

2005

EVINRUDE®

Direct Injection

100 - 250 HORSEPOWER

FPL, FSL, FPX, FCX, FPZ, FCZ, FHL



WARNING
Read this Operator Guide thoroughly. It contains important safety information. When operating your boat, always have this Operator Guide onboard.

Our First Words to the Owner/Operator

This Operator's Guide is an essential part of your *Evinrude*® outboard. It contains pertinent information which, if followed, will provide you with a thorough understanding needed for proper operation, maintenance, care and above all safety!

The safety section of this Guide comes first because it is our first priority and it should be yours too. It is strongly recommended that you read this Guide from front cover to rear cover. Following this recommendation will assure the completeness of the information that is essential to your safety, the safety of any passengers and other boaters. An Operator's Readiness Test has been prepared on the last page of this Guide.

Be safe! All passengers should be familiar with the proper operation of your boat and *Evinrude* outboard. Be certain they fully understand and respect the controls and operation. Each operator is responsible for the safety of all passengers and other boaters. Please make safety your first priority and complete a boating safety course through your local Coast Guard, Power Squadron, Red Cross or State Boating Law Agency.

The pleasures of owning and operating an *Evinrude* outboard can be significant. We strongly believe the rewards for following our recommendations will be worthwhile. Remember that YOU are the key to safety. Good safety practices not only protect you but also protect the people around you.

Having fun is what it's all about and, with your cooperation, the pertinent information in this Guide can ensure a safe and enjoyable experience.

Enjoy the great outdoors on the water...



WARNING



Be careful! Human error is caused by many factors: carelessness, fatigue, overload, preoccupation, unfamiliarity of operator with the product, drugs and alcohol to name a few. Damage to your boat and outboard can be fixed in a short period of time, but injury or death, has a lasting effect.

For your safety and the safety of others, read this Guide from cover to cover and follow all safety warnings and recommendations. Do not disregard any of the safety precautions and instructions.

Anyone operating your boat should first read and understand this Guide before they operate your boat and motor.

The following trademarks are the property of Bombardier Motor Corporation of America or its affiliates:

Evinrude®

Evinrude®/*Johnson*® *Genuine Parts*

Evinrude®/*Johnson*® *XD25™ formula*

Hi-Vis® *gearcase lubricant*

Johnson®

2+4® *fuel conditioner*

S.L.O.W.™

SystemCheck™

Triple-Guard® *grease*

Ultra-HPF™ *gearcase lubricant*

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GENERAL INFORMATION



SAFETY — THE RIGHT PLACE TO GET STARTED



This Operator's Guide contains essential information to help prevent personal injury and damage to equipment. It will acquaint the operator and passengers with the *Evinrude* outboard and its controls, operation, maintenance and boating safety measures. Make sure all operators read, understand and follow the contents. This Guide should be kept in a waterproof bag with the product at all times during operation. If the product ownership is transferred, this Guide should be forwarded to the subsequent owners.

This Operator's Guide uses the following signal words identifying important safety messages. These safety alert signal words mean:

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

	DANGER	
Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.		

	WARNING	
Indicates a potentially hazardous situation which, if not avoided, CAN result in severe injury or death.		


	CAUTION	
Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate personal injury or property damage. It also may be used to alert against unsafe practices.		


IMPORTANT: Identifies information that will help prevent damage to machinery and appears next to information that controls correct assembly and operation of the product.

Although the mere reading of such information does not eliminate the hazard, the understanding and application of the information will promote the correct use of your outboard engine.


A responsible, educated boater will fully appreciate the pleasures of boating and will be a safe boater. Boating Safety Classes are conducted by the U.S. Coast Guard Auxiliary, the U.S. Power Squadron and some Red Cross Chapters. For information about classes, call toll free 1-800-336-BOAT. For additional information about boating safety and regulations call: U.S. Coast Guard Boating Safety Hotline 1-800-368-5647. Outside North America please contact your Dealer or distributor for details about boating safety.


SAFETY MEASURES — General


 To fully appreciate the pleasures, enjoyment and excitement of boating there are some basic rules that should be observed and followed by any boater. Some rules may be new to you and others may be common sense or obvious... Irrespective, take them seriously! Failure to follow this safety information and safe boating rules could result in injury to you, your passengers or other water users.


 Become completely familiar with the control and operation of your boat and motor before embarking on your first trip or taking on a passenger(s). If you have not had the opportunity to do so with your Dealer, practice driving in a suitable area and feel the response of each control. Be familiar with all controls before applying the throttle above idle speed. As the operator, you are in control and responsible for safe operation.

SAFETY MEASURES — Operation

 Be sure at least one of your passengers knows how to handle your boat in case of an emergency.

 All passengers should know the location of emergency equipment and how to use it.

 All safety equipment and personal flotation devices must be in good condition and suitable for your type of boat. Always comply with the regulations that apply to your boat.

 Contact with rotating propeller is likely to result in serious injury or death. Do not allow anyone near a propeller, even when the engine is off. Propeller blades can be sharp and can continue to turn even after the engine is shut off. Always shut off the engine when boat is near people in the water.

- ⚠ Whenever running the engine, assure there is proper ventilation to avoid the accumulation of carbon monoxide (CO), which is odorless, colorless, and tasteless, and can lead to unconsciousness, brain damage, or death if inhaled in sufficient concentrations. CO accumulation can occur while docked, anchored, or underway, and in many confined areas such as the boat cabin, cockpit, swim platform, and heads. It can be worsened or caused by weather, mooring and operating conditions, and other boats. Avoid exhaust fumes from your engine or other boats, provide proper ventilation, shut off your engine when not needed, and be aware of the risk of backdrafting and conditions that create CO accumulation. In high concentrations, CO can be fatal within minutes. Lower concentrations are just as lethal over long periods of time.
- ⚠ Proceed with caution and at very low speed in shallow water. Grounding or abrupt stops may result in personal injury or property damage. Also be alert for debris and objects in the water.
- ⚠ Be familiar with the waters you are operating in. The gearcase of this outboard extends below the water surface and could potentially come in contact with underwater obstructions. Contact with underwater obstructions may result in loss of control and personal injury.
- ⚠ Avoid standing up or shifting weight suddenly in light weight boats.
- ⚠ Keep your passengers seated in seats. The boat's bow, gunwale, transom and seat backs are not intended for use as seats.
- ⚠ Insist on the use of personal flotation devices, approved by the U.S. Coast Guard, by all passengers when boating conditions are hazardous, and by children and nonswimmers at all times.
- ⚠ Respect no wake zones, rights of other water users and the environment. As the "skipper" and owner of a boat you are responsible for damage to other boats caused by the wake of your boat. Allow no one to throw refuse overboard.
- ⚠ Know the marine traffic laws and obey them.
- ⚠ Remember, gasoline fumes are flammable and explosive. Always adhere to the fueling procedure contained in this Operator's Guide and those given to you by the fueling station. Always verify fuel level before use and during the ride. Apply the principle of 1/3 fuel to destination, 1/3 back and 1/3 reserve fuel supply. Do not carry spare fuel or flammable liquids in any storage or engine compartments.
- ⚠ Do not operate your boat if you are under the influence of drugs or alcohol.
- ⚠ High performance boats have a high power-to-weight ratio. If you are not experienced in the operation of a high performance boat, do not attempt to operate one at, or near, its top speed until you have gained that experience.
- ⚠ For more information, see your *Evinrude/Johnson Dealer* for a copy of **Introduction to High Performance Boating**, P/N 335763.

SAFETY MEASURES — Installation and Maintenance

Outboard Installation

- ⚠ The outboard must be correctly installed. Failure to correctly install the outboard could result in serious injury, death or property damage. We strongly recommend that your Dealer install your outboard to ensure proper installation.
- ⚠ Do not overpower your boat by using an engine that exceeds the horsepower indicated on the boat's capacity plate. Overpowering could result in loss of control. If your boat has no capacity plate, contact your Dealer or the boat's manufacturer.

Maintenance

- ⚠ When replacement parts are required, use *Evinrude/Johnson® Genuine Parts* or parts with equivalent characteristics, including type, strength and material. Using substandard parts could result in injury or product malfunction.
- ⚠ Only perform service procedures which are detailed in this Operator's Guide. Attempting to perform maintenance or repair on your outboard if you are not familiar with the correct service and safety procedure could cause personal injury or death. Further information can be obtained from your authorized *Evinrude/Johnson Dealer*. In many instances proper tools and training are required for certain service or repair procedures.
- ⚠ Maintain your boat and engine in top condition at all times. Adhere to the **Engine Maintenance and Inspection Schedule**.
- ⚠ Operate your boat and outboard prudently and have fun. Do not forget that all persons must assist other boaters in case of emergency.
- ⚠ Prevent injury from contact with rotating propeller; remove propeller before flushing or before performing any maintenance.

PRODUCT REFERENCES, ILLUSTRATIONS AND SPECIFICATIONS



WARNING



When replacement parts are required, use *Evinrude/Johnson Genuine Parts* or parts with equivalent characteristics, including type, strength and material. Using substandard parts could result in injury or product malfunction.

Bombardier Motor Corporation of America (BMCA) reserves the right to make changes at any time, without notice, to features, specifications and model availability. The right is also reserved to change any specification or part at any time without incurring any obligation to update older models. The information in the Guide is based on the latest specifications available at the time of publication.

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

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

Owner's Identification

North America — At the time of purchase, your Dealer will complete your outboard registration forms. Your portion provides proof of ownership and date of purchase.

Outside North America — See your Dealer or distributor for details.

Model and Serial Numbers

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

Model Number _____

Serial Number _____

Purchase Date _____

Ignition Key Number _____

Stolen Outboards

North America — Report your outboard as stolen to Customer and Dealer Support Services, 250 Seahorse Drive, Waukegan, IL 60085 U.S.A. Give the outboard's model and serial numbers and enclose a copy of the police report.

Outside North America — Report the theft to the BMCA distributor where the outboard was registered.

Technical Literature

Bombardier Motor Corporation of America offers technical literature specifically for your outboard. A service manual, a parts catalog, or an extra Operator's Guide can be purchased from your selling Dealer. For the name and location of the nearest *Evinrude* Dealer in the United States and Canada visit www.evinrude.com.

Declaration of Conformity

Bombardier Motor Corporation of America declares that the outboard to which this Operator's Manual applies conforms to the essential requirements outlined in **CE Machinery Directive 98-37-EC**, as amended.

**BOMBARDIER MOTOR CORPORATION OF AMERICA
LIMITED WARRANTY FOR 2005 *Evinrude* OUTBOARD ENGINES
SOLD IN THE UNITED STATES AND CANADA**

1. SCOPE OF THE LIMITED WARRANTY

Bombardier Motor Corporation of America* (BMCA) warrants its 2005 *Evinrude*® outboard engines sold by authorized *Evinrude* dealers in the fifty United States and Canada ("Product") from defects in material or workmanship for the period and under the conditions described below.

2. WARRANTY COVERAGE PERIOD

This limited warranty will be in effect from the date of purchase by the first retail consumer or the date the Product is first put to use, whichever occurs first, for a period of:

THIRTY-SIX (36) CONSECUTIVE MONTHS for private, recreational use; or

TWELVE (12) CONSECUTIVE MONTHS for commercial use, except that emission-related components providing input to emission controls (e.g. sensors) are warranted for twenty-four (24) months or two hundred (200) hours of engine use, whichever occurs first. The Product is used commercially when it is used in connection with any work or employment that generates income, during any part of the warranty period. The Product is also used commercially when, at any point during the warranty period, it is installed on a boat that has commercial tags or is licensed for commercial use.

The repair or replacement of parts or the performance of service to Product under this warranty does not extend the life of this limited warranty beyond its original expiration date. All *Evinrude/Johnson*® *Genuine Parts* and accessories installed by an authorized dealer at the time of sale, including but not limited to propellers, bear the standard BMCA parts and accessories one-year limited warranty.

California residents who purchased or warranty-registered a Product in California should refer to BMCA's California Emissions Control Warranty Statement.

3. CONDITIONS TO HAVE WARRANTY COVERAGE

This warranty coverage is available only on *Evinrude* outboard engines purchased as new and unused from a dealer authorized to distribute *Evinrude* products in the country in which the sale occurred ("Dealer"), and then only after the BMCA specified pre-delivery inspection process has been completed and documented by the purchaser and Dealer. Warranty coverage only becomes available upon proper registration of Product by Dealer or owner.

Only the original purchaser and any subsequent owners who reside in the United States and Canada and have purchased Product from a U.S. or Canadian Dealer are eligible for warranty registration and warranty coverage hereunder. Such limitations are necessary in order to allow BMCA to protect the safety of its products, its consumers, and the general public.

As outlined in the Operator's Guide, timely routine required maintenance must be performed to maintain warranty coverage. BMCA may require proof of proper maintenance prior to authorizing warranty coverage.

4. WHAT TO DO TO OBTAIN WARRANTY COVERAGE

The registered owner must notify an authorized Dealer within two (2) days of the appearance of a defect. Owner must bring Product, including any defective part therein, to Dealer promptly after the appearance of the defect, and in any event, within the warranty period, and must provide Dealer with reasonable opportunity to repair the defect. The expenses of transporting Product to and from Dealer for warranty service are to be borne by the owner.

If the Product has not previously been registered, the owner may also be required to present proof of purchase to Dealer for warranty repairs. Owner is required to sign the repair/work order prior to the start of the repair in order to validate the warranty repair.

All parts replaced under this warranty become the property of BMCA.

5. WHAT BOMBARDIER MOTOR CORPORATION OF AMERICA WILL DO

BMCA's obligations under this warranty are limited to, at its sole discretion, repairing or replacing parts of Product found to be defective in material or workmanship, in the reasonable judgment of BMCA. Such repair or replacement of parts will be done without charge for parts and labor, at any authorized Dealer. BMCA's responsibility is limited to making the required repairs or replacements of parts with new or BMCA-certified re-manufactured parts. No claim of breach of warranty shall be cause for cancellation or rescission of the sale of Product to owner.

In the event that warranty service is required outside of the fifty United States or Canada, owner will bear responsibility for any additional charges due to local practices and conditions, such as, but not limited to, freight, insurance, taxes, license fees, import duties, and any and all other financial charges, including those levied by governments, states, territories and their respective agencies.

BMCA reserves the right to improve, modify or change Products from time to time without assuming any obligation to modify Products previously manufactured.

6. EXCLUSIONS — The following are not warranted under any circumstances:

- Replacement of parts due to normal wear and tear;
- Routine maintenance parts and services including but not limited to: maintenance requirements, engine and lower unit oil changes, lubrication, valve and linkage adjustments and replacement of fuses, zinc anodes, thermostats, timing belts, starter motor bushings, trim motor brushes, filters, propellers, propeller bushings and spark plugs;
- Damage caused by improper or lack of installation, maintenance, winterization and/or storage, failure to follow the procedures and recommendations in the Operator's Guide;
- Damage resulting from removal of parts, improper repairs, service, maintenance, or modification, or use of parts or accessories not manufactured or approved by BMCA, which in its reasonable judgment, are either incompatible with Product or adversely affect its operation, performance, or durability, or resulting from repairs done by a person that is not an authorized Dealer;
- Damage caused by abuse, misuse, abnormal use, neglect, racing, improper operation or operation of the Product in a manner inconsistent with the recommended operation described in the Operator's Guide;
- Damage resulting from external damage, accident, submersion, water ingestion, fire, theft, vandalism or any act of God;
- Operation without proper fuel, oil or lubrication, or with fuels, oils or lubricants which are not suitable for use with the Product (see the Operator's Guide);
- Damage resulting from rust or corrosion;
- Damage caused from cooling system blockage by foreign material;
- Damage resulting from sand or debris in the water pump;
- Cosmetic or paint changes due to exposure to the elements.

This warranty will be **voided in its entirety and rendered null and void** where:

- Product has been altered or modified in such a way so as to adversely affect its operation, performance or durability, or change its intended use, horsepower or emission levels; or
- Product is or has been used for racing at any point, even by a prior owner.

7. LIMITATIONS OF LIABILITY

ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO THE LIFE OF THE EXPRESS LIMITED WARRANTY.

ALL INCIDENTAL, CONSEQUENTIAL, DIRECT, INDIRECT OR OTHER DAMAGES OF ANY KIND ARE EXCLUDED FROM COVERAGE UNDER THIS WARRANTY INCLUDING, BUT NOT LIMITED TO: expense for gasoline, expense for transporting Product to and from Dealer, removal of Product from a boat and reinstallation, mechanic's travel time, in-and-out of water charges, slip or dock fees, trailering or towing, storage, telephone, cell phone, fax or telegram charges, rental of a like or replacement Product or boat during warranty services or down time, taxi, travel, lodging, loss of or damage to personal property, inconvenience, cost of insurance coverage, loan payments, loss of time, loss of income, revenue or profits, or loss of enjoyment or use of Product.

