

SEA400



Operator's Guide

219 000 021

SAFETY WARNING

Disregarding any of the safety precautions and instructions contained in this *Operator's Guide* and on *Product Warnings* could cause injury, including the possibility of death.

This *Operator's Guide* should remain with the jet boat at the time of resale.

AFTER-SALES SERVICE
BOMBARDIER INC.
VALCOURT (QUÉBEC)
CANADA JOE 2L0



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Bombardier Inc. :

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Sea-Doo Jet Pump Synthetic Oil

Sea-Doo Synthetic Grease

Gelcote® is a trademark of Gelcote International

Doin'it on your new Sea-Doo Jet Boat

Congratulations, you are now the proud owner of a jet boat. Whether you are an experienced boater or are new to the sport of boating, we ask you to take the time to read this *Operator Guide* and familiarize yourself with its contents. The Guide contains pertinent information which if followed, will provide you with the necessary knowledge to help you fully enjoy the pleasures of this craft.

We strongly recommend that any boat operator complete a safety boating course. Check with your local Coast Guard or Power and Sail Squadron in your area for course availability. More serious boaters may want to obtain "Chapman Piloting" by Elbert S. Maloney, available at most book stores.

When introducing your family or friends to the sport, be sure they fully understand the controls and operation of the jet boat and the importance of courteous, responsible riding.

Each jet boat operator has a responsibility to ensure the safety of its passengers and other water users. Please follow all safety instruction and drive with care.

Finally, we invite you to visit your dealer regularly for regular and safety maintenance as well as any boating accessories you may require.

Have fun andBon Voyage.

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FOREWORD

The *Operator's Guide* has been prepared to acquaint the owner / operator or passenger of this jet boat with the various jet boat controls, maintenance and safe riding instructions. It is indispensable for the proper use of the product, and should be kept in a waterproof bag in the jet boat at all times.

For any questions pertaining to the warranty and its application, please consult the **WARRANTY QUESTIONS AND ANSWERS** section in this guide, or an authorized SEA-DOO jet boat dealer.

This guide uses the following symbols to emphasize particular information.

◆ **WARNING** : Identifies an instruction which, if not followed, might cause serious personal injuries including the possibility of death.

▼ **CAUTION** : Denotes an instruction which, if not followed, might severely damage the jet boat and / or components.

○ **NOTE** : Indicates supplementary information needed to fully complete an instruction.

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

The information and components / system descriptions contained in this guide are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured.

The illustrations show the typical construction of the different assemblies and may not represent the full detail or exact shape of the parts which have the same or a similar function.

Specifications are given in the SI metric system with the SAE U.S. equivalent in parenthesis. Where precise accuracy is not required, some conversions are rounded off for easier use.

A *Shop Manual* can be obtained for complete service, maintenance and repair information.

◆ **WARNING** : The engines and the corresponding components identified in this guide should not be utilized on product(s) other than those it is designed for. Maintenance procedures and specified tightening torques must be strictly adhered to. Never attempt repairs unless the appropriate tools are available. This jet boat is designed with parts dimensioned in both the metric and the imperial systems. When replacing fasteners, make sure to use only those recommended by Bombardier. Mismatched or incorrect fasteners could cause damage to the jet boat or possible personal injury.

○ **NOTE** : The following list gives the equivalent of terms commonly used to designate boat references.

Port : LH side
Starboard : RH side
Bow : Front
Stern : Rear

◆ SAFETY WARNING

To fully appreciate the pleasures, enjoyment and excitement of boating there are some basic rules that **MUST** be observed and followed by any boater. Some rules may be new to you while others may be common sense or obvious, irrespective, we ask that you please take a few minutes of your time to read this safety instruction completely before you operate your craft. Failure to follow this safety information and safe boating rules could result in injury, including the possibility of death to you, your passenger(s), or other water users.

Information in this Guide is limited. It is strongly recommended that you obtain further boating information from the local Coast Guard or Power Squadron. We further recommend you take a safe boating course. Check local and federal boating laws applicable to the waterways you intend to use the craft. Learn the local rules of the road.

Become completely familiar with the controls and operation of the craft before taking on a passenger(s) or embarking on a trip. If you have not had the opportunity to do so with your dealer, practice driving solo in a suitable area and feel the response of each control. Start, accelerate then stop using one then both engines. Be fully familiar with all controls before fully advancing the throttles.

The performance of this jet boat may significantly exceed that of other jet boat you may have operated. Therefore, use of this jet boat by novice or inexperienced operator is not recommended.

Observe and follow all on-product warning labels and the content of this Guide.

An operator and passenger(s) should wear suitable eye and body protection from wind and elements as well as deck shoes or booties.

Coast Guard approved personal flotation devices (PFD) should be worn by all aboard.

Operation of this craft by a minor or disabled person is **NOT** recommended.

Do not operate the craft after consuming alcohol or drugs.

Store or tie-down any loose articles or necessary boating equipment before operating the craft.

Always perform the pre-operational checks as specified in this Guide. This includes :

- Attaching the safety lanyard.
- Verification of throttle levers, shifter and steering movement.
- Verification of start / stop button operation.
- Oil and fuel levels.
- Use of blower.
- Adequate water depth.
- Functional navigation lights.
- Required boating equipment. (Know how to use each).

The operator and passenger(s) must be properly seated in the designated seats before starting or moving the craft. Do not permit a passenger to use the sun seat except in calm waters and at very low speeds. Never allow anyone to sit on the engine compartment or boarding platform while the boat is operational. Allow no one to jump into the boat at anytime, or move during boat operation. The risk of an accidental fall or slip is always present.

Ensure operator all-round visibility is unrestricted.

While the engines can be stopped individually by depressing the stop buttons, good habit recommends that the safety lanyard be used to stop the engines at all times.

Wave or wake jumping is dangerous and in many regions illegal.

Most boating accidents occur as a result of the failure of the operator to keep a lookout for other water users or other potential hazards. Keep a safe distance from other boat or water. Do not attempt to splash others with your wake. Do not ride surf line.

This craft is equipped with bow and stern navigation lights which should be used as required. Lower speed and do not operate the craft in reduced visibility.

To prevent accidental starting or unauthorized use, always detach the safety lanyard from the boat during maintenance, cleaning of the intake grills, or when swimmers are nearby.

Ensure that all passengers know how to reboard the craft from the water.

Always have an observer while towing a skier.

Know the waters in which the craft is to be operated. Current, tides, rapids, shallow water, hidden obstacles etc., can effect safe operation.

When boating, apply the principle of 1/3 fuel to destination, 1/3 back and 1/3 reserve fuel supply.

Maintain the craft and equipment in top condition at all times. Adhere to the prescribed maintenance schedules. Use a protective cover when not in use. After salt or foul water use, the craft should be thoroughly rinsed and protected from corrosion. If you suspect water ingestion into the engine, contact your dealer for proper servicing.

The bilge must be kept clean of oil, water or other foreign materials. Do not carry spare fuel and inflammable liquids in any of the storage or engine compartments.

Avoid adding on accessories, carrying equipment or passengers which may alter the craft's configuration or balance. Only perform servicing procedures which are detailed in this Guide. Further assistance or information can be obtained from your dealer. In many instances proper tools and training is required for certain servicing or repair procedures.

Gasoline fumes are flammable and explosive. Always adhere to the fueling and starting procedures contained in this Guide and those given to you by the marina.

Never operate the engine more than one minute without adequate water supply. (Optional flush kit installed, or in water).

Always keep in mind that as the throttle levers are brought to idle position, less directional control is available. To turn the craft, both steering and throttles are necessary. This craft has the capability of turning more sharply than other boats, however, unless in an emergency, do not negotiate sharp, high speed turns.

Like any other boat, this craft has no brake. Stopping distance will vary depending on initial speed, load, wind, and water conditions. Practice stopping and docking in a safe area to have an idea of how long it will take stop the craft under varying conditions.

Prolonged exposure to the sun, wind etc., causes fatigue and may affect your reaction time.

Do not overload the craft or take on more passengers than designated for the intended type of boating. Load and altitude will also affect boat performance.

Proceed with caution and at very low speeds on shallow water. Grounding or abrupt stops may result, or debris may be picked up and be jettisoned rearward into people or property. The impellers are turning even when the shift lever is at neutral.

As the "skipper" of a boat you are responsible for damage to other boats caused by the wake of your craft. Respect no wake zones.

Respect the rights of other water users and the environment. Allow no one to throw refuse overboard.

Do not operate the craft in inclement weather.

Except when necessary during docking, always use both throttle levers simultaneously. If one lever is advanced more than the other, or if one engine is shut off during operation, directional control will be effected. Steering compensation may be required. Constant attention and control of the boat is required by the operator for safe operation.

Use of the bilge blower should never replace "smelling" for gasoline fumes. Blower and bilge pump must be off during boat operation.

The transom ring can be used to attach a ski-rope. Do not use this ring for para-sailing or other uses which may overstress the transom.

Lifting the craft requires special equipment and experience. Do not attempt to lift the craft without such experience or equipment.

Respect the safety and comfort of your passenger(s) and persons being towed on skis.

Drive prudently and have fun.

THE 1994 BOMBARDIER® SEA-DOO® JET BOAT LIMITED WARRANTY

1- WARRANTY COVERAGE PERIOD

BOMBARDIER INC. ("Bombardier"), as manufacturer warrants FROM THE DATE OF DELIVERY TO THE FIRST CONSUMER every 1994 Bombardier Sea-Doo jet boat, sold as NEW AND UNUSED and PREDELIVERED by an authorized dealer for a period of:

- twelve (12) consecutive months for private use owners.
- four (4) consecutive months for commercial use owners.

The warranty coverage period on all genuine Bombardier accessories installed by an authorized Bombardier dealer at the time of delivery of the new and unused Sea-Doo jet boat, carry the same warranty coverage period as the Sea-Doo jet boat.

2- WHAT BOMBARDIER WILL DO

Bombardier will repair and / or replace, as its option, all genuine Bombardier components found defective in material and / or workmanship, under normal use, maintenance and service, with a genuine Bombardier component without charge for parts and labor, at any authorized SEA-DOO jet boat dealer during said warranty coverage period.

3- CONDITION TO HAVE WARRANTY WORK VALIDATED

Present to the servicing authorized SEA-DOO jet boat dealer the SEA-DOO Warranty Registration card or a proof of purchase of the NEW AND UNUSED 1994 Bombardier Sea-Doo jet boat. The SEA-DOO jet boat customer must upon completion of all warranty work sign the Bombardier warranty claim form. All parts replaced under warranty become the property of Bombardier.

4- EXCLUSIONS - ARE NOT WARRANTED

- Normal wear and tear items.
- Labor, parts and lubricant costs of all maintenance services.
- Damage caused by failure to provide proper maintenance and / or storage, as described in the *1994 Sea-Doo Jet Boat Operator's Guide*.
- Damage resulting from improper repairs, modification or use of non-approved parts.
- Damage resulting from abuse, misuse, neglect, racing.
- Damage resulting from accident, fire, theft, vandalism or any act of God.
- Damages resulting from losses incurred as consequential damages, incidental, or damages of any kind such as but not limited to towing, telephone calls or taxis.

5- EXPRESSED OR IMPLIED WARRANTIES

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. Where applicable this warranty is expressly in lieu of all other expressed or implied warranties of Bombardier, its distributors and the selling dealer, including any warranty of merchantability or fitness for any particular purpose; otherwise the implied warranty is limited to the duration of this warranty. However, some states or provinces do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply.

Neither the distributor, the selling dealer, nor any other person has been authorized to make any affirmation, representation or warranty other than those contained in this warranty, and if made, such affirmation, representation or warranty shall not be enforceable against Bombardier or any other person.

Bombardier reserves the right to modify its warranty policy at any time, being understood that such modification will not alter the warranty conditions applicable to Sea-Doo jet boat sold while this warranty is in effect.

Some states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply.

6- CONSUMER ASSISTANCE

- A) In the event of a controversy or a servicing problem arising in connection with this Bombardier Sea-Doo Jet Boat Limited Warranty, Bombardier suggests that you try to resolve the issue at the dealership level. We recommend discussing the issue with the dealer's service manager or owner.
- B) If further assistance is required, the distributor's service department should be contacted in order to resolve the matter.
- C) If the issue has still not been resolved, please submit in writing your service or product complaint to:

Bombardier Inc.
Sea-Doo / Ski-Doo Division,
Customer Relations Center,
Valcourt, Qc, Canada
J0E 2L0

March 1994
Bombardier Inc.
Valcourt, Quebec, Canada

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LIST OF DISTRIBUTORS



CANADA

BOMBARDIER INC.
726 St-Joseph Street
Valcourt, Quebec, Canada
J0E 2L0
(514) 532-2211



USA

BOMBARDIER CORPORATION
7575 Bombardier Court
P.O. Box 8035, Wausau, WI
54402-8035, USA
(715) 842-8886

WARRANTY QUESTIONS AND ANSWERS

Q. Why must my jet boat be registered at the factory ? After all I do have my original invoice as proof of when I purchased my jet boat.

A. *Your warranty is valid at any authorized dealer of the product. Your registration is the key element in providing the servicing dealer with the necessary data to complete warranty claim forms.*

The federal government requires each manufacturer and dealer to maintain a complete up-to-date list of all first purchasers in case of a safety-related defect and recall. This list is compiled from the warranty registrations sent to BOMBARDIER INC. by the selling dealer at the time of your purchase. If you have a change of address after the purchase of your new SEA-DOO jet boat, please advise us of your new address by sending the Change of Address / Ownership Card in this book or, a postcard listing your model number, dealer number (or dealer's name) as it is shown on your warranty card, your name and new mailing address.

Q. What costs are my responsibility during the warranty period ?

A. *The customer's responsibility includes all costs of normal maintenance services, non-warranty repairs, accident and collision damage.*

Q. What is cavitation ?

A. *This phenomenon is caused by a part travelling at high speed in a fluid (ex. : an impeller in water). The heat / bubbles generated in some areas are enough to draw microscopic particles from the material. Cavitation will increase if there are scratches or dents in the housing / impeller or if the wear ring is worn.*

Q. Does warranty cover the jet drive system components ?

A. *Yes, if components replacement is not due to cavitation or normal wear.*

Ex. : The impeller has to be considered a wear item since tiny particles and sand contained in the water will eventually cause some wear. This situation occurs most often when the jet boat is driven in shallow water where rocks and debris can be drawn into the pump.

In order to extend the service life of the impeller housing, we have developed a replaceable wear ring around the impeller. It is made of plastic, therefore it may wear with use and should be replaced. This is a convenient feature and inexpensive to replace. This replacement is considered normal maintenance and not covered by warranty.

Q. What are some examples of neglect or abuse ?

A. *These terms are general and overlap each other in areas. Specific examples include ; the engine running out of oil, operating the jet boat with a broken or damaged part, which causes another part to fail and so on. If you have any specific questions on operation or maintenance, please contact your SEA-DOO jet boat dealer for advice.*

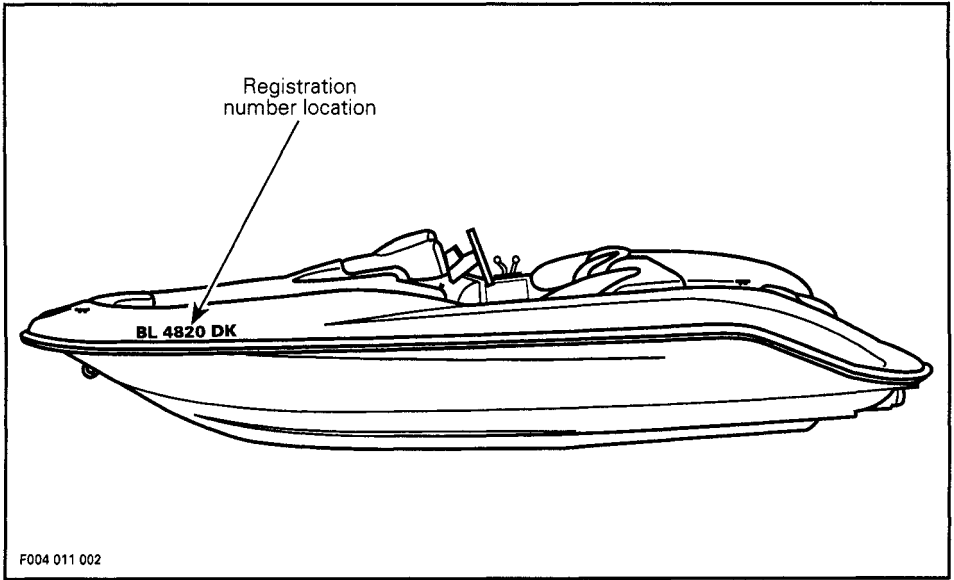
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- Q. Does the warranty cover incidental costs such as transportation due to a failure ?
- A. *No. The warranty is limited to the repair of the SEA-DOO jet boat itself.*
- Q. May I perform any or all of the recommended maintenance shown in the *Operator's Guide* instead of having the dealer do them ?
- A. *Yes, if you are a qualified mechanic and follow the procedures specified in the Operator's Guide and Shop Manual. We do recommend however that the critical adjustments to timing and carburation be done by a SEA-DOO jet boat dealer.*
- Q. Will the warranty be voided or cancelled if I do not operate or maintain my new SEA-DOO exactly as specified in the *Operator's Guide* ?
- A. *No. The warranty on a new SEA-DOO jet boat cannot be "voided" or "cancelled". However, if a particular failure is caused by operation or maintenance other than as shown in the Operator's Guide, that failure may not be covered under warranty.*
- Q. What responsibility does my dealer have under this warranty ?
1. *Completely set up every new SEA-DOO jet boat before sale ;*
 2. *Explain the operation, maintenance and warranty requirements to your satisfaction at the time of sale. In addition, each SEA-DOO jet boat dealer is responsible for set-up, service and warranty repair work.*

Customer Service

If your SEA-DOO Jet Boat requires warranty service, you must take it to any authorized SEA-DOO jet boat dealer. Be sure to bring your warranty registration card or other valid proof of the original date of purchase. If a question or problem arises regarding warranty, refer to "Consumer assistance" in warranty section above.

