



## PNEUMATIC SEEDERS

-

DOS 3022

DOS 6042

Return the warranty certificate within 15 days together with a copy of the invoice (*without these documents the warranty procedure cannot be implemented*).



Original Manual

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# FOREWORD

This manual is provided with your machine to enable you to make optimum use of your equipment, in particular under safe working conditions.

**All owners** are reminded that the manual is **an essential accessory** which must remain with the machine at all times, and that in the event of resale, article 1615 of the Civil Code requires that as such it **must be handed over** to the new owner.

You are also reminded that as the manual is essential to the machine, all owners must undertake to **leave it physically** available with the machine for all users to consult.





**AGRISEM**  
INTERNATIONAL

GUARANTEE RECLAMATION FORM N°

***To be returned on reception of the machine***

Dealer
Name
Address
Tel
Code Nb

Owner
Nom
Address
Tel

Type of machine	
Working width	
Serial number of the machine	
Delivery date to the user's place (join a copie of invoice and dealer's delivery note)	
Tractor description and horse power	
Type of soil, clay %	
Surface area of farm	

Date : ..... / ..... / .....

Customer's signature and client's stamp

Dealer's signature and dealer's stamp

We are fully aware of, and accept, the contents of the instruction manual and we hereby adhere to the clauses of the guarantee.

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# DECLARATION OF COMPLIANCE WITH THE "MACHINERY" DIRECTIVE

	
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<input type="radio"/> MODEL	<input type="text"/>
SERIAL NUM	<input type="text"/>
	
EQUIPMENT MANUFACTURED UNDER LICENCE	

The manufacturer referred to above certifies that the new equipment described below:

## PNEUMATIC SEEDERS

Complies with the provisions of the amended "Machinery" directive (Directive 2006/42/CE) and with the applicable national legislation.

Ligné,

21 May 2013



Michal Guzowski  
Chief Executive Officer

## **Identification of the machine**

On receipt of the machine, please enter the corresponding information below:

Type of machine: .....

Serial number: .....

Year of manufacture: .....

Date of first use: .....

Accessories: .....

.....

.....

Name of the Dealer: .....

Address:.....

.....

.....

Telephone number: .....

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This document should be kept inside this user manual



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# 1. INTRODUCTION

**The warranty certificate MUST be returned within 15 days of delivery of the machine to the final user.**

You have just acquired your AGRISEM machine. It has been designed to give complete satisfaction.

The equipment has been carefully designed using the latest technological solutions to reduce usage costs.

However, for the best and most profitable use of your AGRISEM machine, please read this manual carefully before starting it up and strictly follow the instructions. In particular, follow the instructions for adjusting and servicing the machine, as well as the safety precautions, very carefully.

Please contact our distributor for any information or advice.

The instructions in this user manual must be read and applied by any persons who will be carrying out work on or with the machine, in particular:

- Use of the machine (including preparation, repairs required during work and maintenance).
- Maintenance (servicing and inspection).
- Transport.

AGRISEM INTERNATIONAL cannot be held liable for personal injury or damage to equipment and malfunctions resulting from failure to comply with the instructions given by the manufacturer in this manual.

This user manual is an integral part of the machine and must always be kept with the machine, especially in the event of resale.

AGRISEM INTERNATIONAL is constantly seeking to improve its products and reserves the right to modify or improve its products with no obligation to apply these modifications or improvements to products already on the market.

The instructions in this manual are not exhaustive and cannot cover all eventualities. The user must comply with the applicable legislation, in particular with regard to safety, ensure that the rules of safety and caution dictated by the situation are applied, use common sense and adapt the use of the machine to the circumstances.

It is the Purchaser's responsibility to check that the AGRISEM machine complies with the legislation and regulations applicable to its final destination.

## 2. WARRANTY CONDITIONS

The warranty conditions applicable to machines fitted exclusively with genuine spare parts from AGRISEM INTERNATIONAL, "Beaucé", 44850 LIGNE, France, are as follows:

### ➤ DURATION

- If a defect is observed on a structural part within a period of **12 months** as from the date of delivery of the machine, and if this defect is due to faulty raw materials, or its manufacture at the factory. The parts alleged to be faulty must be returned to the Company's address for an expert inspection.

The following shall be considered to constitute proof of the date of delivery of the equipment:

- The date of the delivery slip and the purchaser's invoice.
- The return of the warranty certificate within 15 days (with the dealer's and purchaser's stamp and signature) following delivery of the equipment.

### ➤ MACHINES AND PARTS CONCERNED

- For the purposes of this warranty, the term "Machine" is exclusively used to designate machines and parts manufactured by AGRISEM INTERNATIONAL. (It does not include external components, in particular tyres, hydraulic hoses, etc. even though these parts are also supplied by the Company)

- **The warranty is void if any modifications have been made to the machine without the formal agreement of AGRISEM INTERNATIONAL or if parts other than those manufactured by the Company have been fitted (e.g. counterfeit wear parts).**

### ➤ EXTENT OF THE WARRANTY

- The warranty is limited to the reimbursement or repair of parts recognised as faulty with regard to their raw materials or machining, in our factories by our Technical Departments.
- Any costs linked to the dismantling and replacement of the faulty part are not covered by the warranty. The cost of transporting machines or machine parts to the place of repair and their return to their owner is not covered either.
- Wear parts are not covered by the warranty.

### ➤ PRECONDITIONS

The machine must be maintained and used in accordance with the instructions in this User Manual.

All of the safety measures described in the User Manual and in the manuals of any additional equipment must be complied with.

All of the protection and safety devices and hazardous parts (e.g. shock absorbers) must be regularly inspected and replaced if necessary.

The warranty is only valid if the customer has met the contract's general obligations, in particular the payment conditions.

## ➤ **WARRANTY EXCLUSIONS**

The warranty does not of course apply to:

- Faults due to normal wear, incorrect use, lack of maintenance, inadequate monitoring or negligence.
- If the machine is damaged by an accident or develops a fault due to being used for purposes other than those specified by AGRISEM.
- In the event of non-compliant use of the machine. Please consult chapter 3 with regard to this point: Compliant use of the machine.
- If the manufacturer's instructions and requirements given in this manual are not complied with, particularly those regarding safety, assembly, use, operation and servicing.
- In the event of improper handling on the part of the user.
- Causes due to the presence of foreign bodies.
- In the event of damage due to the machine being combined with other machines or instruments without the prior written agreement of AGRISEM, and/or without complying with the instructions given by the manufacturers of the tractor and other instruments or machines.
- If the machine is used with protection and safety devices that are incorrectly fitted or not working.
- If the machine has been modified without prior written permission from AGRISEM, or if spare parts, accessories or equipment have been fitted to the machine which were not recommended by AGRISEM.
- In the event of non-compliant repair.
- If faults are due to the machine being immobilised.
- In the event of damage during transport or handling by a carrier. It is the recipient's responsibility to lodge the necessary complaints with the carrier.
- The adverse consequences of the machine being immobilised due to a fault or incident on the machine are not covered by the warranty.
- Personal injury to the owner or a third party and the indirect consequences resulting from this are not covered by the warranty.

Moreover, AGRISEM INTERNATIONAL shall not be liable for the payment of compensation for any reason whatsoever in the event of the loss of crops or any damage whatsoever due to a fault, hidden defect or machine breakdown.

The purchaser is always responsible for the choice of product and the suitability of the machine for the result that he hopes to obtain. He is responsible for its correct use in line with professional practice and the regulations.

Under no circumstances will AGRISEM INTERNATIONAL have any obligation with regard to the final result.

## ➤ **LIMITATIONS AND LIABILITY**

- The warranty cannot be assigned or transferred to any other person without the prior written permission of AGRISEM INTERNATIONAL.
- Under no circumstances do those selling our machines have the right or power to make any decision whatsoever, either express or tacit, in the Company's name.
- The technical assistance given by the Company or its representatives with the repairing or operation of equipment does not make it liable for any costs and in no way alters or leads to the waiving of the conditions of this warranty.

## ➤ **WARRANTY ENFORCEMENT PROCEDURE: TO BE STRICTLY ADHERED TO BY THE DISTRIBUTOR AND BY THE PURCHASER**

The enforcement of the warranty is subject to the dealer and the user meeting the following requirements:

**A) RETURNING BY THE DEALER OF THE WARRANTY CERTIFICATE DULY COMPLETED AND SIGNED BY THE DEALER AND THE PURCHASER.**

**B)** Claims must be made without fail using an AGRISEM INTERNATIONAL "**WARRANTY CLAIM FORM**" (see appendix) and sent by registered letter with acknowledgement of receipt **by the dealer** to the company's technical department within 10 days of the incident. This form must be completed legibly by the dealer and must include the following information:

- Name and address of the dealer, code No.,
  - Name and address of the purchaser,
  - Type of machine,
  - Working width,
  - Machine serial number,
  - Date of delivery to the purchaser,
  - Date of breakdown,
  - **Precise references of the parts replaced, No. and date of invoice,**
  - **Make and model of the tractor used,**
  - Detailed description and alleged cause of the incident.
  - Surface worked with the Disc-O-Mulch,
  - Utilised agricultural land belonging to the farm,
  - Type of soil in terms of % clay,
  - Proof of wear part invoice
- 
- Stones ☐ yes ☐ no
  - Parts replaced ☐ yes ☐ no (send the photocopy of the invoice)

**C)** **Allegedly faulty parts are to be returned by the dealer to the Company's address for an expert inspection**, together with the copy of the warranty claim form provided for this purpose. **The dealer must order the faulty part from the spare parts department.** Any transport costs incurred by the returning of said parts are payable by the sender.

**D)** The final decision regarding payment under the terms of the warranty shall be made by **the company's technical or general management**. Whatever the reason for the warranty claim, this decision is final and irrevocable and the purchaser undertakes to accept this decision both with regard to the fault and the replacement of the part or parts.  
Under no circumstances are the company's salesmen authorised to make such a decision, which would be void.

*NOTE: In the event of refusal, the part remains at the customer's disposal for eight days. After this time it will be scrapped with no appeal possible.*

Under no circumstances do those selling our machines have the right or power to make any decision whatsoever, either express or tacit, in the Company's name.

## ➤ 5-YEAR WARRANTY AGREEMENT

If the customer subscribes to the 5-year warranty, please see this agreement for the terms and conditions of the warranty's enforcement.

## **2.1. EXCLUSIVE LIABILITY CLAUSE**

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AGRISEM INTERNATIONAL denies any liability for damage (and any indirect consequences linked to it) resulting from one or more of the following causes:

- Non-compliant use of the machine.
- Failure to follow the manufacturer's instructions or those given in this manual, particularly those regarding safety, assembly, start-up, use, operation and servicing.
- Unsuitable assembly, start-up, use and maintenance of the machine.
- Use of the machine with faulty protection and safety devices or safety and protection devices that are incorrectly installed or not working.
- Combining of the machine with other instruments or machines without the written agreement of AGRISEM and/or without complying with the instructions given by the manufacturers of the tractor and other instruments or machines.
- Modifications made to the machine without the written permission of AGRISEM.
- Fitting of spare parts, accessories or equipment on the machine which are not genuine or which have not been recommended by AGRISEM.
- Failure to monitor the wear parts on the machine.
- Use of the machine other than for the purposes specified by the manufacturer.
- Non-compliant repair and maintenance.
- Catastrophes resulting from the presence of foreign bodies, unforeseeable circumstances and cases of force majeure.

Moreover, AGRISEM INTERNATIONAL cannot be held liable for injury to the owner or a third party or for the indirect consequences of such an injury, whether or not it results from a fault. You are reminded that a safe distance of 50 metres must be maintained around the machine.

Any claim for compensation for damage that did not occur directly on the machine is excluded.

AGRISEM INTERNATIONAL cannot be held liable for damage caused by driving or use errors.

AGRISEM INTERNATIONAL cannot be held liable for compensation for the consequences of the instrument's immobilisation due to a fault or an incident on the machine.

## **2.2. COMPLIANT USE OF THE MACHINE**

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AGRISEM INTERNATIONAL products must only be used for the work for which they were designed:

### **Work on arable land under normal conditions**

In the event of damage linked to the use of the machine other than for the purposes specified by the manufacturer, the manufacturer shall be entirely released from liability.

Only use the machine in good technical condition, in accordance with the purpose for which it was designed and in full knowledge of the risks.

Compliant use of the machine also involves:

- Compliance with the instructions for use, servicing and maintenance issued by the manufacturer
- Compliance with all of the instructions in this manual, particularly including the safety instructions
- The exclusive use of genuine spare parts, accessories and equipment or those recommended by the manufacturer.

AGRISEM machines must not be combined with other machines or instruments without prior written permission from AGRISEM INTERNATIONAL.

For any combinations, the user must also comply with the instructions given by the tractor manufacturer.

AGRISEM machines must only be used, serviced and repaired by competent persons who are familiar with the machine's features and operating procedures. These persons must be informed of the dangers to which they may be exposed.

The user is required to strictly comply with the current legislation with regard to:

- Accident prevention
- Safety at work (labour code)
- Driving on the public highway (Highway code)

He is required to observe the warnings affixed to the machine. Any modifications made to the machine by the user or any other person without the prior written permission of the manufacturer releases the latter from any liability for the damage which may result.

Damage resulting from non-compliant use of the machine:

- Is entirely the user's responsibility,
- May under no circumstances be assumed by AGRISEM INTERNATIONAL



## 2.3. SAFETY INSTRUCTIONS

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### 2.3.1. Safety instructions

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#### 2.3.1.1. Introduction

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Most accidents which occur during work, maintenance or travel from one place to another are due to a failure to observe the most basic safety rules. It is therefore essential for anyone likely to be working with this machine to adhere to the basic rules listed below and to the safety instructions displayed on the stickers affixed to the machine.

This machine has been designed for a specific task. It must always be in good working order and must only be repaired using genuine AGRISEM INTERNATIONAL spare parts.

This machine must only be used, maintained and repaired by competent persons who are familiar with its features and its operating procedures and who are aware of the safety rules for accident prevention and the dangers to which they may be exposed.

This machine must only be used in accordance with its purpose and in a condition that does not present any safety risks. Any malfunctions likely to be detrimental to safety must be corrected immediately.

The user is required to strictly adhere to the safety instructions in this manual and the stickers affixed to the machine.

The user is also required to strictly comply with the current legislation with regard to accident prevention, safety at work (labour code), occupational medicine and highway legislation.

Before using the machine for the first time, read all of the safety instructions in this user manual carefully and familiarise yourself with the controls.

The machine must never be entrusted to a person who is not trained to use it.

#### **Liability and warranty:**

In addition to the other cases mentioned in this manual, the manufacturer denies any liability for any injury or damage to equipment resulting from one or more of the following causes:

- Failure to follow the manufacturer's instructions or those given in this manual, particularly those regarding safety, assembly, start-up, use, operation and servicing.
- Non-compliant use of the machine.
- Unsuitable assembly, start-up, use and maintenance of the machine.
- Use of the machine with faulty protection and safety devices or safety and protection devices that are incorrectly installed or not working.
- Combining of the machine with other instruments or machines without the written agreement of AGRISEM and/or without complying with the instructions given by the manufacturers of the tractor and other instruments or machines.
- Modifications made to the machine without the written permission of AGRISEM.
- Fitting of spare parts, accessories or equipment on the machine which are not genuine or which have not been recommended by AGRISEM.
- Failure to monitor the wear parts on the machine.
- Use of the machine other than for the purposes specified by the manufacturer.
- Non-compliant repair and maintenance.
- Catastrophes resulting from the presence of foreign bodies, unforeseeable circumstances and cases of force majeure.

Similarly, in addition to the other cases mentioned in this manual, any claim under the warranty linked to damage resulting from one or more of the above-mentioned causes is excluded.

#### **2.3.1.2.            *Instructions to be followed before using the machine***

**Wear close-fitting clothes. Loose clothing may become caught in moving parts.**

**Wear individual protective equipment corresponding to the work you are planning to do** (gloves, shoes, goggles, helmet, ear protection, etc.).

**Be aware that tillage equipment, even if not very wide, has very sharp parts (blades, shares, disks, etc.) which can cause serious injury in the event of an accident.**

**Whenever the machine is used, check the area around the machine beforehand (presence of children). Ensure you have sufficient visibility.**

Before any work, ensure that the tractor is sufficiently weighted at the front to avoid any risk of the front lifting. If not, add weights to the front of the tractor.

Check that screws, nuts and bolts are correctly tightened whenever you use the machine. Tighten if necessary. Also check the condition of the tools and their fastening elements in accordance with the instructions in this manual.

**No-one must be within 50 metres of the machine when it is being folded and unfolded.**

Check that the machine is correctly hitched.

