

# Welcome Aboard!

GB

Proper care and regular maintenance is an important part in keeping your Mercury Product operating at peak efficiency for maximum performance and economy. The enclosed Owner's Registration Card is your key to trouble-free family fun. Refer to your «Operation and Maintenance Manual» for full details of your warranty coverage.

## F *Bienvenue à bord!*

Il convient de prendre soin de son matériel Mercury et de l'entretenir régulièrement afin de préserver des performances et un rendement optimaux.

La carte d'inscription du propriétaire du propriétaire ci-inclue vous garantit des loisirs en famille sans soucis. Reportez-vous au manuel d'utilisation et de maintenance pour obtenir de plus amples informations sur votre garantie.

## NL *Welkom aan boord!*

Een juiste behandeling en regelmatig onderhoud zijn een belangrijk gegeven om uw Mercury product optimaal te laten fungeren voor maximum prestaties en economisch gebruik. De bijgesloten eigenaars Registratiekaart is de sleutel tot probleemloos vaarplezier. Raadpleeg uw «Operation and Maintenance Manual» voor een volledige beschrijving van gebruik en onderhoud.

## I *Benvenuti a bordo!*

Un uso appropriato ed una manutenzione regolare sono garanzia di perfetta efficienza del vostro prodotto Mercury per ottenere il massimo rendimento con consumi ottimali. L'accluso tagliando di registrazione è la chiave per risolvere i problemi tecnici ove si presentassero. Consultate il manuale d'uso e manutenzione per tutti i dettagli sulla garanzia.

## D *Willkommen an Bord!*

Sorgfältige Behandlung und regelmäßiger Kundendienst sind eine wichtige Voraussetzung, um die dauernde Funktionstüchtigkeit Ihres Mercury Motors zu erhalten, um seine Maximalleistung und Wirtschaftlichkeit nutzen zu können. Die beigegefügte Eigner-Registrierkarte ist Ihr Schlüssel für den ungetrübten Familienspaß. Bitte informieren sie sich anhand der Bedienungsanleitung und Kundendienst- und Gewährleistungsinformation über die Einzelheiten der Garantiebestimmungen.

## E *Bienvenido a bordo!*

El cuidado y mantenimiento adecuado de su motor Mercury es de gran importancia, si desea conseguir las mejores prestaciones y por tanto, el máximo rendimiento y menor consumo de combustible. La Tarjeta de Venta adjunta, es su seguro de diversión familiar sin problemas. Para más información sobre la cobertura de la garantía, consulte el «Manual de Uso y Mantenimiento».

## P *Bem-vindo a bordo!*

Para que o seu motor Mercury tenha uma boa eficiência, um maior rendimento e economia, são necessários cuidados adequados e uma manutenção regular. O cartão de registro de propriedade é anexo e a sua chave para o divertimento familiar livre de problemas. Queira consultar o seu «Manual de Operação e Manutenção» que lhe fornece todos os detalhes sobre a garantia do seu motor.

## DK *Velkommen ombord!*

Omhyggelig og regelmæssig pleje er en vigtig ting, for at De kan få det bedste ud af Deres Mercury produkt. Vedlagte registreringskort er Deres nøgle til problemfri familie sejlad. Se nærmere oplysninger om reklamátionsdækning i instruktionsbogen.

## N *Velkommen ombord!*

God behandling og godt vedlikehold er en forutsetning for at din Mercury-motor gir deg topp ytelse og best mulig økonomisk drift. Vedlagte registreringskort er ditt dokument som viser at du har krav på rett behandling etter kjøpsloven.

## S *Välkommen ombord!*

Regelbundet underhåll och skötsel är av största betydelse för att din Mercury-Produkt skall fungera effektivt och felfritt. Bifogat registreringskort är ditt leveransservicebevis och skall vara ifyllt för att gälla.

## SF *Astu laivaan!*

Mahdollisimman hyvän suorituskyvyn ja polttoainetalouden saavuttamiseksi moottorin oikea hoito ja määräaikaishuollot ovat tärkeä osa moottorin hyvinvointia. Lue huolellisesti moottorin käyttö- ja huolto-ohjekirja. Kirjasta löydät ohjeet moottorin hoitoon ja huoltoon. Oheisessa taskussa on moottorin takuukortti joka on avain huolettomaan veneilyyn.

## GR *ΚΑΛΩΣ ΗΛΘΑΤΕ*

Η κατάλληλη φροντίδα και κανονική συντήρηση είναι ένα σημαντικό τμήμα στη διατήρηση του Προϊόντος της Mercury, ώστε αυτό να λειτουργεί με τη μέγιστη αποτελεσματικότητα για τη μέγιστη απόδοση και οικονομία. Η εσώκλειστη Κάρτα Πιστοποίησης Κατόχου είναι το κλειδί σας για οικογενειακή διασκέδαση χωρίς προβλήματα. Αναφερθείτε το «Εγχειρίδιο Συντήρησης και Λειτουργίας» για πλήρης λεπτομέρειες όσον αφορά την κάλυψη της εγγύησης.





# www.marinepower.com



GB — Is your engine properly registered for warranty purposes? Please check on [www.marinepower.com](http://www.marinepower.com). If necessary, please contact your local dealer.

F — Votre moteur est-il correctement enregistré pour bénéficier de la garantie Marine Power? Vous pouvez le vérifier sur [www.marinepower.com](http://www.marinepower.com). En cas de besoin, veuillez contacter votre concessionnaire.

I — La garanzia del Vostro motore è stata registrata? Potete controllarla sul sito [www.marinepower.com](http://www.marinepower.com). Se necessario contattate il Vostro Concessionario.

E — ¿Está su motor cubierto por la garantía? Compruébalo en [www.marinepower.com](http://www.marinepower.com). Si es necesario, contacta con su concesionario más próximo.

P — O seu motor está registado adequadamente para os efeitos de garantia? Por favor, compare-o na página web [www.marinepower.com](http://www.marinepower.com). Se for necessário, não duvide em contactar com o concessionário mais próximo.

GR — Ελέγξτε εάν ο κινητήρας είναι εγγεγραμμένος ουσιαστικά στο [www.marinepower.com](http://www.marinepower.com). Αν χρειαστεί επικοινωνήστε με τον τοπικό αντιπρόσωπο.

D — Ist Ihr Motor sachgerecht zu Garantiezwecken registriert? Bitte konsultieren Sie: [www.marinepower.com](http://www.marinepower.com). Bei Bedarf, wenden Sie sich bitte an Ihren Händler vor Ort!

NL — Is uw motor correct geregistreerd voor garantie? Kijk het na op [www.marinepower.com](http://www.marinepower.com). Contacteer uw dealer indien nodig.

S — Är din motor garantieregistrerad? Kontrollera på [www.marinepower.com](http://www.marinepower.com). Kontakta din återförsäljare om så är nödvändigt.

N — Er din motor riktig registrert for garanti? Vennligst sjekk på [www.marinepower.com](http://www.marinepower.com). Hvis nødvendig, kontakt din lokale forhandler.

DK — Er din motor registreret af hensyn til garantien? Check venligst på [www.marinepower.com](http://www.marinepower.com). Hvis nødvendigt kontakt din lokale forhandler.

BF — Onko moottorisi rekisteröity takuuta varten? Voit tarkistaa asian internet osoitteesta [www.marinepower.com](http://www.marinepower.com). Jos tarpeellista, ota yhteys paikalliseen jälleenmyyjään.

RUS — Правильно ли зарегистрирован ваш двигатель относительно гарантийных обязательств? Проверьте, пожалуйста, это в Интернете на сайте [www.marinepower.com](http://www.marinepower.com). При необходимости свяжитесь, пожалуйста, с вашим дилером.

TU — Moottorin warrantytiedot onko oikein täytetty? Lue [www.marinepower.com](http://www.marinepower.com) osoitteen kautta. Jos on tarpeen, ota yhteyttä lähimpään jälleenmyyjään.

PL — Czy Twój silnik został właściwie zarejestrowany dla celów gwarancyjnych? Sprawdź na stronie [HYPERLINK http://www.marinepower.com](http://www.marinepower.com). Jeśli istnieje taka potrzeba skontaktuj się z Twoim dealerem.



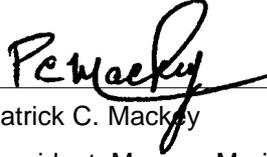
If the outboard motor's serial number plate contains the CE mark in the lower left-hand corner, the following statement applies:

This outboard motor manufactured by Mercury Marine, Fond du Lac, Wisconsin, USA or Marine Power Europe Inc. Park Industrial, de Petit-Rechain, Belgium complies with the requirements of the following directives and standards, as amended:

Recreational Craft Directive: 94/25/EC; std ISO 8665,  
ISO 11547

Machinery Directive: 98/37/EC

EMC Directives: 89/336/EC; std. EN50081-1,  
SAE J551 (CISPR Pub. 12).  
EN 50082-1, IEC 61000 PT4-2,  
IEC 61000 PT4-3,

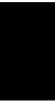


Patrick C. Mackey

President, Mercury Marine, Fond du Lac, USA

European Regulations Contact:

Product Environmental Engineering Department, Mercury Marine,  
Fond du Lac, WI USA



# TABLE OF CONTENTS

## Warranty Information

|   |   |
|---|---|
| Warranty Registration .....   | 2 |
| Outboard Limited Warranty .....   | 2 |
| Mercury Marine Two Years Limited Warranty(Europe) .....   | 3 |
| Mercury Marine ONE Year Limited Warranty(Confederation of Independent States, Middle– East, Africa) ..... | 4 |
| 3 Year Limited Warranty Against Corrosion Failure .....   | 5 |

## General Information

|   |   |
|---|---|
| Boater's Responsibilities .....               | 7 |
| Before Operating Your Outboard .....          | 7 |
| Boat Horsepower Capacity .....                | 7 |
| Lanyard Stop Switch .....                     | 7 |
| Protecting People In The Water .....          | 7 |
| Exhaust Emissions .....                       | 8 |
| Selecting Accessories For Your Outboard ..... | 8 |
| Safe Boating Suggestions .....                | 8 |
| Recording Serial Number .....                 | 8 |
| Specifications .....                          | 9 |

## Installation

|                               |   |
|-------------------------------|---|
| Installing Outboard .....     | 9 |
| Fastening Security Line ..... | 9 |

## Transporting

|   |   |
|---|---|
| Carrying Your Outboard .....                            | 9 |
| Transporting Your Outboard When Removed From Boat ..... | 9 |
| Trailing Your Boat .....                                | 9 |

## Fuel & Oil

|  |    |
|--|----|
| Gasoline Recommendations .....                 | 10 |
| Oil Recommendation .....                       | 10 |
| New engine Gasoline/oil break-in mixture ..... | 10 |
| Filling Fuel Tank .....                        | 10 |

## Features & Controls

|  |    |
|--|----|
| Features & Controls .....                          | 10 |
| Tilting Outboard To Full Up Position .....         | 11 |
| Lowering Outboard Down To Run Position .....       | 11 |
| Shallow Water Operation .....                      | 11 |
| Setting The Operating Angle Of Your Outboard ..... | 11 |

## Operation

|   |    |
|---|----|
| Pre-Starting Check List .....                   | 11 |
| Operating in Freezing Temperatures .....        | 11 |
| Operating in Salt Water or Polluted Water ..... | 12 |
| Operating at High Elevations .....              | 12 |
| Engine Break-In Procedure .....                 | 12 |
| Starting the Engine .....                       | 12 |
| Gear Shifting .....                             | 13 |
| Stopping The Engine .....                       | 13 |
| Emergency Starting .....                        | 13 |

## Maintenance

|   |    |
|---|----|
| Outboard Care .....                                 | 13 |
| Selecting Replacement Parts For Your Outboard ..... | 13 |
| Inspection and Maintenance Schedule .....           | 14 |
| Flushing The Cooling System .....                   | 14 |
| Top Cowl Removal And Installation .....             | 14 |
| Corrosion Control Anode .....                       | 14 |
| Exterior Care .....                                 | 14 |
| Fuel System .....                                   | 14 |
| Propeller Replacement .....                         | 15 |
| Spark Plug Inspection .....                         | 15 |
| Carburetor Adjustments .....                        | 15 |
| Lubrication Points .....                            | 16 |
| Gear Case Lubrication .....                         | 16 |
| Submerged Outboard .....                            | 16 |

## Storage

|                           |    |
|---------------------------|----|
| Storage Preparation ..... | 17 |
|---------------------------|----|

## Owner Service Assistance

|                                       |    |
|---------------------------------------|----|
| Local Repair Service .....            | 17 |
| Service Away From Home .....          | 17 |
| Parts and Accessories Inquiries ..... | 17 |
| Service Assistance .....              | 17 |
| Mercury Marine Service Offices .....  | 18 |

## Maintenance Log

|                       |    |
|-----------------------|----|
| Maintenance Log ..... | 19 |
|-----------------------|----|

The description and specifications contained herein were in effect at the time this manual was approved for printing. Mercury Marine, whose policy is one of continued improvement, reserves the right to discontinue models at any time, to change specifications, designs, methods, or procedures without notice and without incurring obligation.

