ROTAX®

ROTAX ACE 60 ECT AND 90 ECT

OPERATOR'S GUIDE

Includes Safety, Use and Maintenance Information

2027

⚠ WARNING

Read this guide thoroughly. It contains important safety information.
Minimum recommended operators age: 16 years old.
Keep this operator's guide with the watercraft at all times.

219002653

Original Instructions

CALIFORNIA PROPOSITION 65 WARNING

⚠ WARNING

Operating, servicing and maintaining a recreational marine vessel can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, service your vessel in a well-ventilated area and wear gloves or wash your hands frequently when servicing this vessel. For more information go to: www.p65warnings.ca.gov/marine

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BOSSWeb™ ROTAX® XPS® iNR™

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INTRODUCTION

Congratulations on your purchase of a new Rotax® Power Pack! It is backed by the BRP warranty and a network of authorized Rotax Jet Propulsion Systems dealers ready to provide the parts, service, or accessories you may require.

Your dealer is committed to your satisfaction. He or she has taken specialized training to perform the initial setup and inspection of your engine, and has completed the final adjustments before you took possession. If you need more complete servicing information, please ask your dealer.

About this Operator's Guide

This operator's guide has been prepared to acquaint the owner, operator, or passenger with this boat and its various controls, maintenance and safe riding instructions.

Keep this operator's guide in the boat at all times as a reference for operation, instructing others, maintenance, and troubleshooting. When available in multiple languages, in the event of any discrepancy, the English version shall prevail. To view and/or print an extra copy of your operator's guide, please visit *WWW.OPERATORSGUIDES.BRP.COM*.

The information contained in this document is correct at the time of publication. However, Bombardier Recreational Products Inc. maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, some differences between the manufactured product and the descriptions and / or specifications in this guide may occur. Bombardier Recreational Products Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring any obligation upon itself.

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SAFETY NOTICE

This Operator's Guide emphasizes particular safety information using the following wording and symbols

The safety alert symbol ⚠ indicates a potential injury hazard.

⚠ DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate personal injury.

NOTICE

Indicates an instruction which, if not followed, could severely damage engine components or other property.

IMPORTANT: Identifies information required to correctly perform a procedure or operation.

ENVIRONMENTAL NOTE

A note which provides tips and behaviors related to protecting the environment.

Know Before You Go

To reduce the risk for you or other persons being injured or killed, read this Guide completely, including the complete Safety While Boating section later in this guide:

Anyone else operating your boat should also read and understand this guide before taking control.

Read and understand all safety labels on the engine.

Important Safety Precautions

⚠ DANGER

Risk of death or serious injury. Engine exhaust contains carbon monoxide (CO)which, if inhaled, can cause serious brain damage or death.

- **Educate all occupants about the risks and symptoms of CO accumulation and CO poisoning.**
- **For more information, refer to the Safety Information section later in this guide.**

⚠ WARNING

Avoid personal injury! Do not allow anyone near the jet pump or intake grate, even when the engine is off. Items such as long hair, loose clothing or personal flotation device straps can become entangled in moving parts resulting in serious injury or drowning. In shallow water, shells, sand, pebbles or other objects could be drawn up by the jet pump and be thrown rearward.

⚠ WARNING

Risk of death or serious injury. Gasoline vapors can explode, resulting in injury or death.

- **Always adhere to the fueling procedure contained in this Operator's Guide.**
- **If at any time, gasoline leaks/ odors are found, do not start the engine.**

⚠ WARNING

For your safety and the safety of others, follow all safety warnings and recommendations. Do not disregard any of the safety precautions and instructions. Anyone operating your boat should first read and understand this guide before they operate your boat.

Reminders Regarding Operation

Engine exhaust contains carbon monoxide (CO), which can cause injury or death if inhaled in sufficient quantities. Educate all occupants about the risks and symptoms of CO accumulation and CO poisoning. For more information, refer to CARBON MONOXIDE AND BOATING section.

Gasoline vapors can explode, resulting in injury or death. Always use blower as per the boat manufacturer's recommendation before starting engine, then turn it OFF above idle speed. Use of the bilge blower should never replace “smelling” for gasoline vapor odors.

If at any time, gasoline leaks/odors are found, do not start the engine. Have the boat serviced by an authorized *Rotax*® Inboard Jet Propulsion systems dealer.

Always keep in mind that as the throttle lever is returned to the idle position, less directional control is available. To turn the boat, both steering and throttle are necessary.

This boat has no brake. Stopping distance will vary depending on initial speed, load, wind, and water conditions. Practice stopping and docking in a safe, traffic-free area to have an idea of how long it will take to stop the boat under varying conditions. Do not release the throttle when trying to

steer away from objects. You need throttle to steer. Do not use the boat's reverse to stop.

Do not start or operate the boat if any person is not properly seated in a seat intended for use when underway (refer to boat labels) or if a person is nearby in the water.

The boat's jet thrust can cause injury. Always accelerate slowly, and decelerate in a controlled fashion.

Observe the instructions on all safety labels. They are there to help assure that you have a safe and enjoyable outing.

Riding with passenger (s) or pulling other boats, tubes, a skier or a wake boarder makes the boat handle differently and requires greater skills.

In shallow water, proceed with caution and at very low speeds. Grounding or abrupt stops may result in injury to you, your passengers or others. The jet pump may pick up debris and throw it rearward causing a risk of injuring people or damaging the jet pump or other property.

Combustion engines need air to operate; consequently this boat can not be totally water-tight. Any maneuvers such as figure eights that cause the upper deck to be under water may cause severe engine problems due to water ingestion. Refer to the **SPECIAL PROCEDURES** and **WARRANTY** sections contained in this Operators Guide.

Respect no wake zones, the rights of other water users and the environment. As the “skipper” and owner of a boat, you are responsible for damage to other boats caused by the wake of your boat. Do not let anyone throw refuse overboard.

Between sunset and sunrise, use the boat's navigation lights and reduce speed. Do not operate the boat in reduced visibility.

Do not add accessories or equipment that may adversely affect visibility or alter control of the boat.

The skipper should personally take the helm during storms.

SAFETY INFORMATION

SPECIAL SAFETY MESSAGES

CARBON MONOXIDE AND BOATING

Burning a material containing carbon produces carbon monoxide (CO), an odorless and colorless gas. Because CO has a similar density as air, it can spread throughout an enclosed space unnoticed because you cannot see it or smell it. Any device used to burn carbon-based materials on a boat can be a source of CO. Common sources of CO include internal combustion engines.

CO reacts with the blood to reduce the ability of the blood to carry oxygen. The reduced oxygen supply to body tissues results in death of the tissue. Prolonged exposure can cause brain damage or death. In high concentrations, CO can be fatal within minutes. The effects of CO in lower concentrations are cumulative and can be just as lethal over long periods of time.

Symptoms of CO poisoning include: Itchy and watering eyes, flushed appearance, throbbing temples, inability to think coherently, ringing in the ears, tightness across the chest, head-aches, drowsiness, nausea, dizziness, fatigue, vomiting, collapse, and convulsions. If any of these symptoms are evident, begin treatment immediately. Prompt action can make the difference between life and death.

Evacuate the area and move the victim to fresh air.

Administer oxygen if available and get medical help.

Open all canvas enclosures to ventilate the area.

Investigate the source of CO and take immediate corrective action.

Be especially aware of other CO sources which may be near boat.

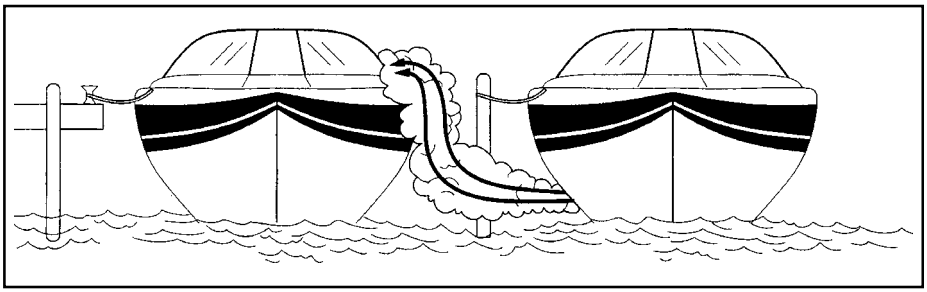
CARBON MONOXIDE ACCUMULATION

Following are examples of possible situations where CO may accumulate within your boat while docked, anchored, or underway. Become familiar with these examples and their precautions to prevent personal injury or death.

⚠ WARNING

Exhaust fumes! Generator or hull exhaust from other vessels while either docked or anchored can emit poisonous CO gas and cause excessive accumulation within cabin and cockpit areas. Be alert for generator exhaust from your vessel or other vessels alongside. Exhaust outlets near a pier, dock, seawall or outlets blocked by any other means can cause excessive accumulation of poisonous CO gas within cockpit area.

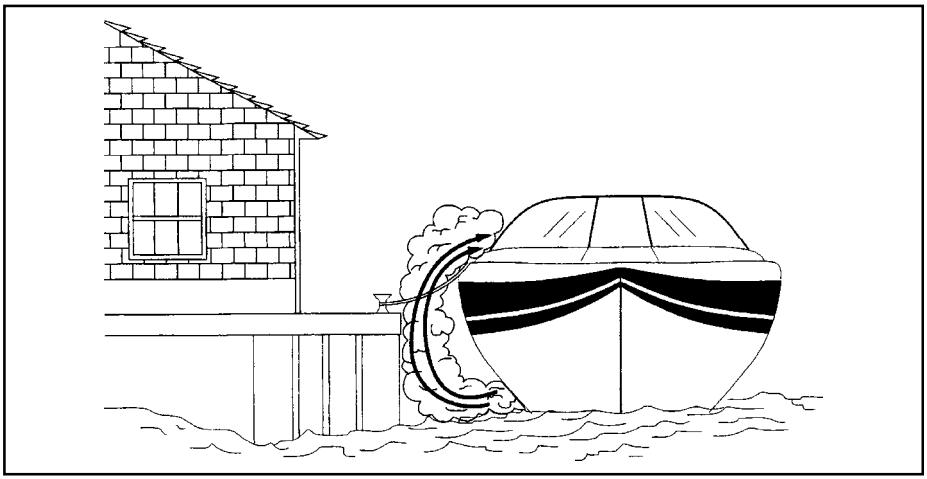
CARBON MONOXIDE ACCUMULATION



⚠ WARNING

Engine exhaust fumes contain carbon monoxide (CO) which can accumulate in and around the boat (under bimini top, in cockpit, etc.). CO can be harmful or fatal if inhaled. Assure there is adequate ventilation whenever running engine(s).

