

# PELLE RETRO

« PR-1500-S / PR-1500-P »

## OPERATOR'S MANUAL



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## CONTENTS

<b>CONTENTS</b> .....	<b>2</b>
<b>PRESENTATION OF THE MANUAL</b> .....	<b>4</b>
General information .....	4
First use of the machine .....	4
<b>CE CONFORMITY DECLARATION</b> .....	<b>5</b>
<b>1 TECHNICAL CHARACTERISTICS</b> .....	<b>6</b>
<b>1.1-General</b> .....	<b>6</b>
<b>1.2-Intended use and limitations</b> .....	<b>6</b>
<b>1.3- Machines Description</b> .....	<b>7</b>
<b>1.4-Dimensions and characteristics</b> .....	<b>8</b>
<b>2 SAFETY NOTICE</b> .....	<b>9</b>
<b>2.1-Foreword</b> .....	<b>9</b>
2.1.1-Responsibilities and tasks .....	9
2.1.2-Duties and warranty .....	10
2.1.3-PPE (Personal Protective Equipment).....	10
2.1.4-Safety symbols.....	11
<b>2.2-Working area</b> .....	<b>11</b>
<b>2.3-Nuisances</b> .....	<b>12</b>
<b>2.4-Safety features</b> .....	<b>13</b>
<b>2.5-Residual risks</b> .....	<b>13</b>
2.5.1-Hydraulic risk: .....	13
2.5.2-Hydraulic hose rupture:.....	13
2.5.3-Tipping: .....	13
2.5.4-Transporting people: .....	14
2.5.5-Usage in enclosed areas: .....	14
<b>3 OPERATION</b> .....	<b>15</b>
<b>3.1-Workstation</b> .....	<b>15</b>
<b>3.2 Start/Stop</b> .....	<b>16</b>
<b>3.3-Operation</b> .....	<b>16</b>
Bucket controls: .....	17
Boom controls: .....	17
Adjusting beam controls: .....	18
Rotation of the arm:.....	18
Right stands controls:.....	19

July 2019

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User Manual 2/25

English version

Left stands controls: .....	19
Excavation work: .....	20
<b>3.4- Cleaning (to be done after each use).....</b>	<b>20</b>
<b>3.5-Handling the equipment.....</b>	<b>20</b>
Changing the bucket: .....	21
Fitting an auger or grapple: .....	21
Fitting a loading bucket:.....	21
<b>4 CHECKS AND MAINTENANCE WORK.....</b>	<b>22</b>
<b>4.1-Action .....</b>	<b>22</b>
Conditions: .....	22
<b>4.2-Corrective maintenance .....</b>	<b>22</b>
<b>4.3-Preventive maintenance .....</b>	<b>22</b>
Checking levels:.....	22
Lubrication points: .....	23
Maintenance and machine verifications chart: .....	24
<b>5 TRANSPORT AND STORAGE.....</b>	<b>25</b>
<b>5.1-Loading and unloading .....</b>	<b>25</b>
On a truck: .....	25
Using a pallet truck: .....	25
Weight of the machine:.....	25
<b>5.2-Storage .....</b>	<b>25</b>
Durability of the machine:.....	25
Safety: .....	25
<b>5.3-Disposal .....</b>	<b>25</b>

## PRESENTATION OF THE MANUAL

### General information

The operator of this equipment must read this manual with care and attention before operating the machine.

This manual is intended for the owner and people likely to use and maintain the machine produced by Chargeur Plus. This manual was written to ensure the complete safety of the users of the equipment.

All manufacturing parts, connectors and controls were designed and built with maximum safety in mind, meaning they are particularly robust, even when they are not used in accordance with this manual.

The machine (in its assembled form) was tested before being delivered. Long-term performance depends on the correct usage and necessary preventive maintenance, in accordance with the instructions given in this manual.

For the usage, maintenance, restoration and technical safety checks of the retro excavator, the owner must ensure that the person using the equipment has the necessary skills to do so.

Only people capable of using the retro excavator independently, and those who have received the necessary information for operating this machine are authorized to operate it.

Original spare parts can be ordered directly from SAS Chargeur Plus or through one of their approved dealers. It is therefore necessary to specify the name of the model, the date the machine was put into circulation and a photo of the part if necessary. Any parts ordered from another dealer could compromise the safety of the machine.

### First use of the machine

Before using the machine for the first time, carry out a visual inspection of the retro excavator to make sure no external damage occurred during transport. Check all the parts supplied with the machine.

- Check the levels of oil

See the maintenance chapter in order to carry out these checks correctly.

Running-in the retro excavator:

For the first 50 hours of use, it is absolutely essential to follow these instructions:

- Warm up the retro excavator with medium engine power and rev the engine a little; do not warm up the engine at idling speed,
- Do not rev the engine unnecessarily.

Specific maintenance instructions:

- Check the hydraulic oil to make sure there are not any visible impurities.

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User Manual 4/25

English version

## CE CONFORMITY DECLARATION

With this CE declaration of conformity, the company CHARGEUR PLUS confirms that the retro excavator respects all regulations and standards applicable at the time of delivery. CE conformity marking is mentioned on the serial number plate; this confirms compliance with all applicable regulations and standards.

Any unauthorized modifications or any spare part added at a later date could have a negative impact on the stability of the retro excavator and as a consequence, the CE declaration of conformity is no longer valid.

When the assembled retro excavator is delivered, the CE declaration of conformity is attached to the invoice. This CE declaration of conformity must be carefully retained and presented upon request, to the appropriate authorities.

