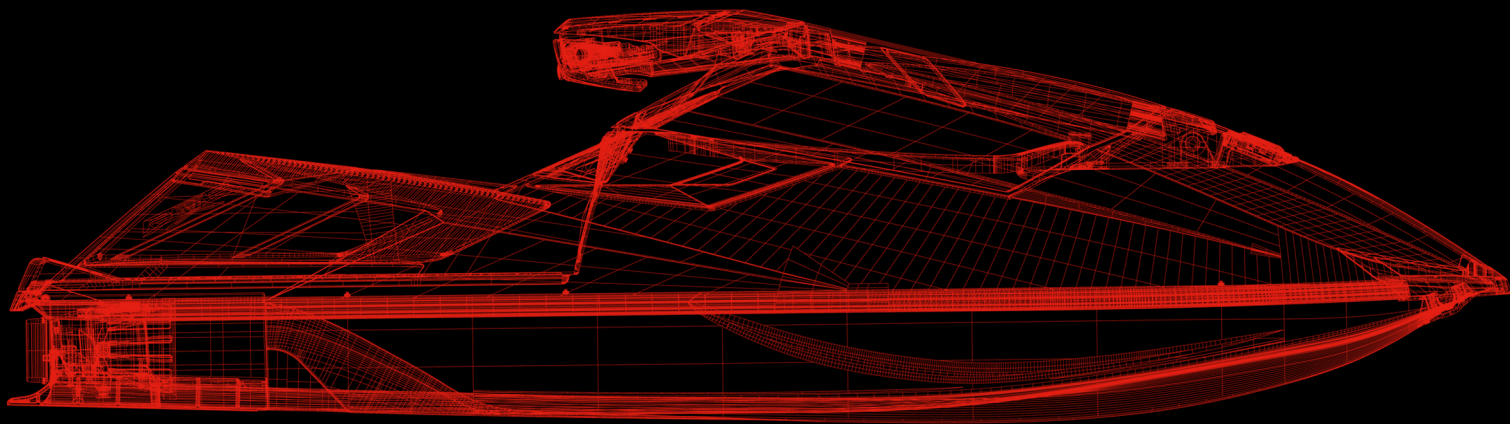




B3S

USER MANUAL
Dynamic and Extreme

Imprint

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B3S Standup

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1 Dear Customer

We would like to thank you very much for your trust, and congratulate you on the purchase of your new Benelli Standup PWC! When we developed the craft, we made a point in creating a versatile and fast PWC. We didn't forget to include a revolutionary design and a low emission engine technology either.

All you need to observe and know about your PWC has been summarized in this User Manual.

Observing the service work is also a condition for safeguarding your guarantee claims.

Please make sure that any service performed on your PWC should be exclusively done by specialists trained by Benelli. This User Manual is also available in other languages.

Should you require any further information, please consult our homepage at: <http://www.benelli-group.com>.

It is also important to observe the recommended service intervals after the seller's warranty.

This will not only pay off during operation, but also whenever you want to re-sell your PWC

We wish you lots of fun with your Benelli PWC.

Yours truly, Benelli team



2 About the Documentation

2.1 General introduction to the Personal Water Craft (PWC) User Manual

This User Manual has been compiled for your own safety and comfort, allowing you to get to know your PWC and to get the most enjoyment from your craft.

The manual contains detailed information on the PWC itself, the system, and on the supplied and built-in accessories, as well as instructions for the operating procedures.

- ▶ Please read it carefully and get familiarized with your PWC before using the craft.

Please note that this manual is not a course on PWC safety or seamanship.

- ▶ If this is your first PWC, or if you have changed to a PWC model that you are not yet familiar with, please make sure you learn how to handle and operate your new craft properly before putting it into operation.



Info

Your dealer or the national sailing association, or yacht club – will be pleased to provide you with information about local riding schools or experienced trainers.

The sea and wind conditions corresponding to the design categories A, B, and C range from category A - Storm - to the most serious conditions in category C - including the risk of breaking waves or wind squalls. Even if your PWC might resist it, these are hazardous conditions for only competent, capable and well trained riders in well-maintained PWCs.

- ▶ Make sure that the expected wind and sea conditions comply with the design category of your PWC, and that you are capable of handling the craft under these conditions.

The Benelli PWC is designed according to ISO 10240:2004 for the category D.

This manual serves neither as a detailed instruction into maintenance nor troubleshooting.



- ▶ Should any difficulties arise, please contact an authorized Benelli dealer.
- ▶ A Maintenance- handbook is provided, follow it in order to maintain your PWC.
- ▶ Always maintain your PWC in a proper condition and monitor any wear and tear that occurs over time as a result the usage of the PWC.

Any PWC, regardless of how strongly it is built, can experience serious damage due to incorrect handling which is not compliant with safe skippering.

- ▶ Always adjust the speed and direction of the PWC to the current sea conditions.
 - ▶ Riders should be familiar with the maneuvering procedures during emergencies (man-overboard rescues, etc.) and the employment of the safety equipment.
-



Info

Sailing schools and clubs organize regular training courses to this end.

- ▶ Keep in mind that safety and other equipment may be compulsory in some countries.
-



Info

Likewise, some countries may request a riding license or authorization according to their national regulations.

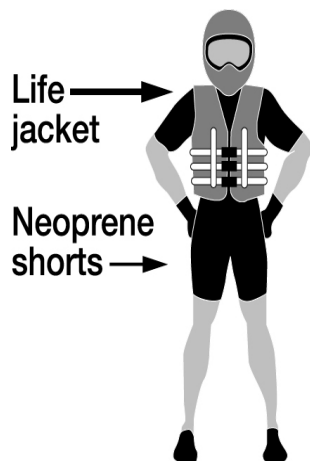
- ▶ Find out these details from your local dealer and keep in mind that they will just add to your safety and comfort.
- ▶ Please keep this manual or CD in a safe place and pass it on to the new owner when you sell the PWC.



3 Safety

3.1 Preparation before a ride

3.1.1 Clothing



The rider must wear a life jacket which has been approved by the Coast Guard for use on the PWC.

During the ride, shatter-proof protective goggles should be used. Wind, water splashes, and speed can cause the eyes to water and reduce the rider's vision.

PWC riders must wear protective clothing. This comprises: Neoprene shorts or thick, close-woven and tight-fitting clothing which offers sufficient protection. Thin cycling shorts, for example, are not suitable. If you fall into the water, or come near the jet pump nozzle, you can incur severe injuries. Normal swim wear does not provide adequate protection.

Shoes and gloves are also recommended. It is advisable to protect the feet with light and flexible shoes. This reduces the risk of injuries from hitting sharp objects under the water.

We also recommend that recreational riders use a helmet. In case you plan to take part in races, you should definitely wear a helmet approved for the PWC due to the increased risk of accidents from the proximity to other riders and the high speed.



Info

For appropriate and smart outfits, please see our Water and Casual Lines catalogue by Benelli.



Info

Read the instructions and safety directions supplied with the helmet.



Info

Observe the safety regulations and conditions of the respective country.

3.1.2 Important information regarding watercraft helmets

The helmet protects the head in case of collisions, but can also contribute to neck injuries. Therefore, consider the advantages and risks of using a helmet.

You alone must decide on the basis of the prevailing conditions: Helmet – yes or no.



Info

Observe the official regulations for wearing helmets.

3.2 Safety instructions

3.2.1 Riding the PWC by children.

The PWC is not a toy.

It is a highly efficient watercraft meant for the transport of one person. Minors can put themselves and others in danger with it.

**Info**

Benelli recommends a minimum age of 16 years.

**Info**

A course for a boat driving licence is recommended and may be mandatory in the area of use.

3.2.2 Floatation

The PWC is not designed for long-term storage in water.

**Info**

A strong movement of the waves can cause water to enter the water draining system of the engine's interior. Water in the engine compartment can consequently cause the craft to sink.

PWC riders can fall into the water at any time, so being a good swimmer is absolutely necessary.

- ▶ Don't move further away from the shore with your PWC than you can swim back to by your own force.
- ▶ Always use a life jacket. Otherwise you are in acute danger of drowning.



3.2.3 Capsizing



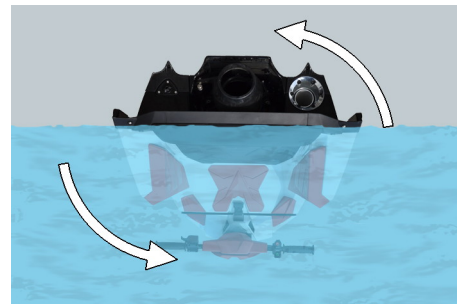
CAUTION

Material Damage Turning the PWC clockwise can let water penetrate into the exhaust system and damage the engine.

- ▶ ALWAYS turn the PWC anticlockwise.

If your PWC capsizes, proceed as follows:

- ▶ Make sure that the motor is off. Otherwise, pull the safety lanyard immediately or actuate the engine stop button to switch it off.
- ▶ Swim to the stern of your PWC.
- ▶ Grip the two rear corners of the PWC with your hands and turn it anticlockwise.
- ▶ Plug the safety lanyard in again and start the engine.



3.2.4 Breaking-in of the B3S according to your possibilities

The first ride with your PWC is for breaking it in. This period is finished after you have either made one ride for 2 whole hours or you have consumed 2 full gas tanks.

Observe the following regulations and recommendations during the breaking-in period and you will have lots of fun with your PWC:



- ▶ During the first 5 minutes of riding time, 1/2 throttle lever position should not be exceeded.
- ▶ Do not run the engine during the first 5 hours with more than 3/4 acceleration and do not overstrain it.
- ▶ Accelerate only for very short times and then ride again with average rpm.

If you use and maintain your PWC properly it will reward you with a longer life.

**Info**

Don't forget to take your PWC to a licensed Benelli dealer after 10 hours of operation and have it serviced.

