Translation of the original instructions starting from serial number: **3800259**

04/2025

MECCANICA BENASSI s.r.l.

RF 710 hydro mower

User and Maintenance Manual

1a - *GENERAL DESCRIPTION OF THE MACHINE AND ITS PURPOSE*

The **RF 710 hydro** mower is a professional machine designed and built for mowing grass. It is designed for professional and trained operators, who have the knowledge and experience necessary to understand how to work minimising risks and hazards.

1b – *USER'S MANUAL*

When present, the hazard symbol indicates a situation that may cause death or serious injury to the operator or exposed persons.

A careful reading and understanding of this manual is a **MANDATORY** and **FUNDAMENTAL** condition to properly use the machine, to prevent damage, injury or death. The manual must be kept carefully. Any possible operator other than the machine buyer must read and understand the manual as well. In case of sale, rental, loan, contract works etc., this manual must be always supplied with the machine. **In case of loss, ask for a copy** from the trusted dealer or the manufacturer himself. It is also advisable to download a PDF copy from *www.benassi.it* to be able to consult it also from your smartphone or in case of (temporary) loss of the paper copy. In the event the user does not observe the instructions contained in this manual, (s)he will be responsible for any damage to people, objects, animals or property. It is **MANDATORY** and **ESSENTIAL** to also read and understand the engine manufacturer's user manual, supplied with the machine.

CONTENTS

1c – *INTENDED USE*

The only intended use is mowing on grassy soils. The machine is designed for use by a single operator who guides it using the handlebar controls, walking behind it. In compliance with ALL the requirements indicated in this manual and in that of the engine manufacturer.

1d – *UNFORESEEN, FORBIDDEN AND DANGEROUS USE*

<u>It is forbidden to use the machine:</u>

Like a toy. As a means of towing, towing or pushing. For the transport of things, people, animals. As a generic shredder. For mowing on roofs or dangerous surfaces, artificial, raised. For transfers on public roads. In any other condition not mentioned in paragraph 1c above "*INTENDED USE*"

Any damage resulting from unforeseen, prohibited or dangerous use invalidates any warranty claim relating to the machine, engine and hydrostatic transmissions.

2a – *PICTOGRAMS: explanation of the meaning*

WARNING SIGNS:

Read and understand this manual before using the machine. Object projection hazard. Keep a safety distance from other people, objects and animals. Be careful not to come into contact with the rotating mechanical parts, even if they are protected. Before any maintenance operation, remove the ignition key and spark plug cap. Noise-proof headphones and visor must be worn.

Pay attention to the moving parts, especially in the area of the blade plate.

Burn hazard due to hot metal covers in the area around engine and muffler.

All the prescriptions and procedures summarized by the pictograms are explained later in this manual.

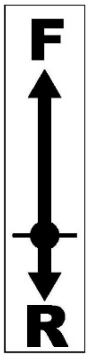
CONTROL SIGNALS:

BLADE GRAFTING

WHEEL DRIVE COUPLING

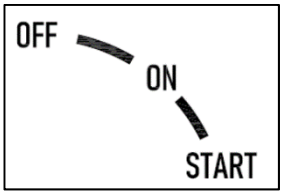
WHEEL DRIVE DISENGAGEMENT

THROTTLE:
always keep the motor at maximum rpm when working



DIRECTION OF TRAVEL:

F = forward
R = reverse



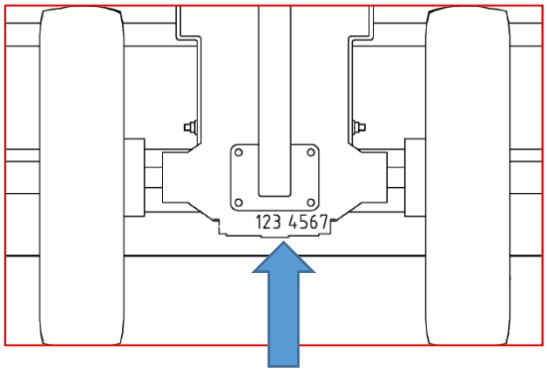
IGNITION KEY POSITIONS

2b – *CE MARKING*

The plate with CE marking is placed on one of the motor supports. Content:

- Manufacturer name and address
- Machine type
- Machine model
- Serial number
- Motor power
- Machine dry mass
- Year of construction

The serial number of the machine (7 digits) is shown both on the CE plate and on the transmission box, punched on the aluminium in the position shown in the figure on the side.



For any warranty claims or spare parts, <u>always</u> mention the serial number of the machine concerned.

3a – *GENERAL SAFETY INSTRUCTIONS*

– **<u>BEFORE</u>** using the machine, IT IS ESSENTIAL to read and understand this manual and the attached engine manufacturer manual. It is important to ask for explanations even in case of apparently trivial doubts. Your local retailer or the manufacturer will be available to provide the needed answers.

– Have the main control elements and the specific operations of the machine explained by the qualified personnel of the ***Meccanica Benassi*** sales network.

– **It is strictly forbidden** to tamper in any way with the control elements or other technical characteristics of this machine.

– **It is absolutely forbidden** to intervene or modify in any way the characteristics of the engine, in particular the maximum number of revolutions (this can cause irreversible damage).

– **With the engine running, any action other than the mowing work carried out by the operator behind the handlebar is prohibited.**

– With the engine running, any adjustment, maintenance, or action by third parties is prohibited.

– It is absolutely forbidden to load things, people, animals.

– It is strictly forbidden to transport, tow and push objects, people or animals.

– **Before starting to work, it is recommended to get acquainted with the machine in a wide, clear space.**

– It is important to understand the meaning and purpose of all labels affixed to the machine. In case of doubts on the meaning of one or more symbols, contact your usual retailer.

– During work, the operator must always wear suitable *Personal Protective Equipment*, such as gloves, safety shoes, tight work clothes and anti-noise earmuffs.

- It is of fundamental importance to check the correct operation of the on/off key before each use. **If the key is turned off and the engine is NOT SWITCHED OFF, it is forbidden to use the machine and it is necessary to contact an authorised workshop as soon as possible.**
- Before turning the machine on or during work operations, check that there are no people or animals within the machine danger zone (15-metre radius around the machine).
- Before turning the machine on, check that there are no objects on the ground that can be projected.
- It is good to inspect the ground that will be mowed before carrying out the work: the presence of foreign bodies can cause damage to the vehicle in case of impact. In case of debris projection, this might lead to damage to objects, people or property. The most exposed area is the front.
- Always check that there are no people or obstacles before reversing.
- In case of impact of the blades with a foreign body, stop immediately to check the status of the blades and the rest of the machine. It is necessary to immediately turn off the motor, remove the key, inspect the plate. In case of serious damage, missing blades or vibrations, stop the work and solve the problem as soon as possible.
- The mowing must always be done with a motor at maximum rpm and with a feed speed and cutting height proportional to the height of the grass.
- Every time the operator has to move away from the machine, it is mandatory to disengage the cut, turn off the engine, remove the ignition key.
- If the ground is uneven or has holes (especially on slopes), decrease the speed and bring it to the minimum when changing direction. Tip-over hazard!
- keep away from docks and precipices, pay attention to the dangers hidden by the vegetation that is about to be cut such as holes, bumps, stones, roots
- for both displacements and mowing work, it is always good to proceed in the direction of the gradient (upstream or downstream), not transversely to the slope.
- minimise uphill reversals!
- reduce the speed on slope, keep it constant, avoid sudden acceleration and braking, hold the handlebar firmly.
- Damaged blades must be replaced, not repaired. A plate with broken blades is unbalanced and transfers unexpected vibrations to the rest of the structure and the operator. Wear gloves during inspection and maintenance operations.
- In case of pain in the hands or arms, stop the work and take a break until complete recovery of sensitivity. The use of work gloves helps prevent loss of sensation.
- It is advisable to take more frequent breaks even in case of fatigue if you work for a long time on uneven terrain.
- The electrical circuit generates an electromagnetic field generally not harmful for the human body. **Carriers of pacemakers or similar devices must ask their doctor for authorisation to use the machine**.
- Movements from one work area to another must be made with the plate placed in the highest position and with the tools not inserted.

3b – *USE RESTRICTIONS*

- The use of the machine is forbidden to children and, in general, to people who do not know how it works or have not read or understood this manual.
- Minors are not allowed to use the machine. To establish the minimum legal age of the operator, refer to the local regulations in force.

– The machine is not equipped with an artificial lighting system. Operations in conditions of poor natural visibility (full visibility for at least 100 metres) are forbidden.
– It is forbidden to use the machine under the influence of alcohol, drugs, medications, or in case of fatigue, illness or mental disorders.
– It is forbidden to use the machine near verges, slope sides, trenches and, in general, on unstable grounds: **tip-over hazard!**
– It is forbidden to use the machine on gravel bottoms: the blade could lift the stones by projecting them beyond the danger zone.
– It is forbidden to use the machine if the air filter is clogged, when it is missing or in case of damaged or missing muffler.
– Check the machine before each work shift: the mandatory inspections to be carried out are described later in this manual.
– It is forbidden to use the machine on public roads.
– When children are present, keep the ignition keys where they cannot reach them.
– Even with all the appropriate protections, the risk of injury to the lower or upper limbs due to the rotation of the blade and other moving parts such as belt drives remains. **Never put your hands or feet under the plate or inside any other bulkhead or protection.**
– The machine rotating parts can cut or trap hands, feet, hair, clothes or accessories. **Danger of amputation or serious lacerations**!
– Always use the machine with the protective casings in place. It is forbidden to use the machine without the protective guards in place or with the strips missing, broken or worn.
– Keep hands and feet away from the rotating parts.
– Tie the hair and remove jewellery.
– Do not wear loose clothes, long laces or other items that can get stuck. Always work wearing tight work clothes.
– **Do not force the engine**, especially if smoke comes out of the exhaust pipe, if its number of RPMs drops or it turns off frequently. If a specific work is not feasible, decrease the speed, raise the cutting height, carry out the operation in separate steps. It is important to know the limits of this machine and when another equipment is necessary.
– **Do not expose the machine to heavy rain**: the electrical contacts could fail and the tightness of the tires on slope decreases exponentially.