REGISTRATION NUMBER LOCATION _____

All jet boats are required by federal law to be registered and legally numbered. Due to space availability for proper display of registration number, refer to the following illustration for location. The registration number must appear each side of jet boat.

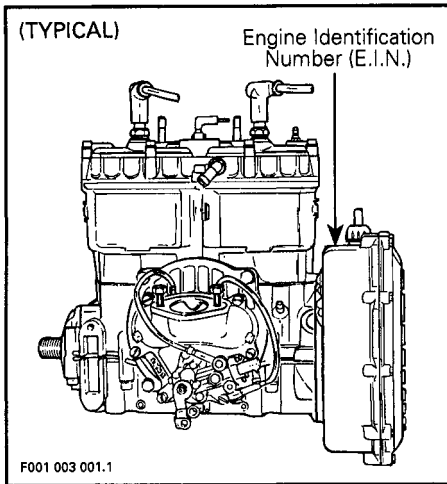


IDENTIFICATION NUMBERS

The main components of the jet boat (engine and hull) are identified by different serial numbers. It may sometimes become necessary to locate these numbers for warranty purposes or to trace the jet boat in the event of theft.

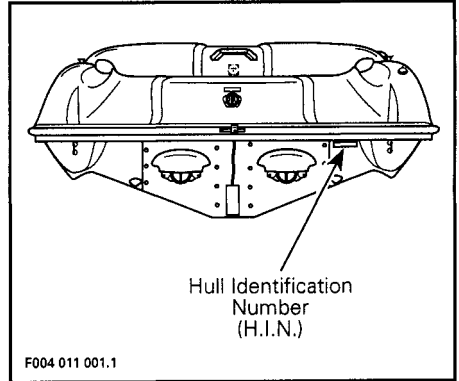
Engine

The Engine Identification Number (E.I.N.) is located on the upper side of the magneto housing.

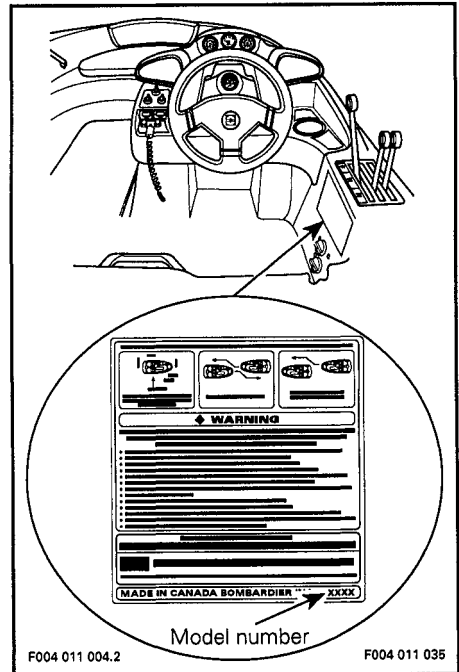


Hull

The Hull Identification Number (H.I.N.) is located at right hand rear side of hull.

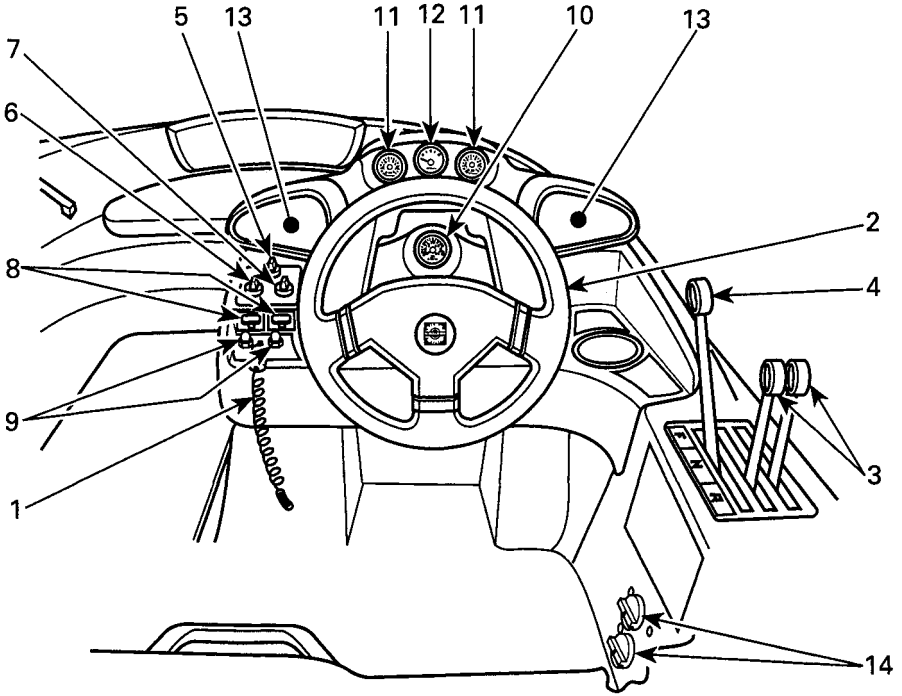


The jet boat model number can be found on RH side of operator position.



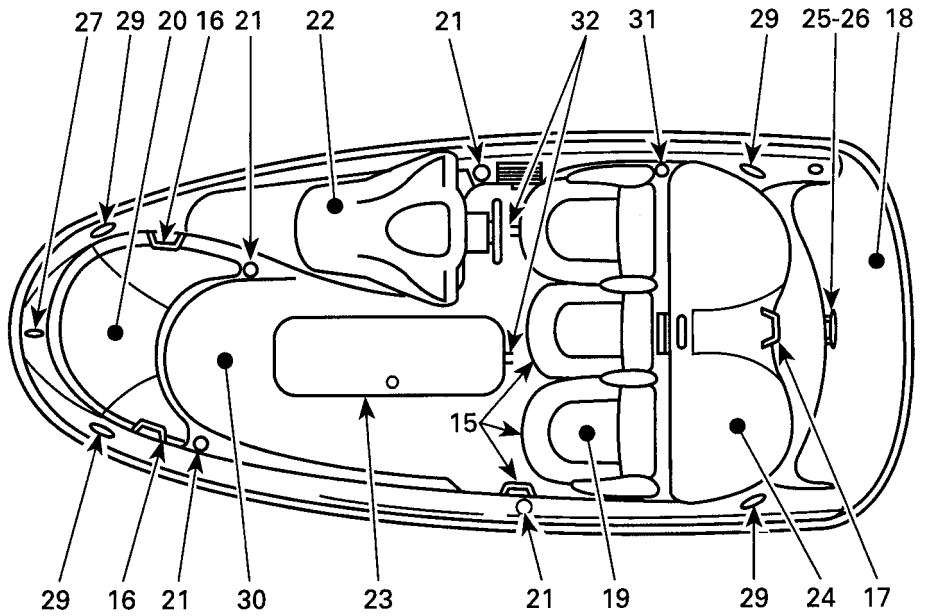
CONTROLS AND COMPONENTS LOCATION

DASHBOARD / CONTROLS VIEW

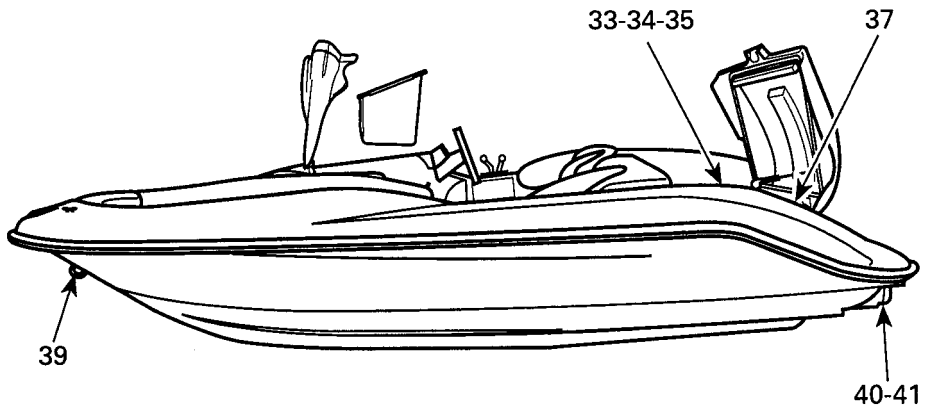


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TOP VIEW



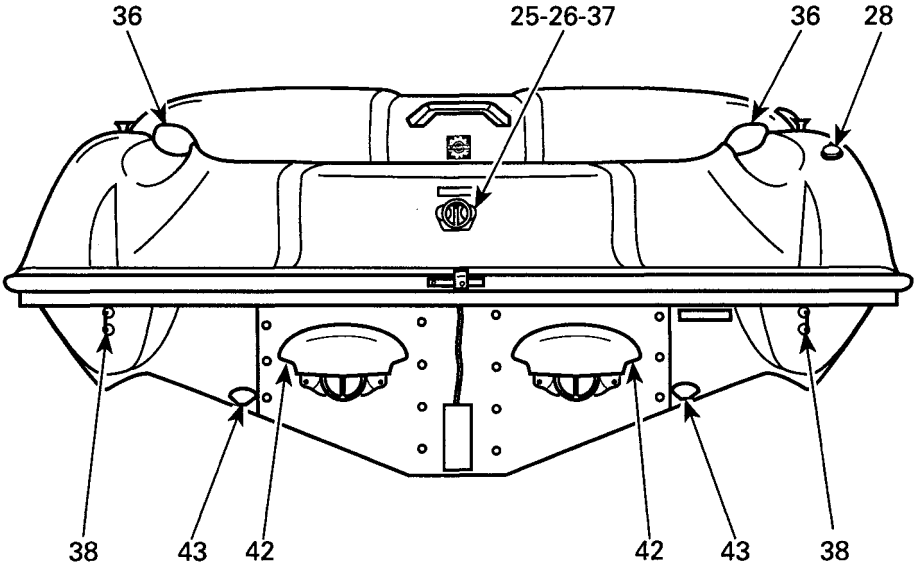
SIDE VIEW



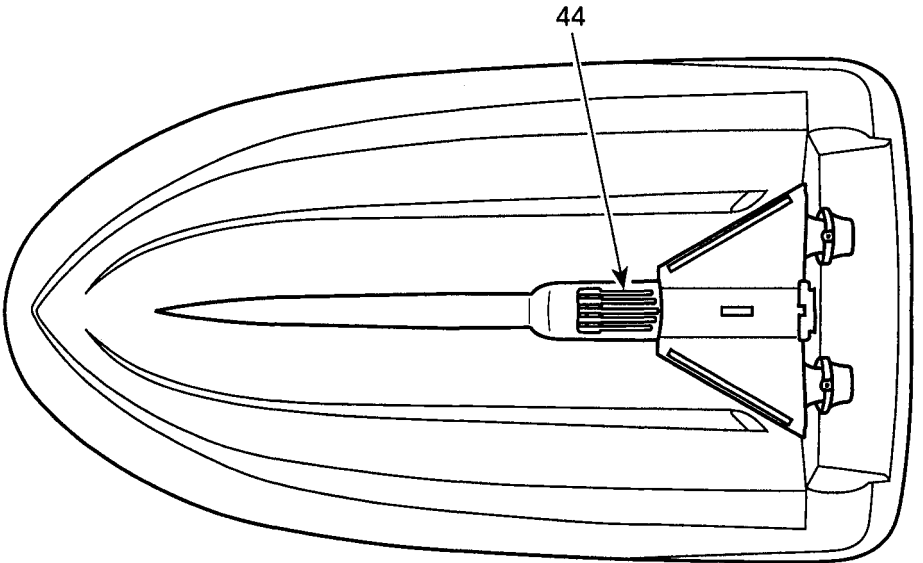
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REAR VIEW



UNDERNEATH VIEW



F004 011 001

F004 011 036

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1. Safety Lanyard
 2. Steering
 3. Throttle Levers
 4. Shifter Lever
 5. Light Switch
 6. Bilge Pump Switch
 7. Air Blower Switch
 8. Choke Lever
 9. Start / Stop Buttons
 10. Fuel Gauge / Injection Oil Low Level Pilot Lamp
 11. Tachometers
 12. Speedometer
 13. Adjustable Mirrors
 14. Fuel Tank Valves
 - 15.-16. Passenger Grab Handles
 17. Rear Grab Handle
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 23. Deck Storage Compartment
 24. Rear Storage Compartment
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 26. Cooling System Bleed Outlets
 27. Navigation Light
 28. Removable Stern Light
 29. Mooring Cleats
 30. Deck
 31. Fuel Tank Cap
 32. Deck Drain Holes
 33. Oil Injection Tank Cap
 34. Oil Injection Level Indicator
 35. Flush Kit Fittings
 36. Ventilation Ducts
 37. Rear Storage Compartment Cover Drains
 38. Stern Eyelets
 39. Bow Eyelet
 40. Jet Pump Nozzles
 41. Sacrificial Zinc Anodes
 42. Reverse Gates
 43. Bilge Drains
 44. Jet Pump Water Intake

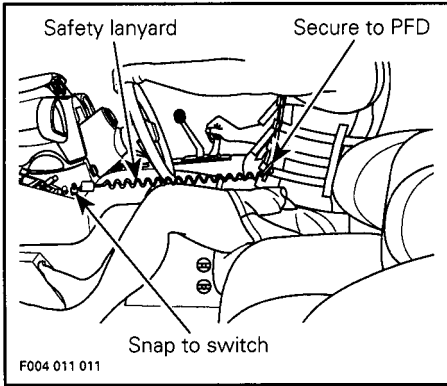
1) Safety Lanyard

This is an advanced multi-function electronic device that features :

- Engine start enable / anti-start protection for unique-boat use.
- Safety engine stop.

Engine Start Enable

Snap the cap to the switch to allow engine starting. Secure the other end to your operator's personal flotation device (PFD). Engines can not be started without the safety lanyard in place on the switch and without the safety lanyard the micro-processor was programmed for.



NOTE : If a beeper is heard when starting, it warns you that something is wrong. Refer to **Monitoring Beeper Coded Signals** in TROUBLE-SHOOTING section to correct the situation.

Anti-Start Protection

The electronic safety lanyard features an anti-start protection against unauthorized use of the boat. The safety lanyard you received with your boat is the only one that allows engine starting (it acts similar to a key of an automobile). Unless otherwise programmed, your safety lanyard can not be used on another boat and conversely, the cap of another boat can not be used on your boat.

NOTE : Your boat micro-processor can be programmed to allow the use of your safety lanyard on more than one boat and more than one safety lanyard your boat.

For your convenience, we recommend the purchase of additional safety lanyard(s) from your authorized dealer. It will prove to be useful in case of loss as well as for additional operators. Your dealer will program the micro-processor of your boat to activate the new safety lanyard(s).

CAUTION : Always remove safety lanyard when leaving jet boat.

Safety Engine Stop

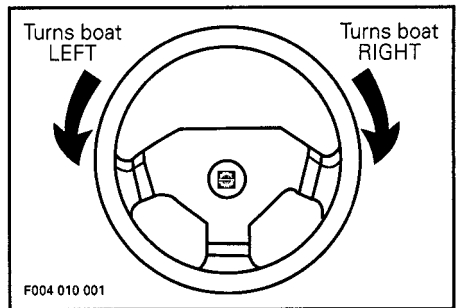
Pulling the safety lanyard from the switch stops both engine simultaneously.

WARNING : With jet propulsion systems, no directional control is available when engines are stopped.

2) Steering

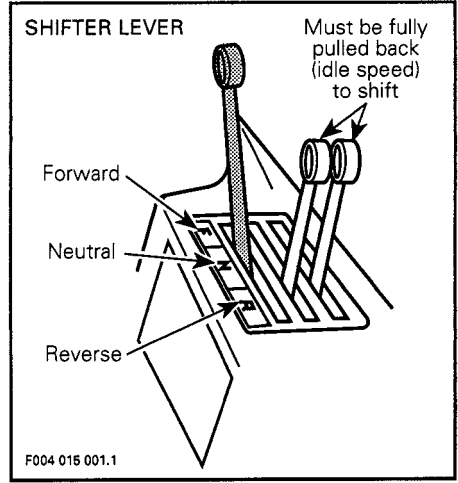
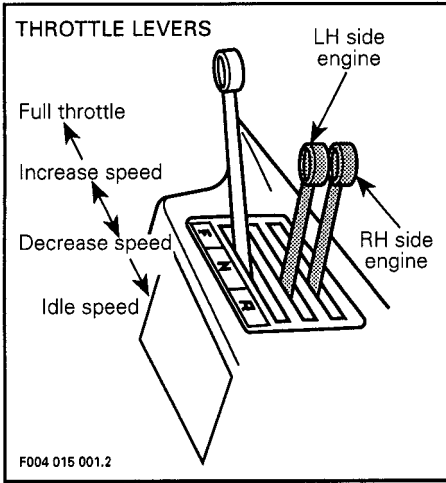
The steering controls the direction of the jet boat. Turning the steering clockwise steers the jet boat to the right and turning it counterclockwise steers to the left.

WARNING : Check steering and movement of both steering nozzle operation before starting.



3) Throttle Levers

They control the speed of the engines and therefore, the speed of the jet boat. When pushed forward, jet boat accelerates. When fully pulled back engines return to idle speed and jet boat is gradually stopped by water drag.