In case of non-observance, warranty claims could be lost.

3.3 Restrictions during operation

The safe use of your PWC depends on the correct riding procedures and a good and safe assessment of the respective situation.

- ▶ Use your experience and common sense. This is the best way to avoid accidents.

Before using the PWC, pay attention to the following aspects:

- ▶ Never allow anyone to ride your PWC without an introduction to the machine and reading the User Manual.
- ▶ An explanation of the warning instructions is absolutely necessary and guarantees a safe operation.
- ▶ The PWC is not a toy.

**Info**

Benelli recommends a minimum age of 16 years for its use.

**Info**

Adults are compelled to supervise the underage.

- ▶ The watercraft has been designed for the exclusive transport of max 3 persons.
 - ▶ Please observe the local regulations for the use of your PWC.
-

**Info**

You can get precise information on rules and regulations from your licensed Benelli dealer or from the competent maritime authority.

3.4 Safety rules for riding

- ▶ The competent authority will tell you whether you need to register your craft (license plate).
 - ▶ Observe the navigation regulations applicable in the region.
-

**Info**

You can get the respective information from the Coast Guard or the water protection police.

It is advisable to consult the local authorities to protect yourself against avoidable difficulties and penalties.

- ▶ Ride defensively with a safe speed and always keep a necessary safety distance from other crafts in the water.
 - ▶ Avoid riding directly behind other boats.
 - ▶ Do not splash other PWC riders with water.
 - ▶ Keep a sharp lookout and be careful before making sharp maneuvers.
-

**Info**

You and other boats might get alarmed and collide.



- ▶ Before making a sharp turn, make sure that there are no watercrafts behind you.
- ▶ Ride with foresight and take early steps for avoiding collisions.

**Info**

Don't forget: the B3S does not have brakes.

- ▶ Don't drink alcohol for practicing the sport safely.
- ▶ The rider should wear suitable eye protection.

**Info**

If you do not do so, spray water can pose a safety risk.

- ▶ Wear suitable shoes for riding the PWC.

**Info**

Objects in the water could lead to unnecessary injuries.

- ▶ Benelli recommends the wearing of suitable neoprene suits to avoid injuries from falling into the water.

**WARNING**

Risk of Accident Releasing the throttle lever completely will make the PWC lose its controllability. This can lead to hitting objects.

- ▶ Always pull the throttle lever as much as to keep enough pressure for steering.

- ▶ You need to accelerate for riding curves.
- ▶ The PWC was not developed for the night. Use it only during the day time.



-
- ▶ Avoid riding in waters with algae, flotsam or other obstacles.
-



Info

These could block the jet pump and/or lead to an increased risk of injury.

- ▶ Stick to the minimum water depth of 60 cm or more.
 - ▶ Do not attempt to cross jumps with the PWC.
-



Info

You risk major injuries and the PWC can get damaged most severely.

- ▶ The PWC is not suitable for towing other watercrafts or for water skiing.
 - ▶ Riding the surf is strictly forbidden with the PWC.
-



Info

It is dangerous and prohibited in most countries.

- ▶ If you are riding on waves, throttle before cutting through a wave.
-



Info

Riding too fast can cause injuries to the vertebrae.



Info

Attention! Wave jumps can cause the hull to break (loss of warranty claim!).

- ▶ The rider must always keep a safe riding speed. The latter depends on the visibility, weather conditions, swell, wind, etc.
 - ▶ While the jet pump is safer than a propeller, safety measures must also be observed.
-

**WARNING**

Risk of Accident Major accidents can occur due to careless contact with the jet pump.

- ▶ Always keep hands, feet, clothes and long hair away from the intake grate of the jet pump.
- ▶ Never insert objects into the jet nozzle while the engine is running.

- ▶ Keep clothing, feet, hands, and long hair away from the jet pump intake.



- ▶ During a ride with the PWC, the safety lanyard must always be tied to the rider.

**Info**

During a fall into the water, the safety lanyard will be pulled off, thus, disconnecting the contact to the engine in order to stop the engine and the PWC safely.



4 General information

4.1 Craft Identification Number

You will need the craft identification number to register your craft. It is used for identifying your craft in order to clearly differentiate it from other crafts of the same type.

The manufacturer identification is also required for ordering spare parts.

- ▶ In case of theft, report the manufacturer identification, the exact model description and special characteristics of your craft to the appropriate authorities.

**Info**

This makes it possible to identify your PWC.

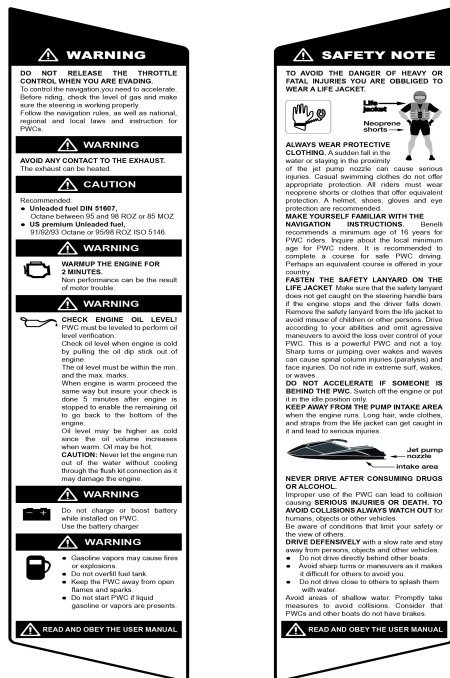
4.1.1 Engine number

A non-standard engine number with 11 digits for identification is in the crankshaft housing.



4.2 Warning stickers

Warning stickers



There are several warning stickers placed on this watercraft.

They point out important safety measures for your own protection.

These stickers must therefore remain in the places provided for them.

Every user must familiarize himself or herself with the meaning of these stickers.

Missing, damaged, or illegible stickers must be replaced immediately and fixed in the correct place.



Info

You can get spare stickers from the licensed Benelli dealer.



4.3 Characteristics of the jet drive

The drive works through the intakes on the bottom sides of the boat via the intake grid.

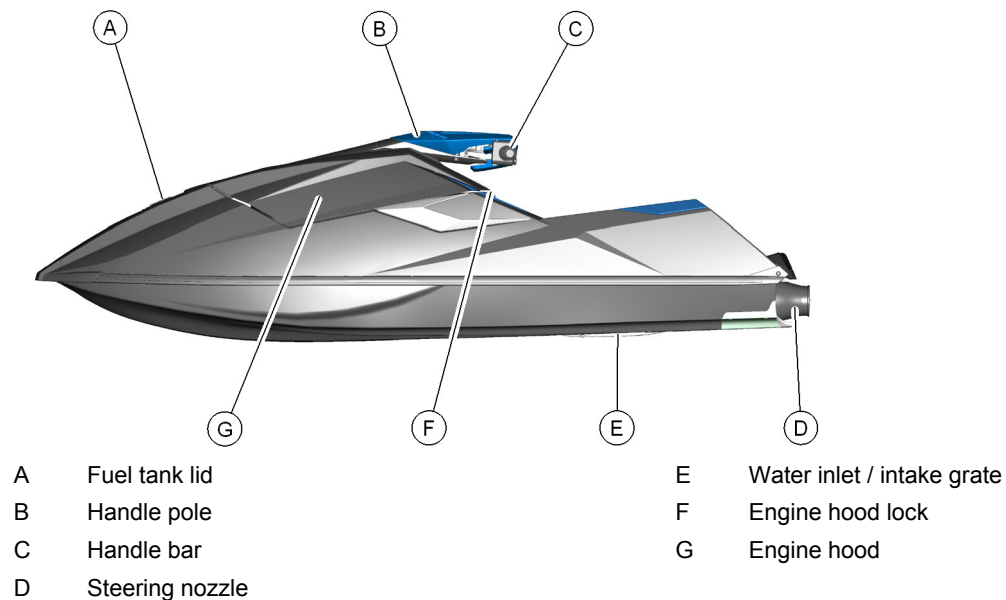
In this area there is the jet pump located which ejects the water via an impeller through the jet pump nozzle.

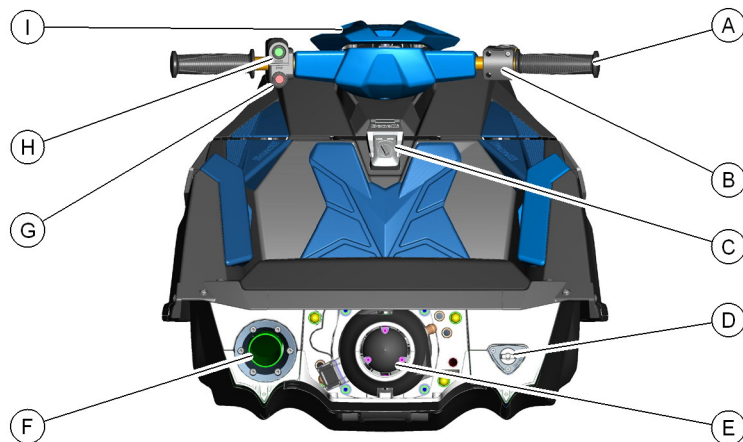


5 Features and functions

5.1 Arrangements of controls

5.1.1 Boat side view



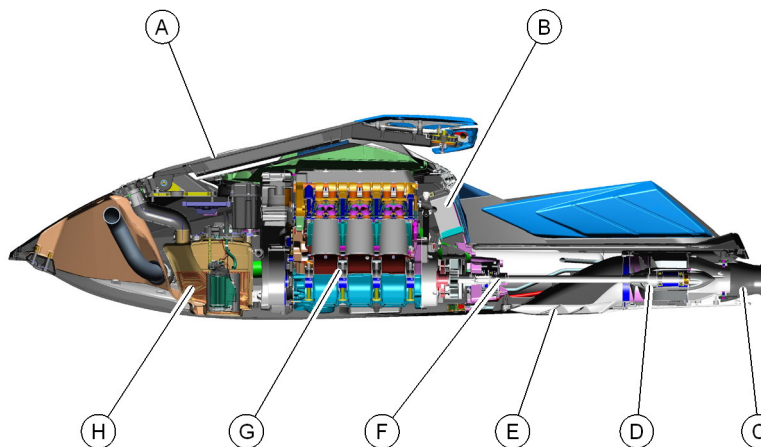
**5.1.2 Boat rear view**

- A Handle bar
- B Throttle lever
- C Engine hood lock
- D Water drain plug
- E Steering nozzle