Boat houses, seawalls, and other boats in close proximity or confined areas can contribute to increased CO levels. Operators must be aware that operation, mooring, and anchoring in an area with other boats puts them in jeopardy of CO accumulation from other sources. Likewise, a boat operator must be aware of how exhaust from his boat will affect others. Operation of the engines while moored may cause CO accumulation in your boat and those around you.



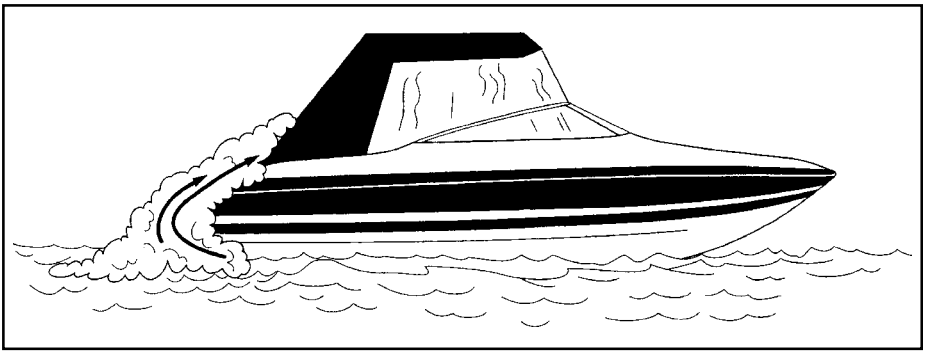
CARBON MONOXIDE ACCUMULATION

Be sure to provide adequate ventilation. If the windshield has vents, open them before getting underway to increase positive air flow and decrease the chances of CO accumulation.

⚠ WARNING

Backdrafting! Under certain conditions, moving air currents can direct poisonous CO fumes into boat. These fumes can accumulate to dangerous levels without proper air-flow. Provide adequate ventilation, redistribute the load or bring boat out of high bow angle.

While underway, CO concentrations can increase by backdrafting or “the station wagon effect”. Backdrafting is caused by factors such as relative wind direction, speed, or the bow being too high. To prevent this, open canvas whenever possible to provide positive airflow through the hull.



Even with the best boat design and construction, CO may still accumulate in enclosed or confined areas under certain conditions. Continually observe passengers for symptoms of CO poisoning.

CO DETECTOR

It is strongly recommended that you have CO detectors installed in boats with canvas enclosures. Monitors are available from your dealer. Monitors should be professionally installed and calibrated.

A CO detector is not a gas fuel vapor detector. Gas fuel vapor detectors do not monitor the buildup of CO in an enclosed area.

DO NOT Operate your Boat Without Performing the Following Checklist:

OPERATION	SIGN
Make sure you and your passengers know where exhaust outlets are located on the vessel.	
Educate all passengers about the symptoms of CO poisoning and where CO may accumulate.	
When docked or rafting with another boat, be aware of exhaust emissions from the other boat.	
Listen for any change in exhaust sound, which could indicate an exhaust component failure.	
Test the operation of each CO alarm by pressing the test button (if applicable).	

Safe Boating Practices

YOU are responsible for your own safety, the safety of your passengers, and the safety of fellow boaters.

DRUGS AND ALCOHOL

Do not use drugs or drink alcohol while operating a boat. Like driving a car, driving a boat requires sober, attentive care. Operating a boat while intoxicated or under the influence of drugs is not only dangerous, but it is also a Federal offense carrying a significant penalty. These laws are vigorously enforced. The use of drugs and alcohol, singly or in combination, decreases reaction time, impedes judgment, impairs vision, and inhibits your ability to safely operate a boat.

⚠ WARNING

Alcohol consumption and boating are a deadly combination! Operating under the influence endangers the lives of your passengers and other boaters. Federal laws prohibit operating a boat under the influence of alcohol or drugs.

SAFE OPERATION

For safety reasons and proper care, always perform daily PRE-RIDE INSPECTION as specified in your Operators Guide before operating your boat. Safe operation means that you do not misuse your boat nor do you allow your passengers to do so. Safe operation means using good judgment at all times. It includes, without limitation, the following actions:

Load the boat within the limits listed on the capacity plate. Balance loads bow to stern and port to starboard.

Maintain boat speed at or below the local legal limit. Avoid excessive speed or speeds not appropriate for operating conditions.

Do not use the boat in weather or waterway conditions beyond the skill or experience of the operator or the capability of the boat and comfort of passengers.

Be sure at least one other passenger is familiar with the operation and

safety aspects of the boat in case of an emergency.

Make sure that passengers and gear do not obstruct the operator's view or ability to move.

Do not exceed the maximum engine power rating stated on the certification plate attached to the boat.

Observe all safety signs and warnings both inside the boat and in the immediate boating area.

While your boat has the capacity of operating at high speeds, it is strongly recommended that high speed operation only be applied when ideal conditions exist and are permitted. Higher speed operation requires a higher degree of skill and increases the risk of severe injuries.

In shallow water, proceed with caution and at very low speed. Grounding or abrupt stops may result in injury. Debris may also be picked up and be thrown rearward by the jet pump onto people or property.

Do not use the boat's reverse, to stop. You or your passenger (s) could be violently ejected forward or even off the boat onto the hazard.

MANEUVERABILITY OF THE BOAT AND TOWING

Always keep in mind that as the throttle lever is returned to idle position, less directional control is available, and when the engine is OFF, directional control is lost. You need throttle to steer.

Do not overload the boat or take on more passengers than designated for the particular boat. Overloading can affect maneuverability, stability and performance.

Avoid adding on accessories or equipment which may alter your control of the boat.

Riding with a passenger(s) or pulling a tube, skier or wakeboarder makes the boat handle differently and requires greater skill.

Always respect the safety and comfort of your passenger (s) and person being towed on skis, wakeboard or other towables.

Always carry an observer when pulling a tube, skier or wakeboarder, proceed with only as much speed as required and follow the observer's instructions. Unless absolutely necessary, do not make tight, sharp turns. Keep a safe distance from the docks, other swimmers, craft or objects.

Use a tow rope of sufficient length and size and make sure it is adequately secured to your boat. Some boats are equipped or can be fitted with a specially designed towing mechanism. It can become a hazard should someone fall on it.

PASSENGER SAFETY

Before getting underway, show all passengers where emergency and safety equipment is stowed, and explain how to use it. Everyone aboard should wear rubber-soled shoes which resist slipping on wet surfaces. While underway, passengers should remain seated inside the deck rails. Don't allow passengers to drag their feet or hands in the water. Always use hand holds and other safety hardware to prevent falls. All non-swimmers, poor swimmers, and children should wear a PFD at all times. Federal regulations require that children under 13 years of age wear a PFD when the boat is underway unless they are in an enclosed cabin or below deck.

Do not start or operate the boat if anyone is seated on the sun deck or swim platform, or is nearby in the water. Water and/or debris exiting jet thrust nozzle can cause severe injury.

The operator and passenger(s) should be properly seated before starting or moving the boat. All passenger (s) should be instructed to use the hand holds or seat straps provided.

When accelerating a boat with a passenger (s), whether from a complete stop or while underway, always do so progressively. Fast acceleration may cause your passenger(s) to lose their balance or grip and strike something in the boat or fall out of the boat. Make sure that your passenger(s) know of, or anticipate, any rapid acceleration.

FIRST AID

As a boat operator, you should be familiar with basic first aid procedures that may be needed while you are far from help. Fish hook accidents or minor cuts and abrasions may be the most serious mishaps on board a boat, but you should also learn the proper procedures and be ready to deal with the truly serious problems like excessive bleeding, hypothermia, and burns. First aid literature and courses are available through most Red Cross chapters.

OPERATION BY MINORS

Minors should always be supervised by an adult whenever operating a boat. Many countries have laws regarding the minimum age and licensing requirements of minors. Be sure to contact the state boating authorities for information. BRP recommends a minimum operator age of 16 years.

Fueling

Recommended Fuel

NOTICE

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

Alcohol fuel blending varies by country and region. Your engine has been designed to operate using the recommended fuels, however, be aware of the following:

- Use of fuel containing alcohol above 10% is not recommended and can result in the following problems in the fuel system components:
  - Starting and operating difficulties
  - Deterioration of rubber or plastic parts
  - Damage to internal engine parts
- Inspect frequently for the presence of fuel leaks or other fuel system abnormalities if you suspect the presence of alcohol in gasoline exceeds the current government regulations.
- Alcohol blended fuels attract and hold moisture which may lead to fuel phase separation and can result in engine performance problems or engine damage.

Use regular unleaded gasoline with an

AKI (RON + MON)/2 rating of 87 or an RON octane rating of 91.

NOTICE

Never experiment with other fuels. The use of inadequate fuel can result in boat performance deterioration and damage to critical parts in the fuel system and engine components.

NOTICE

Do NOT use fuel from fuel pumps labeled E85.

Use of fuel labeled E15 is prohibited by U.S. EPA.

NOTICE

Do NOT use fuel from fuel pumps labeled E15.

Fueling Procedure

⚠ WARNING

Fuel is flammable and explosive under certain conditions. Do not smoke or allow open flames or sparks in the vicinity.