<b>ORIGINAL</b>	
	
<b>DECLARATION CE DE CONFORMITE DES MACHINES</b>	
Nous déclarons sous notre responsabilité :	
Fabricant :	Responsable du dossier technique :
<b>SAS – Chargeur Plus</b> 3 rue Jacques de Vaucanson 17180 Périgny Siret : 481 520 088 00024	<b>Directeur technique</b>
Que le produit désigné ci-après en raison de sa conception et de son type ainsi du modèle mis en circulation par nos soins répond aux exigences fondamentales en matière de sécurité et santé définies par la directive CE concernée. Nous déclinons toute responsabilité en cas de montage non conforme aux notices de montages des machines fournies dans les versions : en kit (à souder, assembler et peindre) ainsi que la version soudée et peinte à assembler. Cette déclaration est invalidée par toute modification non approuvée par nos services.	
Produit : <b>Pelle retro</b>	
Modèle : PR-____-__ / PR-____-__	
N° de série :	
Année de construction :	
Masse en ordre de marche : ____ Kg	
Directives CE applicables : <b>directive « Machines » 2006/42/CE</b>	
Conforme aux normes : <b>NF EN 474-1+A4, NF EN 474-5-A5</b>	
Respecte la directive comptabilité électromagnétique 2017/30/CEE.	
Les documents techniques de montage et d'utilisation ont été réalisés par le service habilité pour la documentation de la SAS – Chargeur Plus.	
Signature et qualité du signataire :	
Fait à :	
Le :	

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User Manual 5/25

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# 1 TECHNICAL CHARACTERISTICS

## 1.1-General

The information, instructions and data given in this operator's manual can be applied to all models. If instructions concern a specific model, this will be detailed.

## 1.2-Intended use and limitations

The retro excavators described in this operator's manual are intended for loading operations and unloading of earth, rocks and other materials. The maximum authorized lifting capacity of the bucket should never be exceeded.

Compliant usage also includes the following:

- Respecting all the instructions given in this manual,
- Carrying out all the required maintenance, at the scheduled times indicated,
- Respecting the scheduled compulsory tests, to prevent accidents.

### Forbidden usage:

Any incorrect use of the retro excavators described in this manual, that is to say any difference in use compared to the information given in the next section of the operator's manual, is considered as forbidden. The same applies in the case of non-compliance with the standards and instructions given in this operator's manual.

Improper use can cause risks. Here are some examples of improper or abusive usage:

- Using to lift loads without assembling the correct lifting equipment,
- Using in a contaminated environment,
- Using in enclosed areas without sufficient ventilation,
- Using in extreme temperatures (hot or cold),
- Using to work underground,
- Using to transport people in the bucket,
- Using to break down walls with the bucket.

### External operating conditons:

Usage temperature	Minimum	-10°
	Maximum	40°
Maximum humidity		90% at 40°
Maximum wind speed authorised		60 km/h
Maximum Temperature of oil in the tank		60°

*\* Remember to order the cooler from Chargeur Plus, in the event of hydraulic or engine problems which could increase the temperature of the oil and could be dangerous\**

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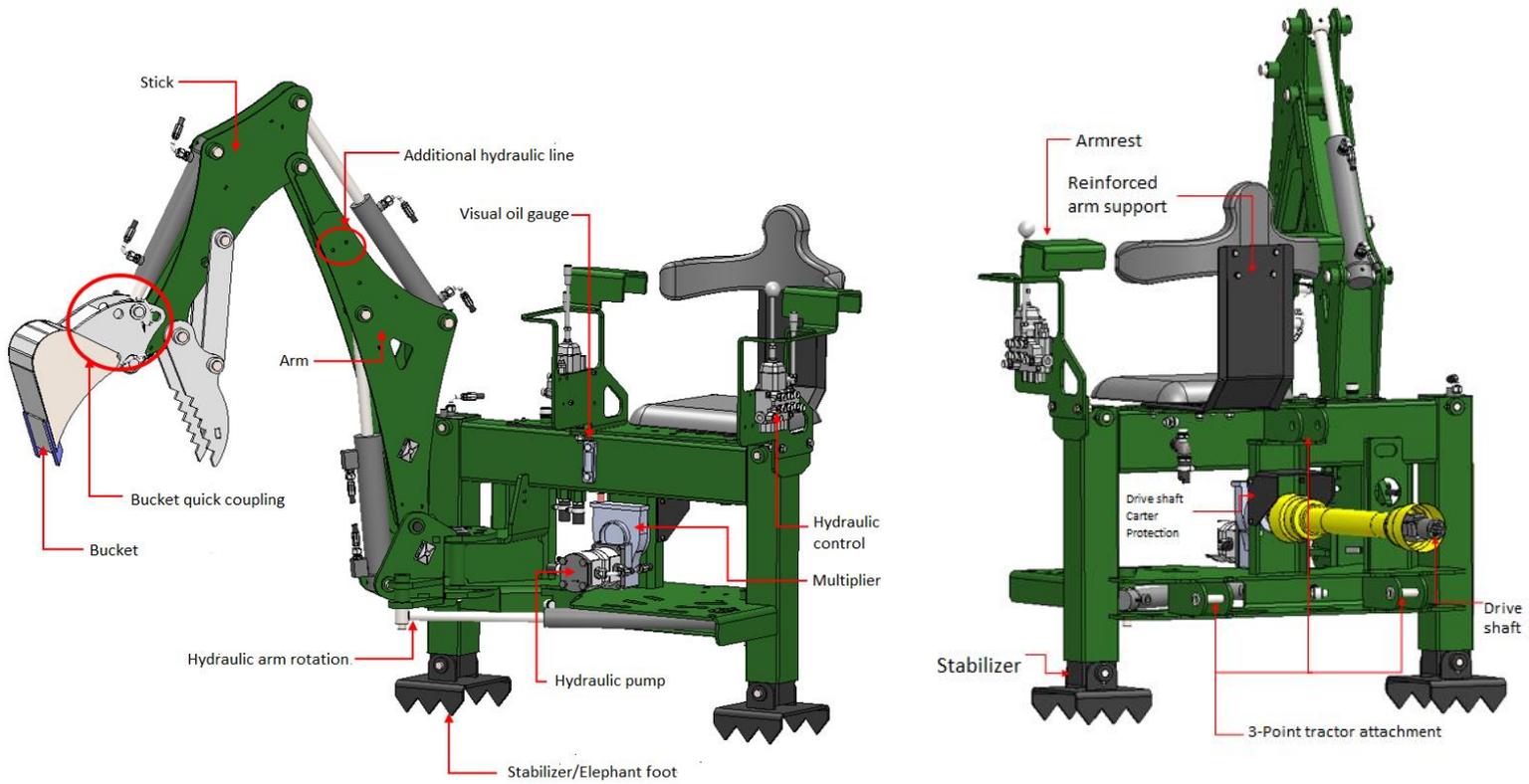


User Manual 6/25

English version

### 1.3-Description des machines

See below the full description of a machine with all available options, depending on the model of your machine, some parts will come at an extra charge.