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

© 2002, Mercury Marine

The following are registered trademarks of Brunswick Corporation: Autoblend, Force, Jet-Prop, Mariner, Merc, MerCathode, MerCruiser, Mercury, Mercury Marine, Quicksilver, Ride-Guide and Thruster

Be sure at least one additional person on board is instructed in the basics of starting and operating the outboard and boat handling in case the driver is unable to operate the boat.

## WARRANTY INFORMATION

092

### TRANSFER OF WARRANTY

The limited warranty is transferable to a subsequent purchaser, but only for the remainder of the unused portion of the limited warranty. This will not apply to products used for commercial applications.

### DIRECT SALE BY OWNER

The second owner can be registered as the new owner and retain the unused portion of the limited warranty by sending the former owner's plastic Owner Warranty Registration Card and a copy of the bill of sale to show proof of ownership. In the United States and Canada, mail to:

Mercury Marine  
W6250 W. Pioneer Road  
P.O. Box 1939  
Fond du Lac, WI 54936-1939  
Attn: Warranty Registration Department

A new Owner Warranty Registration Card will be issued with the new owner's name and address. Registration records will be changed on the factory computer registration file.

There is no charge for this service.

For products purchased outside the United States and Canada, contact the distributor in your country, or the Mercury Marine Service Office closest to you.

091

### WARRANTY REGISTRATION

#### United States And Canada

1. It is important that your selling dealer fills out the Warranty Registration Card completely and mails it to the factory immediately upon sale of the new product.
2. It identifies name and address of the original purchaser, product model and serial number(s), date of sale, type of use and selling dealer's code, name and address. The dealer also certifies that you are the original purchaser and user of the product.
3. Upon receipt of the Warranty Registration Card at the factory, you will be issued a plastic Owner Warranty Registration Card which is your only valid registration identification. It must be presented to the servicing dealer should warranty service be required. Warranty claims will not be accepted without presentation of this card.
4. A temporary Owner Warranty Registration Card will be presented to you when you purchase the product. It is valid only for 30 days from date of sale while your plastic Owner Warranty Registration Card is being processed. Should your product need service during this period, present the temporary registration card to the dealer. He will attach it to your warranty claim form.
5. Because of your selling dealer's continuing personal interest in your satisfaction, the product should be returned to him for warranty service.
6. If your plastic card is not received within 30 days from date of new product sale, please contact your selling dealer.
7. The limited warranty is not effective until the product is registered at the factory.

*Note: Registration lists must be maintained by factory and dealer on marine products sold in the United States, should notification under the Federal Boat Safety Act be required.*

092

### WARRANTY REGISTRATION

#### Outside The United States And Canada

1. It is important that your selling dealer fills out the Warranty Registration Card completely and mails it to the distributor or Marine Power Service Center responsible for administering the warranty registration/claim program for your area.
2. The Warranty Registration Card identifies your name and address, product model and serial number(s), date of sale, type of use and the selling distributor's/dealer's code number, name and address. The distributor/dealer also certifies that you are the original purchaser and user of the product.
3. A copy of the Warranty Registration Card, designated as the "Purchaser's Copy", MUST be given to you immediately after the card has been completely filled out by the selling distributor/dealer. This card represents your factory registration identification, and should be retained by you for future use when required. Should you ever require warranty service on this product, your dealer may ask you for the Warranty Registration Card to verify date of purchase and to use the information on the card to prepare the warranty claim form(s).
4. In some countries, the Marine Power Service Center will issue you a permanent (plastic) Warranty Registration Card within 30 days after receiving the "Factory Copy" of the Warranty Registration Card from your distributor/dealer. If you receive a plastic Warranty Registration Card, you may discard the "Purchaser's Copy" that you received from the distributor/dealer when you purchased the product. Ask your distributor/dealer if this plastic card program applies to you.
5. For further information concerning the Warranty Registration Card and its relationship to Warranty Claim processing, refer to the "International Warranty".

**IMPORTANT: Registration lists must be maintained by the factory and dealer in some countries by law. It is our desire to have ALL products registered at the factory should it ever be necessary to contact you. Make sure your dealer/distributor fills out the warranty registration card immediately and sends the factory copy to the Marine Power International Service Center for your area.**

## MERCURY MARINE TWO YEARS LIMITED WARRANTY (EUROPE)

### WHAT IS COVERED

Mercury Marine warrant each new Mercury Outboard, Mariner Outboard, Jet Products, Thruster Electric Trolling Motors, Mercruiser Inboard or Sterndrive engine products to be free of defects in material and workmanship during the period described below.

### DURATION OF COVERAGE

This Limited Warranty provides coverage for two (2) years from the date the product is first sold to a recreational use retail purchaser, or the date on which the product is first put into service, whichever occurs first. Commercial users of these products receive warranty coverage of two (2) years from the date of first retail sale, or the accumulation of 500 hours of operation, whichever occurs first. Commercial use is defined as any work or employment related use of the product, or any use of the product which generates income, for any part of the warranty period, even if the product is only occasionally used for such purposes. The repair or replacement of parts, or the performance of service under this warranty, does not extend the life of this warranty beyond its original expiration date. Unexpired warranty coverage can be transferred to one recreational use to a subsequent recreational use customer upon proper re-registration of the product.

### CONDITIONS THAT MUST BE MET IN ORDER TO OBTAIN WARRANTY COVERAGE

Warranty coverage is available only to retail customers that purchase from a Dealer authorized by Mercury Marine to distribute the product in the country in which the sale occurred, and then only after the Mercury Marine specified pre-delivery inspection process is completed and documented. Warranty coverage becomes available upon proper registration of the product by the authorized dealer. Inaccurate warranty registration information regarding recreational use, or subsequent change of use from recreational to commercial (unless properly re-registered) may void the warranty at the sole discretion of Mercury Marine. Routine maintenance outlined in the Operation and Maintenance Manual must be timely performed in order to maintain warranty coverage. If this maintenance is performed by the retail customer Mercury Marine reserves the right to make future warranty coverage contingent on proof of proper maintenance.

### WHAT MERCURY WILL DO

Mercury's sole and exclusive obligation under this warranty is limited to, at our option, repairing a defective part, replacing such part or parts with new or Mercury Marine certified re-manufactured parts, or refunding the purchase price of the Mercury product. Mercury reserves the right to improve or modify products from time to time without assuming an obligation to modify products previously manufactured.

### HOW TO OBTAIN WARRANTY COVERAGE

The customer must provide Mercury with a reasonable opportunity to repair, and reasonable access to the product for warranty service. Warranty claims shall be made by delivering the product for inspection to a Mercury dealer authorized to service the product. If purchaser cannot deliver the product to such a dealer, written notice must be given to Mercury. We will then arrange for the inspection and any covered repair. Purchaser in that case shall pay for all related transportation charges and/or travel time. If the service provided is not covered by this warranty, purchaser shall pay for all related labor and material, and any other expenses associated with that service. Purchaser shall not, unless requested by Mercury, ship the product or parts of the product directly to Mercury. The warranty registration card is the only valid registration identification and must be presented to the dealer at the time warranty service is requested in order to obtain coverage.

### WHAT IS NOT COVERED

This limited warranty does not cover routine maintenance items, tune ups, adjustments, normal wear and tear, damage caused by abuse, abnormal use, use of a propeller or gear ratio that does not allow the engine to run in its recommended wide-open-throttle RPM range (see the Operation and Maintenance Manual), operation of the product in a manner inconsistent with the recommended operation/duty cycle section of the Operation and Maintenance Manual, neglect, accident, submersion, improper installation (proper installation specifications and techniques are set forth in the installation instructions for the product), improper service, use of an accessory or part not manufactured or sold by us, jet pump impellers and liners, operation with fuels, oils or lubricants which are not suitable for use with the product (see the Operation and Maintenance Manual), alteration or removal of parts, or water entering the engine through the fuel intake, air intake or exhaust system. Use of the product for racing or other competitive activity, or operating with a racing type lower unit, at any point, even by a prior owner of the product, voids the warranty.

Expenses related to haul-out, launch, towing, storage, telephone, rental, inconvenience, slip fees, insurance coverage, loan payments, loss of time, loss of income, or any other type of incidental or consequential damages are not covered by this warranty. Also, expenses associated with the removal and/or replacement of boat partitions or material caused by boat design for access to the product are not covered by this warranty.

No individual or entity, including Mercury Marine authorized dealers, has been given authority by Mercury Marine to make any affirmation, representation or warranty regarding the product, other than those contained in this limited warranty, and if made, shall not be enforceable against Mercury Marine.

For additional information regarding events and circumstances covered by this warranty, and those that are not, see the Warranty Coverage section of the Operation and Maintenance Manual, incorporated by reference into this warranty.

#### DISCLAIMERS AND LIMITATIONS:

**THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. TO THE EXTENT THAT THEY CANNOT BE DISCLAIMED, THE IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE LIFE OF THE EXPRESS WARRANTY. INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE EXCLUDED FROM COVERAGE UNDER THIS WARRANTY. SOME STATES/COUNTRIES DO NOT ALLOW FOR THE DISCLAIMERS, LIMITATIONS AND EXCLUSIONS IDENTIFIED ABOVE, AS A RESULT, THEY MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER LEGAL RIGHTS WHICH VARY FROM STATE TO STATE AND COUNTRY TO COUNTRY.**

## **MERCURY MARINE ONE YEAR LIMITED WARRANTY (CONFEDERATION OF INDEPENDENT STATES, MIDDLE- EAST, AFRICA)**

### **WHAT IS COVERED**

Mercury Marine warrant each new Mercury outboard, Mariner outboard, Jet Products, Thruster Electric Trolling Motors, Mercruiser Inboard or Sterndrive engine products to be free of defects in material and workmanship during the period described below.

### **DURATION OF COVERAGE**

This Limited Warranty provides coverage for one (1) year from the date the product is first sold to a recreational use retail purchaser, or the date on which the product is first put into service, whichever occurs first. Commercial users of these products receive warranty coverage of one (1) years from the date of first retail sale, or the accumulation of 500 hours of operation, whichever occurs first. Commercial use is defined as any work or employment related use of the product, or any use of the product which generates income, for any part of the warranty period, even if the product is only occasionally used for such purposes. The repair or replacement of parts, or the performance of service under this warranty, does not extend the life of this warranty beyond its original expiration date. Unexpired warranty coverage can be transferred to a subsequent purchaser upon proper re-registration of the product.

### **CONDITIONS THAT MUST BE MET IN ORDER TO OBTAIN WARRANTY COVERAGE**

Warranty coverage is available only to retail customers that purchase from a Dealer authorized by Mercury Marine to distribute the product in the country in which the sale occurred, and then only after the Mercury Marine specified pre-delivery inspection process is completed and documented. Warranty coverage becomes available upon proper registration of the product by the authorized dealer. Inaccurate warranty registration information regarding recreational use, or subsequent change of use from recreational to commercial (unless properly re-registered) may void the warranty at the sole discretion of Mercury Marine. Routine maintenance outlined in the Operation and Maintenance Manual must be timely performed in order to maintain warranty coverage. If this maintenance is performed by the retail customer Mercury Marine reserves the right to make future warranty coverage contingent on proof of proper maintenance.

### **WHAT MERCURY WILL DO**

Mercury's sole and exclusive obligation under this warranty is limited to, at our option, repairing a defective part, replacing such part or parts with new or Mercury Marine certified re-manufactured parts, or refunding the purchase price of the Mercury product. Mercury reserves the right to improve or modify products from time to time without assuming an obligation to modify products previously manufactured.

### **HOW TO OBTAIN WARRANTY COVERAGE**

The customer must provide Mercury with a reasonable opportunity to repair, and reasonable access to the product for warranty service. Warranty claims shall be made by delivering the product for inspection to a Mercury dealer authorized to service the product. If purchaser cannot deliver the product to such a dealer, written notice must be given to Mercury. We will then arrange for the inspection and any covered repair. Purchaser in that case shall pay for all related transportation charges and/or travel time. If the service provided is not covered by this warranty, purchaser shall pay for all related labor and material, and any other expenses associated with that service. Purchaser shall not, unless requested by Mercury, ship the product or parts of the product directly to Mercury. The warranty registration card is the only valid registration identification and must be presented to the dealer at the time warranty service is requested in order to obtain coverage.

### **WHAT IS NOT COVERED**

This limited warranty does not cover routine maintenance items, tune ups, adjustments, normal wear and tear, damage caused by abuse, abnormal use, use of a propeller or gear ratio that does not allow the engine to run in its recommended wide-open-throttle RPM range (see the Operation and Maintenance Manual), operation of the product in a manner inconsistent with the recommended operation/duty cycle section of the Operation and Maintenance Manual, neglect, accident, submersion, improper installation (proper installation specifications and techniques are set forth in the installation instructions for the product), improper service, use of an accessory or part not manufactured or sold by us, jet pump impellers and liners, operation with fuels, oils or lubricants which are not suitable for use with the product (see the Operation and Maintenance Manual), alteration or removal of parts, or water entering the engine through the fuel intake, air intake or exhaust system. Use of the product for racing or other competitive activity, or operating with a racing type lower unit, at any point, even by a prior owner of the product, voids the warranty.

Expenses related to haul-out, launch, towing, storage, telephone, rental, inconvenience, slip fees, insurance coverage, loan payments, loss of time, loss of income, or any other type of incidental or consequential damages are not covered by this warranty. Also, expenses associated with the removal and/or replacement of boat partitions or material caused by boat design for access to the product are not covered by this warranty.

