation. Periodic regreasing of the steering cable ram with OMC Triple-Guard® grease is required. Refer to Frequency. Refer to steering system manufacturer's information when servicing boat's steering system.

⚠ Safety Warning: Failure to regrease as recommended could result in steering system corrosion. Corrosion can affect steering effort, making operator control difficult.

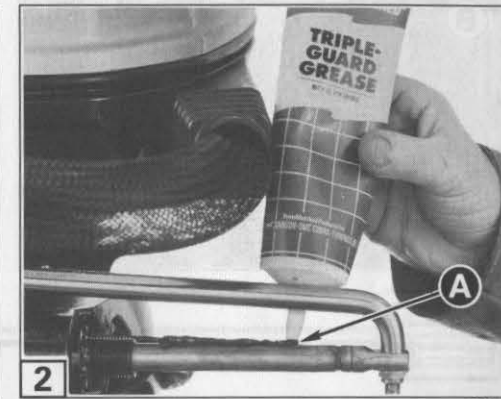
Power Trim and Tilt Fluid Reservoir

3. Tilt the motor up and engage the tilt support. Depending on your model, refer to Operation Section, Tilting or TILT SUPPORT. Remove filler cap ③ and check fluid level. If necessary, add enough OMC Power Trim/Tilt and Power Steering Fluid to bring the fluid level even with the bottom of the fill cap hole ③ when the unit is at full tilt.

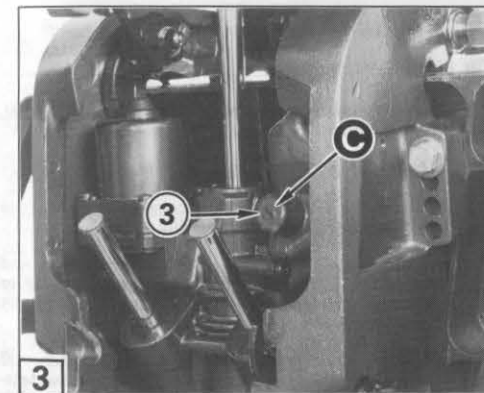
Important Correct fluid level must be maintained to ensure operation of the impact protection built into this unit.



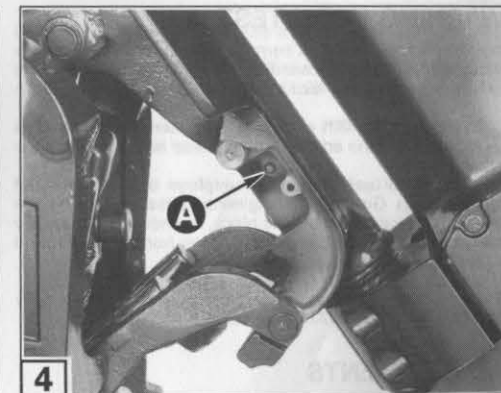
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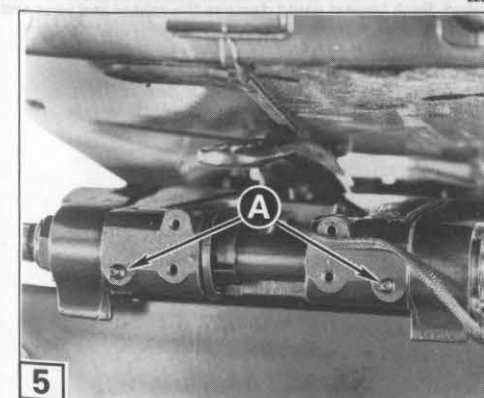
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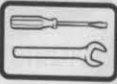
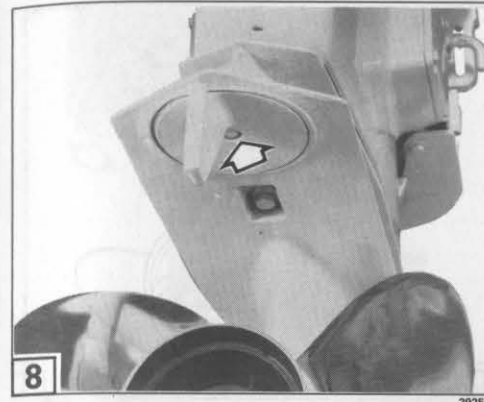
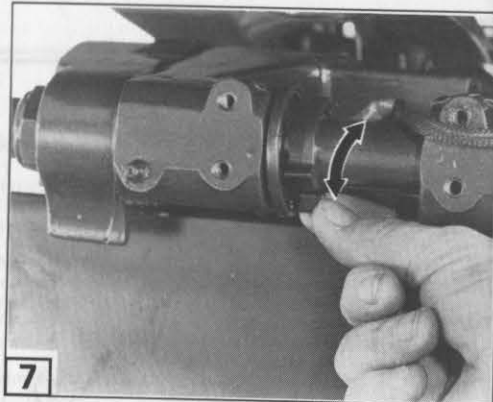
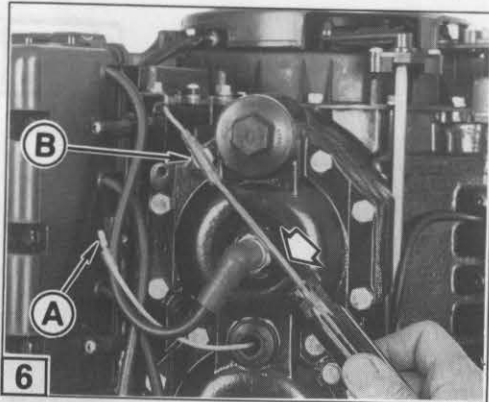
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WARNING HORN TEST