- F Exhaust tail
- G Safety lanyard switch
- H Engine start-stop button
- I Handle pole



5.1.3 Boat interior view

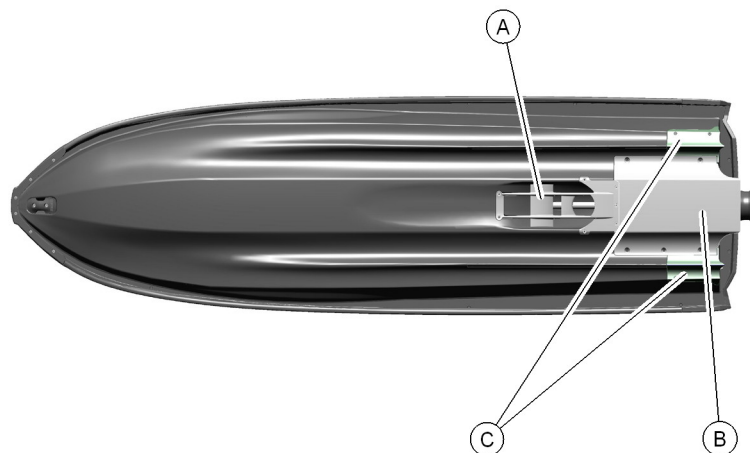


- A Handle pole
- B Battery
- C Steering nozzle
- D Impeller

- E Water inlet / intake grate
- F Drive shaft
- G Engine
- H Fuel tank



5.1.4 Boat downside



A Water jet inlet / intake grate

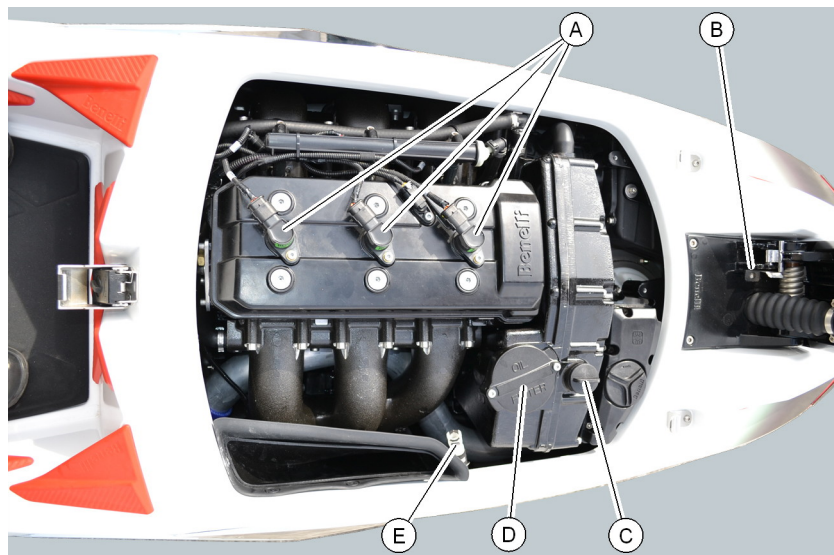
B Riding plate (exchangeable)

C Step plate



5.2 Engine compartment

5.2.1 Engine compartment



A Ignition coils

B Handle pole maintenance clip

C Oil dipstick

D Oil filter cover

E Flush kit device



5.3 Engine start-/stop-button

Engine start-/stop-button

The engine start- and stop buttons are housed in the switch unit on the left-hand steering handlebar.



- ▶ Pressing the engine start button will start the engine.



Info

The engine start button is green and marked START.



Info

The engine can only be started if the safety lanyard is plugged in.

- ▶ Pressing the engine stop button will stop the engine.



Info

The engine stop button is red and marked STOP.



5.4 Safety lanyard



- ▶ The engine switches off automatically if the safety lanyard is pulled.

5.5 Throttle



The throttle lever is installed on the right-hand side of the steering handlebar.



-
- ▶ Before starting the engine make sure that the throttle lever returns smoothly to its original position and that the throttle cable is not damaged.



WARNING

Risk of Accident Releasing the throttle lever completely will make the PWC lose its controllability. This can lead to hitting objects.

- ▶ Always pull the throttle lever as much as to keep enough pressure for steering.



WARNING

Risk of Accident The PWC's physical limits can cause accidents during high speeds.

- ▶ Always observe the turning radius.

-
- ▶ For accelerating pull the throttle lever towards the handlebar.



Info

The lever will return automatically to the idle position when it is released.



5.6 Steering

**WARNING**

Risk of Accident Steering is only possible during positive throttle operation. Releasing the throttle completely poses a risk of accident.

- Be sure that the throttle is not in the released position.
-

Steering system

The PWC has a direct steering system.

A change of direction of the PWC is achieved by turning the steering system in the direction in which you want to go.

Moving the steering will change the angle of the steering nozzle.

The ejected water jet out of the steering nozzle causes the boat to move in the desired direction.

**Info**

Steering is only possible during positive throttle operation.

5.7 Disassembling the engine hood

**Info**

The engine hood is kept in the correct position by a latch.



Removal Procedure

1. For taking-off the engine hood, push up the steering column and lock it in that position.



Info

Do not lean on the propped-up steering column!

2. Unlock the latch and pull the lock all the way up.
3. Unhook upwards.



**CAUTION**

Material Damage Lifting the engine compartment hood beyond its limit can cause fractures of the hood.

- Never lift the engine compartment hood more than 20 degrees!

4. The rear area of the engine hood is lifted at an angle of approx. 20°.
5. Pull it out carefully backwards from its hold and lift it out.

5.8 Assembling the engine hood

Assembling Procedure

1. The locking takes place exactly vice-versa of the Disassembling the engine hood (➡ Page 24) procedure.
2. Make sure that the rubber seals fit exactly so that no water can get into the engine compartment.
3. Make sure that the engine hood is properly fastened.



5.9 Opening/closing the fuel filling cap

- ▶ To open the fuel filling cap, pull the tab up.

- ▶ To close the fuel filling cap, push the tab down.
 - ◀ You have to hear a click.





5.9.1 Overfill protection

If gasoline escapes during filling up or runs alongside, the overfill protection ensures that no gasoline can enter the engine compartment and reach the standing area.



6 Operation

6.1 Daily checks before the ride



DANGER

Mortal Danger Exhaust fumes contain carbon monoxide, a colourless, odorless and highly toxic gas. Inhalation of exhaust gases can cause a carbon monoxide poisoning, asphyxia and death.

- ▶ Never run the engine in a closed room.



CAUTION

Material Damage Material damage or system failures can occur if your PWC is not checked regularly.

- ▶ Do a check-up of the basic functionality of your PWC before every ride, even with regular inspections.



Info

Conduct the following checks once a day before starting a ride.

Checking Procedure



CAUTION

Material Damage The engine can get damaged.

- ▶ Always warm up the engine before a ride.
- ▶ Never switch off the engine with throttle lever fully open.



1. Warm up the engine. (➡ Page 31)

**DANGER**

Danger of Explosion The fuel vapors assembled in the engine compartment constitute a fire and explosion risk.

- Make sure that there is no fuel leakage in the engine compartment room.

2. Check the fuel tank level and refill if necessary.

**Info**

There is no reserve indicator!

3. Remove the engine hood.
4. Ventilate the engine compartment for a few minutes so that possible fuel vapors can escape.
5. Check the oil level. (➡ Page 32)
6. Check that the engine compartment drainage plug is tightened.
7. Check the water inlet for correct attachment and eliminate possible deposits.
8. Do a visual inspection of the battery and check for tightness.
9. Do a visual inspection of the jet-pump and check for tightness.
10. Check the status and function of the safety lanyard.
11. Check the protective clothing.
12. Feel the hull and check for damage.
13. Check all bolts, nuts, and holders that are part of a fixed screw connection or a fixing element for tight fitting. - Tighten if necessary.
14. Check all hose connections for tight fitting.
15. Check all hose connections and hose clips for cracks and damage - replace if necessary.



-
16. Check the steering for a smooth and steady operation and for excess clearance.



WARNING

Risk of Accident If the throttle lever gets stuck, it can result in a loss of control of the PWC.

- ▶ Check the throttle lever function several times.

-
17. Check the throttle lever for a smooth and steady operation.
- ◁ The throttle lever must return automatically to the original position when it is released.
18. Start the engine and run it for a short time.
19. Pull off the safety lanyard from the engine cut-off button.
- ◁ The engine has to stop right away.

6.2 Warming up the engine



DANGER

Mortal Danger Exhaust fumes contain carbon monoxide, a colourless, odorless and highly toxic gas. Inhalation of exhaust gases can cause a carbon monoxide poisoning, asphyxia and death.

- ▶ Never run the engine in a closed room.
-

**CAUTION**

Material Damage The engine can get damaged.

- ▶ Always warm up the engine before a ride.
- ▶ Never switch off the engine with throttle lever fully open.

Conditions

- The PWC is inside the water.

Operating Procedure

1. Run the engine in idle mode for at least 5 seconds until the oil is distributed over the entire lubrication circulation.
2. Afterwards, run the engine for 2 minutes with max. 1/2 throttle lever position on operation temperature.