Be very careful when fueling and adhere to the fueling procedures described below in this Operators Guide and those given to you by the marina.

Know the capacity of the fuel tank. Avoid fueling at night except under well-lighted conditions. Gas spills are not noticeable in the dark. Do not carry spare fuel or flammable liquids in any of the storage or engine compartments.

⚠ WARNING

Follow these safe boating fueling instructions explicitly.

Use In European Union

(2014/94/EU — on the deployment of alternative fuels infrastructure)

A European Standard provides harmonized labeling across Europe and this effectively assists consumers in identifying the compatibility of the fuel supplied at a refueling point with an engine.

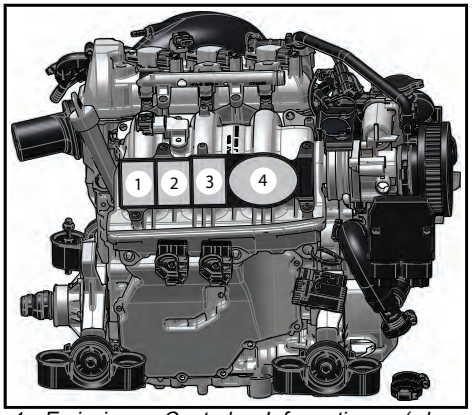
In the European Union, this Rotax engine is compatible with the following petrol-type fuel;

Important On-Product Labels

The following labels are on your engine. If missing or damaged, they can be replaced free of charge. See an authorized dealer. Please read the following labels carefully before operating your boat.

IMPORTANT: The illustration indicates the approximate locations of the various labels. A dashed line indicates the label is not on the outer surface, and cover must be removed to see the label(s).

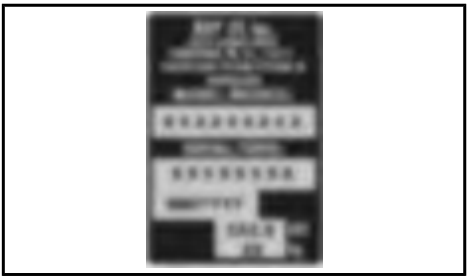
Label Locations — Engine (right side)



1. *Emission Control Information (when applicable)*
2. *Emission Control Information (when applicable)*
3. *Model/Serial*
4. *Low Emission (when applicable)*

Labels

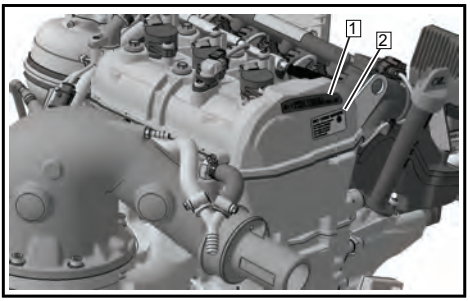
TYPICAL (WHEN APPLICABLE)-EMISSIONS CONTROL INFORMATION



TYPICAL-MODEL/SERIAL

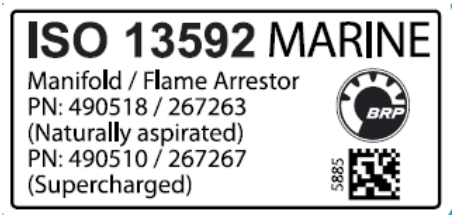
SUPER - ULTRA - LOW EMISSION (WHEN APPLICABLE)

Label Locations — Engine (rear)



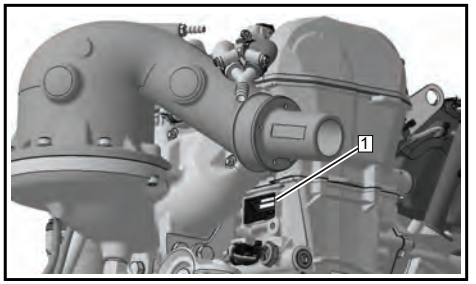
Labels

CE LABEL



LABEL-ISO 13592

Label Location — Engine (left side)



BREAK-IN AND SPECIAL PROCEDURES

BREAK-IN

Operation

NOTICE

Carefully follow the instructions in this section. Failure to do so may reduce the life and/or performance of the engines.

A break-in period of 3 hours is required before continuous operation at full throttle.

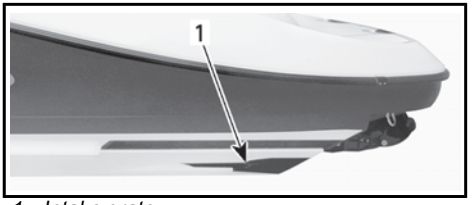
To achieve a good break-in, a maximum of 3/4 throttle should be observed, however, brief acceleration and speed variations contribute to a good break-in.

NOTICE

Continued wide open throttle runs and prolonged cruising without speed variations should be avoided.
This can cause engine damage during the break-in period.

JET PUMP WATER INTAKE AND IMPELLER CLEANING

Water is drawn up by the impeller through these openings. The grate minimizes entry of foreign objects into the propulsion system.



1. Intake grate

⚠ WARNING

Keep away from intake grates while engines are running. Items such as long hair, loose clothing or personal flotation device straps can become entangled in moving parts resulting in severe injury or drowning.

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

1. **Cavitation:** Engine speed is high but 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 exhaust system, a clogged intake will cause the engine to overheat and damage internal engine components.

NOTICE

Avoid operation in weeded areas. If unavoidable, vary speed. Weeds tend to entangle more at steady and slow speeds. Inspect water intake grates for damage. Refer to an authorized *Rotax*® Jet Propulsion systems dealer for repair as necessary.

IN-WATER CLEANING

Pull the tether cord from engine cut-off switch to stop engine(s). Let the boat stop by itself. Wait a while to allow weeds or other debris to escape from grate(s). It may be necessary to repeat the procedure. In severe conditions if the above method does not work, the following can be performed:

1. With engine(s) running, put shifter lever in reverse position and vary throttle setting quickly several times.
2. Try accelerating again. Most of the time, debris will escape from the propulsion system. If not, refer to OUT OF WATER CLEANING.

OUT OF WATER CLEANING

⚠ WARNING

Keep away from intake grates while engines are running. Items such as long hair, loose clothing or personal flotation device straps can become entangled in moving parts resulting in severe injury or drowning.

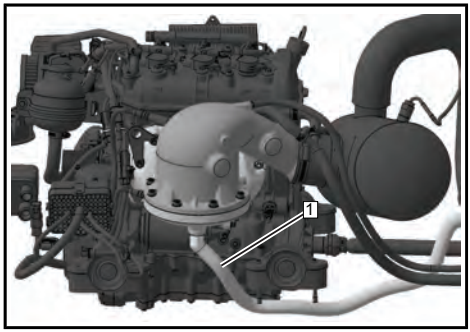
From underneath boat, manually clean water intakes area. If the system is still clogged, refer to an authorized boat dealer for servicing.

In-the-Water Towing

NOTICE

Special precautions MUST be taken when towing a BRP Rotax--powered boat in the water to prevent the exhaust system and engine from filling with water.

Maximum recommended towing speed is 21 km/h (13 MPH). The cooling water supply hose in the engine compartment MUST be pinched closed. A Hose Pincher Tool, P/N 529032500, is available for this purpose.



INTELLIGENT NEUTRAL AND REVERSE

iNR System Overview

The **iNR** (intelligent Neutral & Reverse) is an electronically controlled shifting system. The **iNR** system replaces the traditional mechanical cable/gate activation (Reverse-Neutral-Forward) with a fly--by-wire style system that uses an electronic actuator to eliminate the mechanical forces on the controller. The **iNR** actuator controls the position of the reverse gate via a push/pull cable, providing effortless forward and reverse shifting with a true neutral position.

The neutral position of the boat can be adjusted on-the-fly to obtain optimal forward/aft movement using the Neutral Adjustment function in the helm gauge cluster.

This function provides an adjustable window of +15 (forward) to -15 (reverse).

iNR Neutral Adjustment

IMPORTANT: The boat must be in the water with the engine running and the throttle control lever in the neutral position.

Boats equipped with a touch screen: Simply press the neutral adjustment arrows located on the home screen.

Boats equipped with the standard gauge cluster: Access the neutral adjustment using the gauge cluster “settings” menu.
Use the UP and DOWN switch to locate NEUTRAL ADJUSTMENT and press set to enter the NEUTRAL ADJUSTMENT screen.
Press the SET button again to access the NEUTRAL ADJUSTMENT. Use the UP and DOWN switch to make the changes.

NOTE: Adjustment will be stored by pressing the SET button or moving the throttle control arm.

NOTE: When the neutral adjustment is completed, the value is stored in the system memory.

iNR Override

⚠ WARNING

Keep hands and objects clear of the pump area when using override mode. Unexpected movement of the reverse gate can cause severe injury.

With the engine OFF, the **iNR** shift function will not operate. The iNR can only be used to command a change in the gate position if the engine is running. For iNR override procedures, see the appropriate service manual or your Rotax® servicing dealer.

INSPECTIONS AND MAINTENANCE

PRE-RIDE INSPECTION

⚠ WARNING

The pre-ride inspection is very important before operating the boat. Bring all safety equipment required by local laws. Perform a pre-ride inspection before each ride to detect potential problems during operation. The pre-ride inspection can help you monitor wear and deterioration before they become a problem. Correct any problems that you discover to reduce the risk of a breakdown or accident.

For more detailed information on these items, refer to the applicable sections.

⚠ WARNING

Engines must be off and the tether cord removed from engine cut-off switch except where specified otherwise.