Periodically check the warning horn circuit. To check the circuit, proceed as follows:

- 6 Disconnect the TAN or STRIPED/TAN temperature switch lead A from the engine harness lead connector B.

Insert a small screwdriver or a piece of wire into the connector B. Ground the engine harness lead to an unpainted surface on the engine block, as shown. With the key switch in the ON position, the warning horn should sound when good ground contact is made.

If the horn does not sound and the boat's battery is fully charged, see your DEALER for service.

ADJUSTMENTS

Idle Speed

Idle speed and carburetor adjustments are preset at the factory. If you are experiencing poor running quality, see your DEALER.

Carburetor

High speed fuel calibration is maintained by the fixed high speed jet in the carburetor. Fixed jets are not adjustable.

Low speed fuel calibration is set at the factory with a range of adjustment provided. If your engine displays poor running quality at low speed or idle, ask your DEALER to perform the necessary adjustments.

Tilt Limit Switch

- 7 If your motor contacts the boat's motor well while tilting, adjust the tilt limit switch to limit maximum tilt-up:

- Place the motor in its normal operating position.
- Rotate the tilt limiter cam clockwise to reduce the motor's maximum tilt capability.
- Check your adjustment – tilt the motor fully and adjust further, if necessary. Return the motor to vertical position for each adjustment, and repeat your check after each adjustment.

⚠ Safety Warning: Adjusting the tilt limit switch will NOT prevent the motor from tilting fully and contacting the motor well if its gearcase hits an object at high speed. Such impact could damage the motor and boat and injure boat occupants.

Trim Tab

⚠ Safety Warning: Improper trim tab adjustment can cause difficult steering.

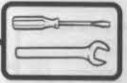
A propeller will generate steering torque when the propeller shaft is not running parallel to the water's surface. The trim tab is adjustable to compensate for this steering torque.

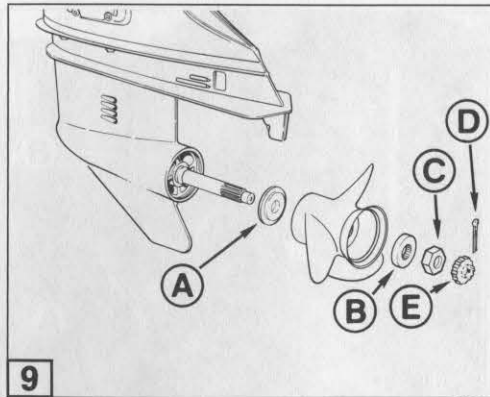
Important A single trim tab adjustment will relieve steering effort under only one set of speed, motor angle, and load conditions. No single adjustment can relieve steering effort under all speed, motor angle, and load conditions.

If the boat pulls to the left or right when its load is evenly distributed, adjust the trim tab as follows:

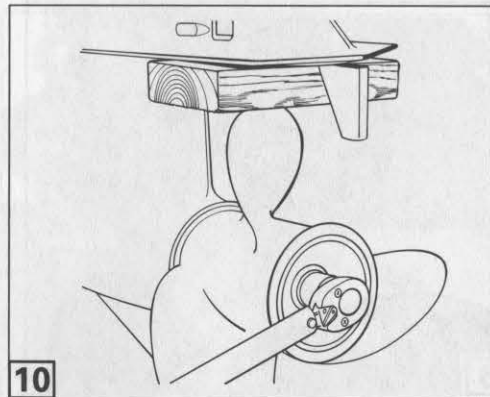
- 8 With the motor shut OFF, loosen the trim tab screw. If the boat pulled to the right, move the rear of the trim tab slightly to the right. If the boat pulled to the left, move the rear of the trim tab slightly to the left.