The LH side throttle lever controls the RPM of the LH side engine and the RH lever controls to RH engine. Although each engine RPM can be controlled individually, we recommend to move both levers simultaneously.

◆ **WARNING** : Check each throttle lever operation before starting the engines.

▼ **CAUTION** : Do not overrev engine(s) while in neutral. As for any engine, this may cause severe damage to engine components.

4) Shifter Lever

A 3-position lever :

- Forward
- Neutral
- Reverse

In order to shift, both throttle levers must be fully pulled back to idle speed. Shifter must be in neutral position to allow engine starting.

▼ **CAUTION** : Do not force lever, ensure both throttle levers are in idle position.

◆ **WARNING** : Only use reverse at slow speed and for the shortest time possible. Always ensure the path behind is clear of obstacles, swimmers and children playing in shallow water. If engine stop is required, pull safety lanyard from switch.

Bilge Pump and Air Blower

These devices are operational when engines are not running.

They do not require that the safety lanyard be secured on its switch

Using equipments for prolonged time without engine running would discharge battery.

○ **NOTE** : Ensure to always turn OFF all devices after use.

5) Light Switch

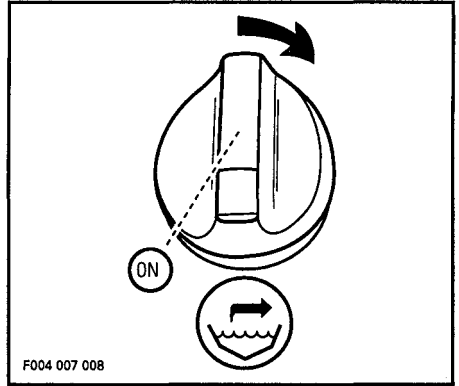
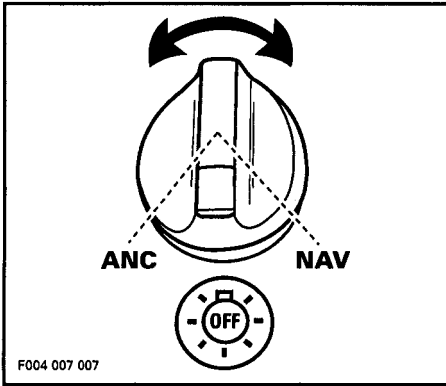
A 3-position rotary switch.

NOTE : The safety lanyard must be snapped to the switch to have navigation lights working.

ANC : Turns on the anchorage light when boat is anchored. Only the rear light is lit.

OFF : Turns off all lights.

NAV : Turns on both bow and stern lights.



Turn to the ON position when a manual operation is required (after cleaning, storage, ect.). Turn it to OFF when finished.

CAUTION : Do not operate for prolonged time if the bilge is dry.

In regular operation, it is not necessary to use this switch. The electric bilge pump is float-activated and stopped automatically when required. It is operational at any time even when the engines are not running.

7) Air Blower Switch

A 2-position ON / OFF rotary switch. When ON, it ventilates engine compartment.

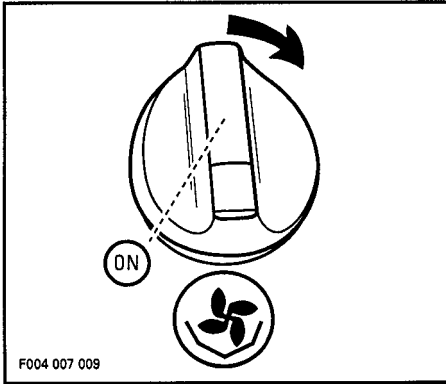
To start air blower turn to the ON position. The air blower must be started 4 minutes prior starting the engine.

WARNING : Always use blower for a minimum of 4 minutes prior to all engine starting then, turn it OFF for jet boat operation.

Lights should always be used between sunset and sunrise. Ensure that stern light post is installed and working. See further in this section for location and installation.

6) Bilge Pump Switch

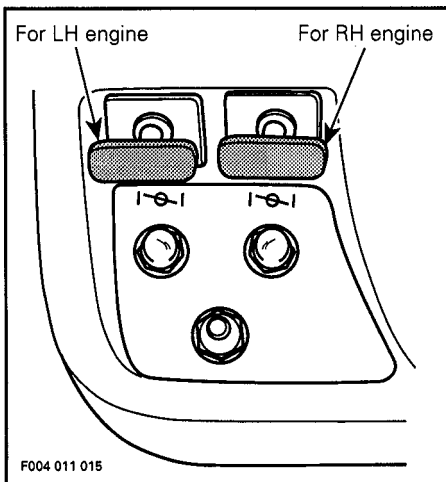
A 2-position ON / OFF rotary switch.



8) Choke Levers

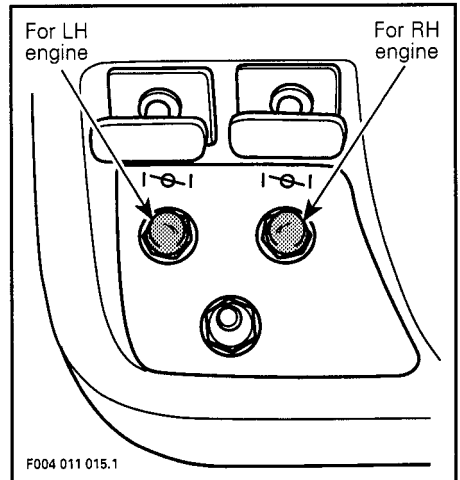
The chokes are provided to supply a richer fuel / air mixture when starting cold engines. When the levers are completely pulled, the choke are fully applied. The use of the chokes is not required with warm engines.

Each choke lever must be pulled and held to operate. It will automatically return to its normal position when released.



9) Start / Stop Buttons

Dual function push switches. They work to start as well as to stop engines.

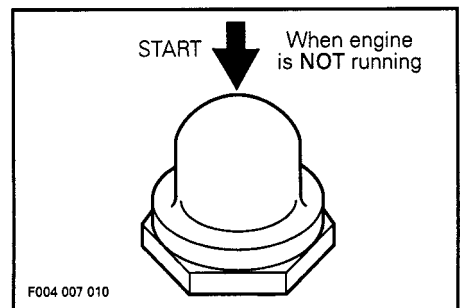


Starting

○ **NOTE :** Shifter must be in neutral position to allow engine starting.

To start each engine individually, press and hold the button. Release immediately after engine is started. Proceed the same way for each engine.

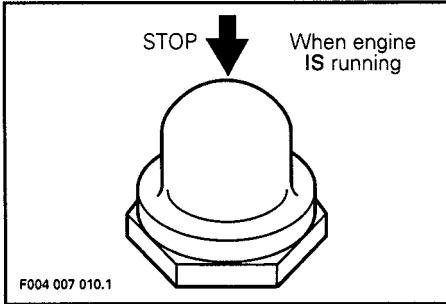
○ **NOTE :** It does not matter which engine is started first.



○ **NOTE** : Engine will not start if the safety lanyard is not secured on its switch. Start one engine at a time.

Stopping

When the buttons are pressed (when engines are running), they stop each engine individually.



○ **NOTE** : For complete step by step engine starting procedure, see "starting engines" in "operating instructions" section.

IMPORTANT : While the engines can be stopped by pressing each stop button, we strongly recommend the engine be stopped by removing the safety lanyard. This will instill good habits.

◆ **WARNING** : With jet propulsion systems, directionnal control is not available when engines are stopped.

10) Fuel Gauge / Injection Oil Level Pilot Lamp

Fuel Gauge

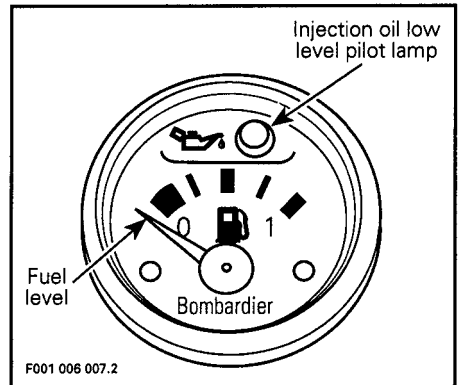
Located in dashboard, the analog gauge continuously indicates the amount of fuel in fuel tank when engines are running.

○ **NOTE** : The fuel level can also be verified without having engine(s) running. With the safety lanyard disconnected, briefly push one starting button ; the gauge will be activated for approximately 30 seconds.

Injection Oil Low Level Pilot Lamp

The pilot lamps turns on when the injection oil level is low in oil reservoir. Fill reservoir as soon as possible.

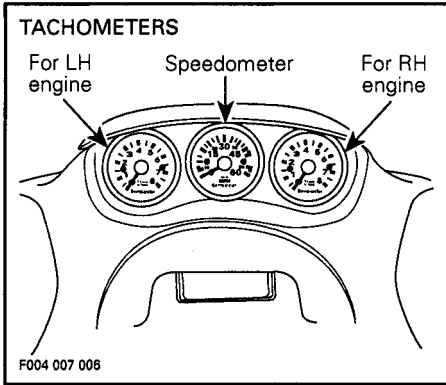
▼ **CAUTION** : Do not run engines out of oil. Serious engine damage will occur.



○ **NOTE** : An injection oil level indicator is available in rear storage compartment. See "Injection" oil level indicator below in this section.

11) Tachometers

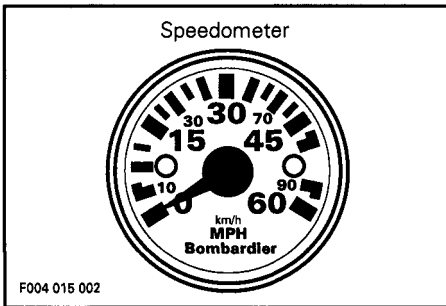
Analog tachometers indicate the revolutions per minute (RPM) of the engines. Multiply reading by 1000 to obtain actual RPM.



12) Speedometer

Analog speedometer indicates the speed of jet boat in miles per hour (MPH) and kilometers per hour (km/h). See illustration above.

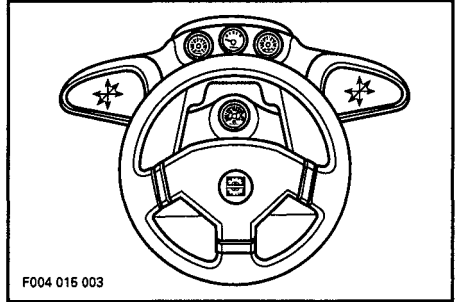
A speed sensor mounted on the rear transom sends the signal to the speedometer.



13) Adjustable Mirrors

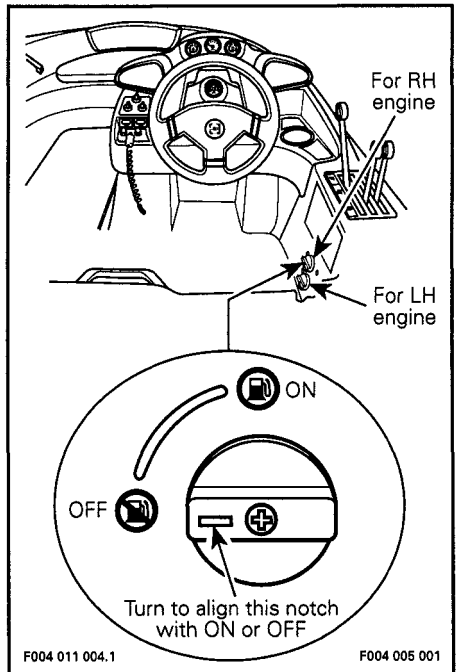
Should be adjusted to obtain an adequate rear view of both sides.

◆ **WARNING** : Objects in mirrors are closer than they appear.



14) Fuel Tank Valves

2-position rotary valves : OFF, ON. Rotate the knob to align its notch with ON or OFF.



OFF : Stop fuel supply to carburetors.

▼ **CAUTION** : Turn valves to OFF position when jet boat is not operated and for transportation on the trailer.

ON : Allows fuel to flow to carburetors. This is the normal position for operation of the jet boat.

▼ **CAUTION** : Improper opening of fuel valves may restrict flow of fuel and damage engines. Make sure valves are fully opened while running.

15-16) Passenger Grab Handles

Provides a handhold for the passengers.

▼ **CAUTION** : Never use the grab handles to pull anything or to lift the jet boat.

Sun seat : 2 grab handles positioned each side.

Port seat : 1 grab handle on left, one under seat incorporated to the seat molding.

Central seat : 2 grab handles under seat incorporated to the seat molding.

17) Rear Grab Handle

Provides a handhold for boarding when needed.

▼ **CAUTION** : Never use the grab handle to tow anything or to lift the jet boat.

18) Swim Platform

Provides a large antiskid surface for easy boarding from rear of jet boat.

◆ **WARNING** : To avoid risk of injury, swim platform should not be used when engines are running.

19) Operator / Rear Passenger Seats

Each passenger should be seated while underway. Do not sit on edge of boat or stand up.

20) Sun Seat

Provided as a sun seat while at anchor.

◆ **WARNING** : No passenger should use this seat except at idle speed in calm water or when the jet boat is stopped. Do not sit on bow or sides of the boat.

21) Cup Holders

Convenient locations for non-alcoholic beverages.

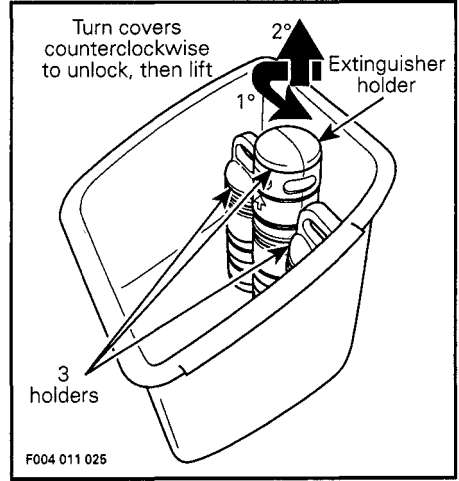
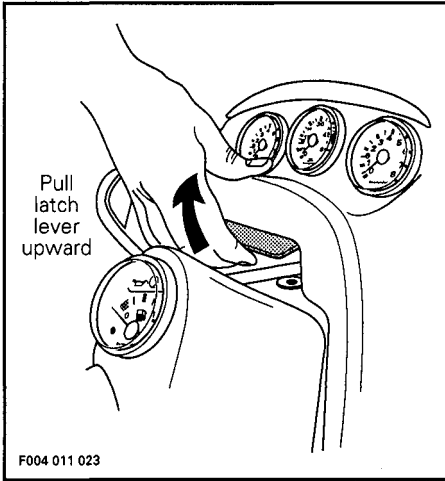
◆ **WARNING** : Do not drink alcoholized beverages while aboard. Do not keep bottles, cans etc. in cup holders while riding at high speed and / or on rough water.

22) Front Storage Compartment

A convenient watertight, removable basket to carry personal articles. Ideal location for spare spark plugs, tow-rope, first aid kit, etc.

Pull the latch lever upward in order to open the storage compartment cover.

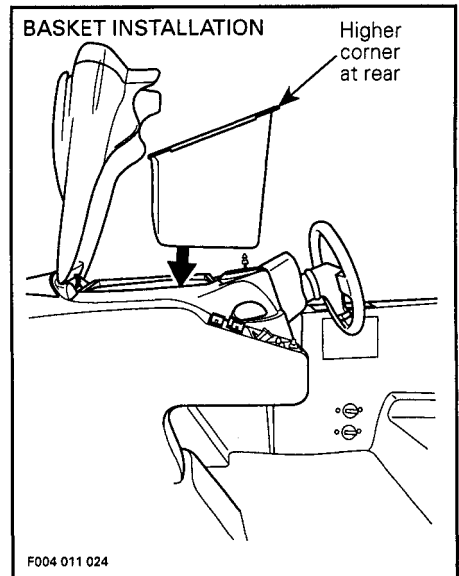
○ **NOTE** : Verify periodically the lock pin tightness of storage cover. Tighten if needed and make sure storage cover latches properly.



◆ **WARNING:** Never leave any heavy or loose breakable object in the storage basket. Never store or carry anything below basket.

This area is the preferred location to store an approved extinguisher. The fire extinguisher holder is installed in the rear center portion of the basket. This holder contains tool kit, *Operator's Guide* and it has a compartment to carry personal articles. Fire extinguisher (sold separately) should not be loose in the storage compartment.

Reinstall basket as shown. Always relatch cover.

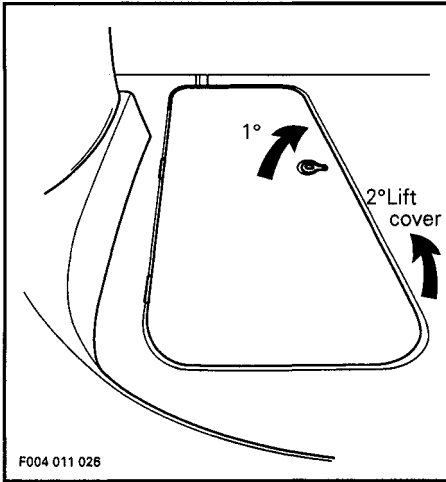


23) Deck Storage Compartment

Convenient location for water-skis, paddles, anchor and rope, etc.

Lift the latch ring and open cover gently until stopped by retaining cable.

◆ **WARNING :** Wind or boat movement might unexpectedly shut the cover.