Always install the pins and locking systems.

**Check that the machine meets personal safety requirements.**

Whenever you use the machine, check that the safety and protection devices are in place and working. Replace any worn or damaged protectors immediately.

**Move any people or animals likely to be in the area where the machine is being manoeuvred or used. A 50-metre safety zone must be kept clear around the machine.**

Go around the machine looking for any external damage and checking the condition of the protection devices.

Only persons authorised by the owner of the machine and who have been trained and instructed are allowed to work on and with this machine. The operator is responsible towards third parties when he is working on and with the machine.

The owner of the machine must:

- Provide the operator with the user manual.
- Ensure that the operator has read it and understands it.
- Ensure that the operator knows the basic instructions regarding safety at work and accident prevention.

### 2.3.1.3. Instructions to be followed for hitching and unhitching

Pay attention to the various possibilities permitted for the connecting of the tractor's coupling equipment to that of the machine.

Only combine equipment that is compatible (machine and tractor).

- **Check that the tractor has the characteristics necessary to hitch the machine.**

#### **WARNING:**

**Non-compliant implementation may result in a risk of the tractor breaking during operation, being insufficiently stable when loaded and having insufficient manoeuvrability and braking power.**

Check that the tractor meets the necessary requirements before installing or hitching the machine.

The machine must only be mounted on or hitched to a tractor if it meets the necessary requirements.

Perform a braking test to check that the tractor can provide the regulatory deceleration power even with the machine mounted or hitched.

The requirements relating to the tractor include:

- The total authorised weight
- The authorised axle loads
- The authorised vertical load on the tractor coupling point
- The permissible load capacities of the tyres mounted on the tractor
- Sufficient authorised load on the coupling point

You will find this information on the data plate or in the vehicle's registration papers and in the tractor user manual.

The front axle must support at least 20% of the tractor's empty weight at all times.

- Calculation of the real values of the total tractor weight, tractor axle load and the load capacity of the tyres, and of the minimum ballast required:

The total authorised weight of the tractor indicated in the vehicle's registration papers must be greater than the sum of:

- The tractor's empty weight,
- The ballast,
- The total weight of the mounted machine or the vertical load of the hitched machine.

#### ***This instruction only applies in Germany:***

*If the axle loads and/or the total authorised weight are not complied with after all the possibilities have been exhausted, the competent authority according to the law of the Land may issue a waiver based on the report of an approved expert in the field of motor vehicle circulation and with the agreement of the manufacturer, in accordance with article 70 of the German law governing the authorisation of vehicles to use the public highway, and the obligatory authorisation under the German highway code.*

Combining of machines: do not combine machines that are incompatible or are incompatible with the tractor when combined.

**AGRISEM denies any liability in the event of damage resulting from a combination of machines that has not received written authorisation from AGRISEM.**

**Accidents linked to the breaking of components during operation may result from unauthorised combinations of hitching equipment.**

**Hitching and ballasting are operations which involve a risk of injury.**

➤ **Before hitching or unhitching:**

- Place the machine on stable ground.
- Chock the machine and take all of the necessary measures to avoid the accidental movement of the tractor.

The machine must only be coupled using the coupling points provided for this purpose and in accordance with the applicable rules.

When hitching, do not exceed:

- The tractor's total authorised weight
- The tractor's authorised axle loads
- The permissible load capacities of the tyres mounted on the tractor.



**No one must be standing between the tractor wheels and the tool when hitching or unhitching.**

*2.3.1.4. Instructions to be followed before using the machine*

**WARNING**

**A failure to take movement or operating safety measures may result in accidents involving crushing, cuts, entanglement, pinching or impacts.**

Before start-up, check that the machine and the tractor are able to move and operate in complete safety.

**Never climb onto the machine or stand on it when it is moving.**

Never work in reverse.

**Never allow children to climb on the tractor or the machine, or to play near the equipment, even if the machine is stopped.**

**When using or manoeuvring the machine ensure that no-one is within the manoeuvring or working area.**

**The elements of the machine that are controlled by an external force have crushing and shearing zones. Keep away from these hazardous areas.**

Be aware of hidden obstacles (stones, roots, pipes, cables, etc.) in the event of a collision with an obstacle.



**In such an event you must stop the drive, stop the tractor engine, remove the ignition key and wait for the machine to stop completely.**

Before starting work again, check the machine for any damage.  
If the obstacle is an electric cable or gas pipe, inform the appropriate authorities.

When using the machine, stones or other foreign bodies are likely to be thrown a considerable distance.

**Move any people or animals likely to be in the danger area around the machine.**

Do not stand in the machine's working area or in the area where the machine rotates and pivots.

Each time the machine is used, carry out a careful visual inspection of the machine to detect any external damage and ensure that the safety and protection devices are operating correctly. Also carry out regular inspections of the various adjustments.



**Do not approach the machine until all of the moving parts are completely immobile. Enforce a 50-metre safety area around the machine.**

➤ **With regard to driving:**

Adapt your driving to ensure that you are in control of the tractor with the machine mounted or hitched under all circumstances.

Take into account your personal faculties, the conditions of the land or road, the traffic, the visibility and the weather, the tractor's driving characteristics and the conditions of use when the machine is mounted or hitched.

**Ensure that the rules of safety and caution dictated by each situation are applied.**

The speed and driving style must always be appropriate to the land, roads and tracks.

Reduce your speed on uneven ground or tight corners.

On bends, take into account the overhang and the inertia of the mounted tool.

Avoid sudden changes of direction at all times.

Do not leave the driver's seat until the equipment has completely stopped, the engine is off and the parking brake is on.

**Do not transport any people or animals on the machine and the additional tools during work or transport.**

➤ **When driving on the public highway:**

**Comply with the highway code applicable in your country.**



**Before going out onto the public highway, check the width of the machine and unbolt or remove elements that exceed the regulatory width.**

Take into account the widths authorised for transport and the transported height depending on the hitched machine, in line with current legislation.

Before setting off on the road, ensure that the hitched machine is fitted with the lighting and signalling devices required by the highway code and any other devices required by the current regulations.

AGRISEM rear signalling lights and panels may be removed when working. Check that this signalling equipment has been correctly refitted.

Check that the equipment is clean and operating correctly. Replace all missing or damaged equipment.

Before travelling on the road, secure all of the machine's pivoting parts in their transport position to avoid dangerous changes of position. Also check that the screws, nuts and bolts are tightened and that all of the machine parts are correctly attached and cannot move or become detached.

If your machine is a folding machine, the locking system must be engaged.

Follow the instructions in this manual on how to prepare the machine for transport.

If necessary, also check:

- The connection of the supply pipes;
- The braking system and the hydraulic circuit.

If the equipment does not already have them, fit signalling devices: lighting board, reflectors, reflective plates or adhesive strips.

Ensure that the machine or additional equipment does not hide the tractor's lights.

Ensure that the tractor tyres are inflated to the correct pressure.

Ensure that the tractor and additional equipment is correctly balanced.

Install ballast at the front and back to ensure that the brakes and steering are effective.

The tractor's front axle must systematically support at least 20% of the tractor's empty weight to guarantee sufficient manoeuvrability.

**Never drive at more than 25km/hour when under load.**

Clean off any soil stuck to the machine before going out onto the road.

After using the public highway, ensure that the road is cleaned of any mud left by the tractor and tools.

<b>The driver/owner has sole responsibility when transporting the machine on the public highway.</b>
--

#### *2.3.1.5. Instructions to be followed before carrying out any operations on the machine*

---

In particular during cleaning, servicing and repairs.

**Comply with the instructions in this manual regarding the servicing of the machine.**

Before carrying out any operations on the machine:

- Ensure that the machine is on stable ground.
- **Stop the tractor engine, remove the ignition key, wait for all of the moving parts to stop and engage the hand brake.**
- Set the machine on the ground, depressurise the hydraulic circuit and allow the machine to cool down.
- Secure the machine or elements that are in a raised position to avoid any accidental lowering.
- Chock the machine.

If using a high-pressure washer or steam cleaner, it is essential to comply with the following points:  
Do not clean the electrical and hydraulic components.

Never direct the high-pressure washer or steam cleaner nozzle directly at the lubrication points or bearings.  
Systematically keep the nozzle a reasonable distance from the machine.  
Comply with the rules for using high-pressure washers.

**Wear appropriate personal protective equipment for the work to be performed. In particular, wear safety shoes and gloves to handle sharp parts.**

**Take all of the necessary precautions when fitting working parts that are both heavy and sharp.**

The machine must only be serviced and repaired by competent persons who are familiar with the machine's features and operating procedures.

**The machine must only be repaired with genuine AGRISEM International spare parts.**

For bare metal parts, use either an anti-rust product that leaves a greasy film or thick grease.

According to the type of machine: before carrying out any work on the electrical circuit or before any welding operations, disconnect the wiring harnesses coming from the tractor. Disconnect the battery and alternator cables.

**Do not weld or use blow torches near pressurised fluids or inflammable products.**

#### 2.3.1.6. Instructions regarding installation

The machine may be fitted with electronic components and elements which may be affected by electromagnetic emissions from other devices. This type of interference may be a source of danger for people if the following safety instructions are not followed:

- If devices and/or electrical components are installed on the machine and connected to the on-board electrical circuit at a later date, the user must first check that installing these components will not interfere with the vehicle's electronics or other components.
- Ensure that electrical and electronic components subsequently installed comply with the current version of electromagnetic compatibility directive 2004/108/CEE and that they have a CE marking.

Before carrying out any operations on the electrical system, disconnect the battery's negative terminal.

Only use the recommended fuses. Using fuses which have too high an amperage may damage the electrical system and create a risk of fire.

Ensure that the battery terminals are correctly connected, starting with the positive terminal and then the negative terminal. When disconnecting the terminals, start with the negative terminal and then disconnect the positive terminal.

Systematically fit the cover provided for this purpose on the battery's positive terminal. Be aware of the risk of explosion when earthing.

**Risk of explosion: avoid sparks and naked flames near the battery.**

#### *2.3.1.7. Instructions regarding the hydraulic system*

If your machine is fitted with a hydraulic circuit, you must comply with the following instructions:

**Warning! The hydraulic circuit is pressurised.**

When mounting cylinders and hydraulic devices, take particular care to ensure that the circuits are correctly connected, in accordance with the manufacturer's instructions.

Mark the sockets and connectors of the hydraulic connections between the tractor and the machine to avoid handling errors.

Before connecting a hose to the tractor's hydraulic circuit, ensure that the circuits on both the tractor side and the machine side are perfectly clean and not under pressure.

Before connecting, check that the hydraulic quick connectors on the machine and the tractor are free from impurities.

Before performing any operations on the hydraulic circuit, lower the machine, depressurise the circuit, switch off the tractor engine, engage the parking brake and remove the ignition key.

Before carrying out any operations, allow the machine to cool down and discharge the hydraulic circuits' accumulators.

Check the hydraulic hoses regularly. Damaged or worn hoses must be replaced immediately. Check the appearance of the hydraulic hoses to detect any signs of tears or abnormal wear.

When replacing hydraulic hoses, ensure that you only use hoses of the characteristics and quality recommended by the machine's manufacturer.

Each time the machine is used, the hydraulic quick connectors' end fittings must be cleaned and the protective caps must be fitted afterwards. Replace connectors which do not lock correctly or which leak.

Hydraulic hoses must never trail on the ground.

If you find a leak, take all of the necessary precautions to avoid accidents. Never try to plug the leak with your hand or fingers.

**Any pressurised liquid, in particular oil in the hydraulic circuit, can penetrate the skin and cause serious injury and infections.**

**In the event of injury, consult a doctor immediately.**

To avoid accidents caused by unexpected hydraulic movements or by third parties, the distributors on the tractor must be locked or immobilised when they are not being used or in their transport position.

#### *2.3.1.8. Instructions relating to the braking system*

**The braking system must be checked and serviced regularly.** Servicing and repair work and adjustments must only be carried out by brake system specialists.

Stop the tractor immediately in the event of a brake system malfunction and have it repaired.



Before performing any operations on the braking system, place the machine on stable ground and chock it.

After any adjustment or repair work on the braking system, perform a braking test.

#### 2.3.1.9. *Instructions specific to AGRISEM seeders*

In addition to the instructions applicable to all of machines, AGRISEM seeder users must comply with the following instructions:

**Never climb onto the machine elsewhere than on the AGRISEM walkway provided for this purpose.**

**Only climb onto the machine when it is stopped.**

When operations are performed on the AGRISEM seeder or during flow tests, the seeder must be stationary and a 50-metre safety area must be enforced around it. The hydraulic system must be depressurised (e.g. turbine stopped) and the rear window of the tractor must be shut, the tractor switched off and the ignition keys removed.

Ensure that no one is on or near the seeder when the grain is being loaded. The AGRISEM walkway must only be used when the seeder is stationary.

Always ensure that the entire area within the seeder's dimensions is completely clear.

Never stand under the sun wheel when it is in its transport position.

When testing the distribution flow, the user must turn the sun wheel with care to avoid any injury. When the wheel is rotating, no-one must be within 50 metres of the machine. This means that no-one must put their fingers into the distribution grooves unless the transmission system is completely stopped.

When changing the transmission gear ratios, ensure that the gearing and chain are handled with the greatest care to avoid any injury. No-one must be within 50 metres of the machine. Avoid putting yourself in danger when changing the gearing by avoiding climbing on the machine's beams or disks, as this could be dangerous.

Ensure that the sun wheel is protected during transport to avoid it hitting anything or injuring anyone.

Similarly, when the turbine is started up, a safety area must be enforced around the machine due to the risk of objects or liquids being ejected (e.g. soil, oil, stones, metal, etc.).

When travelling on the public highway, always be very careful and alert. As the rear visibility is reduced during transport, ensure that the way is clear before reversing the machine (50-metre safety area).

The user must comply with the highway regulations applicable in his country with regard to the front hopper.

If the tractor's signalling equipment is not sufficient (or not sufficiently visible) ensure that you fit your front hopper with lighting and signalling plates.



**When working, a 50-metre safety area must be enforced due to the risk of objects being ejected.**

#### *2.3.1.10. Instructions relating to safety systems with spring assemblies*

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Safety devices with pre-compressed spring assemblies are fitted on many AGRISEM tools. These can be very dangerous when performing technical operations on the machine if all of the necessary precautions are not taken.

**WARNING: Written authorisation must be obtained from AGRISEM International before carrying out any operations on the "Spring Assembly".**

#### *2.3.1.11. Instructions relating to transmission shafts with universal joints*

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Consult the tractor manufacturer's instructions when performing any operations on transmission shafts with universal joints.

#### *2.3.1.12. Instructions relating to loading and transport*

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Unless there is a specific transport agreement:

- For deliveries of less than three tonnes: the carrier is responsible for the loading, chocking, securing and unloading of the equipment from when he takes charge of it until its delivery.
- For deliveries of more than three tonnes: loading, chocking and securing on the one hand, and unloading on the other hand, are the responsibility of the contracting party or the recipient respectively. The responsibility for any equipment damage that occurs during these operations lies with the person carrying them out.

Unless there is a specific transport agreement, and for deliveries of more than 3 tonnes, the Purchaser will therefore unload the machine under his own responsibility.

Similarly, if the Purchaser sells the machine and has it delivered, as the sender, he will be responsible for the loading, chocking and securing of the equipment when it is sent.

**In case of doubt regarding the unloading or loading, chocking and securing of the machine, please contact AGRISEM International.**

#### *2.3.1.13. The user's workstation*

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The machine must be operated by one person only, from the tractor driver's seat.

#### *2.3.1.14. Noise data*

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The sound pressure level is 77 dB(A), as measured at the level of the user's ear during operation with the cab closed.

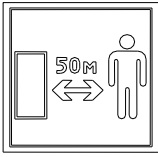
The sound pressure level mainly depends on the tractor used.

Measuring device: NICETY SL801A.

### 2.3.2. Safety symbols on the machine

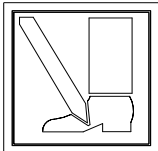
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**ETIQ-501**



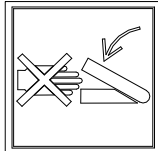
Keep a safe distance from the machine during work. Risk of serious injury.  
Ensure that no-one is in the danger zone around the machine when the tractor engine is running.

**ETIQ-502**



Keep a safe distance from the machine when lowering it. Risk of serious injury.  
Ensure that no-one is under the machine when lowering it.