SOME STATES, PROVINCES, OR JURISDICTIONS DO NOT ALLOW FOR THE DISCLAIMERS, LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR OTHER EXCLUSIONS IDENTIFIED ABOVE. AS A RESULT, THEY MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC RIGHTS, AND YOU MAY ALSO HAVE OTHER LEGAL RIGHTS WHICH MAY VARY FROM STATE TO STATE, OR PROVINCE TO PROVINCE.

No distributor, Dealer or any other person is authorized to make any affirmation, representation or warranty regarding Product other than those contained in this limited warranty and, if made, shall not be enforceable against BMCA. BMCA reserves the right to modify this warranty at any time, being understood that such modification will not alter the warranty conditions applicable to the Products sold while this warranty is in effect.

8. TRANSFER

If the ownership of Product is transferred during the warranty coverage period, this warranty shall also be transferred and be valid for the remaining coverage period provided that the former or new owner promptly contacts BMCA or Dealer and gives the name and address of the new owner.

9. CONSUMER ASSISTANCE

- In the event of a controversy or dispute in connection with this BMCA limited warranty, BMCA recommends that you first try to resolve the issue at the dealership level by discussing the issue with Dealer's service manager or owner;
- If further assistance is required, please contact the Bombardier Motor Corporation of America Customer Support Services, 250 Sea Horse Drive, Waukegan, IL 60085, 1-847-689-7090.

Revision February 2004

* Engines sold in Canada are distributed and serviced by Bombardier Recreational Products Inc.

**BOMBARDIER MOTOR CORPORATION OF AMERICA
LIMITED WARRANTY FOR 2005 *EVINRUDE* OUTBOARD ENGINES
SOLD OUTSIDE THE UNITED STATES AND CANADA**

For a copy of the Limited Warranty, see your Bombardier Motor Corporation of America distributor/dealer authorized to distribute *Evinrude* products in the country in which the sale occurs.

If further assistance is required, please contact Bombardier Motor Corporation of America Customer Support Services, 250 Sea Horse Drive, Waukegan, Illinois, 60085, or the affiliate of Bombardier Motor Corporation of America where the Product was registered for warranty.

CALIFORNIA EMISSION CONTROL WARRANTY STATEMENT

Your *Evinrude* outboard with Direct Injection has a special environmental label required by the California Air Resources Board. The label has one, two, three, or four stars. A hangtag, provided with your outboard, describes the meaning of the star rating system.

The Star Label means Cleaner Marine Engines



The Symbol for Cleaner Marine Engines:

Cleaner Air and Water

For a healthier lifestyle and environment.

Better Fuel Economy

Burns up to 30 to 40 percent less gas and oil than conventional carbureted two-stroke engines, saving money and resources.

Longer Emission Warranty

Protects consumer for worry free operation.

One Star – Low Emission

The one-star label identifies Personal Watercraft, Outboard, Sterndrive and Inboard engines that meet the Air Resource Board's Personal Watercraft and Outboard marine engine 2001 exhaust emission standards. Engines meeting these standards have 75% lower emissions than conventional carbureted two-stroke engines. These engines are equivalent to the U.S. EPA's 2006 standards for marine engines.

Two Stars – Very Low Emission

The two-star label identifies Personal Watercraft, Outboard, Sterndrive and Inboard engines that meet the Air Resources Board's Personal Watercraft and Outboard marine engine 2004 exhaust emission standards. Engines meeting these standards have 20% lower emissions than One Star – Low Emission engines.

Three Stars – Ultra Low Emission

The three-star label identifies engines that meet the Air Resources Board's Personal Watercraft and Outboard marine engine 2008 exhaust emission standards or the Sterndrive and Inboard marine engine 2003 exhaust emission standards. Engines meeting these standards have 65% lower emissions than One Star – Low Emission engines.

Four Stars – Super Ultra Low Emission

The four-star label identifies engines that meet the Air Resources Board's Sterndrive and Inboard marine engine 2009 exhaust emission standards. Personal Watercraft and Outboard marine engines may also comply with these standards. Engines meeting these standards have 90% lower emissions than One Star – Low Emission engines.

For more information: Cleaner Watercraft – Get the Facts
1-800-END-SMOG
www.arb.ca.gov

YOUR EMISSION CONTROL WARRANTY RIGHTS AND OBLIGATION

The California Air Resources Board and Bombardier Motor Corporation of America (BMCA) are pleased to explain the emission control system warranty on your *Evinrude* outboard with Direct Injection. In California, new outboard engines must be designed, built, and equipped to meet the State's stringent anti-smog standards. BMCA must warrant the emission control system on your outboard for the periods of time listed below provided there has been no abuse, neglect, or improper maintenance of your outboard.

Your emission control system may include parts such as the carburetor or fuel injection system, the ignition system, and catalytic converter. Also included may be hoses, belts, connectors, and other emission-related assemblies.

Where a warrantable condition exists, BMCA will repair your outboard at no cost to you, including diagnosis, parts, and labor, provided that such work is performed by an authorized BMCA Dealer.

Manufacturer's Limited Warranty Coverage

This emission limited warranty covers *Evinrude* outboards with Direct Injection certified and produced by BMCA for sale in California, that are originally sold in California to a California resident, or subsequently warranty registered to a California resident. The BMCA North America Limited Warranty conditions for *Evinrude* outboards with Direct Injection are still applicable to these models with the necessary modifications.

Select emission control parts of your *Evinrude* outboard with Direct Injection are warranted from the date of purchase by the first retail consumer or the date the product is first put to use, whichever occurs first, for a period of 4 years, or for 250 hours of use, whichever occurs first.

However, warranty coverage based on the hourly period is only permitted for outboards equipped with the appropriate hour meters or their equivalent. If any emission-related part on your engine is defective under warranty, the part will be repaired or replaced by BMCA.

Parts covered are:

1. Electrical System	4. Air Induction System
A. EMM (Engine Management Module)	A. Reed Valves
B. Spark Plugs and Wires	B. Throttle Body Assembly
C. Ignition Coils	C. Throttle Linkage
D. Wiring Harness	
	5. Oil System
2. Exhaust System	A. Oil Injector
A. Powerhead to Lower Unit Adapter Plate	B. Oil Lift Pump
B. Exhaust Pressure Fitting	C. Oil Lines, Fittings, and Clamps
C. Inner Exhaust Housing	
D. Exhaust Back Pressure Hose and Diaphragm	6. Sensors
E. Intake Manifold and Exhaust Manifold	A. Air Temperature Sensor
	B. Crank Position Sensor
3. Fuel System	C. Throttle Position Sensor
A. Fuel Lift Pump	D. Water Temperature Sensor (Port Cylinder Head)
B. Fuel Supply Pump	E. Thermostat
C. Fuel Injectors	
D. Vapor Separator	7. Gaskets
E. Fuel Lines, Fittings, and Clamps	A. All Emission Component Gaskets

The emission warranty covers damage to other engine components that is caused by the failure of a warranted part.

The BMCA Operator's Guide provided contains written instructions for the proper maintenance and use of your outboard. All emission warranty parts are warranted by BMCA for the entire warranty period of the outboard, unless the part is scheduled for replacement as required maintenance in the Operator's Guide.

Emission warranty parts that are scheduled for replacement, as required maintenance, are warranted by BMCA for the period of time before the first scheduled replacement date for that part. Emission warranty parts that are scheduled for regular inspection but not regular replacement are warranted by BMCA for the entire warranty period of the outboard. Any emission warranty part repaired or replaced under the terms of this warranty statement is warranted by BMCA for the remainder of the warranty period of the original part. All parts replaced under this limited warranty become the property of BMCA.

Maintenance receipts and records should be transferred to each subsequent owner of the outboard.

Owner's Warranty Responsibilities

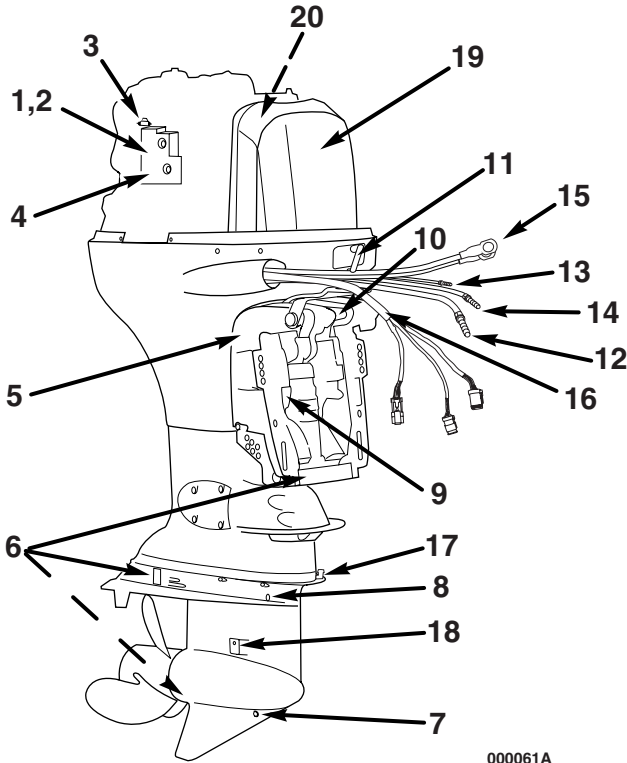
As the outboard owner, you are responsible for the performance of the required maintenance listed in your Operator's Guide. BMCA recommends that you retain all receipts covering maintenance on your outboard, but BMCA cannot deny warranty solely for the lack of receipts or your failure to ensure the performance of all scheduled maintenance.

However, as the outboard owner, you should be aware that BMCA may deny you warranty coverage if your outboard or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.

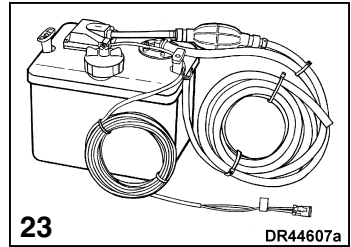
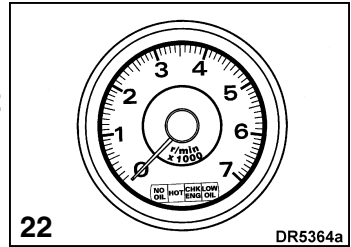
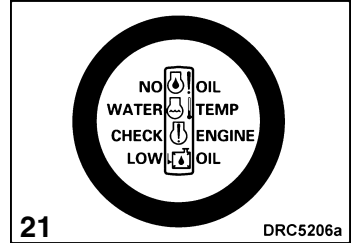
You are responsible for presenting your outboard to an authorized BMCA Dealer as soon as a problem exists. The warranty repairs will be completed in a reasonable amount of time, not to exceed 30 days.

For any questions regarding your warranty rights and responsibilities, or for the name and location of the nearest authorized BMCA Dealer, contact Bombardier Motor Corporation of America Customer Support Services, 250 Sea Horse Drive, Waukegan, IL 60085, 1-847-689-7090, or visit www.evinrude.com.

FEATURES

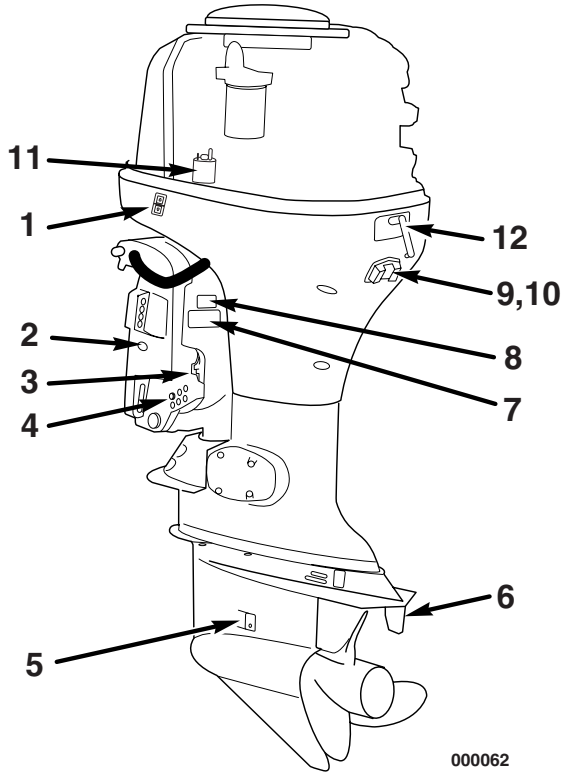
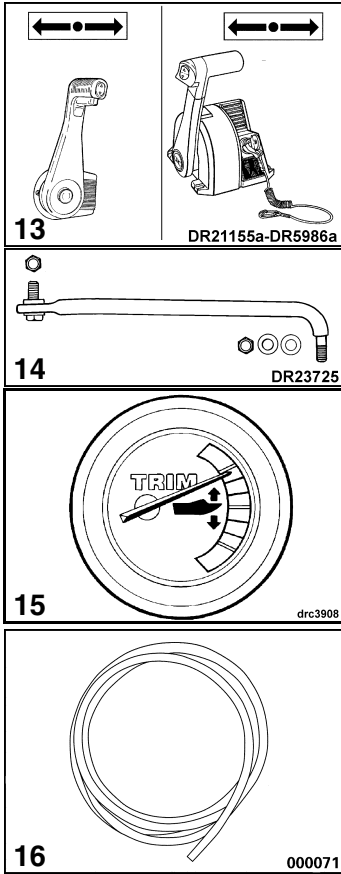


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Item	Description	Item	Description
1	Power Distribution Panel	13	Oil Supply Fitting
2	Fuses & Spare Fuse Holder	14	Oil Return Fitting
3	Starter Assist Circuit Fuse	15	Battery Cable
4	Accessory Battery Connection	16	Engine Wire Harness
5	Tilt Support	17	Speedometer Pick-up Connector
6	Anti-Corrosion Anode	18	Water Intake
7	Lubricant Drain Fill Plug	19	Air Silencer
8	Lubricant Level Plug	20	Fuel Filter: 100HP-175HP Models
9	Power Tilt & Trim Reservoir	21	SystemCheck Gauge ⁽¹⁾
10	Tilt Limiter Cam	22	SystemCheck Tachometer ⁽¹⁾
11	Engine Cover Latch	23	Oil Tank Kit ⁽¹⁾
12	Fuel Fitting		

(1) not supplied with outboard



Item	Description	Item	Description
1	Trailing Tilt Switch: 100HP-175HP	8	Model & Serial Number Plate
	Trailing Tilt Switch: 200HP-250HP	9	Flushing Port
	On Starboard Side	10	Water Pump Indicator
2	Power Tilt & Trim: Manual Release	11	Fuel Filter: 200HP-250HP Models
3	Trailing Bracket	12	Motor Cover Latch
4	Trim Limiter Rod	13	Remote Control ⁽¹⁾
5	Water Intake	14	Steering Connector Kit
6	Trim Tab	15	Trim Gauge ⁽¹⁾
7	ECI Label	16	Oil Return Hose

(1) not supplied with outboard

ENGINE SPECIFICATIONS

100, 115 Models	
Displacement	105.4 cu. in. (1726 cc)
Engine Type	60° V, 4 Cylinder, Two-Cycle, <i>Direct Injection</i>
Full Throttle Operating Range	100, 115 - 5250 to 5750 RPM
Power ⁽¹⁾	100 - 100 HP (74.6 kw) @ 5500 RPM 115 - 115 HP (85.8 kw) @ 5500 RPM
Idle RPM in Gear ⁽²⁾	650 ± 50
Ignition Timing ⁽²⁾	Not Adjustable
Emission Control System: per SAE J1930 ⁽²⁾	ECM, DFI (Engine Control Module, Direct Fuel Injection)
Fuel Requirements ⁽²⁾	87 Pump Posted AKI (90 RON) - Refer to Fuel and Oil
Oil	<i>Evinrude</i> direct injection oil - Refer to Fuel and Oil
Warning Signals	Controlled by the engine's <i>EMM</i>
Battery, Minimum	500 CCA (620 MCA) 12 volt
Spark Plug ⁽²⁾⁽³⁾ Torque	Refer to ECI Label 15-22 ft. lbs. (20-30 N-m)
Start Assist Circuit Fuse	<i>Evinrude</i> P/N 514768
Fuses	Refer to Power Distribution Panel
Fuel Filter	<i>Evinrude</i> P/N 502906
Alternator	35-Amp, Fully Regulated
Gearcase - Lubricant Capacity	<i>Evinrude Ultra-HPF™</i> gearcase lubricant L Models - 26 fl. oz. (770 ml) X Models - 42 fl. oz. (1250 ml)
Pwr. Trim/Tilt - Fluid Capacity	21 fl. oz. (622 ml)
Propeller ⁽⁴⁾	Refer to Propeller Selection
Weight ⁽⁷⁾	L Models - 365 lbs. (166 kg) X Models - 390 lbs. (177 kg)
Sound at Driver's Ear (LpA) ICOMIA 39.94	80.8 dB(A)
Transom Height	L Models - 19 1/2 to 20 in. (495 to 508 mm) X Models - 24 1/2 to 25 in. (622 to 635 mm)