No individual or entity, including Mercury Marine authorized dealers, has been given authority by Mercury Marine to make any affirmation, representation or warranty regarding the product, other than those contained in this limited warranty, and if made, shall not be enforceable against Mercury Marine.

For additional information regarding events and circumstances covered by this warranty, and those that are not, see the Warranty Coverage section of the Operation and Maintenance Manual, incorporated by reference into this warranty.

#### **DISCLAIMERS AND LIMITATIONS:**

**THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. TO THE EXTENT THAT THEY CANNOT BE DISCLAIMED, THE IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE LIFE OF THE EXPRESS WARRANTY. INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE EXCLUDED FROM COVERAGE UNDER THIS WARRANTY. SOME STATES/COUNTRIES DO NOT ALLOW FOR THE DISCLAIMERS, LIMITATIONS AND EXCLUSIONS IDENTIFIED ABOVE, AS A RESULT, THEY MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER LEGAL RIGHTS WHICH VARY FROM STATE TO STATE AND COUNTRY TO COUNTRY.**

## 3 YEAR LIMITED WARRANTY AGAINST CORROSION FAILURE

### WHAT IS COVERED

Mercury Marine warrants each new Mercury outboard, Mariner outboard, Mercury Racing, Jet Products, Thruster Electric Motor, Mercury Racing, Tracker by Mercury Marine Outboard, Mercruiser Inboard or sterndrive engine (Product) rendered inoperative as a direct result of corrosion for the period of time described below.

### DURATION OF COVERAGE

This limited corrosion warranty provides coverage for three (3) years from the date the product is first sold, or the date on which the product is first put into service, whichever occurs first. The repair or replacement of parts, or the performance of service under this warranty does not extend the life of this warranty beyond its original expiration date. Unexpired warranty coverage can be transferred to subsequent (noncommercial use) purchaser upon proper re-registration of the product.

### CONDITIONS THAT MUST BE MET IN ORDER TO OBTAIN WARRANTY COVERAGE

Warranty coverage is available only to retail customers that purchase from a Dealer authorized by Mercury Marine to distribute the product in the country in which the sale occurred, and then only after the Mercury Marine specified pre-delivery inspection process is completed and documented. Warranty coverage becomes available upon proper registration of the product by the authorized dealer. Corrosion prevention devices specified in the Operation and Maintenance Manual must be in use on the boat, and routine maintenance outlined in the Operation and Maintenance Manual must be timely performed (including without limitation the replacement of sacrificial anodes, use of specified lubricants, and touch-up of nicks and scratches) in order to maintain warranty coverage. If this maintenance is performed by the retail customer Mercury Marine reserves the right to make future warranty coverage contingent on proof of proper maintenance.

### WHAT MERCURY WILL DO

Mercury's sole and exclusive obligation under this warranty is limited to, at our option, repairing a corroded part, replacing such part or parts with new or Mercury Marine certified re-manufactured parts, or refunding the purchase price of the Mercury product. Mercury reserves the right to improve or modify products from time to time without assuming an obligation to modify products previously manufactured.

### HOW TO OBTAIN WARRANTY COVERAGE

The customer must provide Mercury with a reasonable opportunity to repair, and reasonable access to the product for warranty service. Warranty claims shall be made by delivering the product for inspection to a Mercury dealer authorized to service the product. If purchaser cannot deliver the product to such a dealer, written notice must be given to Mercury. We will then arrange for the inspection and any covered repair. Purchaser in that case shall pay for all related transportation charges and/or travel time. If the service provided is not covered by this warranty, purchaser shall pay for all related labor and material, and any other expenses associated with that service. Purchaser shall not, unless requested by Mercury, ship the product or parts of the product directly to Mercury. The warranty registration card is the only valid registration identification and must be presented to the dealer at the time warranty service is requested in order to obtain coverage.

### WHAT IS NOT COVERED

This limited warranty does not cover electrical system corrosion; corrosion resulting from damage, corrosion which causes purely cosmetic damage, abuse or improper service; corrosion to accessories, instruments, steering systems; corrosion to factory installed jet drive unit; damage due to marine growth; product sold with less than a one year limited Product warranty; replacement parts (parts purchased by customer); products used in a commercial application. Commercial use is defined as any work or employment related use of the product, or any use of the product which generates income, for any part of the warranty period, even if the product is only occasionally used for such purposes.

Corrosion damage caused by stray electrical currents (on-shore power connections, nearby boats, submerged metal) is not covered by this corrosion warranty and should be protected against by the use of a corrosion protection system, such as the Mercury Precision Parts or Quicksilver MerCathode system and/or Galvanic Isolator. Corrosion damage caused by improper application of copper base anti-fouling paints is also not covered by this limited warranty. If anti-fouling protection is required, Tri-Butyl-Tin-Adipate (TBTA) base anti-fouling paints are recommended on Outboard and MerCruiser boating applications. In areas where TBTA base paints are prohibited by law, copper base paints can be used on the hull and transom. Do not apply paint to the outboard or MerCruiser product. In addition, care must be taken to avoid an electrical interconnection between the warranted product and the paint. Refer to the Operation and Maintenance Manual for additional details.

For additional information regarding events and circumstances covered by this warranty, and those that are not, see the Warranty Coverage section of the Operation and Maintenance Manual, incorporated by reference into this warranty.

#### DISCLAIMERS AND LIMITATIONS:

**THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. TO THE EXTENT THAT THEY CANNOT BE DISCLAIMED, THE IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE LIFE OF THE EXPRESS WARRANTY. INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE EXCLUDED FROM COVERAGE UNDER THIS WARRANTY. SOME STATES/COUNTRIES DO NOT ALLOW FOR THE DISCLAIMERS, LIMITATIONS AND EXCLUSIONS IDENTIFIED ABOVE, AS A RESULT, THEY MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER LEGAL RIGHTS WHICH VARY FROM STATE TO STATE AND COUNTRY TO COUNTRY.**

## WARRANTY INFORMATION

op5

### WARRANTY COVERAGE AND EXCLUSIONS

The purpose of this section is to help eliminate some of the more common misunderstandings regarding warranty coverage. The following information explains some of the types of services that are not covered by warranty. The provisions set forth following have been incorporated by reference into the Three-Year Limited Warranty Against Corrosion Failure, the International Limited Outboard Warranty, and the United States and Canada Limited Outboard Warranty.

Keep in mind that warranty covers repairs that are needed within the warranty period because of defects in material and workmanship. Installation errors, accidents, normal wear, and a variety of other causes that affect the product are not covered.

Warranty is limited to defects in material or workmanship, but only when the consumer sale is made in the country to which distribution is authorized by us.

Should you have any questions concerning warranty coverage, contact your authorized dealer. They will be pleased to answer any questions that you may have.

#### General exclusions from warranty:

1. Minor adjustments and tune-ups, including checking, cleaning or adjusting spark plugs, ignition components, carburetor settings, filters, belts, controls, and checking lubrication made in connection with normal services.
2. Factory Installed Jet Drive units - Specific parts excluded from the warranty are: The jet drive impeller and jet drive liner damaged by impact or wear, and water damaged drive shaft bearings as a result of improper maintenance.
3. Damage caused by neglect, lack of maintenance, accident, abnormal operation or improper installation or service.
4. Haul-out, launch, towing charges, removal and/or replacement of boat partitions or material because of boat design for necessary access to the product, all related transportation charges and/or travel time, etc. Reasonable access must be provided to the product for warranty service. Customer must deliver product to an authorized dealer.
5. Additional service work requested by customer other than that necessary to satisfy the warranty obligation.

## WARRANTY COVERAGE

op6

### WARRANTY COVERAGE AND EXCLUSIONS

6. Labor performed by other than an authorized dealer may be covered only under following circumstances: When performed on emergency basis (providing there are no authorized dealers in the area who can perform the work required or have no facilities to haul out, etc., and prior factory approval has been given to have the work performed at this facility).
7. All incidental and/or consequential damages (storage charges, telephone or rental charges of any type, inconvenience or loss of time or income) are the owner's responsibility.
8. Use of other than Mercury Precision or Quicksilver replacement parts when making warranty repairs.
9. Oils, lubricants or fluids changed as a matter of normal maintenance is customer's responsibility unless loss or contamination of same is caused by product failure that would be eligible for warranty consideration.
10. Participating in or preparing for racing or other competitive activity or operating with a racing type lower unit.
11. Engine noise does not necessarily indicate a serious engine problem. If diagnosis indicates a serious internal engine condition which could result in a failure, condition responsible for noise should be corrected under the warranty.
12. Lower unit and/or propeller damage caused by striking a submerged object is considered a marine hazard.
13. Water entering engine through the fuel intake, air intake or exhaust system. or submersion.
14. Failure of any parts caused by lack of cooling water, which results from starting motor out of water, foreign material blocking inlet holes, motor being mounted too high or trimmed too far out.
15. Use of fuels and lubricants which are not suitable for use with or on the product. Refer to the Maintenance Section.
16. Our limited warranty does not apply to any damage to our products caused by the installation or use of parts and accessories which are not manufactured or sold by us. Failures which are not related to the use of those parts or accessories are covered under warranty if they otherwise meet the terms of the limited warranty for that product.

## GENERAL INFORMATION

oba1

### BOATER'S RESPONSIBILITIES

The operator (driver) is responsible for the correct and safe operation of the boat and safety of its occupants and general public. It is strongly recommended that each operator (driver) read and understand this entire manual before operating the outboard.

Be sure at least one additional person on board is instructed in the basics of starting and operating the outboard and boat handling in case the driver is unable to operate the boat.

obb1

### BEFORE OPERATING YOUR OUTBOARD

Read this manual carefully. Learn how to operate your outboard properly. If you have any questions, contact your dealer.

Safety and operating information that is practiced along with using good common sense can help prevent personal injury and product damage.

This manual as well as safety labels posted on the outboard use the following safety alerts to draw your attention to special safety instructions that should be followed.

#### **⚠ DANGER**

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

#### **⚠ WARNING**

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

#### **⚠ CAUTION**

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

| U.S. COAST GUARD CAPACITY        |     |
|----------------------------------|-----|
| MAXIMUM HORSEPOWER               | XXX |
| MAXIMUM PERSON CAPACITY (POUNDS) | XXX |
| MAXIMUM WEIGHT CAPACITY          | XXX |

1

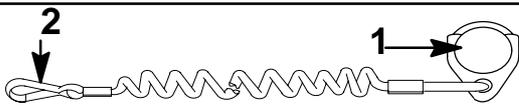
obc1

### BOAT HORSEPOWER CAPACITY

- 1 Do not overpower or overload your boat. Most boats will carry a required capacity plate indicating the maximum acceptable power and load as determined by the manufacturer following certain federal guidelines. If in doubt, contact your dealer or the boat manufacturer.

#### **⚠ WARNING**

Using an outboard that exceeds the maximum horsepower limit of a boat can: 1. cause loss of boat control 2. place too much weight at the transom altering the designed flotation characteristics of the boat or 3. cause the boat to break apart particularly around the transom area. Overpowering a boat can result in serious injury, death or boat damage.



obd6

### LANYARD STOP SWITCH

- 1 The purpose of a lanyard stop switch is to turn off the engine when the operator moves far enough away from the operator's position (as in accidental ejection from the operator's position) to activate the switch. Tiller handle outboards and some remote control units are equipped with a lanyard stop switch. A lanyard stop switch can be installed as an accessory – generally on the dashboard or side adjacent to the operator's position.
- 2 The lanyard is a cord usually between 4 and 5 feet (1220 and 1524 mm) in length when stretched out with an element on one end made to be inserted into the switch and a snap on the other end for attaching to the operator. The lanyard is coiled to make its at-rest condition as short as possible so as to minimize the likelihood of lanyard entanglement with nearby objects. It is made as long as it is in its stretched condition to minimize the likelihood of accidental activation should the operator choose to move around in an area close to the normal operator's position. If it is desired to have a shorter lanyard, wrap the lanyard around the operator's wrist or leg, or tie a knot in the lanyard.

### LANYARD STOP SWITCH (CONTINUED)

Read the following Safety Information before proceeding.

**Important Safety Information:** The purpose of a lanyard stop switch is to stop the engine when the operator moves far enough away from the operator's position to activate the switch. This would occur if the operator accidentally falls overboard or moves within the boat a sufficient distance from the operator's position. Accidental ejections and falls overboard are more likely to occur in certain types of boats such as low sided inflatables or bass boats, high-performance boats and light, sensitive-handling fishing boats operated by hand-tiller. Accidental ejections and falls overboard are also likely to occur as a result of poor operating practices such as sitting on the back of the seat or gunwale at planing speeds, standing at planing speeds, sitting on elevated fishing boat decks, operating at planing speeds in shallow or obstacle-infested waters, releasing your grip on a steering wheel or tiller handle that is pulling in one direction, drinking alcohol or consuming drugs, or daring, high-speed boat maneuvers.

While activation of the lanyard stop switch will stop the engine immediately, a boat will continue to coast for some distance depending upon the velocity and degree of any turn at shut-down. However, the boat will not complete a full circle. While the boat is coasting, it can cause injury to anyone in the boat's path as seriously as the boat would when under power.