6.3 Checking the oil level**Work Material**

- Nonfuzzing cloth

**Lubricants and Technical Substances**

• Engine Oil	fully synthetic 4 stroke	
	Viscosity	5W50
	Specification	API SJ-CF or higher



CAUTION

Material Damage An incorrect oil level can lead to a severe engine damage.

- ▶ Check the oil level regularly to ensure that the motor can run properly.
- ▶ Make sure that the PWC is in horizontal position (operating condition).
- ▶ Make sure that the engine is COLD. Just check after a short start of 5 seconds.



CAUTION

Material Damage An overheating could severely damage the engine and the exhaust system.

- ▶ **Never run the engine for more than 10 seconds outside of the water.**
- ▶ Outside of the water run the engine only in idle mode.



WARNING

Material Damage An oil level exceeding the overfill mark could cause a major engine damage.

- ▶ Never allow the oil level to exceed the maximum mark.

Conditions

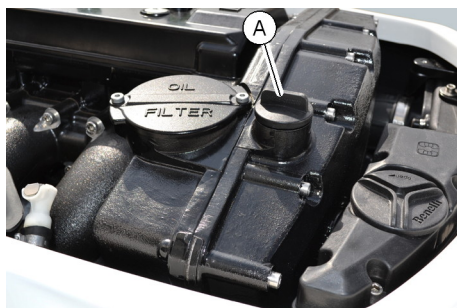
- The PWC is outside of the water.

Preparatory Tasks

- ▶ Start the engine for a couple of seconds and stop it again.
 - ◁ The engine is at operating temperature.

**Info**

The oil level will rise as the engine warms up.

Checking Procedure

A Oil dipstick

1. Unscrew the oil dipstick (**A**) from the oil module.



2. Wipe the dipstick off with a clean cloth.

Required Material

Nonfuzzing cloth

3. Put the dipstick back inside the oil module.
4. Pull the dipstick out again and check the oil level measurement.

Technical Data

The oil level should be between the MIN and MAX mark on the dipstick.

Result 1 of 2

The oil level is under the MIN mark.

- ▶ Refill some oil.

Required Material

Engine Oil fully synthetic 4 stroke Viscosity: 5W50 Specification: API SJ-CF or higher



Info

Use only Benelli recommended oil. Otherwise, we cannot recognize warranty claims.



Result 2 of 2

The oil level exceeds the MAX mark.

- ▶ Drain some oil from the oil module.
5. Screw the oil-dipstick back into the oil module.



6.4 Filling up the fuel tank



Lubricants and Technical Substances

✦ Gasoline (Petrol)	unleaded	
	Octane index	91 up to 98 RON
	Octane index	≥85 MON
✦ Gasoline (Petrol)*	unleaded	
	Octane index	95 up to 98 RON
	Octane index	≥85 MON
✦ US Premium Super*	unleaded	
	Octane index	95 up to 98 RON
✦ US Premium Regular*	unleaded	
	Octane index	91 up to 93
* Alternative		



Filling Quantities

✦ Fuel Tank	≤18 ℓ
Gasoline (Petrol)	(≤4.8 liq. gal _{US})



DANGER

Danger of Explosion Refueling near an open flame can cause an explosion.

- Never refuel near open flames.



CAUTION

Material Damage Refueling in the rain or in a dusty environment may result in a fuel contamination which can reduce or even damage the engine's functionality.

- ▶ Avoid refueling under such environmental conditions.



CAUTION

Danger of Pollution Refueling in the water can lead to environmental pollution.

- ▶ Never refuel in the water.

Preparatory Tasks

1. Always keep the PWC horizontal when filling the fuel tank.
2. Pull off the safety lanyard.



Info

Make sure the engine is switched off during the refueling procedure.



Filling Procedure



1. Open the fuel filling cap.



DANGER

Danger of Explosion The fuel vapors assembled in the engine compartment constitute a fire and explosion risk.

- Make sure that there is no fuel leakage in the engine compartment room.



CAUTION

Material Damage Low quality fuels or fuels that are not compliant with the industrial standard can lead to deficient engine performance. Continuous "knocking" can cause severe damage to the engine.

- Use a high quality gasoline type with a higher octane rating.



CAUTION

Environmental Pollution Fuel will expand under the influence of heat and may leak out through the fuel tank ventilation.

- Never fill the fuel tank up to the top edge. Pay attention to the maximum level marking.

2. Fill in the fuel.



Required Material	
Fuel Tank	≤18 ℓ
Gasoline (Petrol)	(≤4.8 liq. gal _{US})
Alternative	
Gasoline (Petrol) unleaded Octane index: 95 up to 98 RON Octane index: ≥85 MON	
US Premium Super unleaded Octane index: 95 up to 98 RON	
US Premium Regular unleaded Octane index: 91 up to 93	



Info

Do not pour the fuel too fast since the air in the tank will escape and the fuel will not flow in.
Pay attention to the maximum level.





3. Close the fuel filling cap correctly after refilling.

6.5 Checking the steering system

Checking Procedure

1. Check the correct fixing of the handle pole.
2. Move the handle bar slowly from one (steering) stop position to the other.



Info

The jet pump steering nozzle should move at the same ratio as the steering.

6.6 Battery

A sealed-type battery is installed in the Benelli PWC.

After the enclosed electrolyte has been filled into the battery for the first time, the sealing strip must not be removed again.

It is not necessary to check the electrolyte level of the battery or to add distilled water.



The battery is maintenance-free! You must however, maintain the charge of the battery as intended in order to maximize the life of the battery and to guarantee that the battery will supply the current necessary for starting your PWC.

When used regularly, the charging system helps to maintain the full charge of the battery.

However, if your PWC is only used occasionally, the battery might possibly get discharged.

**Info**

Batteries get discharged on their own because of the way they are built. The reason for the discharge depends on the type of battery and the ambient temperature.

When the temperature rises, the degree of discharge will increase.

6.6.1 Maintenance and care of the battery

**CAUTION**

Material Damage A misbehavior with the battery can cause a damage of the battery or a malfunction of the electrical system.

- ▶ Never remove the airtight battery cover.
- ▶ Do not replace the Benelli battery with a conventional one.
- ▶ Always follow the instructions on the battery cover when charging service-free batteries.
- ▶ Do not use quick chargers for cars. Benelli recommends special chargers. For more details contact your official Benelli dealer.

Every craft owner is responsible for maintaining the battery in fully charged condition.

If this is not done, the battery might fail and your PWC might not start.



If you use your PWC only rarely.

- ▶ The battery voltage must be checked every week with a voltmeter. If the voltage drops below 12.6 Volt, the battery must be charged with a suitable charger.

Required Material
Voltmeter
Battery charger Optimate 3

If you don't use your PWC for more than two weeks.

- ▶ The battery must be recharged with a suitable charger.

Required Material
Battery charger Optimate 3

6.6.2 Charging the battery



Work Material

 Battery charger	Optimate 3
---	------------



Info

If the voltage drops below 12.6 Volt, the battery must be charged.



Preparatory Tasks

- ▶ Remove the battery from the PWC, if possible.

Filling Procedure

- ▶ Charge the battery with a suitable charger for sealed batteries.

Required Material
Battery charger Optimate 3



Info

Follow the instructions on the battery cover.

6.6.3 Battery sulfation

Sulfation is a frequent cause for battery failure.

It occurs when the battery remains discharged for a long time.



Info

Sulfate is a normal waste product of the chemical reaction in the battery.



6.6.4 Checking the battery clamps

Checking Procedure

1. Check the battery clamps visually, they have to be fixed correctly.
2. Make sure the covers of the clamps are in place.
3. In case of capacity loss, look for the cause immediately.



Info

Never operate your PWC with a faulty battery.

6.7 Checking the throttle lever

Checking Procedure



WARNING

Risk of Accident If the throttle lever gets stuck, it can result in a loss of control of the PWC.

- ▶ Check the throttle lever function several times.
- ▶ Check the throttle lever for a smooth and steady operation and for excess clearance.
 - ◀ The throttle lever must return automatically to its original position when released.



Result

The throttle lever does not return automatically.

- ▶ Have the throttle checked by an official Benelli dealer.



6.8 Checking the safety lanyard

Checking Procedure

- ▶ Check the safety lanyard for damages (cracks, etc.).

Result

Lanyard damaged

- ▶ Replace the lanyard immediately by a new one.

6.9 Turning

To turn the PWC, two simultaneous actions are required:

- Turning the handle bar
- Accelerating

It is only through acceleration that the necessary water jet pressure will build up for changing the direction.



The stronger the pressure at the steering nozzle, the stronger the turn.

**WARNING**

Risk of Accident The craft cannot be steered when the engine is switched off. This leads to a loss of control and can cause an accident.

- ▶ Never switch off the engine while you are still maneuvering or want to make fast turns.

**WARNING**

Risk of Accident Releasing the throttle lever completely will make the PWC lose its controllability. This can lead to hitting objects.

- ▶ Always pull the throttle lever as much as to keep enough pressure for steering.

**WARNING**

Risk of Accident The PWC is very sporty and versatile. You could loose your hold and fall off during sharp maneuvers.

- ▶ Always ride according to your personal skills and knowledge.
- ▶ Accelerate slightly before you start to turn.
- ▶ To do a left-hand turn, move the handle bar to the left.
- ▶ To do a right-hand turn, move the handle bar to the right.



To make wide turns, a low steering nozzle pressure is required.



If you let the throttle lever go, there will be hardly any water jet pressure to control the turning operation.

**Info**

Only reduced controllability is possible.

**Info**

If the engine is switched off, there is no more water jet pressure and the PWC cannot be moved anymore.



6.10 Starting the engine



DANGER

Mortal Danger Exhaust fumes contain carbon monoxide, a colourless, odorless and highly toxic gas. Inhalation of exhaust gases can cause a carbon monoxide poisoning, asphyxia and death.

- ▶ Never run the engine in a closed room.