**ETIQ-503**

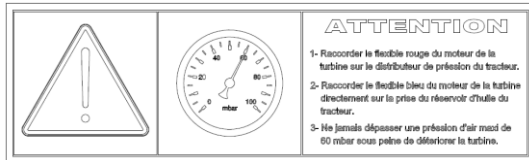


Beware of pinching. Risk of serious injury.  
Do not touch the hazardous areas under any circumstances while the tractor engine is running and the universal joint shaft, hydraulic circuit or electronic system is operating.

**ETIQ-504**



Keep a safe distance from the rear of the tractor during manoeuvres. Risk of serious injury.



Warning: never exceed a maximum air pressure of 60 mbar as this may damage the turbine.

**ETIQ-908**



Read the maintenance book and safety instructions before starting up the machine and abide by them during operation.

## 3. TECHNICAL INSTRUCTIONS

### 3.1. PNEUMATIC SEEDER

#### 3.1.1. Technical characteristics of the DOS 6042



Hopper volume:	4200 L
Distribution heads for seeds:	4 x 10 outlets
Distribution heads for fertilizer:	4 x 10 outlets
Distribution system:	Stainless steel
Distribution drive:	Electrical
Turbine drive:	Hydraulic
Maximum flow with 4 x 70 mm distribution outlets	1800 Kg /hour
Unladen weight of the DOS 6042 (variable depending on the equipment):	11 368 Kg

#### 3.1.2. Technical characteristics of the DOS 3022



Hopper volume:	2200 L
Distribution heads for seeds:	2 x 10 outlets
Distribution heads for fertilizer:	2 x 10 outlets
Distribution system:	Stainless steel
Distribution drive:	Electrical
Turbine drive:	Hydraulic
Maximum flow with 4 x 70 mm distribution outlets	900 Kg /hour
Unladen weight of the DOS 3022 (variable depending on the equipment):	6 100 Kg

## 3.2. SETTINGS/USE OF THE PNEUMATIC SEEDER

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### FOREWORD:

As far as possible, read this chapter while standing in front of the machine.

When you receive the seeder, check that its characteristics are appropriate. Then carry out all of the preliminary operations prior to start-up as described in this manual.

### 3.2.1. Hitching – Unhitching

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**It is ESSENTIAL to read the safety instructions before reading the practical instructions for hitching and unhitching the machines**



**No-one must be within 50 metres of the machine while it is being hitched or unhitched**

Before hitching or unhitching the seeder, it is important to ensure that:

- The tool is or will be on stable ground and no-one is within 50 metres of the machine.
- The tractor tyres are inflated to the same pressure
- The top-links of the tractor's three point hitch are adjusted to the same dimensions
- The tractor is suitable for the tool to be hitched and is weighted appropriately
- The tractor connections are suited to the tool to be hitched.
- When hitching, do not exceed:
  - The tractor's total authorised weight
  - The permissible load capacities of the tyres mounted on the tractor.
  - The tractor's authorised axle loads

### Required tractor characteristics



**Check that the tractor meets the necessary requirements before hitching the machine:**

- Total authorised weight
- Permissible load capacities of the tyres



**The authorised values for the total weight, the axle loads and the tyre load capacities can be found in the tractor's registration papers.**

### 3.2.1.1. *Trailed machine*

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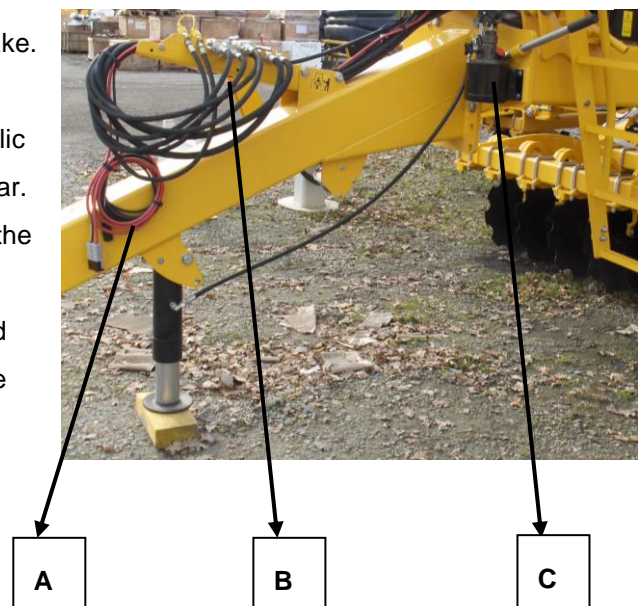
#### ➤ **Hitching a traileed machine:**

- 1/ Ensure that the machine is on stable ground
- 2/ Bring the tractor up to the coupling on the machine.
- 3/ Hitch the machine to the coupling ring or the tractor's links depending on the type of drawbar fastening.
- 4/ Connect the hydraulic hoses if the machine is fitted with them according to the colour marking. If you are using a towing hook, connect the hydraulic hoses first to be able to adjust the height of the drawbar.
- 5/ Connect the plug for the lighting equipment and the electronic unit's power cable and check that they work.
- 6/ Lift the machine.
- 7/ Fold the side extensions for transport.
- 8/ Lock the machine for transport using the hydraulically controlled hook or mechanical locks.
- 9/ Ensure that everything is correctly connected and locked and that there are no foreign bodies on the machine.
- 10/ Perform a braking test before any travel.

#### ➤ **Parking:**

- 1/ Ensure that the machine is unhitched on stable ground.
- 2/ Unlock the machine before unfolding it
- 3/ Unfold the machine then place it on the ground.
- 4/ Stop the tractor's engine and put on the parking brake.
- 5/ Disconnect the hydraulic hoses "B"
- If you are using a towing hook. Disconnect the hydraulic hoses last to be able to adjust the height of the drawbar.
- 6/ Disconnect the plug for the lighting equipment and the electronic unit's power cable "A"
- 7/ Unfold the parking stand and lock this parking stand with its hitch pin and its clip pin then raise the machine using the pump "C"
- 8/ Unhitch the machine.

**Figure 1: Parking**





Take into account the clearance during transport, in particular to ensure that there is room to pass under bridges and low power lines.

### 3.2.2. Unfolding - Folding

Take great care when folding or unfolding the Disc-O-Sem 6042 and make sure that you follow the safety instructions.



It is **ESSENTIAL** to read the safety instructions before reading the practical instructions for hitching and unhitching the machines



Before folding or unfolding check that there are no foreign bodies that could hinder movement



No-one must be within 50 metres of the machine while it is being folded or unfolded

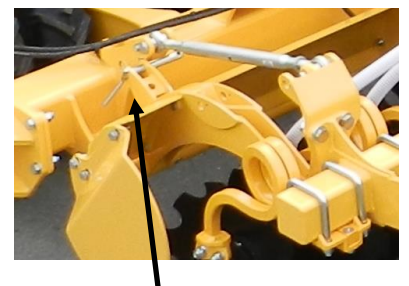
#### a- Unfolding:

Follow the procedure below to unfold your DOS 6042 seeder:

- Lower the central part of the machine.
- Unlock the folding safety system hydraulically.
- Actuate the unfolding of the DOS 6042 machine until the extensions arrive at the stop. This must be done with care.
- Switch the valve located on the coupling so that the flow of oil is directed towards the markers (see figure: 2) (if marker option chosen).
- Remove the locking pins on either side of the machine (see figure 3).

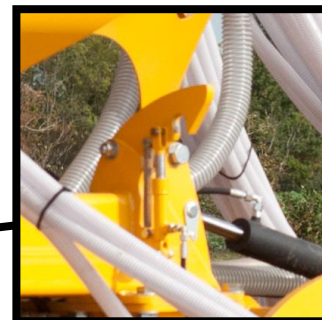


**Figure: 2: Flow directing valve (marker - locking latch)**



**Figure 3: Locking pin**



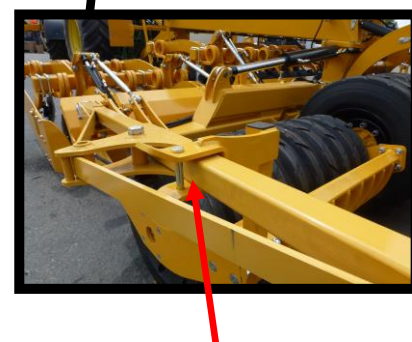


**Figure: 4 Locking hook**

#### **b- Folding:**

Follow the procedure below to fold your DOS 6042 seeder:

- Lower the central part of the machine.
- Fold the markers (if the option has been chosen) and lock them (see figure 5).
- Switch the valve to direct the fluid towards the locking latches (see figure 2) (if marker option chosen).
- Fit the locking pins on the extensions (see figure 3).
- Actuate the folding of the DOS 6042 machine until the locking latches engage (see figure: 4). This must be done with care.
- Raise the DOS 6042 seeder.
- Once the machine has been folded, you must visually check that the extensions have in fact been locked.



**Figure 5: Marker locking pin**



**NEVER DRIVE ON THE ROAD IF THE EXTENSIONS ARE NOT LOCKED**



### 3.3 Starting up the DOS 3022 and DOS 6042 turbine

#### 3.3.1. Connecting the hydraulic hoses

Connect the oil intake  $\frac{1}{2}$  hydraulic hose to one of the tractor's single-acting distributors (see figure 6).



**Figure 6**

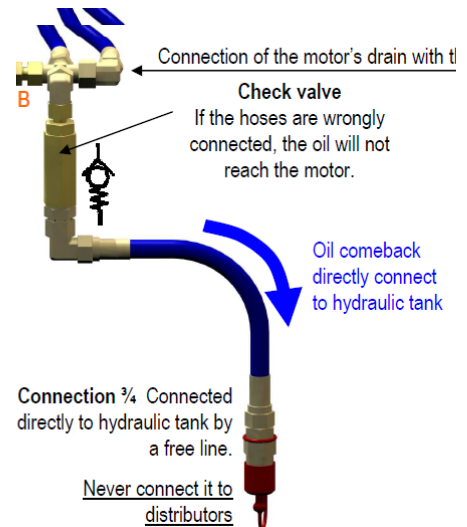
Note the type of coupling on the free return on the tractor's hydraulic tank (screw-on coupling, valve coupling, etc.) (see figure 7). Check that the tractor's free return has no residual pressure to avoid disrupting the turbine's operation.



**Figure 7**

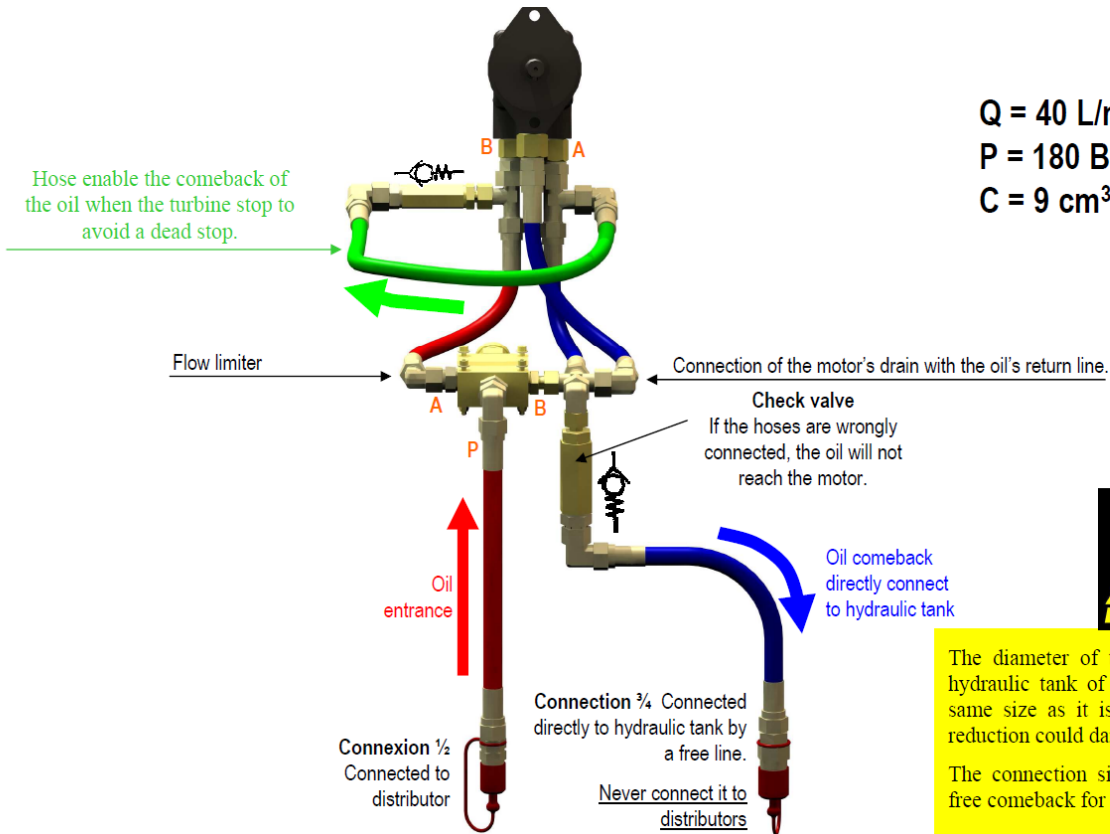
Use an adapter to connect the turbine engine return valve coupling ( $\frac{3}{4}$  hose) to the valve on the tractor's hydraulic tank free return (see figure 8).

**WARNING:** The return **MUST** be connected to the tractor's tank = FREE RETURN before starting up the turbine engine.



**Figure 8**

## Mounting the CRARY turbine



$Q = 40 \text{ L/min}$

$P = 180 \text{ Bar}$

$C = 9 \text{ cm}^3$

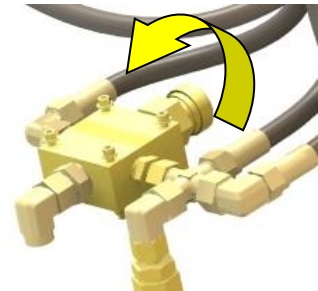


The diameter of the hoses linked with the hydraulic tank of the tractor must have the same size as it is shown here. A diameter reduction could damage the turbine's motor.

The connection size must be 3/4 to allow a free comeback for the oil.

### 3.3.2. Adjusting the turbine regulator

Use the wheel on the regulator to adjust the turbine's speed. Set the regulator to scale mark 10 for a maximum oil flow (see figure 9).



The regulator should always be on scale mark 3 when the turbine is started up

### 3.3.3. Starting up the turbine engine

After checking that the turbine's regulator is on scale mark 1, switch the tractor's distributor to its permanently open position. The turbine should turn.

If it does not, check the hydraulic system and check that the return is on the tractor's free return (see figure 10).

Switch the tractor distributor to its permanently open position again.

The turbine should turn.



**Figure 10**

### 3.3.4. Adjusting the turbine engine speed

---

Use the graduated flow limiter on the regulator to vary the speed at which the turbine rotates (*see figure 11*).

**Note:** for tractors fitted with regulators on the distributor, it is preferable to open the tractor's flow limiter and regulate the flow on the seeder's regulator. This will limit the lamination effect.



***Figure 11***

### Adjusting the sowing cell

Whenever the distribution system is used, check that it is completely clean. The correct operation of the tool depends on this.

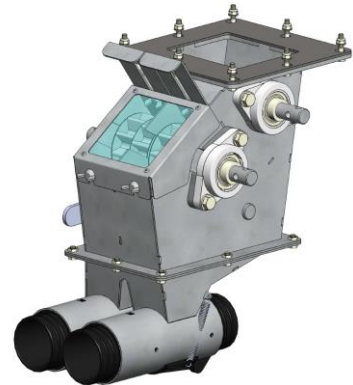
### 3.3.5. Description

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Each hopper has two or four volumetric distribution systems, composed of two distribution channels. The seed metering is altered by engaging or disengaging different types of flutings. Interchangeable gears allow the speed of rotation of the distribution shaft and therefore the volume of the batch to be altered.