We strongly recommend that other occupants be instructed on proper starting and operating procedures should they be required to operate the engine in an emergency (e.g. if the operator is accidentally ejected).

#### **⚠ WARNING**

**Should the operator fall out of the boat, the possibility of serious injury or death from being run over by the boat can be greatly reduced by stopping the engine immediately. Always properly connect both ends of the stop switch lanyard – to the stop switch and the operator.**

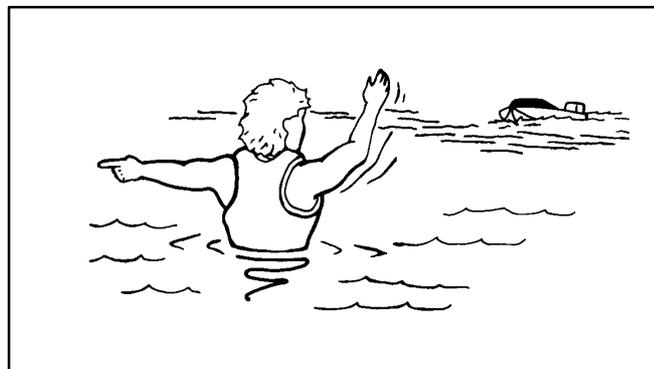
### LANYARD STOP SWITCH (CONTINUED)

Accidental or unintended activation of the switch during normal operation is also a possibility. This could cause any, or all, of the following potentially hazardous situations:

1. Occupants could be thrown forward due to unexpected loss of forward motion - a particular concern for passengers in the front of the boat who could be ejected over the bow and possibly struck by the gear case or propeller.
2. Loss of power and directional control in heavy seas, strong current or high winds.
3. Loss of control when docking.

#### **⚠ WARNING**

**Avoid serious injury or death from deceleration forces resulting from accidental or unintended stop switch activation. The boat operator should never leave the operator's station without first disconnecting the stop switch lanyard from the operator.**



obh2

### PROTECTING PEOPLE IN THE WATER

#### While You are Cruising

It is very difficult for a person standing or floating in the water to take quick action to avoid a boat heading in his/her direction even at slow speed.

Always slow down and exercise extreme caution any time you are boating in an area where there might be people in the water.

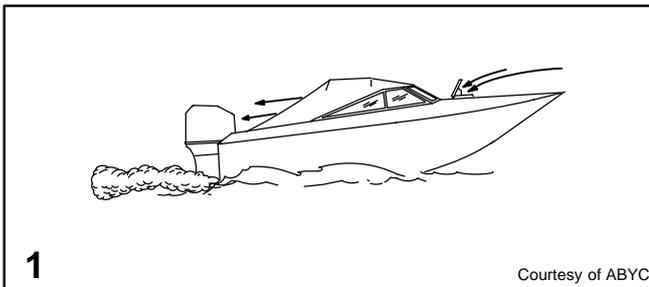
Whenever a boat is moving (coasting) and the outboard gear shift is in neutral position, there is sufficient force by the water on the propeller to cause the propeller to rotate. This neutral propeller rotation can cause serious injury.

#### While Boat is Stationary

Shift outboard into neutral and shut off the engine before allowing people to swim or be in the water near your boat.

#### **⚠ WARNING**

**Stop your engine immediately whenever anyone in the water is near your boat. Serious injury to the person in the water is likely if contacted by a rotating propeller, a moving boat, a moving gear case, or any solid device rigidly attached to a moving boat or gear case.**



Courtesy of ABYC

## GENERAL INFORMATION

### EXHAUST EMISSIONS

#### Be Alert To Carbon Monoxide Poisoning

Carbon monoxide is present in the exhaust fumes of all internal combustion engines including the outboards, stern drives and inboard engines that propel boats, as well as the generators that power various boat accessories. Carbon monoxide is a deadly gas that is odorless, colorless and tasteless.

Early symptoms of carbon monoxide poisoning which should not be confused with seasickness or intoxication, include headache, dizziness, drowsiness, and nausea.

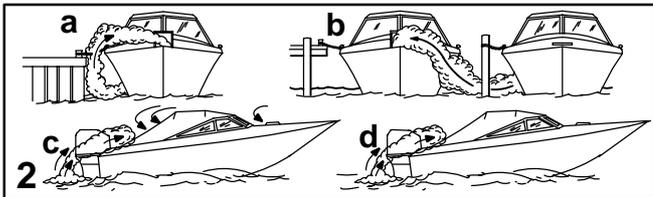
#### WARNING

Avoid the combination of a running engine and poor ventilation. Prolonged exposure to carbon monoxide in sufficient concentration can lead to unconsciousness, brain damage, or death.

#### Good Ventilation

Ventilate passenger area, open side curtains, or forward hatches to remove fumes.

#### 1 Example of desired air flow through the boat.



### EXHAUST EMISSIONS (CONTINUED)

#### Poor Ventilation

Under certain running and/or wind conditions, permanently enclosed or canvas enclosed cabins or cockpits with insufficient ventilation may draw in carbon monoxide. Install one or more carbon monoxide detectors in your boat.

Although the occurrence is rare, on a very calm day, swimmers and passengers in an unenclosed area of a stationary boat that contains or is near a running engine may be exposed to a hazardous level of carbon monoxide.

#### 2 Examples of Poor Ventilation:

While boat is stationary

- Running the engine when the boat is moored in a confined space.
- Mooring close to another boat that has its engine running.

While boat is moving

- Running the boat with the trim angle of the bow too high.
- Running the boat with no forward hatches open (station wagon effect).

### SELECTING ACCESSORIES FOR YOUR OUTBOARD

Genuine Mercury Precision or Quicksilver Accessories have been specifically designed and tested for your outboard. These accessories are available from Mercury Marine dealers.

Some accessories not manufactured or sold by Mercury Marine are not designed to be safely used with your outboard or outboard operating system. Acquire and read the installation, operation, and maintenance manuals for all your selected accessories.

#### WARNING

Check with your dealer before installation of accessories. The misuse of acceptable accessories or the use of unacceptable accessories can result in serious injury, death, or product failure.

obk1

## SAFE BOATING SUGGESTIONS

In order to safely enjoy the waterways, familiarize yourself with local and other government boating regulations and restrictions, and consider the following suggestions.

**Use flotation devices.** Have an approved personal flotation device of suitable size for each person aboard (it is the law) and have it readily accessible.

**Do not overload your boat.** Most boats are rated and certified for maximum load (weight) capacities (refer to your boat capacity plate). If in doubt, contact your dealer or the boats manufacturer.

**Perform safety checks and required maintenance.** Follow a regular schedule and ensure that all repairs are properly made.

**Know and obey all nautical rules and laws of the waterways.** Boat operators should complete a boating safety course. Courses are offered in the U.S.A. by (1) The U.S. Coast Guard Auxiliary, (2) The Power Squadron, (3) The Red Cross and (4) your state boating law enforcement agency. Inquiries may be made to the Boating Hot-line, 1-800-368-5647 or the Boat U.S. Foundation information number 1-800-336-BOAT.

**Make sure everyone in the boat is properly seated.** Don't allow anyone to sit or ride on any part of the boat that was not intended for such use. This includes backs of seats, gunwales, transom, bow, decks, raised fishing seats, any rotating fishing seat; anywhere that sudden unexpected acceleration, sudden stopping, unexpected loss of boat control or sudden boat movement could cause a person to be thrown overboard or into the boat.

**Never be under the influence of alcohol or drugs while boating (it is the law).** They impair your judgment and greatly reduce your ability to react quickly.

**Prepare other boat operators.** Instruct at least one person on board in the basics of starting and operating the outboard and boat handling in case the driver becomes disabled or falls overboard.

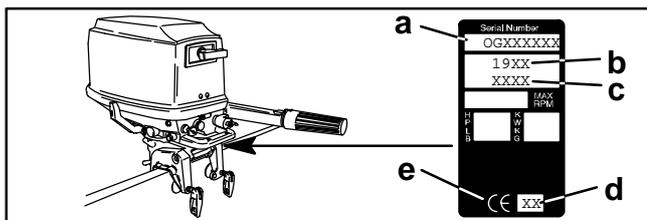
**Passenger boarding.** Stop the engine whenever passengers are boarding, unloading or are near the back (stern) of the boat. Just shifting the outboard into neutral is not sufficient.

**Be alert.** The operator of the boat is responsible by law to "maintain a proper lookout by sight (and hearing)." The operator must have an unobstructed view particularly to the front. No passengers, load, or fishing seats should block the operators view when operating the boat above idle speed.

**Never drive your boat directly behind a water skier in case the skier falls.** As an example, your boat traveling at 25 miles per hour (40 km/hr) in 5 seconds will overtake a fallen skier who was 200 feet (61m) in front of you.

**Watch fallen skiers.** When using your boat for water skiing or similar activities, always keep a fallen or down skier on the operator's side of the boat while returning to attend the skier. The operator should always have the down skier in sight and never back up to the skier or anyone in the water.

**Report accidents.** Boat operators are required by law to file a Boating Accident Report with their state boating law enforcement agency when their boat is involved in certain boating accidents. A boating accident must be reported if (1) there is loss of life or probable loss of life, (2) there is personal injury requiring medical treatment beyond first aid, (3) there is damage to boats or other property where the damage value exceeds \$500.00 or (4) there is complete loss of the boat. Seek further assistance from local law enforcement.



obh1

## RECORDING SERIAL NUMBER

It is important to record this number for future reference. The serial number is located on the outboard as shown.

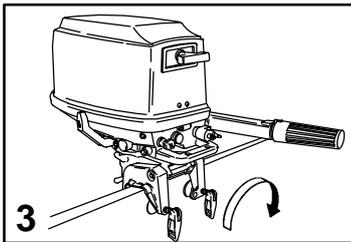
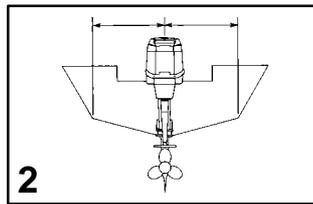
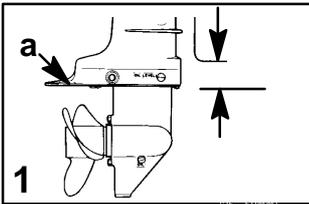
- Serial Number
- Model Year
- Model Designation
- Year Manufactured (Europe Only)
- Certified Europe Insignia (Europe Only)

## GENERAL INFORMATION

obm2

### SPECIFICATIONS

| Models                       | 4                                   | 5    |
|------------------------------|-------------------------------------|------|
| Horsepower                   | 4                                   | 5    |
| Kilowatts                    | 2.98                                | 3.73 |
| Full Throttle RPM Range      | 4500-5500                           |      |
| Idle Speed in Forward Gear   | 850 RPM                             |      |
| Number of Cylinders          | 1                                   |      |
| Piston Displacement          | 6.2 cu in. (102cc)                  |      |
| Cylinder Bore                | 2.165 in. (55mm)                    |      |
| Piston Stroke                | 1.693 in. (43mm)                    |      |
| Recommended Spark Plug       | NGK BPR7HS-10 or<br>Champion RL82YC |      |
| Spark Plug Gap               | .040 in. (1.0mm)                    |      |
| Gear Case Lubricant Capacity | 6.8 fl. oz. (200ml)                 |      |
| Gear ratio                   | 2.15:1                              |      |
| Recommended Gasoline         | Refer to Fuel Section               |      |
| Recommended Oil              | Refer to Fuel Section               |      |



## INSTALLATION

oc31

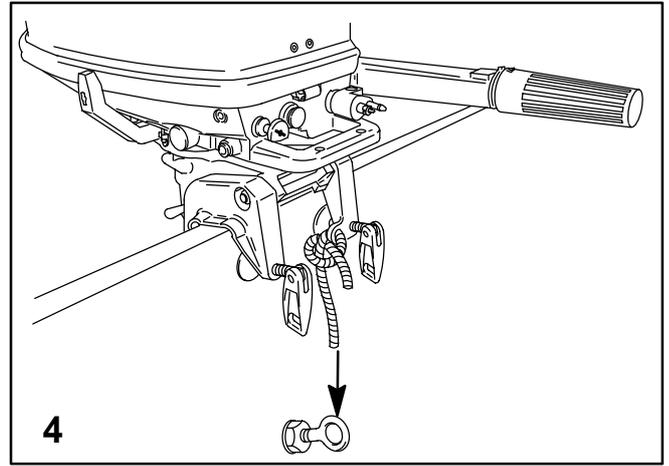
### INSTALLING OUTBOARD

#### Boat Transom Height Requirement

- 1 Measure the transom height of your boat. The boat bottom should be aligned or be within 1 in. to 2 in. (30-50mm) above the anti-ventilation plate (a) of the outboard.

#### Installing Outboard on Transom

- 2 Place outboard on center line of transom.
- 3 Tighten transom clamp handles.



oc31

### FASTENING SECURITY LINE

- 4 The primary purpose for installing a security line is to prevent loss of the outboard if the outboard becomes detached from the boat transom.

An effective security line should be of a working strength of at least five times the weight of the outboard.