- Tighten the trim tab screw to a torque of 35-40 ft. lbs. (47-54 N-m).
- Test the boat and, if needed, repeat the procedure until steering effort is as equal as possible.

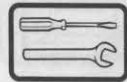




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DR3984



PROPELLER INSTALLATION

⚠ Safety Warning: To avoid accidental starting of engine while changing propellers, twist and remove all spark plug leads.

9 10 To install:

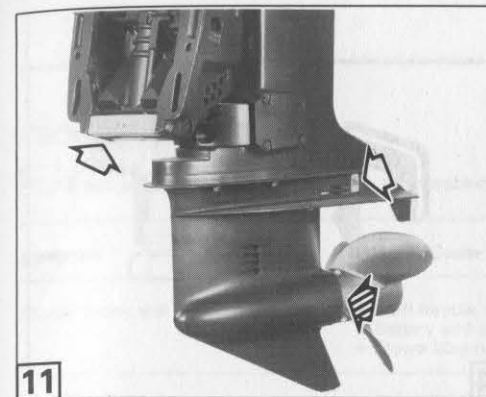
- Apply *OMC Triple-Guard*® grease to full length of propeller shaft.
- Install large propeller thrust bushing **A** onto propeller shaft with shoulder of thrust bushing facing aft.
- Slide propeller onto propeller shaft until it seats on the thrust bushing.
- Install the spacer **B**, engaging the propeller shaft splines.
- Wedge a block of wood between the propeller blade and the anti-ventilation plate.
- Install propeller nut **C** and tighten to a torque of 70-80 ft. lbs. (95-108 N-m).
- Index keeper **E** on propeller nut until aligned with cotter pin hole.
- Install new cotter pin **D**. If holes for the cotter pin are not aligned, continue to tighten propeller nut until they are. Then install new cotter pin and bend ends to secure.
- Remove block of wood. Make sure engine is in NEUTRAL; give propeller a spin. It must turn freely.

Repair

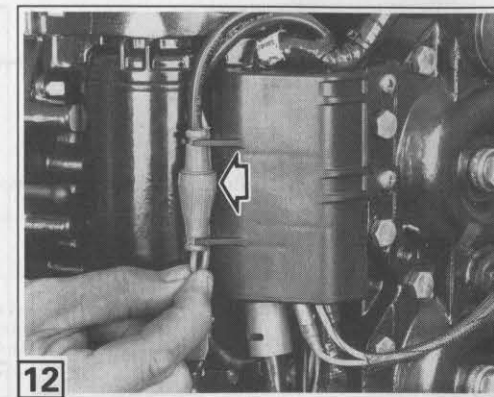
If your propeller hits a solid object, the impact is absorbed by the rubber bushing in the hub to help prevent damage to the motor. A strong impact can damage the rubber bushing and propeller blades. Damage to propeller blades can cause unusual and excessive vibration. Damage to the rubber bushing can cause excessive engine RPM with little forward movement.

Note Avoid or limit operation using a damaged propeller. Carry a spare propeller.

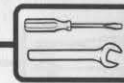
Keep your propeller in good condition. Use a file to smooth slight damage to blade edges. See your DEALER for repair of serious damage.



23088



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ANTICORROSION ANODES

11 Your motor is equipped with one or more anodes that protect the gearcase from galvanic corrosion. Refer to Features section for anode location. Disintegration of the anode is normal and indicates it is working. Check each anode periodically. Replace anodes smaller than 2/3 their original size. See your DEALER for replacements.

Galvanic corrosion destroys underwater metal parts and can occur in fresh or salt water; however, salt, brackish, and polluted waters will accelerate corrosion.

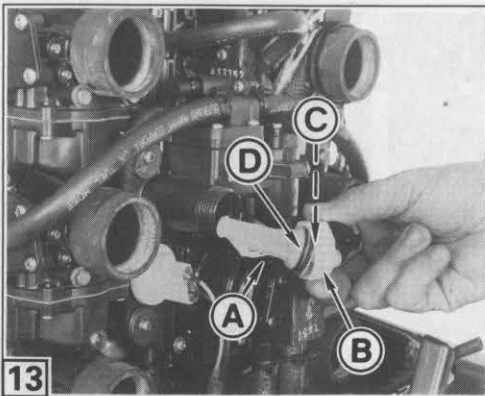
Metal-based antifouling paint on the boat or gearcase and the use of improperly installed shore power in the area of your moored boat will also accelerate corrosion.