135, 150, 175 Models

Displacement	158 cu. in. (2589 cc)
Engine Type	60° V, 6 Cylinder, Two-Cycle, <i>Direct Injection</i>
Full Throttle Operating Range	135, 150 - 4750 to 5250 RPM 175 - 5250 to 5750 RPM
Power ⁽¹⁾	135 - 135 HP (100.7 kw) @ 5000 RPM 150 - 150 HP (111.9 kw) @ 5000 RPM 175 - 175 HP (130.5 kw) @ 5500 RPM
Idle RPM in Gear ⁽²⁾	650 ± 50
Ignition Timing ⁽²⁾	Not Adjustable
Emission Control System: per SAE J1930 ⁽²⁾	ECM, DFI (Engine Control Module, Direct Fuel Injection)
Fuel Requirements ⁽²⁾	87 Pump Posted AKI (90 RON) - Refer to Fuel and Oil
Oil	<i>Evinrude Direct Injection</i> oil - Refer to Fuel and Oil
Warning Signals	Controlled by the engine's <i>EMM</i>
Battery, Minimum	675 CCA (845 MCA) 12 volt OR 107 amp-hour ⁽⁵⁾⁽⁶⁾
Spark Plug ⁽²⁾⁽³⁾ Torque	Refer to ECI Labels 15-22 ft. lbs. (20-30 N·m)
Start Assist Circuit Fuse	<i>Evinrude</i> P/N 514768
Fuses	Refer to Power Distribution Panel
Fuel Filter	<i>Evinrude</i> P/N 502906
Alternator	35-Amp, Fully Regulated
Gearcase - Lubricant Capacity	<i>Evinrude Ultra-HPF™</i> gearcase lubricant 40 fl. oz. (1190 ml) Counter Rotation 44 fl. oz. (1300 ml) Standard Rotation
Pwr. Trim/Tilt - Fluid Capacity	21 fl. oz. (622 ml)
Propeller ⁽⁴⁾	Refer to Propeller Selection
Weight ⁽⁷⁾	L Models - 423 lbs. (192 kg) X Models - 443 lbs. (201 kg)
Sound at Driver's Ear (LpA) ICOMIA 39.94	78.2 dB(A)
Transom Height	L Models - 19 1/2 to 20 in. (495 to 508 mm) X Models - 24 1/2 to 25 in. (622 to 635 mm)

200, 225, 250 Models

Displacement	200 cu. in. (3279 cc)
Engine Type	90° V, 6 Cylinder, Two-Cycle, <i>Direct Injection</i>
Full Throttle Operating Range	200 - 5000 to 6000 RPM 225, 250 - 5500 to 6000 RPM
Power ⁽¹⁾	200 - 200 HP (149.2 kw) @ 5750 RPM 225 - 225 HP (167.8 kw) @ 5750 RPM 250 - 250 HP (184.4 kw) @ 5750 RPM
Idle RPM in Gear ⁽²⁾	650 ± 50
Ignition Timing ⁽²⁾	Not Adjustable
Emission Control System: per SAE J1930 ⁽²⁾	ECM, DFI (Engine Control Module, Direct Fuel Injection)
Fuel Requirements ⁽²⁾	87 Pump Posted AKI (90 RON) - Refer to Fuel and Oil
Oil	<i>Evinrude Direct Injection</i> oil - Refer to Fuel and Oil
Warning Signals	Controlled by the engine's <i>EMM</i>
Battery, Minimum	675 CCA (845 MCA) 12 volt OR 107 amp-hour ⁽⁵⁾⁽⁶⁾
Spark Plug ⁽²⁾⁽³⁾ Torque	Refer ECI Label 15-22 ft. lbs. (20-30 N·m)
Start Assist Circuit Fuse	<i>Evinrude</i> P/N 514768
Fuses	Refer to Power Distribution Panel
Fuel Filter	<i>Evinrude</i> P/N 502906
Alternator	35-Amp, Fully Regulated
Gearcase - Lubricant Capacity	<i>Evinrude Ultra-HPF™</i> gearcase lubricant 40 fl. oz. (1190 ml) Counter Rotation 44 fl. oz. (1300 ml) Standard Rotation
Pwr. Trim/Tilt - Fluid Capacity	21 fl. oz. (622 ml)
Propeller ⁽⁴⁾	Refer to Propeller Selection
Weight ⁽⁷⁾	L Models - 515 lbs. (234 kg) X Models - 537 lbs. (244 kg) Z Models - 548 lbs. (249 kg)
Sound at Driver's Ear (LpA) ICOMIA 39.94	80.8 dB(A)
Transom Height	L Models - 19 1/2 to 20 in. (495 to 508 mm) X Models - 24 1/2 to 25 in. (622 to 635 mm) Z Models - 29 1/2 to 30 in. (749 to 762 mm)

(1) Rated following the standards of ICOMIA 28.83, ISO 3046 and NMMA.

(2) Emission Control Information.

(3) Any other spark plug will cause ignition problems.

(4) Not supplied in all marketing areas.

(5) Use a 750 CCA (940MCA) battery when operating in temperatures below 32°F (0°C).

(6) Under extraordinary electrical load or environmental conditions, use of a 107 amp-hour minimum. Generally available in group 29 size.

(7) Does not include propeller or fuel.

REMOTE CONTROL



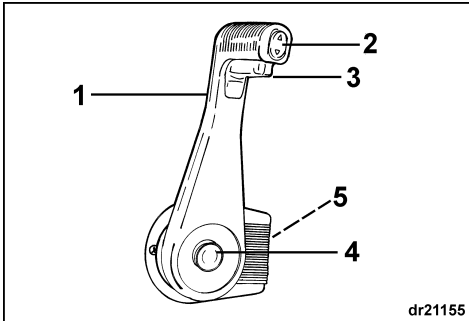
WARNING



If you choose a non-*Evinrude* remote control, be sure it has a start-in-gear prevention feature. This feature can prevent injuries resulting from unexpected boat movement when the engine starts.

IMPORTANT: When selecting the remote control system for your boat, specify *Evinrude* components. *Evinrude* offers remote controls, cables and wiring kits designed specifically for your *Evinrude* outboards. *Evinrude* controls deliver the cable stroke your outboard needs for positive shift and throttle control, and they incorporate such safety and convenience features as:

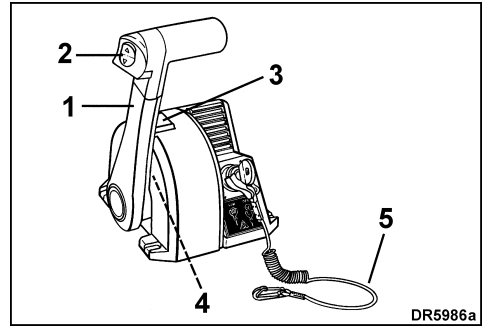
- Start-in-gear prevention
- Plug-in compatibility with *Evinrude* modular wiring system



dr21155

Evinrude concealed side mount control

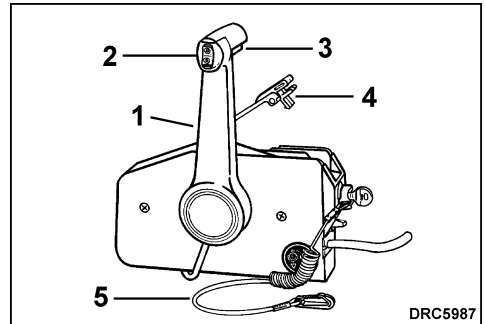
1. Handle - shift and throttle
2. Trim/tilt switch (where equipped)
3. Neutral lock tab
4. Fast idle button
5. Throttle Friction Control



DR5986a

Evinrude Binnacle mount control

1. Handle - shift and throttle
2. Trim/tilt switch (where equipped)
3. Fast idle button
4. Throttle friction control
5. Emergency stop clip and lanyard



DRC5987

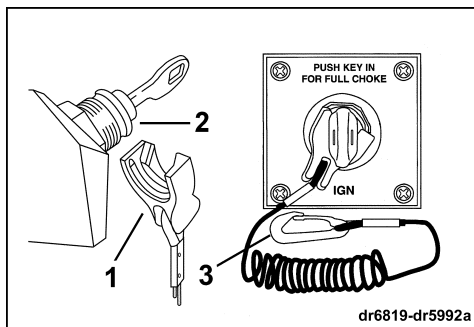
Evinrude Side mount control

1. Handle - shift and throttle
2. Trim/tilt switch (where equipped)
3. Neutral lock tab
4. Fast idle lever
5. Emergency stop clip and lanyard

Emergency Stop/Key Switch

A combination emergency stop switch and key switch is a feature of *Evinrude* prewired remote controls and all *Evinrude* control wiring kits. Use of the emergency stop feature is highly recommended on all boats.

Connect the clip to the emergency stop/key switch. Snap the lanyard to a **secure** place on the operator's clothing or life vest — not where it might tear away instead of activating the stop switch. Disconnecting the clip and lanyard will stop the engine and prevent the boat from becoming a runaway if the driver moves beyond the range of the lanyard. If the lanyard is too long, it can be shortened by knotting or looping it. **DO NOT** cut and retie the lanyard. In an emergency situation, the engine can be started without the clip in place. Follow the normal starting procedure. Reinstall a clip as soon as possible.



1. Clip
2. Emergency stop / key switch
3. Lanyard

WARNING

Avoid knocking or pulling the clip off the stop switch during normal boating. Avoid bumping the key if operating without the clip on the switch. The resulting unexpected loss of forward motion can throw occupants forward, causing injury.

Your emergency stop switch can be effective only when in good working condition. At each outing, inspect clip and lanyard for cuts, breaks, or wear. Replace worn or damaged parts.

Keep the lanyard free from obstructions and entanglements.

At each outing, test the system's operation. With the engine running, remove the clip from the switch by pulling the lanyard. If the engine does not stop running, see your Dealer.

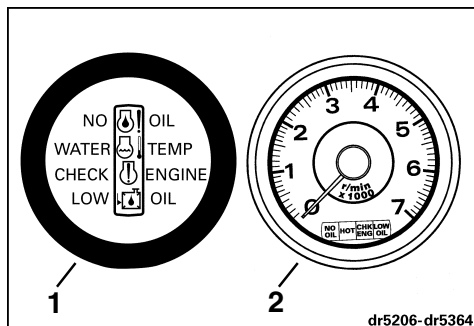
ENGINE MONITORING

IMPORTANT: Your outboard must be equipped with the *SystemCheck™* engine monitor. Operating your outboard without the *SystemCheck* engine monitor will void your warranty for failures related to the functions monitored on your engine.

When you turn the key switch ON, the *SystemCheck* engine monitor horn performs a self-test by sounding a 1/2-second beep. The gauge self-tests by turning the warning lights on, then off in sequence. During engine start-up, pause with the key switch in the ON position to observe the horn and gauge perform the self-test. If the self-test does not happen as stated, see your Dealer.

The *SystemCheck* engine monitor alerts the operator with a 10-second beep of the horn and a warning light on the gauge when certain engine problems occur. **The appropriate warning light will stay on until the problem is corrected or the key switch is turned OFF.**

If the engine management module (*EMM*) senses that the problem could cause permanent engine damage, it will also limit engine speed to 1200 RPM. This additional protection feature is referred to as *S.L.O.W.™* If the engine was running faster than 1200 RPM when the *S.L.O.W.* system activated, it will shake noticeably. Under certain operating conditions the *EMM* will shut OFF the engine.



1. *SystemCheck* gauge
2. *SystemCheck* gauge with tachometer

“NO OIL”

There is an oil delivery problem. Serious engine damage can occur quickly. The *EMM* will activate *S.L.O.W.*

If the oil tank is empty, add the recommended oil.

If the oil tank is not empty, seek assistance and/or return to safe harbor. **DO NOT** exceed 1000 RPM. See your Dealer.

“WATER TEMP” or “HOT”

The engine is overheating. Serious engine damage can occur quickly. The *EMM* will activate *S.L.O.W.* Under certain conditions the *EMM* will shut OFF the engine.

A **continuous** “WATER TEMP” or “HOT” light with *S.L.O.W.* — The *EMM* has identified an overheating condition. Shut OFF the engine and refer immediately to **Engine Overheating**.

A **flashing** “WATER TEMP” or “HOT” light — The *EMM* has identified a progressive overheating condition. The engine will shut OFF and will not restart until the engine cools.



CAUTION



In the *S.L.O.W.* mode, the engine speed is limited. Under certain conditions, the engine’s limited speed may reduce maneuverability of your boat.

If the *S.L.O.W.* mode is activated and you are unable to correct the problem, seek assistance and/or return to safe harbor. Serious engine damage, engine shutoff, and/or reduced maneuverability may be imminent.

“CHECK ENGINE” or “CHK ENG”

The *EMM* has identified a potentially serious problem.

A **flashing** "CHECK ENGINE" or "CHK ENG" light — The *EMM* has identified an abnormal operating condition related to the fuel system. The engine will shut OFF and cannot be restarted.

A **continuous** "CHECK ENGINE" or "CHK ENG" light with *S.L.O.W.* — The *EMM* has identified a problem that will cause engine damage if it is not addressed. Seek assistance and/or return to safe harbor. See your Dealer.

A **continuous** "CHECK ENGINE" or "CHK ENG" light without *S.L.O.W.* — The *EMM* has identified a problem that should be addressed by your Dealer as soon as practical to avoid operational difficulties.



WARNING



If the engine shuts OFF and the “CHECK ENGINE” or “CHK ENG” light is flashing, the engine cannot be restarted. A hazardous fuel condition may exist. Seek assistance to return to port.

“LOW OIL”

Oil in the oil tank is at reserve level (about 1/4 full). Fill the oil tank with recommended oil as soon as possible to avoid emptying the tank. Refer to **Filling the Oil Tank**.

FUEL AND OIL

FUEL



WARNING



Gasoline is extremely flammable and highly explosive under certain conditions. Follow the instructions in this section explicitly. Improper handling of fuel could result in property damage, serious injury or death.

Always turn off the engine before fueling.

Never permit anyone other than an adult to refill the fuel tank.

Do not fill the fuel tank all the way to the top or fuel may overflow when it expands due to heating by the sun.

Remove portable fuel tanks from the boat before fueling.

Always wipe off any fuel spillage.

Do not smoke, or allow open flames, or sparks or use electrical devices such as cellular phones in the vicinity of a fuel leak or while fueling.

Always work in a well ventilated area.

Your outboard is certified to operate on unleaded automotive gasoline with an octane rating equal to or higher than that specified in **Minimum Octane** chart. When using gasoline that contains MTBE or alcohol, follow these guidelines:

Using unleaded gasoline that contains methyl tertiary butyl ether (MTBE) is acceptable **ONLY** if the MTBE content does not exceed 15% by volume.

Using alcohol-extended fuels is acceptable **ONLY** if the alcohol content does not exceed:

10% ethanol by volume

5% methanol with 5% cosolvents by volume

Minimum Octane

Inside the U.S.

87 (R+M)/2 AKI

Outside the U.S.

90 RON

Your outboard has been designed to operate using the above fuels; however, be aware of the following:

The boat's fuel system may have different requirements regarding the use of alcohol fuels. Refer to the boat's owner guide.

Alcohol attracts and holds moisture that can cause corrosion of metallic parts in the fuel system.

Alcohol blended fuel can cause engine performance problems.

IMPORTANT: Always use fresh gasoline. Gasoline will oxidize and weather; the result is loss of octane, volatile compounds and the production of gum and varnish deposits which can damage the outboard.



WARNING



Leaking fuel is a fire and explosion hazard. All parts in the fuel system should be inspected frequently and replaced if signs of deterioration or leakage are found. Inspect the fuel system each time you refuel, each time you remove the engine cover and annually.

OIL

Evinrude direct injection oil is recommended for your Evinrude outboard. It is formulated with special additives for the cleaning power a direct injection outboard needs for longer life. This synthetic blend oil also provides superior lubrication to reduce engine component wear and maintain top performance.

Evinrude brand oils are formulated to give best engine performance while controlling piston and combustion chamber deposits, providing superior lubrication, and ensuring maximum spark plug life.

If *Evinrude* direct injection oil is not available you must use an NMMA-certified TC-W3 oil such as *Evinrude/Johnson XD25 formula* or *Evinrude Biodegradable Outboard* oil.