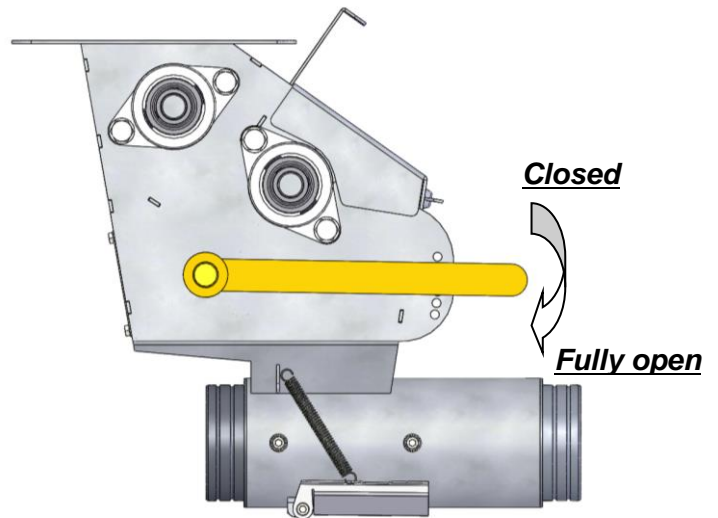
The fluting system is composed as follows:

- 3 large flutings (large seeds)
- 3 small flutings (small seeds)
- Possibility of 4 large flutings (large seeds) as an option



### 3.3.6. Adjusting the tongue opening

Refer to the metering table below according to the type of seed used, the working width to be considered and the desired sowing density (Kg/ha). This allows you to define which flutings are to be used and the position in which the tongue opening lever must be set. The smaller the seed, the higher up the lever must be moved in position 1. An indicative table is provided below:

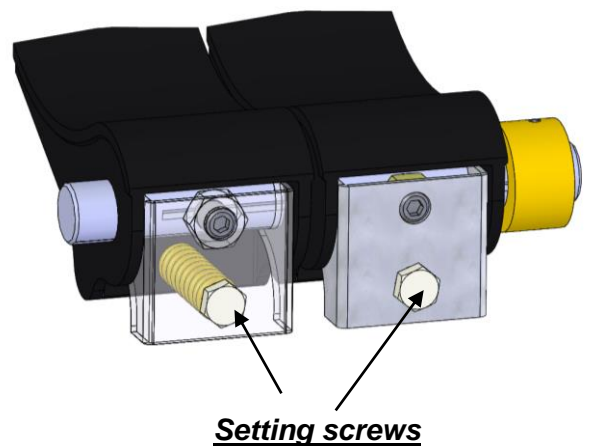


Type of seed	Rape	Wheat	Oats	Peas
Position of lever	Position 1	Position 2	Position 3	Position 4 – 5

### 3.3.7. Adjusting the tongue position

The batcher is fitted with tongues. The 2 distribution tongues are fitted to the same shaft. They are controlled by the same mechanism. However, each of them can be individually adjusted to achieve optimum accuracy. They are pre-set in the factory as standard.

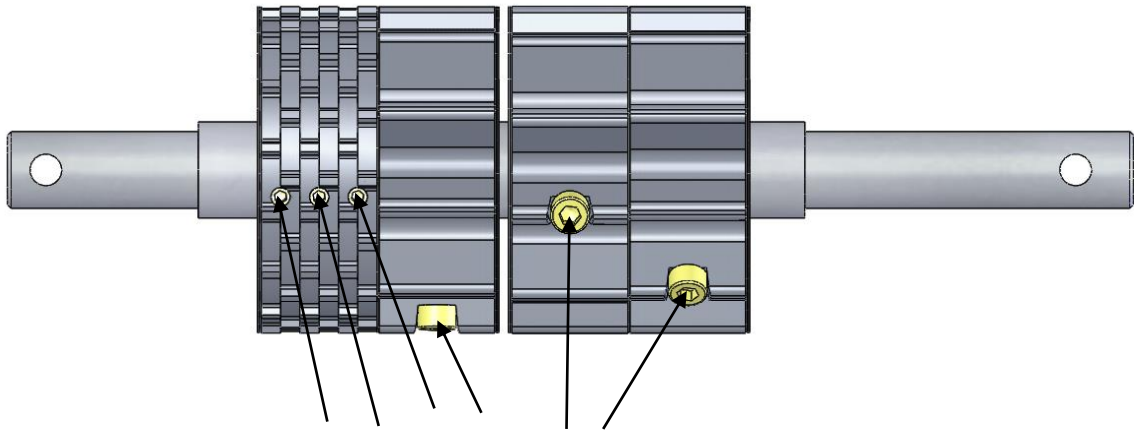
To modify this standard setting, simply turn the batcher adjustment lever to the closed position and then turn the tongue setting screws.



It is essential to check ALL of the tongues prior to each use of the seeder. When the moveable base control lever is in position 1, ALL of the tongues should be resting on the groove without forcing them.

### 3.3.8. Choosing the active flutings

---



**Connecting or disconnecting screws**

The active flutings must be selected according to the seed used.

Simply unscrew the screw on the fluting that is not used. This disconnects the fluting from the shaft.

The fluting system is composed as follows:

- 3 large flutings (large seeds)
- 3 small flutings (small seeds)
- Possibility of 4 large flutings (large seeds) as an option

### 3.3.9. Distribution head

---

Each of the distribution heads feeds 10 or 16 seed chutes spread along the DISC-O-SEM sowing ramp.

The type of head is defined by the seeder's working width.

Moreover, a removable cover allows access to the inside of the distribution head by simply unscrewing it (**see Figure 12**).

🖐 Before each season when the DOS 6042 is used, you are advised to clean and blow out all of the outlets of each distribution head.



**Figure 12: Distribution head**

### 3.3.10. Turbine

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#### Hydraulic connections

The oil flow delivered by the tractor must be at least equal to 60L/min. Below this value, the turbine's rotation speed may be insufficient, particularly for sowing large seeds.

Maximum usage pressure: 200 bars



Figure 13: Turbine

#### Adjusting the turbine speed

A flow regulator connected to the hydraulic motor allows the internal pressure of the distribution ducts to be adjusted according to its position. The manometer attached to the hopper (tractor side) is used to determine this pressure.

👉 The turbine speed must be adjusted according to the type of seed that you wish to sow and the working width to be considered. For more information **see the table below:**

<i>Working width</i>	3m	6m
small seeds:	45mbar	65mbar
large seeds:	55mbar	80mbar



#### **PROTECTING THE HYDRAULIC MOTOR:**

**Always make sure that the flow regulator is on scale mark 3 when the turbine is started up, then gradually increase the seeder's regulator to the required value (see table above).**





### 3.3.11. The DOS 6042 hopper

---

The hopper has a movable partition.

This allows the dividing of the 4,200 litres of capacity into a 60 : 40 or 40 : 60 ratio.

Whatever the conditions, never use the DOS 6042 with the tarpaulin open. It is important to protect the seeds or the fertilizer against any dust or foreign bodies to prevent any damage to the distribution system or batching errors.



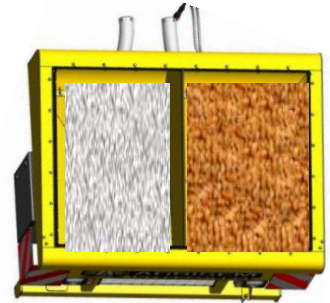
### 3.3.12. The DOS 3022 hopper

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The hopper has a partition.

This allows the dividing of the 2,200 litres of capacity into a 50 : 50 ratio.

Whatever the conditions, never use the DOS 3022 with the tarpaulin open. It is important to protect the seeds or the fertilizer against any dust or foreign bodies to prevent any damage to the distribution system or batching errors.



### 3.3.13 Checks during sowing

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The following checks should be carried out during sowing after each hectare sown:

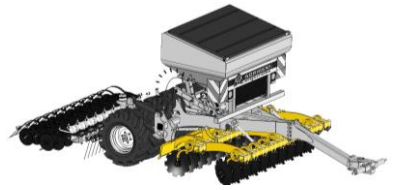
- 1- Check that the seeder generates the same seed flow for each of the seed outlets on the DISC-O-SEM sowing ramp.
- 2- Check that all of the pneumatic pipes are correctly attached upstream and downstream of the distribution system.
- 3- Check that the turbine's hydraulic hoses are correctly connected to the tractor's distributors.
- 4- Visually check that none of the seed chutes are blocked.
- 5- Check that the quantity of seeds coming out of each drill is identical.
- 6- Manually check the sowing depth over the entire width of the machine.
- 7- Check that the hopper's tarpaulin is closed.

### 3.3.14 Operating recommendations

<b>Problems</b>	<b>Point to be checked</b>	<b>Solutions</b>
<i>Incorrect volume / Ha</i>	Adjustment and position of the tongues	Check that the tongues are operating correctly and that the tongue springs are correctly calibrated
	Direction of rotation of the batcher	Check that the drive chain is in the correct position at the universal joint outlet (see 3312)
	Flow rate test	Check that no metered seeds remain stuck in the pneumatic pipes during the test
<i>The seed is not reaching the distribution heads</i>	Hatches at the bottom of the hopper	Check that the two hatches are in fact open
	Turbine connection	Check the turbine connections against the diagram.
	Tube or hose tilt	Try to reduce bends as far as possible to aid the flow of seed.
	Hydraulic pressure of the tractor	Increase the hydraulic pressure of the distributor.
<i>The seed does not run from some of the drill elements</i>	Slope of the Ø35 pipes	Retension the pipes if necessary to avoid any horizontal sections
	Drill units	Check that none of the drill units are blocked
<i>Irregular sowing depth</i>	Forward speed	The speed must be between 10 and 12 km/h to ensure a regular working rate
	Level of the DOM	The DOM should always work more or less horizontally
<i>Oil leak on the hydraulic engine</i>	Internal seals	Change the engine seal
<i>The extensions are working at a greater depth than the central base</i>	The push bars	Adjust the extension push bars
<i>The extensions are working at a lower depth than the central base</i>	The push bars	Adjust the extension push bars



## 3.4 SETTINGS AND USE OF THE DOS 3022



### 3.4.1 Adjusting the working depth of the disks:

As the seeder is coupled using the ball-hitch on the tractor's link arms, the working depth is adjusted using its 3-point hitch.

The lower the hitch, the greater the working depth and vice versa.

As the DOS 3022 has two rows of disks with different diameters, the tilt of the rows of disks must be adjusted to ensure a high quality of work.

This enables the working depth of each of the rows of disks to be adjusted.

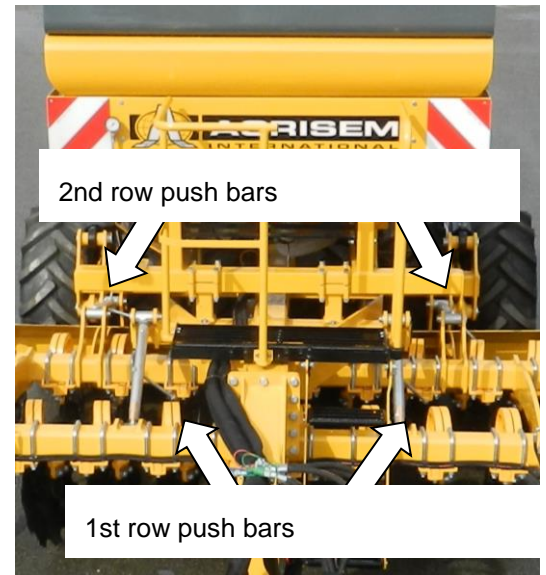
This adjustment must be carried out regularly as the wearing of the disks may affect their working depth.

The two push bars must be extended or shortened to alter the tilt of the first row of disks (see figure 14).

The two push bars must be extended or shortened to alter the tilt of the second row of disks (see figure 14).

If you wish to increase the working depth of the first row of disks you must extend the push bars.

If you wish to decrease the working depth of the first row of disks you must shorten the push bars.



**Figure 14: push bars**



**Figure 15: Scale marks**

Each of the push bars is marked with scale marks to allow accurate adjusting of the working depth (see figure 15).



**Never reverse when the machine is lowered.**

### 3.4.2 Setting and using the sowing ramp:

Several working depths may be set for the sowing ramp using the Agrisem "MULTISTOPS".

The depth is set according to the position of the pin in the "MULTISTOP" and the sowing ramp's pressure on the ground is adjusted using the push bars (see 3.4.2.2).



**Figure 16: Location of the adjustment points**

#### **3.4.2.1 Adjusting the sowing depth**



The lowest position produces the maximum sowing depth.  
The highest position produces the minimum sowing depth.

#### **3.4.2.2 Adjusting the pressure on the ground**



After you have adjusted the sowing ramp's working depth you can adjust its coulter pressure.  
The push bars must be shortened to obtain a minimum pressure on the ground.  
The push bars must be extended to obtain a maximum pressure on the ground.

#### **3.4.2.3 Adjusting the comb harrow**



The DOS 3022 machines have a comb harrow.  
The working height of this harrow may be adjusted.  
This adjustment must be carried out before the start of each job and should be checked during use as it depends on the ground's condition and crop residues.

#### 3.4.2.4 Covering harrow



Figure: 20

The covering harrow's working intensity may be adjusted using the MULTISTOP.

There are three possible positions. The highest position produces the lowest working intensity.

The lowest position produces the highest working intensity.

To ensure uniform seed coverage this adjustment should be carried out before the start of each job and should be checked during use as it depends on the ground's condition and the crop residues.

#### 3.4.2.5 Depth control wheel

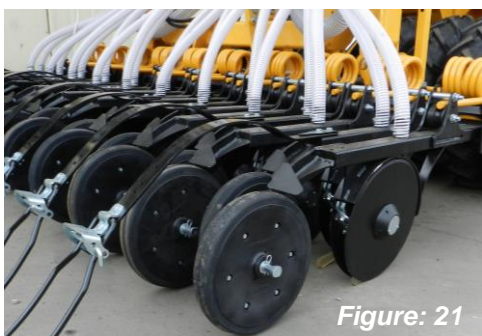


Figure: 21

The depth control wheel maintains the sowing depth, covers the seeds with fine soil and ensures depth control.

A scraper is fitted on the depth control wheels to prevent jamming. It may be readjusted as necessary.

The depth control wheels may be replaced with a wider wheel for soft or sandy ground.

#### 3.4.2.6 Seeding disks



Figure: 22

Each disk has a scraper to prevent jamming. The wear on the scrapers must therefore be checked fairly regularly.

#### 3.4.2.7 Markers



Figure: 23



Figure: 24

Hydraulically-controlled markers penetrate the ground on the right and left alternately.

When the seeder moves it therefore produces a mark. This mark acts as a guide for the tractor's driver and helps him to produce a correct line after turning around at the end of a field.



The driver drives at the centre of the mark.

The length of the markers and the disk's tilt may be adjusted to increase or decrease the intensity of the mark depending on the type of soil.

The markers must be locked before the machine travels on the road (see figure 24)



**Always stay out of the markers' pivoting zone while the machine is in operation**

#### 3.4.2.8 **Filling the hopper**



*Figure: 25*

Follow the procedure below to fill the hopper:

1. Park the Disc-O-Sem on a flat surface.
2. Stop the tractor's engine and put on the parking brake.
3. Open the hopper's tarpaulin.
4. Carefully bring up the machine's Big Bag to the

hopper.



**No-one should be on the hopper gratings during filling**

#### 3.4.2.9 **Side deflector**



*Figure: 26*

The left-hand side deflector is designed to just touch the ground thanks to its elongated hole. You can adjust the distance between the deflector and each row's border spreading disk by loosening the four clamps then sliding it on the beam until the required distance is achieved and finally screwing the assembly.

#### 3.4.2.10

#### **Completely emptying the hopper and the distribution system**

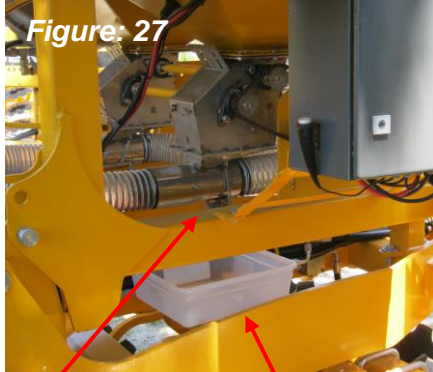


Figure: 27

To completely empty the hopper:

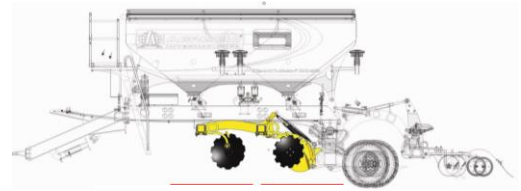
1. Place a recipient "E" underneath the distribution system
2. Open the closure plates "D"
3. Start up the motor corresponding to the part of the hopper that you wish to empty. Do not start up the turbine
4. Reclose the closure hatches once the operation has been completed.