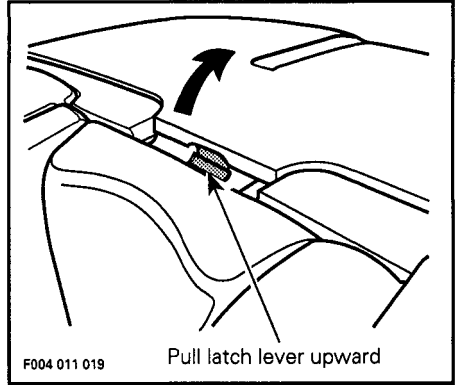


Always relock after closing and lower the latch ring.

24) Rear Storage Compartment

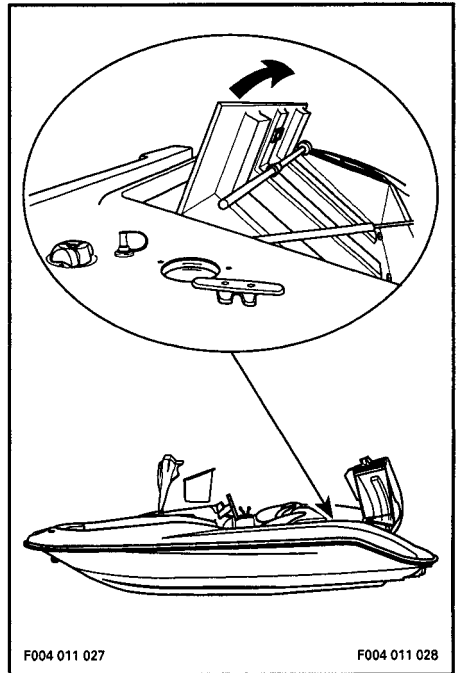
Convenient rear storage location to be used to carry large personal articles. Ideal location for towels, lunch etc.

Pull the latch lever upward and open cover gently until stopped. The gas assist cylinder will complete the opening and hold cover open.



The storage tray is removable to give access to engine compartment. Grab the front center handle and lift in a rearward movement until opposite holders release.

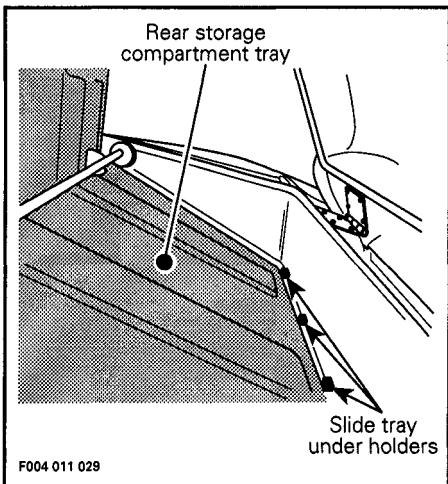
◆ **WARNING :** When storage tray is removed never touch any electrical part when starting engine(s) or while they are running.



◆ **WARNING** : Never leave any object, rag, tool, etc., in the engine compartment or in the bilge.

When reinstalling storage tray, ensure to properly locate it just below holders, gently lower tray then finish by firmly pushing it downward to lock.

▼ **CAUTION** : If the rear storage compartment cover is not correctly latched, damage may occur.



Gently close storage compartment cover and ensure to relatch.

25) Ski Tow

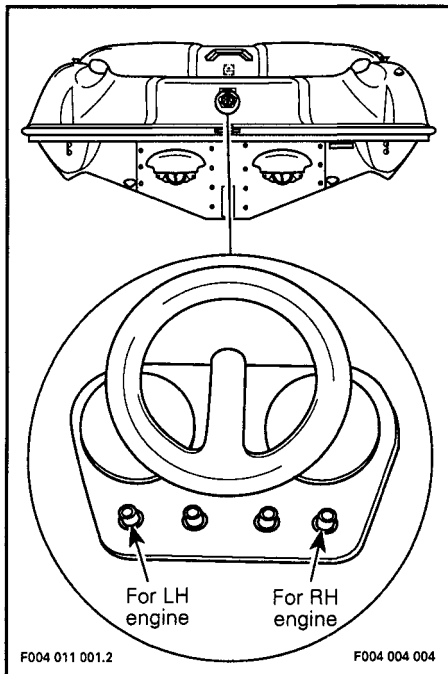
Up to 2 skiers can be pulled by the jet boat. Always have one person other than the operator as an observer.

The universal eyelet allow a ski-rope with a hook, a closed end or an open end to be attached.

◆ **WARNING** : Use caution with skier in tow as tow rope may backlash into cockpit when released.

26) Cooling System Bleed Outlets

When engines are running, water must flow through these holes. This allows air in tuned pipes and in engine water jacket to escape.



▼ **CAUTION** : Should water not flow from those outlets a few seconds after engine starts, immediately stop engine and refer to **POST-OPERATION CARE** and look for cooling system flushing or refer to an authorized dealer for servicing.

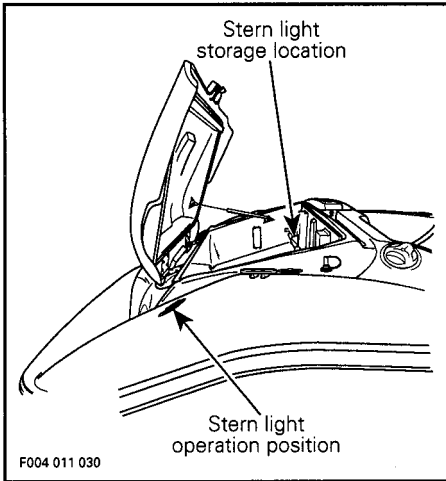
27) Navigation Light

Reglementary red / green light. Refer to Light Switch above.

28) Removable Stern Light

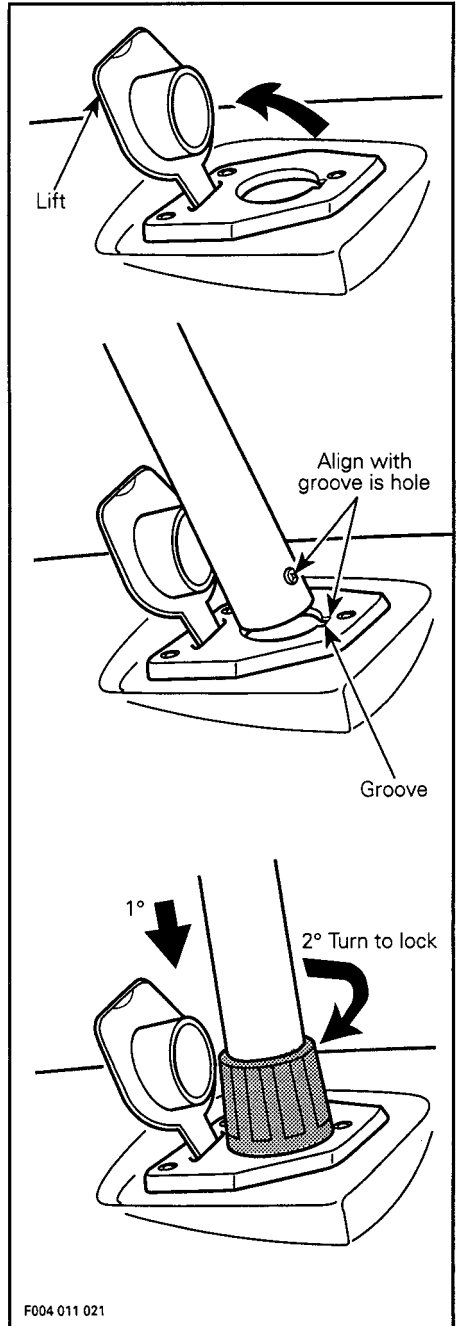
It is recommended to keep it in rear storage compartment at all time except when needed in darkness, reduced visibility conditions, or at anchor (nighttime).

To remove from storage, pull it out. Resnap to store again.



Installation

- Lift connector cap.
- Insert post in connector hole. Ensure to align hole keyway with post screw head.
- Firmly push downward to engage terminals.
- Push lock ring downward. Turn until locked. It may be necessary to slightly turn it to allow its insertion in the hole.
- Check light operation. Refer to **Light Switch** above.



▼ **CAUTION** : Ensure dielectric grease is present in connector area of light to prevent system corrosion.

29) Mooring Cleats

When mooring to a dock, it is recommended to secure with both front and rear cleats. The use of dock lines with sealed air fenders is recommended to protect your boat.

▼ **CAUTION** : Never use mooring cleats to pull anything or to lift the jet boat.

30) Deck

Flat surface of boat, should be kept clean and clear.

31) Fuel Tank Cap

Unscrew the cap counterclockwise to allow fuel tank filling. Fully tighten when finished.

◆ **WARNING** : Never use a lit match or open flame to check fuel level. Refer to **Fuel and Lubrication** for fuel specification.

32) Deck Drain Holes

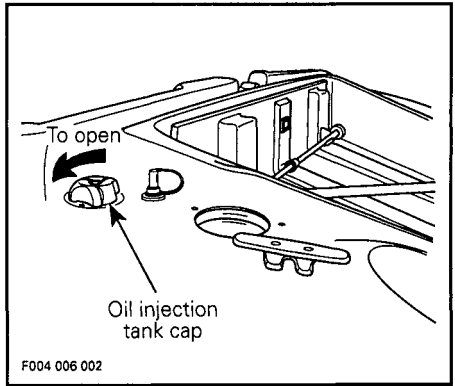
Central drain is located under deck storage cover close to rear center passenger seat. Operator's position drain is located at its seat base. They provide drainage for rain, deck washing, water splashing etc. outside of jet boat.

Keep clean to avoid clogging.

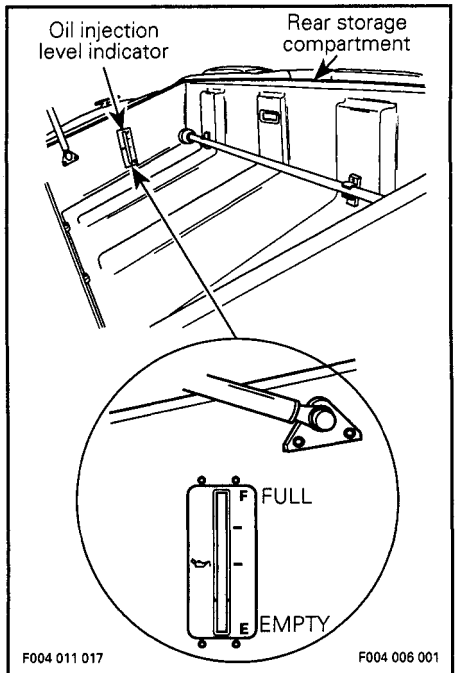
33) Oil Injection Tank Cap

Located in rear storage compartment on LH side. Open cover to access cap. Unscrew cap counterclockwise and add appropriate amount of oil. Refer to **Fuel and Lubrication** for injection oil specifications. Firmly tighten by turning clockwise. The use of a funnel is recommended. Stop filling as soon as oil appears close to neck. Do not overfill.

◆ **WARNING** : Always wipe off any oil spillage.



34) Oil Injection Level Indicator

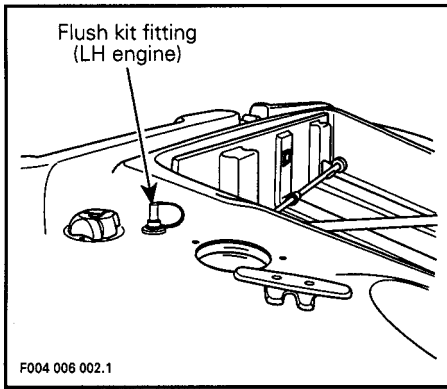


It indicates the amount of injection oil left in tank.

▼ **CAUTION** : Never allow oil level to go below 1/4 under red zone. Check oil level each time you refuel.

35) Flush Kit Fittings

Located in rear storage compartment. Open cover to access fittings. Each fitting is associated to an engine. The LH side fitting belongs to LH side engine and RH one with RH engine. Refer to POST-OPERATION CARE section for proper use.



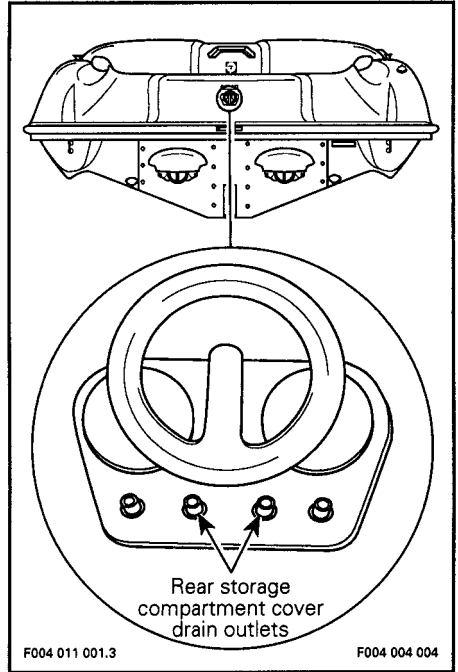
36) Ventilation Ducts

This is where air flows to supply engine and ventilate engine compartment.

◆ **WARNING** : Never obstruct the ducts.

37) Rear Storage Compartment Cover Drain

Evacuates water in cover area out of boat. Keep clean to avoid clogging. Water outlets are beside cooling system bleed outlets.



38-39) Bow / Stern Eyelets

Eyelets can be used for mooring, towing and as a tie-down point during transportation.

40) Jet Pump Nozzles

They are turned from side to side via rider input from the steering. This provides jet boat directional control when engines are running.

41) Sacrificial Zinc Anodes

Located on jet pump gate support, they protect the jet drive against galvanic corrosion by sacrificing its metal to be slowly eroded instead of the jet drive metals. Refer to MAINTENANCE section.

42) Reverse Gates

They move from upward to downward position to get Forward, Neutral, Reverse and inversely. These positions are obtained by moving shifter lever.

▼ **CAUTION** : Never use reverse gate as a supporting point to board the jet boat, it may damage reverse system components.

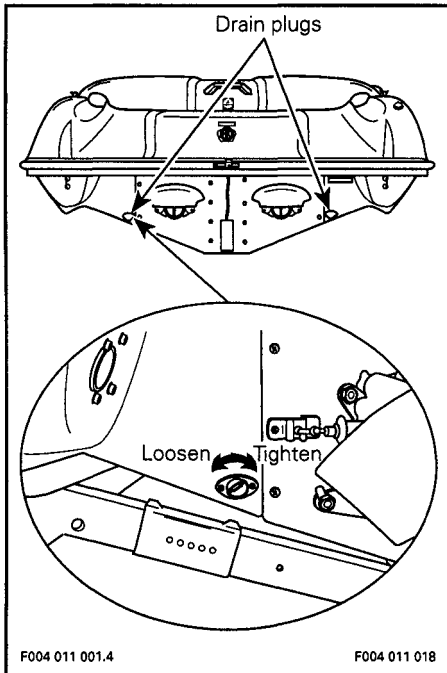
43) Bilge Drain Plugs

Should water be found in the bilge, it can be easily drained by unscrewing these plugs.

▼ **CAUTION** : Remove jet boat from water prior to unscrewing the drain plugs.

Tilt the jet boat slightly to the rear so that the water can completely flow out of the bilge.

It is suggested to drain bilge on a ramp.



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◆ **WARNING** : Always make sure bilge drain plugs are properly secured in the drain holes and firmly tightened.

44) Jet Pump Water Intake

The water is drawn up by the impellers through this opening. The impeller and the drive shaft are protected by a grate.

Monitoring Beeper

A beeper sends different coded signals whenever a particular situation occurs such as, engine overheat, engine start attempt when shifter is not neutral, wrong safety lanyard etc. Refer to TROUBLESHOOTING section for description of signals and their signification.

○ **NOTE** : In the event one or both engines overheat(s) a beeper (continuous sound) will warn the operator. Stop the engines and refer to SPECIAL PROCEDURES.

Tool Kit

It is located in one container in front storage compartment. Tool kit contains the tools needed to perform basic jet boat maintenance.

Operator's Guide

Should all be kept in waterproof bag and remain with the jet boat at all times.

Fuses

Manual bilge pump switch, bilge pump float system, air blower, lights, control / instruments / main wiring, harness are protected by fuses. If an equipment is not working, check condition of the fuse. Refer to MAINTENANCE section.

FUEL AND LUBRICATION

Fueling Procedure

◆ **WARNING** : Follow these safe boating fueling instructions explicitly.

Make sure the jet boat is tied securely to the fueling pier.

Use bilge blower for a minimum of 4 minutes.

Turn off engines, bilge blowers, bilge pump and any other devices that could produce a spark.

Close rear storage cover to prevent fumes from entering the engine compartment.

Disembark all people.

Do not smoke or allow open flames in the vicinity.

Have a fire extinguisher close at hand.

Do not enter the spout too far in filler neck.

Pour fuel slowly so that air can escape from the reservoir and prevent fuel flowback.

Fill fuel tank to bottom of filler neck. Do not overfill.

Fully tighten fuel tank cap and wipe off any fuel spillage.

Ensure there are no fuel fumes in the engine compartment, ventilate using the blower as necessary.

Recommended Fuel

Use regular unleaded gasoline with 87 octane (Ron + Mon / 2) specification.

○ **NOTE** : Look on service station pump sticker for octane specification. Do not mix oil with fuel except at engine break-in. Refer to BREAK-IN PERIOD. Always check oil injection reservoir level when refueling.

The use of good quality fuel is necessary. A well known fuel brand is highly recommended.

▼ **CAUTION** : The use of a poor quality fuel can result in jet boat performance deterioration and damage to fuel system and engine components. Never experiment with other fuels or fuel ratios. Never use fuel containing alcohol, methanol or similar products including naphtha.

Recommended Oil

Use only BOMBARDIER ROTAX INJECTION OIL which is available from authorized dealers. It is a blend of specially selected base oils and additives which provides outstanding lubrication, engine cleanliness and minimum spark plug fouling.