When operating under 32°F (0°C), *Evinrude Biodegradable Outboard* oil must be used.

IMPORTANT: Failure to follow this recommendation could void the engine warranty if a lubrication-related failure occurs.

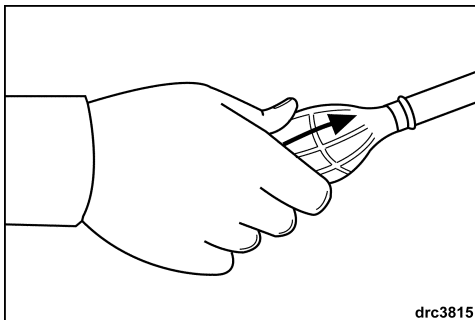
ADDITIVES

IMPORTANT: The only fuel additives approved by BMCA for use in your *Evinrude* outboard are *2+4*® fuel conditioner and *Evinrude* Fuel System Cleaner. Use of other fuel additives can result in poor performance or engine damage.

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



Evinrude Fuel System Cleaner will help keep fuel injectors in optimal operating condition.

Prime the fuel system by holding the fuel primer bulb with its outlet end up and squeezing it until firm.



FUEL SYSTEM

Connecting the Fuel Hose

	WARNING	
<p>The outboard must be correctly installed. Failure to correctly install the outboard could result in property damage, serious injury or death. We strongly recommend your Dealer install your outboard to ensure proper installation.</p>		

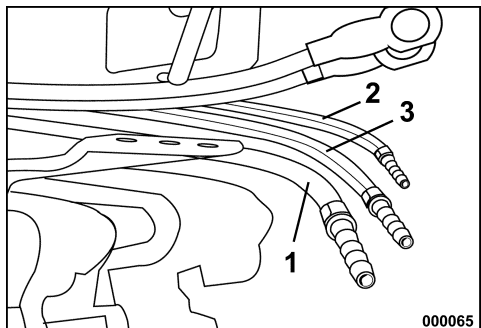
If the fuel hose is disconnected for any reason, seal it to prevent spillage. Cap the fuel fitting to prevent contamination.

Connect the fuel hose to the 3/8 in. (9 mm) fuel fitting. Fasten hose securely with clamp (18,5 mm) from owner's kit.

IMPORTANT: Fuel distribution hoses in the boat must deliver fuel at the rate of flow needed by the engine. Minimum inside diameter of fuel hoses must be 3/8 in. (9 mm).

Fuel systems with built-in tanks, particularly those that include antisiphon valves and filter/primer units, may have restrictions that will not allow the engine fuel pump to deliver sufficient fuel under all conditions. This can result in a loss of performance and possible **engine damage**. If a performance problem exists, see your Dealer.

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

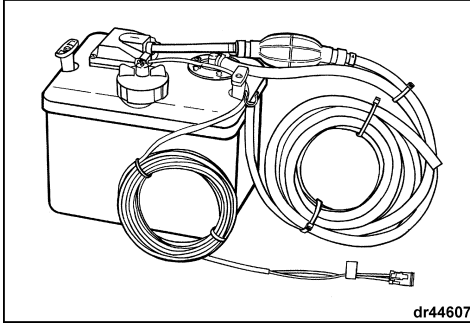


1. Fuel hose and fuel fitting - 3/8 in. (9 mm)
2. Oil supply fitting - 1/4 in. (6 mm) - Yellow stripe
3. Oil return fitting - 5/16 in. (8 mm) - Blue stripe

OIL SYSTEM

If the oil hoses are disconnected for any reason, seal them to prevent spillage. Install caps on the oil fittings to prevent contamination.

You must use an oil tank equipped with a filter, an oil supply hose, and an oil return hose. The oil system must be purged if air is in the oil supply hose. Refer to **Installing the Oil Supply Hose**.



Install the oil tank by following the instructions provided with the unit.

IMPORTANT: Consider the installation location of the oil tank carefully. The oil tank is vented to the atmosphere. To avoid serious powerhead damage, be sure the oil tank is installed in a location that does not allow constant exposure to sunlight, rain, bilge water, or spray. Periodically inspect the oil tank for evidence of water.

Filling the Oil Tank

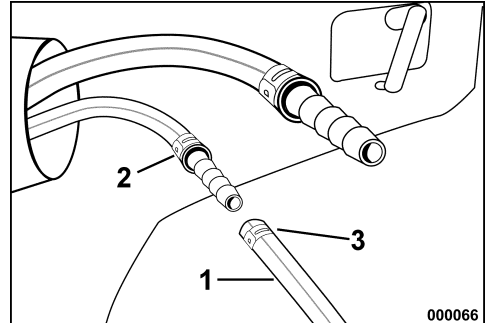
Remove the filler cap and fill the tank with recommended outboard lubricant, as specified in **Fuel and Oil**. Replace the filler cap and tighten securely.

IMPORTANT: Always keep a supply of oil in the tank. If you run the tank dry, you **MUST** purge the oil system of air before using the engine.

Installing the Oil Supply Hose

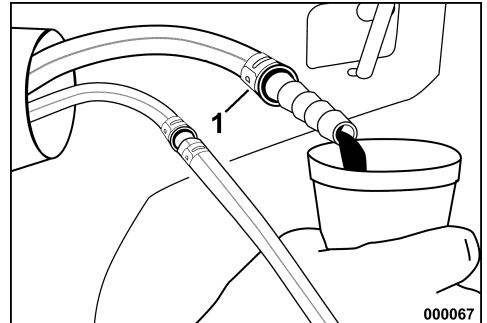
IMPORTANT: To avoid engine damage from lack of lubrication, make sure you purge the system. **Make sure all connections are airtight.** Anytime the oil supply hose has been disconnected, you must prime the oil system before reconnecting the supply hose and operating the engine.

Connect the oil supply hose to the oil inlet fitting on the motor. Secure with the small clamp (13.8 mm) from the owner's kit.



1. Oil supply hose - 1/4 in. (6 mm) - Yellow stripe
2. Oil inlet fitting - 1/4 in. (6 mm) - Yellow stripe
3. Clamp (13.8 mm) from owner's kit

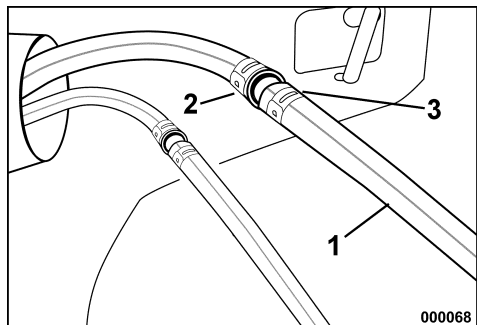
Hold the open end of the oil return hose fitting over a container. With its outlet end up, squeeze the oil fill bulb repeatedly until about 8 oz. (250 ml) of oil have been pumped and the supply hose is purged of all air.



1. Oil return hose fitting - 5/16 in. (8 mm) - Blue stripe

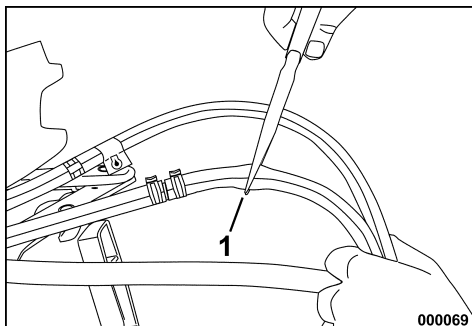
Installing the Oil Return Hose

Connect the oil return hose to the oil return hose fitting on the motor. Secure with the clamp (15.7 mm) from the owner's kit.



1. Oil return hose - 5/16 in. (8 mm) - Blue stripe
2. Oil return hose fitting - 5/16 in. (8 mm) - Blue stripe
3. Clamp (15.7 mm) from owner's kit

Start the engine and run at idle only. Restrict the oil return hose for about 15 - 20 seconds. Shut off the engine.



1. Restrict Oil return hose - 5/16 in. (8 mm) - Blue stripe



WARNING



Prevent injury from moving engine components. Before starting the engine...

Shift it to NEUTRAL

Keep hands, clothes, hair clear of power-head

Remove the propeller if you use a flushing device

Read Engine Starting, ENGINE STOPPING

BREAK-IN (10 HOURS)

IMPORTANT: Follow this procedure to protect your new outboard during its initial hours of operation. Careful break-in allows internal engine components to seat properly, resulting in maximum engine life and performance.

Failure to carefully follow the break-in procedures can result in engine damage.

The engine management module (*EMM*) will automatically supply extra oil to the engine during the first five hours of operation above 2000 RPM.

Perform the **10-hour** break-in procedure with the boat and engine in the water, using an appropriate propeller.

DO NOT perform break-in using a flushing device.

DO NOT start-up or run the engine out of the water.

DO NOT leave a running engine unattended.

IMPORTANT: BEFORE the first start-up of your new engine:

Read **Engine Starting, Engine Stopping, and Shifting and Speed Control**.

Perform prelaunch check of all equipment.

Launch the boat and start the engine according to the procedures in Engine Starting. AFTER start-up:

Verify water pump operation often. Look for a steady stream of water from the water pump indicator. If the stream of water stops, shut off the engine to prevent damage. Find and correct the cause, or see your Dealer, before you continue.

Verify shift function by shifting into gear and observing that the boat moves and that the movement is in the same direction as the shifter. Refer to **Shifting and Speed Control**.

Change engine RPM often. Avoid holding a throttle setting longer than 15 minutes.

1. First 10 minutes of operation — Operate the engine in gear at fast idle **ONLY**.

2. Next 50 minutes — Operate engine in gear below 3500 RPM.

DO NOT hold a constant throttle setting. Change engine speed every 15 minutes.

With easy planing boats, use full throttle to quickly accelerate boat onto plane. Immediately reduce throttle to one-half as soon as boat is on plane. BE SURE boat remains on plane at this throttle setting.

3. Second Hour — Use Full throttle to accelerate boat onto plane, then reduce throttle setting to three-quarters. BE SURE boat remains on plane at this throttle setting.

At intervals, apply full throttle for periods of one to two minutes, returning to three-quarters throttle for a cooling period.

Change engine speed every 15 minutes.

4. Next Eight Hours — Avoid continuous full throttle operation for extended periods.

Change engine speed every 15 minutes.

DO NOT exceed recommended maximum engine RPM. Refer to **Engine Specifications**.

ENGINE STARTING



DANGER



DO NOT run the engine indoors or without adequate ventilation or permit exhaust fumes to accumulate in confined areas. Engine exhaust contains carbon monoxide which, if inhaled, can cause serious brain damage or death.



WARNING



The engine cover is a machinery guard. **DO NOT** operate your outboard with the cover off unless you are performing maintenance, and then be careful to keep hands, hair, and clothing clear of all moving parts. Contact with moving parts could cause injury.

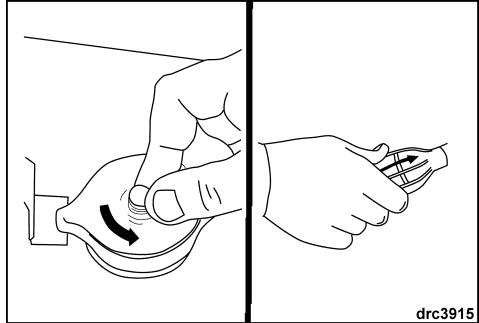


DANGER

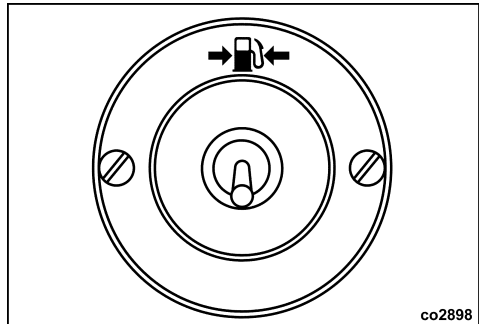


Contact with a rotating propeller is likely to result in serious injury or death. Assure the engine and prop area is clear of people and objects before starting engine or operating boat. Do not allow anyone near a propeller, even when the engine is off. Blades can be sharp and the propeller can continue to turn even after the engine is off. Always shut off the engine when near people in the water.

If the fuel tank has an operable vent, open it. Squeeze the fuel primer bulb, outlet end up, until firm.



If equipped with an electric fuel primer pump, activate it for about 20 seconds.



BEFORE START-UP

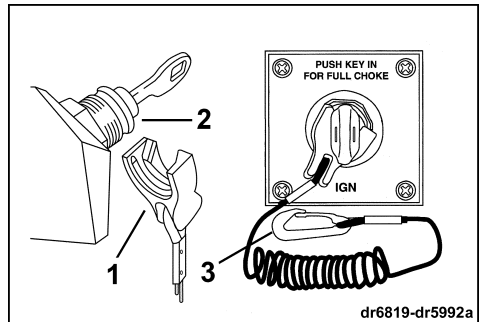
If the fuel hose and/or oil hoses are not connected, refer to **Fuel System** and **Oil System**, to install them now.

Review and follow **Break-in (10 hours)** if the engine is new.

You **MUST** supply water to the engine before attempting to start it. Engine damage can occur quickly. Refer to **Engine Overheating** or **Flushing**.

Be sure the engine is in **RUN** position. Refer to **Power Trim and Tilt** or **Tilting**.

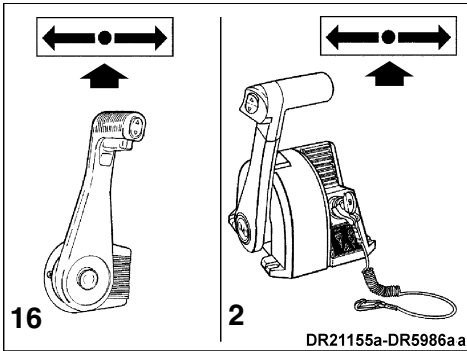
Connect the clip to the emergency stop/key switch. Snap the lanyard to a **secure** place on the operator's clothing or life vest — not where it might tear away instead of activating the stop switch.



1. Clip
2. Emergency Stop Clip / key switch
3. Lanyard

IMPORTANT: The engine will start and run without the clip connected to the key switch. However, we strongly recommend that the operator use the clip and lanyard anytime the engine is running. Refer to **Emergency Stop/Key Switch**.

Move the remote control handle to NEUTRAL.



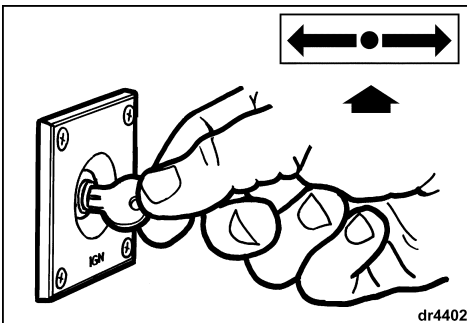
1. Concealed side mount control
2. Binnacle mount control

DO NOT advance the throttle before start-up. Advancing the throttle overrides the electronic idle control system. After the engine starts, the engine management module (EMM) automatically increases idle speed. Idle speed will decrease as the engine warms up. Wait until idle speed decreases before you shift into gear.

WARNING

DO NOT attempt to shift the engine into FORWARD or REVERSE while it is running at fast idle. Shifting under this condition can result in sudden boat movement, resulting in injury.

Turn the key switch fully clockwise to the START position. Crank the engine no longer than 10 seconds.



IMPORTANT: The starter motor can be damaged if operated continuously for more than 10 seconds.

Upon start-up, release the key.

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

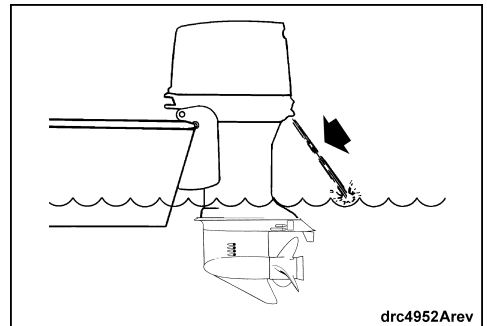
Each time the key switch is turned from OFF to ON, the warning system will self-test. Refer to **Engine Monitoring**. If the warning system fails to self-test during start-up, see your Dealer.

If your outboard doesn't react normally to this starting procedure or if it fails to start, refer to **Trouble Check Chart**.

After Engine Starts

IMPORTANT: DO NOT advance the throttle when operating the engine in NEUTRAL. Advancing the throttle can cause the engine to over-rev, which can result in severe engine damage.

Check the water pump indicator. A steady stream of water indicates the water pump is working. If a steady stream of water from the water pump indicator is not visible, stop the engine. Refer to **Engine Overheating**.



Engine temperature will determine the length of the period of fast idle after start-up — the warmer the engine, the shorter the period of fast idle.

ENGINE STOPPING

Move control handle to NEUTRAL.