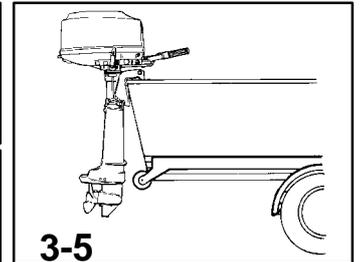
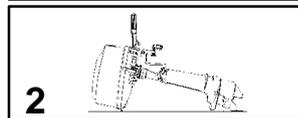
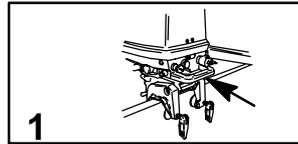
The security line should be attached between the boat and outboard following one of these steps.

Step 1. The length of the security line should be short enough and affixed in a manner to prevent the outboard from rising up and disengaging off the boat transom.

Step 2. The length of the security line should be long enough and affixed in a manner to permit a detached outboard to submerge completely behind the boat and stop running but not too short that could allow the outboard to continue running and propel itself back into the boat.

### ⚠ WARNING

If the length of security line being used is long enough to allow the outboard to disengage off the boat transom but is too short to not allow the outboard to submerge behind the boat and stop running, the outboard could continue running and propel itself back into the boat with the propeller rotating under power. This exposes the occupants to serious injury or death.



od

## TRANSPORTING

oda2

### CARRYING YOUR OUTBOARD

- 1 Your outboard has a carrying handle located in front.

### TRANSPORTING YOUR OUTBOARD WHEN REMOVED FROM BOAT

- 2 With the outboard still in the water, close the fuel valve or disconnect the remote fuel line (if equipped) and run engine until it stops, draining carburetor. Remove outboard from the boat and hold upright until all cooling water is drained out. Lay the outboard down on its back side so the tiller handle is facing up as shown. Place a protective pad under the outboard.

- 3 Close the fuel tank vent.

### TRAILERING YOUR BOAT

**IMPORTANT:** The tilt lock mechanism is not intended to support the outboard up in the tilted position when trailering your boat. Use of the tilt lock mechanism could allow the outboard to bounce and drop down causing damage to the outboard.

- 4 Your boat should be trailered with the outboard tilted down (normal operating position).
- 5 If additional ground clearance is required, remove the outboard from the boat and store securely. Additional clearance may be needed for railroad crossings, driveways, and trailer bouncing.
- 6 Set the gear shift into forward gear. This prevents the propeller from spinning freely.

## FUEL & OIL

### GASOLINE RECOMMENDATIONS

#### United States and Canada

Use a major brand of automotive unleaded gasoline with a minimum posted octane rating of 87. Mid-grade automotive gasolines that contain fuel injector cleaner are preferred for added internal engine cleanliness. Leaded gasoline is not recommended.

#### International

Use a major brand of automotive unleaded gasoline with a minimum posted octane rating of 90RON. Automotive gasolines that contain fuel injector cleaner are preferred for added internal engine cleanliness. Leaded gasoline is acceptable in areas where unleaded gasoline is not available.

#### Alcohol in Gasoline

We do not recommend the use of gasoline which contains alcohol because of the possible adverse effect the alcohol may have on the fuel system. In general, if only gasoline containing alcohol is available, it must not contain more than 10% ethanol or 5% methanol, and the addition of a Water Separating Fuel Filter is recommended.

If gasoline containing alcohol is used or if you suspect the presence of alcohol in your gasoline, increase your inspection of the fuel system, visually checking for fuel leaks or abnormalities.

Gasoline containing alcohol may cause the following problems to your outboard and fuel system:

- Corrosion of metal parts.
- Deterioration of elastomers and plastic parts.
- Wear and damage of internal engine parts.
- Starting and operating difficulties.
- Vapor lock or fuel starvation.

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

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

### OIL RECOMMENDATION

Mercury or Quicksilver Premium TC-W3 2-cycle oil is recommended for your engine. For added protection and lubrication, Mercury or Quicksilver Premium Plus TC-W3 2-cycle oil is recommended. If Mercury or Quicksilver is not available, substitute another brand of 2-cycle outboard oil that is NMMA Certified TC-W3. Severe engine damage may result from use of an inferior oil.

### NEW ENGINE GASOLINE/OIL BREAK-IN MIXTURE

Use a 25:1 (4%) gasoline/oil mixture in the first tank of fuel.

After the break-in fuel mixture is used up, use a 100:1 (1%) gasoline/oil mixture in engines used for pleasure applications. To provide additional protection for commercially used products, a 50:1 (2%) gasoline/oil mixture is recommended.

### Gasoline/Oil Mixing Ratio Chart

| Gas/Oil Ratio | 5 Liters Gas | 10 Liters Gas | 20 Liters Gas |
|---------------|--------------|---------------|---------------|
| 25:1 (4%)     | 200 ml Oil   | 400 ml Oil    | 800 ml Oil    |
| 50:1 (2%)     | 100 ml Oil   | 200 ml Oil    | 400 ml Oil    |
| 100:1 (1%)    | 50 ml Oil    | 100 ml Oil    | 200 ml Oil    |

### Mixing Procedure

Pour the full amount of oil along with approximately one gallon of gasoline into an approved container. Shake the two together until they are thoroughly mixed. Add the remainder of gasoline and shake container to ensure mixing.

### FILLING FUEL TANK

#### WARNING

Avoid serious injury or death from a gasoline fire or explosion. Always stop the engine and DO NOT smoke or allow open flames or sparks in the area while filling fuel tanks.

#### Internal Fuel Tank

Fill fuel tank outdoors away from heat, sparks, and open flames.

Always stop engine before refilling tank.

Do not overfill the fuel tank. Fuel will expand in volume as its temperature rises and can leak under pressure.

The oil and fuel mixture should always be thoroughly mixed in an approved container before pouring into motor fuel tank. Do not pour separately into fuel tank. Pour fuel into tank through a fine mesh strainer to remove dirt which may be present.

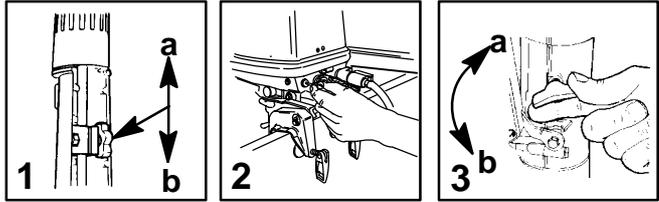
#### Remote Fuel Tank

Fill fuel tanks outdoors away from heat, sparks, and open flames.

Remove portable fuel tanks from boat to refill them.

Always stop engine before refilling tanks.

Do not completely fill the fuel tank. Leave approximately 10% of tank volume unfilled. Fuel will expand in volume as its temperature rises and can leak under pressure if tank is completely filled.



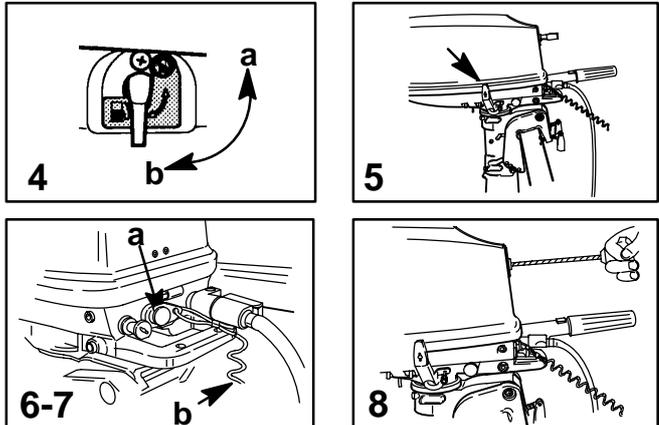
### FEATURES & CONTROLS

#### FEATURES & CONTROLS

- 1 Throttle Grip Friction Knob – Turn friction knob to set and maintain the throttle at desired speed. Turn knob towards (a) to tighten friction and move knob towards (b) to loosen friction.
- 2 Choke Knob – Pull out for starting a cold engine. Push halfway in as engine is warming up. Push in completely after engine is warmed up.
- 3 Steering Friction Adjustment – Adjust this knob to achieve the desired steering friction (drag) on the tiller handle. Move knob towards (a) to tighten friction and move knob towards (b) to loosen friction.

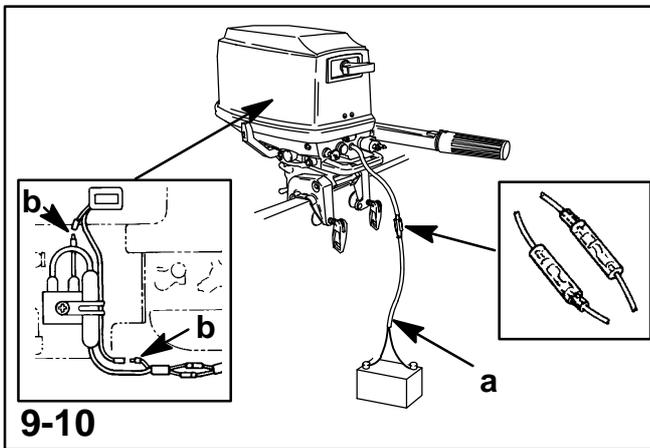
#### WARNING

Avoid possible serious injury or death from loss of boat control. Maintain sufficient steering friction to prevent the outboard from steering into a full turn if the tiller handle is released.



#### FEATURES & CONTROLS

- 4 Two Way Fuel Valve – Turn valve up (a) when using a remote fuel tank. Turn valve down (b) when using the internal fuel tank.
- 5 Side Handle Gear Shift – Controls gear shift.
- 6 Engine Stop Switch/Lanyard Stop Switch (a) – Push in or pull lanyard to stop engine. The engine will not start unless the lanyard is engaged with the stop switch.
- 7 Lanyard (b) – Read the Lanyard Stop Switch safety explanation and Warning in the General Information Section.
- 8 Starter Rope – Pulling the starter rope cranks the engine over for starting.



9-10

## FEATURES & CONTROLS

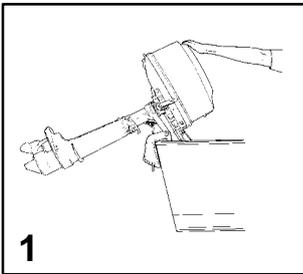
oga5

### FEATURES & CONTROLS

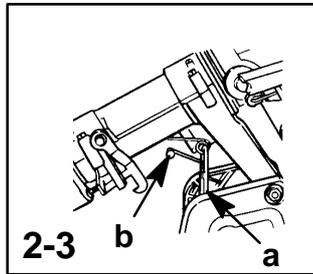
**9** 56 Watt Battery Charging Alternator (Sail Power Models Only) – Connect the battery charging harness (a) between the engine wiring harness and battery. Connect the red lead to the (+) positive battery terminal and the black lead to the (-) negative battery terminal.

**IMPORTANT:** If the battery charging alternator feature is not being used, disconnect the two yellow/red alternator leads (b) located on the side of the engine.

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



1



2-3

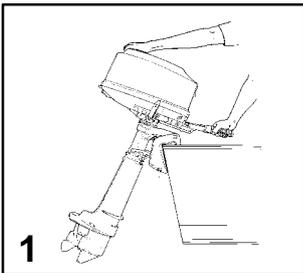
ogk2

### TILTING OUTBOARD TO FULL UP POSITION

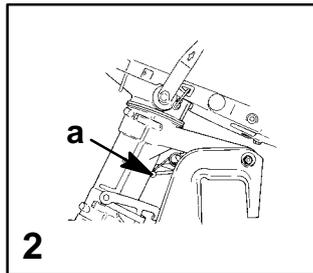
- 1 Stop the engine. Take hold of the top cowl grip and raise outboard to the full up position.
- 2 The spring loaded tilt lock lever (a) will engage automatically and lock the outboard in full up position.

### LOWERING OUTBOARD DOWN TO RUN POSITION

- 3 Raise the outboard and pull up on the tilt release (b). Gently lower outboard down.



1



2

ogk1

### SHALLOW WATER OPERATION

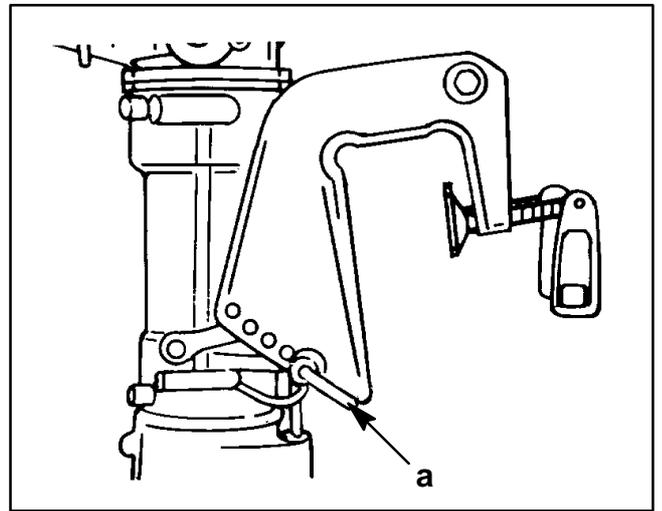
This outboard has a shallow water drive position to allow you to tilt the outboard to a higher tilt angle to prevent hitting bottom.

#### ENGAGING SHALLOW WATER DRIVE

- 1 Reduce engine speed to idle. Take hold of the top cowl grip and raise outboard to the higher tilt position. The spring loaded tilt lock lever will engage automatically and lock the outboard in the shallow water drive position. Be sure the cooling water intake is submerged.