PRE-RIDE CHECKLIST WHEN BOAT IS TRAILERED TO WATERWAY (RECOMMENDED CHECKS)			
SUMMARY			
	ITEM	OPERATION	CHECK
BOAT ON TRAILER	Fuel tank	Refill	
	Hull and deck	Inspect hull, ride plate and water inlet grate for damages. Properly clean the hull before launching the watercraft when moving to a different body of water to prevent spreading of aquatic invasive species.	
	Jet pump water intake	Inspect/clean	
	Bilge	Check for abnormal water presence in bilge and ensure drain plug is properly secured	

PRE-RIDE CHECKLIST WHEN BOAT IS TRAILERED TO WATERWAY (RECOMMENDED CHECKS)			
	Engine compartment	Verify for leaks or gasoline vapor odor. Verify fuel system components integrity.	
	Throttle lever	Check operation	
	Shift lever	Check operation	
	Steering	Check operation	
	Bilge blower	Turn ON bilge blower to ventilate bilge. Refer to the Boat Manufacturer Operator's guide.	
	Instrumentation	Check operation	
	Mandatory safety boating equipment	Ensure all required safety equipment is on board	
	Storage compartment covers	Ensure they are closed and latched	
	Navigation lights	Check operation	
	Engine(s) start/ stop switch	Check operation for starting and stopping engine(s)	
	Engine cut-off-switch	Check if engine can be stopped by pulling off the tether cord from the engine cut-off-switch.	
	Removable cushions	Removable cushions securely fastened or stowed.	

PRE-RIDE CHECKLIST WHEN BOAT IS TRAILERED TO WATERWAY (RECOMMENDED CHECKS)			
BOAT IN WATER (ENGINE STARTED)	Throttle lever	Check operation	
	Shift lever	Check operation	
	Steering	Check operation	

PRE-RIDE CHECKLIST

PRE-RIDE CHECKLIST WHEN BOAT IS MOORED TO A DOCK			
SUMMARY			
	ITEM	OPERATION	CHECK
BOAT AT THE DOCK	Fuel tank	Refill	
	Bilge	Check for abnormal water presence in bilge and ensure drain plug is properly secured	
	Engine compartment	Verify for leaks or gasoline vapor odor. Verify fuel system components integrity.	
	Throttle lever	Check operation	
	Shift lever	Check operation	
	Steering	Check operation	
	Bilge blower	Turn ON bilge blower to ventilate bilge. Refer to the Boat Manufacturer Operator's guide.	
	Instrumentation	Check operation	
	Mandatory safety boating equipment	Ensure all required safety equipment is on board	
	Storage compartment covers	Ensure they are closed and latched	
	Navigation lights	Check operation	
	Engine(s) start/ stop switch	Check operation for starting and stopping engine(s)	
	Engine cut-off-switch	Check if engine can be stopped	

PRE-RIDE CHECKLIST WHEN BOAT IS MOORED TO A DOCK			
		by pulling off the tether cord from the engine cut-off-switch.	
	Removable cushions	Removable cushions securely fastened or stowed.	
BOAT IN WATER (ENGINE STARTED)	Throttle lever	Check operation	
	Shift lever	Check operation	
	Steering	Check operation	

POST OPERATION CARE

1. Remove the boat from the water every day to prevent growth of marine organisms.
2. With the boat removed from the water, start the engine, and let idle.
3. Run the engine at 5000 RPM for 5 seconds.
4. Stop the engine.

NOTE: Running the engine removes excess water from the exhaust system.

NOTICE

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

⚠ WARNING

Allow engine to cool before performing any maintenance.

Exhaust System Flushing

The exhaust system should be flushed daily when boat is used in salt or foul water.

Anti-Corrosion Treatment

To prevent corrosion, spray a corrosion inhibitor (salt water resistant) such as XPS® Lube, P/N 9779701, or equivalent over metallic components in engine compartment.

Engine fogging should be done with XPS® Lube, P/N 9779701, or equivalent whenever the boat is to be stored for an extended period of time.

Apply Dielectric Grease, P/N 293550004, (salt water resistant) on battery posts and cable connectors.

NOTICE

Never leave rags or tools in the engine compartment or in the bilge.

Additional Care For Foul Water or Salt Water Use

When the boat is operated in foul water and particularly in salt water, additional care must be taken to protect the boat and its components.

Rinse trailer and boat's hull/bilge area with fresh water.

Never use a high pressure washer to clean the bilge. USE LOW PRESSURE ONLY (such as a garden hose). High pressure can cause damage to electrical or mechanical systems.

In coastal areas, special care should also be taken on stainless steel or chrome parts like grab handles, mooring cleats, fuel cap and navigation lights.

EXHAUST SYSTEM

⚠ DANGER

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

Exhaust System Flushing

Flushing the exhaust 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, exhaust system, intercooler (supercharged engines) and hoses.

Exhaust system flushing should be performed when the boat is not expected to be used further the same day or when the boat is stored for any extended time.

NOTICE

Failure to flush the system, when necessary, will severely damage the engine intercooler or exhaust system. Make sure the engine operates during the entire flushing procedure.

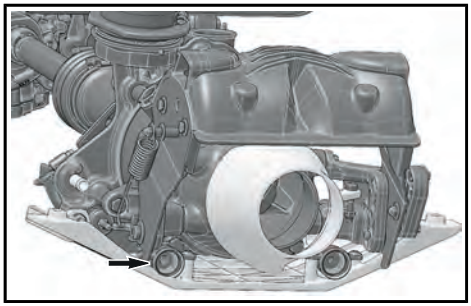
⚠ WARNING

Perform these operations in a well ventilated area. Certain components in the engine compartment may be very hot. Direct contact may result in skin burn. Do not touch any electrical part or jet pump area when engine is running.

⚠ WARNING

When performing these operations while the boat is out of the water, the heat exchanger in the ride plate may become very hot. Avoid any contact with ride plate as burns may occur.

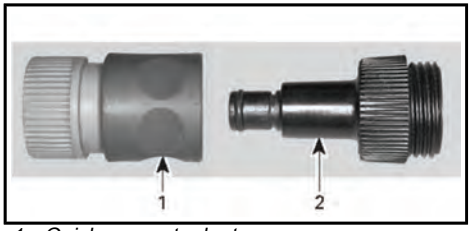
1. Connect a water hose to connector located at the rear of boat on jet pump support. Do not open water tap yet.



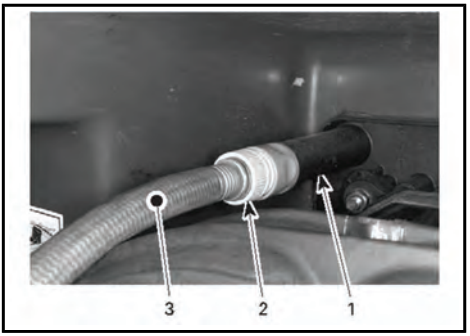
TYPICAL

NOTE:
The following tool is recommended when a quick connect adapter is used to ease water hose installation.

Required Tool	
Flushing Connector Adapter **P/N 295500473**	



1. *Quick connect adapter*
2. *Flushing connector adapter*



TYPICAL

1. *Flushing connector*
2. *Quick connect adapter and flushing connector adapter (optional)*
3. *Water hose*

2. To flush the exhaust system, start the engine then immediately open the water tap.

NOTICE

Always start the engine before opening the water tap. Open water tap immediately after engine is started to prevent overheating. Never run engine without supplying water to the exhaust system when boat is out of water.

3. Run the engine about 20 seconds at a fast idle.

NOTICE

Never run engine longer than 2 minutes. Drive line seal has no cooling when boat is out of water.

4. Ensure the water flows out of the jet pump while flushing.

NOTE: If water does not flow freely out of the jet pump during flushing, refer to an authorized *Rotax®* marine engine dealer for service.

5. Close the water tap.

NOTICE

Always close water tap before stopping the engine.

6. Run the engine at 5000 RPM for 5 seconds and stop the engine.

NOTE: Running the engine removes excess water from the exhaust system.

7. Disconnect the water hose.

NOTICE

Remove flushing connector adapter after operation (if used).

Optional Remote Flushing Kit

Remote Flush Kit, P/N 423461478, is designed to work with Rotax engines with a large water inlet. Use the on-board flush kit to flush the exhaust system.

For the installation procedure refer to the instruction sheet provided with the kit.

1. Remote flush kit P/N 423461478

MAINTENANCE SCHEDULE

The boat should be serviced as per the maintenance schedule.

A repair shop or person the owner's choosing may maintain, replace, or repair emission control devices and systems. These instructions do not require components or service by BRP or authorized Rotax® Jet Propulsion dealers. Although an authorized Rotax® Jet Propulsion dealer has an in-depth technical knowledge and tools to service the Rotax® Jet Propulsion System, the emission-related warranty is not conditioned on the use of an authorized Rotax® Jet Propulsion dealer or any other establishment with which BRP has a commercial relationship. For emission-related warranty claims, BRP is limiting the diagnosis and repair of emission-related parts to the authorized Rotax® Jet Propulsion dealers. For more information, please refer to the US EPA EMISSION RELATED WARRANTY contained herein. Proper maintenance is the owner's responsibility. A warranty claim may be denied if, among other things, the owner or operator caused the problem through improper maintenance or use.

You must follow the instructions for fuel requirements in the fueling section of this Guide. Even if gasoline containing greater than ten volume percent ethanol is readily available, the US EPA issued a prohibition against the use of gasoline containing greater than 10 vol% ethanol that applies to this vehicle. The use of gasoline containing greater than 10% ethanol with this engine may harm the emission control system.

The schedule should be adjusted according to operating conditions and use. Intensive use of engine will require greater frequency of inspection and maintenance.

The maintenance schedule does not exempt the pre-ride inspection.

⚠ WARNING

Failure to properly maintain the boat according to the maintenance schedule can make it unsafe to operate.