3c – *HAZARDS and REQUIREMENTS ON THE USE OF FUEL, RISKS ASSOCIATED WITH THE OPERATION OF THE ENGINE*

– the fuel used for the operation of these engines (**unleaded petrol**) is toxic and flammable. Pay attention to fire and toxic vapour inhalation hazards.
– The fuel must always be handled wearing gloves, so to avoid direct contact with the skin.
– Use a funnel to fill the tank and, in case of spillage, immediately wipe dry using a cloth.
– While refuelling, use a very fine filter: the fuel must reach the engine as clean as possible.
– **refuel only outdoors and with the engine off and cold**.
– Do not spill petrol on the ground, in the environment or on the rest of the machine.
– **do not smoke during refueling operations or during work**: there is always a fire risk.
– **store the fuel in closed, cool places, protected from sunlight, in approved containers** and absolutely away from people and animals.

- Petrol vapours have high ignition potential: do not park the machine in closed spaces while it is still hot. **Wait for it to cool before storing indoors**. Wait at least 15 minutes before removing the cap from the petrol tank.
- If leaks are detected, the petrol tank must be immediately replaced.
- In case of breakage or leaks, filler neck, petrol cap and supply hose must also be replaced.
- In case of excessive exposure to fuel (inhalation, ingestion, contact with the eyes), call immediately the emergency number.
- Fill the fuel tank outdoors and in a well-ventilated area.
- Do not pour an excessive amount of fuel in the tank and do not fill over the internal bottleneck. The fuel must be allowed to expand.
- Keep the fuel away from sparks, open flames, pilot lights and other ignition sources.
- **frequently check the utilities connected to the fuel for leaks**: tank, cap and accessories. If needed, replace them.
- if the fuel spills, wait for it to evaporate, then dry the dirty surfaces and only after moving the machine start the engine.

<u>When starting up the engine</u>

- make sure that the spark plug, muffler, fuel cap and air filter are in place and securely fastened.
- make sure that the air filter is clean, otherwise proceed as described in *CHAPTER 7.*
- do not run the motor without a spark plug.

<u>When using the machine</u>

- limit use to continuous maximum slopes of 25° to avoid fuel spills, exhaust fumes, seizures.
- Never start or operate the engine when the air filter is absent or clogged.

<u>When the machine is tilted for maintenance</u>

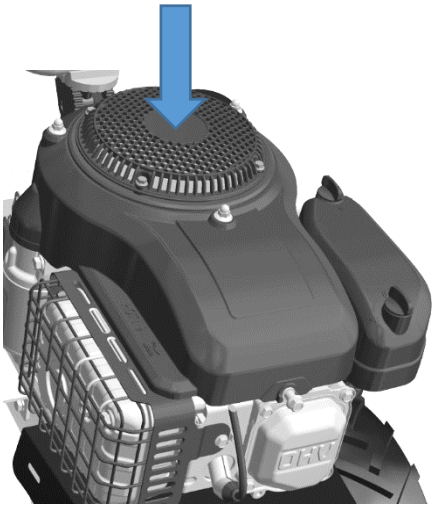
- The fuel tank must be empty; otherwise, a fuel spillage might occur, causing fire or explosion hazards.

<u>When transporting the machine</u>

- **transport with the fuel tank at idle speed and refill only after unloading** and in an open and ventilated place.

<u>Storage only for short periods of the machine with the fuel in the tank</u>

- always keep away from furnaces, stoves, water heaters or other appliances that have pilot flame or other ignition sources, because they could ignite fuel vapors.



A spark is produced when the engine is started. Sparks can ignite nearby flammable gases. The consequences could be explosion or fire.

- Do not use pressurised starting fluids, as their vapours are flammable.
- When the engine is cold, ALWAYS remove the debris building up in the silencer and engine area. **Pay special attention to the debris building up on the flywheel cover** (see Fig. on the side). Keep in mind that the debris collected on the engine, muffler and battery might catch fire!

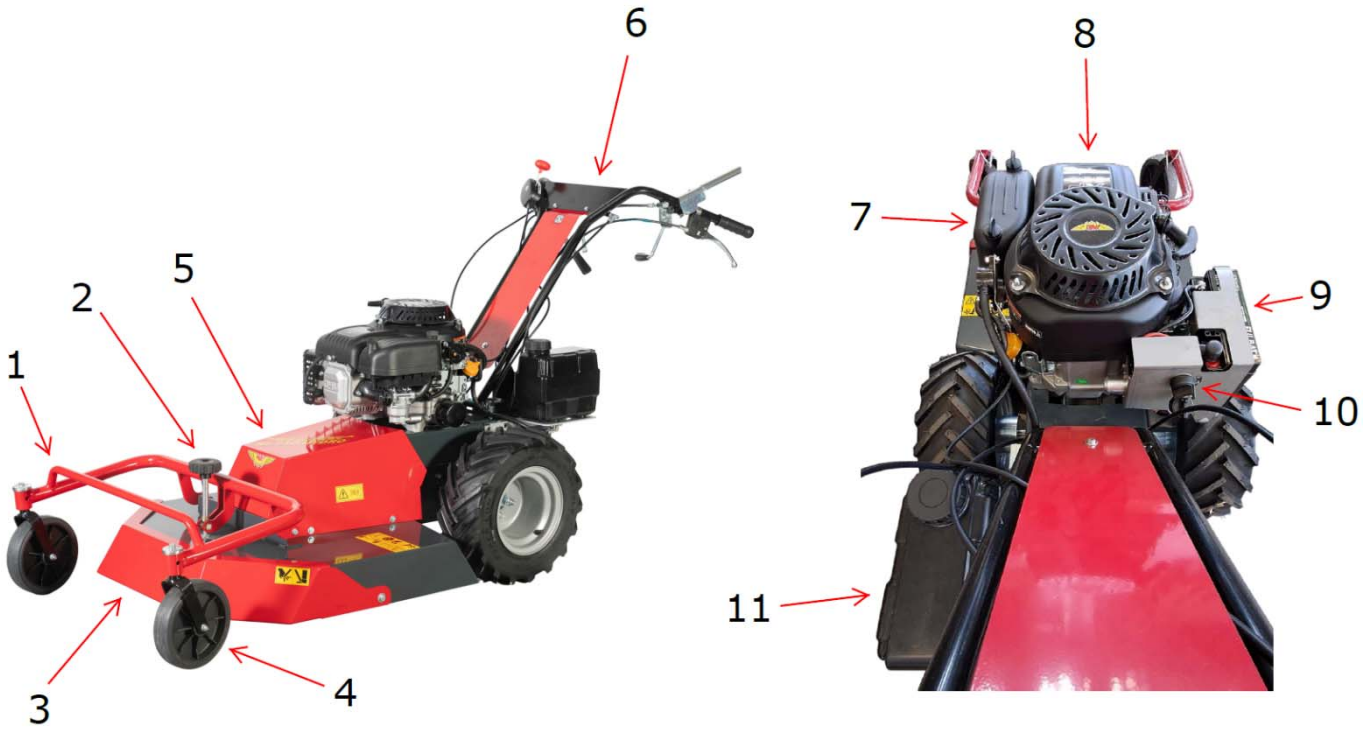
Check and cleaning operations involving this area must be carried out even more than once in the same work session, if the environmental conditions (i.e. a lot of dust) require so.

The engine exhaust contains carbon monoxide, a poisonous gas that can kill in minutes. It cannot be seen, it does not have any taste nor smell. Even if the exhaust fumes are not inhaled, it is always possible to be exposed to carbon monoxide. **If you feel sick, unwell or weak while using the machine, stop the engine IMMEDIATELY and seek medical attention**. This might be due to carbon monoxide poisoning.

- Use this machine ONLY outdoors, away from windows, doors or fans, in order to reduce the risk that the carbon monoxide builds up and reaches spaces occupied by other people or animals.
- DO NOT use the machine inside the house, in garages, basements, cavity walls, sheds or other partially closed spaces, even if there are fans or the doors/windows are open. Carbon monoxide builds up fast in these spaces, and it can stagnate for several hours even after the machine has been turned off.
- Try as much as possible to use the machine upwind, so to inhale as little gas as possible.

When turned on, engines generate significant heat. In case of contact with hands, there is the risk of serious burns. Use the machine wearing work gloves and keep away from these surfaces.
Before touching any part of the engine or its utilities, allow the silencer, cylinder, head, fins to cool down.