**IMPORTANT:** Operate outboard at slow speed for shallow water operation and keep the cooling water intake submerged.

- 2 To release outboard back down to run position, tilt outboard up slightly and pull up on the tilt release lever (a). Gently lower outboard down.



ogq1

### SETTING THE OPERATING ANGLE OF YOUR OUTBOARD

The vertical operating angle of your outboard is adjusted by changing the position of the tilt pin (a) in the adjustment holes provided. Proper adjustment allows the boat to run stable, achieve optimum performance, and minimize steering effort.

The tilt pin should be adjusted so the outboard is positioned to run perpendicular to the water when the boat is running at full speed. This allows the boat to be driven parallel to the water.

Arrange passengers and load in the boat so the weight is distributed evenly.

of

## OPERATION

ofa1

### PRE-STARTING CHECK LIST

- Operator knows safe navigation, boating, and operating procedures.
- An approved personal flotation device of suitable size for each person aboard and readily accessible (it is the law).
- A ring type life buoy or buoyant cushion designed to be thrown to a person in the water.
- Know your boat's maximum load capacity. Look at the boat capacity plate.
- Fuel supply OK.
- Arrange passengers and load in the boat so the weight is distributed evenly and everyone is seated in a proper seat.
- Tell someone where you are going and when you expect to return.
- It is illegal to operate a boat while under the influence of alcohol or drugs.
- Know the waters and area you will be boating; tides, currents, sand bars, rocks, and other hazards.
- Make inspection checks listed in the Inspection and Maintenance Schedule. Refer to Maintenance Section.

onf2

### OPERATING IN FREEZING TEMPERATURES

When using your outboard or having your outboard moored in freezing or near freezing temperature, keep the outboard tilted down at all times so the gear case is submerged. This prevents trapped water in the gear case from freezing and causing possible damage to the water pump and other components.

If there is a chance of ice forming on the water, the outboard should be removed and drained completely of water. If ice should form at the water level inside the outboard drive shaft housing, it will block water flow to the engine causing possible damage.

## OPERATION

one3

### OPERATING IN SALT WATER OR POLLUTED WATER

We recommend that you flush the internal water passages of your outboard with fresh water after each use in salt or polluted water. This will prevent a buildup of deposits from clogging the water passages. Refer to "Flushing The Cooling System" procedure in the Maintenance Section.

If you keep your boat moored in the water, always tilt the outboard so the gear case is completely out of water (except in freezing temperature) when not in use.

Wash down the outboard exterior and flush out the exhaust outlet of the propeller and gear case with fresh water after each use. Each month, spray Mercury Precision or Quicksilver Corrosion Guard on external metal surfaces (do not spray on corrosion control anodes as this will reduce the effectiveness of the anodes).

one2

### OPERATING AT HIGH ELEVATIONS

Operating your outboard at an elevation higher than 2500 ft. (750 m) above sea level may require a carburetor jet change and/or different pitch propeller. Consult your dealer. This will reduce the normal performance loss experienced as a result of reduced oxygen in the air causing an overly rich fuel mixture.

**IMPORTANT:** To prevent serious damage to the engine caused by a lean fuel mixture, **DO NOT** operate your outboard (if the jets were changed for high elevation) at a lower elevation unless the jets are changed again to correspond to the new elevation.

old1

### ENGINE BREAK-IN PROCEDURE

#### ⚠ CAUTION

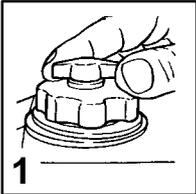
Severe damage to the engine can result by not complying with the Engine Break-in Procedure.

#### Engine Break-in Fuel Mixture

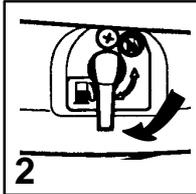
Use a 25:1 (4%) gasoline/oil mixture in the first tank of fuel.

#### Engine Break-in Procedure

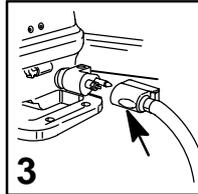
Vary the throttle setting during the first hour of operation. During the first hour of operation, avoid remaining at a constant speed for more than two minutes and avoid sustained wide open throttle.



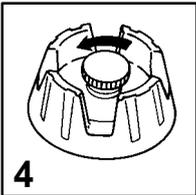
1



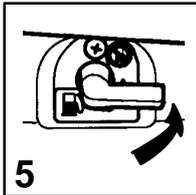
2



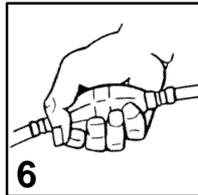
3



4



5



6

ofe4

### STARTING THE ENGINE

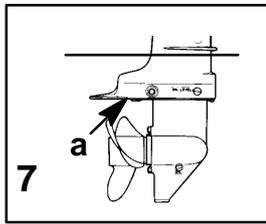
Before starting, read the Pre-Starting Check List, Special Operating Instructions, and Engine Break-in Procedure on the first three pages in the Operation Section.

#### Using the Internal Fuel Tank

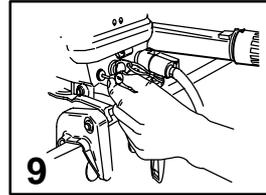
- 1 Open the vent on the internal fuel tank.
- 2 Move the two way fuel valve to the lower position.

#### Using a Remote Fuel Tank

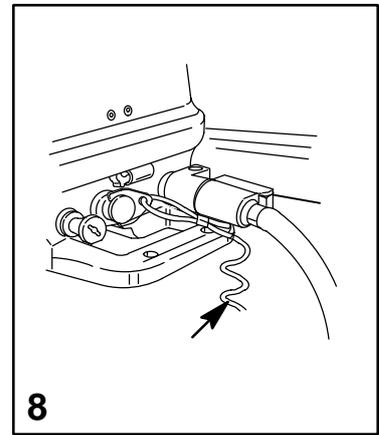
- 3 Connect the remote fuel line to the outboard. Make sure connector is snapped into place.
- 4 Open fuel tank vent on manual venting type tanks.
- 5 Move the two way fuel valve to the up position.
- 6 Squeeze the fuel line primer bulb several times until it feels firm.



7



9



8

ofe36

### STARTING THE ENGINE

#### Starting the engine

- 7 Lower the outboard to the run position. Make sure the cooling water intake (a) is submerged.

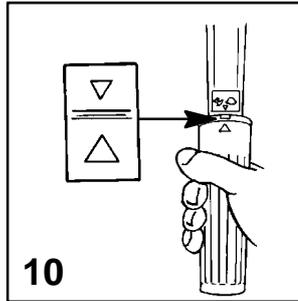
#### ⚠ CAUTION

Never start or run your outboard (even momentarily) without water circulating through the cooling water intake in the gear case to prevent damage to the water pump (running dry) or overheating of the engine.

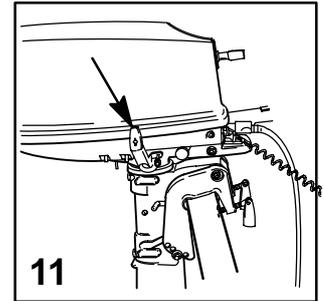
- 8 Attach the lanyard to the stop switch. Read the Lanyard Stop Switch safety explanation and Warning in the General Information Section.

*Note: The engine will not start unless the lanyard is engaged with the stop switch.*

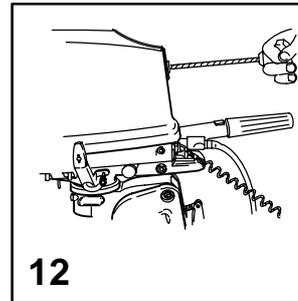
- 9 If engine is cold, pull out the choke. Push in the choke halfway as the engine is warming up. Push in completely after engine is warmed up.



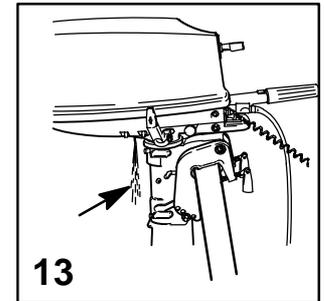
10



11



12



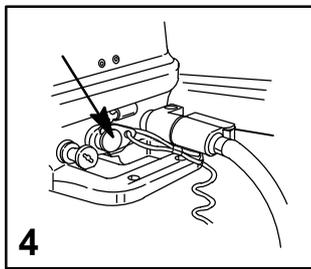
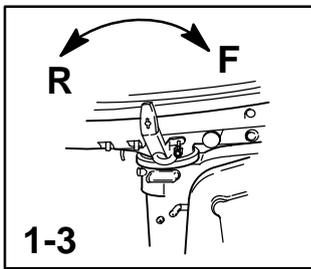
13

ofe6

### STARTING THE ENGINE

- 10 Move the throttle grip to the start position.
- 11 Move gear shift level to neutral position.
- 12 Pull the starter rope slowly until you feel the starter engage, then pull rapidly to crank the engine. Allow rope to return slowly. Repeat until engine starts.  
*Note: Starting Flooded Engine – Push-in the choke knob. Wait 30 seconds, then continue to crank engine for starting.*
- 13 Check for a steady stream of water flowing out of the water pump indicator hole.

**IMPORTANT:** If no water is coming out of the water pump indicator hole, stop engine and check cooling water intake for obstruction. No obstruction may indicate a water pump failure or blockage in the cooling system. These conditions will cause the engine to overheat. Have the outboard checked by your dealer. Operating the engine while overheated may cause serious engine damage.



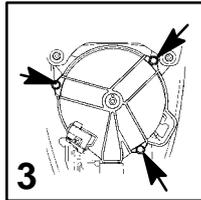
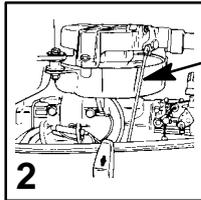
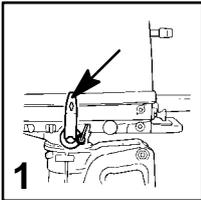
## OPERATION

### GEAR SHIFTING

- 1 Your outboard has three gear shift positions to provide operation: Forward (F), Neutral (out of gear), and Reverse (R).
- 2 Reduce throttle speed to idle speed.
- 3 Always shift outboard into gear with a quick motion.

### STOPPING THE ENGINE

- 4 Reduce engine speed and push in the stop switch or pull the lanyard.



### EMERGENCY STARTING

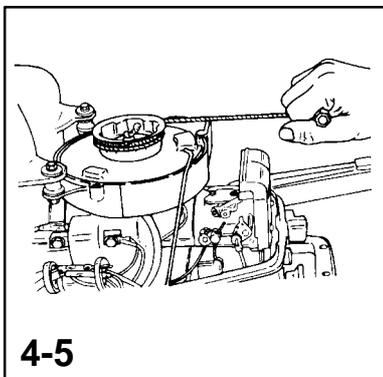
If the starter rope should break or the rewind starter fails, use the spare starter rope (provided) and follow this procedure.

- 1 Shift outboard to neutral position.

#### WARNING

When using emergency starter rope to start engine, the start at idle speed protection is inoperative. Make sure to have the engine speed set at slow and the outboard gear shift positioned in neutral to prevent outboard from starting in gear. Sudden unexpected acceleration could result in serious injury or death.

- 2 Disconnect linkage from rewind starter assembly.
- 3 Remove three bolts and rewind starter assembly.



### EMERGENCY STARTING.

#### WARNING

To prevent getting an electrical shock, DO NOT touch any ignition component, wiring, or spark plug wire when starting or running the engine.

#### WARNING

The exposed moving flywheel can cause serious injury. Keep your hands, hair, clothing, tools, and other objects away from engine when starting or running the engine. Do not attempt to reinstall the rewind starter assembly or top cowl when engine is running.

- 4 Place the starter rope knot into the starter cup notch and wind the rope clockwise around the cup.
- 5 Pull the starter rope to start the engine.

## MAINTENANCE

### OUTBOARD CARE

To keep your outboard in the best operating condition, it is important that your outboard receive the periodic inspections and maintenance listed in the Inspection and Maintenance Schedule. We urge you to keep it maintained properly to ensure the safety of you and your passengers and retain its dependability.

#### WARNING

Neglected inspection and maintenance service of your outboard or attempting to perform maintenance or repair on your outboard if you are not familiar with the correct service and safety procedures could cause personal injury, death, or product failure.

Record maintenance performed in Maintenance Log at the back of this book. Save all maintenance work orders and receipts.

### SELECTING REPLACEMENT PARTS FOR YOUR OUTBOARD

We recommend using original Mercury Precision or Quicksilver replacement parts and Genuine Lubricants.

#### WARNING

Using a replacement part that is inferior to the original part could result in personal injury, death, or product failure.

| MERCURY  |   | EMISSION CONTROL INFORMATION        |   |
|--|---|-------------------------------------|---|
| This engine conforms to <input type="checkbox"/> model year EPA regulations for Marine SI engines. Refer to Owner's Manual for required maintenance. |   |                                     |   |
| a  | IDLE SPEED: <input type="text"/>                | FAMILY: <input type="text"/>        | f |
| b  | <input type="text"/> hp <input type="text"/> cc | FEL: <input type="text"/> g/kWh     | g |
| c  | TIMING (IN DEGREES): <input type="text"/>       |                                     | h |
| d  | Standard spark plug: <input type="text"/>       |                                     | i |
|  | Suppressor spark plug: <input type="text"/>     |                                     |   |
|  | GAP: <input type="text"/>                       |                                     |   |
| e  | Valve Clearance (Cold) mm <input type="text"/>  | Intake Exhaust <input type="text"/> |   |

### EMISSION CERTIFICATION LABEL

An emission certification label, showing emission levels and engine specifications directly related to emissions, is placed on the engine at time of manufacture.