Note NEVER paint the anode, its fasteners, or its mounting surface. Painting will reduce its corrosion protection.

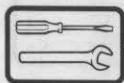
FUSE

Note Always carry spare fuses.

12 The fuse is located in the fuse holder. Replace a blown fuse. Refer to **SPECIFICATIONS**.



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FUEL LINE FILTER

Note Disassemble, inspect, and clean the filter during the 20-HOUR CHECK.

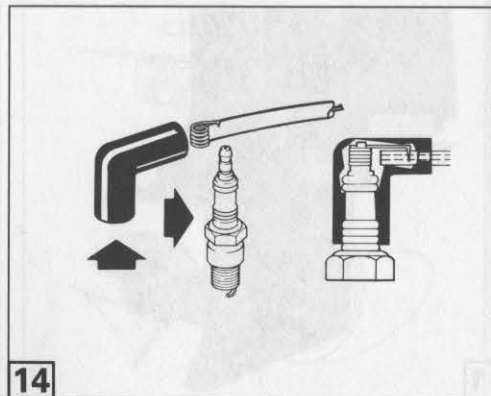
Thereafter, inspect and clean the filter seasonally or every 100 hours, whichever comes first, to ensure best motor performance. Refer to **SPECIFICATIONS**.

Warning: To prevent excessive fuel spillage, disconnect fuel line from motor before disassembly.

13 The filter is located on the fuel component bracket. To service, proceed as follows:

- Remove air silencer.
- Loosen fuel filter nut **A** and remove the fuel filter element **A**. Do not lose fuel filter gasket **C** or O-ring **B**.
- Wash filter element with clean solvent and blow dry.
- Replace O-ring and fuel filter gasket if cut or damaged.
- Reinstall fuel filter making sure that fuel inlet nipple aligns with hose. Tighten fuel filter nut securely and clean up any spilled fuel.
- **Check for leaks** by connecting fuel line to motor and squeezing primer bulb until definite resistance is felt in bulb.

Warning: Failure to inspect your work could allow fuel leakage to go undetected. This could become a fire or explosion hazard.



CO2333

SPARK PLUGS

Warning: Avoid abusive handling which could crack ceramic portion of spark plug. Damaged spark plugs can emit sparks. Sparks can ignite fuel vapors under the engine cover.

Inspect spark plugs periodically. Replace if electrodes are badly worn, insulators are cracked, or if they are badly fouled.

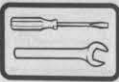
To remove spark plugs, twist and remove all spark plug leads. Unscrew spark plugs and remove from cylinder head.

To install spark plugs, wipe spark plug seats clean with a clean rag. Install spark plugs finger tight, then tighten to specified torque. Refer to **SPECIFICATIONS**.

Note Avoid engine damage:

- Install spark plugs into COOL cylinder head
- Do not overtighten

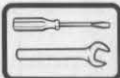
14 Before installing the spark plug lead, apply a light coat of *OMC Triple-Guard*® grease to the ribbed portion of the spark plug insulator and the opening of the spark plug cover. This will help prevent corrosion between the spring terminal and the spark plug.



TROUBLE CHECK CHART

Note If you are unable to identify or solve your problem, contact your DEALER.

Symptom	Possible Cause
Starter motor will not operate	<ul style="list-style-type: none"> • Shift handle not in NEUTRAL • Battery and electrical connections loose or corroded • Blown 20-amp fuse. Refer to FUSE.
Motor will not start	<ul style="list-style-type: none"> • Emergency stop switch's clip not in place • Shift handle not in NEUTRAL • Fuel tank empty • Fuel hose disconnected, kinked • Fuel system contaminated with water or dirt • Fuel pump filter obstructed • COLD ENGINE: Engine not primed • WARM ENGINE: Engine flooded (If flooded: disconnect fuel hose at motor, raise fast idle lever completely, crank engine. If it starts, run until cleared. If it fails to start, wait a few moments and try again.) • Spark plugs carboned, burned, or wet • Spark plugs improperly gapped • Ignition system component failure • Starting instructions not followed
Motor will not idle properly	<ul style="list-style-type: none"> • Motor angle excessive • Carburetor mixture out of adjustment • Spark plugs damaged, insulator cracked, wrong spark plugs • Fuel/oil mixture incorrect
Motor loses power	<ul style="list-style-type: none"> • Spark plugs damaged, insulator cracked, wrong spark plugs • Fuel pump filter obstructed • Fuel system contaminated with water or dirt • Water intakes obstructed and cooling system not operating correctly. Refer to Operation Section, ENGINE OVERHEATING.
Motor vibrates excessively	<ul style="list-style-type: none"> • Propeller blades bent, broken, or missing • Propeller shaft bent • Propeller fouled and restricted • Carburetor mixture out of adjustment
Motor runs, but makes little or no progress	<ul style="list-style-type: none"> • Propeller hub loose, slipping • Propeller blades bent or missing • Propeller shaft bent • Propeller fouled and restricted
Warning horn activates	<ul style="list-style-type: none"> • Refer to Features Section, WARNING HORN SIGNALS