4a – *DESCRIPTION OF THE MACHINE MAIN PARTS*



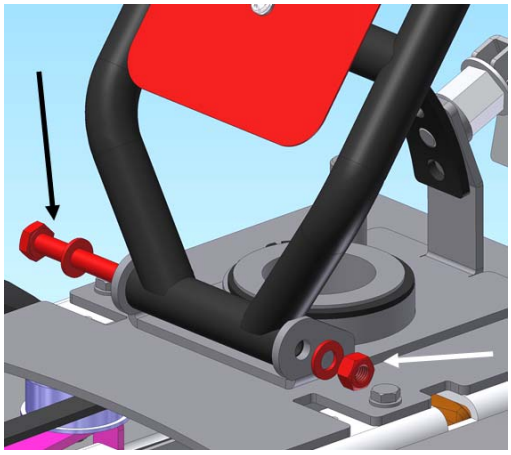
1) Front castor and bumper support
2) Cutting height adjustment knob
3) Front movable protection
4) Front wheels
5) Belt cover casing
6) Handlebar
7) Air filter
8) Engine
9) Battery 12V-18Ah
10) Starter key
11) Petrol tank (4L)

4b – *PACKAGING, TRANSPORT, SAFE MOVEMENT*

The machine is delivered on a pallet, protected by a cardboard box.

! IMPORTANT!

Check the integrity of the packaging when the shipment arrives!



If the packaging was damaged during transport, report it IMMEDIATELY, accept the delivery with reserve and document everything taking pictures. **The manufacturer is not responsible for damage resulting from transport.**

Extract the mower by opening the packaging at the top. Fix the base of the splint to the underlying support as shown in the figure on the side, using the screws supplied.

The machine is supplied with:
- this machine manual with the **EC declaration of conformity** on the last page
- the Zonsen XP380E ***engine manual***
- Ignition key

The machine is delivered:
- with oil in the transmission to the wheels
- with oil in the hydrostatic transmission
- with 12V battery charged but to be connected (first pole + then pole -)

but

- **WITHOUT PETROL** => fill with unleaded petrol, using a funnel
- **WITHOUT ENGINE OIL** => top up as described in the engine manual using the dipstick located on the side of the engine itself.

THE MANUFACTURER DECLINES ALL RESPONSIBILITY FOR ENGINES RUNNING WITHOUT LUBRICANT!

The machine can be moved both when it is on and off, more specifically:

- **When the ENGINE IS OFF** , it is possible to:
  - move it by thrust, flat (for a few meters) as long as the transmission to the wheels is idle as indicated on page 13
  - in case of failure, the machine can be towed with ropes suitable for its weight (therefore for masses of at least 200 kg) by attaching them around the tubes of the front bumper. In any case, the drive to the wheels must be idled in the manner described on page 13.

IT IS FORBIDDEN TO TOW THE MACHINE FOR LONG STRETCHES AND ON PUBLIC ROADS

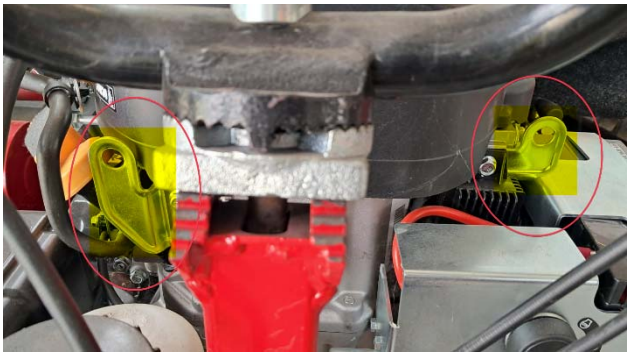
- With the ENGINE ON, it is possible to move it thanks **to its traction as long as it complies with all the rules and requirements mentioned in this manual.**

In the event the machine is loaded on vans or small trucks using ramps, the procedure is the following:

- Use loading ramps able to support at least 100kg each, with non-slip surfaces and broad enough to support the tyres.
- the loading ramps must form a maximum angle of 15° with the ground.
- keep the plate in the highest position during loading/unloading operations.
- on the means of transport, secure the machine with bands or ropes by attaching to the bumper tube.

IT IS FORBIDDEN TO LIFT THE MACHINE WITH ROPES

It is FORBIDDEN to use the hooks on the motor to lift the machine!



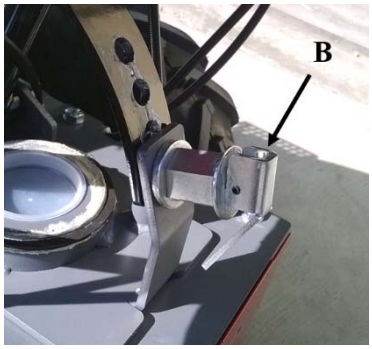
5 – *PRELIMINARY CHECKS*

After releasing the machine from its packaging, **before starting it** proceed to read this manual COMPLETELY and carry **out the following checks BEFORE EACH USE.**

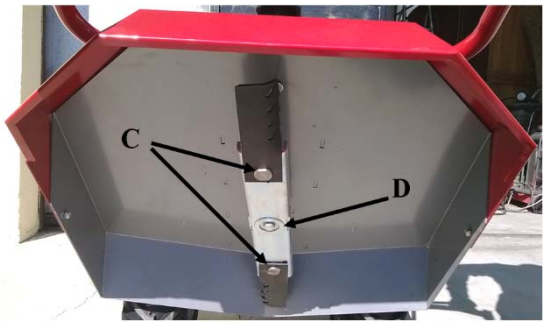
MACHINE SAFETY

- maintained-action wheel drive lever
- rotor coupling lever with safety coupling and with maintained action
- front protection strips
- on/off key
- transmission with normally braked wheels
- pictograms and markings on the machine

All these commands (and pictograms) must always be present and if not working or missing they must be restored before using the machine.



- **Handlebar check**: check that you have correctly fixed the base. The pin **B** (*fig. on the side*) must be fully inserted into one of the holes available for height adjustment.
- Check that **there is no debris on and around the engine**.
- Check that **there is no debris on and around the wheels**.
- Check that there is no debris inside the belt cover casing and that the hydrostatic drive cooling fan is free to turn. If it is damaged, replace it. DO NOT OPERATE THE MACHINE IF THE FAN IS DAMAGED!



- **Visual inspection of the plate**: are the blades to be replaced? Are the fixing screws (**C** and **D** in *fig. on the side*) correctly tightened?
- **Visual protection** check: make sure that the front protection of the plate is present and intact and that the plate itself does not have cracks.
- **Tyre pressure check: 2 bar** is the maximum recommended value. Check also the tyre tread wear state: worn tyres lead to traction loss and are more likely to get punctured.
- Check that all the **screws fixing the wheels to the relative hubs** are tightened well before each use.
- **Check the battery voltage**: it must be higher than 12V. The battery is charged and sealed. No acid is needed, and it must be charged only when necessary. If the battery struggles to get charged, get a new one, which must be original and having the same characteristics.
- **Check the operation of all manual controls** (see chapter 6a), in particular:
    - wheel lock: with the differential release levers pulled to the end, is the corresponding wheel braked? If not, contact a workshop for adjustment.
    - direction of travel: when the travel direction lever is resting at the horizontal mark between F-R, the machine must be stopped, even with the engine on and the wheel drive lever on. If it is difficult to find the idle position, contact an authorised workshop.
    - cutting element braking: when the lever is disengaged, the blades must stop completely within 7 seconds. If this does not happen, contact an authorised workshop to adjust the brake.
    - wheel drive: when the wheel drive lever is released, the machine must stop
- **Check for leaks** in details such as: petrol tank, hydrostatic transmission, engine base, carburetor. If leaks are detected, do not start the machine and contact the service centre.
- **Check of the** straps, in particular the gasoline pipe. If any component is loose, fasten everything before turning the machine on.
- **Check the following levels:**
    - Engine oil at the right level, clean air filter, flywheel cover free from debris
    - Tank with enough petrol inside

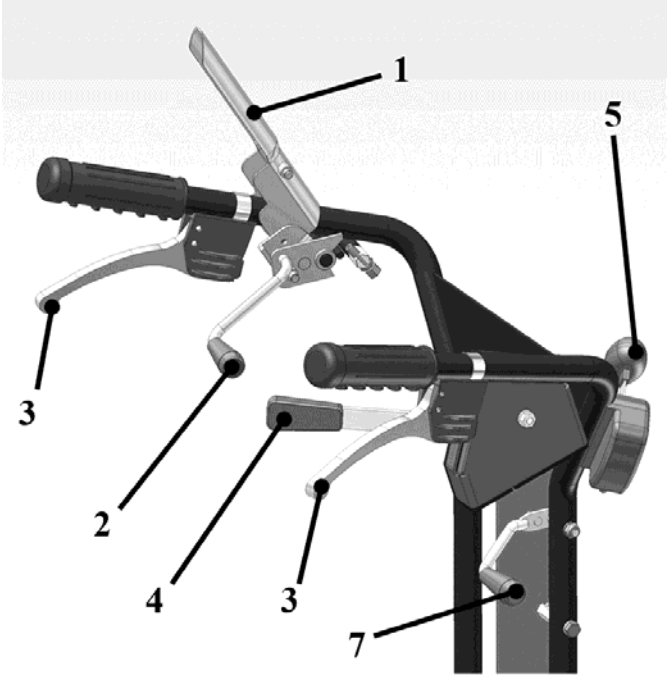
    See details in Chap. 7 “Maintenance”.