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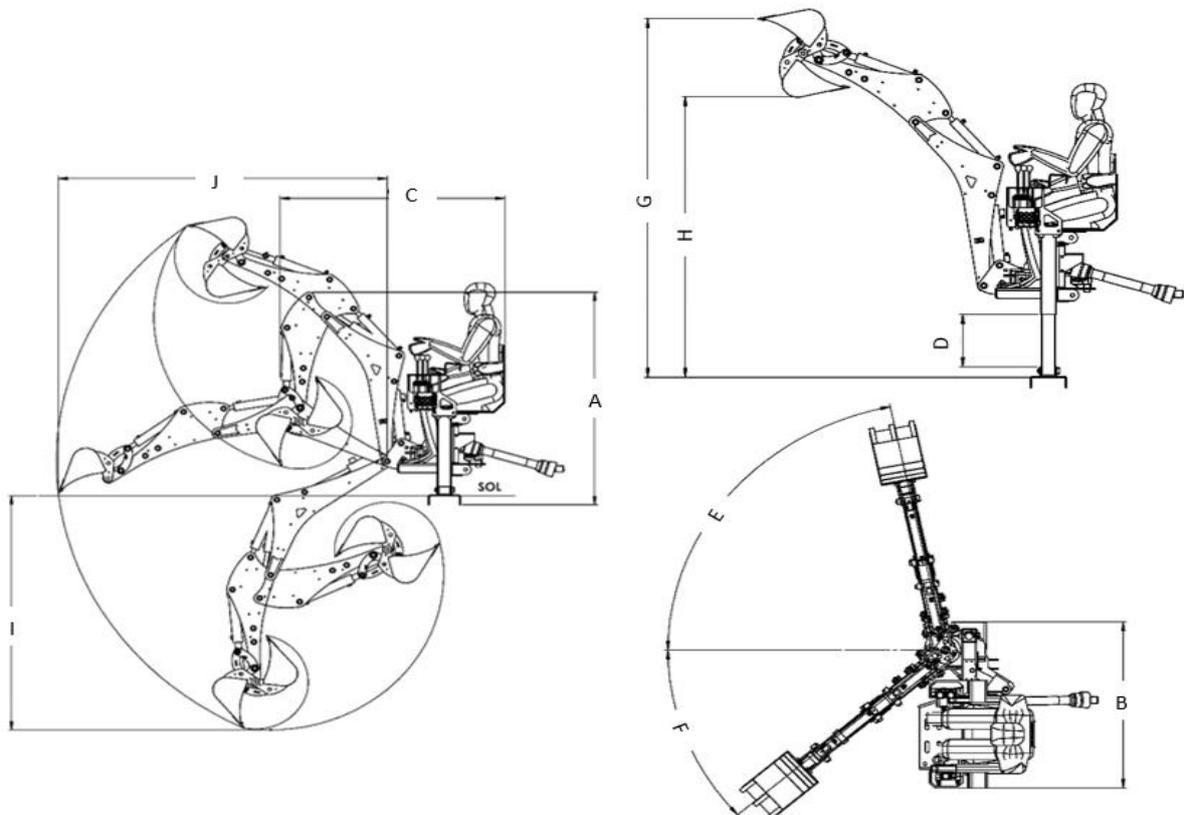
User Manual 7/25

English version

**1.4-Dimensions and characteristics**

<b>General:</b>	<b>PR-1500-S</b>		<b>PR-1500-P</b>	
Weight	300 kg		300 kg	
Total height (arm folded down) *	1700 mm	<b>A</b>	1700 mm	<b>A</b>
Total width	820 mm	<b>B</b>	820 mm	<b>B</b>
Total length (arm folded down)	1650 mm	<b>C</b>	1650 mm	<b>C</b>
<b>Stabilizer stroke</b>	380 mm	<b>D</b>	380 mm	<b>D</b>
<b>Arm:</b>				
Joint (hydraulically adjustable arm)	79° on the right	<b>E</b>	79° on the right	<b>E</b>
	42° on the left	<b>F</b>	42° on the left	<b>F</b>
Max height (open bucket) **	2550 mm	<b>G</b>	2550 mm	<b>G</b>
Max breakout height**	2000 mm	<b>H</b>	2000 mm	<b>H</b>
Max digging depth*	1900 mm	<b>I</b>	1900 mm	<b>I</b>
Max length	2400 mm	<b>J</b>	2400 mm	<b>J</b>
Ripping power	1.5 tons		1.5 tons	
<b>Tractor:</b>				
Category ***	1		1	
Power	20 to 55 cv			
<b>PTO</b>	540 tr/min (anticlockwise)			
<b>Hydraulic system:</b>				
Hydraulic pump	6 cc with gears		6+6 cc with gears	
Operating pressure	165 bars			
Throughput (at 540 rpm)	10 L/min		21 L/min	
<b>Arm rotation</b>	Hydraulic		Hydraulic	
Hydraulic tank capacity	10.5 l			

* Stands in
** Stands out
*** According to Standard ISO 730:2009



## 2 SAFETY NOTICE

### 2.1-Foreword

#### 2.1.1-Responsibilities and tasks

**!/\ IMPORTANT! /\!**

**It is strictly forbidden to drive the machine on the road.**

For all machines mentioned in this manual, the safety regulations must be adhered to, as well as the instructions and rules regarding the usage of retro excavators.

The user has the following duties:

- Make sure all current regional and national regulations are respected,
- Respect the legal regulations (laws, regulations, instructions, etc.) indicated in this operator's manual, to ensure the machine can be operated in complete safety,
- Make sure that this operator's manual is available to all operators and maintenance personnel concerned, and that the information, comments, warnings and safety instructions are fully respected,
- Make sure the safety instructions are respected,
- Take the necessary measures to prevent switching on or operating the retro excavator without prior authorization,
- Ensure the retro excavator is used in accordance with the location and is operated in compliance with the conditions of use given in this manual.

#### Dangers when using the retro excavator:

- The retro excavators are built in accordance with current manufacturing techniques and in compliance with recognized safety instructions. However, using a retro excavator could constitute a health hazard or even death of an operator or third party, and risk damaging the machine itself or other assets and materials. It is only authorized to use the retro excavator for the work it is intended to do, and in compliance with the safety instructions  
*cf: Maintenance and machine verifications chart.*
- Repair immediately any faults which could affect the safety of the machine.  
*cf: Maintenance and machine verifications chart.*

#### Information about modifications:

Any modifications to the machine which are not authorized by Chargeur Plus, could affect the operation and safety of the machine.