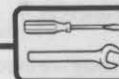
MAINTENANCE SCHEDULE

	20-Hour Check	Monthly	Every 100 Operating Hours	Annually	Page
Anticorrosion Anodes		I		I	31
Battery Connections		I, T		I	23
Cylinder Head Screws	T		T	T	37
Electrical and Ignition Wires and Connections				I, L	34
Emergency Stop Switch, Clip, and Lanyard		I	I	I	6
External Finish - Wash and Wax		P		P	22
Fasteners - Screws, Nuts, Clamps			I, T	I, T	34
Fuel Filter - Servicing	P		P, R	P, R	32
Fuel and Oil System Components	I	I	I	I	9
Gearcase	L		I, L	I, L	26
Linkages and Motor Lubrication Points	I, L	L		I, L	26
Mounting Hardware, Clamp Screws	I, T	I, T		I, T	34
Pistons - Decarbonize				P*	8
Power Steering Belt, Fluid, and Filter	I		I	R (500 hrs.)	•
Power Trim/Tilt Reservoir	L		I, L	I, L	26
Propeller and Shaft			L	L	34
Spark Plugs	I		I	I	32
Steering Cable	L	L		I, L	26
Steering Friction		A		I, A	•
Tune-Up				P	34
Warning Horn		I		I	7

A = Adjust **I** = Inspect **L** = Lubricate **•** = Not applicable
P = Perform **R** = Replace **T** = Tighten or Torque

* During engine operation, carbon can build up on internal powerhead components, eventually causing piston rings to "stick." Adding *OMC Carbon Guard™* fuel additive to every tank of fuel is your best protection against such buildup and the resulting mechanical problems. If *OMC Carbon Guard* additive is not used consistently in the fuel, *OMC Engine Tuner* should be applied every 50 operating hours.

Safety Warning: When replacement parts are required, use genuine OMC parts, or parts with equivalent characteristics, including type, strength and material. Use of substandard parts could result in product failure and personal injury.



OWNER'S SERVICE RESPONSIBILITY

Routine maintenance and care of your outboard motor is your responsibility, but is best performed by your dealer.

Following are examples of routine maintenance situations:

- Carburetor and ignition adjustment and cleaning
- Changing of carburetor jets or propellers to meet altitude requirements
- Spark plug maintenance and replacement
- Thermostat maintenance and replacement
- Piston ring or cylinder repair due to wear
- Cleaning deposits off pistons, piston rings, combustion chambers, or exhaust systems
- Water pump repair or replacement
- Anti-corrosion anode replacement
- Checking or adding oil to crankcase or gearcase

WARRANTY SERVICE

A copy of your engine's 1-year Limited Warranty is at the end of this manual. Read its terms and conditions carefully. Contact your DEALER if you have a question.

If repairs are necessary during the warranty period, they must be made by an **authorized Evinrude or Johnson dealer**.

The warranty protects you from expense caused by defects in material or workmanship. **NOT covered is damage caused by such things as:**

- Incorrect engine installation, operation, or maintenance
- Cosmetic or paint changes due to exposure to the elements
- Cooling system blockage by foreign materials
- Water entry through the carburetor or exhaust system or from submersion
- Using parts or accessories that adversely affect operation, performance, or durability
- Alterations or modifications that affect operation, performance, durability, or intended use

Also not covered by warranty are extra expenses such as:

- Transporting the product to and from the dealer
- In and out of water costs

CUSTOMER SATISFACTION

Thank you for your confidence in *OMC* power products. Your satisfaction is very important to *Outboard Marine Corporation* and its dealers. Concerns about your *OMC* product can usually be satisfactorily addressed during your initial service appointment. If not, take these steps:

- 1) Talk with the dealership's service manager. Be specific about your concerns and expectations. Most problems will be resolved at this level.
- 2) If you are still not satisfied, contact the general manager or owner of the dealership.
- 3) If your dealership cannot resolve the problem, write to *OMC Customer Service* at 3145 Central Avenue, Waukegan, Illinois, 60085, or call at (708) 689-5630 between 8 a.m. and 4 p.m. Central Time. Provide:
 - Model and serial numbers of your *OMC* product
 - A complete description of your concern
 - The name of your *OMC* dealership
 - Your daytime phone number

We will all work toward a satisfactory solution!