Turn key switch counterclockwise to the OFF position. Remove the key when the boat will be unattended.

To avoid difficulty when restarting, never stop the engine by running it with the fuel hose disconnected or otherwise running it out of fuel.

SHIFTING AND SPEED CONTROL

IMPORTANT: Carefully check the function of all control and engine systems before leaving the dock. DO NOT shift the engine into FORWARD or REVERSE while it is shut off.

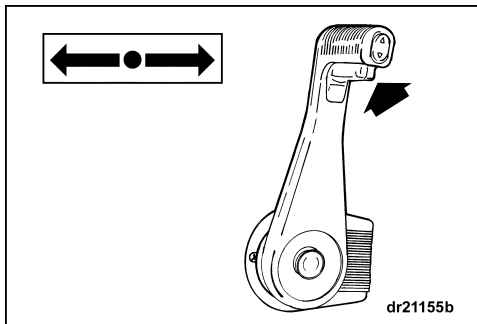
If the following directions are not suitable for your boat's control, see your Dealer before proceeding.

Shifting

With engine running and control handle in NEUTRAL:

Concealed Side Mount Control

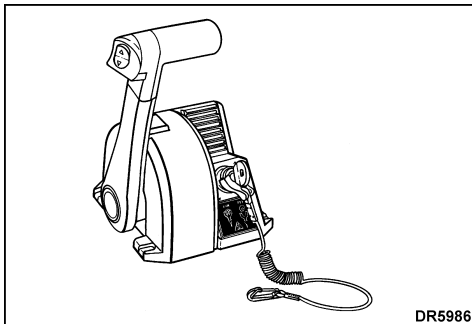
Unlock the control handle (lift the neutral lock tab by squeezing the hand grip). Briskly and decisively, move the control handle fore or aft — until it engages the gear detent.



1. NEUTRAL Lock Tab Hand Grip

Binnacle Mount Control

Briskly and decisively, move the control handle fore or aft — until it engages the gear detent.



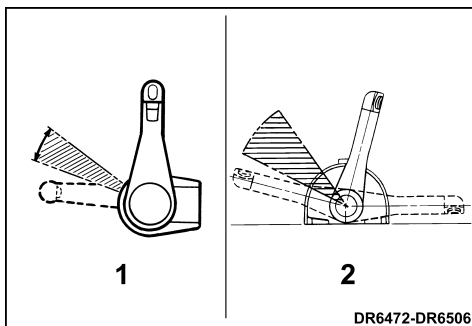
IMPORTANT: When shifting from FORWARD to REVERSE or from REVERSE to FORWARD, pause at NEUTRAL until the engine is at idle speed and the boat has slowed.

Speed Control

After gear engagement, move the control handle slowly in the same direction to increase speed.

FUEL ECONOMY

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



1. Concealed Side Mount Control
2. Binnacle Mount Control

OPERATION



DANGER



DO NOT run the engine indoors or without adequate ventilation or permit exhaust fumes to accumulate in confined areas. Engine exhaust contains carbon monoxide which, if inhaled, can cause serious brain damage or death.

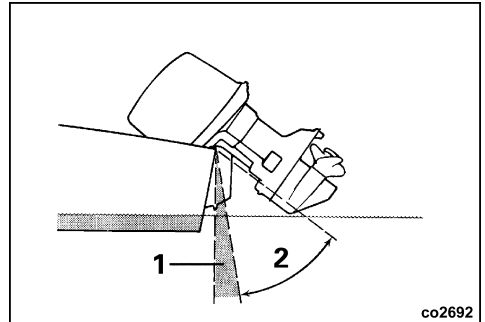


DANGER



Contact with a rotating propeller is likely to result in serious injury or death. Assure the engine and prop area is clear of people and objects before starting engine or operating boat. Do not allow anyone near a propeller, even when the engine is off. Blades can be sharp and the propeller can continue to turn even after the engine is off. Always shut off the engine when near people in the water.

The power tilt is often used to tilt the engine for clearance when beaching, mooring, or launching.



co2692

1. Trim Range
2. Tilt Range

Trim Gauge

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

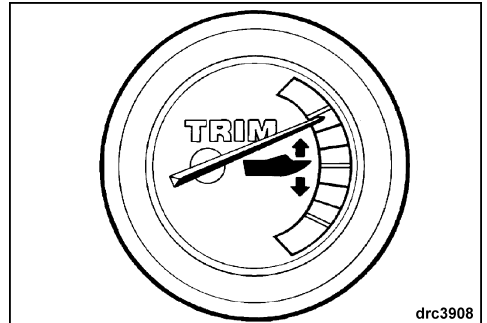
POWER TRIM AND TILT



WARNING



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



drc3908

The trim system features a trim range of 21°:

You can pivot the engine to any position within this range while underway and at any boat speed.

The power trim is normally used to improve acceleration, speed, and ride quality and to adjust for changing water conditions.

The tilt system will tilt your engine an additional 54°:

While positioned within the tilt range, **DO NOT** run the engine faster than idle speed. If idling a tilted engine, keep its water intakes submerged at all times.

Manual Release



WARNING



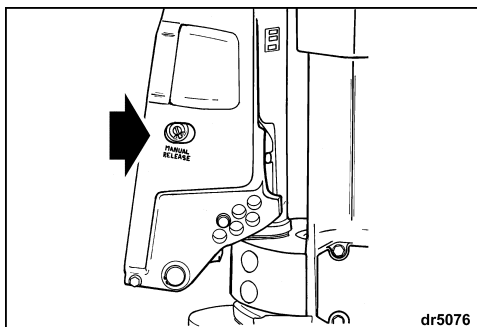
Keep everyone clear of a tilted engine when backing out the manual release screw. The engine could drop suddenly and forcibly. Be sure to tighten the manual release screw after manually repositioning the engine. Tightening the screw also reactivates the engine's shock absorber protection and reverse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

If needed, the outboard will tilt up or down manually:

Turn the manual release screw counterclockwise, slowly, until it **lightly** contacts its retaining ring — about 3 and 1/2 turns.

Reposition the engine.

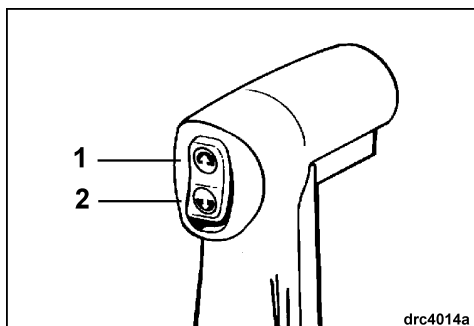
Tighten the manual release screw to hold the engine in its new position.



1. Manual Release Screw

Tilting

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



1. Bow Up

2. Bow Down

If the tilted engine's cover contacts the boat's motor well, limit the maximum tilt by following the procedures in **Adjustments, Tilt Limiter Cam**.

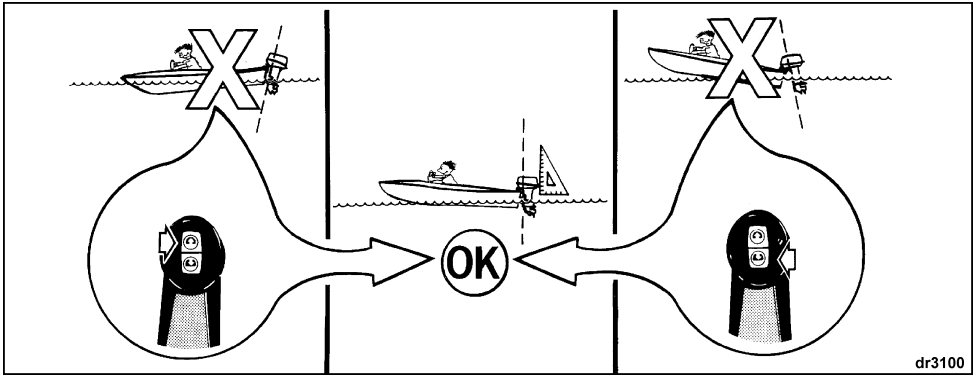
Trimming

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

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

You must use a speedometer and tachometer to determine boat and engine performance at different trim positions. To help maintain steering stability and good performance, always maintain the proper trim angle which, varies depending on the combination of boat, motor, propeller and operating conditions.

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



Bow-Up

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

Operating Conditions:

In the bow-up position, your boat may tend to pull to the left. If this condition exists, correct it by applying a clockwise force with the steering wheel to keep on a straight path. The trim tab can also be adjusted to compensate for steering wheel torque, but adjust the trim tab only if bow-up is commonly used. Refer to **Trim Tab**.

When the motor is trimmed to full bow-up position, the boat's bow will tend to rise above the water.

Excessive bow-up trim may cause propeller ventilation, resulting in propeller slippage.

Bow-Down

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

Operating Conditions:

In the bow-down position, your boat may tend to pull to the right. If this condition exists, correct it by applying a counterclockwise force with the steering wheel to keep on a straight path. The trim tab can also be adjusted to compensate for this steering wheel torque, but adjust the trim tab only if bow-down is commonly used. Refer to **Trim Tab**.

When the motor is trimmed to full bow-down position, the boat's bow will tend to go deeper into the water (plow).

⚠ WARNING ⚠

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

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

⚠ WARNING ⚠

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

⚠ WARNING ⚠

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

PROPELLER SELECTION

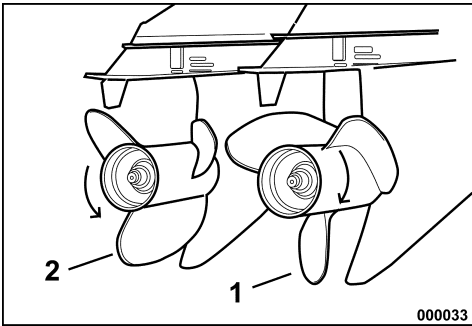
To select the correct propeller for your boating application, your boat and motor **MUST** be water tested. See your Dealer for assistance.

Refer to **Propeller**, before removing or installing propeller.

IMPORTANT: The correct propeller for your boat, under normal load conditions, will allow the engine to run near the midpoint of the RPM operating range at full throttle. Refer to **Engine Specifications**.

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

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



1. Right-Hand (clockwise)
2. Left-Hand (counterclockwise)

MOORING

You may moor your boat with the motor's gearcase out of the water by using its tilt feature. Depending on the model, refer to **Tilting** or **Power Trim and Tilt**.

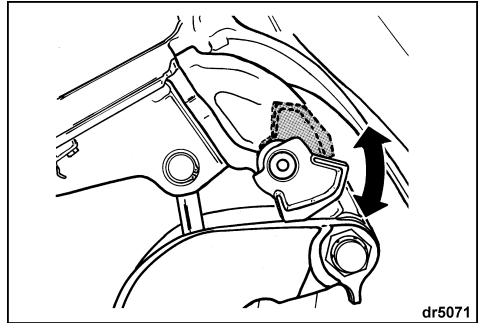
IMPORTANT: DO NOT use the tilt support lever while trailering. Refer to **Trailering**.

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

Tilt the motor UP using the trailering tilt switch.

Flip the tilt support lever down.

Lower the motor until the tilt support lever rests solidly on the stern brackets.



Disengage the tilt support lever:

Tilt the motor UP.

Flip the tilt support lever up.

Lower the motor to operating position.



WARNING



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

FLUSHING

! DANGER !

DO NOT run the engine indoors or without adequate ventilation or permit exhaust fumes to accumulate in confined areas. Engine exhaust contains carbon monoxide which, if inhaled, can cause serious brain damage or death.

Flush your engine with fresh water as soon as possible after each use in salty, polluted, or brackish water to minimize the formation of deposits that can clog cooling passages.

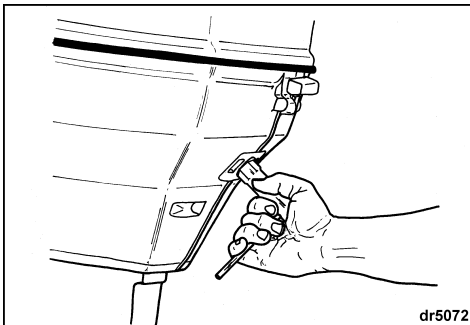
Flush the engine on the trailer or at dockside while it is: tilted or vertical, running or stopped.

Outboard — Running

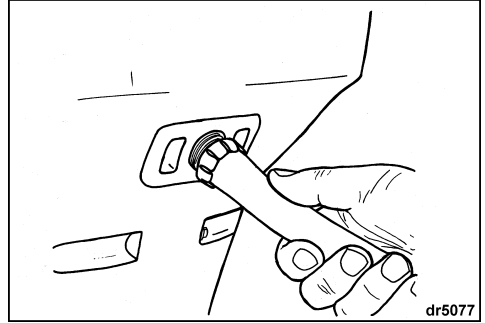
! WARNING !

Prevent injury from contact with rotating propeller; remove the propeller before flushing.

1. Place the engine in vertical position in a well-ventilated area with good drainage.
2. Remove the plug from the flushing port.



3. Install flushing device (if needed) and garden hose.
4. Start the water — keep pressure between 20 - 40 psi (140 - 300 kPa).



5. Start the engine — **run it at idle only** and flush it for at least five minutes.
6. Shut off the engine, remove the flusher (if used), and install the plug. If the plug is also the water pump indicator, turn it so the water streams out to the side, where it can be seen easily from the helm.
7. Leave the outboard in vertical position long enough to completely drain the powerhead.

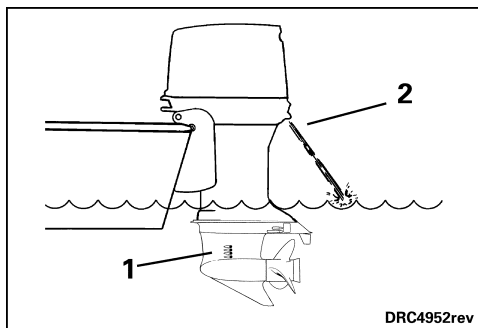
Outboard Not Running

1. The outboard may be in a tilted or vertical position.
2. Remove the plug from the flushing port.
3. Install flushing device (if needed) and garden hose.
4. Start the water and flush the engine for at least five minutes — keep pressure between 20 - 40 psi (140 - 300 kPa).
5. Remove the flusher (if used); install the plug. If the plug is also the water pump indicator, turn it so the water streams out to the side, where it can be seen easily from the helm.
6. Lower the outboard to vertical position long enough to completely drain the powerhead.

ENGINE OVERHEATING

IMPORTANT: Do not run your engine — even for a brief start-up without supplying water to it. Refer to **Flushing**.

While boating, the engine's water intakes must stay completely submerged and unobstructed. Observe proper transom height and trim angle. While the engine is running, the engine's water pump indicator must discharge a steady stream of water. Check the indicator often, especially when operating in weeds, mud and debris-laden water and at extreme trim angles.



1. Water intake screens
2. Water pump indicator

If the engine overheats, its *SystemCheck* engine monitor will sound the warning horn and turn on the "WATER TEMP" or HOT light. Also, the *S.L.O.W.* protection system will immediately limit the engine's speed to 1200 RPM. If the engine was running faster than 1200 RPM when the *S.L.O.W.* system activated, it will shake noticeably. The protection system must be **RESET** before the engine will operate at speeds over 1200 RPM. Under certain conditions the *EMM* will shut off the engine.

The following conditions must be met to **RESET** the system:

The engine must be shut off and the cooling temperature restored.

IF the *S.L.O.W.* protection system activates and the stream from the water pump indicator becomes intermittent or stops, reduce speed to idle and:

Shift to **NEUTRAL**.

SHUT OFF the engine.

Tilt the motor up.

Clean the intake screens of any blockage.

Clean the water pump indicator of any blockage.

Lower the motor.

Restart the engine and run at idle.

IF cleaning the screens and indicator does not restore the water pump indicator's steady discharge, **SHUT OFF** the engine and do not attempt to operate it. See your Dealer.

IF cleaning the screens and indicator does restore the water pump indicator's steady discharge, you might have to run for two minutes in **NEUTRAL** to allow the engine to cool and the light to go off.

If the warning light stays on after two minutes, **STOP** the engine and see your Dealer.

IMPORTANT: You must restore cooling to the engine to avoid serious engine damage. If you do not restore cooling to the engine the *EMM* will identify a progressive overheating condition and shut off the engine. The "WATER TEMP" or HOT light will flash. The engine will not restart until the engine is allowed to cool.

After any overheat, have your Dealer:

Torque the cylinder head screws.

Inspect the water pump for excessive wear or damage.

Inspect the thermostats.

Inspect the engine for leaks.