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User Manual 9/25

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### 2.1.2-Duties and warranty

Knowledge of the safety regulations and instructions is a basic requirement in order to correctly operate the retro excavator in complete safety.

The instructions given in this manual, and in particular, the safety instructions, must be respected by any person using the retro excavator or working with this machine, as well as the current rules and regulations for the prevention of accidents, in force at the location in question.

Details of the warranty such as scope, duration and nature are stipulated in the terms and conditions of sale and delivery issued by the manufacturer. Regarding the warranty claims which could arise due to incorrect documentation, the current operator's manual will be the correct one.

In addition to the terms and conditions of sale and delivery, the following clauses are applicable: a warranty claim is invalid for any damages to a person and material damages, in the event it is caused by one of the following:

- Any use of the retro excavator which is not in accordance with the intended usages and instructions,
- Switching on or driving the retro excavator incorrectly and improper maintenance of the excavator,
- Use of the retro excavator with faulty safety equipment or with safety and protection equipment which is not correctly assembled or broken,
- Lack of understanding and respect of the instructions in the present operator's manual,
- Usage by an unqualified operator,
- Repair work which is not carried out correctly,
- Unauthorized modifications in the assembly of the retro excavator,
- Insufficient monitoring of spare parts which are worn,
- Damage caused by foreign objects or force majeure.

### 2.1.3-PPE (Personal Protective Equipment)

Depending on the usage of the machine, the operator must be familiar with the nature of the possible hazards and consequently, equip themselves with the necessary PPE. For example, in the event of falling object hazards, they must be equipped with a hard hat, or in the event of chemical hazard; with gloves and a mask for respiratory protection.

This equipment is compulsory and means the operator can work in complete safety.

#### WARNING!

The operator must wear PPE which enable them to move freely.

#### FOR INFORMATION!

PPE must be chosen depending on the nature of the work to be done, the working environment and working conditions.

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User Manual 10/25

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## 2.1.4-Safety symbols

	General hazard		Eye protection compulsory
	Suspended load		Ear protection compulsory
	Tipping risk		Head protection compulsory
	High temperatures		Hand protection compulsory
	Risk of slipping		Foot protection compulsory
	Danger of crushing, risk of hand injuries		Body protection compulsory
	Crushing hazard		

## 2.2-Working area

For usage in the right safety conditions, you must respect the following:

- A safety perimeter of 3m in which no person shall pass (you could cordon off the area with tape),
- The stability of the machine; do not exceed 10° tilting and make sure to use the stabilizers,
- Work on stable ground where the machine can move easily and make sure to keep the vibrations felt by the operator to a minimum. It is sufficient to simply use the machine as per the intended conditions, taking into account the actual conditions of the outdoor location and the effects these could engender,
- Do not work under electrical power lines to avoid any contact with the retro excavator arm when it is lifted.
- Do not use the machine in undesirable weather conditions, the machine must be switched off and you should go to a safe place (the machine is not equipped with lightning protection),

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User Manual 11/25

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- Be aware of underground pipelines, you must be aware if they are present in your working area.

It is the user's responsibility to ascertain whether there are dangerous conditions when using the machine such as for example, the presence of toxic gas, people or obstacles...

When the machine is moving, the operator must ensure that there are no people or obstacles in the way. If there are, they must warn them to move, either verbally or with a pre-defined gesture.

## 2.3-Nuisances

The values given in the present operator's manual were recorded during a test cycle carried out on an identical machine. This data is valid for any machine with the standard equipment. The recorded values are given in the technical characteristics.

### Noise emission:

Noise emission was noted in accordance with the process defined by the standard ISO4871, to determine the guaranteed sound pressure levels, based on the 200/14/CE guidelines, appendix VI.

However, the values given for noise emission are not applicable to determine the noise emission for different workstations.



Noise levels which exceed 85dB(A) can cause hearing problems. For a noise level of over 85 dB(A), ear protection is compulsory for the operator.

For a noise level of 80 dB(A), ear protection is recommended when using the machine.

### Vibrations:

Vibrations were noted for an identical machine before being shipped.

If the operator is exposed to vibrations for an extended period of time, this must be measured at the workplace, in accordance with 2002/44/CE guidelines, in such a way as to take into account individual factors.

According to standard EN-474-1, the level of vibrations is lower than  $2\text{m/s}^2$ .

### Lighting:

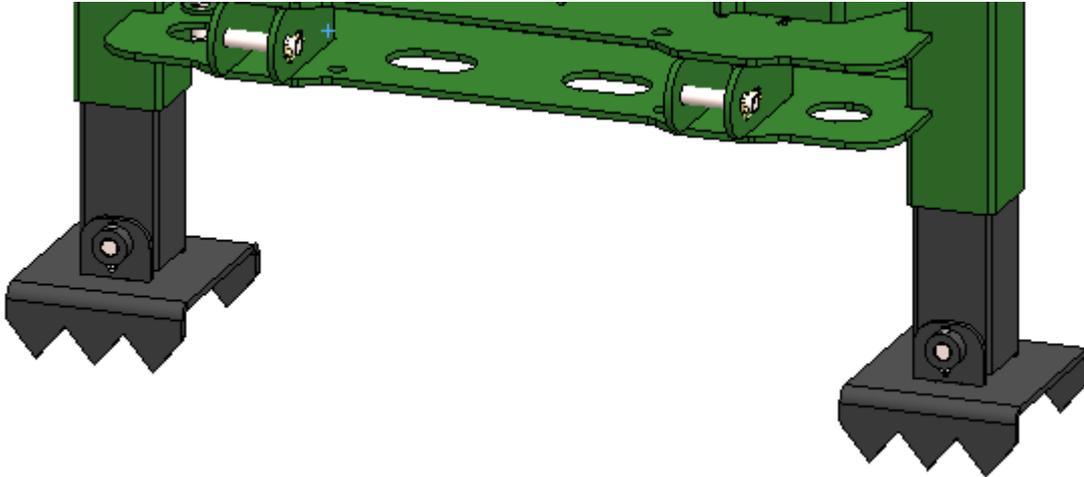
When the level of lighting at the workplace and machine workstations is lower than 100 LUX, it becomes necessary to use extra lighting equipment. If the machine is not equipped with such equipment, it is necessary to use lighting powered by an external power source.