○ **NOTE** : High quality low ash API TC injection oil for 2-cycle engines can be used if BOMBARDIER ROTAX INJECTION OIL is not available.

▼ **CAUTION** : Never use 4-cycle petroleum or synthetic motor oil and never mix these with outboard motor oil. Do not use NMMA TC-W, TC-W2 or TC-W3 outboard motor oils or other ashless type 2-cycle oil. Avoid mixing different brands of API TC oil as resulting chemical reaction may cause severe engine damage.

Oil Injection System

This jet boat features an oil injection system which does not require manual fuel / oil mixing.

Oil level in reservoir should be maintained almost full. To check, open rear storage cover. Read level on oil injection indicator on port side. Unscrew cap to add oil as necessary.

Use a flexible funnel to pour oil into reservoir. Wipe off any oil spillage.

○ NOTE : Always carry a spare 1 liter of BOMBARDIER ROTAX INJECTION OIL.

▼ CAUTION : Always maintain a sufficient amount of injection oil in the oil reservoir. Check and refill every time you refuel. Do not overfill. If the engines run out of oil, severe engine damage will occur. If the oil reservoir is found almost empty air can enter in the system and it must be bled. Immediately refer to an authorized dealer to have the oil injection system inspected.

BREAK-IN PERIOD

Engine

With Bombardier-Rotax® jet boat engines, a break-in period is required before operating the engine at full throttle. Engine manufacturer recommendation is about 10 operating hours.

During this period, maximum throttle should not exceed $3/4$, however, brief full acceleration and speed variations contribute to a good break-in. Continued wide open throttle accelerations, prolonged cruising speeds and overloading the engines are detrimental during the break-in period.

To assure additional protection during the initial engine break-in, 2 L (1/2 gal) of BOMBARDIER ROTAX INJECTION OIL should be added in the fuel tank for the first full fuel tank filling only.


▼ **CAUTION** : Remove and clean spark plugs after engine break-in.

10-Hour Inspection

It is highly recommended that after the first 10 hours of operation, the jet boat be checked by an authorized dealer. This inspection will also provide the opportunity to discuss the unanswered questions you may have encountered during the first hours of operation.

The 10-hour inspection is at the expense of the jet boat owner.

10-HOUR INSPECTION CHECK LIST	<input checked="" type="checkbox"/>
Engine ignition timing if required	<input type="checkbox"/>
Spark plug inspection, cleaning and adjustment	<input type="checkbox"/>
Fuel system lines and fasteners / pressurization test	<input type="checkbox"/>
Carburetor adjustment including throttle / choke cables if required	<input type="checkbox"/>
Oil lines and filters	<input type="checkbox"/>
Oil injection pump adjustment if required	<input type="checkbox"/>
Engine support and engine rubber mounts	<input type="checkbox"/>
Mufflers, batteries and reservoir fastening devices	<input type="checkbox"/>
Exhaust system hose clamps torque	<input type="checkbox"/>
Carburetor flange screws and flame arrester support	<input type="checkbox"/>
Steering system	<input type="checkbox"/>
Steering cable adjustment if required	<input type="checkbox"/>
Shift cable adjustment if required	<input type="checkbox"/>
Hose condition and fasteners	<input type="checkbox"/>
Bilge pump and blower	<input type="checkbox"/>
Safety lanyard switch, start / stop button operation and start enable / anti-start system	<input type="checkbox"/>
Engine overheating beeper	<input type="checkbox"/>
Electrical connections (starter, batteries, etc.)	<input type="checkbox"/>
Lighting system inspection	<input type="checkbox"/>
Impeller shaft reservoir oil replacement	<input type="checkbox"/>
Impeller condition, impeller / wear ring clearance	<input type="checkbox"/>
PTO flywheel lubrication	<input type="checkbox"/>
Seal carrier lubrication	<input type="checkbox"/>
Water intake grill / hull condition	<input type="checkbox"/>
Inspection of fasteners for tightness	<input type="checkbox"/>
Inspect / clean engine drain tubes	<input type="checkbox"/>

 **NOTE :** Inspection applies for both engine systems where applicable.

We recommend that this inspection chart be signed by an authorized dealer

Date of 10-hour inspection

Authorized dealer signature

Dealer code :

DAILY PRE-OPERATION CHECKS

Some of the following items may not have been previously covered in this guide, however they will be described in the MAINTENANCE or SPECIAL PROCEDURES section. Please refer to these portions to have more detailed information.

Prior to your daily ride, verify the following :

◆ **WARNING** : Except otherwise specified, safety lanyard must always be removed from switch prior to verify any of the following.

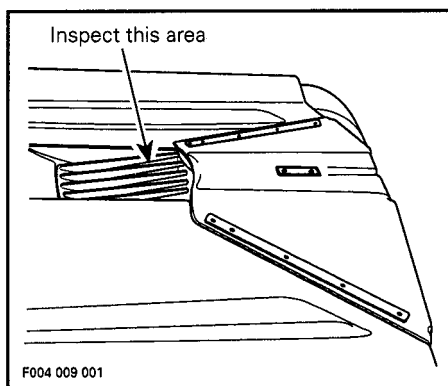
ITEM	OPERATION	✓
Hull	Inspect.	
Jet pump water intake	Inspect / clean.	
Bilge	Drain. Ensure plugs are secured.	
Batteries	Inspect tightness of cables and retaining straps.	
Navigation / anchor lights	Check operation (with safety lanyard installed)	
Fuel / oil reservoirs	Refill.	
Engine compartment	Verify fuel / oil system components.	
Fire extinguisher	Inspect condition / mounting.	
Steering	Check operation.	
Throttle / shifter system	Check operation.	
Blower and bilge pump	Check operation.	
Safety lanyard / engine start / stop buttons	Check operation.	
Mandatory safety boating equipment	Check operation	

Hull

Inspect hull for cracks or damage.

Jet Pump Water Intake

Remove weeds, shells, debris or anything else that could restrict the flow of water and damage cooling system or propulsion units. Clean as necessary. If any obstruction can not be removed, refer to an authorized dealer for servicing.



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Inspect leading edges of the impellers, if they have nicks or bends performance will be greatly reduced.

Bilge

Should water be present in the bilge, turn on pump switch to completely empty the bilge.

▼ **CAUTION** : Do not run the pump dry for a prolonged period of time.

Batteries

◆ **WARNING** : Verify tightness of battery cables and retaining straps.

Fuel / Oil Reservoirs

With the jet boat horizontal, fill the fuel tank to specified level with fuel.

Check the oil level and refill reservoir as necessary.

Engine Compartment

Check condition of fuel/oil system components.

◆ **WARNING** : Should any leak or gasoline odors be present, do not start the engines. Immediately refer to an authorized dealer.

Fire Extinguisher

Make sure it is full, in good condition and well secured.

Steering System

Assisted by another person, check steering operation for free movement. When the steering is centered, the jet pump nozzles should be in the straight ahead position. Ensure the jet pump nozzles pivot easily while steering is turned.

Throttle System

Check throttle levers several times for free and smooth operation.

Shifter System

Check reverse gate operation for free movement. With shift lever in forward position, the gates must be in upward position. With the shift lever in neutral position, gates must be in middle position. With shift lever in reverse position, gates must be in downward position.

Safety Lanyard and Engine Start / Stop Buttons

Ensure that switches operate properly. Start engines and stop them using each switch individually.

◆ **WARNING** : If engine does not shut-off when pushing engine start / stop button or by disconnecting the safety lanyard, stop the engine by applying the choke and turning fuel valve to OFF position. Do not operate the jet boat further, see an authorized dealer.

◆ **WARNING** : Only start the jet boat once all items have been checked and operate properly.

OPERATING INSTRUCTIONS

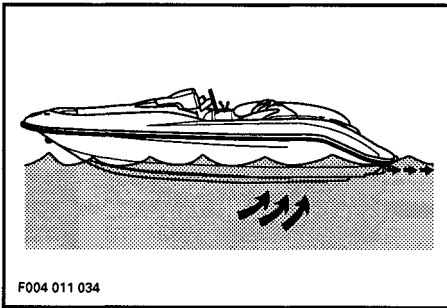
◆ **WARNING :** Always perform **DAILY PRE-OPERATION CHECKS** before operating the jet boat. Become thoroughly familiar with all controls and the function of each. Should any control or instruction be not fully understood, refer to an authorized dealer.

Principle of Operation

Propulsion

Each engine is directly coupled to a drive shaft which, in turn, rotates an impeller. This impeller is accurately adjusted in a housing where the water is drawn up from underneath the jet boat. Then the water flows through the impeller to a venturi. The venturi accelerates the water and produces thrust to move the jet boat. Pushing the throttle levers forward increases engine speed and therefore jet boat speed.

With shifter lever pushed forward, the jet boat moves forward. In pulled back position, the jet boat moves backward. The middle position is neutral. The jet boat is at the minimum thrust for most conditions. Neutral and reverse are achieved by mean of a gate, which is installed on jet pump venturi housing. This gate directs the water flow to obtain the desired direction.



◆ **WARNING :** Whenever an engine is to be started, the operator and passengers should always be sitting in the jet boat with the shifter lever in neutral position and throttle levers in idle position.

Turning

Turning the steering pivots the jet pump nozzles which controls the jet boat direction. Turning the steering clockwise to the right will turn the jet boat to the right and inversely. The throttle must be applied to turn the jet boat.

◆ **WARNING :** With jet propulsion systems, directional control is lost when the throttles are pulled back. Throttles must be engaged and steering turned to change the direction of the jet boat. Steering efficiency will differ depending on number of passengers, load and water conditions.

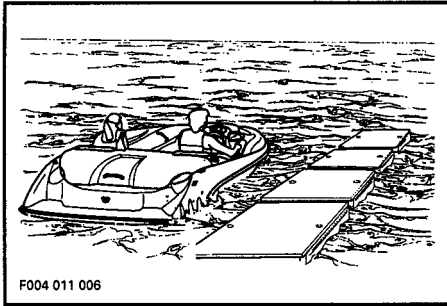
The more the throttle is applied while turning the steering, the more responsive the boat will be.

The jet boat may behave differently when carrying passengers. The passengers should grip the grab handles. Reduce speed and avoid sharp turns. Avoid excessive speeds and choppy water conditions when carrying passengers.

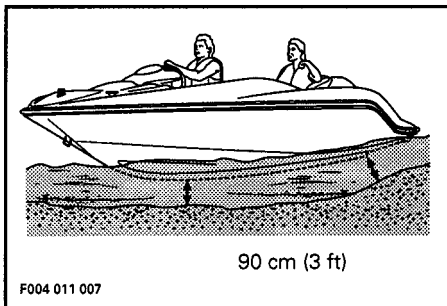
Boarding from a Dock or in Shallow Water

As with any craft, getting aboard should be done carefully and engines must not be running.

When boarding from a dock, slowly place one foot on the jet boat deck nearest the dock and then move the other foot inside the boat. Push the jet boat away from the dock.



CAUTION : Although boat requires only 30 cm (1 ft) of water to float, the engine should be started with at least 90 cm (3 ft) of water below the hull to protect propulsion system.



In shallow water, board the jet boat either from the side or the swim platform.

Starting the Engine

Shifter lever must be in neutral position to allow engine starting.

Always activate air blower switch 4 minutes minimum before starting the engine. The air blower will ventilate the bilge.

WARNING : Blower must be turned off during jet boat operation.

Before unloading the jet boat from the trailer, engines can be started for about 10 seconds to verify proper operation. Remove stern (rear) strap before starting the engines.

WARNING : Do not touch electrical parts or jet pump area when engine is running.

Attach the safety lanyard to the operator's PFD and snap the cap to the switch.

Operator and passengers should be sitting in the jet boat seats prior to starting the engines.

Turn the fuel valves to ON position.

Grip steering with your right hand and place both feet on the floorboard. Shut off air blower switch.

Start one engine at a time. Check tachometer to monitor each engine.

NOTE : If a beeper is heard when pressing start button, it indicates a particular condition that must be corrected. Refer to the TROUBLESHOOTING section for meaning of the coded signal.

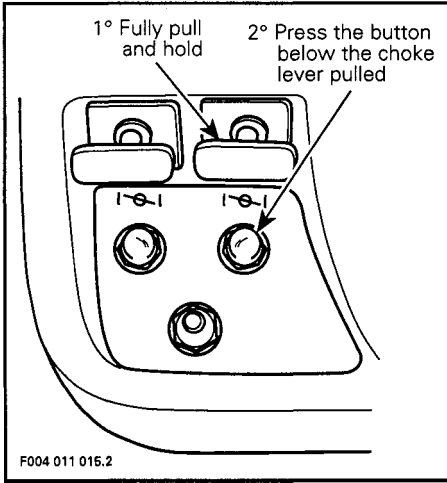
Cold Engine

Fully pull back each throttle lever to idle position.

First Engine

Fully pull one choke lever and depress the starting button just below it.

Either engine can be started first. It does not make difference.



Immediately after engine is started, release starting button and release choke lever half way.

NOTE : Do not push the throttle lever forward while starting a cold engine.

CAUTION : To avoid starter motor overheating, the cranking period should not exceed 5-10 seconds and a rest period should be observed between cranking cycles to let the starter cool down and its mechanism disengage.

A few seconds after, completely release the choke lever and if necessary, slightly push throttle forward to keep engine running.

NOTE : In an emergency, the jet boat may be operated with one engine.

Second Engine

Start the second engine following the same procedure but use the other choke lever, start button and throttle lever. Always monitor engines with tachometers.

Leaving the Shore

Slowly accelerate to reach deeper water. Do not apply full throttle until the engines are warm.

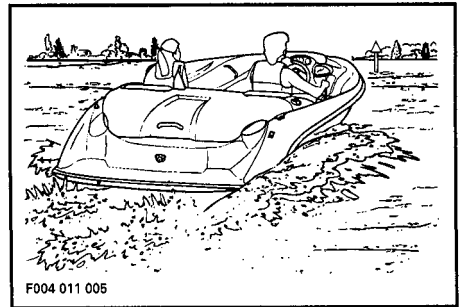
WARNING : In shallow water, shells, sand, pebbles or other objects could be drawn up by the jet pump and be thrown rearward. This could damage impeller, components or clog the cooling system.

Warm Engine

The same procedure as a cold engine applies, except the choke does not need to be applied and throttle lever has to be **slightly** pushed forward to approximately 1/4.

Obstacles

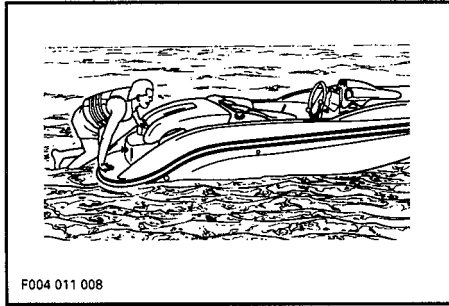
Verify that the path ahead of the jet boat is clear of other craft or obstacles. Avoid riding close to swimmers. Check local boating laws for safe operational areas.



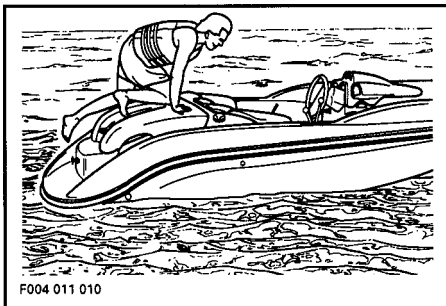
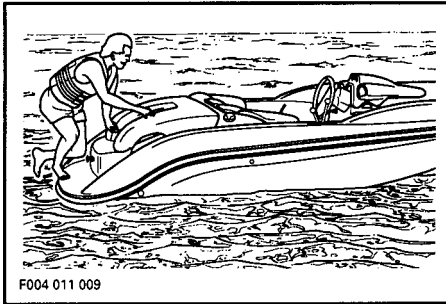
Boarding in Deep Water

Swim to the rear of the jet boat.

Grip the grab bar and pull yourself upward until your knee can reach the swim platform.



▼ **CAUTION** : Never use reverse gate as a supporting point to board the jet boat, it may damage reverse system components.



◆ **WARNING** : Do not start engines until all passengers are properly seated.

Rough Water or Poor Visibility Operation

Avoid operation in these conditions. If you must do so, proceed with caution and prudence using minimum speed.

Crossing Waves

Substantially reduce speed and cross the wave head on to assist steering.

◆ **WARNING** : When crossing waves, operator and passengers should brace themselves. Wave or wake jumping can be dangerous and illegal.

Stopping / Docking

The jet boat is slowed by water drag. The stopping distance will vary depending on weight, speed, water surface condition, presence and direction of wind and current.

The operator should familiarize himself with the stopping distance under different conditions.

Reduce speed, reduce RPM to idle and shift to neutral, reverse or forward as required when approaching a dock then shut off the engines just before coming alongside.

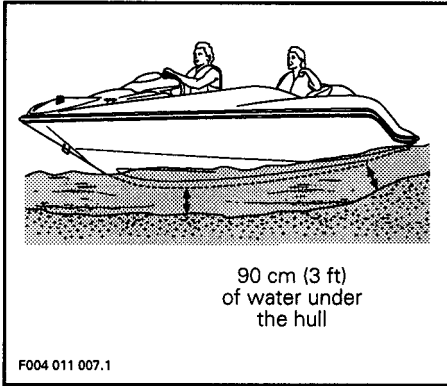
◆ **WARNING** : With jet propulsion systems, no directional control is available when the throttles are closed or engines are shut off.

Beaching

▼ **CAUTION** : It is not recommended to run the jet boat to the beach.