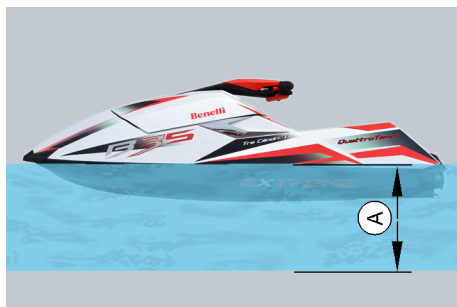


CAUTION

Material Damage Overheating could severely damage the engine and the exhaust system.

- ▶ Never run the engine for more than 10 seconds on land and on low rpms.

Operating Procedure



A Min water depth for operation 60cm

- ▶ Observe a minimum water depth of 60cm.



Info

Exhaust gases are toxic.



6.11 Starting from deep water

Operating Procedure

1. Make sure that the engine is switched off.
2. Swim to the stern.
3. Grab the handlebar with both hands.
4. Activate the engine start button.
5. Riding slowly, pull up yourself and rest your knees on the standing area.
6. Stand up.



7 Maintenance and Servicing

7.1 Storage

It is necessary to store the craft

- If the PWC is not used for more than 30 days
- At the end of the season when you shut down the PWC for the winter

7.1.1 Service needed for winter storage



CAUTION

Material Damage The battery and the oil may become unusable if the PWC is stored at low temperatures.

- ▶ Do not store your PWC at temperatures below 0° C.

Oil change

- ▶ Change the engine oil and oil filter. (➔ Page 56)



Info

The engine can begin to corrode internally due to contaminations of water, fuel and oil, left in the engine for a long time.

Conservation of the cylinders

- ▶ Unscrew the spark plugs of each cylinder.
- ▶ Fill the spark plug drillings with starter fluid or light oil.

**Required Material****Starter fluid**

Starter fluid

 $\leq 3 \text{ cm}^3$ $(\leq 0.18 \text{ in}^3)$

- ▶ Briefly rev up the engine.
- ▶ Screw in the spark plugs again.

Battery

- ▶ Dismantle the battery.
- ▶ Store the battery in a dry, nonfreezing space.

**Info**

In order to avoid damage to the battery, charge it approx. once a month.

Water cooling circuit

- ▶ Rinse the water cooling circuit. (➡ Page 52)

Fuel tank

- ▶ Fill the tank up with gasoline.

**Info**

A full tank prevents the formation of humidity.

- ▶ Mix the fuel with fuel stabilizer.

**Info**

Fuel begins to decompose itself after approx. 30 days. Stabilizer protects against decomposition. Consider the indicated mixing proportion.

Engine

- Flush the engine with an Antifreeze mixture via the flush kit.

Required Material

Antifreeze mixture

**Info**

Please use only antifreeze, compatible with Aluminium materials.

**Info**

The engine cooling system may be damaged when water stays inside.

7.2 Rinsing the water cooling circuit

**Technical Data**

Water pipe pressure

≤2 bar

(≤29 psi)

**Info**

Rinse the water cooling circuit according to the maintenance plan, also after every seawater ride.

Cleaning Procedure

1. Clamp the water hose to the tail pipe.
2. Connect the flush kit to the water hose. (➡ Page 53)
3. Thoroughly rinse the water cooling circuit by starting the engine (within 5 sec.) until the water runs clear of dirt like salt, sand, sea shells and other pollution.

Technical Data

Water pipe pressure

≤2 bar
(≤29 psi)

4. Stop rinsing and switch off the engine.

7.2.1 Connecting the flush kit**Work Material**

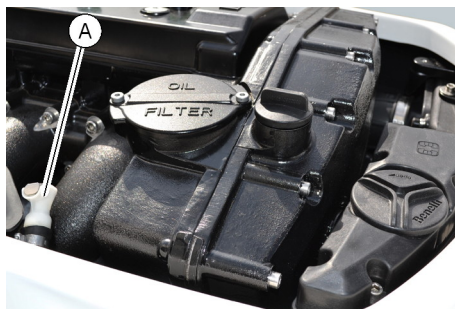
Flush-Kit

**Info**

The Flush kit enables you to rinse and clean the water cooling circuit after a ride and to maintain your PWC properly.



Connecting Procedure



A Flush kit device

1. Mount the flush kit connection and connecting piece.

Required Material
Flush-Kit

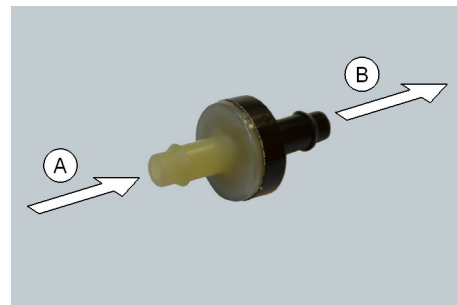
2. Attach the flush kit to the water pipeline on the engine.



7.3 Fuel system

7.3.1 Fuel ventilation

The fuel filler hose has a check valve. The check valve allows air movement. When rolling over, it will keep any leakage from the PWC to a minimum.



A Fresh air

B Fuel tank

7.3.2 Checking the fuel ventilation valve

Checking Procedure

- ▶ Have the valve checked by an official Benelli dealer according to the inspection table.



7.4 Lubrication system

Make sure that the engine oil is always at the prescribed level so that the engine can work properly.

Change the oil filter and the oil exactly according to the inspection table.



Info

Oil will lose some of its lubrication effects over time.

Contamination as dirt, water, unburned fuel can be entrapped into the oil as well.

7.5 Changing the engine oil and oil filter



Work Material

•	Oil filter
•	O-Ring



Lubricants and Technical Substances

•	Engine Oil	fully synthetic 4 stroke
	Viscosity	5W50
	Specification	API SJ-CF or higher



Filling Quantities

•	Oil tank	4.0 up to 4.5 ℓ
	Engine Oil	(1.06 up to 1.19 liq. gal _{us})

**Technical Data**

✚	Tightening torque oil filter cover	10 N·m (7.4 ft·lb _r)
◀▶	Tightening torque spark plugs	12 N·m (8.9 ft·lb _r)
◀▶	Idling rpm - in water	1,500 up to 1,750 rpm (25 up to 29.17 Hz)

**Info**

If the engine is cold when changing the engine oil, some of the old oil may remain in the oil circuit. Therefore, change the engine oil only when the engine is warm.

Changing Procedure

1. Remove the oil dip stick.





2. Pump out the oil with an extraction pump, put the suction hose as far as possible into the oil module.
3. Pump out the oil from the oil module completely. Use a suitable container to catch up the oil.

**Info**

There are separator walls inside the oil module. If the oil suction hose is not carefully inserted, it may not reach the bottom of the oil module and some of the old oil may remain in the tank.



4. Remove the oil filter cover.



5. Remove the oil filter.



6. Remove the spark plugs. (➡ Page 64)
7. Again insert the suction hose of the oil extraction pump into the oil module.



CAUTION

Material Damage Revving up the engine with the starter for too long may cause an insufficient lubrication of the engine and an overload of the starter.

- ▶ Do not rev up the engine for an unnecessary long period of time (max 5 sec).

8. Rev the starter for a few seconds and extract out the oil from the system.



Info

Don't rev the engine for more than 5 seconds.

9. Repeat this procedure 3-4 times, to extract the oil completely.
10. Clean the oil filter housing and cover.



11. Coat a new O-ring slightly with engine oil.
12. Install a new oil filter.
13. Install the oil filter cover and tighten the screws.

Technical Data	
Tightening torque oil filter cover	10 N·m (7.4 ft·lb _f)

Required Material	
Oil filter	
O-Ring	

14. Fill the the oil tank with fresh engine oil.

Required Material	
Engine Oil fully synthetic 4 stroke Viscosity: 5W50 Specification: API SJ-CF or higher	
Oil tank Engine Oil	4.0 up to 4.5 ℓ (1.06 up to 1.19 liq. gal _{US})

15. Insert the oil dip stick and tighten up.



Finishing Tasks

**CAUTION**

Material Damage Too much oil in the engine can cause severe engine damage.

- ▶ Never fill more than 4.5 l of oil into the engine.

1. Install the spark plugs. (➡ Page 69)

Technical Data	
Tightening torque spark plugs	12 N·m (8.9 ft·lb _f)

**DANGER**

Mortal Danger Exhaust fumes contain carbon monoxide, a colourless, odorless and highly toxic gas. Inhalation of exhaust gases can cause a carbon monoxide poisoning, asphyxia and death.

- ▶ Never run the engine in a closed room.

**CAUTION**

Material Damage An overheating could severely damage the engine and the exhaust system.

- ▶ **Never run the engine for more than 10 seconds outside of the water.**
- ▶ Outside of the water run the engine only in idle mode.

2. Start the engine, and run it in the idle position for 10 sec.

**Technical Data**

Idling rpm - in water

1,500 up to 1,750 rpm
(25 up to 29.17 Hz)

3. Stop the engine.
4. Check the oil level. (➡ Page 32)

7.6 Valve clearance

The clearance of the valve and the valve seats will be increased by wear and tear.

This causes a change of valve timing.

- ▶ The valve clearance for each individual valve must be checked and adjusted according to maintenance plan.

**Info**

Please have settings and inspections done only by an official Benelli dealer.

7.6.1 Checking/adjusting the valve clearance

**CAUTION**

Material Damage When the valve clearance is not adjusted correctly, the valve might remain partly open reducing the engine performance and deteriorating engine emissions. The valves and valve seats will burn and this may cause severe damage to the engine.

- ▶ Check the valve clearance and adjust it if necessary.



Adjusting Procedure

- ▶ The valve clearance for each individual valve must be checked and adjusted according to the maintenance plan.

**Info**

Please have settings and inspections done only by an official Benelli dealer.