Before each use, check that all safety warnings are present on the machine. It is forbidden to use it before restoring missing or unreadable pictograms and markings.

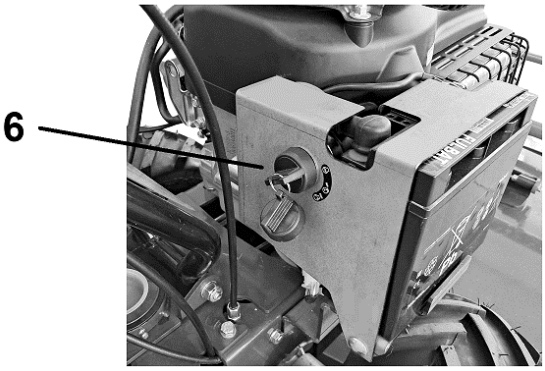
If something is missing, broken, out of its place or faulty ► immediately contact your retailer and DO NOT USE the machine for any reason.

6a – CONTROL ELEMENTS / ADJUSTMENT

CONTENTS OF CONTROLS



1) Wheel drive lever
2) Blade engagement lever
3) Steering levers (differential release)
4) Drive direction lever
5) Throttle control
6) Key lock
7) Lever for lateral displacement of the handlebar

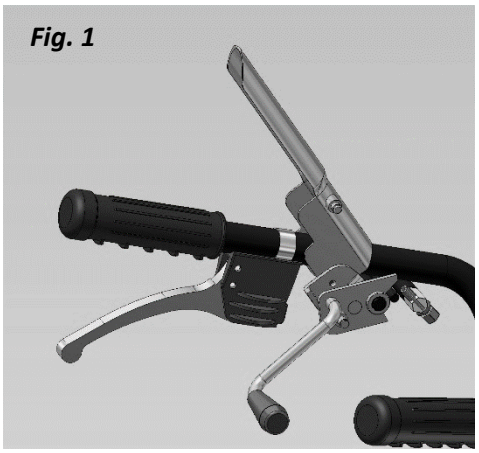


EXPLANATION OF COMMANDS

1) WHEEL DRIVE LEVER

Fig. 1 -> lever disengaged; machine stopped
Fig. 2 -> lever engaged; machine moving (*if the DIRECTION OF TRAVEL LEVER is in the forward "F" or backward "R" position*)

Fig. 1



2) BLADE COUPLING LEVER

Fig. 2 -> lever disengaged; blades stopped
Fig. 3 -> lever engaged; blades in motion

It is necessary to first engage the traction lever to the wheels (*Fig. 2*) and only after the blade engagement lever (*Fig. 3*).

SAFETY LOCK AND QUICK RELEASE

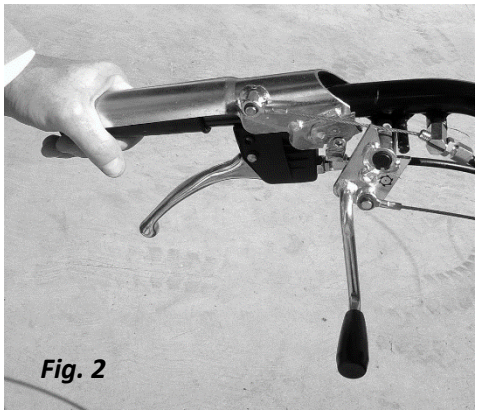


Fig. 2

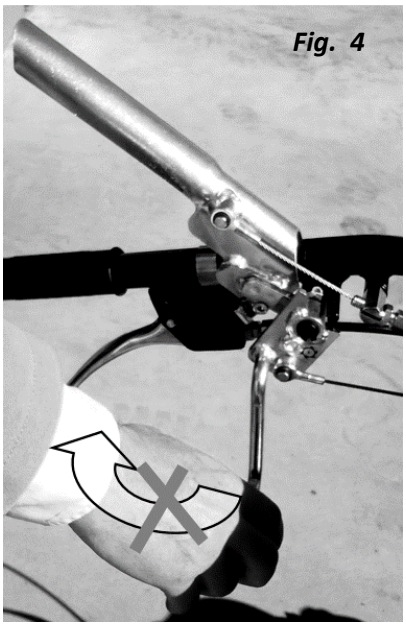


Fig. 4

The machine is equipped with a MECHANICAL SAFETY LOCK that prevents the BLADE ENGAGEMENT LEVER from being operated unless the TRACTION LEVER has first been engaged with the WHEELS. The exclusive operation of the BLADE ENGAGEMENT LEVER as attempted in ***Fig. 4***, it is not possible.

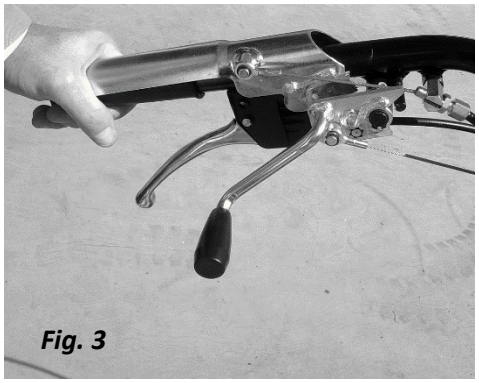


Fig. 3

The blade engagement lever once actuated remains in position as shown in ***Fig. 3*** allowing you to free your right hand to grip the handlebar correctly.

A second safety is guaranteed by the QUICK RELEASE that interrupts the transmission to the blades when the operator leaves the handlebar. When both **levers 1 and 2** are engaged (as in ***Fig. 3***), when the lever 1 is released, the lever 2 automatically clicks into the disengaged position. In this way there will be a simultaneous stop of both the traction to the wheels and the transmission to the blades.

3) DIFFERENTIAL RELEASE LEVERS

The wheels of the RF 710 hydro are normally in traction, i.e. with a locked differential. Right wheel and left wheel turn at the same speed.

To steer the machine it is necessary to intervene on one of the two **levers (3)** depending on the desired direction: operate until the end of the stroke the RIGHT lever to steer to the RIGHT, the LEFT one to steer to the LEFT. In fact, each lever, if pulled completely, locks the corresponding wheel allowing the machine to turn. At the end of the steering, completely leave the lever to allow the wheel to return to traction.

For push transfers with the engine off, a wheel can be idled by pulling the corresponding lever halfway, as shown in the figure above.

4) DIRECTION OF TRAVEL LEVER

Using the direction of travel lever (*Fig. on the side) it is possible to* adjust the speed of the wheels gradually and continuously, from zero to maximum, forward and backward. In particular, bringing the lever upwards will lead to gradual advancement. Bringing it downwards, the machine will proceed in reverse. The idle position is in correspondence with the horizontal section indicated on the side.

In reverse, proceed with the utmost care! DANGER OF CRUSHING!

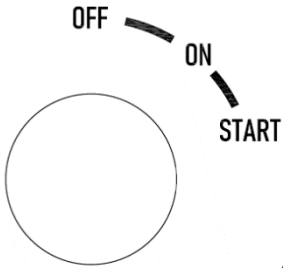
5) THROTTLE CONTROL

Bring the control forward, towards the symbo to accelerate the motor.

Bring the command back, towards the symbol to lower the engine speed.

NB: during cold start operations the control must be brought to the maximum of its forward excursion to close the air passage (*choke*), as described in the next chapter.

6) ON / OFF KEY



The ZONSEN XP380E motor is equipped with electric starter.
Bring the key provided:
- on START, for start-up
- on ON: during work
- on off: to turn off the engine

7) HANDLEBAR LATERAL DISPLACEMENT LEVER

To rotate the handlebar base transversely, refer to *fig. below*
- pull up the lever
- once the most suitable position for the work to be performed has been chosen, gradually leave the lever until the pin engages in one of the holes in the fixed support below.

6b – *TURNING THE MACHINE ON/OFF*

During start-up operations, it is necessary to take in consideration the risk of injuring people or animals possibly within the machine operation area.
- Machine start-up must be carried out outdoors, in a well-ventilated space. In closed environments, the operator is subject to the danger of inhaling exhaust gases.

THE ENGINE MUST BE STARTED:
- with all controls disconnected, in particular wheel drive lever and blade engagement lever
- with the travel direction lever in neutral (idle) position
- (for cold starts) with the throttle control in the CHOKE position, i.e. all the way forward
- with charged and connected battery
- with engine oil present and at the right level
- with petrol in its tank
- with the starting circuit intact and working

It is forbidden to use the machine if the motor starts without satisfying all these controls!

START PROCEDURE
close the air by bringing the throttle control forward and all the way (*CHOKE*); turn the start key to START and release it when the engine is started. When the engine is hot, return the throttle control downwards for regular operation.

SHUTDOWN: Before switching off the machine, disengage the blades, put the traction on the wheels in neutral and move the starter key to the off position. Take the key with you.

NEVER LEAVE THE MACHINE UNATTENDED WITH THE KEY INSERTED!

DON'T FORGET THE KEY ON "ON": BATTERY DISCHARGES!

6c – *MOWING*

Introduction:

- during the transfer to the work area keep the plate in the highest position with the tools not inserted and maintain a speed appropriate to the conditions of the bottom.
- start the work with A hot motor and DURING CUTTING ALWAYS USE IT AT THE MAXIMUM OF THE rpm.