**This step is vital before preparing for a flow rate test with another type of seed than previously.**



**The distribution system must be emptied and blown out at the end of the season.**



### 3.5 SETTINGS AND USE OF THE DOS 6042

#### 3.5.1 Adjusting the working depth of the disks

There are two main adjustments to be made for optimum operation of the DOS 6042 machine's two rows of disks:

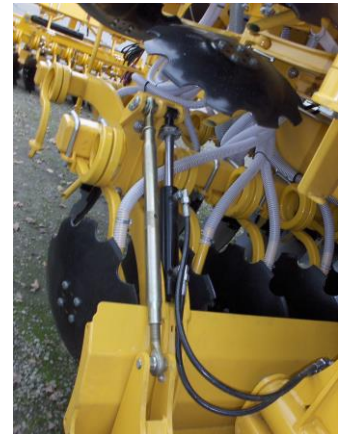
- a- The working depth of the disks
- b - The tilt of the two rows of disks

##### a- Adjusting the working depth of the two rows of disks

To adjust the working depth of the disks you must insert more or fewer snap-on shims at the top of the two cylinders' rods (see figure 29). You have five shims of different thicknesses for use adjusting the depth.

By increasing the number of shims on the cylinder rods you reduce the working depth. The minimum depth is obtained in position 22

By decreasing the number of shims on the cylinder rods you increase the working depth. The maximum depth is obtained in position 1



**Figure 28: Location of the cylinders**

*Summary table of the working depth according to the type of shim*

	7/8	1	1 1/4	1 1/2	3/4
Maximum depth					
1					1
2	1				
3		1			
4			1		
5				1	
6	1				1
7		1			1
8	1	1			
9			1		1
10	1		1		
11				1	1
12	1			1	
13		1		1	
14	1	1			1
15			1	1	
16	1		1		1
17		1	1		1
18	1	1	1		
19	1	1		1	
20			1	1	1
21	1		1	1	
22		1	1	1	
Minimum depth	7/8	1	1 1/4	1 1/2	3/4

Five shims of different thicknesses



**Figure 29: Snap-on shims**

## b- Adjusting the tilt of the two rows of disks

As the DOS 6042 has two rows of disks with different diameters, the tilt of the rows of disks must be adjusted to ensure a high quality of work.

This enables the working depth of each of the rows of disks to be adjusted.

This adjustment must be carried out regularly as the wearing of the disks may affect their working depth.

Push bar



**Figure 30: Location of the push bars**

The six push bars must be extended or shortened to alter the tilt (see figure 30). Make sure that all of the push bars are identically adjusted.

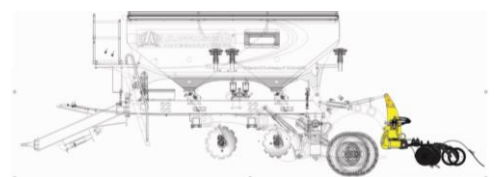
If you wish to increase the working depth of the first row of disks you must extend the six push bars.

If you wish to decrease the working depth of the first row of disks you must shorten the six push bars.

The setting of the disks' working depth affects the fertilizer drilling depth. To increase the fertilizer drilling depth you must increase the working depth of the disks, and vice versa if you wish to reduce the fertilizer drilling depth.



**Never reverse when the machine is lowered.**

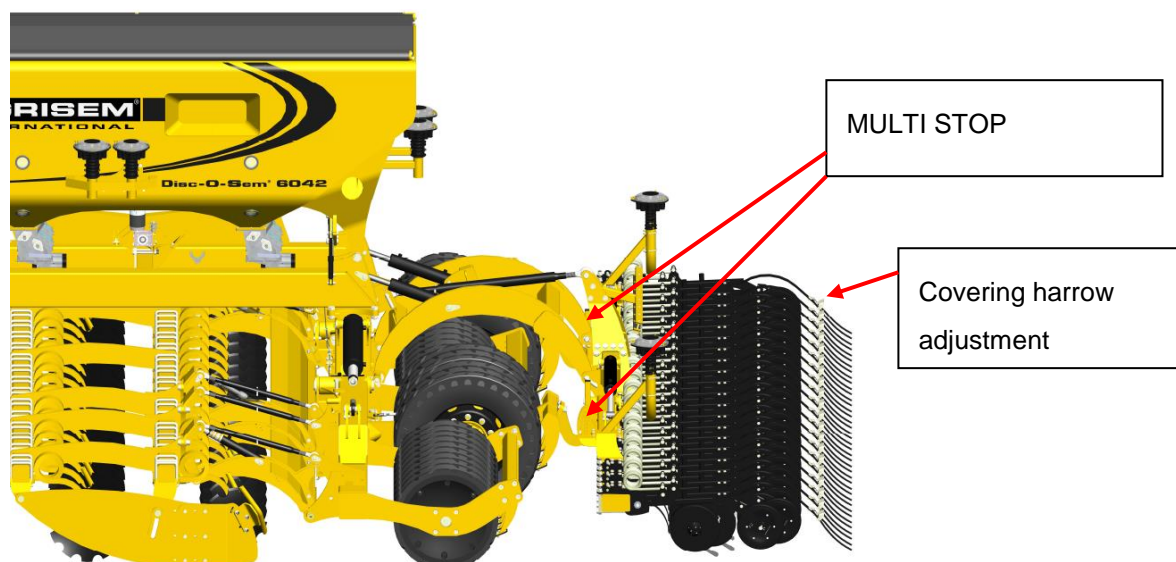


### 3.5.2 Setting and using the sowing ramp:

Several working depths may be set for the sowing ramp using the Agrisem "MULTISTOPS".

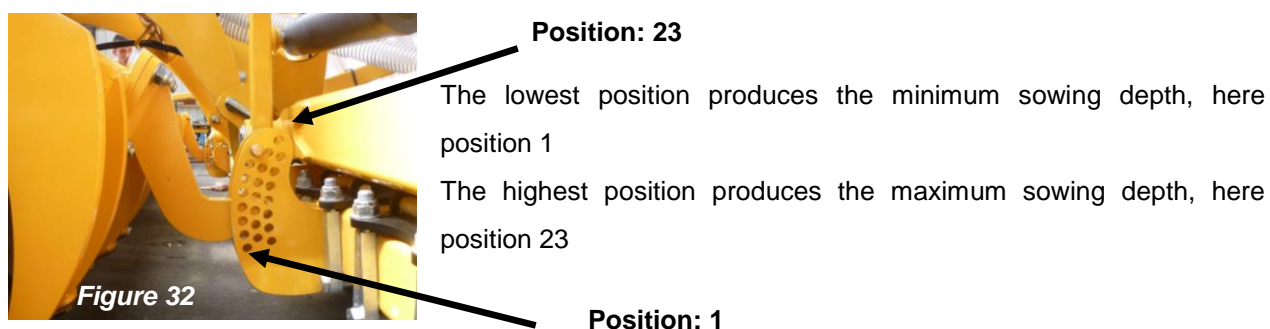
The depth is set using a stop that comes into contact with the "MULTISTOP" unit's pin (see figure 32) and the sowing ramp's tilt and pressure on the ground are adjusted using the push bar (see 3.5.2.2).

**Figure 31: Location of the adjustment points**



### 3.5.2.1 *Adjusting the sowing depth*

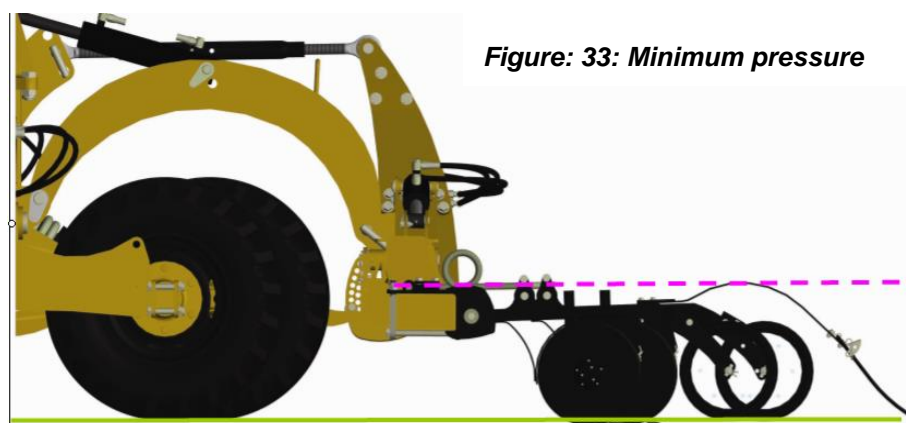
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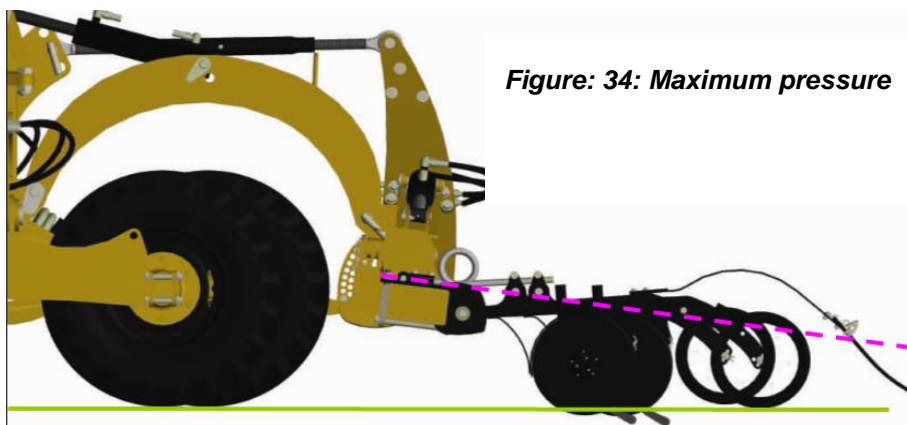
### 3.5.2.2 *Adjusting the pressure on the ground*

---

After you have adjusted the sowing ramp's working depth you can adjust its coulter pressure. The push bar must be shortened to obtain a minimum pressure on the ground (see figure: 33). The push bar must be extended to obtain a maximum pressure on the ground (see figure: 34).







**Figure: 34: Maximum pressure**

### 3.5.2.3 Covering harrow

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**Figure: 35**

The covering harrow's working intensity may be adjusted using the MULTISTOP.

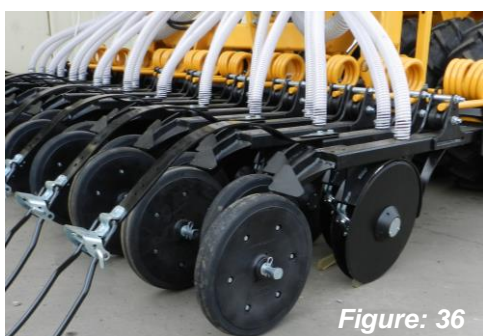
There are three possible positions. The highest position produces the lowest working intensity.

The lowest position produces the highest working intensity.

To ensure uniform seed coverage this adjustment should be carried out before the start of each job and should be checked during use as it depends on the ground's condition and the crop residues.

### 3.5.2.4 Depth control wheel

---



**Figure: 36**

The depth control wheel maintains the sowing depth, covers the seeds with fine soil and ensures depth control.

A scraper is fitted on the depth control wheels to prevent jamming. It may be readjusted as necessary.

The depth control wheels may be replaced with a wider wheel for soft or sandy ground.

### 3.5.2.5 Seeding disks

---



**Figure: 37**

Each disk has a scraper to prevent jamming. The wear on the scrapers must therefore be checked fairly regularly.

### 3.5.2.6 Markers

---



**Figure: 38**

Hydraulically-controlled markers penetrate the ground on the right and left alternately.

When the seeder moves it therefore produces a mark. This mark acts as a guide for the tractor's driver and helps him to produce a correct line after turning around at the end of a field.

The driver drives at the centre of the mark.

The length of the markers and the disk's tilt may be adjusted to increase or decrease the intensity of the mark depending on the type of soil.

Flow rate limiters are present on the machine's jib to adjust the opening speed of each marker.



**Always stay out of the markers' pivoting zone while the machine is in operation**

### 3.5.2.7 Filling the hopper

---



**Figure: 39**

Follow the procedure below to fill the hopper:

1. Park the Disc-O-Sem on a flat surface.
2. Fold the machine then lock it.
3. Stop the tractor's engine and put on the parking brake.
4. Open the hopper's tarpaulin.
5. Unfold the guard rail. To unfold the



**Figure 40**



**Figure 41**

safety rail you **MUST** use the unfolding handle (see figure: 40) to avoid any risk of pinching and check that it has been unfolded as far as possible (see figure: 41)

6. Carefully bring up the machine's Big Bag to the hopper.



**No-one should be on the hopper gratings during filling**

The hopper may also be filled with seeds in bulk. Please refer to the filling procedure above for instructions.



**Figure: 42**

### 3.5.2.8 Side deflector

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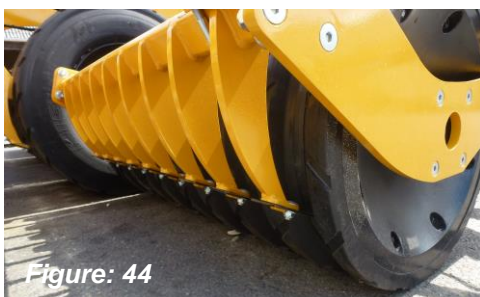


**Figure: 43**

The left-hand side deflector is designed to just touch the ground thanks to its elongated hole. You can adjust the distance between the deflector and each row's border spreading disk by loosening the four clamps then sliding it on the beam until the required distance is achieved and finally screwing the assembly.

### 3.5.2.9 Roller scraper

---



**Figure: 44**

The roller is fitted with scrapers that prevent earth from being deposited on the roller.

The distance between the scrapers and the roller should be approximately 1 centimetre.

The wear on the scrapers must therefore be checked fairly regularly and they must be adjusted if necessary.

To do this simply loosen the screw and slide the scraper on its mounting to the required position and finally screw the assembly.

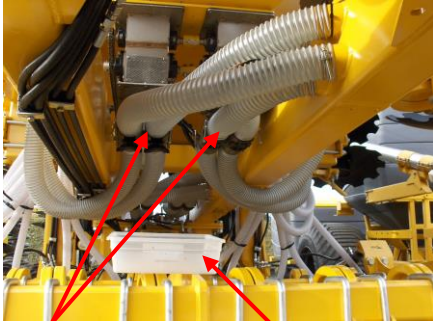


**Check that the scrapers are not in contact with the roller as this could cause premature wear on the assembly.**

### 3.5.2.10 Completely emptying the hopper and the distribution system

---

**Figure: 45**



To completely empty the hopper:

5. Place a recipient "E" underneath the two distributors
6. Open the four closure plates "D "
7. Start up the motor corresponding to the part of the hopper that you wish to empty. Do not start up the turbine
8. Reclose the closure hatches once the operation has been completed.