Lights for the working area must be positioned and set up so that they do not dazzle the personnel working on the worksite.

## 2.4-Safety features

### Stabilizers (stands)

The stabilizers are safety features which, when the machine is equipped with them, keep the machine stable at all times during usage.



## 2.5-Residual risks

### 2.5.1-Hydraulic risk:

In the event oil enters the eye, rinse immediately with clean water, then consult your doctor without delay.

Skin and clothes must not come into contact with hydraulic oil. Skin which does come into contact with hydraulic oil must, if possible, be carefully washed immediately, several times over, with water and soap. If this is not done, the oil could irritate the skin and cause dermatitis.

In the event hydraulic oil is projected or spilled onto clothes, you must get changed immediately.

If a person inhales the hydraulic oil vapors (mist), they must be taken to see a doctor immediately.

In the event of a leak in the hydraulic system, do not switch on the retro excavator or switch it off immediately.

### 2.5.2-Hydraulic hose rupture:

The hydraulic hoses and connectors used on this machine are compliant with regulations. However, there is always a risk of rupture.

**Any work on the hydraulic circuit must be carried out by trained personnel, equipped with the necessary PPE (eye goggles in particular).**

Do not search for oil leaks with bare hands, always use a piece of wood or cardboard. To search for leaks, wear protective equipment (goggles and gloves).

### 2.5.3-Tipping:

It is hazardous to move the retro excavator on particularly rugged or unstable ground. The operator must proceed with caution. Please refer to page 21.

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User Manual 13/25

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2.5.4-Transporting people:

It is strictly forbidden to transport or lift people with these machines.

2.5.5-Usage in enclosed areas:

In the event the machine is used inside a building for example, or in an area without ventilation, an exhaust gas ventilation system must be installed so that the operator is not poisoned.

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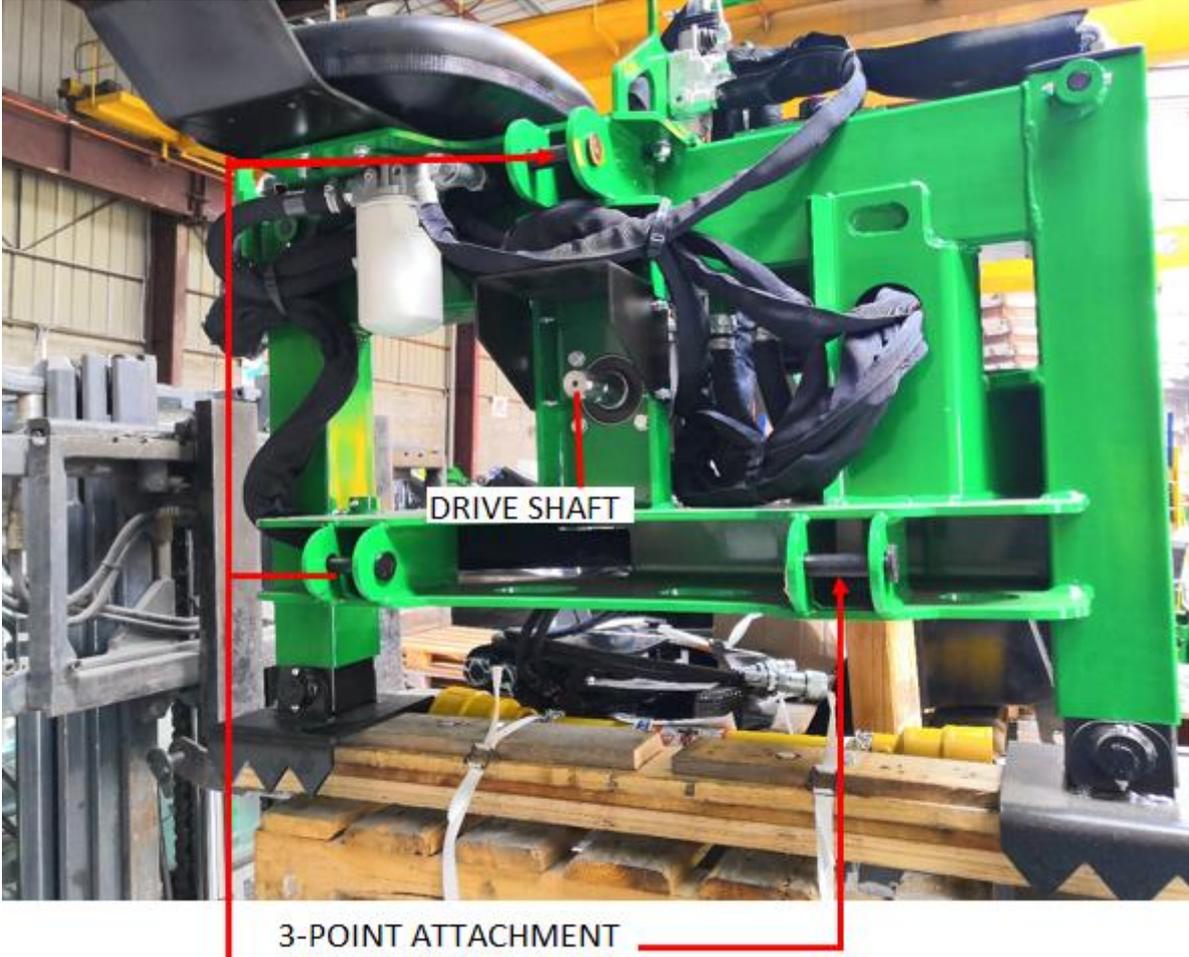