ROTAX JET PROPULSION PERIODIC MAINTENANCE SCHEDULE

	TO BE PERFORMED BY			
	EVERY 200 HOURS OR 2 YEARS			
	EVERY 100 HOURS OR PRE-SEASON			
	FIRST 50 HOURS			
PART/TASK				
ENGINE				
Engine oil and filter	R	R(1)		RS
Rubber mounts	I	I		O, RS
Corrosion protection (3)		L(4)		O
EXHAUST SYSTEM				
Exhaust system (including hoses, fasteners, components and leaks)	I	I, C		O, RS
Exhaust system flushing		I, C(5)		O
COOLING SYSTEM				
Hose and fasteners	I	I		O, RS
Coolant	I	I, C(5)	R	O, RS
FUEL SYSTEM				
Throttle body	I	I		O, RS
Fuel lines, connections, pressure relief valve and fuel system leak test	I	I		RS
ENGINE MANAGEMENT SYSTEM				
Fault Codes	I	I		O, RS
AIR INTAKE SYSTEM				
Air filter		I,(6)		RS
ELECTRICAL SYSTEM				

Test the engine cut-off switch and the monitoring beeper at first 50 hours and every 100 hours or once a year	I	I		O
Spark plugs	I	I	R	RS
Ignition coils	I	I		RS
Electrical connections and fastening (visual inspection)	I	I		RS
STEERING SYSTEM				
Steering cable and connections	I(5)	I		O
Steering nozzle bushings	I(5)	I		O, RS
PROPULSION SYSTEM				
Carbon ring and rubber boot (drive shaft)	I	I		RS
iNR components and function		I		RS
Shifter system, cable and connections	I(5)	I		O, RS
iNR components and function		I		RS
Reverse gate	L(5)	L		RS
Drive shaft / impeller splines		I, L		RS
Drive shaft		L(7)		RS
Impeller boot	I	I		RS
Impeller shaft seal		I	R(2)	RS
Impeller wear ring clearance	I	I		RS
Sacrificial anode		I(8)		O
HULL AND BODY				

Ride plate and water intake grate		I		O

A: ADJUST	1) At storage period or after 100 hours of use whichever comes first
C: CLEAN	2) Replace at 200 hours of use, irrespective of the number of years
I: INSPECT	3) Spray an anti-corrosion lubricant on metallic components in engine compartment
L: LUBRICATE	4) Every 10 hours in salt water
R: REPLACE	5) Flush every 6 weeks when used in salt water or foul water.
RS: REPAIR SHOP	6) Replace if required
O: OPERATOR	7) Lubricate for corrosion protection
	8) Inspect each month and change when necessary

GENERAL

This section includes instructions for basic maintenance procedures.

⚠ WARNING

Turn off the engine and follow these maintenance procedures when performing maintenance. If you do not follow proper maintenance procedures you can be injured by hot parts, moving parts, electricity, chemicals or other hazards.

⚠ WARNING

Should removal of a locking device be required (e.g. lock tabs, self-locking fasteners, etc.), always replace it with a new one.

⚠ CAUTION

Some components in the engine compartment may be very hot.

Recommended Engine Oil For ROTAX ACE 60/ ACE90 Engines

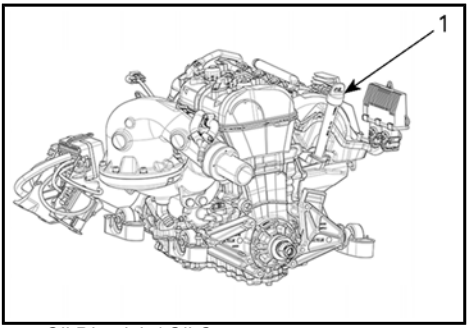
Use XPS® 4- STROKE 5W40 SYNTH OIL

If the recommended XPS® engine oil is not available, use a 5W40 engine oil meeting the requirements for API service classification SN or JASO MA2. Always check the API service label certification on the oil container, it must contain at least one of the above standards.

Engine Oil Level

NOTICE

Check level frequently and refill if necessary. Operating the engines with improper oil levels may severely damage engines.



1. Oil Dipstick / Oil Cap

IMPORTANT: Boat must be leveled. Oil level can be checked either with boat in water or out of water.

If The Boat Is Out Of The Water

If the boat is out of the water and on a trailer, block the wheels and raise the bow slightly with the trailer jack (if so equipped) until the bumper rail is level.

Install a water hose to the flushing connector. Refer to **EXHAUST SYSTEM FLUSHING**.

NOTICE

Never run engine without supplying water to the exhaust systems when boat is out of water. Failure to supply water to the exhaust systems may severely damage exhaust systems.

NOTICE

Never run engine longer than 2 minutes. Drive line seals have no cooling when boat is out of water.

If The Boat Is In Or Out Of The Water

It is of the utmost importance to follow this procedure in order to obtain an

accurate reading of the engine oil level.

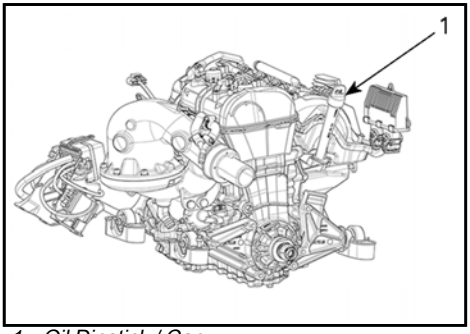
⚠ CAUTION

Engine oil may be hot. Certain components in the engine compartment may be very hot. Direct contact may result in skin burn.

1. Ensure engine is at normal operating temperature.
2. Let engine run at idle speed for 30 seconds. **DO NOT INCREASE ENGINE RPM BEYOND IDLE.**

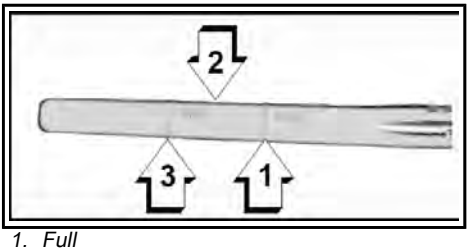
NOTE: If the engine is operated past idle speed during the 30 second time, results will be inaccurate. Return to step 1.

3. Stop engine.
4. Wait at least 30 seconds.
5. Pull dipstick out and wipe clean.



1. Oil Dipstick / Cap

6. Reinstall dipstick, push in completely.
7. Remove dipstick and read oil level. It should be between marks.



1. Full
2. Operating Range
3. Add

8. If needed, add oil up to have the level between marks as required.
9. To add oil, unscrew the dipstick. Place a funnel into the opening and add the recommended oil to the proper level. Do not overfill.
10. Properly reinstall dipstick.
11. If you have 2 engines, repeat the procedure on the other engine.
12. Wipe off any oil spillage that may have occurred during this procedure.

Engine Coolant

Recommended Engine Coolant

Always use ethylene-glycol antifreeze containing corrosion inhibitors specifically for internal combustion aluminum engines.

ENVIRONMENTAL NOTE

When available, it is recommended to use biodegradable antifreeze compatible with internal combustion aluminum engines. This will contribute to protecting the environment.

Cooling system must be filled with BRP Pre-mixed Coolant, P/N 9779730 NA and 9779920 EU, or with a water and antifreeze solution (50% distilled water, 50% antifreeze).

Refer to an authorized Rotax® Jet Propulsion dealer

Engine Coolant Level

With boat on a level surface, coolant should be between MIN. and MAX. level marks for each coolant reservoir when each engine is cold.

1. Coolant Max Level When Cold

⚠ WARNING

Check coolant level with cold engine. Never add coolant in cooling system when engine is hot.

IMPORTANT: The boat is considered level when it is in water. When boat is on a trailer, block the wheels and raise the bow slightly with the trailer jack (if so equipped) until the bumper rail is level.

Add coolant to the level between mark as required. Use a funnel to avoid spillage. Do not overfill.

Properly reinstall and tighten filler cap.

IMPORTANT: A cooling system that frequently requires coolant indicates leaks or engine problems. See an authorized Rotax® Jet Propulsion dealer.

Ignition Coil Removal

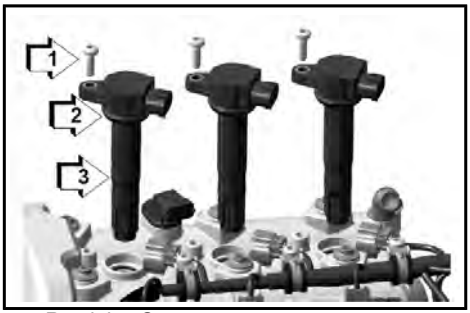
NOTICE

Do not remove the ignition coil before disconnecting the input connector or the wires may be damaged. Do not pry up ignition coil with a screwdriver to avoid damage.

1. Disconnect ignition coil connector.

IMPORTANT: Twist ignition coil in both directions as you pull it up to ease removal.

2. Clean the area around the ignition coils to avoid contaminants from entering the engine cylinders.
3. Remove the screws securing the ignition coils. Pull the coil up to remove the coil from the cylinder head.

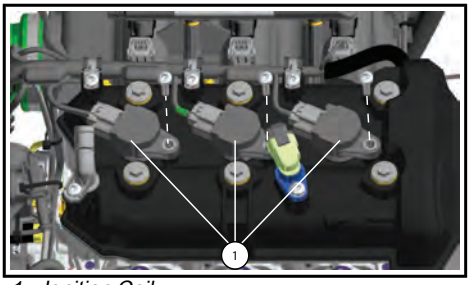


1. Retaining Screw
2. Gasket
3. Ignition Coil

Ignition Coil Installation

IMPORTANT: Prior to inserting the ignition coil on its spark plug, apply sealant as described in IGNITION COIL LUBRICATION.

1. Install coil in cylinder head hole.
2. Push the ignition coil down to securely install the coil in place over the spark plug.
3. Ensure the seal seats properly with top surface of engine valve cover.