**This step is vital before preparing for a flow rate test with another type of seed than previously.**



**The distribution system must be emptied and blown out at the end of the season.**

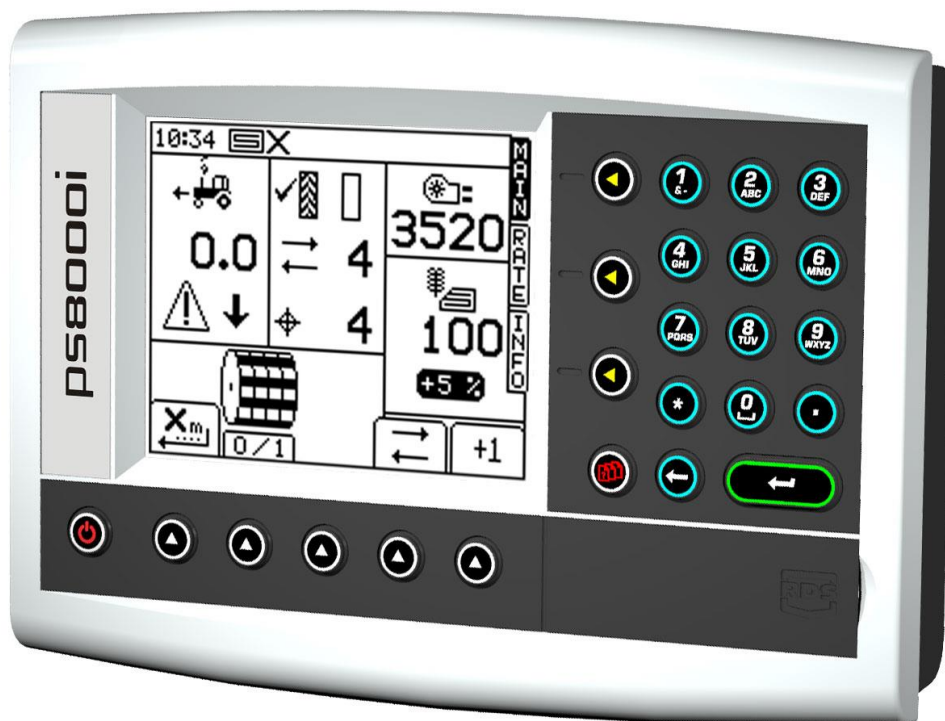
## 4 Using the single and dual motor electric DOS 3022 and DOS 6042

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### 4.1 The Art  mis System

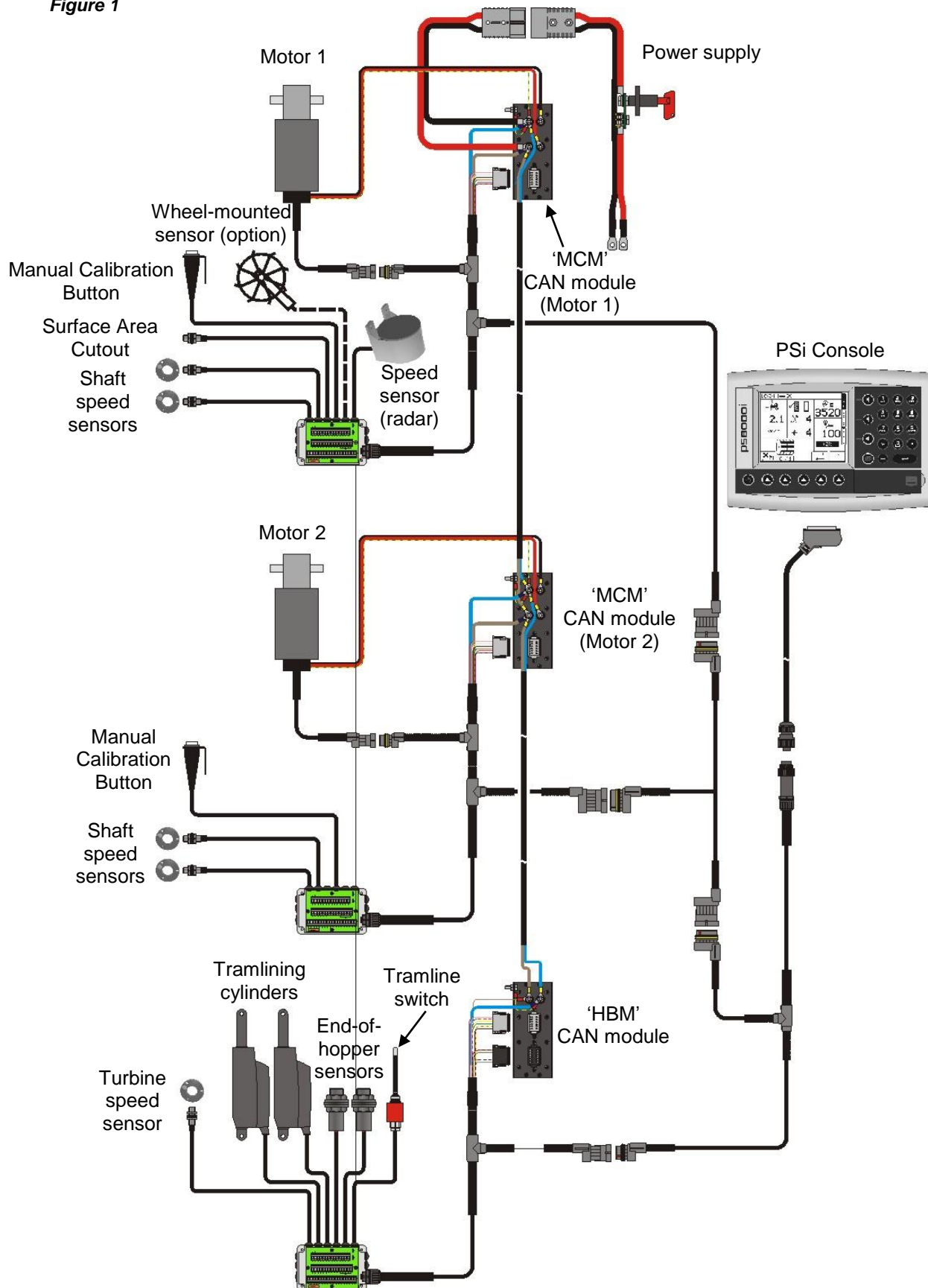
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The electric DSF 1600/2200 transmission is driven by an electric motor and managed by the following Art  mis unit.




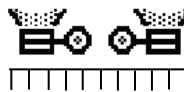

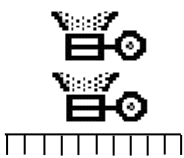
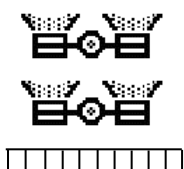




**Figure 1**



**Figure 1** illustrates the different components of a single or dual motor Artémis system. All drilling configurations are possible (one or two motors with one or two batchers) and the Artémis PSi console can be configured accordingly.

PRODUCT	CONSOLE SETTING	BATCHER/MOTOR CONFIGURATION	CONSOLE SETTING
SEED		SINGLE MOTOR/BATCHER	
		SINGLE MOTOR/ DUAL BATCHER	
		2 MOTORS/ SINGLE BATCHER	
SEED + FERTILIZER		SINGLE MOTOR/BATCHER (SEED) + SINGLE MOTOR/BATCHER	
		SINGLE MOTOR/ DUAL BATCHER (SEED) + SINGLE MOTOR/ DUAL BATCHER (FERTILIZER)	

Some screens differ slightly depending on the chosen seeder configuration. Look for the above symbols next to the text.

#### **4.1.1 Main functions**

The Artémis is designed to allow automatic variable metering control of any seeder using an AGRISEM batcher. You can manually override the pre-set seed rate at any time to adapt to different zones in the field.

The basic functions are:

- Tramlining
- Variable seed rate control

- Forward speed alarms
- End-of-hopper alarm
- Turbine speed alarm
- Information regarding the totals (surface area, quantities)

The console has a special mode for easy batcher CALIBRATION. In this CALIBRATION mode, each batcher is controlled by a "manual calibration button" to distribute the product (figure 1).

During normal operation, the system is started and stopped automatically by a magnetic sensor when the seeder is lifted and set down. Depending on the type of system, this sensor is activated either by the movement of a wheel or by the markers.

#### *4.1.2 Control and data logging modes*

##### *Automatic control mode*

The seed rate is automatically adjusted according to the forward speed to ensure that the actual seed rate corresponds to the pre-set target rate at all times. The seed rate can be manually increased or reduced in relation to the pre-set target rate.

Field data ("job summaries") can be logged and stored in the console's internal memory. Up to 75 summaries can be stored. With a GPS receiver and an SD memory card, you can also log the vehicle's route and the application data in a "dynamic log" file on the SD card. The job summary is also created in this file.

##### *Control mode with variable seed rate treatment*

This enables the system to be controlled through treatment instructions (prepared using precision farming software and the position supplied by DGPS). For automatic variable seed rate treatment, the *PS 8000i* requires a DGPS receiver and an SD memory card to load the treatment instructions generated with precision farming software.

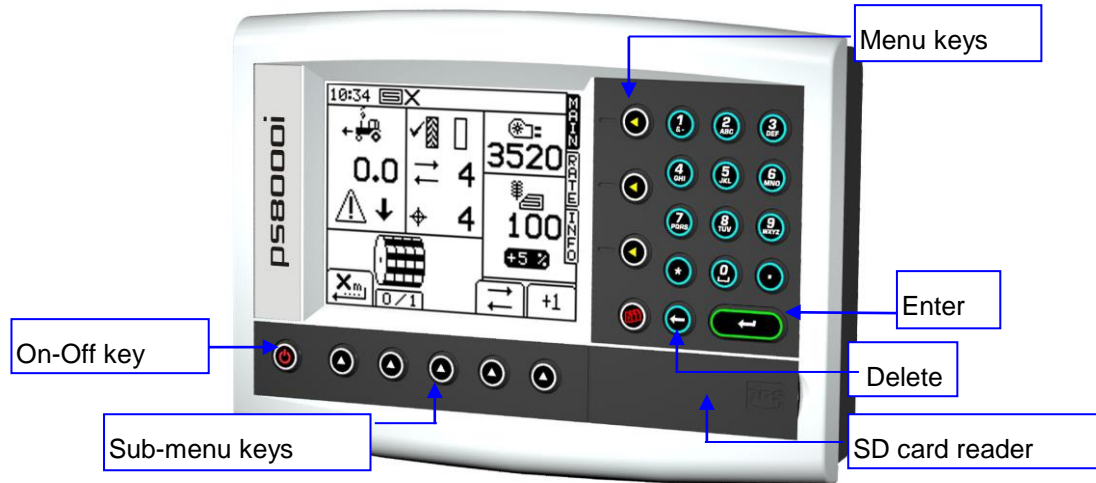
A work record file is automatically created on the card to log the data confirming the current application. The job summary is also created in this file, which can be opened in precision farming software.



### 4.1.3 Console keys

All of the console functions are accessible using nine keys located at the side of the LCD screen.

**Figure 1**



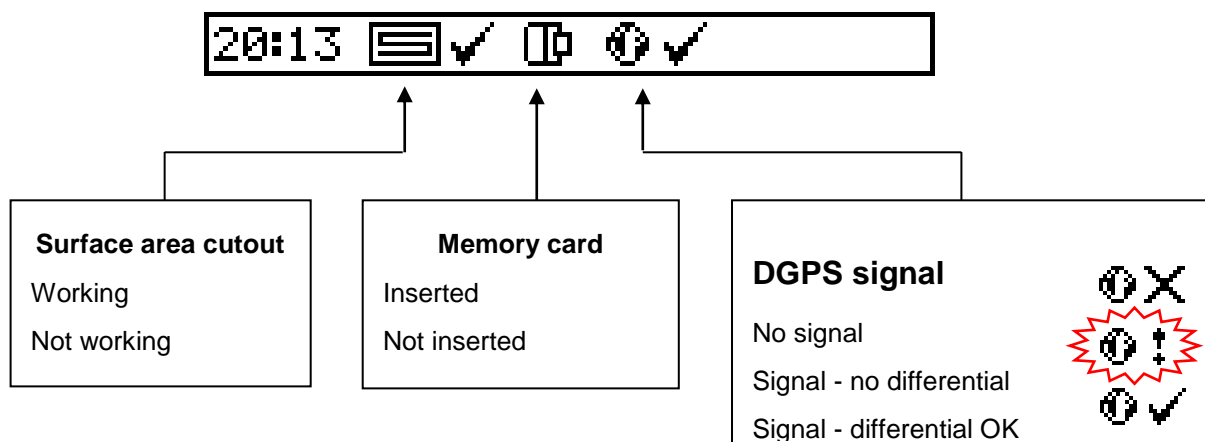
The four menu keys located on the right of the screen (figure 1) display the basic screen pages (those used during normal operation). There are three 3 basic screens: MAIN, RATE and INFO for the normal operating functions and a SETUP screen for the CALIBRATION functions.

The 5 sub-menu keys below the screen control the various display functions and the settings for each basic screen. Text or icons are displayed above each key to show their function.

## 4.2 Operation of the Artémis unit

### 4.2.1 Status icons

All of the operating screens have a status bar at the top of the screen displaying the time and a number of different icons. These icons indicate:

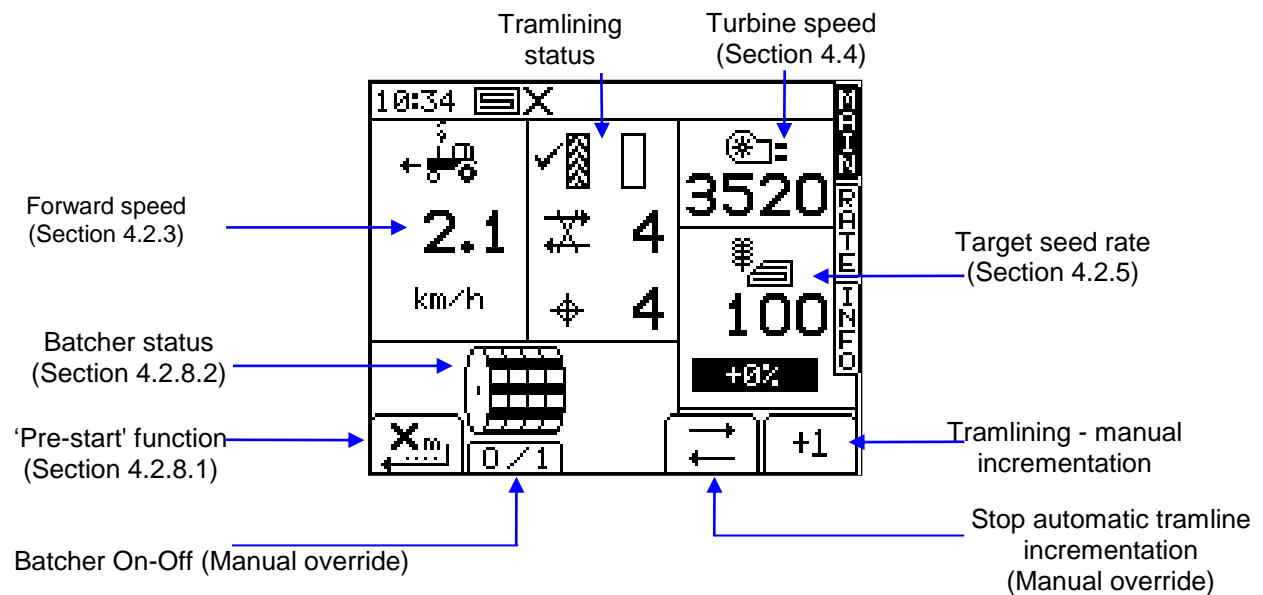


N.B. The icons for the memory card and GPS are only displayed when these functions have been enabled in the settings.

#### 4.2.2 "MAIN" screen

The console always displays the MAIN screen on start-up. The MAIN screen is divided into five parts displaying the following functions.

**Figure 2: MAIN screen (single product/single batcher)**



N.B. The batcher status will be displayed differently depending on the seeder's configuration (figures 3 and 4).

**Figure 3: MAIN screen (dual product/single batcher)**

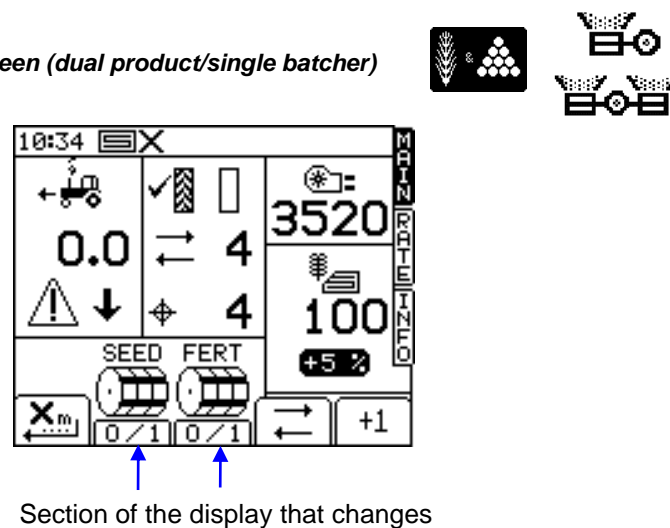
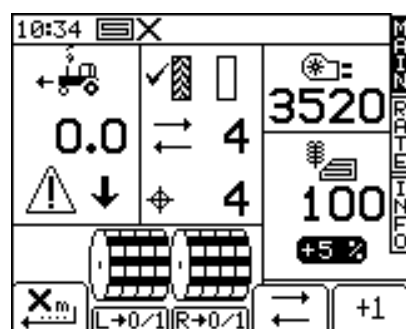


Figure 4: MAIN screen (single product/dual batcher)



Section of the display that changes

### 4.2.3 Forward speed display and alarm functions

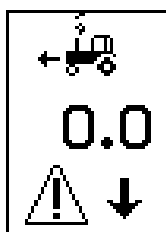
#### Smoothing of the displayed speed

Apart from rapid changes of speed, the forward speed displayed at any given moment is the average speed calculated over 3 seconds.

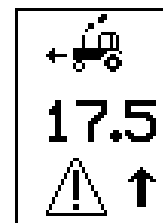
#### Speed alarms on the MAIN screen

The console is programmed with low and high forward speed alarms.

If the seeder is working and the forward speed is less than 0.5 km/h, this warning logo flashes on the screen with an audible alarm.



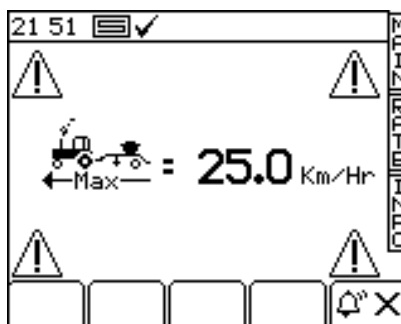
If the seeder is working and the forward speed is greater than the maximum speed acceptable by the Art  mis system (indicated on the RATE screen) this warning logo flashes on the screen with an audible alarm.