CUTTING COUPLING:

It is advisable to engage the cut with the engine hot at maximum rpm, the drive direction lever in neutral and the blades free to turn. The cutting element must be engaged BEFORE entering the work area, and not in the middle of the vegetation. To operate the cut, pull up the blade engagement lever (#2 in ch. 6a) until it rests firmly on the wheel drive lever (#1 in ch. 6a). In this way you can use your right hand to adjust the direction of travel on the other side of the handlebar.

CUTTING DISENGAGEMENT:

To disengage the cut, it is sufficient to leave the wheel drive lever since this movement also causes the blade engagement lever to disengage at the same time.

NB: the blade plate is equipped with a brake: it must be completely stopped within 7 seconds of its disengagement. If not, contact a service centre for the required inspection and adjustment.

INSTRUCTIONS FOR A CORRECT AND SAFE CUT:

The rotation of the blades is made possible by a belt drive. Avoid as far as possible to engage/disengage them continuously, to keep the lever in intermediate positions and "dislodge". The cut must be completely engaged or completely disengaged at any time.

Check the condition of the blades before each use. **It is of fundamental importance to always cut with undamaged and well-sharpened blades**. In case of unusual vibrations, it is FORBIDDEN to use the machine. Check the blades and/or contact a specialized workshop. An out-of-balance plate generates harmful vibrations for both the operator and the machine.

The cutting height must take into account the surface to be worked: in case of bumps or holes, adjust the height in order to prevent the blades from reaching the bottom of the ground or other obstacles (stones). In all cases where cutting is not foreseen (transfers) the plate **must be kept** in the highest position to avoid the risk of impact with soil or foreign bodies.

6d – *MACHINE OPERATION*

Safety warnings:

- It is always necessary that the operator stays focused in any travel or work condition. Even during simple transfers, there is always the risk of injuring people or animals, or damaging objects/property.
- Pay attention to obstacles while moving forward, and especially when moving in reverse or steering.
- the transport of people, things, animals is prohibited.
- Pay attention to direction changes: in case of any problem, it is advisable to deactivate all control elements and stop.
- Use on slopes: the most dangerous situations require even greater attention if the machine is on steep slopes. The most critical stage in terms of tip-over hazard is the direction change and steering movement while on a slope. Pay the utmost attention! For further information on the use on slopes, see ***Chap 3.***
- handlebar vibrations, even if small in the long run, can cause pain and loss of sensation in the upper limbs. In such cases, it is advisable to stop work for the time necessary to recover physically. **LACK OF SENSITIVITY IS A SOURCE OF DANGER!**

- **DIRECTION OF TRAVEL**: the direction of travel lever [#4 in **Chapter 6a**] is responsible for the direction and speed of travel as long as the wheel drive lever [#1 in **Chapter 6a**] is pressed.
Bring it upwards (F) to go from a standstill at maximum forward speed or downwards (R) to go in reverse (as indicated by the symbols). The central position is where the wheels are stationary.

Pay the utmost attention especially in reverse operations. DANGER OF CRUSHING! Limit the speed, check in advance for any obstacles behind the machine, act slowly on both the levers and the handlebars.

- **BRAKE**: to brake the machine, simply leave the wheel drive lever. If this is not enough, help yourself with the differential release levers by pulling them all the way.
- **PARKING**: the wheels are always normally braked when the machine is switched off.

Before parking and leaving the vehicle, it is good practice to:

- disengage the cut.
- return the travel direction lever to the NEUTRAL/IDLE position.
- Bring the throttle to the minimum.
- Turn the machine off urning the key to OFF.
- take the key with you to prevent unauthorised start-ups.

Only at this point can you leave the vehicle.

To RESTART from parking:

repeat the operations described above in reverse order and follow the start-up procedure described in **Chapter 6b**.

7a – *MAINTENANCE AND CLEANING*

It is useful to remember, as it has been done several times in this manual, that an incorrect maintenance or performed by unauthorised workshops can expose the user to serious injury risks or technical faults not covered by the warranty.

Safety warnings:

All maintenance operations must be carried out with the engine off, the ignition key disconnected and the machine parked on the bottom that adequately supports it.

- Moreover, check if there are people nearby.
- Make sure that the machine cannot drift for any reason.
- Keep always in mind the risks connected to the use of fuel (fire and vapour inhalation) and pay attention to the presence of sharp tools.
- In cases where the machine must be lifted to one side or raised, attach the straps directly to the front bumper tube or the base of the handlebar.
- Allow the machine to cool completely before intervening in any of its parts.
- It is essential to carry out the correct disposal of petrol, oil and other special waste (such as the battery), observing the regulations in force in the territories where the machine is used and maintained. Do not dispose of them in the environment and do not treat them as regular waste.

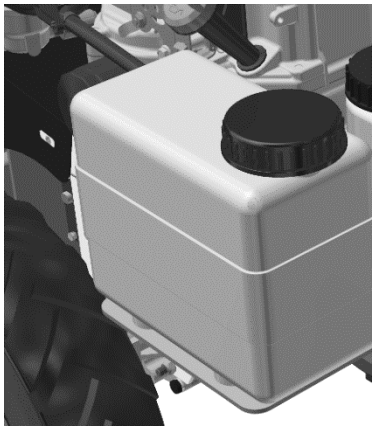
7b – *FUEL and ENGINE OIL*

FUEL

The machine is delivered WITHOUT fuel! To use it, it is necessary to fill up with gasoline (about 4 L). Note: the machine is not equipped with a reserve tap nor with indicator lights for fuel level. Keep this in mind and act accordingly.

► The only type of allowed fuel is the one having the characteristics described below. Any other type of fuel might damage the engine and makes any engine-related warranty claim immediately void. The fuel must be stored in cool and dry places, away from light and ignition sources, in approved containers suitable for the purpose.

Petrol Tank



The cap is located on top of the tank highlighted on the side and unscrewed by hand, without a key. Use a funnel during refuelling, immediately dry any spills, and comply with all the fuel provisions specified in this manual (*Chapters 3c* and *7b*) and in that of the engine manufacturer.

Petrol must comply with these requirements:

- Clean, new, unleaded gasoline.
- Minimum 87 octanes/87 AKI (91 RON).
- Acceptable petrol with an ethanol content (petrol-alcohol mixture) up to a maximum of 10%.

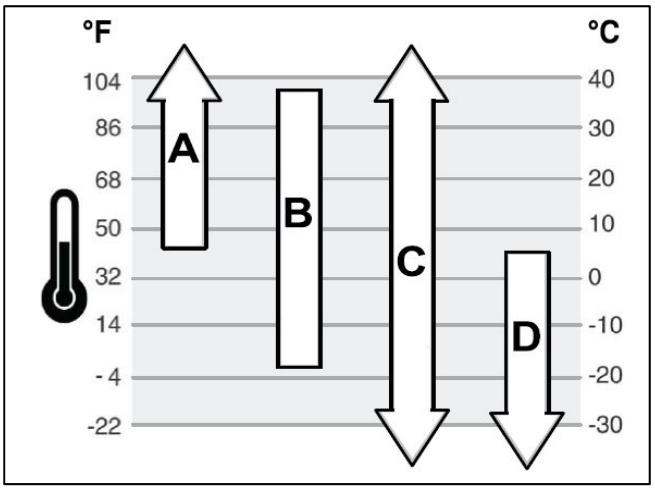
N.B.: it is forbidden to use unapproved petrol, such as E15 and E85. Do not add oil to the petrol and do not modify the engine so it can work with alternative fuel types. The use of unapproved fuel types leads to damage not covered by the warranty.

At altitudes above 1,500 metres, petrol with a minimum octane number of 85/85 AKI (89 RON) is allowed.

PETROL TANK REFILLING:
Use a funnel and follow all the instructions in ***Chapter 3c*** each time fuel is used.

ENGINE OIL

More information is available in the engine manufacturer's manual provided with this machine manual. It is essential to read and understand such document in its entirety as well.



ENGINE OIL TYPE: The correct engine oil viscosity is determined by the external temperature. Use the references below to choose the most suitable type of oil according to the work temperature.

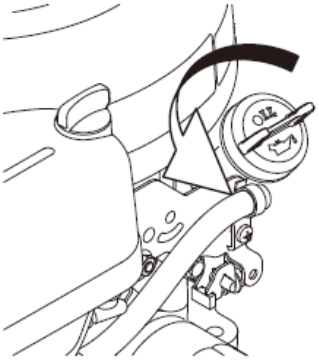
A ► SAE 30: Below 4°C (40°F), using SAE 30 will cause a difficult start-up.

B ► 10W-30: Above 27°C (80°F), using 10W-30 can cause higher oil consumption. Check the oil level more frequently.

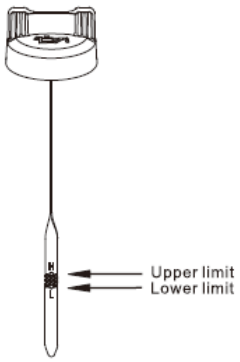
C ► 5W-30 *synthetic:* covers all fields of application

D ► 5W-30: winter uses only

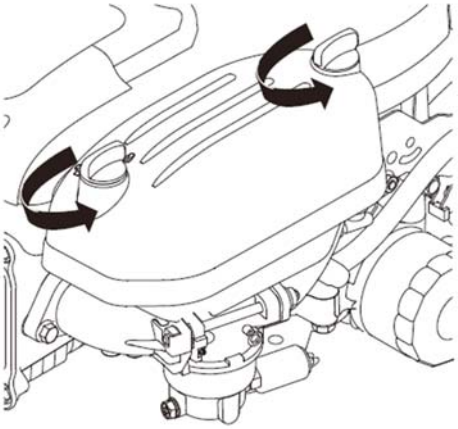
Before topping up or checking the engine oil level:
- Make sure that the machine is on a flat surface.
- Remove all debris from the oil filling area. Carry out the following operations only with the engine off and cold, with its ignition key removed.