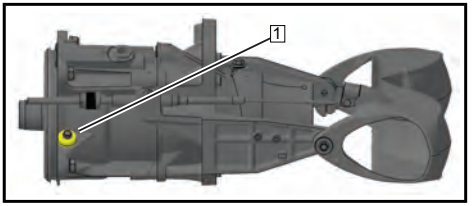


1. Ignition Coil

4. Thread the screws though the ignition coil into the valve cover. Torque the screws to specifications.

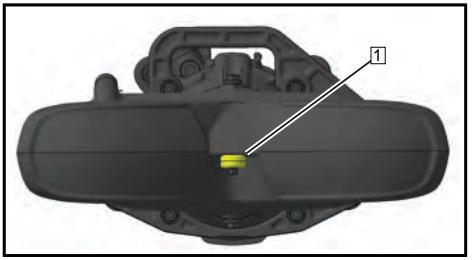
Anodes

Your boat is equipped with one or more sacrificial anodes that protect it from galvanic corrosion. Disintegration of the anode is normal and indicates it is working. Check each anode periodically. Replace anodes smaller than 2/3 their original size. See your dealer for replacements.



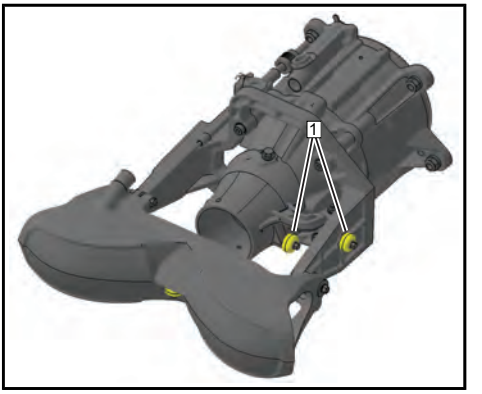
PORT SIDE

1. Anode



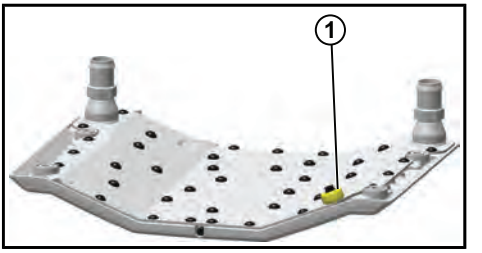
REVERSE GATE

1. Anode



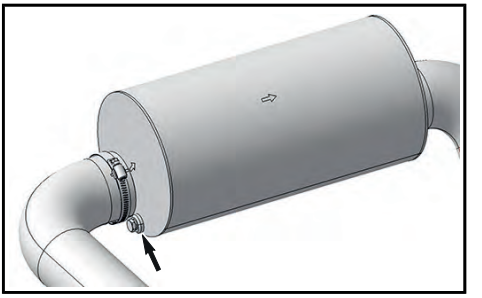
STARBOARD SIDE

1. Anodes

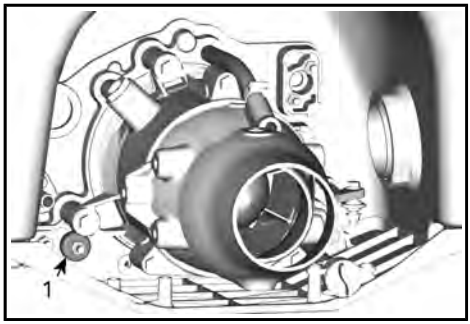


RIDE PLATE

1. Anode



RESONATOR, ANODE LOCATION



JET PUMP (TYPICAL FOR JPS 903)

1. Anode

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

Metal-based, anti-fouling paint on the boat and the use of improperly installed shore power in the area of your moored boat will also accelerate corrosion.

NOTICE

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

Hull Finish

The condition of your boat's bottom affects performance. marine growth or bottom painting may reduce speed and fuel efficiency.

For maximum performance, keep the boats' surface clean by rinsing it with fresh water and wiping it dry. Apply anti-corrosion spray to any surface subject to corrosion, but avoid the anti-corrosion anode(s).

Storage

Jet Pump Cleaning

Clean the jet pump by spraying water into the jet pump inlet and outlet. Apply a coating of XPS® Lube, P/N 9779701, or equivalent.

⚠ WARNING

Always remove the tether cord cap from the engine cut-off switch to prevent unexpected engine starting before cleaning the jet pump area. The engine must not be running for this operation.

Fuel System Protection

XPS® Fuel Stabilizer, P/N 0766209, (or equivalent), can be added in fuel tank to prevent fuel deterioration and fuel system gumming. Follow stabilizer manufacturers instructions for proper use.

NOTICE

It is highly recommended to add fuel stabilizer at storage in order to maintain fuel system in good condition.

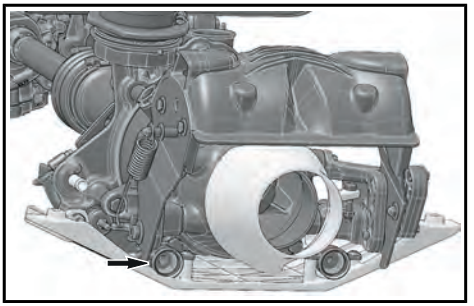
EXHAUST SYSTEM PROTECTION

Draining the Exhaust System

In areas where temperature may freeze, water trapped in the exhaust system must be removed.

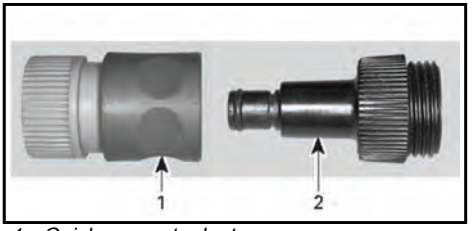
Expel water from the exhaust system as follows:

1. Using the flushing connectors on the jet pump supports, inject pressurized air 689 kPa (100 lbf/in²) into the system until there is no more water flowing from the jet pumps.

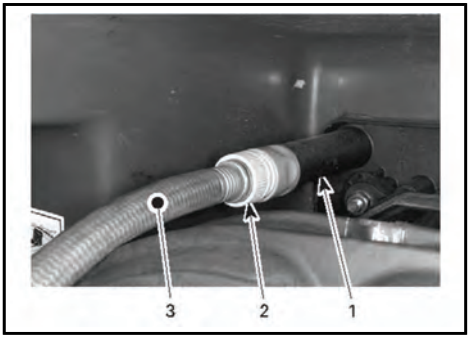


TYPICAL

Required Tool	
Flushing Connector Adapter P/N 295500473	



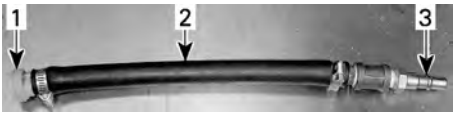
1. *Quick connect adapter*
2. *Flushing connector adapter*



TYPICAL

1. *Flushing connector*
2. *Quick connect adapter and flushing connector adapter (optional)*
3. *Water hose*

2. To ease the procedure, a custom hose can be assembled. See the following illustration.



TYPICAL

1. *Flushing connector adapter*
2. *Hose 12.7 mm (1/2 in)*
3. *Air hose male adapter*

3. Remove special tools.

NOTICE

Failure to drain the exhaust manifold may cause severe damage to components.

Engine Oil and Filter Replacement

The oil change and filter replacement may be performed by an authorized Rotax Jet Propulsion dealer, repair shop, or person of your choosing.

Engine Internal Lubrication

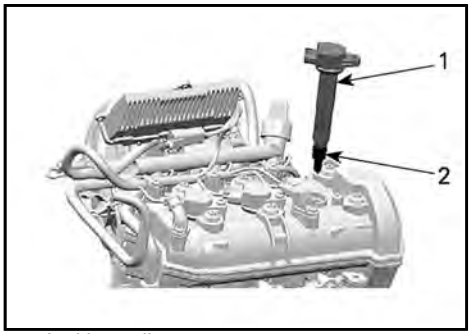
IMPORTANT: The engine(s) must be internally lubricated for the storage period.

1. Open the engine compartment lid.
2. Remove the ignition coils. Refer to *MAINTENANCE PROCEDURES* section.
3. Remove the spark plugs. Refer to *MAINTENANCE PROCEDURES* section.

NOTICE

Ensure that there is no debris in the coil holes before removing the spark plugs. Debris within the engine cylinders can cause engine damage.

NOTE:
After loosening a spark plug, a coil may be used to remove it. Bring the coil down to the spark plug, “hook” it, then extract the spark plug.



1. *Ignition coil*
2. *Spark plug*

4. Spray XPS® Lube, P/N 9779701, or equivalent into the spark plug holes.

IMPORTANT: To allow engine lubrication for storage, the DROWNED MODE can be activated to prevent fuel injection and ignition while cranking, in order to lubricate the cylinder walls.

5. Activate the drowned mode as follows:

IMPORTANT: Ask for assistance while performing this operation.

1. Ensure that the engine (s) are OFF.

⚠ WARNING

The engine(s) must be stopped when using drowned mode to lubricate the engines.

2. Install the tether cord onto the engine cutoff switch.
3. Ensure that the throttle/shifter lever is in the NEUTRAL position.
4. While in NEUTRAL, physically move the pedal position sensor (PPS) to the wide-open throttle (WOT) position by hand.
5. Turn the ignition key to the ON position.
6. Crank the engine(s) a few turns to distribute the oil onto the cylinder walls.

IMPORTANT: The ECM will allow engine cranking while inhibiting fuel injection and ignition. Do not crank the engine for more than 10 seconds.

7. Release the pedal position sensor (PPS).
8. Turn the ignition key OFF.

6. Apply anti-seize lubricant on spark plug threads, then reinstall them in the engine. Refer to *MAINTENANCE PROCEDURES* section.
7. Lubricate and reinstall the ignition coils. Refer to *MAINTENANCE PROCEDURES* section.

IMPORTANT: It is recommended to fog the engine valves with XPS® Lube, P/N 9779701, or equivalent. Contact your authorized *Rotax* Jet Propulsion dealer.

Engine Coolant Test

If the antifreeze is not replace, test the density.

The antifreeze replacement and a density test should be performed by

an authorized Rotax Jet Propulsion dealer.