- |                                    |  |
|------------------------------------|--|
| a. Idle Speed                      | f. Family Number                                 |
| b. Engine Horsepower               | g. Maximum Emission Output for the Engine Family |
| c. Timing Specification            | h. Piston Displacement                           |
| d. Recommended Spark Plug & Gap    | i. Date of Manufacture                           |
| e. Valve Clearance (if Applicable) |  |

### OWNER RESPONSIBILITY

The owner/operator is required to have engine maintenance performed to maintain emission levels within prescribed certification standards.

The owner/operator is not to modify the engine in any manner that would alter the horsepower or allow emissions levels to exceed their predetermined factory specifications.

## MAINTENANCE

ohd26

### INSPECTION AND MAINTENANCE SCHEDULE

#### Before Each Use

1. Visually inspect the fuel system for deterioration or leaks.
2. Check outboard for tightness on transom.
3. Check steering system for binding or loose components.
4. Check propeller blades for damage.

#### After Each Use

1. Flush out the outboard cooling system if operating in salt or polluted water. (page 14)
2. Wash off all salt deposits and flush out the exhaust outlet of the propeller and gear case with fresh water if operating in salt water.

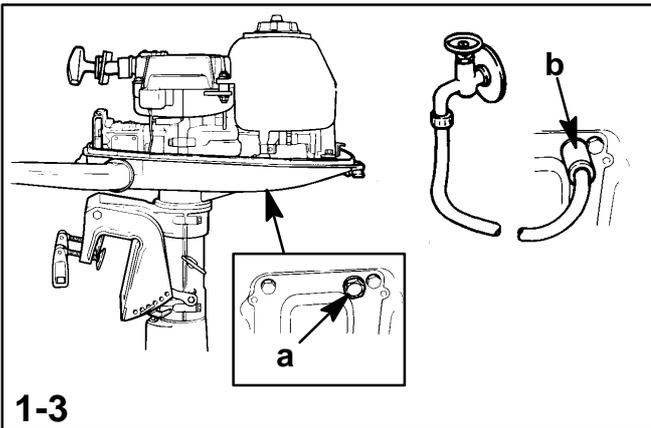
#### Every 100 Hours of Use or Once yearly, Whichever occurs first

1. Lubricate all lubrication points. Lubricate more frequently when used in salt water. (page 16)
2. Inspect and clean spark plug. (page 15)
3. Drain and replace gear case lubricant. (page 16)
4. Check carburetor adjustments, if required. (page 15)
5. Check fuel line filter for contaminants. (page 14)
6. Check corrosion control anode. Check more frequently when used in salt water. (page 14)
7. Lubricate splines on the drive shaft.\*
8. Replace water pump impeller.\*
9. Check tightness of bolts, nuts, and other fasteners.

#### Before Periods of Storage

1. Refer to Storage procedure. (page 17)

\* These items should be serviced by an authorized dealer.



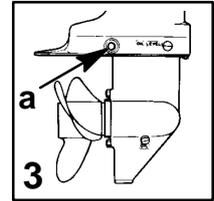
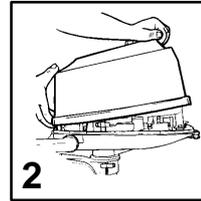
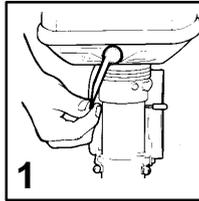
ohd23

### FLUSHING THE COOLING SYSTEM

Flush the internal water passages of the outboard with fresh water after each use in salt, polluted, or muddy water. This will help prevent a buildup of deposits from clogging the internal water passages.

*Note: Do not run the engine while flushing the cooling system.*

1. Remove plug and gasket (a) and thread-in hose coupling (b).
2. Attach a water hose to the hose coupling. Turn on the water gently and flush the cooling system for 3 to 5 minutes.
3. Remove the thread-in hose coupling and reinstall plug and gasket.



ohf2

### TOP COWL REMOVAL AND INSTALLATION

#### Removal

1. Unlock the rear latch by pushing lever down.
2. Lift rear of cowl and disengage front hook.

#### Installation

Engage the front hook and push cowl back over the cowl seal. Push cowl down and move the rear latch lever up to lock.

ohk1

### CORROSION CONTROL ANODE

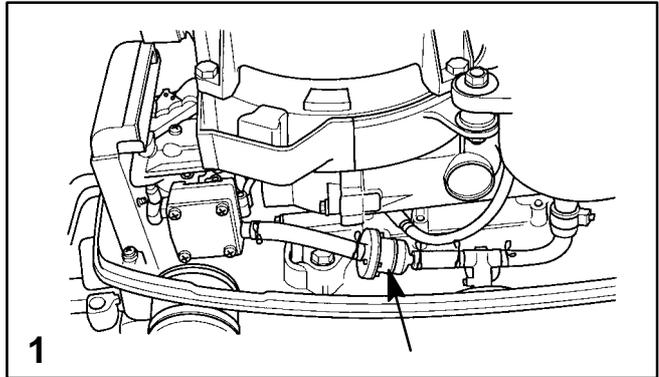
Your outboard has a corrosion control anode (a) installed to the gear case. An anode helps protect the outboard against galvanic corrosion by sacrificing its metal to be slowly eroded instead of the outboard metals.

3. The anode requires periodic inspection especially in salt water which will accelerate the erosion. To maintain this corrosion protection, always replace the anode before it is completely eroded. Never paint or apply a protective coating on the anode as this will reduce effectiveness of the anode.

ohh1

### EXTERIOR CARE

Your outboard is protected with a durable baked enamel finish. Clean and wax often using marine cleaners and waxes.



ohh1

### FUEL SYSTEM

#### ⚠ WARNING

**Avoid serious injury or death from gasoline fire or explosion. Carefully follow all fuel system service instructions. Always stop the engine. DO NOT smoke or allow open flames or sparks in the area while servicing any part of the fuel system.**

Before servicing any part of the fuel system, stop engine and disconnect the battery. Drain the fuel system completely. Use an approved container to collect and store fuel. Wipe up any spillage immediately. Material used to contain spillage must be disposed of in an approved receptacle. Any fuel system service must be performed in a well-ventilated area. Inspect any completed service work for signs of fuel leakage.

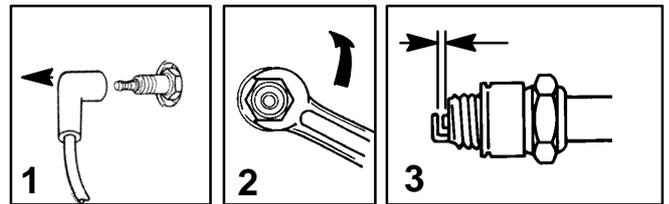
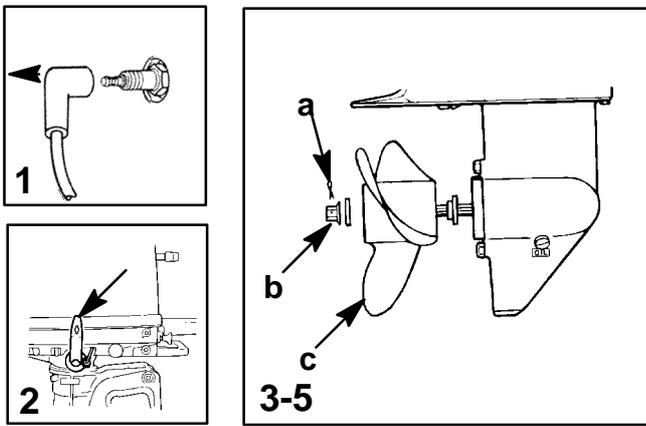
#### Fuel Line Filter

1. Inspect the fuel line filter. If the filter appears to be contaminated, remove and replace.

**IMPORTANT: Visually inspect for fuel leakage from the filter connections by squeezing the primer bulb until firm, forcing fuel into the filter.**

#### Fuel Line Inspection

Visually inspect the fuel line and primer bulb for cracks, swelling, leaks, hardness, or other signs of deterioration or damage. If any of these conditions is found, the fuel line or primer bulb must be replaced.



### ohm20 SPARK PLUG INSPECTION AND REPLACEMENT

#### ⚠ WARNING

Avoid serious injury or death from fire or explosion caused by a damaged spark plug boot (a). A damaged spark plug boot can emit sparks. Sparks can ignite fuel vapors under the engine cowl. To avoid damaging the spark plug boot, do not use any sharp object or metal tool such as pliers, screwdriver, etc. to remove the spark plug boot.

- 1 Remove the spark plug boot (a) by twisting the rubber boot slightly and pull off.
- 2 Remove the spark plug to inspect and clean. Replace spark plug if electrode is worn or the insulator is rough, cracked, broken, blistered or fouled.
- 3 Set the spark plug gap. See Specification Chart in General Information Section.
- 4 Before reinstalling spark plug, clean away dirt on the spark plug seat. Install plug finger tight, and tighten 1/4 turn or torque to 20 lb. ft. (27 N-m).

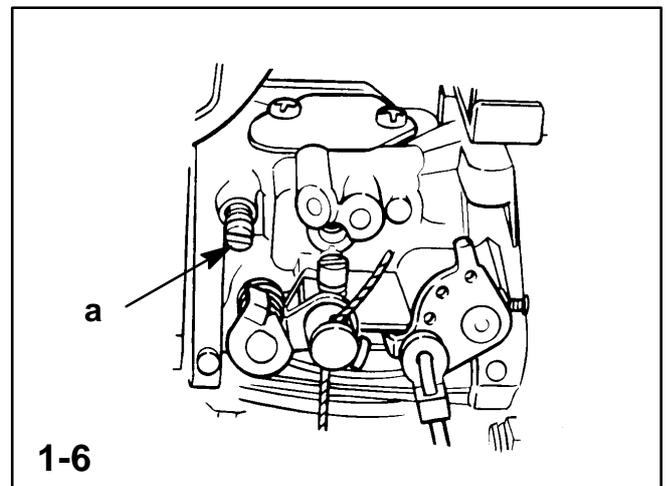
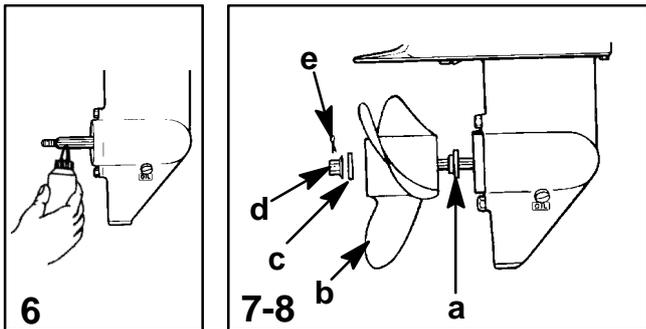
## MAINTENANCE

### oh13 PROPELLER REPLACEMENT

#### ⚠ WARNING

If the propeller shaft is rotated while the engine is in gear, there is the possibility that the engine will crank over and start. To prevent this type of accidental engine starting and possible serious injury caused from being struck by a rotating propeller, always shift outboard to neutral position and remove spark plug leads when you are servicing the propeller.

- 1 Remove the spark plug lead to prevent engine from starting.
- 2 Move gear shift lever into neutral.
- 3 Straighten and remove cotter pin (a).
- 4 Place a block of wood between gear case and propeller to hold propeller and remove propeller nut (b).
- 5 Pull propeller (c) straight off shaft. If propeller is seized to the shaft and cannot be removed, have the propeller removed by an authorized dealer.



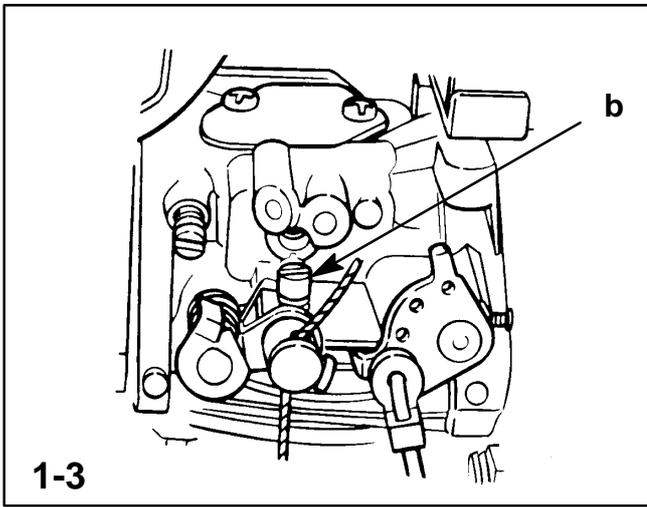
### oh139 PROPELLER REPLACEMENT (CONTINUED)

- 6 Coat the propeller shaft with Quicksilver or Mercury Precision Lubricants Anti-Corrosion Grease or 2-4-C Marine Lubricant with Teflon.
- IMPORTANT:** To prevent the propeller hub from corroding and seizing to the propeller shaft, especially in salt water, always apply a coat of the recommended lubricant to the entire propeller shaft at the recommended maintenance intervals and also each time the propeller is removed.
- 7 Install front thrust washer (a), propeller (b), rear thrust hub (c) and propeller nut (d) onto the shaft.
  - 8 Place a block of wood between gear case and propeller to prevent rotation and tighten propeller nut. Secure propeller nut to the shaft with cotter pin (e).