Check and top-up if necessary:
1) Remove the dipstick in the figure on the side and clean it with a cloth.
2) Install and tighten the dipstick again.
3) Extract the dipstick and check the oil level. The correct level corresponds to the upper edge indicated on the rod.
4) If the oil level is low, top it up slowly Do not overfill. Please wait a minute and check again.
5) Reinstall and tighten the dipstick.



7c – *CHECKS AND MAINTENANCE OPERATIONS TO BE CARRIED OUT BEFORE EACH USE*



1) CHECKING AND CLEANING THE AIR FILTER

Cleaning the air filter is of fundamental importance in these machines, especially when operating in a dusty environment.

Every 250 hours the filter must be REPLACED with a new one.

Before each use, check and, if necessary, clean the filter element. To access it, simply unscrew the two hooks shown in the photo by hand to disassemble the cover.

To remove the debris, gently tap the filter on a hard surface. If the filter is too dirty, replace it with a new one. **DO NOT BLOW WITH COMPRESSED AIR! DO NOT USE SOLVENTS!**

2) CHECK THE PRESENCE AT the RIGHT LEVEL OF THE ENGINE OIL, as described in the previous paragraph.

3) CHECKING THE FUNCTIONALITY OF ALL CONTROLS

First visual and then manual, with the machine off. Check that they are all well fixed, that they do not have strange play, that they are clean and ready for use during work. All the controls are explained in *Chapter 6a*. Check the functioning of the control elements also with the engine on, in a test area, before transferring the machine and starting to work.

4) WASHING THE BLADE PLATE

The inside of the plate can be cleaned with a water jet as long as you do not point it directly at the shaft bearings. It is important for the quality of the cut to have a plate free of deposits and obstructions.

5) BLADE INSPECTIONS and POSSIBLE REPLACEMENT (use work gloves!).

Keep in mind that the blades must be replaced when broken, missing, bent, worn.

See next chapter for details on replacement.

IN THE EVENT OF ABNORMAL VIBRATIONS, PROCEED WITH THE COMPLETE REPLACEMENT OF BLADES AND RELATED BOLTS

6) PETROL TANK: Does it contain the right type of petrol? See Chap. 7b for all specifications. Also, is the tank cap well tightened? Is there any leak on the supply hose?

7) ENGINE FLYWHEEL COVER: Remove all debris from the area surrounding the engine and, more importantly, from the area above the flywheel cover on the side.

8) BLADE BRAKE: before starting work, from the operator position and with the motor on, engage the plate, disengage it shortly after, check that it stops completely within 7 seconds.

9) INTEGRITY of sheets and guards. Before each use, perform an inspection round on the machine. Report immediately the presence of cracks and DO NOT USE THE MACHINE. It is forbidden to use the machine in the absence of protections.

10) PICTOGRAMS CHECK: replace the labels mentioned in Chap. 2a if they are faded, missing or illegible. Ask for replacement copies to your usual retailer and attach them again in their position.

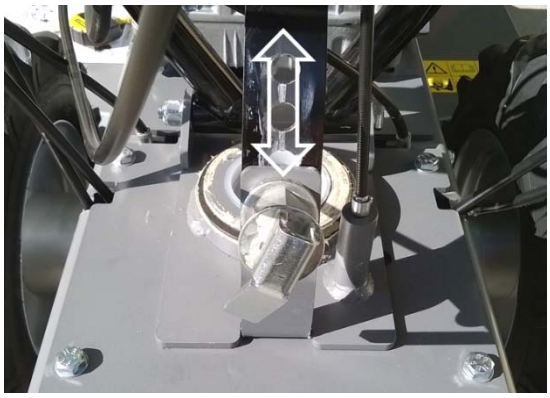
11) HYDROSTATIC FAN INSPECTION: check that the entire surface of the hydrostatic transmission is free of dust and debris. Check that the fan is intact and free to rotate, so to cool down the transmission below it. **In very dusty environments, repeat the debris blowing/cleaning operations several times a day.**

12) BATTERY: In case of difficult start-up, check that the battery has a voltage of at least 12V.

7d – *PERIODIC ADJUSTMENTS and MAINTENANCE*

CUTTING HEIGHT ADJUSTMENT

The adjustment of the cutting height can be carried out by using the knob in the figure on the side.
By rotating clockwise the cut is lowered, counterclockwise it is raised.



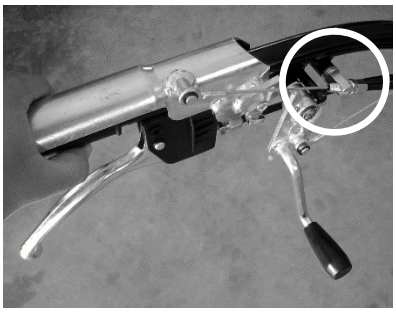
HANDLEBAR HEIGHT ADJUSTMENT

The handlebar is adjustable both laterally (as described above) and in height.
For thislast adjustment, use the pin in *Fig. on the side.*
Lift it, select a height adjustment hole on the handlebar base, leave it. The pin must be fully inserted into one of the holes in the handlebar base. Check well!

FRONT WHEELS LOCKING

When the machine must work transversely with respect to a slope, it is good to insert the fixing pins in the front wheels, as shown on the side. This allows better directionality because the wheels remain fixed and do not oscillate. The plugs are supplied, one for each wheel.

BELTS TENSION ADJUSTMENT



After a certain period/use it is normal for the belt drives of the machine to stretch slightly. To compensate for small slippages or delays in the coupling, it is possible to intervene on the cable registers, **unscrewing them**.

The cable register for wheel drive is shown on the left in Fig. In Fig. on the right the cable register for blade engagement is shown. For more specific interventions, contact an authorised workshop.

BLADE BRAKE ADJUSTMENT

To access the brake adjustment **E** in fig. on the side, first remove the belt cover hood.
Then loosen the lock nut **G** placed on the threaded tie rod **F**.
Screw or unscrew the tie rod **F** so that:
- when the blade engagement lever is released (**#2** in **Cap 6a**), the brake pad is in contact with the drum on which it must act.
- when the lever is activated, engage the brake **E** move away from the drum. There must be no contact between the two. After adjusting, lock the lock nut **G.**

ADJUSTING THE DIRECTION OF TRAVEL LEVER

The control lever that regulates the forward and reverse speeds acts on the hydrostatic transmission (***Fig. 2***) via a pair of cables. The travel of the cables, which can be intervened in case of need, can be adjusted through the registers indicated in ***Fig. 1***.


Fig. 1


Fig. 2

ADJUSTMENT OF DIFFERENTIAL RELEASE LEVERS

It is possible to adjust the voltage of the responsible cables by acting on the register indicated in the figure:
- if the wheel lock struggles to fit despite having pulled the lever up against the knob: unscrew the register
- if the wheel struggles to return to traction from an idle position: screw the register.

LUBRICATION OF THE GEARBOX

Oil type: AGIP ROTRA MP (SAE **80W-90**)
Oil quantity: approx. 0.5 kg = 0.56 l
Oil change: every 300 hours or so
Loading Hole: "**A**" in *Fig. 1*; (first remove vent plug, not shown)
Discharge hole: "**B**" in *Fig. 2*; (first remove the drain plug, not shown)