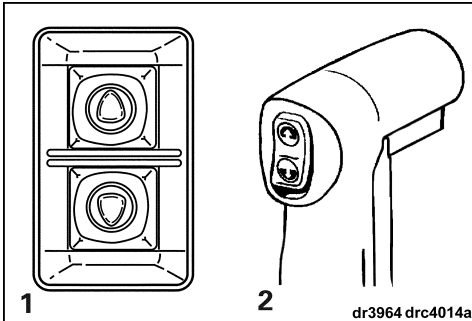
TRAILERING

WARNING

Keep everyone clear of stern area when raising or lowering the outboard. Personal injury or death can result from contact with moving parts of the outboard.

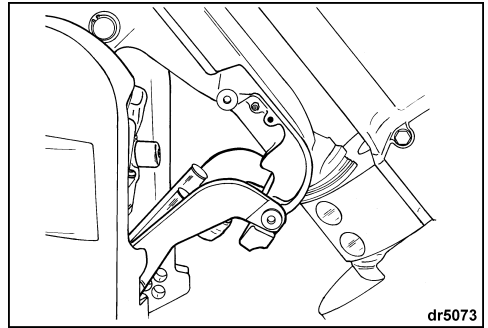
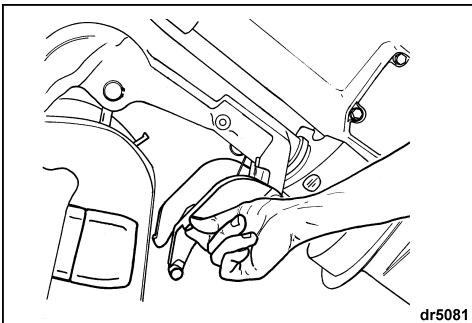
Trailing Bracket

To engage bracket — Tilt the motor fully using the tilt switch inside the boat or the trailing tilt switch.

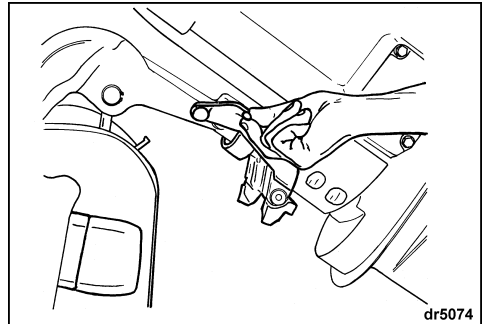


1. Trailing tilt switch
2. Tilt switch inside boat

Pull down the trailing bracket. A detent will hold the bracket in position. Lower the motor until the trailing bracket locks into place in the stern brackets.



To disengage bracket — Tilt the motor fully. Return the trailing bracket to its stowed position. Lower the motor to its vertical position.

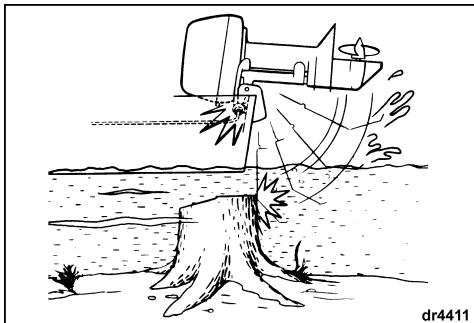


Trail your boat with the motor in a vertical position. If your trailer does not provide adequate road clearance, the motor can be trailered while tilted by using the motor's trailing bracket.

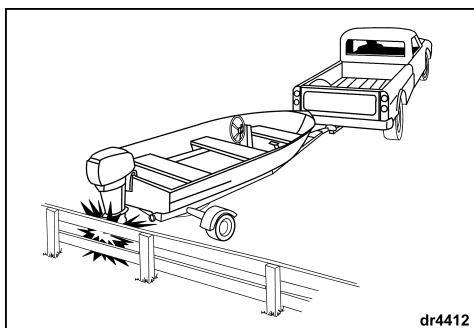
IMPORTANT: DO NOT use the tilt support lever when trailering.

IMPACT DAMAGE

Your engine has a shock absorption system designed to help withstand damage from impact with underwater objects at low to moderate speeds. However, high speed impacts with rigid underwater objects like pilings or boulders can be beyond the capability of the absorption system. Such impacts can result in serious damage to your engine and injury to boat occupants from the engine or its parts entering the boat. Occupants can also be ejected or injured by falling against portions of the boat as a result of rapid deceleration following impacts. When boating in unfamiliar, shallow, or debris-laden waters, seek information on safe boating areas and navigation hazards from a reliable local source. Reduce your speed and keep a sharp lookout!



The engine's shock absorption system does not work while operating in reverse. If you back into an object, either in the water or while trailering, your boat and engine can be seriously damaged.



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



WARNING



Failure to inspect for damage could result in sudden, unexpected component failure, loss of boat control, and personal injury. Unrepaired damage could reduce your boat and engine's ability to resist future impacts.

STORING

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

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

Between uses, store your motor in a vertical position.

For recommendations on extended periods of storage, refer to **Off-Season Storage**.

SPECIAL OPERATING CONDITIONS

Salt Water

Flush the engine internally after use in salt, polluted or brackish water to help prevent mineral deposits from clogging cooling passages. Your outboard has a built-in flushing port to facilitate flushing. Refer to **Flushing**.

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

During long periods of mooring, tilt the gearcase out of the water — except in freezing temperatures. Upon removal from salt water, leave it in a vertical position until its cooling system has drained.

Weedy Water

Weeds block water intakes and cause your outboard to overheat. Weeds on the propeller create vibration and reduce boat speed.

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

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

Boat Bottom and Engine External Finish

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

After operating your outboard, rinse it with fresh water and wipe it dry. Apply *Evinrude* Anti-Corrosion Spray to any surface subject to corrosion, but avoid the anti-corrosion anode(s).

Periodically, wash the entire boat and outboard with soapy water and apply a coat of automotive wax. Leave the engine cover in place when washing the outboard.

High Altitude

Your engine's *EMM* will automatically compensate for changes in altitude. However, if you consistently boat above 3000 ft. (900 m), you will experience a slight loss of power due to reduced air density.

If your engine drops below the recommended RPM operating range at full throttle, have your Dealer select a lower pitch propeller.

If you return to sea level, have your Dealer install the original propeller and verify correct RPM operating range.

Shallow Water

IMPORTANT: Serious engine damage will occur if the gearcase is allowed to drag on the waterway bottom.

Freezing Weather

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

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

IMPORTANT: Water that has leaked into the gearcase, or remained in the cooling system or other components can freeze, causing serious engine damage.

IMPORTANT: If your outboard's gearcase is equipped with an integral speedometer pickup, all water must be cleared from the hose to prevent gearcase damage. Refer to **Off-Season Storage**.

Submerged Engine

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

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

Dual Engine Operation

When you are maneuvering at slow speed, be sure both engines are running, even if one or both are in NEUTRAL.

If it is necessary to return to harbor with one engine not running, you should not attempt to operate the boat above planing speed. Tilt the inoperative engine high enough to keep its propeller out of the water.

Under Tow

Should you require a tow from another boat:

Shift your engine to NEUTRAL.

Tilt its gearcase out of the water.

Off-load all persons into another boat.

Keep towing speed slower than planing speed.

MAINTENANCE

Maintenance, replacement, or repair of the emission control devices and systems may be performed by any marine SI (spark ignition) engine repair establishments or individual.

ENGINE EMISSIONS INFORMATION

Manufacturer's Responsibility

Beginning with 1999 model year engines, manufacturers of marine engines must determine the exhaust emission levels for each engine horsepower family and certify these engines with the United States of America Environmental Protection Agency (EPA). An emissions control information label, showing emission levels and engine specifications, must be placed on each engine at the time of manufacture.

Dealer's Responsibility

When performing service on all 1999 and more recent *Evinrude* outboards that carry an emissions control information label, adjustments must be kept within published factory specifications.

Replacement or repair of any emission related component must be executed in a manner that maintains emission levels within the prescribed certification standards.

Dealers are not to modify the engine in any manner that would alter the horsepower or allow emission levels to exceed their predetermined factory specifications.

Exceptions include manufacturer's prescribed changes, such as altitude adjustments, for example.

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, and should not allow anyone to, modify the engine in any manner that would alter the horsepower or allow emissions levels to exceed their predetermined factory specifications.

Tampering with the fuel system to change horsepower or modify emission levels beyond factory settings or specifications will void the product warranty.

EPA Emission Regulations

All new 1999 and more recent *Evinrude* outboards manufactured by BMCA are certified to the EPA as conforming to the requirements of the regulations for the control of air pollution from new watercraft marine spark ignition engines. This certification is contingent on certain adjustments being set to factory standards. For this reason, the factory procedure for servicing the product must be strictly followed and, whenever practicable, returned to the original intent of the design. The responsibilities listed above are general and in no way a complete listing of the rules and regulations pertaining to the EPA requirements on exhaust emissions for marine products. For more detailed information on this subject, you may contact the following locations:

VIA U.S. POSTAL SERVICE:

Office of Mobile Sources
Engine Programs and Compliance
Division
Engine Compliance Programs
Group (6403J)
401 M St. NW
Washington, DC 20460

VIA EXPRESS or COURIER MAIL:

Office of Mobile Sources
Engine Programs and Compliance
Division
Engine Compliance Programs
Group (6403J)
501 3 rd St. NW
Washington, DC 20001

EPA INTERNET WEB SITE:

www.epa.gov

10-HOUR INSPECTION

After 10 hours of operation, your new engine will be broken in and its mechanical parts will have seated. At that time all systems should be checked and any adjustments needed should be made.

Your Dealer will perform this 10-hour Inspection at your request and expense (based on local rates), according to what your engine needs — refer to **Engine Maintenance and Inspection Schedule, 10-Hour Inspection** for a partial list.

Follow consistent preventive maintenance by having your Dealer check and service your engine once a year or after each 100 hours of operation, whichever comes first.

OFF-SEASON STORAGE

You must protect against natural environmental conditions that can be damaging to an outboard motor. Temperature and humidity changes while your outboard motor is not in use can cause corrosion of internal engine parts when they are not protected. Fuel remaining in your fuel tank and in the engine will oxidize and weather which can result in loss of octane and can cause gum deposits in the fuel system. Your warranty does not cover engine failure caused by these conditions. We strongly recommend that you have your Dealer prepare your outboard for the off-season.

To do the off-season storage preparations yourself, gather the supplies and perform the steps that follow:

- 2+4 fuel conditioner
- Triple-Guard grease
- Ultra-HPF gearcase lubricant
- Storage Fogging Oil spray can

Stabilize the engine's fuel supply with 2+4 fuel conditioner during the last hours of operation to ensure proper stabilization, **following instructions on the container for mixture. Be sure to run the engine long enough for the treated fuel to reach the engine.**

⚠ WARNING ⚠

Prevent injury from moving engine components. Before starting the engine:

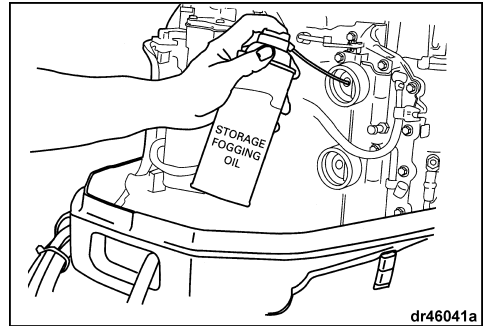
- Shift it to NEUTRAL.**
- Keep hands, clothes, hair clear of power-head.**
- Remove the propeller if you use a flushing device.**

IMPORTANT: Provide a water supply to the engine and start it — **run it at idle only.**

To run the engine on a flusher, refer to **Flushing.**

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

Storage Fogging Oil — Following instructions on the can, fog the engine by spraying through the holes in the throttle plates in the throttle bodies.

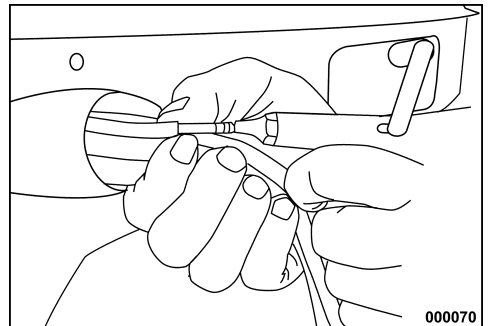


Ignition, oil, and fuel systems — Check for misplaced leads and damaged or deteriorated parts. Be sure starter solenoid terminal boot and all connectors are in place.

Screws, bolts, nuts — Tighten any that are loose.

Propeller — Remove and examine. If damaged, see your Dealer. Clean the propeller shaft and lubricate it. Refer to **Propeller.**

Gearcase speedometer pickup, if equipped — Disconnect the speedometer hose at the upper connection. With air pressure no more than 25 psi (167 kPa), blow all water from the gearcase speedometer pickup system. Reconnect speedometer pickup after all the water has been removed.



Lubrication — Refer to **Lubrication** to drain and refill the gearcase and for lubricating points on the engine.

Touch up painted surfaces and wax the engine's exterior.

Store the engine on the boat (or an engine stand) in a vertical, self-draining position.

If you cannot store the engine in the recommended vertical position, be sure the cooling system is drained completely. Never place the gearcase higher than the powerhead. Any water remaining in the exhaust passages can run into the cylinders and cause serious damage.

If you remove an "installed" engine, examine all hardware you loosened or removed from the engine and its steering, throttle, and shift systems. Replace damaged or missing parts with *Evinrude/Johnson Genuine Parts*, or equivalent.

Battery — Remove it, clean it, check its condition and water level, then charge it. Store it in a place that's cool and dry, out of direct sunlight. Check the water level and charge it periodically during the storage period.

Oil system — Leave the oil hoses connected. If you must disconnect them to remove the engine from the boat for storage, cap the fittings and plug the hoses.

Oil tank — Inspect the oil tank for contamination and/or water. Fill with recommended oil to reduce or prevent condensation from forming in the tank during storage.

Portable fuel tank — Disconnect the hose from the tank. Remove the hose from the engine if the fitting is a quick-disconnect. If not, and the hose is secured to the engine, leave it connected. Secure the hose to protect it.



WARNING



Store fuel tanks in a well-ventilated area, away from heat and open flame. Prevent escape of liquid or vapors which could accidentally ignite.

Close the filler cap vent screw, if equipped.

Be sure the disconnected fuel hose doesn't drip.

PRE-SEASON SERVICE

Remove your outboard from storage and prepare it for a season of reliable service by performing a general check and a few preventive maintenance procedures.

Examine all loosened or removed hardware and any steering, throttle, and shift systems. Replace damaged or missing parts with *Evinrude/Johnson Genuine Parts* or equivalent.



WARNING



Failure to carefully reattach the outboard and its control systems with factory-specified hardware can result in sudden, unexpected loss of boat control.

Oil system — Check for evidence of water in the oil tank. If present, see your Dealer. If no water is evident, top off the oil tank. Refer to **Fuel and Oil Section, Oil System**.

Disconnected oil hoses — Follow the directions in **Fuel and Oil Section, Oil System**, to reinstall the hoses and reestablish oil flow.

Undisturbed oil hoses — If the oil hoses were left connected, no special attention to the oil system is required.

With the propeller removed, check the gearcase for leakage. If leakage is evident, the gearcase seals should be replaced. See your Dealer.

Anticorrosion anodes — Check condition. Refer to **Anti-Corrosion Anodes**.

Install the propeller unless you will run the engine on a flusher for your pre-season servicing. If so, install the propeller after you shut off the engine and disconnect the flusher.

Refer to **Flushing**, to use the engine's flushing system. Refer to **Propeller** to install the propeller.



WARNING



Prevent accidental contact with a rotating propeller; always remove it when using a flusher to run the engine.

Top off fuel tank with fresh fuel.

Battery — Charge fully and install. Refer to **Battery**.

BATTERY



WARNING



Do not use a booster battery and jumper cables to start the engine. Fumes vented can cause explosion and fire, resulting in property damage, serious injury or death.

Refer to **Engine Monitoring** and review your engine's warning system self-test routine. During your preseason start-up, make sure the warning system self-tests properly. If it doesn't, see your Dealer.

Follow **Engine Starting** in the **Engine Starting** Section and start the engine. Let it idle while you:

Observe running quality - if poor, refer to **Trouble Check Chart** or see your Dealer.

Observe water pump operation. Water must flow from the water pump indicator in a steady stream. If it doesn't, shut off the engine and investigate. Refer to **Engine Overheating**.

Stop the engine and check the fuel system for leaks.



WARNING



Failure to check for fuel leakage could allow a leak to go undetected, resulting in fire or explosion.

Each outboard needs one battery that is:

- 12-volt, heavy-duty, designated "marine"
- Vented/refillable or maintenance-free

Rated according to the minimum requirements in **Engine Specifications**.

Deep-cycle batteries are suitable **IF** they meet or exceed the minimum CCA requirements.