Proceed the same way as for docking except for the following :

Come slowly to the beach and shut off the engines when reaching about 90 cm (3 ft) of water under the hull, then pull the boat to the beach. Ensure that all accessories are OFF.



WARNING : In shallow water, shells, sand, pebbles or other objects could be drawn up by the jet pump and be thrown rearward. This may damage impeller, components or clog or jam cooling system.

As necessary, cooling system should be flushed before restarting, to remove sand or shell accumulation which may clog the water passages.

Shutting Off the Engines

To keep jet boat directional control, the engines should be running until the jet boat is stopped assuming at least 90 cm (3 ft) of water is present underneath the hull.

To shut off the engines, completely pull back throttle levers then remove safety lanyard or press each the engine start / stop button.

Always remove safety lanyard from jet boat.

WARNING : Should the engine be shut off, jet boat directional control is not available. Never leave the safety lanyard on an unattended jet boat.

POST-OPERATION CARE

General Care

Should any water be present in the bilge, remove the drain plugs and tilt the jet boat to the rear in order to allow water to flow out.

Wipe up any remaining liquid in the engine compartment (bilge, engines, batteries, etc.) with clean dry rags (this is particularly important in salt water use).

Remove the jet boat from the water every day to prevent marine organisms growth.

Additional Care for Foul Water or Salt Water

When the jet boat is operated in foul water and particularly in salt water, additional care must be taken to protect the jet boat and its components. Rinse bilge area with fresh water.

▼ **CAUTION** : Failure to perform proper care such as : rinsing, cooling system flushing and anti-corrosion treatment, when used in salt water, will result in damage to the jet boat and its components.

Cooling System Flushing and Engine Internal Lubrication

Flushing the cooling system with fresh water is essential to neutralize corroding effects of salt or other chemical products present in water. It will help to remove sand, salt, shells or other particles in water jackets (engine, exhaust manifold, tuned pipe) and/or hoses.

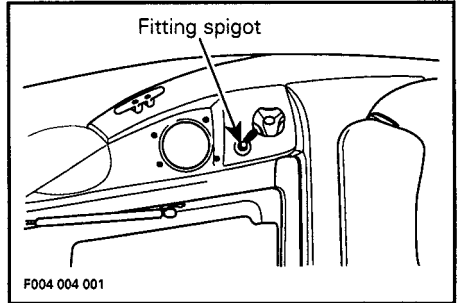
Engine lubrication and flushing should be performed when the jet boat is not expected to be used further the same day or when the jet boat is stored for any extended time.

An optional coupler hose can be installed on the jet boat to ease flushing.

Proceed as follows :

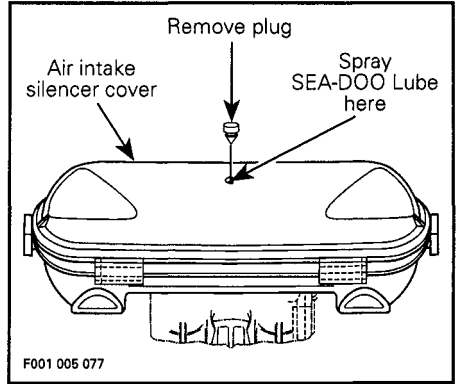
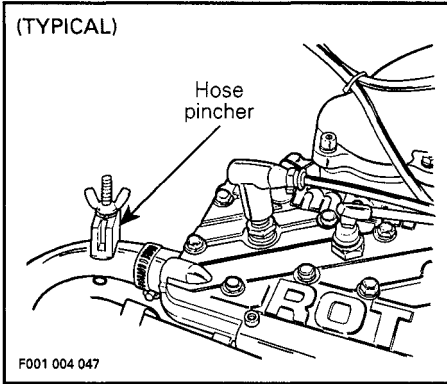
◆ **WARNING** : Perform this operation in a well ventilated area.

1. Clean jet pump by spraying water in its inlet and outlet and then spray SEA-DOO LUBE lubricant.
2. Open rear storage compartment cover to have access to cooling system fitting spigots.



○ **NOTE** : There is one fitting spigot per engine on each side of engine compartment.

3. Remove dust cap from fitting spigot and attach coupler hose. Make sure coupler hose is properly locked to fitting spigot.
4. Attach other end of coupler hose to a garden hose. Do not open water tap yet.
5. Install a hose pincher (available at your dealer) on engine water outlet hose. This prevents water from exiting through exhaust socket.



6. Start the engine then immediately open the water tap.

◆ **WARNING** : Do not touch any electrical parts or jet pump area when engine is running.

▼ **CAUTION** : Never flush a hot engine. Always start the engine before opening the water tap. Otherwise, water will back flow through the tuned pipe into the engine and may cause damage to internal parts. Open water tap immediately after engine is started to prevent overheating.

7. Run the engine about 3 minutes at a fast idle around 3500 RPM.

▼ **CAUTION** : Never run engine longer than 5 minutes. Drive line seal has no cooling when jet boat is out of water.

8. Remove plug from air intake silencer cover.

9. Spray SEA-DOO LUBE lubricant through air intake silencer keeping engine at fast idle.

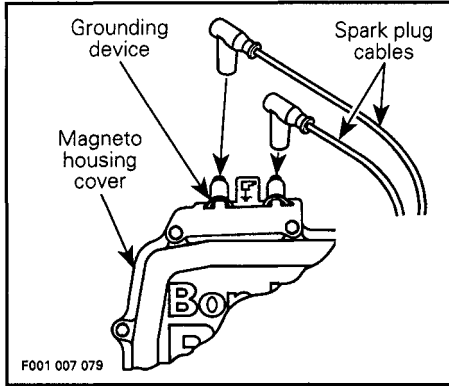
○ **NOTE** : This should be done for at least 1 minute. After approximately half a minute, close fuel valve to run engine out of fuel while lubricating.

▼ **CAUTION** : When engine begins to run irregularly because of fuel starvation, immediately stop water flow before engine dies. Severe engine damage could result if not done in this order.

10. Close the water tap then stop the engine.

11. Unlock and remove coupler hose. Reinstall dust cap over fitting spigot.

12. Remove spark plug cables and connect them on the grounding device.



Anticorrosion Treatment

To prevent corrosion, spray a corrosion inhibitor (salt water resistant) such as SEA-DOO LUBE lubricant or equivalent over metallic components in engine compartment.

○ **NOTE :** Engine fogging should be done with SEA-DOO LUBE lubricant whenever the jet boat is to be stored for few days or a long period.

Apply a dielectric grease (salt water resistant) on battery posts and cable connectors.

▼ **CAUTION :** Never leave rags or tools in the engine compartment or in the bilge.

13. Remove both spark plugs and spray SEA-DOO LUBE lubricant into each cylinder.
14. Crank the engine a few turns to distribute the oil on cylinder wall.
15. Apply anti-seize lubricant on spark plug threads then reinstall them.
16. Reinstall plug on air intake silencer cover.
17. Remove hose pincher from engine water outlet hose.
18. Wipe up any residual water from the engine.

○ **NOTE :** Repeat the same procedure for the other engine.

SPECIAL PROCEDURES

Engine Overheating

If the monitoring beeper continuously sounds, stop engines immediately.

Perform the **Jet Pump Water Intake and Impeller Cleaning** procedure in this section.

Flush cooling system, refer to POST OPERATION CARE.

If engines still overheat, refer to an authorized dealer for servicing.


Jet Pump Water Intake and Impeller Cleaning

Weeds, shells or debris can get caught on the intake grill, drive shafts and /or impellers. A clogged water intake may cause troubles such as :

- 1- **Cavitation** : Engine speed is high but jet boat moves slowly due to reduced jet thrust ; jet pump components may be damaged.
- 2- **Overheating** : Since the jet pump operation controls the flow of water to cool the engine, a clogged intake will cause the engine to overheat and damage engine internal components.


The clogged area can be cleaned as follows :

In-water cleaning : Put shifter in reverse position and vary throttles quickly several times. Put shifter in forward position and check if system is still clogged. If so, proceed with following procedure. Rock the jet boat several times while repeatedly pressing starter button for short period without starting engine.

 **NOTE** : Depress starter button of one engine at a time.

Most of the time, this will results in letting the debris falling from the intake area. Start engines and make sure water flows out from bleed outlets and jet boat operates properly.


If the system is still clogged, shut off the engines by removing the safety lanyard.

 **WARNING** : Always remove safety lanyard from switch to prevent accidental engine starting before cleaning the jet pump area.

Clean the entire jet pumps (intake, impellers, nozzles, etc.) of foreign matter.

If the jet pumps can not be easily cleared of debris, the jet boat should be returned to the trailer or to a boat lift.

Manually clean the water intake area. If the system is still clogged, refer to an authorized dealer for servicing.

 **CAUTION** : Avoid jet boat operation in weed areas. If unavoidable, vary jet boat speed. Weeds tend to entangle more at steady speed and at slow speed. Inspect water intake grate for damage. Refer to an authorized dealer for repair as necessary.

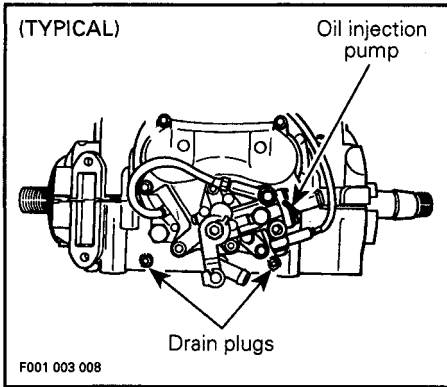
Capsized Boat

The jet boat is designed so that it should not turn over easily, due to its longer and larger dimensions. If the jet boat ever capsizes, remember that it will continue to float, and it is usually best to remain with it, you will be more easily located by a search plane or boat.

Submerged Boat

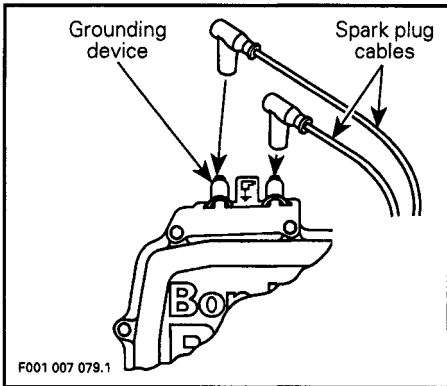
If the jet boat has been submerged and engines are water-flooded, it is strongly recommended that it be serviced by an authorized dealer immediately.

In the event the engines cannot be serviced within a few hours, remove engines crankcase drain plugs located underneath oil injection pump.



Remove spark plug cables and connect them on the grounding device.

◆ **WARNING:** Never crank engines with spark plugs removed unless spark plug cables are connected to the grounding device.



Remove spark plugs and dry them with a clean and dry cloth.

Cover spark plug holes with a rag.

Crank one engine to allow water to escape from spark plug and drain plug holes.

Spray SEA-DOO LUBE lubricant into spark plug holes.

Crank engine again.

Repeat the same procedure for the other engine.

Reinstall spark plugs and drain plugs.

▼ **CAUTION:** Crankcase drain plugs should have pipe sealant applied to threads before installing.

Repeat the same procedure for the other engine.

Towing the Boat

In the event the jet boat becomes inoperative, tie a tow rope to the bow (front) eyelet and have the jet boat towed to the shore at moderate speed.

Low-Charge Battery Condition

See your dealer to have it charged or replaced.

◆ **WARNING:** Do not charge or boost a battery in the boat. Connecting cables could produce a spark and possibly cause an explosion if fuel or electrolyte vapors are present.

MAINTENANCE

◆ **WARNING** : Only perform procedures as detailed in this guide. It is recommended that the assistance of an authorized dealer be periodically obtained on other components/systems not covered in this guide. Unless otherwise specified, engines must not be running and the safety lanyard must be removed for all maintenance procedures.

Lubrication

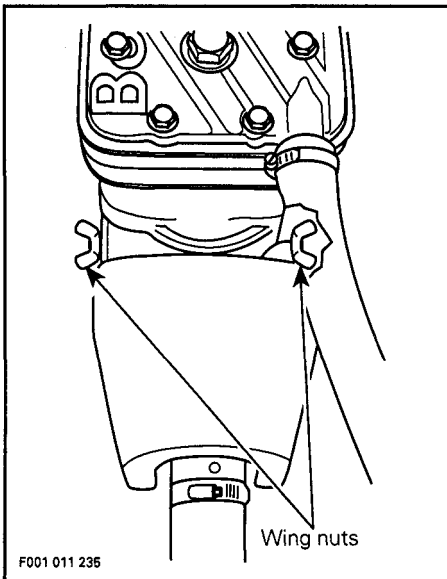
PTO Flywheels and Seal Carriers

Use SEA-DOO synthetic grease and lubricate every 10 hours of use. Proceed as follows :

Open rear storage compartment cover.
Remove storage tray.

Remove the wing nuts, washers and pull out PTO flywheel guards.

◆ **WARNING** : Always remove safety lanyard cap from its receptacle to prevent accidental engine starting before removing the PTO flywheel guard.

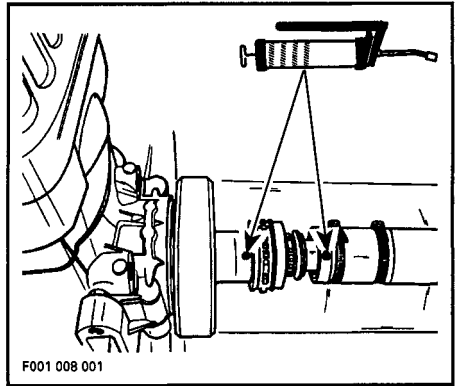


Using a grease gun, carefully lubricate PTO flywheels at grease fittings until drive shaft boots are just beginning to expand.

▼ **CAUTION** : Immediately stop lubricating as soon as boots begin to expand to prevent boot damage or slipping.

Lubricate seal carriers at grease fittings until grease is just coming out.

▼ **CAUTION** : Never leave any clothing, tool or other objects near PTO flywheels and seal carriers. As soon as grease comes out the seal immediately stop lubricating to prevent seal damage and overheating.



Secure PTO flywheel guards.

Anticorrosion Protection

Throttle / Choke Cables

Lubricate the throttle and choke cables with SEA-DOO LUBE lubricant every 25 hours of use (every 10 hours in salt water use).

Electrical Connections

As necessary, apply anticorrosion product such as a dielectric grease on battery posts and all exposed cable connectors including stern light connectors on mat and boat.

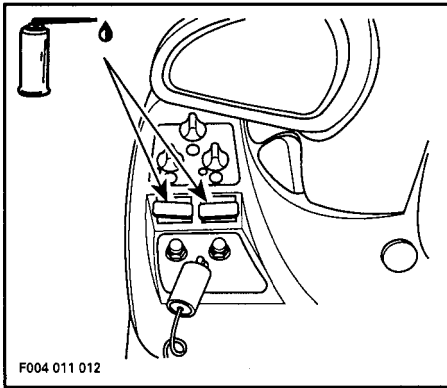
Additional Lubrication

SEA-DOO LUBE lubricant will help to prevent corrosion and keep proper operation of moving mechanisms.

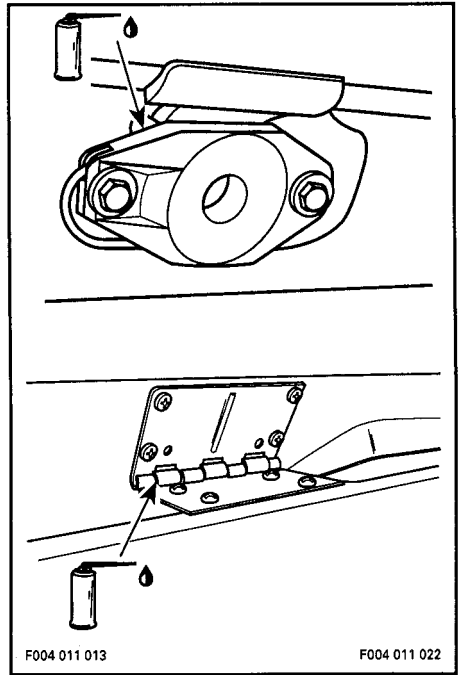
Lubrication of the following items should be performed every 50 hours in fresh water use but every 10 hours in salt water use.

Choke Levers

Fully pull choke levers and lubricate the metallic portion.

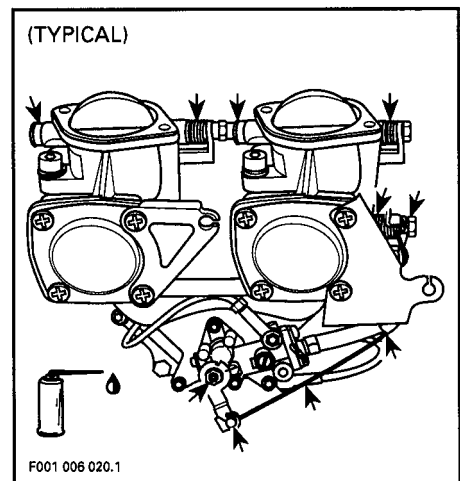


Rear Storage Compartment Cover Mechanism and Hinges



Carburetors and Oil Injection Pumps

Lubricate springs, shafts and exposed portion of cables.



Reverse Gates

Lubricate pivoting points and mechanism of each side.

Periodic Inspection

Routine maintenance is necessary for all mechanized products. A periodic inspection contributes to the products life span.

The following maintenance chart gives guidelines for regular jet boat servicing schedule to be performed by you and / or by an authorized dealer. The schedule should be adjusted according to operating conditions and use.