#### Maximum forward speed

When you set a new target seed rate on the RATE screen, the console recalculates and displays the maximum forward speed at which the seed rate can be maintained (fig.5). This is calculated based on the seed rate, the width of the seeder, the current CALIBRATION factor, the gear box transmission ratio and the maximum motor speed.

Figure 5

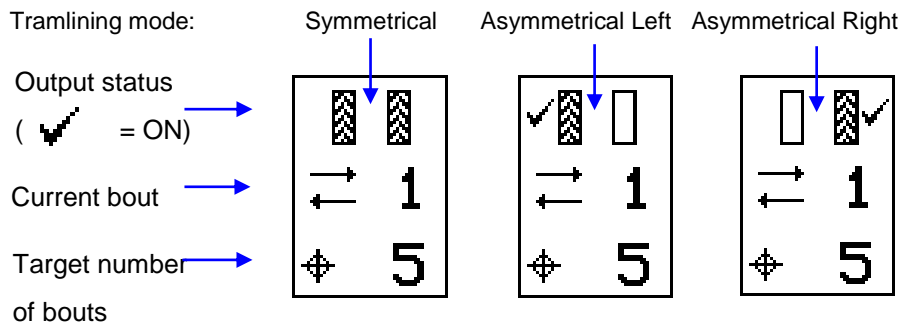


Press  to return to the RATE screen.

N.B. If the speed is too low, the operator must open the batcher and re-calibrate to increase the calibration factor (see 'CALIBRATION' manual).


#### 4.2.4 Tramlining functions/statuses

The MAIN screen shows the current tramlining status.






#### Increasing the number of bouts manually

When the console starts up, the tramline sequence always starts at '1'.

If necessary, press  to select the correct bout number, e.g. to start a field zone with a bout number other than '1'.

#### Freezing the bout number

Press  to freeze the bout number displayed (e.g. to sow around a post requiring the seeder to be lifted and lowered several times).

The  icon indicates that the bout number has been frozen. Press  to return to normal operation.

*N.B. The tramlining sequence is configured on the SETUP screen (see section 4.2.6).*

#### 4.2.5 RATE screen

This screen is used to configure the seed rate. Either kg/ha or seeds/m<sup>2</sup> can be configured in the SETUP screen.



**Figure 6: RATE screen - single product**

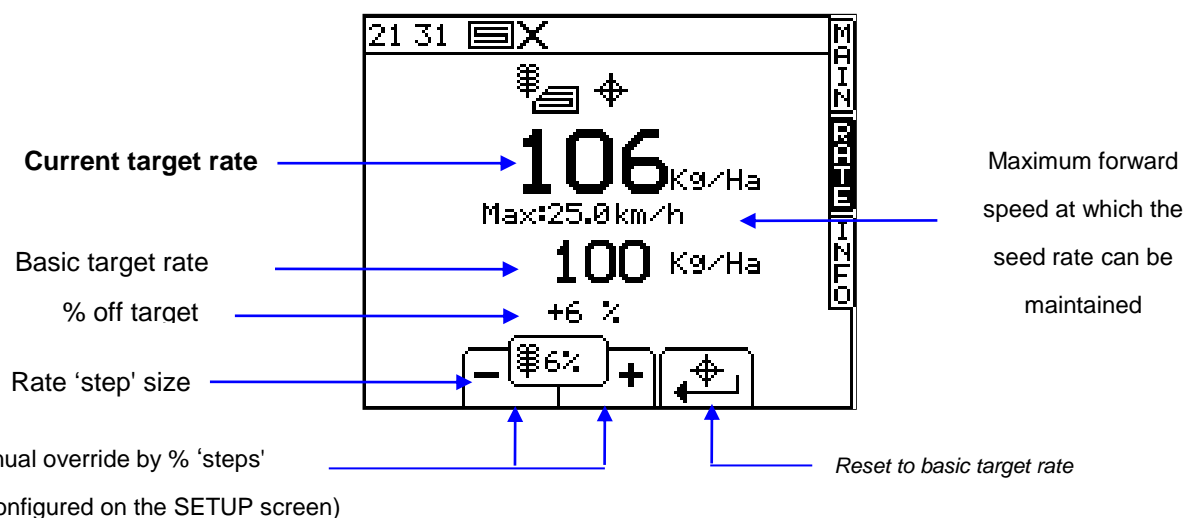
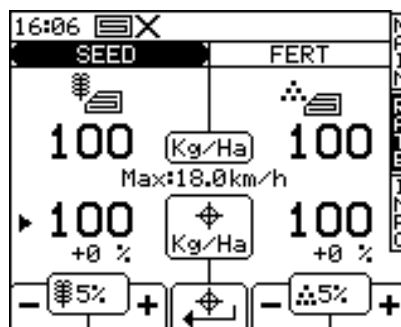


Figure 7: RATE screen - dual product



N.B. The maximum forward speed displayed is the lowest for the two products.

## Configuring/overriding the target rate

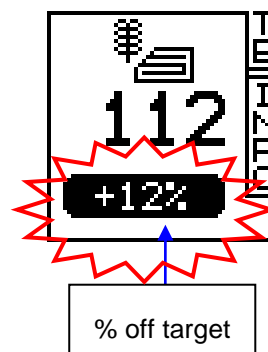
**To configure the target rate**, simply enter the value and press the ENTER key to confirm.



To set the target rate or manually set the rate for each product, first press the ENTER key to select the SEED or FERTILIZER product.

The application rate displayed on the MAIN screen is the same as that displayed on the RATE screen. If the target rate on the RATE screen is manually increased or decreased, the % of this alteration will flash on the main screen.

When the system is operating with a treatment instruction, this number will only flash if the target rate has been changed using the '+' or '-' keys on the RATE screen.



**To override the target rate**, use the keys . The % 'step' size is configured on the SETUP screen (see 4.6).



**To return to the target rate**, press .

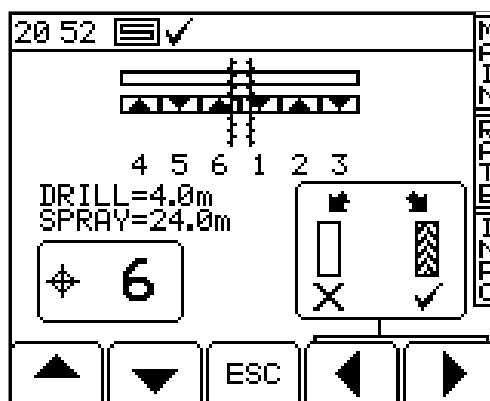
Both products are reset to their respective target rate.

## 4.2.6 Tramlining

To configure tramlining mode, select the SETUP screen and press .

Figure 9

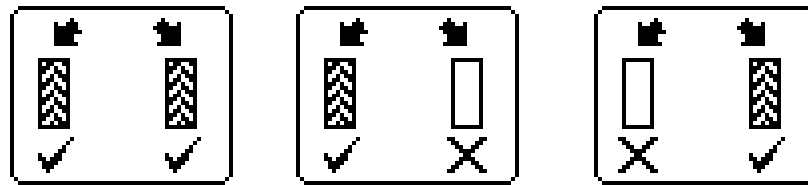
Calculation of the crop sprayer width is based on the width of the seeder, on the target number of bouts and the tramlining mode.



Increase/decrease the target number of bouts.

Select Mode

The target number of bouts can be up to 10, with symmetrical, asymmetrical left or asymmetrical right tramlining modes.



Symmetrical

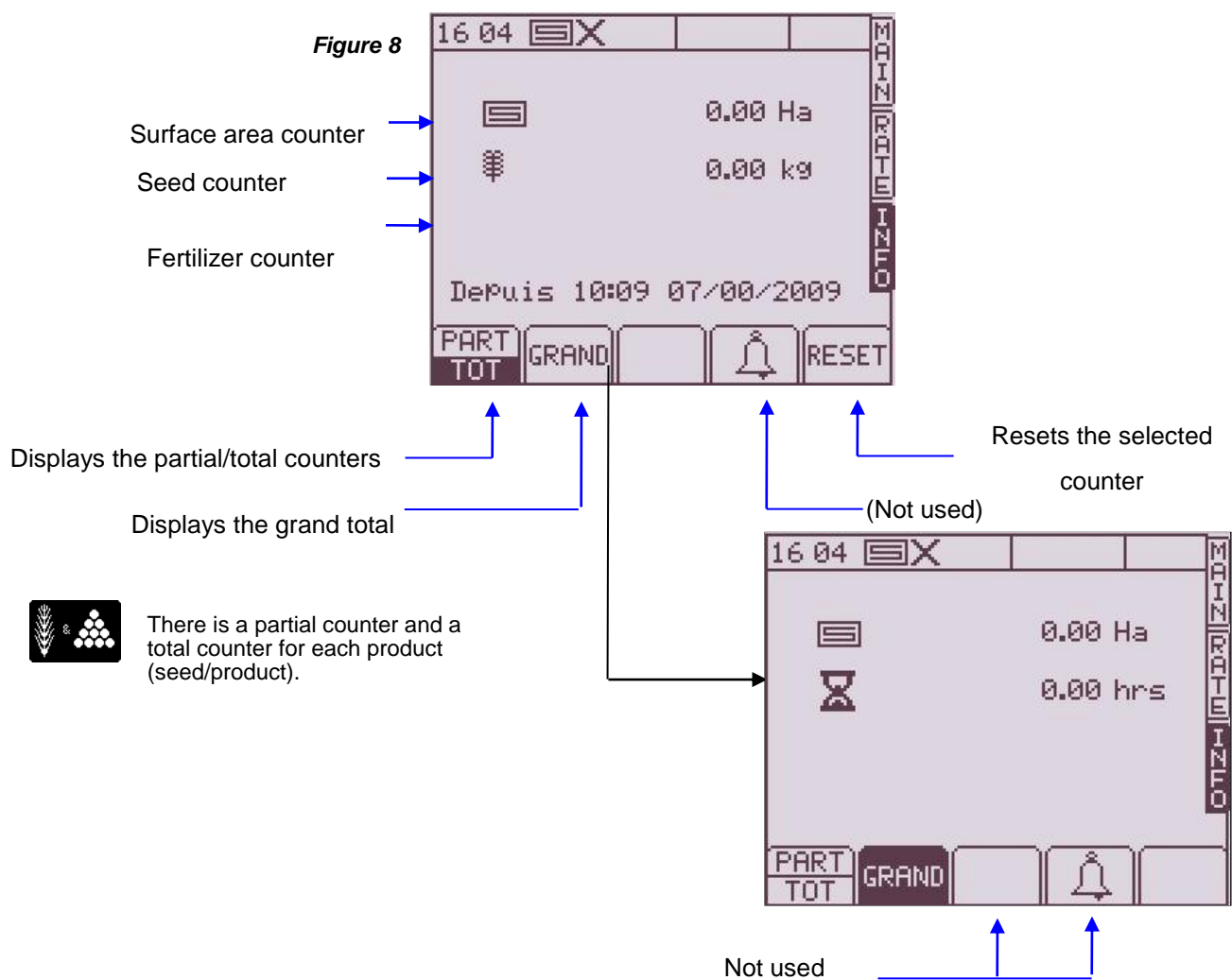
Asymmetrical left

Asymmetrical right

The console displays the seeder/crop sprayer width combination for the target number of bouts.

#### 4.2.7 "INFO" screen

Figure 8



## 4.2.8 Functions



### 4.2.8.1 Pre-start function

This function is particularly used in the case of a front-mounted metering hopper. The pre-start function helps to prevent unseeded areas, particularly in the corners of fields. This starts up the batcher at the calibrated speed while the seeder is still stopped and thus primes the seeder so that the seed reaches the drill units just before the seeder starts to work.

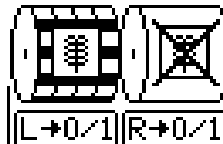
The settings for this function are made by trial and error tests when the system is switched on for the first time, and are then adjusted in the SETUP menu.

To use the pre-start function, press  on the MAIN screen before moving.

The motor will run at the calibrated speed for a pre-set time or until the forward speed exceeds 2km/h, then automatic control will take over.

### 4.2.8.2 Electric motor – manual override/sowing a half-width

Press the required button.




The electric motor can be stopped manually when required, e.g.

- (a) The land on part of the field needs more preparation before being sown.
- (b) In the case of a front-mounted metering hopper, the electric motor is stopped just before the end of the bout to sow all of the seed remaining in the pipes (the opposite of the 'pre-start' function).
- (c) You want to sow a half-width.

## 4.3 Product calibration

### 4.3.1 Initial product calibration

Prepare the seeder as usual for calibration with weighing.

1. On the SETUP screen press .

- 2a. If the console is configured for two products, select the product that you wish to calibrate (fig10).



**Figure 10: Dual product/Single batcher**





- 2b. Or if configured for two batchers, select the batcher to be calibrated (fig 11).

**Figure 11: Single product/Dual batcher**

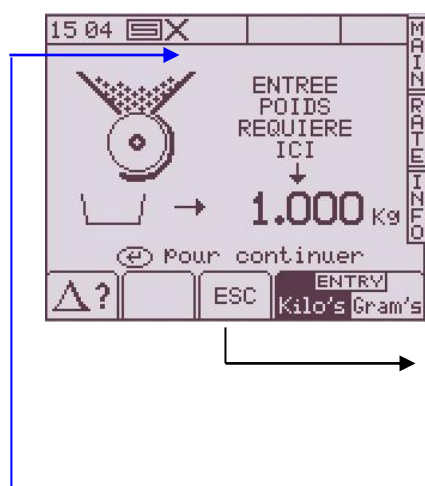


3. Otherwise, select the desired weight unit (kg or g), then enter the weight required for calibration (fig. 12) and press ENTER. The batcher starts and runs at the programmed calibrated speed to deliver the correct quantity of product and then stops.

*N.B. If a manual calibration button is used for calibration, the calibration procedure will start at fig. 13.*

4. Weigh the product obtained in a recipient and then enter this value (fig. 14) and press ENTER to confirm.

**Figure 12**



**Figure 13**



**Figure 14**



5. Press ENTER again and the console recalculates and displays the new calibration factor in kg/rev, the error %, and the maximum permitted forward speed calculated according to the application rate set for the product (fig.15).

**Figure 15**





6. Press ENTER again to confirm and store the new calibration factor, or press ESC to return to the SETUP screen.

You are advised to delete the PARTIAL counter before stating to sow. This will allow you to quantify any calibration factor error after sowing part of the field by comparing the theoretical quantity of product sown to the actual known quantity used (e.g. an entire big bag).

You can then adjust the calibration factor accurately if necessary (section 4.3.2).

#### **N.B. Systems mounted on an 'AGRISEM' type batcher**

*When you switch from a low seed rate to a high seed rate, e.g. from 3kg/ha to 100kg/ha, use the following procedure:*

1. Open the batcher to a high position.
2. Start the calibration procedure, deliver a suitable quantity of product and enter the weight obtained. The error will be significant but press ENTER to correct the calibration factor and continue (see fig.15).
3. The programme now needs the application rate (see section 4.2.5).
4. Repeat the calibration procedure again. The error should be low this time. Accept the error and start to sow.



*When you switch from a high seed rate to a low seed rate, e.g. from 100kg/ha to 3kg/ha, use the following procedure:*

1. Open the batcher to a low position.
2. Start the calibration procedure, deliver a suitable quantity of product and enter the weight obtained. If the manual calibration button is used, deliver a small quantity of product and enter the weight. The error will be significant but press ENTER to correct the calibration factor and continue (see fig.15).
3. The programme now needs the application rate (see section 4.2.5).
4. Repeat the calibration procedure again. The error should be low this time. Accept the error and start to sow.

#### 4.3.2 'NUDGE Calibration' – Adjusting the calibration factor

The 'Nudge CALIBRATION' procedure allows you to adjust the existing calibration factor without having to repeat the bucket test.

1. First note down the quantity of product displayed in the PARTIAL counter in the INFO screen. This is the theoretical quantity that the instrument has calculated.


In the SETUP screen, press either  (Calibration Check) or .