7.7 Renewing the spark plugs

**Work Material**

Spark plug

NGK DCPR 7E

Changing Procedure

1. Remove the spark plugs. (➡ Page 64)
2. Check the candle face. (➡ Page 68)
3. Check the spark plugs. (➡ Page 66)

Required Material

Spark plug
NGK DCPR 7E

4. Install the spark plugs. (➡ Page 69)



7.7.1 Removing the spark plugs



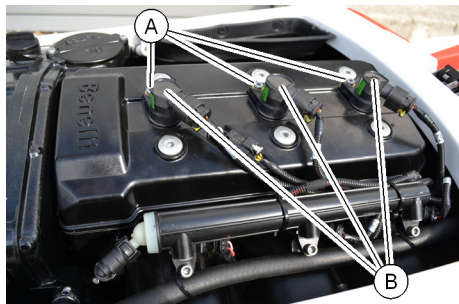
Work Material

• Spark plug spanner

16 mm

SW 16

Removal Procedure



A Securing screw

B Ignition coil



CAUTION

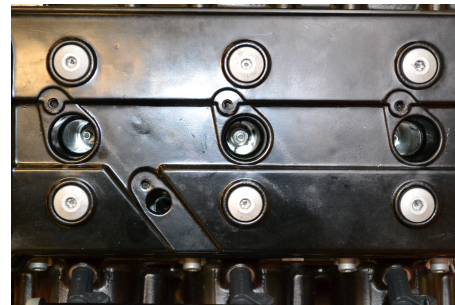
Material Damage Changing the spark plugs when the engine is still hot may damage the thread in the cylinder head spark plug hole.

► Only change the spark plugs with a cold or lukewarm engine.

1. Disconnect the cable connectors of the 3 ignition coils.
2. Unscrew the ignition coils screws **(A)** from the cylinder head cover and remove them.
3. Remove the ignition coils **(B)**.



4. Clean the spark plug holes with compressed air.



5. Undo the spark plugs.

Required Material
Spark plug spanner
16 mm
SW 16





7.7.2 Cleaning the spark plugs



Work Material

• Brass wire brush

Cleaning Procedure

- Clean the thread of the spark plugs contaminated with combustion residues.

Required Material

Brass wire brush

7.7.3 Checking the spark plugs



Work Material

• Feeler Gauge



Technical Data

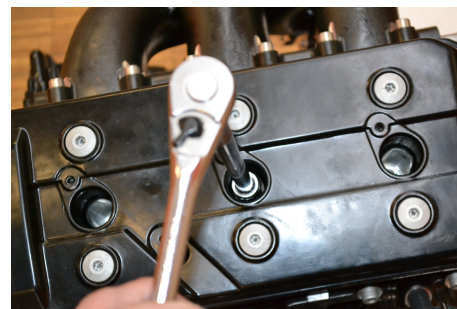
• Electrode gap spark plug

0.69 up to 0.84 mm
(0.0272 up to 0.0331 in)



Checking Procedure

1. Undo the spark plug.



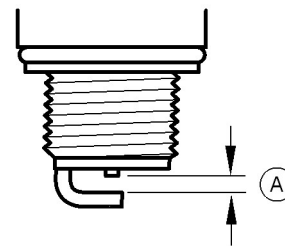
2. Insert the feeler gauge between the electrodes of the spark plug.

Technical Data	
Electrode gap spark plug	0.69 up to 0.84 mm (0.0272 up to 0.0331 in)
Required Material	
Feeler Gauge	

Result

The value differs from the standard value range.

- ▶ Adjust the electrode gap accordingly.

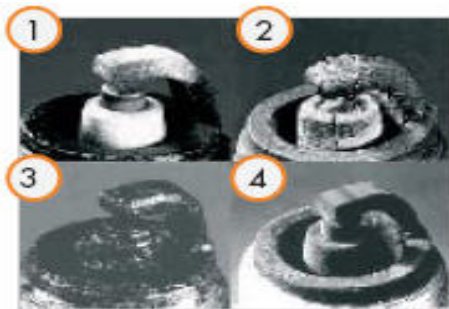


A Electrode gap: 0,69-0,84 mm



7.7.4 Checking the candle face

Checking Procedure



- Check the electrodes.



Info

Conclusions to the operation status of the engine can be made from the appearance.

Result 1 of 4

Electrodes and insulator: Central grey **(1)**

Spark plug and ignition is O.K.

Result 2 of 4

Electrodes and insulator: Light grey **(2)**

Mixture too lean.

Result 3 of 4

Electrodes and insulator: Oily **(3)**

Misfiring or badly sealing piston rings.

Result 4 of 4

Electrodes and insulator: Black **(4)**

Mixture too rich.



7.7.5 Installing the spark plugs



Technical Data

✦ Tightening torque spark plugs	12 N·m (8.9 ft·lb _f)
✦ Tightening torque ignition coils	10 N·m (7.4 ft·lb _f)

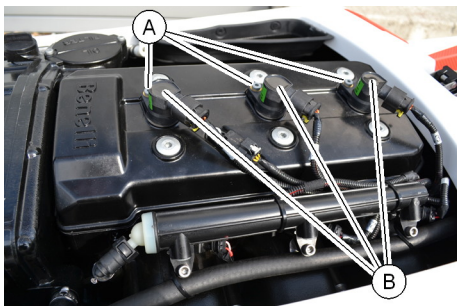
Assembling Procedure

1. Clean the threads of the spark plugs.
2. Screw the spark plugs into the cylinder head and then tighten them to the prescribed torque.

Technical Data

Tightening torque spark plugs	12 N·m (8.9 ft·lb _f)
-------------------------------	-------------------------------------





A Securing screw

B Ignition coil

3. Install the ignition coils **(B)** and tighten the screws **(A)**.

Technical Data	
Tightening torque ignition coils	10 N·m (7.4 ft·lb _f)

4. Connect the cable connectors to the ignition coils.

7.8 Steering

7.8.1 Checking the steering system

Checking Procedure

1. Check the steering.
2. If the steering is stiff or jerky or the cables are damaged, contact an official Benelli dealer.



Info

The repair of the steering is to be done by an official Benelli dealer.



7.8.2 Adjusting the steering cable



Lubricants and Technical Substances



Liquid glue

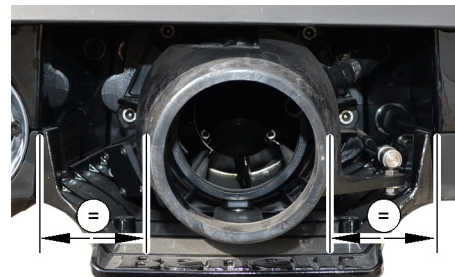
Adjusting Procedure

1. Hold the handle bar in straight forward position.
2. Check the distance of the steering nozzle to the left and the right side.
 - ◁ The distance must be the same on the left and the right side.

Result

The distance is not the same.

- ▶ Adjust the steering cable.
3. Pull the steering cable back.





4. Disconnect the steering cable from the steering nozzle at the ball connection.
5. Pull up the connection.
 - ◁ The cable will be free from the connection.
6. Loosen the counter nut at the end of the steering cable on the right-hand side.

**Info**

Keep the steering always in straight forward position.

**WARNING**

Risk of Accident If not adequately assembled, the counter nut can loosen up by itself. This may lead to risky driving conditions.

- Apply liquid glue to the counter nut after it has been adjusted correctly.

7. Turn the cable connection to adjust the steering.
8. Apply a liquid glue to the nut before tightening it.

Required Material

Liquid glue

9. Apply it to the counter nut too after it has been adjusted correctly.

10. Reconnect the steering cable at the ball connection.

**Info**

Make sure the connection locks securely over the ball.

11. As an additional check, turn the steering to the left and to the right until the handlebar stops and measure the distance between the jet nozzle and the jet drive outlet.

◁ The distance should be the same on both sides.

Result

The distance is not the same on both sides.

- Adjust the steering cable accordingly.

7.8.3 Adjusting the idling rpm

**Technical Data**

Idling rpm - in water

1,500 up to 1,750 rpm
(25 up to 29.17 Hz)

**Info**

The setting of the idling rpm has to be done by an official Benelli dealer.

Adjusting Procedure

- Check the idling rpm.

Technical Data

Idling rpm - in water

1,500 up to 1,750 rpm
(25 up to 29.17 Hz)

**Result**

The idling rpm varies from the standard value range.

- ▶ Check the throttle housing.

7.9 Servicing and guarantee

In order to keep your PWC in working condition it needs to undergo regular service procedures.

Professional servicing is absolutely necessary to maintain a permanently low level of emissions for your PWC.

This operation manual contains all the necessary information and servicing recommendations for your engine.

One condition for the guarantee given by Benelli is that you have done the change of parts and servicing of your PWC by an authorized Benelli dealer.

Please read the guidelines for a guarantee carefully.

Benelli can only grant the guarantee if these guidelines have been met.

7.10 Maintenance tasks checking

7.10.1 Checking all hose pipes

Checking Procedure

- ▶ Check all hose pipes, hose clips, nuts, bolts and fixing elements.



7.10.2 Checking the engine mounts

Checking Procedure

1. Check the engine mounts.
2. Renew if necessary.

7.10.3 Checking the engine mount bolts

Checking Procedure

- ▶ Check the engine mount bolts and tighten them if necessary.

7.11 Maintenance tasks lubricating

7.11.1 Lubricating the steering pivot

Lubricating Procedure

- ▶ Lubricate the steering pivot.



Info

The control shaft must be dismantled for lubrication.
Have this service done only by an official Benelli dealer.





7.11.2 Lubricating the steering cable

Lubricating Procedure

- Lubricate the steering cable connection on the steering shaft, the ball joints and the steering.

7.11.3 Lubricate the jet pump



Lubricants and Technical Substances

• Deep-penetrating rust protection	WD 40
• Water-resistant grease	



Info

Regular lubrication and anti-rust treatment are indispensable for the life and reliability of your PWC.