Periodic Inspection Chart

DESCRIPTION	FREQUENCY				
	every 10 hours	every 25 hours	every 50 hours	every 100 hours or seasonally	To be performed by
Lubrication / corrosion protection	①		✓		OPERATOR
Engine ignition timing				✓	DEALER
Spark plug replacement			✓		DEALER
Throttle / choke cables operation / lubrication	①	✓			OPERATOR
Flame arrester inspection			✓		DEALER
Carburetor adjustment including choke / throttle cable adjustments				✓	DEALER
Oil injection pump adjustment				✓	DEALER
Fuel filter and oil filter inspection		✓			DEALER
Oil filter and fuel filter replacement				✓	DEALER
Engine head screws, retorque				✓	DEALER
Steering system			✓		DEALER
Throttle / shifter system				✓	DEALER
Fastener tightening (Flame arrester mount screws, carburetor mount screws, engine mount screws, exhaust system, etc.)			✓		DEALER
Muffler, battery and reservoir fastening devices			✓		DEALER
Fuel / oil line, check-valve and hose inspection, fuel system pressurization			✓		DEALER
Inspect / clean engine drain tube	①	✓			DEALER
Bilge pump / deck drain holes inspection			✓		OPERATOR
Electrical box condition			✓		DEALER
Battery condition			✓		DEALER
Starter cables		✓			DEALER
Monitoring beeper / electrical connections			✓		DEALER
Impeller shaft reservoir oil level / oil condition		✓		Replace	DEALER
Impeller condition and impeller / wear ring clearance		②	✓		DEALER
Drive shaft boot and spline condition (both ends)		②	✓		DEALER
PTO flywheel lubrication	✓				OPERATOR
Seal carrier lubrication	✓				OPERATOR
Water intake grate condition		②	✓		DEALER
Hull condition				✓	DEALER
Cooling system flushing ③		✓			OPERATOR
Lights condition		✓			DEALER
Sacrificial zinc anodes			✓		OPERATOR
Air blower inspection			✓		DEALER

○ NOTE : Inspection applies for both engine systems where applicable. Some items are included in the DAILY PRE-OPERATION CHECKS and are not necessarily repeated in this chart.

① Every 10 hours in salt water use.

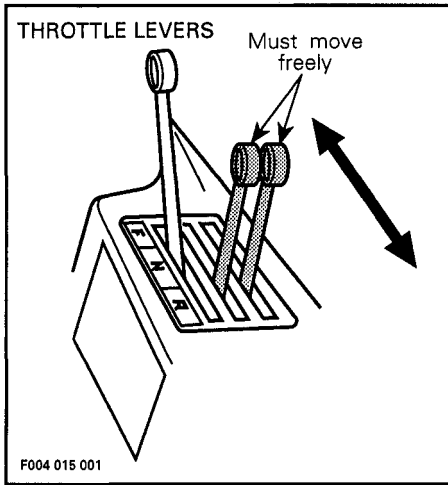
② These items have to be initially checked after 25 hours. Thereafter, servicing to be made as specified in this chart.

③ Daily flushing in salt water or foul water use.

Throttle and Choke Cable

Throttle Cables

Move the throttle levers forward and rearward several times. They must operate smoothly. Refer to an authorized dealer if adjustment is necessary.



Choke Cable

Ensure choke cables operate smoothly and without any hesitation from fully open to fully close. When the choke lever is fully pulled, choke must be fully applied. Refer to an authorized dealer if necessary.

Carburetor

Carburetor adjustment is very important to allow good engine operation and therefore jet boat performance. Carburetor adjustment requires technical knowledge and experience to have the correct mixture supplied to the engine. These critical adjustments must be performed by an authorized dealer once a year or more often if necessary.

▼ **CAUTION:** Serious engine damage can occur with improper carburetor adjustment.

Fuel and Oil Filters

These filters must be replaced by an authorized dealer annually. Fuel system pressurization should be conducted at the same time.

▼ **CAUTION:** An obstructed oil filter will cause oil starvation resulting in serious engine damage.

Steering / Jet Pump Nozzle Adjustment

When the steering is aimed in straight ahead position, the jet pump nozzle should be in the same direction to allow the jet boat running in straight line.

Refer to an authorized dealer if an adjustment is necessary.

◆ **WARNING:** Ensure the steering / jet pump nozzle operate freely from side to side and are not stressing the steering cables. Steering system should be inspected every 50 hours by an authorized dealer.

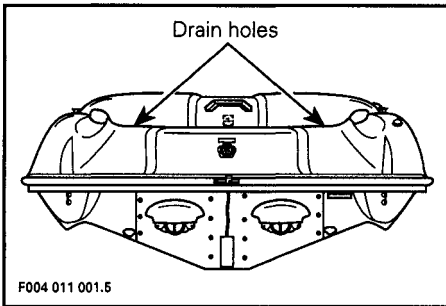
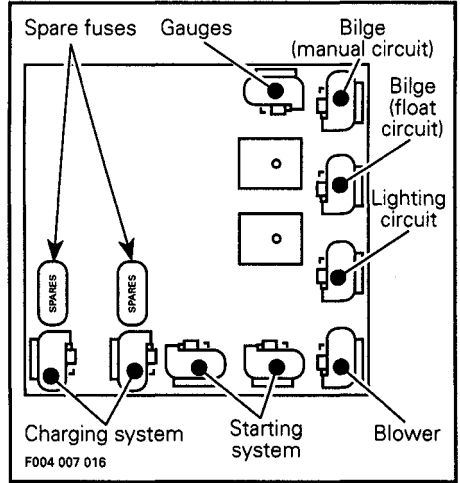
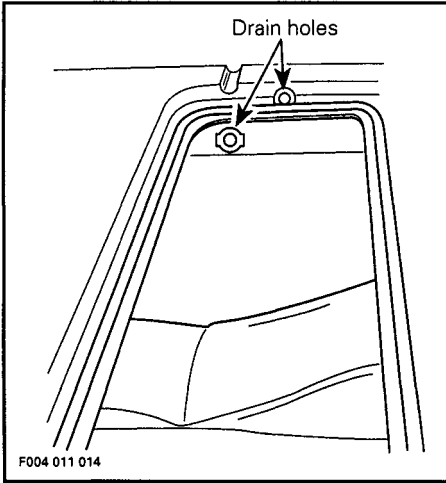
Reverse Gate

When shift lever is in forward position, reverse gate should be in an upward position. With the shift lever in neutral position, reverse gate should be in intermediate position. When shift lever is in reverse position, reverse gate should be in downward position. Refer to an authorized dealer if adjustment is necessary.

◆ **WARNING:** Ensure the shifter / reverse gate operate freely and are not stressing the reverse cables.

Drain Holes

Remove any obstruction at drain outlets of deck, bilge and rear storage compartment cover.



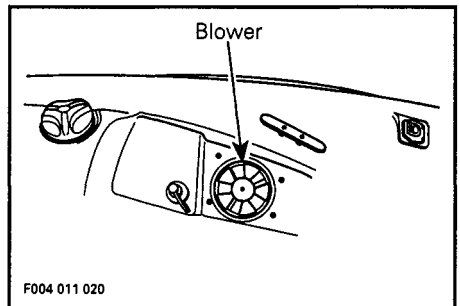
Replace the fuse by one of the same rating. Make sure to properly close the fuse cap.

CAUTION : Do not use a higher rated fuse as this can cause severe damage. Refer to SPECIFICATIONS section for recommended fuse rating.

Properly close electrical box making sure its seal is well positioned.

Air Blower

Verify air blower for proper operation. It is located in RH side ventilation duct.



WARNING : If air blower does not operate properly, immediately refer to an authorized dealer before operating the jet boat.

Fuses

Electrical system is protected with 9 fuses.

Two fuses protect the starting system. If starter does not operate, check fuses.

Two fuses protect the charging system. If a battery is regularly discharged, check fuses.

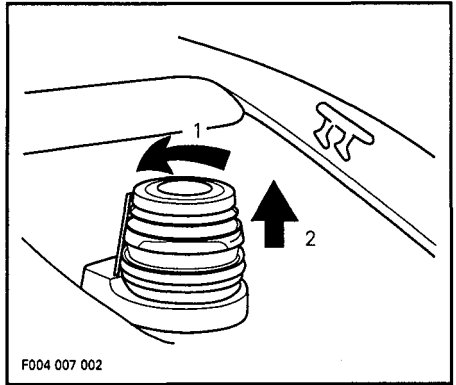
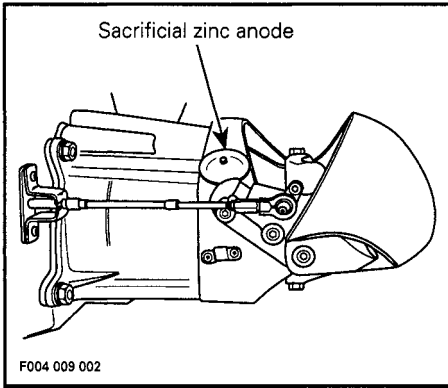
Also, lighting system, bilge pump (auto and manual modes) and bilge blower are protected with fuses.

The fuse caps are in the electrical box.

To access fuse caps, remove cover of electrical box.

Sacrificial Zinc Anodes

Replace them as necessary.

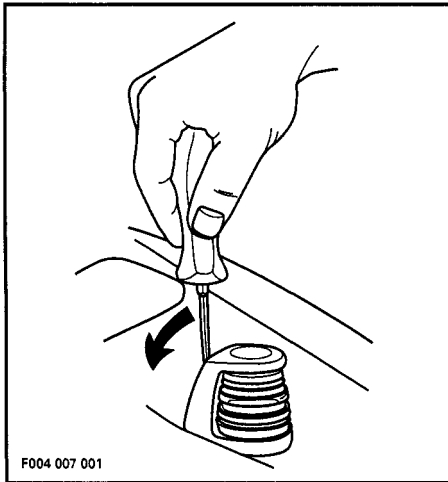


Push and turn bulb counterclockwise to remove it.

Light Bulb Replacement

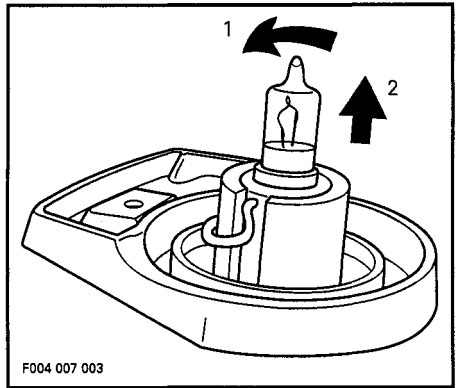
Bow Light

Remove screw.



Pull out cover.

Turn lens counterclockwise and pull it out.



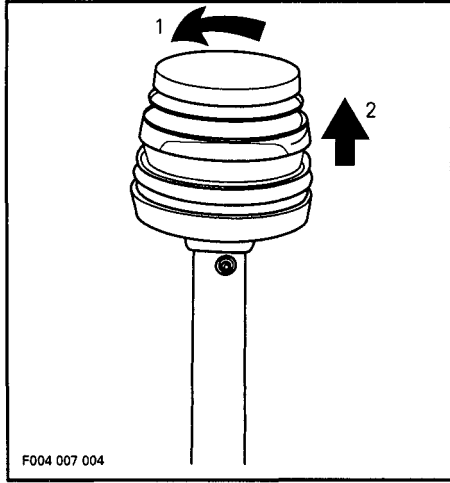
The assembly is essentially the reverse of removal procedures. However, pay particular attention to the following :

Apply dielectric grease on bulb contact surface.

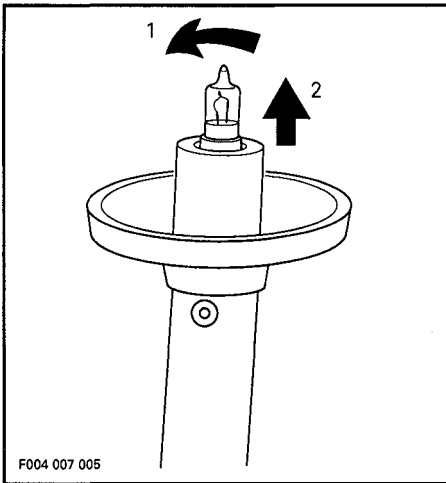
Properly position lens : green on starboard side, red on port side.

Stern Light

Turn lens a quarter turn counterclockwise and pull it out.



Push and turn bulb counterclockwise to remove it.



Apply dielectric grease on new bulb contact surface.

The assembly is essentially the reverse of removal procedure.

General Inspection and Cleaning

Inspection

Check engine compartment for any damage and fuel / oil injection systems for leaks. Also check battery vent tube for electrolyte leaks. Ensure all hose clamps are properly secured and no hose is cracked, kinked or presenting any other damage.

◆ **WARNING** : If any gasoline leaks / odors are found, do not start the engine. Have the boat serviced by an authorized dealer.

Inspect mufflers, batteries and reservoir fastening devices. Check electrical connections for corrosion and tightness.

Inspect hull and jet pump water intake grill for damage. Replace or have damaged parts repaired. It is recommended that an authorized dealer annually inspect the hull.

Cleaning

Twice a year, the bilge should be cleaned with hot water and detergent or bilge cleaner to remove any possible fuel / oil / electrolyte deposits and mildew.

Occasionally, wash the body with hot water and soap (only use mild detergent). Remove any marine organisms from engine and /or hull. Apply non-abrasive wax.

▼ **CAUTION** : Never clean apparent fiberglass and plastic parts with strong detergent, degreasing agent, paint thinner, acetone, etc.

Respect the environment by ensuring fuel, oil or cleaning solutions do not drain into the waterways.

TRANSPORTATION, STORAGE AND PRE-SEASON PREPARATION

Transportation

If the jet boat is bought with trailer from your Bombardier dealer, refer to the Trailer Owner's Guide for proper capacity, operation, maintenance accessories and warranty. However, pay particular attention to the following.

◆ **WARNING** : Always turn the fuel valves to OFF position when transporting the jet boat.

Remove stern light (if installed).

Ensure rear storage compartment is properly latched.

A SEA-DOO cover should protect the jet boat, particularly before driving on dirt roads.

Observe trailering safety precautions.

Storage

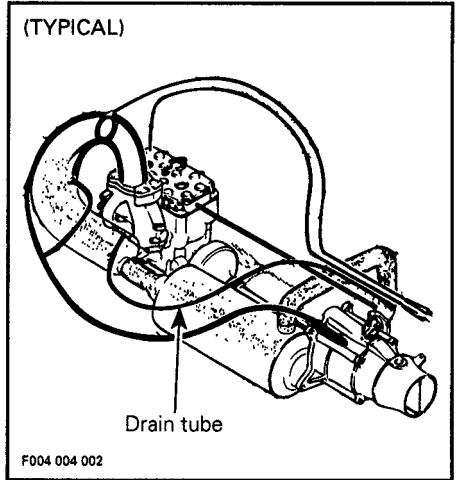
It is recommended that the jet boat be taken to an authorized dealer for proper storage but the following operations can be performed by you with a minimum of tools.

▼ **CAUTION** : Do not run the engines during the storage period.

Engine Draining

Check engine drain tubes running from exhaust manifold fitting to exhaust outlet socket. Make sure there is no sand or other particles in it and that it is not obstructed so that water can leave the engines. Clean tubes and fittings (on exhaust outlets) as necessary.

▼ **CAUTION** : Water in engine drain tubes must be free to flow out, otherwise water could be trapped in engines. Should water freeze in engines, severe damage will occur. Check engine drain tubes for obstructions.



Boat Rinsing

Thoroughly rinse the boat hull, bilge, engine compartment, with fresh water.

Unscrew drain plugs for the winter.

Propulsion System

Lubricant in impeller shaft reservoir should be drained and reservoir cleaned. Refilled with 65 mL (2.2 oz) of SEA-DOO synthetic polyolester oil 75W90 GL5 type C gear lube. Refer to an authorized dealer for this operation.

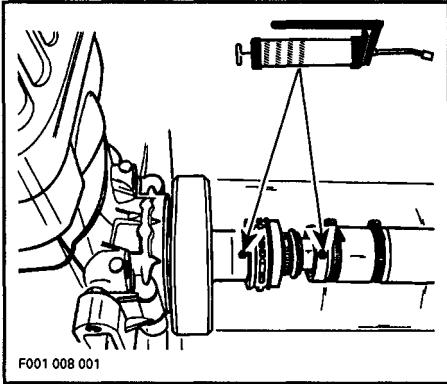
▼ **CAUTION** : Use only SEA-DOO jet pump oil or equivalent synthetic gear oil, otherwise component service life could be reduced. Do not mix oil brands or types.

Lubricate PTO flywheels at grease fittings with synthetic grease.

▼ **CAUTION** : Do not lubricate excessively. Immediately stop when a slight movement is noticed on rubber boots.

Lubricate seal carriers at grease fittings until grease is just coming out.

▼ **CAUTION** : As soon as grease comes out the seals, immediately stop lubricating to prevent seal damage and overheating.



Fuel System

SEA-DOO fuel stabilizer (or equivalent), can be added in fuel tank to prevent fuel deterioration and carburetor gumming. Follow manufacturer's instructions for proper use.

▼ **CAUTION** : Fuel stabilizer should be added prior engine lubrication to ensure carburetor protection against varnish deposit.

◆ **WARNING** : Fuel is flammable and explosive under certain conditions. Always work in a well ventilated area. Do not smoke or allow open flames or sparks in the vicinity. Always wipe off any fuel spillage from the jet boat. Always turn the fuel valves to OFF position when storing the jet boat.

Cooling System Flushing and Engine Internal Lubrication

Refer to procedure discussed in POST-OPERATION CARE.

Batteries

Contact your authorized dealer or refer to the appropriate *Shop Manual* for proper storage procedure.

Anticorrosion Treatment

Wipe off any residual water in the engine compartment.