User Manual **14/25**

English version

### 3 OPERATION

#### 3.1-Workstation



### 3.2 Start/stop

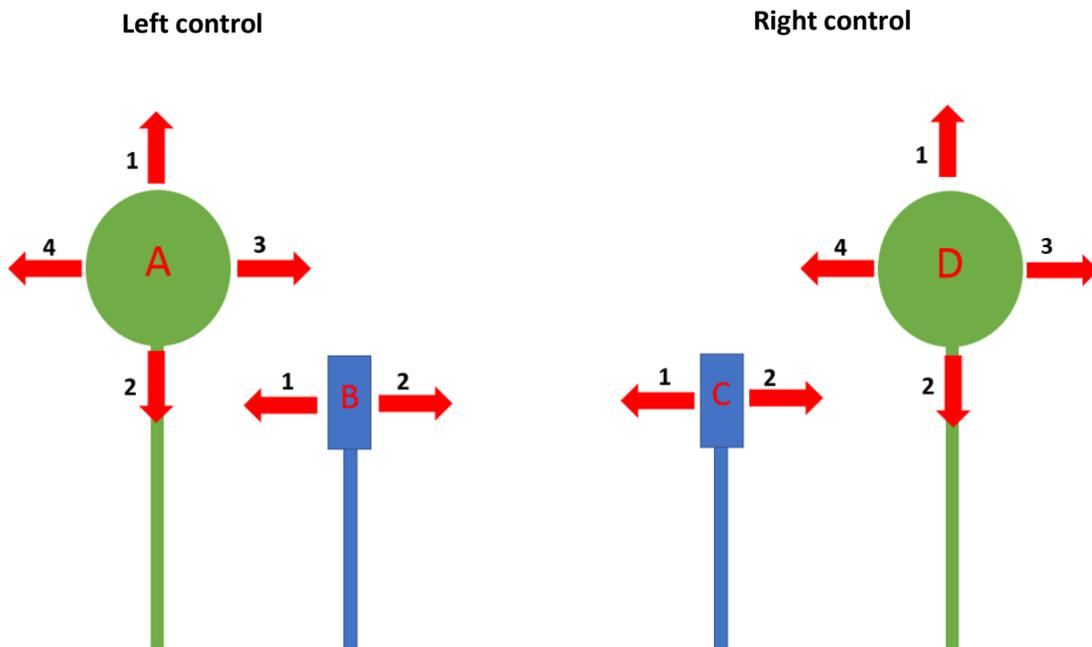
**To start the machine:**

- Attach the retro excavator on the tractor with the three-point hitch.
- Connect the drive shaft to the tractor.
- Start the tractor.

**IMPORTANT !**

**During the installation of the retro excavator, it is absolutely compulsory to turn the tractor's motor to the OFF position.**

### 3.3-Operation



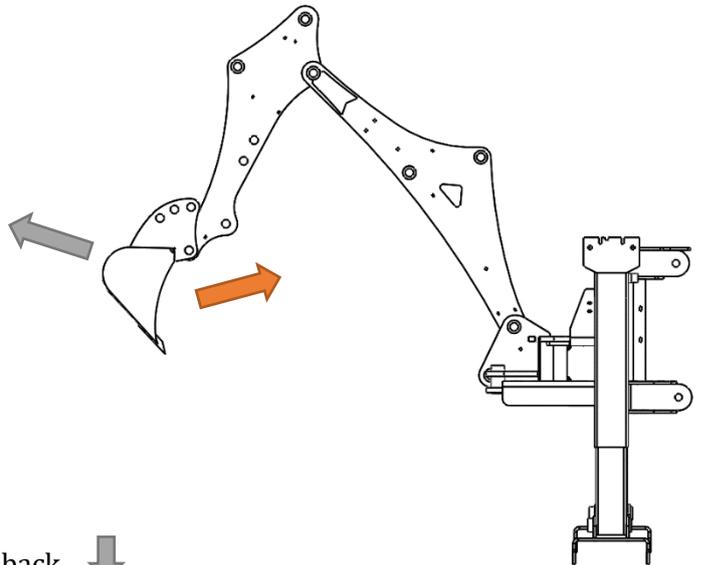
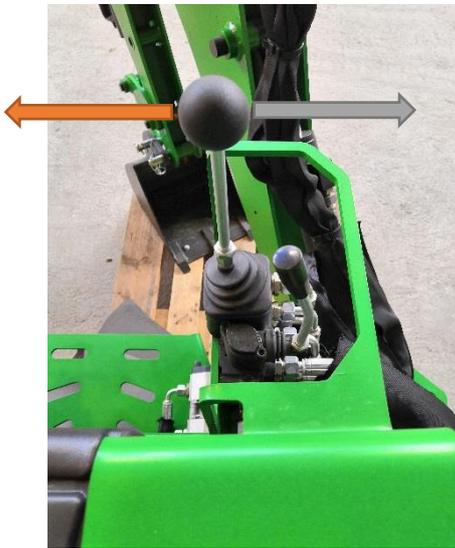
Manette	Indice	Mouvement	Manette	Indice	Mouvement
Left Joystick (A)	1	Adjusting beam is extended	Right Joystick (D)	1	Boom up
	2	Adjusting beam is retracted		2	Boom down
	3	Arm is rotated to the right		3	Bucket is opened
	4	Arm is rotated to the left		4	Bucket is closed

Left Lever (B)	1	Left stand is out	Right Lever (C)	1	Right stand is out
	2	Left stand is in		2	Right stand is in

**Bucket controls:**

To open the bucket (dumping), push the right joystick (D) to the right. →

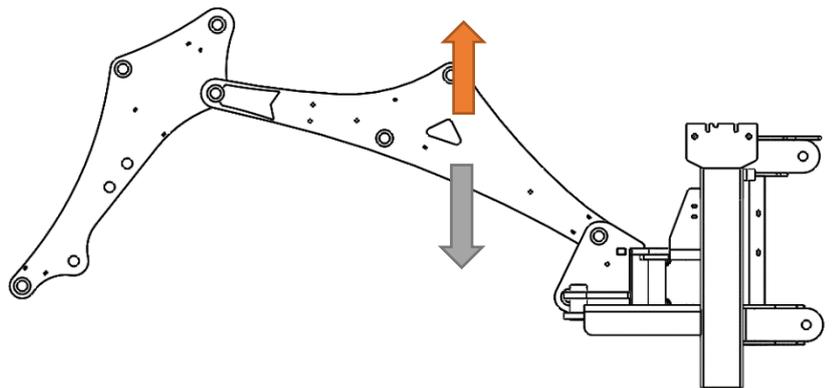
To close the bucket (excavation), push the left joystick (D) to the left. ←