The lubrications are to be carried out according to the “inspection table” and the section “Daily checks before a ride”.



Info

The control shaft must be dismantled for lubricating.

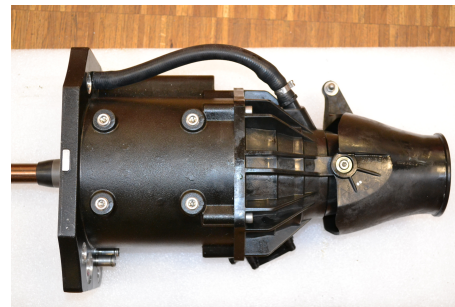
Have this servicing only done by an official Benelli dealer.



Lubricating Procedure

1. Lubricate the steering nozzle pivots.

Required Material
Deep-penetrating rust protection
WD 40
Water-resistant grease



2. Lubricate the switch ball and socket joint.

Required Material
Water-resistant grease



3. Lubricate the control joint.

**Required Material**

Water-resistant grease

7.12 Maintenance tasks cleaning

7.12.1 Cleaning the vehicle inside and outside

Cleaning Procedure

**CAUTION**

Material Damage or Malfunction Cleaning the vehicle with a high pressure cleaning equipment can cause material damage and a malfunction of the system.

- ▶ Never use a high pressure cleaning equipment to clean the vehicle.

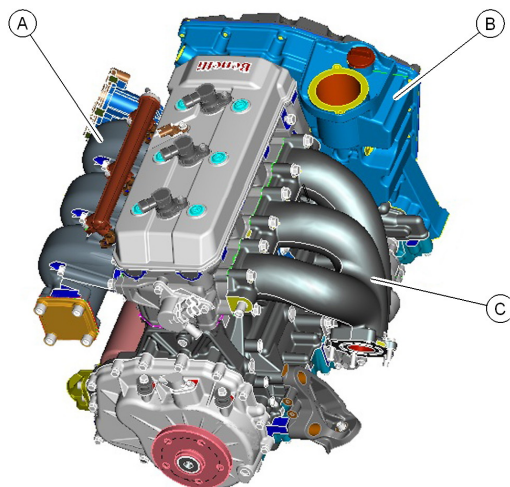
- ▶ Clean the vehicle with clear water.



8 Engine description

8.1 Engine

Engine complete



A Intake manifold

B Oil module

C Exhaust manifold

This is a normal aspirated engine with an open loop cooling system. The required water for cooling the engine is supplied via the jet pump, after the cooling process the water is returned to the sea/lake.



The difference between the NA engines (from 135hp to 180hp) is mainly the ECU map, distribution phase and different intake camshafts.

8.2 Safety notes

Damage to the engine as a result of not approved lubrication or fuel will not be accepted as warranty claim. Furthermore the engine will not be repaired by means of fair trading.

Same applies to damage caused by inappropriate handling and outside effects on the engine.

If work on the engine is executed - no matter which type - screws and/or nuts have to be fastened with the prescribed tightening torque.

Likewise, if a certain sequence is prescribed for tightening screws and nuts, then this has to be obeyed. The same applies to screw locking procedures.

Always use new seals if sections of the engine have to be installed or removed.

While handling fuels of all kinds, the highest caution is required. Work on the engine is forbidden while holding lighted cigarettes or other burning objects. This can lead to an inflammation of the fuel.

Parts of the fuel system have to be exchanged immediately when there is a visible damage.

8.3 Engine data general - Extreme

- Engine Type: Marine 3 cylinder - 4 stroke
- Engine family: I3C16 TM
- Displacement: 1602 cc
- Bore x stroke: 100 x 68 mm
- Performance: 180 HP
- Intake System:



Multi point fuel injection

Naturally aspirated

Electronic throttle body with 60 mm diameter

- Exhaust system: Water cooled, single stage downpipe with water injection
- Valve train:
Direct acting, double overhead camshaft
4 valves per cylinder
- Compression ratio: 11,5 : 1
- Lubrication system: Full dry sump oil pump
- Cooling system: Open loop cooling system
- Fuel type:
91 octane minimum via active knock control
95 octane recommended

8.4 Engine data general - Dynamic

- Engine Type: Marine 3 cylinder - 4 stroke
- Engine family: I3C16 TM
- Displacement: 1602 cc
- Bore x stroke: 100 x 68 mm
- Performance: 135 HP
- Intake System:
Multi point fuel injection
Naturally aspirated
Electronic throttle body with 60 mm diameter



- Exhaust system: Water cooled, single stage downpipe with water injection
- Valve train:
Direct acting, double overhead camshaft
4 valves per cylinder
- Compression ratio: 11,5 : 1
- Lubrication system: Full dry sump oil pump
- Cooling system: Open loop cooling system
- Fuel type:
91 octane minimum via active knock control
95 octane recommended

8.4.1 Filling quantity

Fuel Tank	Gasoline (Petrol) ≤18 ℓ (≤4.8 liq. gal _{US})	Gasoline (Petrol)
Oil tank	Engine Oil 4.0 up to 4.5 ℓ (1.06 up to 1.19 liq. gal _{US})	Engine Oil

8.4.2 Engine management system

Benelli '**SMPI-K**': Sequential Multi-Point Injection with Knock Control.



8.4.3 Function range engine management

- Engine characteristic-based sequential fuel injection and ignition
- Adjustment to dynamic operating conditions
- Cold start adjustment
- Overspeed revolution limiter

8.4.4 Sensors of the engine management

- Cooling circuit temperature
- Intake air temperature
- Height correction
- Camshaft rpm
- Cylinder 1-recognition via phase sensor
- Monitoring of open loop seawater supply via temperature switch
- Air pressure sensor



9 Faults and repair measures

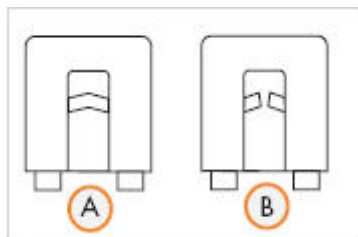
9.1 Fuses



WARNING

Fire Inaccurate fuses can cause fire.

- ▶ Do not replace fuses by substitutes. Replace fuses only with a new fuse with the correct capacity.



A Normal

B Defect

- ▶ If a fuse burns through during operation, check the electrical system to find the cause.
- ▶ Replace the defect fuse with a new one of the corresponding ampere.



9.2 Fuse box

The fuse box is part of the wiring harness and is fixed in the engine compartment.

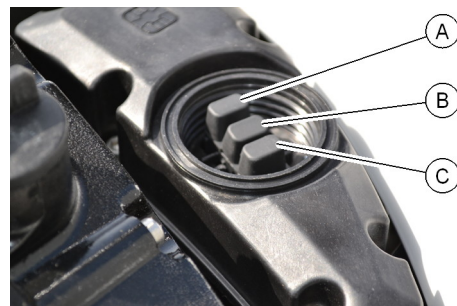


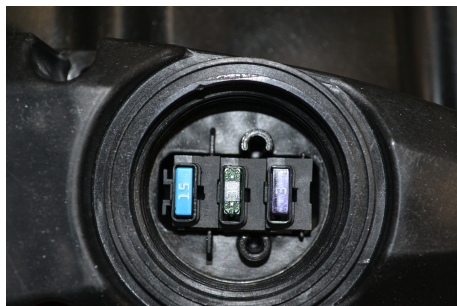
There are 3 fuses with different amperage plugged in the fuse box.

The fuses are protected with a rubber bushing.

Fuses

- | | |
|---|------|
| A | 15 A |
| B | 30 A |
| C | 3 A |



**Info**

For changing a fuse, the rubber bushing can be removed easily.

9.3 Trouble shooting

9.3.1 Engine does not start

N°	Possible Cause	Finding	Remedy
1	Engine has no power	Engine does not turn	Continue at: 2
		Engine turns	Continue at: 8
2	Safety lanyard clip not inserted at engine stop button	Confirmed	► Insert the safety lanyard.
		Not confirmed	Continue at: 3
3	Battery flat	Confirmed	► Charge the battery. (➡ Page 42)
		Not confirmed	Continue at: 4
4	Battery not connected	Confirmed	► Connect the battery.
		Not confirmed	Continue at: 5



N°	Possible Cause	Finding	Remedy
5	Water in the engine	Confirmed	► Drain the engine.
		Not confirmed	Continue at: 6
6	Ignition cables with the coils are pulled off	Confirmed	► Install the ignition cables and check connections.
		Not confirmed	Continue at: 7
7	Cable coatings defect	Confirmed	► Check the cable coatings for defects.
		Not confirmed	
8	Low fuel level	Confirmed	► Fill the fuel tank. (➡ Page 36)
		Not confirmed	Continue at: 9
9	Pressure in the fuel tank	Confirmed	► Release the pressure in the fuel tank.
		Not confirmed	Continue at: 10
10	Fuel tank ventilation blocked	Confirmed	► Check the fuel tank ventilation.
		Not confirmed	Continue at: 11
11	Exhaust gas escaping in the engine compartment	Confirmed	► Ventilate the engine compartment and check for loose sealings.
		Not confirmed	Continue at: 12
12	Air temperature sensor defect	Confirmed	► Renew the sensor.
		Not confirmed	



9.3.2 Engine starts but stops again immediately

N°	Possible Cause	Finding	Remedy
1	Low fuel level	Confirmed	► Fill the fuel tank. (➡ Page 36)
		Not confirmed	Continue at: 2
2	Pressure in the fuel tank	Confirmed	► Release the pressure in the fuel tank.
		Not confirmed	Continue at: 3
3	Fuel tank ventilation blocked	Confirmed	► Check the fuel tank ventilation.
		Not confirmed	Continue at: 4
4	Exhaust gas escaping in the engine compartment	Confirmed	► Ventilate the engine compartment and check for loose sealings.
		Not confirmed	Continue at: 5
5	Air temperature sensor defect	Confirmed	► Renew the sensor.
		Not confirmed	