Spray SEA-DOO LUBE over metallic components in engine compartment.

Additional Recommended Protection

Cooling system may be filled with an equal part of water and antifreeze solution.

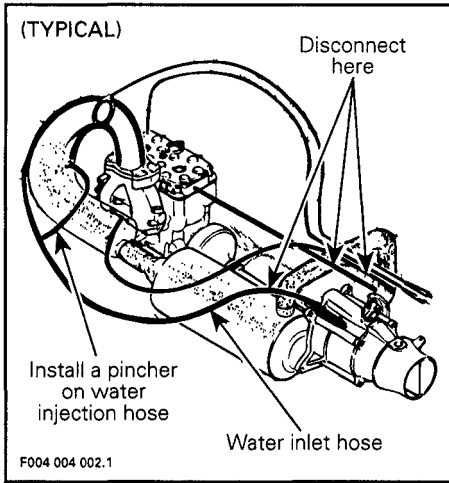
▼ **CAUTION** : Always use ethylene glycol antifreeze containing corrosion inhibitors specifically recommended for aluminum engines.

○ **NOTE** : The engines will not have to run during this operation.

Three hoses have to be disconnected to allow air to escape and antifreeze solution to completely fill cooling system water jackets.

Install a hose pincher on water injection hose.

Disconnect water inlet hose, drain hose and water outlet hose.

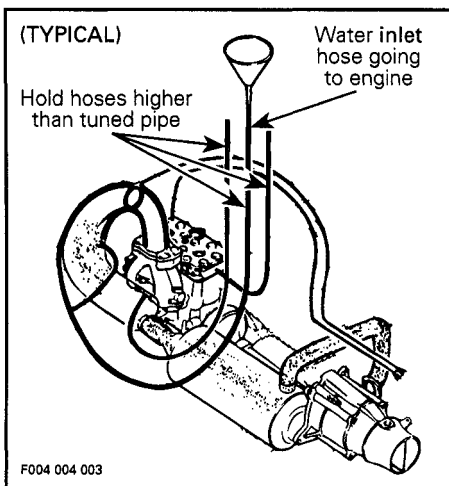


Raise all hoses above the highest point of tuned pipe and temporarily tie them together.

Insert a funnel into inlet hose going to the water inlet socket at tuned pipe. Pour about 2 liters (1/2 gal) of antifreeze solution through the funnel.

Tie up all hoses higher than tuned pipe.

○ **NOTE** : If hoses are not attached higher than tuned pipe, coolant will drain out.



Repeat the same procedure for the other engine.

The following steps should be performed to provide the jet boat enhanced protection.

Remove mufflers and drain out as much water as possible. Reinstall mufflers.

OR : Disconnect one hose from mufflers and pour some antifreeze liquid inside mufflers. Reconnect hoses.

Lubricate the throttle cables with SEA-DOO LUBE lubricant.

Clean the bilge with hot water and detergent or with bilge cleaner. Rinse thoroughly. Lift front end of jet boat to completely drain bilge. If any repairs are needed to body or to the hull contact your dealer. For paint touch up to mechanical parts use Bombardier spray paint. For small gelcoat repairs, a Bombardier repair kit is available. See **Accessories and Service Products** section. Replace damaged labels / decals.

○ **NOTE** : Bilge cleaning should be done prior to anticorrosion treatment.

Wash the body with soap and water solution (only use mild detergent). Rinse thoroughly with fresh water. Remove any marine organisms from the hull. Apply a nonabrasive wax.

▼ **CAUTION** : Never clean apparent fiberglass and plastic parts with strong detergent, degreasing agent, paint thinner, acetone, etc.

If the jet boat is to be stored outside, cover it with an opaque tarpaulin to prevent sun rays and grime from affecting the plastic components, jet boat finish as well as preventing dust accumulation.

▼ **CAUTION** : Never leave the jet boat stored in direct sunlight. UV radiation will dull finishes. The jet boat must never be left in water for storage. Make sure to turn off bilge pump and blower.

The engine storage cover should be partially left opened during storage. Remove storage tray. Place it on deck. This will avoid engine compartment condensation and possible corrosion.


Pre-Season Preparation

Use the following chart.

Since technical skills and special tools are required, some operations should be performed by an authorized dealer.

◆ **WARNING** : Observe **WARNINGS** and **CAUTIONS** mentioned throughout this guide which are pertinent to the item being checked. When component conditions seem less than satisfactory, replace with genuine **BOMBARDIER** parts or approved equivalents.


Pre-Season Preparation Chart

 **NOTE :** It is highly recommended that the dealer perform at the same time the annual safety inspection in addition to the pre-season preparation.

OPERATIONS	To be performed by
Lubrication / corrosion protection	OPERATOR
Battery condition / charging and reinstallation	DEALER
Starter connections and routing ②	DEALER
Spark plug replacement ①	OPERATOR
Impeller shaft reservoir oil inspection	DEALER
Propulsion system inspection	DEALER
Oil filter replacement	DEALER
Oil injection reservoir filling	OPERATOR
Flame arrester cleaning / inspection ②	DEALER
Fuel filter replacement	DEALER
Fuel line condition ②	DEALER
Filler neck, fuel tank and fuel cap condition ②	DEALER
Check valves, fasteners, fuel system pressurization ②	DEALER
Choke cable inspection / adjustment	DEALER
Oil injection pump adjustment and bleeding	DEALER
Engine ignition timing	DEALER
Carburetor adjustment	DEALER
Steering system inspection ②	DEALER
Throttle / shifter system inspection ②	DEALER
Inspection of drain holes / bilge pump / drain plugs	DEALER
Inspection of cooling system inlet / outlet hoses ②, engine overheating beeper	DEALER
Fire extinguisher condition / mounting ②	OPERATOR

① Before installing new spark plugs, it is suggested to burn the excess SEA-DOO LUBE lubricant by starting the engine using the old spark plugs.

② Safety item covered in the annual safety inspection.

 **WARNING :** Only perform this operation in a well ventilated area. Coupler hose must be installed or boat must be in water to cool engine. Running the engine without cooling water will damage exhaust hose interior and may damage engine.

TROUBLESHOOTING

The following chart is provided to help in diagnosing the probable source of simple troubles. You may be able to solve many of these problems rather quickly, but others may require the skills of a mechanical technician. In such a case, consult an authorized dealer for servicing.

Monitoring Beeper Coded Signals

CODED SIGNALS	POSSIBLE CAUSE	REMEDY
4 short beeps 1 long beep	<ul style="list-style-type: none"> • Shifter not in neutral. • Bad connection 	Place shifter in neutral. Reinstall safety lanyard cap correctly over switch.
8 short beeps	<ul style="list-style-type: none"> • Uncoded safety lanyard • Safety lanyard 	Use only coded safety lanyard. Use another coded safety lanyard or refer to an authorized dealer.
Continuously beeps	<ul style="list-style-type: none"> • Micro-processor. 	Refer to an authorized dealer.
	<ul style="list-style-type: none"> • Engine overheat 	Refer to Engine Overheats below

ENGINE WILL NOT START

OTHER OBSERVATION	POSSIBLE CAUSE	REMEDY
Engine does not turn over and the monitoring beeper sounds	<ul style="list-style-type: none"> • Refer to monitoring beeper coded signals above. 	
Engine does not turn over	<ul style="list-style-type: none"> • Safety lanyard removed • Burnt fuse • Discharged batteries • Battery connections, corroded or loose • Water flooded engine 	Install cap over switch. Check wiring then replace fuse. Refer to an authorized dealer. Refer to an authorized dealer. Refer to Submerged Jet Boat in SPECIAL PROCEDURES.
Engine slowly turns	<ul style="list-style-type: none"> • Discharged or weak batteries 	Refer to an authorized dealer.
Engine turns over	<ul style="list-style-type: none"> • Fuel tank empty or water-contaminated • Fuel filter clogged or water-contaminated • Fuel flooded engine : – Fouled spark plugs – Misuse of choke 	Refill. Syphon and fill with fresh fuel. Clean, check fuel tank for water. Replace. Use only with cold engine. Replace spark plugs.

ENGINE MISFIRES, RUNS IRREGULARLY

OTHER OBSERVATION	POSSIBLE CAUSE	REMEDY
Weak spark	<ul style="list-style-type: none"> • Fouled worn spark plugs • Faulty RPM limiter • Too much oil supplied to engine 	Replace. Refer to an authorized dealer. Improper oil pump adjustment, refer to an authorized dealer.
Lean fuel mixture	<ul style="list-style-type: none"> • Fuel : Level too low, stale or water-contaminated • Fuel filter, clogged or water-contaminated 	Syphon and / or refill. Refer to an authorized dealer.
Rich fuel mixture (high fuel consumption)	<ul style="list-style-type: none"> • Flame arrester dirty / clogged • Partially closed choke 	Clean or replace. Refer to an authorized dealer.

ENGINE OVERHEATS

OTHER OBSERVATION	POSSIBLE CAUSE	REMEDY
Monitoring beeper continuously sounds	<ul style="list-style-type: none">• Clogged jet pump water intake• Incorrect type of fuel or oil• Clogged coolant system	Clean. Syphon and refill. Flush cooling system with coupler hose.

ENGINE CONTINUALLY BACKFIRES

OTHER OBSERVATION	POSSIBLE CAUSE	REMEDY
	<ul style="list-style-type: none">• Faulty rev limiter	Refer to an authorized dealer.
Weak spark	<ul style="list-style-type: none">• Fouled worn spark plugs	Replace.
Overheated engine	<ul style="list-style-type: none">• See ENGINE OVERHEATS	

ENGINE PINGING OR KNOCKING

OTHER OBSERVATION	POSSIBLE CAUSE	REMEDY
	<ul style="list-style-type: none">• Poor quality gasoline / low octane• Spark plug heat range too high	Use well known quality and recommended gasoline. Use recommended spark plugs.

ENGINE LACKS ACCELERATION OR POWER

OTHER OBSERVATION	POSSIBLE CAUSE	REMEDY
	<ul style="list-style-type: none">• Weak spark / incorrect fuel mixture• Water in fuel or injection oil	Refer to ENGINE MISFIRES... Syphon and replace.
Overheated engine	<ul style="list-style-type: none">• See ENGINE OVERHEATS	

JET BOAT CAN NOT REACH TOP SPEED

OTHER OBSERVATION	POSSIBLE CAUSE	REMEDY
	<ul style="list-style-type: none">• Jet pump water intake clogged• Damaged impeller(s)	Clean. Replace. Refer to an authorized dealer.

ABNORMAL NOISE FROM PROPULSION SYSTEM

OTHER OBSERVATION	POSSIBLE CAUSE	REMEDY
	<ul style="list-style-type: none">• Weeds or debris jammed around impeller(s)• Damaged impeller shaft(s) or drive shaft(s)	Clean and check for damage. Refer to an authorized dealer.

SPECIFICATIONS

ENGINE		SPEEDSTER (5890)
Number of engine		2
Engine type		Bombardier-Rotax 657 X, 2-stroke
Induction type		Rotary valve
Exhaust system		Water cooled / water injected
Lubrication	Type	Oil injection
	Oil type	BOMBARDIER ROTAX INJECTION OIL
Number of cylinders		2
Displacement		650 cm ³ (39.66 in ³)
Rev limiter setting		7000 RPM (+ 100 - 50)
COOLING		
Type		Water cooled, total loss type. Direct flow from propulsion unit.
Overheating beeper, switch on @		96-99°C (205-210°F)
ELECTRICAL		
Magneto generator output		160 W @ 6000 RPM
Ignition system type		Capacitor discharge ignition (breakerless)
Spark plug	Make and type	NGK, BR8ES (resistor type)
	Gap	0.5 - 0.6 mm (.020 - .024 in)
Starting system		Electric starter
Batteries		12 V, 19 A (2)
Fuses	Charging system	15 A (2)
	Starting system	5 A (2)
	Blower	5 A
	Bilge pump (manual)	3 A
	Bilge pump (automatic)	3 A
	Lighting system	7.5 A
	Gauges	7.5 A
CARBURETION		
Fuel type		Regular unleaded gasoline
Carburetor		Diaphragm type, quantity : 2

PROPULSION		SPEEDSTER (5890)	
Propulsion system		Bombardier Formula Jet Pump	
Number of jet pump		2	
Jet pump type		Axial flow, single stage	
Transmission		Direct drive	
Impeller shaft reservoir, oil type		SEA-DOO synthetic polyolester 75W90 gear oil	
Pivoting angle of direction (nozzle)		~26°	
Minimum required water level for jet pumps		90 cm	(3 ft)
DIMENSIONS			
Number of passengers ①		1 operator and 3 passengers	
Overall length		445 cm	(174 in)
Beam		216 cm	(85 in)
Draft		31 cm	(12 in)
Dead rise		51 cm	(20 in)
Overall height		107 cm	(42 in)
Weight (dry)		544 kg	(1200 lb)
Load limit (passengers + luggage)		295 kg	(650 lb)
Hull Material		Composite	(Fiberglass)
CAPACITIES			
Fuel tank		105 L	(27 U.S. gal)
Impeller shaft reservoir	Capacity	65 mL	(2.2 U.S. oz)
	Oil level	Up to plug	
Oil injection reservoir		7.5 L	(2 U.S. gal)

① Refer to load limits.

BOMBARDIER INC. reserves the right to make changes in design and specifications and / or to make additions to, or improvements in its products without imposing any obligation upon itself to install them on its products previously manufactured.

SI* METRIC INFORMATION GUIDE

BASE UNITS			
DESCRIPTION	UNIT	SYMBOL	
length	meter	m	
mass	kilogram	kg	
force	newton	N	
liquid	liter	L	
temperature	Celsius	°C	
pressure	kilopascal	kPa	
torque	newton-meter	N•m	
land velocity	kilometer per hour	km / h	
navigation velocity	knot	kn	
PREFIXES			
PREFIX	SYMBOL	MEANING	VALUE
kilo	k	one thousand	1000
centi	c	one hundredth of	0.01
milli	m	one thousandth of	0.001
micro	μ	one millionth of	0.000001
CONVERSION FACTORS			
TO CONVERT	TO ^o	MULTIPLY BY	
in	mm	25.4	
in	cm	2.54	
in ²	cm ²	6.45	
in ³	cm ³	16.39	
ft	m	0.3	
oz	g	28.35	
lb	kg	0.45	
lbf	N	4.4	
lbf•in	N•m	0.11	
lbf•ft	N•m	1.36	
lbf•ft	lbf•in	12	
PSI	kPa	6.89	
imp. oz	U.S. oz	0.96	
imp. oz	mL	28.41	
imp. gal	U.S. gal	1.2	
imp. gal	L	4.55	
U.S. oz	mL	29.57	
U.S. gal	L	3.79	
knot	MPH	1.15	
MPH	km / h	1.61	
Fahrenheit	Celsius	(°F - 32) ÷ 1.8	
Celsius	Fahrenheit	(°C x 1.8) + 32	
hp	kW	.75	


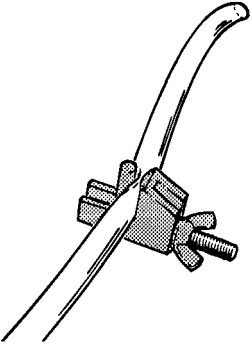
* The international system of units abbreviates SI in all languages.

① To obtain the reverse sequence, divide by the given factor. To convert "millimeters" to "inches", divide by 25.4.

○ NOTE : Conversion factors are rounded off to two decimals for easier use.

ACCESSORIES AND SERVICE PRODUCTS

These accessories and other fine Sea-Doo products are available at your dealer.

ACCESSORIES
Coupler Hose (flushing) P / N 295 500 099

F001 004 035
Hose Pincher P / N 295 000 076

A001 001 091

ACCESSORIES
Extinguisher P / N 298 770 000 (US) P / N 298 777 000 (CAN)

F001 001 023
Sea-Doo Cover SPEEDSTER P / N 298 354 040
First Aid Kit P / N 298 296 001 Survival Kit P / N 298 295 040
Lift Kit P / N 295 000 120

PRODUCTS

Synthetic Grease
P / N 293 550 010



F001 001 041

Jet Pump Synthetic Oil
P / N 293 600 011



F001 001 025

Spray Paint for METALLIC Parts Only
Mauve P / N 293 500 020
White P / N 293 500 029



F001 001 026

Dielectric Grease
P / N 293 550 004



F001 001 042

PRODUCTS

Anti-seize Lubricant
P / N 293 800 023



F001 001 043

Sea-Doo Lube
P / N 293 600 006



F001 001 028

Gelcoat® (White)
P / N 295 500 075

Gelcoat Spray Paint (White)
P / N 293 500 076

PRODUCTS

Injection Oil

1 liter P / N 293 600 005

4 liters P / N 293 600 004



F001 001 044

Pipe Sealant

P / N 293 800 018



A000 001 104

Fuel Stabilizer

P / N 413 408 600



A000 001 139

CHANGE OF ADDRESS _____

If your address has changed, be sure to fill out and mail the card provided on next page.

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

NOTE : This card is strictly for change of address.

CHANGE OF ADDRESS

CHANGE OF ADDRESS

JET BOAT
IDENTIFICATION NUMBER

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Model Number

Hull Identification Number (H.I.N.)

OLD ADDRESS :

NAME

NO

STREET

APT

CITY

STATE / PROVINCE

ZIP / POSTAL CODE

NEW ADDRESS :

NAME

NO

STREET

APT

CITY

STATE / PROVINCE

ZIP / POSTAL CODE



STAMP

BOMBARDIER INC.
SEA-DOO WARRANTY
VALCOURT, QUEBEC
CANADA J0E 2L0



P219000021 CA2001