**Boom controls:**

To move the boom up, pull the right joystick (D) back. ↓

To move the boom down, push the right joystick (D) forward. ↑

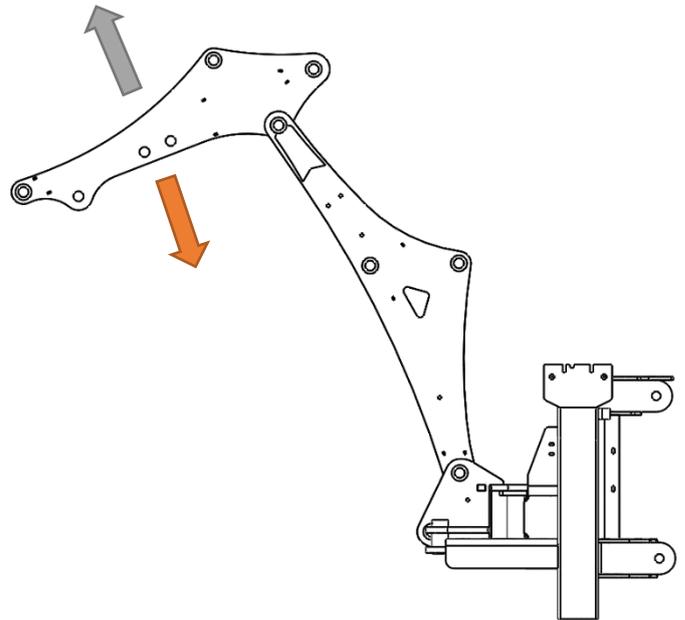


Adjusting beam controls:

To extend the adjusting beam, push the left joystick (A) forward.



To retract the adjusting beam, pull the left joystick (A) back.

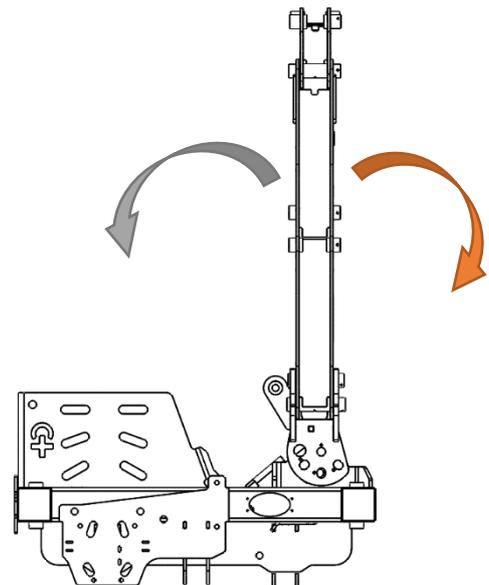


Rotation of the arm:

To rotate to the left, push the left joystick (A) to the left.



To rotate to the right, push the left joystick (A) to the right.



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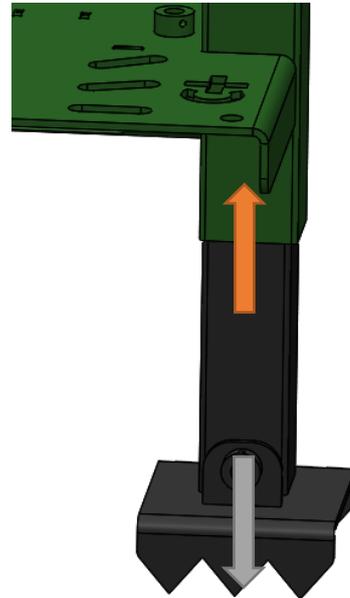
User Manual 18/25

English version

Right stands controls:

To extend the right stand, push the right lever to the left.

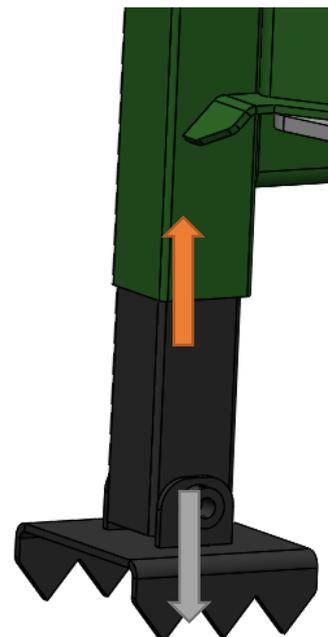
To retract the right stand, push the right lever to the right.



Left stands controls:

To extend the left stand, push the left lever to the right.

To retract the left stand, push the left lever to the left.



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### Excavation work:



*When working with the retro excavator, you must respect the following safety instructions:*

- It is prohibited to try and crush concrete or boulders with the bucket, using the adjustable boom.
- During excavation work, do not let the bucket fall.
- Do not operate the cylinders to the stroke end. Operate with a small safety margin.
- Do not move the retro excavator or dig the earth when the bucket teeth are stuck in the ground.
- When digging earth, do not bury the bucket too far into the ground. It is better to scrape the surface whilst keeping the bucket almost flat, at a good distance from the frame of the machine. This way of working will avoid putting too much pressure on the bucket.
- After working in water, make sure the pins for the bucket and adjusting beam are regreased, using the grease gun. Operate the pump until the old grease comes out of the bearings.
- It is strictly forbidden to use the retro excavator for lifting.
- When the bucket is being emptied, adhering soil can be shaken off the bucket by moving the bucket out to the maximum stroke of the cylinder. If this should not suffice, extend the beam as far as possible, then operate the bucket back and forth.
- When carrying out excavation work, make sure the blade is always lowered to the ground. Note for the use of bigger and deeper buckets

### 3.4- Cleaning (to be done after each use)

#### Cleaning instructions:

The arm and track base can be cleaned with a large quantity of water without the risk of damaging the retro excavator.

It is preferable to clean the machine with a sponge and water.

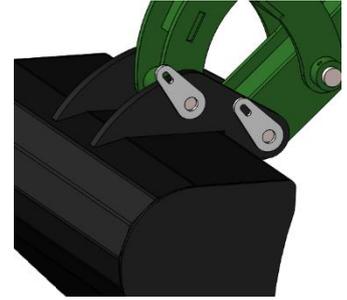
If the rollers are cleaned with a lot of water, the bearings must be regreased.

### 3.5-Handling the equipment

The machine accessories can be handled only when the machine is switched off, for safety reasons.

### Changing the bucket:

To change the bucket, stay close to the ground to avoid the bucket falling. Remove the coupling pins from the ends of the axles, then the axles, then remove the bucket and replace it with another one.



### Fitting an auger or grapple:

Follow the same instruction as for the bucket, then connect to the hydraulics.

### Fitting a loading bucket:

**⚠ IMPORTANT! ⚠**  
**Using a loading bucket increases the risk of tipping:**  
**A counterweight must be used and the way of operating the machine must be adapted.**

The loading bucket is installed at the end of the boom, instead of the adjusting beam (see image).