*If the console is configured for two products, select the product that you wish to calibrate (fig10).*



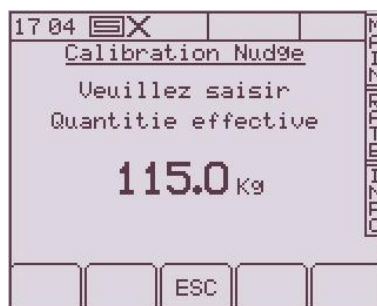
*Similarly, if the console is configured for two batchers, select the left- or right-hand side (fig.11).*

2. On each screen, press  to select the 'Nudge CALIBRATION' screen (fig.16).

**Figure 16**



**Figure 17**




**Figure 18**



- Enter the theoretical weight that you noted down from the INFO screen in step 1 and press ENTER twice.
- Enter the weight actually sown and click ENTER twice.
- The calibration factor is re-calculated with the % error and maximum forward speed also displayed (fig.18). Press ENTER again to confirm the new factor.

#### 4.4 Turbine speed and end-of-hopper alarm settings

To see the alarm thresholds (fig.19) from the SETUP screen, press .

**Figure 19**



Low turbine speed  
alarm  
High turbine speed  
alarm  
End-of-hopper alarm

To adjust the thresholds


#### 4.5 Forward speed simulation



If the forward speed sensor stops working, you can continue to sow by simulating a forward speed. If the forward speed sensor occurs in order to enter the simulation speed value you sow at a higher speed.

stops working, you can continue to sow your forward speed before the fault occurs. If the forward speed sensor occurs in order to enter the simulation speed value you sow at a higher speed.

To set the simulated forward speed, select '1. Operator Config' in the SETUP screen, then '2. Speed sensor factor'.

Press  (fig.20), then enter the simulation speed value (fig.21).

Press the ENTER key to start the speed simulation.

**Figure 20**



**Figure 21**



**Figure 22**



During the speed simulation, the forward speed on the MAIN screen flashes (fig.22).

*N.B. The pre-start function also operates with speed simulation.*

#### 4.6 Select the units/Rate 'step' %

Select '1. Operator Config' on the SETUP screen, then '3. Customise'.

**Figure 23**



If the console is configured for two products, select the product first using the LEFT/RIGHT arrows (fig.23).

Use the UP/DOWN arrows to select the setting.

Use the LEFT/RIGHT arrows to select the units (kg/ha or seeds/m<sup>2</sup>).

Use either the LEFT/RIGHT arrows to adjust the "step" or enter the value using the numerical keypad and press ENTER to confirm.

#### 4.7 Data logging and variable seed rate treatment

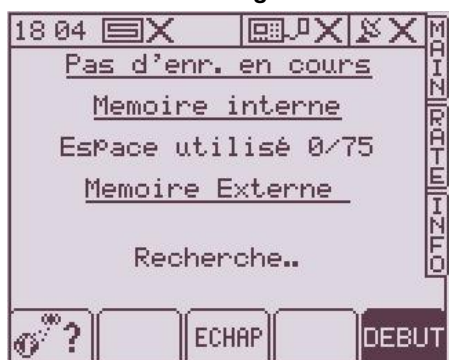
The data logging and variable seed rate control functions are accessible from the SETUP screen.

1. Press  to display the logging screen (fig. 24).

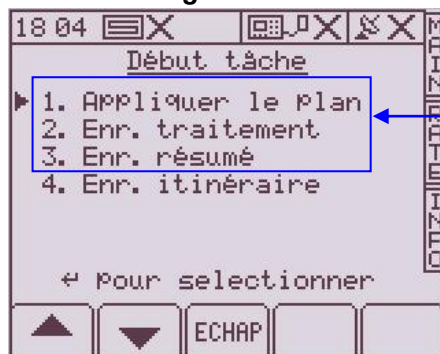
The console then detects the presence of a memory card.

2. Press the START key to access the 'Job startup' page (fig. 25).

**Figure 24**



**Figure 25**



Functions usable  
with the Artémis

There are several possible functions. Only functions 1, 2 and 3 can be used with the Artémis.

### 1. Apply the plan (Variable rate treatment)

There are several possible configurations:

- (a) The PS 8000i receives the seed rate from a treatment instruction on the SD memory card and controls the system according to this rate via the RDS control system. A full recording of the application carried out is generated and saved on the memory card.
- (b) The PS 8000i receives the seed rate from a treatment instruction located on the SD memory card and sends it to a third party controller, which controls the application via a control system produced by another manufacturer. In this case the PS 8000i is used to send orders.
- (c) The PS 8000i receives the seed rate from a third party controller and controls the application via the RDS control system. The PS 8000i can send the current application rate back to the third party controller.

All of these configurations allow the operator to carry out variable rate treatment.

For configurations (a) and (b), a full recording of the application carried out is generated and saved on the memory card. The work record file can be opened in a mapping software program. The job summary is also created in this file.

### 2. Treatment log (Dynamic data logging)

A complete recording of the application carried out is generated, saving the seed rate and other settings (e.g. "tags") in real time, linking this data to the geographically-referenced position. The associated "Dynamic Logging" file can be opened in a mapping software program. A large quantity of data is generated by the dynamic logging and must be saved in the SD memory card. The job summary is also created in this file.

### 3. Summary log (Internal data logging)

For simple recording for traceability purposes, you can save a summary of each work session in the internal memory, and then download them directly to a computer or a memory card, or print them out. The amount of summary data for each work session is small and is stored in the console's internal memory. The console can store up to 75 summaries.

## 5 SERVICING - MAINTENANCE

Comply with the safety instructions regarding servicing and maintenance. Your machine has been designed and built for maximum yield, profitability and comfort under many different usage conditions. Your machine has been checked at the factory and by your dealer before its delivery to ensure that you receive a machine in perfect condition. To maintain it in good working condition, it is important that servicing and maintenance operations are performed at the recommended frequency.

In order to ensure that your machine always operates correctly and to obtain an optimum performance, you must clean and maintain it at regular intervals. The hydraulic components and bearings must not be cleaned with a high-pressure washer or directly hosed down. The units, screwed connectors and bearings are not watertight to VERY high pressure cleaning.

### 5.1.1 Servicing frequency

---

The servicing frequency is determined by various factors. Different usage conditions, the weather, driving and working speeds, dust and the type of soil, etc. affect the frequency, and the lubrication and maintenance products used also determine the time until the next servicing work is required.

The servicing frequency indicated is therefore only to be used as a reference. If you deviate from the normal conditions of use, you must adapt the frequency at which this maintenance and servicing is carried out to suit the conditions:

#### **1/ After the first 10 hours of use:**

- Check the tightness of the nuts and screws
- Check the hydraulic system (tightness and sealing)
- Check the tightness of the wheels
- Perform a complete diagnosis of the machine to ensure that there are no elements causing problems.
- Clean the soil off the machine

## **2/ Every 50 hours of use**

- Check the tightness of the nuts and screws
- Check the hydraulic system (tightness and sealing)
- Check the tightness of the wheels
- Perform a complete diagnosis of the machine to ensure that there are no elements causing problems.
- Lubricate the joints with greasers
- Clean the soil off the machine

### **5.1.2 Storage**

---

If the machine is not going to be used for an extended period:

- Store the machine under a roof if possible.
- Disconnect the electrical control devices and store them in a dry place.
- Protect the machine against rust. Only spray with oils that are easily biodegradable, e.g. rape oil.
- Unload the wheels.
- Protect the hydraulic cylinder piston rods against corrosion.

Do not spray plastic and rubber parts with oil or an anti-corrosion agent or these parts may become fragile and break.

## **Cleaning**

Before folding the machine, the beam under the cylinder must always be cleaned.

A build-up of soil, stones or other obstacles can damage the cylinder.

Failure to comply with this instruction will invalidate the warranty.

### **5.1.3 Lubrication**

---

Lubricating the machine:

The machine must be lubricated regularly and after each pressure wash.

This keeps the machine in good working order and reduces the costs of repairs and downtime.

Hygiene:

Using lubricants and mineral products in line with the recommendations does not present any health

risks. However, avoid prolonged contact with the skin or inhaling the vapours.

#### Handling lubricants

#### **WARNING:**

Protect yourself from direct contact with oils by wearing gloves or protective cream.

Carefully wash all traces of oil off your skin with soap and hot water. Do not clean your skin with petrol, diesel or other detergent products.

Oil is toxic. If you swallow oil, consult a doctor immediately.

- Keep lubricants out of reach of children.
- Never store lubricants in open containers or containers that are not labelled.
- Avoid your skin coming into contact with clothes that are soaked in oil. Change clothes when they are dirty.
- Do not keep cleaning cloths impregnated with oil in your pockets.
- Dispose of shoes impregnated with oil as dangerous waste.
- If oil splashes in your eyes, rinse with clean water and consult a doctor.
- Soak up spilt oil with a binder product and dispose of it.
- Never extinguish fires caused by oil with water. Only use authorised, appropriate extinguishing products and wear breathing apparatus.
- Waste polluted by oil and used oil must be disposed of in line with current regulations.

Lubricate / grease the machine at the stated frequency.

Carefully clean the lubrication points and the grease pump before lubrication to avoid any dirt getting into the bearings. Drain contaminated grease out of the bearings and replace with new grease!

#### 5.1.4 Greasing

---

The cage rollers are attached using two self-aligning bearings with greasers.

To ensure that the self-alignment operates correctly, the bearings must be greased at the start of each new season and then regularly throughout the season.

Use lithium grease reinforced with molybdenum disulphide / Grade NLG12. AGRISEM INTERNATIONAL may not be held liable if another type of grease is used.

### **- Hydraulic maintenance**

Risk of infection caused by the oil in the hydraulic circuit penetrating the skin under high pressure.

- Operations on the hydraulic circuit must only be performed by a specialised workshop.
- Depressurise the hydraulic circuit completely before carrying out any operations on it.
- Only use appropriate tools to look for leaks.
- Under no circumstances must you try to plug a leak in the hydraulic hoses with your hand or fingers.
- Liquid leaking under high pressure (hydraulic oil) can penetrate the skin and cause serious injury.
- In the event of an injury caused by hydraulic oil, consult a doctor immediately. Risk of infection.
- When connecting hydraulic hoses to the tractor's hydraulic circuit, ensure that the hydraulic circuits on the tractor and machine are not under pressure.
- Check that the hydraulic hoses are correctly connected.
- Regularly check that the hydraulic hoses and connections are in good condition and are clean.
- Have the hydraulic hoses checked by a specialist at least once a year to ensure that they are in good condition.
- Replace damaged or worn hydraulic hoses.
- Only use genuine AGRISEM hydraulic hoses.
- Hydraulic hoses must not be used for more than six years, including a possible storage time of two years maximum. Even under appropriate storage and usage conditions in line with permissible stresses, it is completely normal for hoses and connectors to age, which is why they have a limited storage time and service life. Nevertheless, the duration of use can be established in line with empirical values, in particular taking potential risks into account. Other reference values can be taken into consideration for thermoplastic hoses and pipes.
- Dispose of used oil in accordance with current regulations. If this poses a problem, contact your oil supplier.
- Keep hydraulic oil out of reach of children.
- Ensure that you do not contaminate the soil or water with hydraulic oil.

### **After 10 hours of service, and then every 50 hours of service**

1. Check that all of the hydraulic circuit's components are sealed.
2. If necessary, tighten screwed connectors.

### **Before each start-up**

1. Visually check the hydraulic hoses for faults.
2. Remove any friction points on hydraulic hoses and tubes.
3. Replace damaged or worn hydraulic hoses immediately.



Inspection criteria for hydraulic hoses.

For your own safety, comply with the following inspection criteria.

Replace the hydraulic hoses if you notice any of the following when examining them:

- Deterioration of the outer layer down to the lining (e.g. friction points, cuts, splits).
- Embrittlement of the outer layer (formation of cracks on the outer layer).
- Distortions which do not correspond to the natural shape of the hose or pipe, whether or not they are under pressure or bent (e.g. separation of the layers, bulges, crushed areas, bending).
- Areas that are leaking.
- Damaging or distortion of the end fitting (affecting its leaktightness). Slight superficial damage does not warrant replacement.
- Hose becoming detached from the end fitting.
- Corroded end fitting leading to reduced solidity and function.
- Non-compliance with mounting specifications.
- Exceeding of the 6-year usage period. The following information is vital: the date of manufacture of the hydraulic hose marked on the end fitting, to which you must add 6 years. If the date of manufacture indicated on the connector is "2004" the usage period will end in February 2010. See the "Marking of hydraulic hoses" section for further information.

#### Fitting and removing hydraulic hoses

When fitting and removing hydraulic hoses, the following instructions must be strictly adhered to:

- Only use genuine AGRISEM hydraulic hoses.
- Pay particular attention to cleanliness.
- You should always fit hydraulic hoses so that in all operating conditions,
  - ✓ They are not subject to traction, apart from that caused by their own weight.
  - ✓ No short lengths are flattened.
  - ✓ There are no external mechanical stresses on the hydraulic hoses.
  - ✓ Avoid hoses rubbing against parts of the machine or against each other by arranging and attaching them correctly. Protect hydraulic hoses with protective sheaths if necessary. Cover parts with sharp edges.
  - ✓ The authorised bending radii must not be exceeded.
- If hydraulic hoses are connected to moving parts, measure the length of the hose to ensure that the total range of movement is no less than the smallest authorised bending radius and/or that the hose is not subject to traction.
- Attach hydraulic hoses at the places intended for this purpose. Avoid mountings that may hinder the natural movement of the hose and modifications to its length.
- Hydraulic hoses must not be painted.

**Wear ring maintenance:**

Some joints on AGRISEM tools have wear rings. These must be changed at the first sign of lateral play.

***WARNING: Written authorisation must be obtained from AGRISEM International before carrying out any operations on the "Spring Assembly".***




**Tyre maintenance:**

The tyres must always be inflated to a pressure appropriate to their use. The pressure may need to be changed when moving between the road and the field. The average pressure of all Flexi-Pack tyres is 2.5 bars.

### 5.1.6 Disks

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⇒ The disks must be replaced as soon as their diameters reach the values given below.

Disk diameter	Max. wear diameter
 Ø 510	Ø 440
 Ø 560	Ø 480
 Ø 610	Ø 520

AGRISEM INTERNATIONAL cannot be held liable if the DISC-O-SEM is used with disks presenting greater wear than that specified above.

### 5.1.7 Lighting system

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Always check that your lighting system is in full working order, clean and operational before driving on the road.



**Never set out on the public highway if one of these elements is not in good condition.**

Replacing bulbs:

1. Unscrew the protective glass.
2. Remove the faulty bulb.
3. Fit the replacement bulb (ensure that the voltage and amperage are correct).
4. Refit the protective glass and screw on.



## THE LIGHTING IS REMOVABLE AND MUST BE REMOVED BEFORE WORKING

The lighting board must be removed when using the DISC-O-SEM in the field.

As the lighting board is designed solely for transport, AGRISEM INTERNATIONAL cannot be held liable if the lighting board breaks due to being used during work.

### 5.1.8. Wear part with carbide plates:

Wear parts with carbide plates are designed for working in fields without stones.

Using them on stony ground may lead to the premature wearing of these parts and possible breaking.

It is up to the user to decide on and take full responsibility for the risks linked to the use of wear parts fitted with carbide plates under these conditions.

AGRISEM INTERNATIONAL cannot be held liable under any circumstances for the premature wearing or breaking of wear parts with carbide plates if these instructions are not complied with.

Using the DISC-O-SEM correctly ensures that work on crops takes place safely under optimum conditions. It is up to the user to decide on and take full responsibility for the risks linked to the incorrect or inappropriate use of the DISC-O-SEM.

AGRISEM INTERNATIONAL cannot be held liable under any circumstances for soil damage or a result that does not meet the user's expectations if the use and safety instructions have not been complied with.





**AGRISEM<sup>®</sup>**  
**INTERNATIONAL**

## WARRANTY CLAIM FORM N°

<b>Dealer's name :</b>		Dealer's stamp	
<b>File followed by :</b>			
Date of purchase of the machine :		N° Invoice AGRISEM	
Customer's name and address :			
Delivery date : <i>(join a copy of invoice and dealer's delivery note)</i>		Area of farm :	

Serial Number of the machine :		Working width :	
Description of the equipment combination (make and type):			
Type of tractor used :		Horse Power :	
Model of tractor :			

<b>Detailed description and presumed causes of incident</b>			
Date of problem :		Date present :	
Reference of Defective part	Quantity	Designation	
Pictures attached :	<input type="checkbox"/> YES	Parts returned : <i>Freight costs paid by the sender</i>	<input type="checkbox"/> YES
The warranty is limited to replacement of defective parts excluding reparation of all other damage			

## RESULT OF AGRISEM INTERNATIONAL EVALUATION

Comments :	
------------	--

Date :		Signature :
The after-sales service technician		
<a href="mailto:agrisem@agrisem.com">agrisem@agrisem.com</a>		