20-HOUR CHECK

After 20 hours of operation, your new engine will be "broken in" and its mechanical parts will have "seated." At that time the gearcase lube should be replaced and all systems should be checked. Your DEALER will:

- Drain gearcase, check the lube, refill gearcase
- Torque cylinder head screws and spark plugs
- Adjust carburetor, if needed
- Check propeller
- Check timing and ignition system
- Check all linkages and adjust, if needed

This 20-hour check will be performed by your DEALER at your request and expense, based on local rates.

Follow a consistent preventive maintenance schedule by having your DEALER check your engine every six months or after each 100 hours of operation, whichever comes first.

THE UNITED STATES AND CANADA

WARRANTY LIMITED ONE (1) YEAR WARRANTY

Outboard Marine Corporation (OMC) warrants this new OMC product to be free from defects in material or workmanship for a period of one (1) year.

OUTBOARD MOTORS ARE ELIGIBLE FOR THIS WARRANTY ONLY IF REGISTERED WITH OMC. SUBMISSION OF THE ENGINE REGISTRATION CARD IS REQUIRED FOR REGISTRATION. ONLY OUTBOARD MOTORS INTENDED FOR SALE IN THE UNITED STATES OR CANADA ARE ELIGIBLE FOR WARRANTY REGISTRATION IN THE UNITED STATES OR CANADA.

This warranty commences on the date of original retail purchase and extends to original and subsequent retail purchasers. However, in no event shall the duration of this warranty exceed one (1) year, measured from the original retail sale.

Any part of this OMC product, manufactured or supplied by OMC and found in the reasonable judgment of OMC to be defective in material or workmanship, will be repaired or replaced by an authorized Evinrude® or Johnson® dealer without charge for parts and labor.*

This OMC product, including any defective part therein, must be returned to an authorized Evinrude or Johnson dealer within the warranty period. The OMC dealer will then execute the warranty procedures on the owner's behalf. The expense of transporting the OMC product to the authorized dealer for warranty service, and the expense of returning it to the owner after repair or replacement, will be paid for by the owner. OMC's responsibility in respect to warranty claims is limited to making the required repairs or replacements. No claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any OMC product. Proof of purchase will be required by the authorized Evinrude or Johnson dealer to substantiate any warranty claim.

This warranty does not cover any OMC product that has been subjected to misuse, neglect, or accident, or that has been improperly installed, operated, or maintained. This warranty does not apply to any damage to the OMC product that is the result of rust or corrosion. This warranty does not cover any OMC product that has been used for racing, has been altered or modified so as to adversely affect its operation, performance or durability, or that has been altered or modified to change its intended use. This warranty does not extend to repairs made necessary by normal wear, or by the use of other parts or accessories, which in the reasonable judgment of OMC, are either incompatible with the OMC product or adversely affect its operation, performance, or durability.

This warranty does not cover the jet outboard impeller or the impeller liner. It does not cover damage to jet drive bearings caused by improper lubrication.

OMC reserves the right to change or improve the design of any OMC product without assuming any obligation to modify any OMC product previously manufactured.

ALL IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE ONE (1) YEAR WARRANTY PERIOD.

ALL IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, ARE DISCLAIMED IN THEIR ENTIRETY AFTER EXPIRATION OF THE APPROPRIATE ONE (1) YEAR WARRANTY PERIOD.

OMC'S OBLIGATION UNDER THIS WARRANTY IS STRICTLY AND EXCLUSIVELY LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS, AND OMC DOES NOT ASSUME OR AUTHORIZE ANYONE TO ASSUME FOR THEM ANY OTHER OBLIGATION.

SOME JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

OMC ASSUMES NO RESPONSIBILITY FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES, INCLUDING, BUT NOT LIMITED TO, EXPENSE FOR GASOLINE, EXPENSE OF TRANSPORTING THE OMC PRODUCT TO AN AUTHORIZED DEALER AND EXPENSE OF RETURNING THE OMC PRODUCT TO THE OWNER, REMOVAL OF THE OMC PRODUCT FROM A BOAT AND REINSTALLATION, MECHANIC'S TRAVEL TIME, IN-AND-OUT-OF-WATER CHARGES, TELEPHONE OR TELEGRAM CHARGES, TRAILERING OR TOWING CHARGES, RENTAL OF A LIKE PRODUCT DURING THE TIME WARRANTY SERVICE IS BEING PERFORMED, TRAVEL, LODGING, LOSS OF OR DAMAGE TO PERSONAL PROPERTY, LOSS OF REVENUE, LOSS OF USE OF THE OMC PRODUCT, LOSS OF TIME, OR INCONVENIENCE.

SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

Any OMC products sold outside the United States or Canada are warranted by the affiliated marketing company of Outboard Marine Corporation.

*In the event that a warranty claim is required outside of the continental United States or Canada, with the exception of Alaska and Hawaii, there may be additional charges not covered under warranty based on local practices and conditions, such as, but not limited to, freight, insurance, taxes, license fees, import duties, and all other financial charges, including those levied by governments, states, territories, and their respective agencies, which will be the responsibility of the retail purchaser.

OUTSIDE NORTH AMERICA

WARRANTY

Outboard Marine Corporation (OMC) warrants this new OMC product, provided it is used and serviced in accordance with the product's operator manual, to be free of defects in material or workmanship for a period of 12 months (six months if used commercially) commencing at the date of substantiated original purchase, if such defect is proved to be justified by any of our approved product service dealers.

Such parts will be repaired or replaced, including labor, to the exclusion of any other extraneous costs or liability for incidental, consequential, or other damages.

Where local legislation provides the owner of our product any mandatory rights, such rights will be respected.

The OMC product covered by this warranty must be returned to an authorized dealer, who will execute the warranty on the owner's behalf.

A L'EXTÉRIEUR DE L'AMÉRIQUE DU NORD

GARANTIE

Outboard Marine Corporation (OMC) garantit ce nouveau produit OMC, pourvu qu'il soit utilisé et maintenu en accord avec le manuel de l'utilisateur du produit, d'être exempt de défauts de matériaux ou de main d'œuvre pendant une durée de 12 mois (six mois s'il est utilisé pour le commerce), commençant à partir de la date établie à l'achat d'origine, si tel défaut est prouvé comme étant justifié par quelqueque de nos concessionnaires approuvés pour l'entretien du produit.

De telles pièces seront réparées ou remplacées, y compris la main d'œuvre, à l'exception de quelqueque autre coût ou risque étranger, de dommages fortuits, conséquents, ou autres.

Dans les régions où la législation locale protège le propriétaire de notre produit de quelqueque droits obligatoires, ces droits seront respectés. Le produit OMC couvert par cette garantie doit être enregistré chez un concessionnaire agréé, lequel exécutera la garantie, au nom du propriétaire.

Tout produit OMC vendu en-dehors des États-Unis ou du Canada est garanti par la filiale commerciale de Outboard Marine Corporation.

Cette garantie vous confère des droits légaux spécifiques, auxquels peuvent aussi s'ajouter d'autres droits qui varient d'une juridiction à l'autre.

CERTAINES JURISDICTIONS NE PERMETTENT PAS LA LIMITATION DES DOMMAGES FORTUITS OU CONSÉQUENTS, IL EST DONC POSSIBLE QUE LA LIMITATION OU L'EXCLUSION CI-DESSUS NE S'APPLIQUE PAS À VOTRE CAS.

OMC DÉCLINE TOUTE RESPONSABILITÉ POUR LES DOMMAGES FORTUITS, CONSÉQUENTS OU AUTRES, Y COMPRIS, MAIS NON LIMITÉS AUX, FRAIS D'ÉCART, FRAIS DE DÉPÔS DE PRODUIT OMC DU BATEAU ET SA RÉINSTALLATION, FRAIS DE DÉPLACEMENT DU MÉCANICIEN, FRAIS POUR LA SIMILAIRES PENDANT LA DURÉE DE RÉPARATION SOUS GARANTIE, FRAIS DE VOYAGE, DE LOGEMENT, DE PERTE OU DE DOMMAGE D'EFFETS PERSONNELS, DE PERTE DE REVENU, DE PRIVATION D'UTILISATION DU PRODUIT OMC, DE PERTE DE TEMPS, OU D'INCONVENANCE.

CERTAINES JURISDICTIONS NE PERMETTENT PAS DE LIMITATIONS SUR LES DURÉES DE GARANTIE TAÇTE, IL EST DONC POSSIBLE QUE LA LIMITATION CI-DESSUS NE S'APPLIQUE PAS À VOTRE CAS.

L'OBLIGATION D'OMC SOUS CETTE GARANTIE SE LIMITE STRICTEMENT ET EXCLUSIVEMENT À LA RÉPARATION OU LE REMPLACEMENT DES PIÈCES DÉFECTUEUSES, ET OMC N'ASSUME PAS OU REFUSE À QUICQUONQUE LE DROIT DE CONTRACTER TOUTE OBLIGATION EN SON NOM.