### ohx1 CARBURETOR ADJUSTMENTS

#### Slow Speed Mixture Adjustment

- 1 Before starting engine, turn the slow speed mixture screw (a) in until it is lightly seated then back it out 1-1/2 turns.
- 2 With the boat tied securely to dock, start engine and allow it to warm up.
- 3 Shift the outboard to forward gear and reduce engine speed to idle.
- 4 Turn the slow speed mixture screw slowly in until the engine starts to misfire or stall due to a lean mixture. Note the position of the screw slot.
- 5 Turn the slow speed mixture screw slowly out until the engine starts to "load up" or fire unevenly due to a rich mixture.
- 6 Set the slow speed mixture screw midway between the rich and lean setting. When in doubt, set the mixture slightly rich rather than too lean.



1-3

## MAINTENANCE

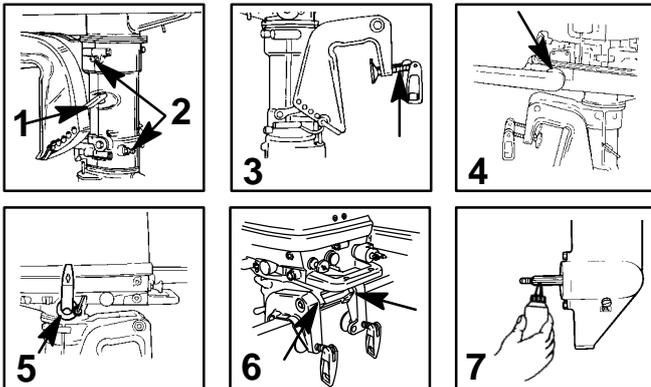
oh2

### Engine Idle Speed Adjustment

- 1 With boat tied securely to dock, start engine and allow it to warm up.
- 2 Shift outboard to forward gear and reduce engine speed to idle.
- 3 Adjust the idle speed screw (b) to obtain the recommended engine idle speed (Refer to Specification Chart in General Information Section).

### High Speed Mixture Adjustment

The carburetor is equipped with a standard size high speed fixed jet that is replaceable for operation at higher elevations.



oh64

### LUBRICATION POINTS

Lubricate Points 1 thru 5 with Quicksilver or Mercury Precision Lubricants 2-4-C Marine Lubricant with Teflon or Special Lubricate 101.

- 1 Co-Pilot - Lubricate threads.
- 2 Swivel Bracket - Lubricate fittings.
- 3 Transom Clamp Screws - Lubricate threads.

*Note: Lubricating points 4 and 5 require disassembly of the product. These points should be lubricated at least once a year by an authorized dealer.*

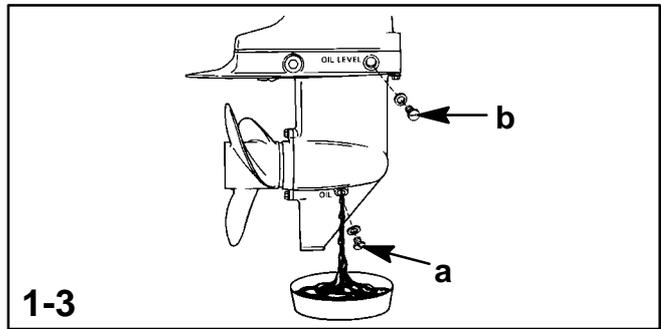
- 4 Tiller Handle Rubber Bushing - Lubricate internal diameter.
- 5 Shift Handle Detent - Lubricate detent.

### Lubricate Point 6 With light weight oil

- 6 Tilt Pivot.

Lubricate point 7 with Quicksilver or Mercury Precision Lubricants Anti-Corrosion Grease or 2-4-C Marine Lubricant with Teflon.

- 7 Propeller Shaft – Refer to Propeller Replacement for removal and installation of the propeller. Coat the entire propeller shaft with lubricant to prevent the propeller hub from corroding to the shaft.



1-3

oh1

### GEAR CASE LUBRICATION

When adding or changing gear case lubricant, visually check for the presence of water in the lubricant. If water is present, it may have settled to the bottom and will drain out prior to the lubricant, or it may be mixed with the lubricant, giving it a milky colored appearance. If water is noticed, have the gear case checked by your dealer. Water in the lubricant may result in premature bearing failure or, in freezing temperatures, will turn to ice and damage the gear case.

Also examine the gear case lubricant for metal particles. A small amount of metal filings or fine metal particles indicates normal gear wear. An excessive amount of metal filings or larger particles (chips) may indicate abnormal gear wear and should be checked by an authorized dealer.

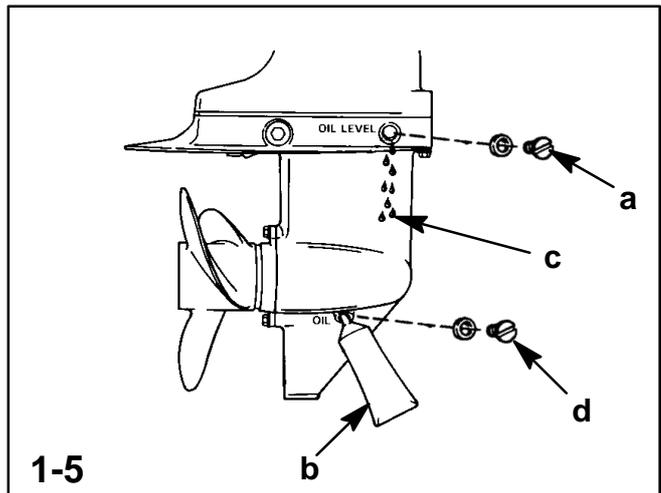
### Draining Gear Case

- 1 Place outboard in a vertical operating position.
- 2 Place drain pan below outboard.
- 3 Remove fill/drain plug (a) and vent plug (b) and drain lubricant.

oh2

### Gear Case Lubricant Capacity

Gear case lubricant capacity is approximately 6.8 fl. oz. (200ml).



1-5

oh2

### GEAR CASE LUBRICATION (CONTINUED)

#### Checking Lubricant Level and Refilling Gear case

- 1 Place outboard in a vertical operating position.
- 2 Remove vent plug (a).
- 3 Place lubricant tube (b) into the fill hole and add lubricant until it appears at the vent hole (c).
- 4 Stop adding lubricant. Install the vent plug and sealing washer (a) before removing the lubricant tube.
- 5 Remove lubricant tube and reinstall cleaned fill/drain plug and sealing washer (d).

oh1

### SUBMERGED OUTBOARD

A submerged outboard will require service within a few hours by an authorized dealer once the outboard is recovered from the water. This immediate attention by a servicing dealer is necessary once the engine is exposed to the atmosphere to minimize internal corrosion damage to the engine.

## STORAGE

oia1

### STORAGE PREPARATION

The major consideration in preparing your outboard for storage is to protect it from rust, corrosion, and damage caused by freezing of trapped water.

The following storage procedures should be followed to prepare your outboard for out-of-season storage or prolonged storage (two months or longer).

#### **⚠ CAUTION**

**Never start or run your outboard (even momentarily) without water circulating through the cooling water intake in the gear case to prevent damage to the water pump (running dry) or overheating of the engine.**

oib12

### Fuel system

**IMPORTANT: Gasoline containing alcohol (ethanol or methanol) can cause a formation of acid during storage and can damage the fuel system. If the gasoline being use contains alcohol, it is advisable to drain as much of the remaining gasoline as possible from the fuel tank and engine fuel system.**

Fill the fuel system (tank, hoses, and carburetor) with treated (stabilized) fuel at 2% gasoline/oil mix to help prevent corrosion and the formation of varnish and gum. Proceed with following instructions.

1. Pour the required amount of Gasoline Stabilizer (follow instructions on container) into fuel tank. Tip fuel tank back and forth to mix stabilizer with the fuel.
2. Place the outboard in water. Run the engine for five minutes to allow treated fuel to reach the carburetor.

oic4

### Protecting External Outboard Components

3. Lubricate all outboard components listed in the Inspection and Maintenance Schedule.
4. Touch up any paint nicks. See your dealer for touch-up paint.
5. Spray Quicksilver or Mercury Precision Lubrications Corrosion Guard on external metal surfaces (except corrosion control anodes).

oid13

### Protecting Internal Engine Components

*Note: Before performing Steps 6 and 7, make sure the fuel system has been prepared for storage. Refer to Fuel System on previous page.*

6. Place the outboard in water. Start the engine and let it run in neutral to warm up.
7. With engine running at fast idle, stop the fuel flow by closing the fuel shut-off valve. When engine begins to stall, quickly spray Quicksilver or Mercury Precision Lubricants Storage Seal into carburetor until engine stops from lack of fuel.
8. Remove the spark plug and inject a five second spray of Storage Seal around the inside of the cylinder.
9. Rotate the flywheel manually several times to distribute the storage seal in the cylinder. Reinstall spark plug.

oia1

### Gear Case

10. Drain and refill the gear case lubricant (refer to maintenance procedure).

### Positioning Outboard for Storage

Store outboard in an upright position to allow water to drain out of outboard.

#### **⚠ CAUTION**

**If outboard is stored tilted up in freezing temperature, trapped cooling water or rain water that may have entered the propeller exhaust outlet in the gear case could freeze and cause damage to the outboard.**

or

## OWNER SERVICE ASSISTANCE

eor6

### LOCAL REPAIR SERVICE

Always return your outboard to your local authorized dealer should the need for service arise. Only he has the certified mechanics, knowledge, special tools and equipment and the genuine parts and accessories to properly service your engine should the need occur. He knows your engine best.

eor2

### SERVICE AWAY FROM HOME

If you are away from your local dealer and the need arises for service, contact the nearest authorized dealer. Refer to the Yellow Pages of the telephone directory. If, for any reason, you cannot obtain service, contact the nearest Mercury Marine (International) Marine Power Service Office

or7

### PARTS AND ACCESSORIES INQUIRES

All inquiries concerning genuine replacement parts and accessories should be directed to your local authorized dealer. The dealer has the necessary information to order parts and accessories for you. When inquiring on parts and accessories, the dealer requires the model and serial number to order the correct parts.

eor4

### SERVICE ASSISTANCE

Your satisfaction with your outboard product is very important to your dealer and to us. If you ever have a problem, question or concern about your outboard product, contact your dealer or any Authorized Dealership. If additional assistance is required, take these steps.

1. *Talk with the dealership's sales manager or service manager. If this has already been done, then contact the owner of the dealership.*
2. *Should you have a question, concern or problem that cannot be resolved by your dealership, please contact Mercury Marine Service Office (International) Marine Power branch or distributor Service for assistance. They will work with your dealership to resolve all problems.*

The following information will be needed by the service office:

- Your name and address
- Daytime telephone number
- Model and serial number of your outboard
- The name and address of your dealership
- Nature of problem

Mercury Marine Service Offices are listed on the next page.

**OWNER SERVICE ASSISTANCE****MERCURY MARINE SERVICE OFFICES**

For assistance, call, fax, or write. *Please include your daytime telephone number with mail and fax correspondence.*

|  |  |                      |
|---|---|---|
| <b>United States</b>  |   |   |
| (920) 929 - 5040  | (920) 929 - 5893  | Mercury Marine<br>W6250 W. Pioneer Road, P.O. Box 1939<br>Fond du Lac, WI 54936 - 1939, USA             |
| <b>Canada</b>   |   |   |
| (905) 567-6372  | (905) 567-8515  | Mercury Marine Ltd.<br>2395 Meadowpine Blvd.<br>Mississauga, Ontario<br>L5N 7W6                         |
| <b>Australia, Pacific</b>   |   |   |
| (61) (3) 9791 - 5822  | (61) (3) 9793 - 5880  | Mercury Marine Australia<br>132 - 140 Frankston Road<br>Dandenong, Victoria 3164, Australia             |
| <b>Europe, Middle East, Africa</b>  |   |   |
| (32) (87) 32 • 32 • 11  | (32) (87) 31 • 19 • 65  | Marine Power - Europe, Inc.<br>Parc Industriel de Petit - Rechain<br>B - 4800 Verviers, Belgium         |
| <b>Mexico, Central America, South America, Caribbean</b>                          |   |   |
| (305) 385 - 9585  | (305) 385 - 5507  | Mercury Marine - Latin America & Caribbean<br>9010 S.W. 137th Ave., Suite 226<br>Miami, FL 33186 U.S.A. |
| <b>Japan</b>  |   |   |
| (81) 53-423-2500  | (81) 53-423-2510  | Mercury Marine - Japan<br>283-1 Anshin-cho<br>Hamamatsu,<br>Shizuoka, 435-0005 Japan                    |
| <b>Asia, Singapore</b>  |   |   |
| 5466160   | 5467789   | Mercury Marine Singapore<br>72 Loyang Way<br>Singapore 508762   |