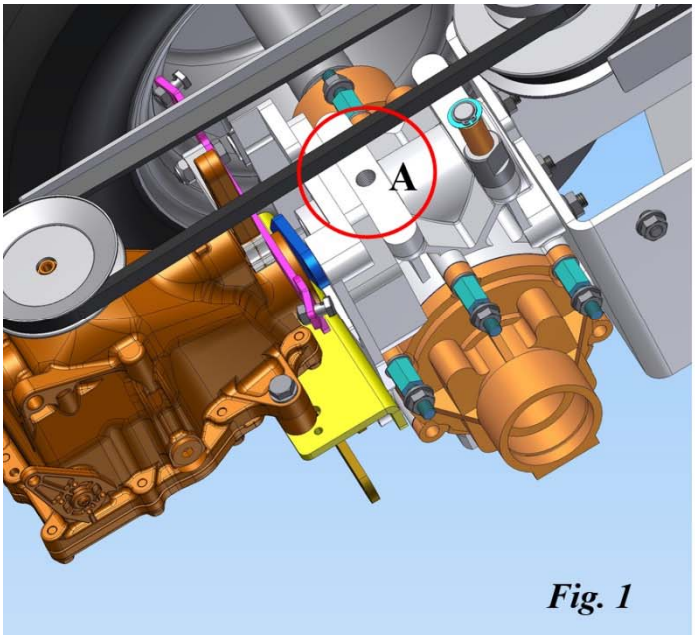


Fig. 1

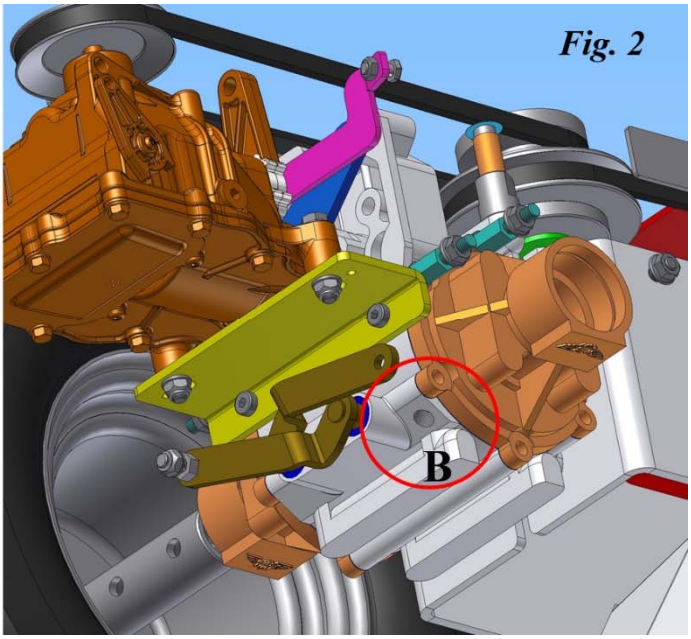


Fig. 2

CHECKING THE CORRECT OPERATION OF THE HYDRO PUMP

INTRODUCTION: any maintenance operation of the hydrostatic transmission (in Fig. on the side) is not necessary during the average life of the machine. However, it should ALWAYS be checked that there are no accumulations of dirt on its surface that could compromise its ability to cool.

The transmission is loaded with 540 ml of SAE **20W-50** oil for non-winter applications, i.e. for use temperatures above 4°C.

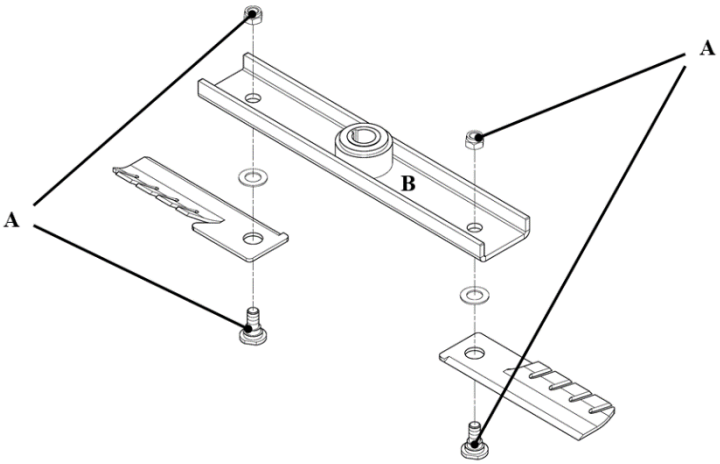
Reasons that may require maintenance:

- oil leaks
- excessive mechanical noise
- power and performance losses over time or during heat

In the aforementioned cases, contact the manufacturer to identify the most appropriate ways of intervention.

BLADE REPLACEMENT

Wear gloves! To disassemble the blades, simply unscrew the relative fixing screws and nuts (A). For reassembly, tighten again. Each time the blades are disassembled, the use of new self-locking nuts is required to avoid compromising the seal.



Every 50 hours

- complete engine oil change
- check and possible replacement of blades and related bolts
- control and registration of belts
- check and adjustment of the blade brake if the stopping times have lengthened beyond 7 seconds from the release of the lever
- check and tightening of all the nuts and bolts of the machine

Every 200 hours

- check and possible replacement of the blade shaft bearings
- replacing the engine oil filter
- petrol filter control

Every 250 hours

- replace the air filter

Every 300 hours

-complete oil change in the wheel transmission

If the noise of the transmission should increase and/or the slope performance should decrease, contact an authorized workshop.

Once a year

- replace the spark plug

When needed

- Replacement of tyres or complete wheels: in both cases it is ESSENTIAL to put them of identical size and type
- Battery replacement:

► During maintenance, keep metal objects away from the poles.

► Use original batteries only. They are sealed, dry-charged and designed for use on slopes, as they have no acid leaks.

► Follow the instructions described in the battery manufacturer's manual supplied with this machine

manual.
When the battery is disconnected (in order to install another one of the same type):

- disconnect the **black** negative **(–)**
- Disconnect the positive **red** pole **(+)**
- Remove the flat battery and install the new one
- Connect the positive **red** pole **(+)**
- connect the **black** negative **(–)**

Follow this operation order also when the standard battery is removed to charge it during winter storage.
To remove the battery (after disconnecting the poles as indicated), simply disassemble the sheet metal retainer that holds it in place.
PLEASE NOTE: the manufacturer WILL NOT BE LIABLE for damage resulting from a short circuit due to incorrect pole connection, the same applies to failures resulting from the use of non-original batteries!

To be sure that the machine promptly starts at any moment, it is also advisable to periodically check the electrical wiring conditions, as well its connections and terminals. Clean the oxidised contacts and check that covers and sheaths are in good conditions. To protect the electrical components, it is essential to keep the machine away from running water, rain, and humidity.
Moreover, washing the machine with a high-pressure water jet cleaner is STRONGLY DISCOURAGED.

7e – *TROUBLESHOOTING GUIDE*

This general guide cannot entirely replace the expertise of an Authorised Workshop, which perfectly knows the product. If the following suggestions are not useful enough to fix a specific issue, it is recommended to contact a service centre.
In case of shock, drift, tip-over or generic damage, even if the machine seems to be intact, it must be inspected as soon as possible by an authorised workshop. It is necessary to check the total absence of damage to the functional and structural parts (frame, engine, hydrostatic transmission) and make sure there is no spillage of fluids. NOTE: even if at first sight no damage is found, the in-depth inspection must be carried out anyway: some faults can be overlooked by an unexperienced user!

■) The STARTER does not turn

-) battery does not supply enough current / is low / is defective => check that the cables are well fixed to the terminals / charge / replace with a new one.

NB: in emergency situations where the motor does not start with electric start it is possible to do a manual start using the self-winding rope. The ignition key must in any case be in the ON position and the solenoid on the carburetor must be moved manually to allow the passage of fuel even in the absence of current. The engine will always be switched off by turning the key to off. Contact a workshop to have the procedure described.

■) The STARTER turns, but the engine does not start

-) Empty petrol tank => Refill.
-) swamped engine => contact authorised workshop
-) Spark plug cap removed => Put it back in position.
-) air filter clogged / to be changed => clean or replace with a new one.
-) spark plug smeared or incorrect distance between the electrodes => see motor manual.
-) Dirty petrol and clogged supply hose => Empty the tank, clean the hose, fill with fresh petrol compliant with the specifications contained in CHAP. 7b.

■) ENGINE at the right temperature but still working irregularly

-) Air filter clogged/to be replaced => Clean as described in CHAP. 7c/replace with a new one.

-) Dirty spark plugs or wrong distance between electrodes => See the engine manual.

-) Dirty petrol and partially clogged supply hose => Empty the tank, clean the hose, fill with fresh petrol compliant with the specifications contained in CHAP. 7b.

■) The ENGINE starts and works properly, but the machine does not move

-) check the tension of the wheel drive belt

-) Hydrostatic transmission overheated by intense, prolonged use, on slopes and at high ambient temperatures => allow the machine to cool down completely before resuming work.

■) The ENGINE turns accidentally off during work

-) Too much effort: forward speed is too high/cutting height not proportional to the terrain/throttle not at its maximum RPMs => decrease the forward speed/raise the cutting height/bring the throttle to the maximum.

-) Petrol has run out => Fill the tank.

-) Petrol picking issues due to the use on slopes and tank almost empty => fill up.

-) gasoline draining problems in the flat and with a full tank => inspect the gasoline pipe exiting the tank.

-) Extreme overheating => Let engine and machine cool down and avoid working in such conditions. Wait for better conditions or take more frequent breaks.

-) motor electrical problem => contact the workshop

■) the CUT does not engage

-) check belt tension => adjust or replace.

■) The machine VIBRATES more than expected

-) missing, broken, bent blades => REPLACE

-) slow fixing bolts => tighten immediately and evaluate the complete change of the fixing nuts

-) blade support bent by blows received => complete change at an authorised workshop.

■) The engine produces anomalous SMOKE (it burns oil)

-) the engine burns oil because you work too long downhill => reduce the exposure of the engine head downstream and alternate more often the uphill cutting with downhill cutting with flat "recovery" times.

-) The engine oil level is too high => proceed as described in CHAP. 7b, do not fill over the indicated MAX limit.

■) The ENGINE gets too hot

-) Presence of debris all around the engine and especially in the upper part, close to the flywheel cover => Free all engine surfaces from debris build-ups, especially the upper part.

-) insufficient amount of oil => top up immediately as described in CHAPTER 7b and in the engine manufacturer's manual.

■) CUTTING RESULTS are uneven

-) partially damaged, worn, missing blades => act as described in Chapter 7c 4)

-) clogged plate => you have to start each job with the internal volume of the plate! **The quality of the cut depends a lot on the free volume around the blades**!

-) the motor (and consequently the plate) is not running at maximum rpm => set the throttle control to maximum during cutting to have an optimal impact speed.