NOTICE

Improper antifreeze density may allow freezing of the liquid in the cooling system if the boat is stored in an area where the freezing point is attained. This would seriously damage the engine.

Battery Removal and Storage

For battery removal, cleaning and storage, contact your Rotax Jet Propulsion dealer.

Preseason Preparation

Maintenance preparation must be performed in conjunction with the maintenance schedule.

Ensure to perform all tasks included in the 100 hours or Pre-Season column.

Preseason maintenance preparation may be performed by an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing.

Though not required, it is recommended that an authorized Rotax Jet Propulsion dealer perform preseason maintenance preparation at the same time that any safety-related factory campaigns are performed by the authorized Rotax Jet Propulsion dealer.

⚠ WARNING

Only perform procedures as detailed in the maintenance schedule. It is recommended that the assistance of an authorized Rotax® Jet Propulsion dealer be periodically obtained on other components and systems not covered in this Guide.

NOTICE

When component conditions seem less than satisfactory, replace using genuine BRP parts, or equivalents.

Maintenance Records

Send photocopy of maintenance record to BRP if needed.

Predelivery	
Serial number: _____ Mileage / km: _____ Hours: _____ Date: _____ Dealer no.: _____ Notes: _____ _____	Signature/Print:
Refer to vehicle Pre-Delivery Bulletin for detailed installation procedures	

First Inspection

Mileage / km: _____
Hours: _____
Date: _____
Dealer no.: _____
Notes: _____

Signature/Print:

For maintenance schedule, refer to Maintenance Information section of this operator's guide

Service

Mileage / km: _____
Hours: _____
Date: _____
Dealer no.: _____
Notes: _____

Signature/Print:

For maintenance schedule, refer to Maintenance Information section of this operator's guide

Service

Mileage / km: _____
Hours: _____
Date: _____
Dealer no.: _____
Notes: _____

Signature/Print:

For maintenance schedule, refer to Maintenance Information section of this operator's guide

Service

Mileage / km: _____
Hours: _____
Date: _____
Dealer no.: _____
Notes: _____

Signature/Print:

For maintenance schedule, refer to Maintenance Information section of this operator's guide

Service

Mileage / km: _____
Hours: _____
Date: _____
Dealer no.: _____
Notes: _____

Signature/Print:

For maintenance schedule, refer to Maintenance Information section of this operator's guide

Service

Mileage / km: _____
Hours: _____
Date: _____
Dealer no.: _____
Notes: _____

Signature/Print:

For maintenance schedule, refer to Maintenance Information section of this operator's guide

Service

Mileage / km: _____
Hours: _____
Date: _____
Dealer no.: _____
Notes: _____

Signature/Print:

For maintenance schedule, refer to Maintenance Information section of this operator's guide

TECHNICAL SPECIFICATIONS

SPECIFICATIONS

Engine		
Engine Type		Rotax®, 4-stroke, Double Over Head Camshaft (DOHC), dry sump, liquid cooled
Model		Rotax® 900 ACE - 60 Rotax® 900 ACE - 60 ECT Rotax® 900 ACE - 90 Rotax® 900 ACE - 90 ECT
Declared Power(1)	Rotax® 900 ACE - 60 and 60 ECT	44.13 kW @ 7000 RPM
	Rotax® 900 ACE - 90 and 90 ECT	66.19 kW @ 8000 RPM
Exhaust System		D-Sea-Bel sound reduction system. Water cooled/water injected (open loop). Direct flow from jet pump
Induction		Naturally-aspirated
Number of cylinders		3
Number of valves		12 valves (self adjusting hydraulic valve lifters)
Bore		74 mm (2.9 in)
Stroke		69.7 mm (2.7 in)
Displacement		899.31 cm³ (54.88 in³)
Compression ratio		11.0:1

(1) Declared power as per ISO 8665 at propeller-shaft.

Lubrication System		
Type		Dry sump (2 oil pumps). Replaceable oil filter. Water-cooled oil cooler
Engine oil	Recommended	See *Recommended Engine Oil* in *Maintenance Procedures* section of this guide

Lubrication System		
	Capacity	1.9 l (2.01 qt(liq.,US)) oil change w/ filter

Cooling System		
Type		Closed-loop cooling system (CLCS)
Coolant	Recommended coolant	See *Recommended Engine Coolant* in *Maintenance Procedures* section of this guide
	Capacity	3.0 l (3.2 qt(liq.,US))

Fuel System		
Fuel injection type		Multipoint fuel injection with iTC (intelligent Throttle Control). Single throttle body (46 mm) with an actuator
Fuel Tank		See documentation of hull manufacturer
Fuel	Type	Regular unleaded Refer to *Fuel Requirements*
	Recommended octane	Inside North America 87 Pump Posted AKI (RON+MON)/2
		Outside North America 91 (RON) E10

Electrical System		
Ignition system type		IDI (inductive discharge ignition)
Spark plug	Make and type	NGK CR8EB or equivalent
	Gap	0.70 to 0.80 mm (.028 to .031 in)

Propulsion		
Propulsion system		BRP® jet pump
Jet pump	Type	Axial flow, single stage, large hub with double row ball bearings
	Material	Aluminum
Impeller		Stainless steel
Transmission	Coupling type	Crowned splines, direct drive

Dimensions, Weight and Loading Capacity
See documentation of hull manufacturer

NOTE:
BRP 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 in-stall them on its products previously manufactured.

TROUBLESHOOTING GUIDELINES

TROUBLESHOOTING CHARTS

The following information 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 trained technician.

In such case, consult an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

BATTERY IS REGULARLY DISCHARGED
1. Check battery condition. - Have the battery charged or replace by an authorized Rotax Jet Propulsion dealer.
2. Loose battery connections. - Check/clean/tighten.
3. Check the charging system fuse. - Replace fuse if necessary and have charging system checked by an authorized Rotax Jet Propulsion dealer.

⚠ WARNING
See your authorized Rotax Jet Propulsion marine engine dealer to have the battery charged or replaced. Do not charge or boost the battery while installed in the engine compartment. Electrolyte is poisonous and capable of causing severe burns.

ENGINE DOES NOT TURN OVER
1. Refer to MONITORING SYSTEM. - Have the Battery charged or replaced by an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

ENGINE WILL NOT START
1. Tether cord removed. - Install safety lanyard over engine cut-off switch.
2. Burnt fuse. - Check fuse(s). See an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement if problem is repetitive.
3. Discharged battery. - Have the battery charged or replaced by an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

ENGINE WILL NOT START
4. Battery connections, corroded or loose. - Contact an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
5. Water flooded engine. - Contact an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
6. Obstructed jet pump. - Try to clean. Otherwise, refer to an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
7. Faulty engine management system. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

ENGINE TURNS SLOWLY
1. Loose battery cable connections. - Check/clean/tighten.
2. Discharged or weak battery. - Have the battery charged or replaced by an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
3. Bad grounds. - Refer to an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
4. Worn starter or related parts. - Refer to an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
5. Obstructed Jet Pump. - Refer to an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

ENGINE TURNS NORMALLY BUT WILL NOT START
1. Fuel tank empty or water contaminated. - Refill or siphon and fill with fresh fuel.
2. Fouled/defective spark plugs. - Replace.
3. Burnt fuse.

ENGINE TURNS NORMALLY BUT WILL NOT START
- Check fuse(s). See an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement if problem is repetitive.
4. Engine management System Fault Detected (Check If Engine Pilot Lamp Is On). - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
5. Faulty fuel pump. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

ENGINE MISFIRES, RUNS IRREGULARLY
1. Fouled/defective/worn spark plugs. - Check/clean/tighten.
2. Faulty ignition coil(s). - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
3. Fuel: Level too low, stale or water contaminated. - Siphon and/or refill.
4. Clogged injectors. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
5. Engine management system fault detected (check if engine pilot lamp is ON). - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
6. Operating the engine with bad gasoline or gasoline containing the improper octane level. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
7. Water in the intake. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

ENGINE SMOKES
1. Oil level too high. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
2. Water ingestion, coolant leak or damaged cylinder head gasket. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
3. Internal engine damage. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

NOTICE
If beeper emits a continuous beep, stop engine as soon as possible!

ENGINE OVERHEATING OR IMPROPER OIL PRESSURE (MONITORING BEEPER EMITS A CONTINUOUS BEEP)
1. Check oil and coolant level. - Refer to Maintenance Procedures. Refill if necessary.
2. Clogged jet pump water intake. - Perform the Jet Pump and Water Intake and Impeller Cleaning.
3. Clogged exhaust system. - Flush exhaust system.

NOTICE
If these actions do not correct the problem, discontinue use and seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

ENGINE LACKS ACCELERATION OR POWER
1. Jet pump water intake clogged. - Clean. Refer to Jet Pump Water Intake And Impeller Cleaning Procedure.
2. Damaged impeller or worn out wear ring. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
3. Weak spark. - Refer to Troubleshooting Charts.

ENGINE LACKS ACCELERATION OR POWER
4. Engine management system fault detected (check if engine pilot lamp is ON). - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
5. Clogged injectors. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
6. Low fuel pressure. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
7. Water in fuel. - Siphon and replace

BOAT CANNOT REACH TOP SPEED
1. Jet pump water intake clogged. - Clean. Refer to Jet Pump Water Intake And Impeller Cleaning Procedure.
2. Damaged impeller or worn-out wear ring. - Replace. Refer to an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.
3. Check for a warning light and/or scrolling message, go to fault display page and look for an active Fault Code. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

ABNORMAL NOISE FROM PROPULSION SYSTEM
1. Weeds or debris jammed around impeller. - Clean. Refer to Jet Pump Water Intake And Impeller Cleaning Procedure.
2. Damaged impeller or drive shaft. - Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

MONITORING SYSTEM

General

A system monitors the electronic components of the EMS (engine management system) and other components of the electrical system. When a fault occurs, it sends visual messages through the information center and/or audible signals through a beeper to inform you of a particular condition.

A fault code may also be recorded.