TOUTES LES GARANTIES TAÇTES, Y COMPRIS LA SOUMISSION À L'INTÉRÊT COMMERCIAL DU PRODUIT, SON APPTITUDE POUR UNE UTILISATION PARTICULIÈRE ET AUTRES, SONT DESAVOUÉES DANS LEUR TOTALITÉ APRÈS L'EXPIRATION DE LA PÉRIODE D'UN (1) AN DE LA GARANTIE APPROPRIÉE.

LA DURÉE DE LA VALIDITÉ DE TOUTES LES GARANTIES TAÇTES SE LIMITE À UNE PÉRIODE D'UN (1) AN.

OMC se réserve le droit de changer ou d'améliorer la conception de quelqueque produit OMC, sans assumer aucune obligation de modifier quelqueque roulement de l'embase des moteurs à réaction, causés par une lubrification inadéquate.

Cette garantie ne couvre pas la turbine ou le roulement de la turbine des moteurs hors-bords à réaction. Elle ne couvre pas les dommages aux produits incompatibles avec le produit OMC ou affectent son fonctionnement, sa performance, ou sa durabilité, d'une manière adéquate.

Cette garantie ne couvre aucun produit OMC qui a été utilisé pour la réaction, qui a été altéré ou modifié de façon à affecter son fonctionnement, sa performance ou sa durabilité d'une manière adéquate, ou par l'utilisation de pièces ou d'accessoires qui, selon le jugement raisonnable d'OMC, sont incompatibles avec les pièces nécessaires par l'usage normal, ou par l'utilisation de pièces ou d'accessoires qui, selon le jugement raisonnable d'OMC, sont utilisés en entraine inacceptable. Cette garantie ne s'applique à aucun dommage du produit OMC résultant de la rouille ou de la corrosion. Cette garantie ne couvre aucun produit OMC qui a fait l'objet d'une mauvaise utilisation, d'un manque de soin, ou d'un accident, ou qui a été installé, installé, ou qui a été installé.

gare. Le concessionnaire agréé Evinrude ou Johnson demandera une preuve d'achat pour établir tout bien fondé du faire-valoir de la garantie.

Le concessionnaire agréé Evinrude ou Johnson ne pourra être évincé que comme cause d'annulation ou de rescission du contrat de vente de remplacement nécessaires. Aucune rupture de garantie ne pourra être évacuée que comme cause d'annulation ou de rescission du contrat de vente de remplacement, sera le charge de la réparation ou du propriétaire. La responsabilité de la faire-valoir de la garantie est limitée aux réparations du produit OMC au concessionnaire agréé pour la réparation sous garantie, ainsi que les frais de sa restitution au propriétaire après la réparation. Les frais de transport du produit OMC au concessionnaire agréé Evinrude ou Johnson, au nom du propriétaire, les procédures de garantie. Les frais de transport du produit OMC, y compris toutes les pièces défectueuses à cet égard, doit être retourné à un concessionnaire agréé Evinrude ou Johnson dans les limites de la période de garantie.

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Quelqueque pièce de ce produit OMC, fabriquée ou fournie par OMC, et déclarée, suivant le jugement raisonnable d'OMC, comme présentant un défaut de matériel ou de main d'œuvre, sera réparée ou remplacée par un concessionnaire agréé Evinrude ou Johnson, sans frais de pièces ou de main d'œuvre.

Cette garantie commence à partir de la date d'achat au détail d'origine, et couvre les acheteurs au détail d'origine et subséquents. Cependant, en aucun cas, la durée de cette garantie n'excédera un (1) an, à compter de la date de vente au détail d'origine.

LES MOTEURS HORS-BORDS SONT ADMISSIBLES POUR CETTE GARANTIE SEULEMENT S'ILS SONT ENREGISTRÉS AVEC OMC. LA SOUMISSION DE LA CARTE D'ENREGISTREMENT DU MOTEUR EST REQUISE LORS DE L'ENREGISTREMENT. UNIFORMEMENT LES MOTEURS HORS-BORDS DESTINÉS À ÊTRE VENDUS AUX ÉTATS-UNIS OU AU CANADA SONT ADMISSIBLES POUR L'ENREGISTREMENT DE GARANTIE DANS LES ÉTATS-UNIS OU LE CANADA.

Outboard Marine Corporation (OMC) garantit que ce nouveau produit OMC est exempt de défauts de matériaux ou de main d'œuvre, pendant une période de un (1) an.

LES ÉTATS-UNIS ET LE CANADA

GARANTIE

GARANTIE LIMITÉE À UN (1) AN