Ask your Dealer about your outboard's requirements before installing longer battery cables or a battery switch.

Never install an after-market battery isolator. Your outboard has a built-in accessory battery charging feature. Refer to **Accessory Battery Connection**.

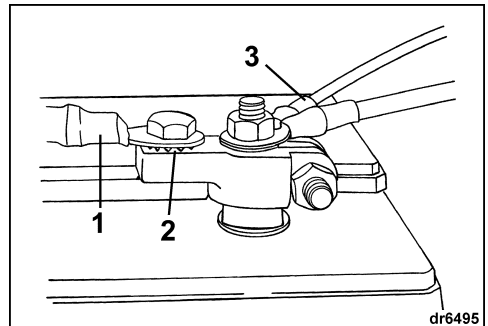
Installation

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

Make sure all components are clean and free of corrosion.

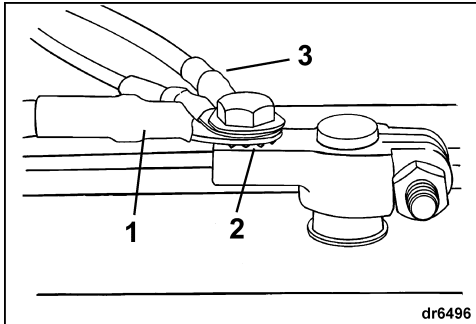
Connect the RED (+) main cable to the positive (+) battery post. Connect the BLACK (-) main cable to the negative (-) battery post.

If you have marine battery posts, install each main cable on the clamp adapter with a starwasher below it. Install all wires from accessories on the threaded portion of the post.



1. Main cable
2. Starwasher
3. Accessory wires

If you have automotive battery posts, place a star-washer on the clamp adapter first, then the main cable, and then the wires from the accessories.



1. Starwasher
2. Main Cable
3. Accessory wires

Tighten all connections securely and coat the installation with *Triple-Guard* grease.

Service

Before servicing the battery or the outboard, remove both battery cables from the battery, BLACK (-) cable first. Keep metal objects from contacting either battery post.

IMPORTANT: Service electrical components only while the outboard is **NOT** running. Be careful when identifying positive and negative battery cables and posts. If you touch the wrong post with a battery cable, even briefly, the charging system will be damaged.



WARNING



Battery electrolyte is acidic — handle with care. If electrolyte contacts any part of the body, immediately flush with water and seek medical attention.

Accessory Battery Connection

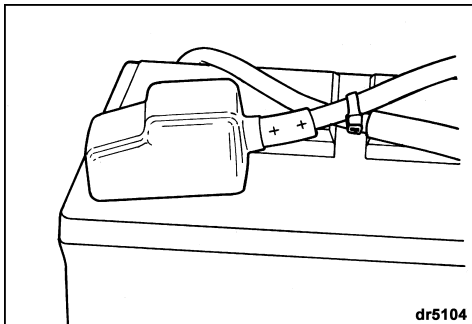
Your outboard is equipped with a feature to independently charge an accessory battery. The charging system can charge the cranking and accessory batteries at the same time. See your Dealer.



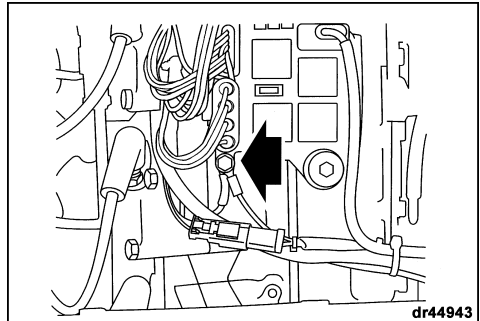
WARNING



Keep the battery connections clean, tight, and insulated to prevent their shorting or arcing and causing an explosion. If the battery mounting system does not cover the connections, install covers. Check often to see that connections stay clean and tight.



IMPORTANT: DO NOT use wing nuts on battery connections even if they came with the battery. Wing nuts can loosen and cause errant warning signals or electrical system damage.



IMPORTANT: The accessory battery connection must only be used to charge a single 12-volt battery or two 12-volt batteries wired in parallel. The accessory connection must not be used to charge either battery in a 24-volt system.

ADJUSTMENTS

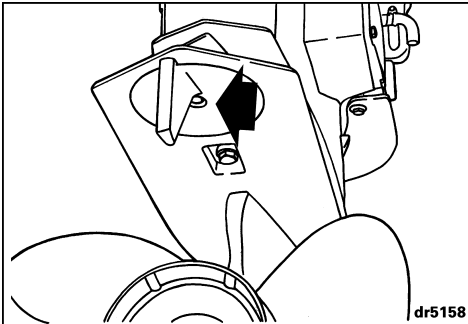
Trim Tab



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

IMPORTANT: A single trim tab adjustment will relieve steering effort under only one set of speed, motor angle and load conditions. No single adjustment can relieve steering effort under all speed, motor angle and load conditions. If the boat pulls to the left or right when its load is evenly distributed, adjust the trim tab as follows:

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



Tighten the trim tab screw to a torque of 35-40 ft. lbs. (47-54 N-m).

Test the boat and, if needed, repeat the procedure until steering effort is as equal as possible.

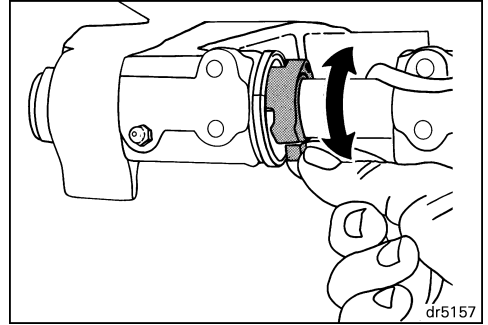
High motor installations — The trim tab might be above the water when the motor is trimmed out. Steering effort might increase. Steering effort will be reduced if you trim the motor in and submerge the trim tab.

Dual standard rotation motors — Move both trim tabs equally and in the same direction.

Dual motors (one counter and one standard rotation) — Set both trim tabs to the center position.

Tilt Limiter Cam

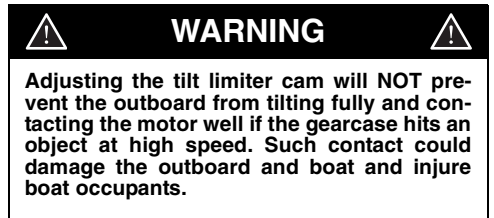
If your outboard contacts the boat's motor well while tilting, adjust the tilt limiter cam to limit maximum tilt-up:



Place the outboard in its normal operating position.

Rotate the tilt limiter cam — pull its tab forward and up to **REDUCE** the amount of tilt UP.

Check your adjustment — tilt the outboard fully and adjust further, if necessary. Return the outboard to vertical position for each adjustment, and repeat your check after each adjustment.



LUBRICATION

Gearcase

Replace gearcase lubricant after first 10 hours of operation. Check level and condition of lubricant after next 50 hours of operation. Add lubricant if necessary.

Thereafter, check level and condition of lubricant every 50 hours. Replace lubricant every 100 hours of operation or once each season, whichever occurs first. Refill with *Ultra-HPF* gearcase lubricant. If not available, *Hi-Vis®* or other marine gearcase lube can be used, however, long term durability may be affected with continued use. See your Dealer.

IMPORTANT: The recommended gear lubricants include special additives for marine applications. Do not use automotive gear lubricants, 2-stroke or 4-stroke engine oil, or any other oil or grease for gearcase applications.

With motor in normal operating position:

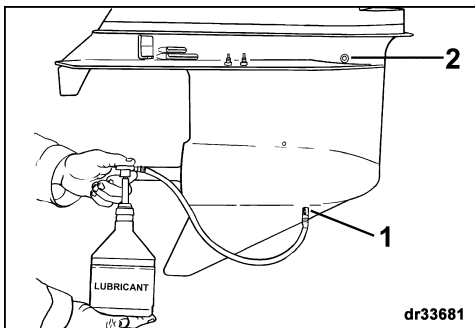
Remove drain/fill plug and lubricant level plug from side of gearcase and completely drain gearcase of old lubricant.

Examine drained lubricant for metal filings, milky appearance, or black color with burnt odor. If old lubricant has any of those characteristics, see your Dealer. If drained lubricant is in good condition, continue.

Place tube of lubricant in drain/fill hole and fill slowly until lubricant appears at lubricant level hole. See **Engine Specifications** for gearcase capacity.

Install lubricant level plug before removing tube from drain/fill hole. Drain/fill plug can then be installed without loss of lubricant.

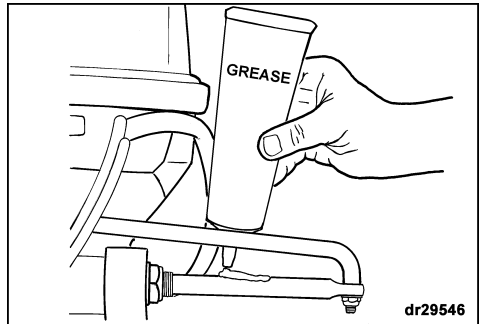
Securely tighten both plugs.



1. Drain/fill plug
2. Lubricant level plug

Steering System

The installer was instructed to grease the steering cable ram during installation. Periodic regreasing of the steering cable ram with *Triple-Guard* grease is required. Refer to **Engine Maintenance and Inspection Schedule** for lubrication frequency. Refer to steering system manufacturer's information when servicing boat's steering system.

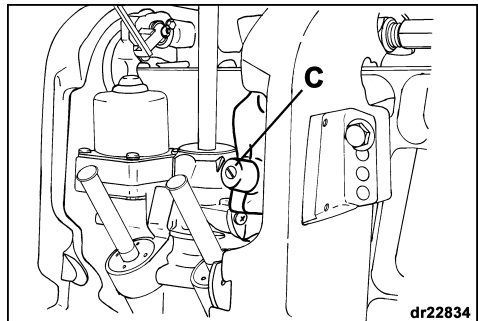


WARNING

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

Power Trim and Tilt Fluid Reservoir

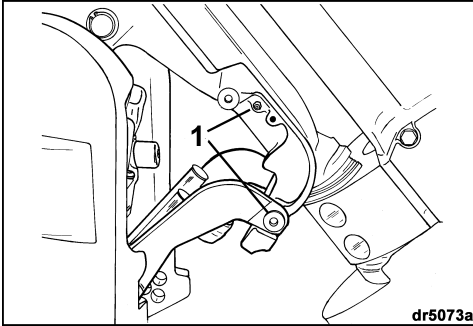
Tilt the motor up and engage the tilt support. Depending on your model, refer to **Tilting** or **Power Trim and Tilt**. Remove filler cap and check fluid level. If necessary, add enough *Evinrude/Johnson* Power Trim/Tilt and Power Steering Fluid to bring the fluid level even with the bottom of the fill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



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

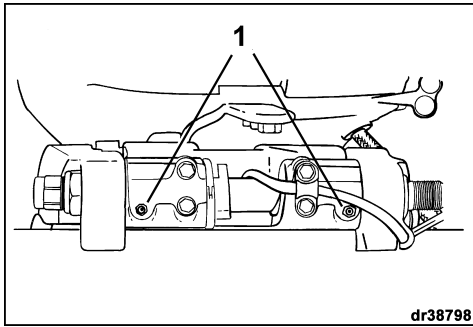
Lubrication Points

Refer to **Engine Maintenance and Inspection Schedule** for lubrication frequency and recommended lubricant.



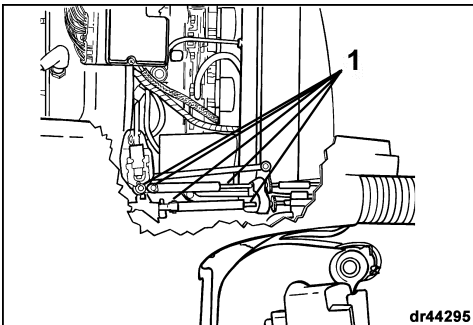
1. Trawling bracket lubrication points

dr5073a



1. Tilt tube lubrication points

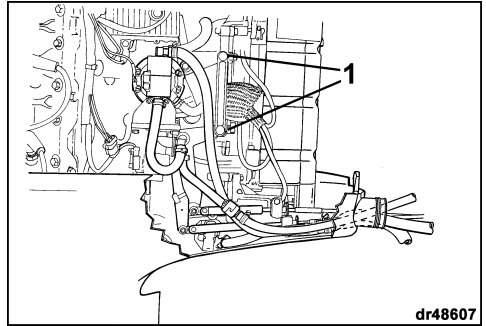
dr38798



100 - 175 models

1. Shift/Throttle lubrication points

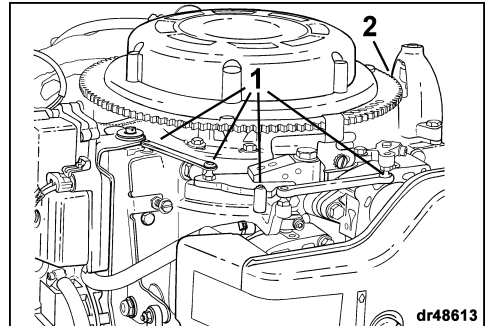
dr44295



dr48607

200 - 250 models

1. Throttle linkage lubrication points

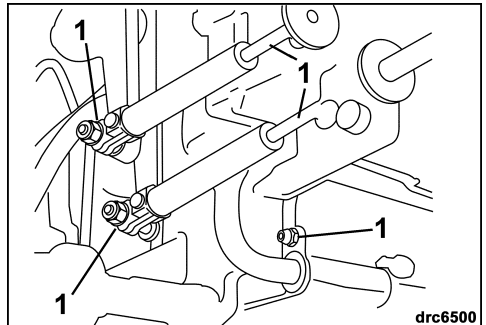


dr48613

200 - 250 models

1. Throttle linkage lubrication points

2. Starter Bendix lubrication points



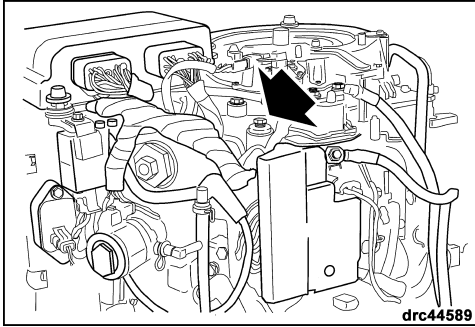
drc6500

200 - 250 models

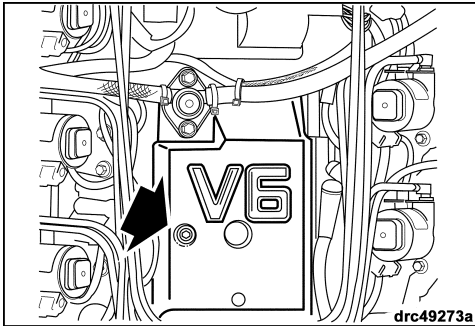
1. Shift/Throttle lubrication points

WATER PRESSURE

An optional water pressure gauge is recommended to monitor cooling system pressures. Noticing changes in water pressure can help prevent engine overheating. The water pressure gauge must be connected at the correct point to ensure the most accurate pressure readings. Follow the installation instructions included with the water pressure gauge:



100 - 115 models, water pressure



135 - 250 models, water pressure

START ASSIST CIRCUIT FUSE

The start assist circuit provides extra voltage to the fuel injectors during cranking.

Be sure that all active and spare fuses are in good condition. **Always carry spare fuses.**

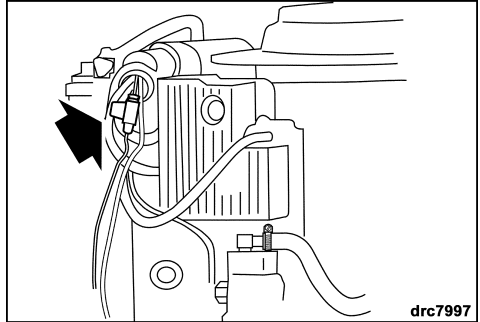
Fuse Failure

A blown starter assist circuit fuse will not allow the engine to crank. Replace it with a fuse of the same rating.

Repeated failures of fuse indicate a serious problem. Do not replace it with higher rated fuse; see your Dealer for service.

Fuse Replacement

Remove cover; install good fuse of the same rating.