When a minor or transient fault occurs, the fault message and beeper will cease automatically if the condition that caused the fault does not exist anymore.

Releasing the throttle and letting the engine return to idle speed may allow normal operation to come back.

The electronic system will react differently depending on the fault type. In severe failure, the engine may not be allowed to be started. In other cases, the engine will operate in limp home mode (reduced speed).

When a fault occurs, Seek service from an authorized Rotax Jet Propulsion dealer, repair shop, or person of your own choosing for maintenance, repair, or replacement.

Pilot Lamps and Message Display Information (Typical)

Indicator lights (pilot lamps), located in the multifunction display, inform you of a system anomaly.

An indicator light may be accompanied by a scrolling message in the multifunction display. See table below for typical malfunction pilot lamps.

Other important items in the maintenance schedule are more difficult and require special tools.

PILOT LAMPS	BEEP	MESSAGE DISPLAY	DESCRIPTION
	Continue	HIGH TEMPERATURE	Engine or exhaust system overheating
	–	LOW or HIGH BATTERY VOLTAGE	Low/high battery voltage
	Continue	LOW OIL PRESSURE	Low oil pressure
	1 beep every 15 minutes	CHECK ENGINE or LIMP HOME MODE	Engine management system fault detected

NOTICE

If the monitoring beeper continuously sounds, stop engine as soon as possible.

CUSTOMER INFORMATION

DATA PRIVACY INFORMATION

Bombardier Recreational Products Inc., its affiliates and subsidiaries (“BRP”) is committed to protecting your privacy and support a general policy of openness about how we collect, use and disclose your personal information in the course of managing our relationship with you. More details can be found by visiting BRP’s Privacy Policy at:
HTTPS://BRP.COM/EN/PRIVACY-POLICY.HTML
or by scanning the following QR Code.

Please be assured that we have appropriate security measures in place to ensure that your personal information is protected against loss and unauthorized access.

Your personal information that may be collected by BRP, directly from you or from authorized dealers or authorized third parties, includes:

– Contact, Demographic & Registration Information (e.g., name, full address, phone number, email, gender, ownership history, language of communication)
– Vehicle Information (e.g., serial number, purchase and delivery date, unit usage, vehicle location and movements)
– Third Party Information (e.g., information received from BRP partners, joint marketing activities information, social media)
– Technological Information (e.g., IP address, type of device, operating system, browser type, webpages you view, cookies and similar technologies when you use BRP or dealers’ websites or mobile application)
– Interaction with BRP Information (e.g., information collected when you call BRP’s in-house sales representatives, buy items on a BRP website, sign up for BRP emails, participate in BRP-sponsored contests and sweepstakes or attend BRP-sponsored events)
– Transactional Information (e.g., information necessary to handle returns, payment information when you purchase our products or services through our websites or mobile applications and other issues related to your purchase of BRP products)

This information may be used and processed for the following purposes:

– Safety & Security
– Customer Support for Sales and After Sales (e.g., complete or follow up with you about your purchase or maintenance)
– Registration & Warranty
– Communication (e.g., sending you a BRP satisfaction survey)
– Online Behavioural Advertising, Profiling and Location-Based Services (e.g., offer customized experience)
– Compliance & Dispute Resolution
– Marketing & Advertising

– Assistance (e.g., help with any delivery issues, handle returns, and other issues related to your purchase of BRP products).

We also may use personal information to generate aggregated or statistical data that no longer identifies you personally.

Your personal information may be disclosed to the following: BRP, BRP's authorized dealerships, distributors, service providers, advertising and market research partners and other authorized third parties.

We may receive information about you from diverse sources, including third parties, such as BRP's authorized dealerships and partners, with whom we offer services or engage in joint-marketing activities. We may also receive information about you from social media platforms when you interact with us on those platforms.

Depending on the circumstances, your personal information may be communicated outside the region where you reside. Your personal information is retained only for as long as necessary for the purpose for which we obtained it and according to our retention policies.

To exercise your data privacy rights (e.g. right of access, right of rectification), to withdraw your consent in order to be removed from the address list for marketing purposes or for the satisfaction survey or for general data privacy questions, please contact BRP's Data Protection Officer at or by mail at **privacyofficer@brp.com** or by mail at:
BRP Legal Service, 726 St-Joseph, Valcourt, Quebec, Canada, J0E 2L0.

When BRP processes your personal information, they do so in compliance with its Privacy Policy available at:
HTTPS://BRP.COM/EN/PRIVACY-POLICY.HTML
or by using the following QR Code.

CONTACT US

www.brp.com

Asia Pacific

BRP Asia
107D and 107E, 17/F, Tower 1,
Grand Century Place, Mongkok,
Kowloon, Hong Kong

Australia
Level 26
477 Pitt Street
Sydney, NSW 2020

China
上海市徐汇区衡山路10号6号楼301
Rm 301, Building 6,
No.10 Heng Shan Rd,
Shanghai, China

Japan
21F Shinagawa East One Tower
2–16–1 Konan, Minato-ku-ku,
Tokyo 108–0075

Europe, Middle East and Africa

Austria
Rotaxstraße 1
4623 Gunskirchen, Austria

Belgium
Oktrooiplein 1
9000 Gent

Czech Republic
Stefanikova 43a
Prague 5
150 00

Germany
Alte Papierfabrik 16
D-40699 Erkrath

Finland
Isoaavantie 7
PL 8040
96101 Rovaniemi

France
Arteparc Bâtiment B
Route de la côte d'Azur, Le Canet

13 590 Meyreuil

Norway
Ingvald Ystgaardsvei 15
N-7484 Trondheim

Sweden
Spinnvägen 15
903 61 Umeå

Switzerland
Avenue d'Ouchy 4-6
1006 Lausanne

Latin America

Brazil
Rua Odila Maia Rocha Brito, 25
Edificio Beaumont, andar 1 ao 5
CEP 13092-110 Campinas -SP

Mexico
Av. Ferrocarril 202
Parque Industrial Querétaro
Santo Rosa Jauregui, Querétaro
C.P. 76220

North America

Canada
3200A, rue King Ouest,
Suite 300
Sherbrooke (Québec) J1L 1C9

United States of America
10101 Science Drive
Sturtevant, Wisconsin
53177

CHANGE OF ADDRESS/OWNERSHIP

If your address has changed or if you are the new owner of the boat, be sure to notify BRP by either:

– Notifying an authorized dealer.
– **North America Only:** calling at 1-844-345-4BRP (4277).
– Mailing one of the change of address cards on the following pages at one of the BRP addresses indicated in the *Contact Us* section of this guide.

In case of change of ownership, please join a proof that the former owner agreed to the transfer.

Notifying BRP, even after the expiration of the limited warranty, is very important as it enables BRP to reach the boat owner if necessary, like when safety recalls are initiated. It is the owner's responsibility to notify BRP.

STOLEN UNITS: In the event that your boat is stolen, you should notify your area's distributor warranty department of such. We will ask you to provide your name, address, phone number, Hull Identification Number and date it was stolen.

CHANGE OF ADDRESS ❑ CHANGE OF OWNERSHIP ❑

VEHICLE IDENTIFICATION NUMBER

Model Number | Vehicle Identification Number (V.I.N.)

OLD ADDRESS OR PREVIOUS OWNER:

NAME

NO. STREET APT

CITY STATE/PROVINCE ZIP/POSTAL CODE

COUNTRY TELEPHONE

NEW ADDRESS OR NEW OWNER:

NAME

NO. STREET APT

CITY STATE/PROVINCE ZIP/POSTAL CODE

COUNTRY TELEPHONE

E-MAIL ADDRESS

CHANGE OF ADDRESS ❑ CHANGE OF OWNERSHIP ❑

VEHICLE IDENTIFICATION NUMBER

Model Number | Vehicle Identification Number (V.I.N.)

OLD ADDRESS OR PREVIOUS OWNER:

NAME

NO. STREET APT

CITY STATE/PROVINCE ZIP/POSTAL CODE

COUNTRY TELEPHONE

NEW ADDRESS OR NEW OWNER:

NAME

NO. STREET APT

CITY STATE/PROVINCE ZIP/POSTAL CODE

COUNTRY TELEPHONE

E-MAIL ADDRESS

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CHANGE OF ADDRESS ❑ CHANGE OF OWNERSHIP ❑

VEHICLE IDENTIFICATION NUMBER

Model Number | Vehicle Identification Number (V.I.N.)

OLD ADDRESS OR PREVIOUS OWNER:

NAME

NO. STREET APT

CITY STATE/PROVINCE ZIP/POSTAL CODE

COUNTRY TELEPHONE

NEW ADDRESS OR NEW OWNER:

NAME

NO. STREET APT

CITY STATE/PROVINCE ZIP/POSTAL CODE

COUNTRY TELEPHONE

E-MAIL ADDRESS

CHANGE OF ADDRESS ❑ CHANGE OF OWNERSHIP ❑

VEHICLE IDENTIFICATION NUMBER

Model Number | Vehicle Identification Number (V.I.N.)

OLD ADDRESS OR PREVIOUS OWNER:

NAME

NO. STREET APT

CITY STATE/PROVINCE ZIP/POSTAL CODE

COUNTRY TELEPHONE

NEW ADDRESS OR NEW OWNER:

NAME

NO. STREET APT

CITY STATE/PROVINCE ZIP/POSTAL CODE

COUNTRY TELEPHONE

E-MAIL ADDRESS

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WATERCRAFT
Model No. _____

HULL
Identification Number (H.I.N.) _____

ENGINE
Identification Number (E.I.N.) _____

OWNER: _____
NAME

_____
No. STREET APT

_____
CITY STATE/PROVINCE ZIP/POSTAL CODE

Purchase Date _____ _____ _____
YEAR MONTH DAY

Warranty Expiry Date _____ _____ _____
YEAR MONTH DAY

To be completed by the authorized dealer at the time of the sale.

DEALER IMPRINT AREA

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