-) the feed speed and/or the cutting height are not proportional to the type of bottom and the density of the vegetation to be cut => reduce the speed and raise the plate until you have an optimal cut. If necessary, pass on the vegetation cut once more.

-) if the cut is asymmetrical and the plate has not taken hits => check the tyre pressure for any differences between the left and right wheels.

■) Clogged plate

-) the bottom is too humid => clean the inside of the plate more frequently, raise the cutting height, consider taking more steps or working during the day in drier weather.

-) worn blades => replace them because a poor comminution due to a worn cutting edge leads to further accumulations.

■) THE MACHINE DOES NOT STEER

-) act on the registers of the differential release levers.

■) THE ENGINE DOES NOT TURN OFF moving the key to OFF

-) force shutdown under stress (with engine idling) or wait to run out of fuel. In any case, the electrical system is defective => have it inspected by a service centre before any subsequent use.

■) TYRES are subject to frequent punctures

-) If this is due to the type of terrain and vegetation to be cut (and not to faults on rims or valves) => consider the use of an anti-puncture gel.

■) The BATTERY does not charge

-) charging circuit not working properly => have it inspected

-) Faulty battery => replace it.

■) THE MACHINE DOES NOT STOP WITH THE GEAR DIRECTION LEVER IN THE IDLE POSITION

-) register the cables

8 – *STORAGE AND DISPOSAL*

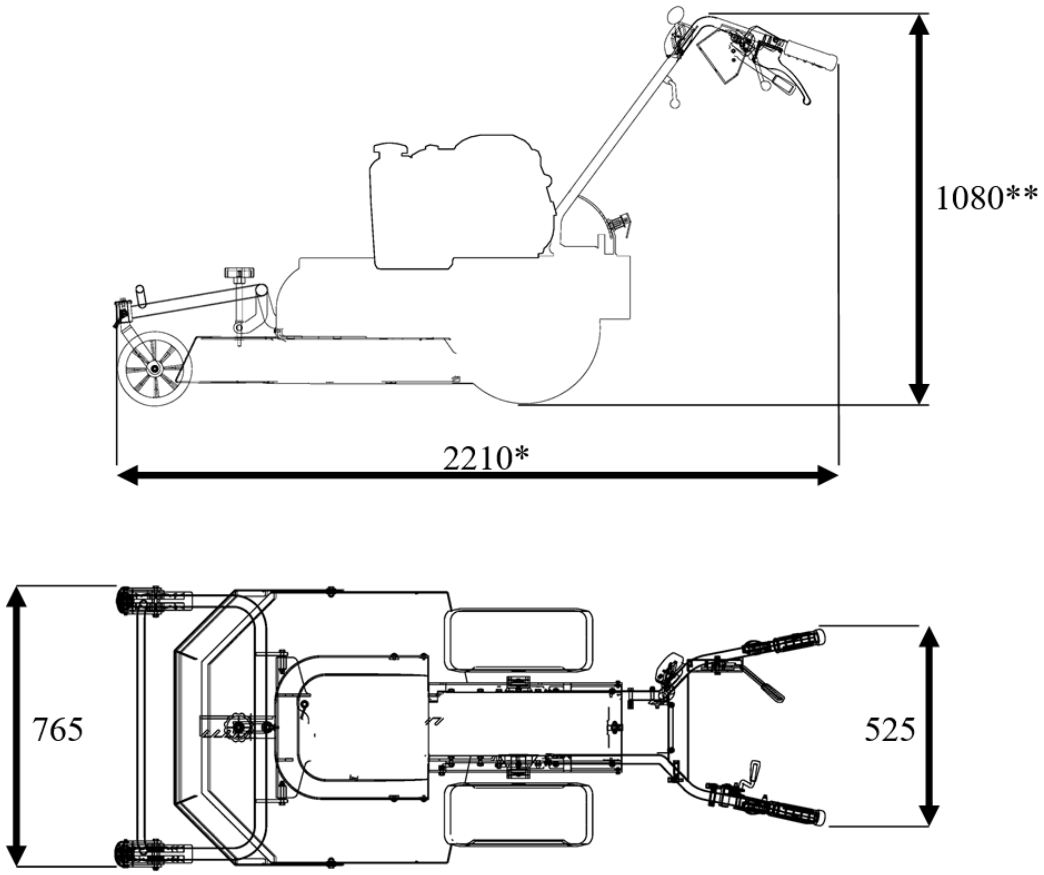
- ***Short-term storage*** (< 1 month): park the machine in a closed, dry area after having allowed it to cool down completely. Cover the machine with a sheet. Periodically check that the battery charge does not go under 12V.

- ***Long-term storage*** (> 1 month): in addition to the precautions mentioned above, it is good to empty the petrol tank to prevent the formation of deposits. The fuel must be stored in cool and dry places, away from light and ignition sources, in approved containers suitable for the purpose.

During long stops, keep the battery under charge!

- ***Disposal of the machine at the end of its life***: the machine is composed of various parts whose disposal can follow different logics from country to country. It is essential to take care of a correct disposal, especially in the case of lubricating oil, petrol, battery, and tyres, which are considered special waste in most of the countries where this machine might be used. The rest of the machine is mostly composed of iron plates. Contact the organisations entrusted with this task and NEVER dispose of the waste in the environment.

9a– *TECHNICAL DATA*



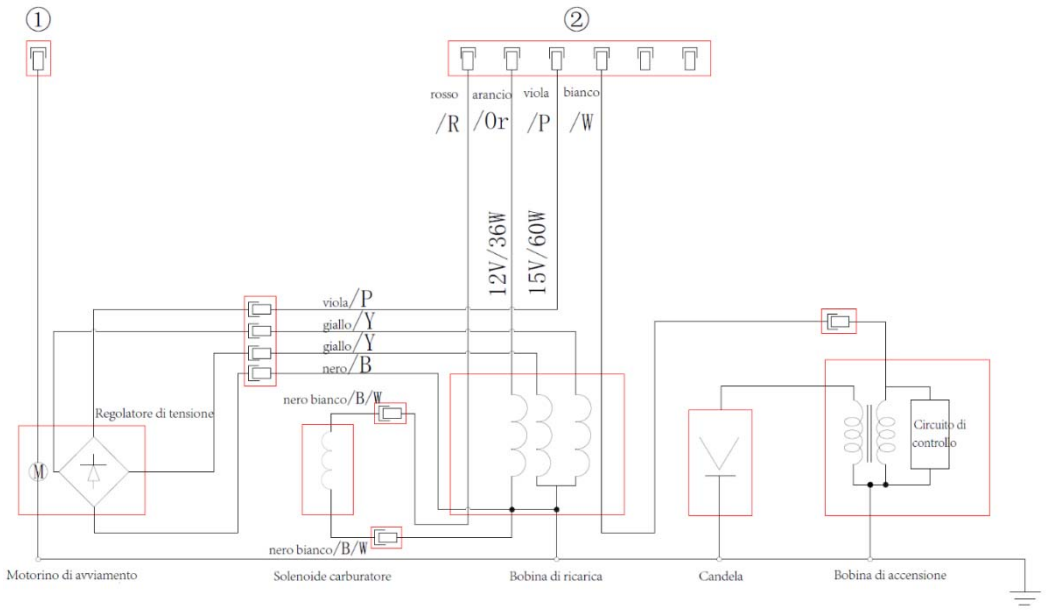
** max length with handlebar in lower position*

*** max height with handlebar in highest position*

	RF 710 hydro
Dry weight	150kg
Engine	Zonsen XP 380 E
Displacement	382 cc
Power @ 3600 rpm	8.5 kW (11.5 hp)
Start-up	Electrical
Hydrostatic transmission	Hydro-Gear RT 310
Cutting element type	Blade plate
Cutting height range	50 - 95mm
Cutting Width (Ø)	700mm
No. of blades	2
Tool rotation speed	2800 rpm
Transmission to the Plate	Belt
Tractor Wheel Measurements	16x6.50-8
Tyre pressure	2 bar
Petrol tank capacity	4 L
Hydrost Oil Tank Capacity.	0.7 L
Cutting capacity at 3.2 km/h	2200 m^2/h
Max. Transfer Speed	6 km/h
Battery	12V-18Ah

Acoustic Power (EN 12733:2018) Lwa = 103.4 dBA ± 0.6 dBA
Sound Pressure (EN 12733:2018) Lpa = 92.3 dBA ± 2.5 dBA
Hand-Arm Vibrations (EN 12733:2018) a = 1.02 m/s^2 ± 0.04 m/s^2

9b – *ELECTRICAL SYSTEM DIAGRAM*



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DECLARATION OF CONFORMITY
Annex IIA - 2006/42/EC

The company ***Meccanica Benassi Srl*** with registered office in Dosso, via Statale 325, 44047 Terre di Reno (FE) - Italy, as manufacturer and holder of the technical documentation, declares that the machine:

Type: mower

Models: ***RF 710 hydro***

Serial number:
3800259 to **3899999**

Power @ 3600 rpm:
8.5 kW (***ZONSEN XP380E***)

Mass (dry):
150kg

is compliant with the following directives/regulations:

2006/42/EC (EN ISO 12100:2010; EN 12733:2018)
2014/30/EU
2011/65/EU and subsequent amendments

Dosso, January 2026

Mattia Mantovani