- Do not use the swing,
- Move the machine with the bucket in the lowest possible position,
- Keep the bucket on the ground when working on a slope,
- Do not exceed the maximum load (*cf Abaques*),
- Do not forget to deactivate the “Push Pull” for this change.

To replace another tool already in place on the retro excavator with the loading bucket, you should:

- For safety reasons, keep the bucket on the ground,
- Remove the two coupling pins which are keeping the tool in place (casing and cylinder)
- Wiggle the controls to remove the excess oil in the hoses
- Disconnect the hydraulic hoses, making sure you are protected from the oil, or just disconnect the hoses from the “Push Pull”.

*\*Remember to order the “Push Pull Bucket” line from Chargeur Plus\**

*The “Push Pull Bucket” line is safer than the original hoses because to connect and disconnect the hoses, you just have to disconnect them and install a cover. Whereas, with the original hoses, you need to protect yourself from the oil coming out of them, and prepare a container under the hoses to collect the oil. With the Push Pull line, there are no oil leakages.*

## 4 CHECKS AND MAINTENANCE WORK

### 4.1-Action

#### Conditions:

For safety reasons during maintenance work, lower the bucket and blade to the ground to prevent the equipment from falling when the hydraulic system is activated. Once the machine is stopped, with a 3m safety distance, you should always remove the residual pressure from the system by testing each control lever.

In order to lower the risk with dangerous chemicals during maintenance work, wear gloves, long sleeves and a protective mask and safety goggles.

### 4.2-Corrective maintenance

When changing any spare parts, hoses, etc. please see the assembly instructions which explain in detail how to assemble all the individual parts of the retro excavator.

Connectors between parts and hoses are tightened in a factory and,

- Fixed in place with threadlock for 12L connectors with a seal (24° cone),
- Made watertight with hydraulic glue (high pressure line) or with Teflon adhesive (low pressure).

Due to the vibrations of the machine, some connections could become loose. After each use, (maintenance chart) you need to check they are correctly tightened in order to avoid any possible leaks, and also make sure you follow the same procedures to make sure all connections are watertight (see a hydraulics supplier).

*Reminder: Hydraulic oil constitutes a health hazard.*

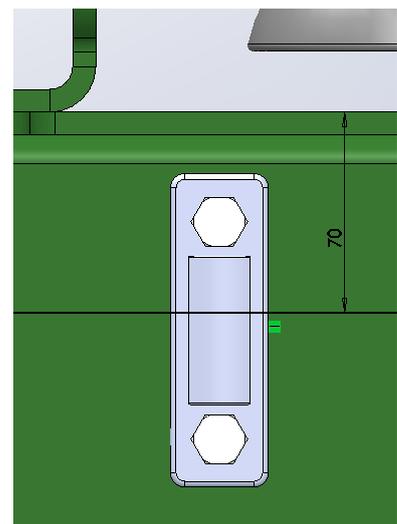
### 4.3-Preventive maintenance

#### Checking levels:

To check the hydraulic oil level, unscrew the cover of the oil tank, check the gauge in the tank.

Some machines are equipped with a level.

The oil level should be 7 cm below the cover of the tank (cylinder rods retracted – applicable for MP-72/82).



### Lubrication points:

All axle fittings have a lubrication point. They must be lubricated at least once a week when the machine is used on a regular basis



Supplier - Grease brand	Grease for Gearing
ARAL	Aralub HLP2
BP	Energrease LS-EP2
CASTROL	Grease LMX
ELF	Epexa 2
ESSO	Beacon EP2
LUBCON	Turmoplex 2EP
MOBIL	Mobilux EP2
SHELL	Calithia EP2

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User Manual 23/25

English version

## Maintenance and machine verifications chart:

<b>Regular maintenance</b> To be carried out every month or after a given number of service hours since the first use of the machine		After every use	First month or 50 hours	Between 100 & 200 hours	Every 6 months or 200 hours	Every year or 300 hours
Operation						
Hydraulic oil	Check the level	<b>X</b>	<b>X</b> (1)			
	Change					<b>X</b>
Strainer	Check		<b>X</b> (1)			
	Clean		<b>X</b> (1)			
	Replace					<b>X</b>
Tank	Clean		<b>X</b> (1)			<b>X</b>
Pins	Check	<b>X</b>				
Lever pins	Check the wear by removing the pin from its housing	<b>X</b>				
	Replace					<b>X</b>
Screws	Check/Re-tighten	<b>X</b>				
Pin lubrication	To be done	<b>X</b>				
Hose, connectors and textile sheath	Check/Re-tighten	<b>X</b>				<b>X</b> (2)
	Check	In the case of a leak, change the hose immediately. If the sheath is damaged, replace it.				

## Cleaning the machine

(1) Empty the tank, if there isn't too much deposit, filter the oil and use it again.

(2) Change the hoses if the wires are visible and rusty.

(3) For each cleaning and after a long period without being operated.

## 5 TRANSPORT AND STORAGE

### 5.1-Loading and unloading

On a truck:

It is recommended to reverse the machine onto the truck, and to use the arm for assistance, and the bucket to stabilize the retro excavator as it is being transported, to avoid any accidents. The lower the slope, the easier it will be to put the retro excavator onto the truck.

Using a pallet truck:

For transporting on a pallet truck, it is essential to strap down the machine and the arm so that nothing moves during transport.

Weight of the machine:

Machine	Empty weight : (Kg)
PR-1500-S	400
PR-1500-P	440

### 5.2-Storage

Durability of the machine:

The following is advised:

- Keep the machine in a sheltered place,
- Store the machine fully lubricated,

Safety:

To avoid the arm or blade falling unexpectedly, it is essential to place the bucket and blade on the ground, so that just in case the hydraulic controls are activated, they will not cause any sudden movements.

### 5.3-Disposal

The machine must only be disposed of by technicians who have been trained and have the appropriate equipment. Components must be separated so that certain raw materials can be reused.

All contaminated components (oil, fuel, lubricants) or polluting components (battery) must be disposed of accordingly by approved bodies.

#### WARNING!

It is strictly forbidden to reuse parts of the machine for functions other than those originally intended in this manual.

#### INFORMATION!

Chargeur Plus declines any responsibility for damages caused by non-respect of the recommendations given in this manual.

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User Manual 25/25

English version