9.3.3 Engine not running smoothly

N°	Possible Cause	Finding	Remedy
1	Engine misfiring	Confirmed	Continue at: 2
		Not confirmed	
2	Ignition spark weak	Confirmed	Continue at: 3
		Not confirmed	Continue at: 5



N°	Possible Cause	Finding	Remedy
3	Spark plugs dirty or worn out	Confirmed	► Clean the spark plugs. (➡ Page 66) ► Renew the spark plugs. (➡ Page 63)
		Not confirmed	Continue at: 4
4	Spark plug connection loose	Confirmed	► Connect the spark plugs.
		Not confirmed	
5	Fuel mixture not ok	Confirmed	Continue at: 6
		Not confirmed	
6	Malfunction of fuel injection unit	Confirmed	► Check the fuel injection unit.
		Not confirmed	Continue at: 7
7	E.C.U. malfunction	Confirmed	► Consult a Benelli dealer for checking the E.C.U.
		Not confirmed	Continue at: 8
8	Mixture too lean	Confirmed	Continue at: 9
		Not confirmed	Continue at: 12
9	Low fuel level	Confirmed	► Fill the fuel tank. (➡ Page 36)
		Not confirmed	Continue at: 10
10	Fuel sieves and / or filters blocked	Confirmed	► Clean the fuel pump sieve / filter.
		Not confirmed	Continue at: 11
11	Fuel tank filler blocked	Confirmed	► Check the fuel tank filler.
		Not confirmed	
12	Mixture too rich (high consumption)	Confirmed	Continue at: 13



N°	Possible Cause	Finding	Remedy
12	Mixture too rich (high consumption)	Not confirmed	
13	Flame arrester dirty	Confirmed	► Clean the flame arrester.
		Not confirmed	Continue at: 14
14	Pressure in the fuel tank	Confirmed	► Release the pressure in the fuel tank.
		Not confirmed	

9.3.4 Engine performance weak

N°	Possible Cause	Finding	Remedy
1	Engine misfiring	Confirmed	Continue at: 2
		Not confirmed	Continue at: 15
2	Ignition spark weak	Confirmed	Continue at: 3
		Not confirmed	Continue at: 5
3	Spark plugs dirty or worn out	Confirmed	► Clean the spark plugs. (→ Page 66) ► Renew the spark plugs. (→ Page 63)
		Not confirmed	Continue at: 4
4	Spark plug connection loose	Confirmed	► Connect the spark plugs.
		Not confirmed	
5	Fuel mixture not ok	Confirmed	Continue at: 6
		Not confirmed	
6	Malfunction of fuel injection unit	Confirmed	► Check the fuel injection unit.



N°	Possible Cause	Finding	Remedy
6	Malfunction of fuel injection unit	Not confirmed	Continue at: 7
7	E.C.U. malfunction	Confirmed	► Consult a Benelli dealer for checking the E.C.U.
		Not confirmed	Continue at: 8
8	Mixture too lean	Confirmed	Continue at: 9
		Not confirmed	Continue at: 12
9	Low fuel level	Confirmed	► Fill the fuel tank. (➔ Page 36)
		Not confirmed	Continue at: 10
10	Fuel sieves and / or filters blocked	Confirmed	► Clean the fuel pump sieve / filter.
		Not confirmed	Continue at: 11
11	Fuel tank filler blocked	Confirmed	► Check the fuel tank filler.
		Not confirmed	
12	Mixture too rich (high consumption)	Confirmed	Continue at: 13
		Not confirmed	
13	Flame arrester dirty	Confirmed	► Clean the flame arrester.
		Not confirmed	Continue at: 14
14	Pressure in the fuel tank	Confirmed	► Release the pressure in the fuel tank.
		Not confirmed	
15	Exhaust blocked.	Confirmed	► Clean the exhaust system.
		Not confirmed	Continue at: 16



N°	Possible Cause	Finding	Remedy
16	Water in fuel or oil	Confirmed	► Drain the fuel tank, refresh oil.
		Not confirmed	Continue at: 17
17	Exhaust gas escaping in the engine compartment	Confirmed	► Ventilate the engine compartment and check for loose sealings.
		Not confirmed	Continue at: 18
18	Engine overheating	Confirmed	Continue at: 19
		Not confirmed	
19	Weeds or flotsam in the jet pump	Confirmed	► Remove weeds and flotsam.
		Not confirmed	Continue at: 20
20	Cooling system blocked	Confirmed	► Clean cooling system.
		Not confirmed	

9.3.5 Engine knocking

N°	Possible Cause	Finding	Remedy
1	Poor fuel quality	Confirmed	► Refill only recommended fuel.
		Not confirmed	



9.3.6 Engine smokes

N°	Possible Cause	Finding	Remedy
1	Oil level too high	Confirmed	► Contact an authorized Benelli dealer.
		Not confirmed	Continue at: 2
2	Internal damage to the engine	Confirmed	► Contact an authorized Benelli dealer.
		Not confirmed	Continue at: 3
3	Water penetrated because of a damaged cylinder head gasket	Confirmed	► Contact an authorized Benelli dealer.
		Not confirmed	

9.3.7 Engine cannot achieve maximum speed

N°	Possible Cause	Finding	Remedy
1	Jet pump clogged	Confirmed	► Clean the Jet pump.
		Not confirmed	Continue at: 2
2	Impeller damaged	Confirmed	► Contact an authorized Benelli dealer for replacement.
		Not confirmed	



9.3.8 Cavitation

N°	Possible Cause	Finding	Remedy
1	Debris caught in the impeller.	Confirmed	► Clean and check for damage.
		Not confirmed	Continue at: 2
2	Impeller damaged	Confirmed	► Contact an authorized Benelli dealer for replacement.
		Not confirmed	Continue at: 3
3	Water penetrating through leaking oil seals leads to a corrosion of the ball bearings and causes the bearings to seize	Confirmed	► Contact an authorized Benelli dealer.
		Not confirmed	

9.3.9 Steering too hard or jerky

N°	Possible Cause	Finding	Remedy
1	Steering nozzle pivot not sufficiently lubricated	Confirmed	► Lubricate the steering nozzle pivot.
		Not confirmed	

9.4 Environmental protection

Dispose of your waste correctly (environmental pollution is against the law).

Do not pollute beaches, coastal areas, and waters with petrol and oil.

Take care of natural habitats and their flora and fauna.

Make sure to properly dispose of your PWC's empty batteries, accumulators, engine oil, and other parts.



Consult your authorized Benelli dealer or the competent local environmental protection authorities for proper waste disposal methods.



10 Technical data

10.1 Dimensions

Technical Data	
Length	≤2.46 m (≤8 ft – 0.9 in)
Width	≤0.73 m (≤2 ft – 4.7 in)
Height	≤0.66 m (≤2 ft – 2 in)
Weight (dry)	≤199 kg (≤438.7 lb)
Recommended weight of the rider	≤120 kg (≤264.6 lb) Info Including fuel and items

10.2 Filling Quantity

Fuel Tank	Gasoline (Petrol) ≤18 ℓ (≤4.8 liq. gal _{US})	Gasoline (Petrol)
Oil tank	Engine Oil 4.0 up to 4.5 ℓ (1.06 up to 1.19 liq. gal _{US})	Engine Oil



10.3 Operating temperature

Technical Data	
Operating temperature	0 up to 48 °C (32 up to 118.4 °F)





Appendix

A Maintenance Plan

A.1 Maintenance

Interval	Maintenance Tasks	Page
before every ride	Lubrication System	
	Checking the oil level	32
	 Engine Oil	
after the first 10 h	Boat complete	
	Checking all hose pipes	74
	Cooling system	
	Rinsing the water cooling circuit	52
	Cylinder Head	
	Checking/adjusting the valve clearance	62
	Checking the spark plugs	66
	Lubrication System	
	Changing the engine oil and oil filter	56
	 Engine Oil	



Interval	Maintenance Tasks	Page
every 25 h	Boat complete	
	Checking all hose pipes	74
	Electrical System cpl asm	
	Checking the battery clamps	44
	Fuel Unit	
	Checking the fuel ventilation valve	55
	Jet Pump	
	Lubricate the jet pump	76
	 Water-resistant grease	
	 Deep-penetrating rust protection	
	Lubrication System	
	Changing the engine oil and oil filter	56
	 Engine Oil	
	Steering	
	Lubricating the steering pivot	75
	Lubricating the steering cable	76



Interval	Maintenance Tasks	Page
every 50 h	Cylinder Head	
	Renewing the spark plugs	63
	Engine	
	Checking the engine mount bolts	75
every 100 h	Bumpers	
	Checking the engine mounts	75
	Cylinder Head	
	Checking/adjusting the valve clearance	62
	Steering	
	Checking the steering system	70
at least once a year	Cooling system	
	Rinsing the water cooling circuit	52
	Cylinder Head	
	Renewing the spark plugs	63
	Engine	
	Checking the engine mount bolts	75
	Lubrication System	
	Changing the engine oil and oil filter	56
	 Engine Oil	



Interval	Maintenance Tasks	Page
After every ride in salt water	Boat complete	
	Cleaning the vehicle inside and outside	78
	Cooling system	
	Rinsing the water cooling circuit	52



B Service Data

B.1 PWC Details

Owner's name_____

Address_____

Phone number_____

E-mail_____

Name of the Benelli dealer_____

Hull number_____

Engine number_____

Beginning date of guarantee_____



B.2 Engine Check

Date	Running time of engine	Name/Address of specialist dealer
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



B.3 Engine Check

Date	Running time of engine	Name/Address of specialist dealer



B.4 Engine Check

Date	Running time of engine	Name/Address of specialist dealer
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



B.5 Engine Check

Date	Running time of engine	Name/Address of specialist dealer
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



B.6 Notes



B.7 Notes



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