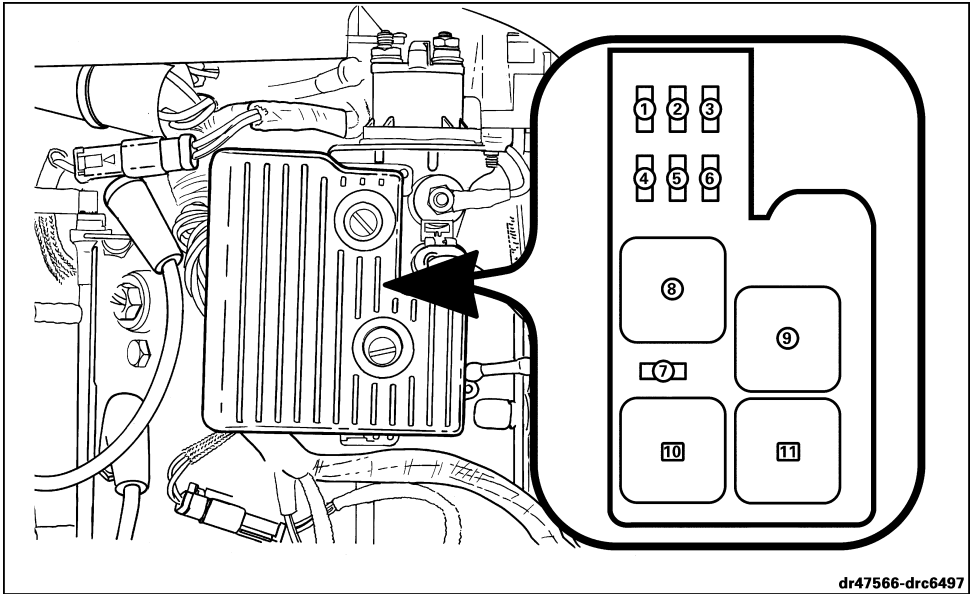


IMPORTANT: Failure to install cover securely will cause electrical problems.

SPARK PLUGS

	WARNING	
<p>The ignition system presents a serious shock hazard. The primary circuit operates in excess of 250 volts; the secondary circuit operates in excess of 25,000 volts. Use caution to avoid injury from shock or injury resulting from your reaction to shock. Do not handle primary or secondary ignition components while the engine is cranking or running.</p>		

IMPORTANT: The spark plugs should be serviced by an *Evinrude* Dealer to insure correct orientation of the spark plug to fuel injector. Incorrect spark plug maintenance can lead to engine damage. Refer to **Engine Maintenance and Inspection Schedule**.



dr47566-drc6497

POWER DISTRIBUTION PANEL

A power distribution panel on your outboard controls and protects the electrical systems. The panel includes 7 mini-fuses and 4 power relays. The cover holds spare fuses and a puller. Refer to **Fuse Panel Chart** for rating, color, position, and circuit information.

Be sure that all active and spare fuses are in good condition. **Always carry spare fuses.**

Fuse Failure

A minor electrical problem can blow a fuse. Replace it with a fuse of the same rating.

Repeated failures of fuses in the same position indicate a serious problem. Do not replace with higher rated fuses; see your Dealer for service.

Fuse Replacement

Remove the retaining screws and panel cover.

Identify and remove the failed fuse; install a good fuse of the same rating.

Install the panel cover and screws; tighten securely.

IMPORTANT: Failure to install the panel cover securely will cause electrical problems.

Fuse Panel Chart

Pos.	Rating & Color	Circuit	P/N
1	10-Amp Red	Oil Injector	514766
2	10-Amp Red	V4 - No. 1 & 3 Injectors V6 - No. 1 & 4 Injectors	514766
3	10-Amp Red	V4 - Spare Fuse V6 - No. 3 & 6 Injectors	514766
4	10-Amp Red	Fuel Pump	514766
5	10-Amp Red	Ignition Circuit	514766
6	10-Amp Red	V4 - No. 2 & 4 Injectors V6 - No. 2 & 5 Injectors	514766
7	10-Amp Red	Key Switch, EMM, Accessories	514766
8	Relay	EMM, Ignition and Stop Circuits	586224
9	Relay	Power Trim/Tilt	586224
11			
10	Relay	Fuel Pump	586224

PROPELLER



WARNING



When servicing the propeller, always shift the outboard to **NEUTRAL** position, turn the key switch **OFF** and disconnect battery positive (+) cable so the engine cannot be started accidentally.

IMPORTANT: Apply *Triple-Guard* grease to the entire propeller shaft before installing the propeller. At least annually, remove the propeller and check for debris. Clean the shaft and regrease it before reinstalling a propeller.

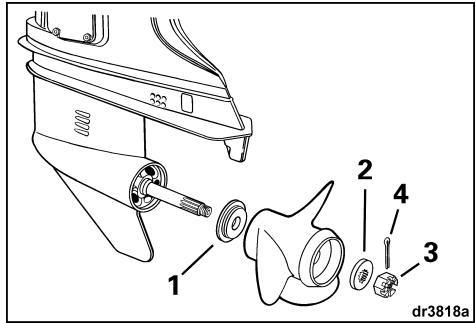
Installation

Slide thrust washer onto shaft with shoulder facing aft.

Slide propeller onto shaft, engaging the splines and seating it on the thrust bushing.

Slide spacer onto the shaft and engage the propeller shaft splines.

Wedge a block of wood between the propeller blade and the anti-ventilation plate.



100 FPL, FSL, and 115 FPL, FSL models

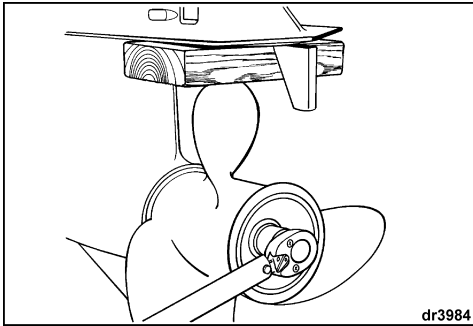
1. Thrust washer
2. Spacer
3. Propeller nut
4. Cotter pin

All other models

Install propeller nut and tighten to a torque of 70-80 ft. lbs. (95-108 N-m).

Install keeper on propeller nut, align keeper slots and cotter pin hole.

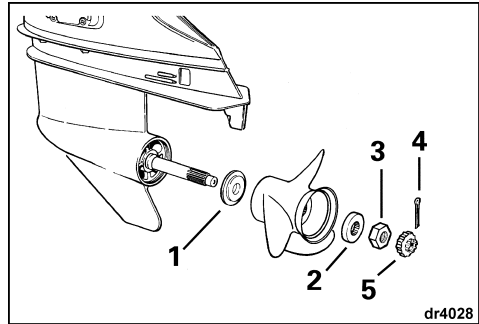
Install new cotter pin and bend ends to secure.



100 FPL, FSL, and 115 FPL, FSL models

Install Propeller nut and tighten to a torque of 120 in. lbs. (14 N-m).

Continue to tighten propeller nut until nut slots and cotter pin hole are aligned. Install new cotter pin and bend ends to secure.



All other models

1. Thrust Washer
2. Spacer
3. Propeller nut
4. Cotter pin
5. Keeper

Remove block of wood. Make sure engine is in **NEUTRAL**; give propeller a spin. It must turn freely.

Repair

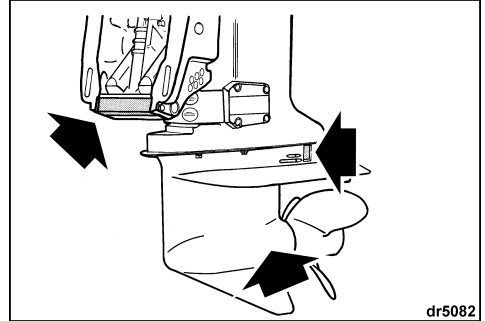
If your propeller hits a solid object, the impact is partially absorbed by the rubber bushing in the hub to help prevent damage to the engine. A strong impact can damage the hub and propeller blades. Damage to blades can cause unusual and excessive vibration. Damage to the hub can cause excessive engine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

IMPORTANT: Avoid or limit operation using a damaged propeller. Carry a spare propeller.

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

ANTI-CORROSION ANODES

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



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

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

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

TROUBLE CHECK CHART

IMPORTANT: If you are unable to identify or solve the problem, contact your Dealer.

SYMPTOM	POSSIBLE CAUSE
Starter motor will not operate	<ul style="list-style-type: none"> • Shift handle not in NEUTRAL. • Battery and electrical connections loose or corroded. • Fuse blown. Refer to Power Distribution Panel. • Battery selector switch OFF.
Engine will not start	<ul style="list-style-type: none"> • Not following starting instructions. Refer to Engine Starting Section. • Battery voltage drops below 9.5 volts during cranking. • Fuel tank empty. • Fuel hose kinked. • Fuel system contaminated with water or dirt. • Fuel filter obstructed. • Spark plugs incorrect. Refer to Engine Specifications. • Spark plugs improperly gapped, carboned, burned, or wet. • Ignition system component failure. • Fuse blown. Refer to Power Distribution Panel. • Fuse blown. Refer to Start Assist Circuit Fuse. • Flashing "WATER temp" or hot light, refer to Engine Monitoring and Engine Overheating. • Flashing "check engine "chk eng" light, refer to Engine Monitoring.
Engine will not idle properly	<ul style="list-style-type: none"> • Motor angle excessive. • Spark plugs damaged or incorrect. Refer to Engine Specifications. • Fuel system contaminated with water or dirt. • Fuse blown. Refer to Power Distribution Panel.
Engine loses power	<ul style="list-style-type: none"> • Spark plugs damaged or incorrect. Refer to Engine Specifications. • Fuel filter obstructed. • Fuel system contaminated with water or dirt. • Water intakes obstructed and cooling system not operating correctly. Refer to Operation Section, Engine Overheating. • Oiling system malfunction. • Fuse blown. Refer to Power Distribution Panel. • <i>S.L.O.W.</i> protection mode activated. Refer to Engine Monitoring.
Engine vibrates excessively	<ul style="list-style-type: none"> • Propeller shaft bent. • Propeller fouled and restricted, blades bent, or broken. • Fuel system contaminated with water or dirt. • Engine mounts(s) damaged. • <i>S.L.O.W.</i> protection mode activated. Refer to Engine Monitoring.
Engine runs, but makes little or no progress	<ul style="list-style-type: none"> • Propeller hub loose, slipping. • Propeller blades bent or missing. • Propeller shaft bent. • Propeller fouled and restricted.
Warning System Activates	<ul style="list-style-type: none"> • Refer to Engine Monitoring.

ENGINE MAINTENANCE AND INSPECTION SCHEDULE

Routine maintenance is necessary for all mechanized products. Periodic maintenance contributes to the product's life span. The following maintenance chart provides guidelines for engine maintenance and inspection scheduled to be performed by you and/or by an authorized Dealer. The schedule should be adjusted according to operating conditions and use.

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

IMPORTANT: Schedules for rental operations, commercial applications or high hour use will require greater frequency of inspection and maintenance.

Engine Maintenance and Inspection Schedule						
Description	Engine Care Product	Frequency				
		Each Use	10-Hour Inspection	Every 50 Hours or 6 months	Every 100 Hours or Annually	Every 200 Hours or Biannually
Mechanical steering, lubricate ⁽¹⁾	7	Every 60 days / Every 30 in Saltwater				
Tilt tube, inspect and lubricate ⁽¹⁾	7	Every 60 days / Every 30 in Saltwater				
Swivel bracket / tilt support bracket, inspect and lubricate ⁽¹⁾	7	Every 60 days / Every 30 in Saltwater				
Throttle and shift linkage, inspect and lubricate ⁽¹⁾	7	Every 60 days / Every 30 in Saltwater				
Remote control cables, lubricate ⁽¹⁾	7	Every 60 days / Every 30 in Saltwater				
Starter pinion shaft, inspect and lubricate 200-250 models ⁽²⁾	9	Every 60 days / Every 30 in Saltwater				
Lubrication and corrosion protection for metallic components	4	Every 60 days / Every 30 in Saltwater				
Battery connections and condition, verify	7	O	D			
SystemCheck self-test and warning horn, verify operation		O	D			
Anticorrosion anodes, verify operation		O	D			
Water intake screens, verify condition		O	D			
Overboard water pump indicator, verify operation		O	D			
Steering system check, verify function		O	D			
Throttle and shift operation, verify function		O	D			
Emergency stop circuit and lanyard, verify function		O	D			
Flush cooling system		O				
Operator's Guide, onboard		O				
Engine upper and lower motor covers, clean and wax				O		
Operator's Guide, review					O	
Fuel and oil system components, inspect and repair leaks ⁽³⁾			D	D		
Fastener inspection, tighten loosened components			D	D		
Air silencer, clean and inspect			D	D		
Thermostat, inspect and verify operation ⁽³⁾			D		D	
Power tilt/trim fluid, inspect fluid level	6		D		D	

Engine Maintenance and Inspection Schedule						
Description	Engine Care Product	Frequency				
		Each Use	10-Hour Inspection	Every 50 Hours or 6 months	Every 100 Hours or Annually	Every 200 Hours or Biannually
Engine to transom mounting hardware, re-torque (40 ft. lbs.)			D		D	
Electrical and ignition wires and connections, inspect			D		D	
Gearcase lubricant replace	5		D		D	
Powerhead synchronization and linkage, inspect ⁽³⁾	7		D		D	
Access EMM information, resolve any service codes			D		D	
Fuel filter and oil filter(s) inspection, eliminate contamination			D			
Gearcase lubricant, inspect fill level and condition of lube	5			D		
Fuel and oil filter(s) replace					D	
Propeller shaft splines, inspect and lubricate	7				D	
Starter pinion shaft, inspect and lubricate 100-175 models ⁽²⁾	9				D	
Exhaust back- pressure nipple, decarbonize ⁽³⁾					D	
Spark plugs, replace ⁽³⁾					D	
Driveshaft splines, inspect and lubricate	8					D
Water pump, inspect and replace						D

(1) Also recommended at 10-Hour Inspection

(2) Do not use light duty penetrating lubricants

(3) Emission-related component

D Dealer Performed Service

O Operator Performed Service

4 *Evinrude* anti-corrosion spray or *Evinrude* "6 in 1" multi-purpose lubricant

5 *Ultra-HPF* gearcase lubricant

6 Power Trim/Tilt Fluid

7 *Triple-Guard* grease

8 *Evinrude Moly Lube* P/N 175356

9 Starter Bendix Lube Only P/N 337016

CHANGE OF ADDRESS / CHANGE OF OWNERSHIP

If your address has changed or if there has been a change of ownership, be sure to fill out and mail the card provided on this page.

Such notification is likewise necessary for your own safety even after expiration of the original warranty, since BMCA will be in a position to contact you if correction to your outboard becomes necessary.

Outside the U.S. and Canada, this card should be sent to the Bombardier Recreational Products division where the outboard was registered. Please contact your Dealer or Distributor.



Change of address

Change of ownership

Model number

Serial Number

Old address / Previous owner

Last name

First name M.I.

Address

City State

Zip code Country

Phone number

Signature _____ Date _____

New address / New owner

Last name

First name M.I.

Address

City State

Zip code Country

Phone number

Signature _____ Date _____

000063

AFFIX
STAMP
HERE

Bombardier Motor Corporation of America
EVINRUDE / JOHNSON
DEALER SUPPORT SERVICES
250 SEAHORSE DRIVE
WAUKEGAN, IL 60085

000064

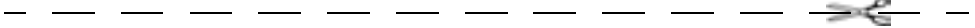
Bombardier Recreational Products

Operator's Guide Confirmation of Receipt

Your Dealer

Name:	_____
Address:	_____

Upon delivery of your new *Evinrude* Outboard, complete and sign the form hereunder. Your Dealer will take receipt of the form for their records.



Receipt

Name:	_____
Address:	_____

Owner of model No:	_____
Serial No:	_____
	(To be completed by customer or selling Dealer)
<p>The Dealer named on this document has instructed me on the operation, maintenance, safety features and warranty policy, all of which I understand and agree to be bound with. I am also satisfied with the predelivery set-up and inspection of my <i>Evinrude</i> Outboard. I have also received a copy of the Operator's Guide.</p>	
Signature:	_____
Date:	_____

Readiness Test and a Final Word to the Owner/Operator

The Operator's Readiness Test...

1. Did you read this Guide from front cover to rear cover?
2. Are you ready to take responsibility for the safe operation of your boat and motor?
3. Do you understand all the safety precautions and instructions contained in this Guide?
4. Do you understand that this Guide contains essential information to help prevent personal injury and damage to equipment?
5. Are you ready to follow the recommendations in this Guide and take a boating safety course before you operate your boat and motor?
6. Do you know who to ask if you have any questions about your boat and motor?
7. Do you know your local marine traffic laws?
8. Do you understand that human error can be caused by carelessness, fatigue, overload, preoccupation, unfamiliarity of operator with the product, drugs and alcohol, just to name a few?



WARNING



It is impossible for this Guide to cover every hazardous situation you may encounter; however, your understanding of and adherence to essential information contained in this Guide will build good judgment when boating. Always be alert and careful: a good foundation for safety.

