

# PNEUMATIC FERTILIZER SPREADER: ASmaX



Code : Q00A00166

Use and  
maintenance manual

Translation of original  
instructions



Read these instructions carefully before using the first time.



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## ITALIANO

### Dichiarazione di conformità CE Seminatrice combinata solo su attrezzatura Alpego

Al sensi della Direttiva Europea 2006/42 CE - 2014/30 UE la ditta dichiara sotto la propria responsabilità che la macchina agricola sotto indicata è conforme ai requisiti essenziali di sicurezza e di tutela della salute previsti dalla Direttiva Europea. Per l'adeguamento della macchina sono state adottate le norme:  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
La persona autorizzata a costituire il fascicolo tecnico è il Direttore Tecnico di Alpego presso la sede aziendale.

## ENGLISH

### EC Certificate of conformity Combined seed drill only on Alpego equipment

conforming to European Directive 2006/42 EC - 2014/30 UE We declare in sole responsibility, that the agricultural machine to which this applies, conforms to the basic safety and health requirements of European Directive. For the adaptation of it to the norms some have been adopted the norms:  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
The person authorized to draw up the technical dossier is the Technical Director of Alpego at the company headquarters.

## ESPAÑOL

### Declaración de conformidad CE Sembradora combinada solo con equipo Alpego

Conforme a la Directiva Europea 2006/42 CE - 2014/30 UE la empresa declara bajo su propia responsabilidad que la maquinaria agrícola modelo: está conforme a los requisitos esenciales de seguridad y de defensa de la Directiva Europea. Para la equipación de las máquinas han sido adoptadas las normas:  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
La persona autorizada para preparar el expediente técnico es el Director Técnico de Alpego en la sede de la empresa.

## PORTUGUES

### Declaração de conformidade CE Semeadora combinada somente com equipamento Alpego

Nos termos da Diretiva Europeia 2006/42 CE - 2014/30 UE, a empresa declara sob a própria responsabilidade que a máquina agrícola indicada abaixo está em conformidade com os requisitos essenciais de segurança e de tutela da saúde previstos pela Diretiva Europeia. Para a adequação da máquina, foram adotadas as seguintes normas:  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
A pessoa autorizada para a realização do arquivo técnico é o Diretor Técnico de Alpego junto à sede da empresa.

## MAGYAR

### EK megfelelési nyilatkozat Kombinált vetőgépet csak Alpego felszerelésen

Az Európai Unió 2006/42/EK - 2014/30 UE irányelve értelmében a vállalat saját felelőssége alatt kijelenti, hogy az alábbi mezőgazdasági gép megfelel az Európai irányelv által előírt lényeges biztonsági és egészségvédelmi követelményeknek. A gép megfeleltetéséhez az alábbi szabványok kerültek alkalmazásra:  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
A műszaki dokumentáció összeállítására jogosult személy a vállalat székelyen az Alpego Műszaki Igazgatója.

## POLSKI

### Deklaracja zgodności WE Siewnik kombinowany tylko na sprzęcie Alpego

Zgodnie z treścią dyrektywy Unii Europejskiej 2006/42 WE - 2014/30 UE, firma oświadczając na własną odpowiedzialność, że wymieniona poniżej maszyna rolnicza jest zgodna z podstawowymi wymaganiami dotyczącymi bezpieczeństwa i ochrony zdrowia określonymi w Dyrektywie Europejskiej. W celu dostosowania maszyny zastosowano następujące normy:  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
Osobą upoważnioną do opracowania dokumentacji technicznej jest Dyrektor Techniczny Alpego w siedzibie firmy.

Codice / Code : ArticoloHY

Lonigo: gg/mm/aa

## FRANCAIS

### Déclaration de conformité CE Semoir combiné uniquement sur équipement Alpego

conforme à la Directive Européenne de la 2006/42 CE - 2014/30 UE Nous déclarons sous notre seule responsabilité que la machine agricole faisant l'objet de la déclaration est conforme aux prescriptions fondamentales en matière de sécurité et de santé stipuées dans la Directive Européenne. Pour l'adaptation d'elle en éponge ont été adoptés les normes :  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
La personne autorisée à constituer le dossier technique est le Directeur Technique d'Alpego au siège de la société.

## DEUTSCH

### EG Konformitätserklärung Säkombination nur auf Alpego-geräten

entsprechend der Europäischen Richtlinie 2006/42 EG - 2014/30 UE Wir erklären in alleiniger Verantwortung, da das Landmaschine auf das sich diese Erklärung bezieht, den einschlägigen grundlegenden Sicherheits und Gesundheitsanforderungen der Europäischen Richtlinie. Für die Anpassung von ihr befechtet einiges sind angenommen worden den Normen:  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
Die zur Erstellung der Technischen Dokumentation befugte person ist der technische Direktor von Alpego am Firmensitz.

## ΕΛΛΗΝΙΚΑ

### Δήλωση συμμόρφωσης ΕΚ Σπάρηκη συνδυαζόμενη μόνο με εξοπλισμό Alpego

Σύμφωνα με την Ευρωπαϊκή Οδηγία 2006/42 ΕΚ - 2014/30 UE, η εταιρεία δηλώνει υπεύθυνα ότι το γεωργικό μηχάνημα που αναφέρεται παρακάτω συμμορφώνεται με τις βασικές απαιτήσεις υγιεινής και ασφάλειας της Ευρωπαϊκής Οδηγίας. Για την προσαρμογή του μηχανήματος έχουν υιοθετηθεί τα εξής πρότυπα:  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
Το πρόσωπο που έχει εξουσιοδοτηθεί για την κατάρτιση του τεχνικού φακέλου είναι ο Τεχνικός Διευθυντής της Alpego, στην έδρα της εταιρείας.

## NEDERLANDS

### EG-Conformiteitsverklaring Gecombineerde zaaimachine alleen op Alpego uitrusting

In de zin van Europese Richtlijn 2006/42 EG - 2014/30 UE verklaart het bedrijf op eigen verantwoording dat de hieronder vermelde landbouwmachine in overeenstemming is met de essentiële veiligheids- en gezondheidseisen die door de Europese Richtlijn beoogd worden. Voor de aanpassing van de machine zijn de volgende normen gebruikt:  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
De persoon die bevoegd is om het technisch dossier samen te stellen is de Technisch Directeur van Alpego bij de vestiging van de onderneming.

## ROMÂNĂ

### Declarație de conformitate CE Semănătoare combinată numai pe echipamente Alpego

În conformitate cu Directiva Europeană 2006/42 CE - 2014/30 UE societatea declară pe proprie răspundere că mașina agricolă indicată mai jos este conformă cerințelor esențiale în materie de siguranță și de protejare a sănătății prevăzute de Directiva Europeană. Pentru adaptarea mașinii au fost adoptate următoarele standarde:  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
Persoana autorizată să întocmească documentația tehnică este Directorul Tehnic al Alpego de la sediul societății.

## SUOMI

### EU-vaatimusten mukaisuusvakuutus Yhdistelmäkylvökone vain Alpego-laitteilla

EU-direktiivin 2006/42 EY - 2014/30 UE mukaisesti yritys vakuuttaa omalla vastuullaan, että alla mainittu maatalouskone täyttää EU-direktiivin mukaiset olennaiset turvallisuus- ja terveysvaatimukset. Koneen mukautamista varten on otettu käyttöön seuraavat standardit:  
EN ISO 4254-1:2015 - EN ISO 4254-9:2018 EN15811:2014  
Teknisen tiedotteen kokoamiseen valittu henkilö on Alpegon tekninen johtaja yrityksen pääkonttorissa.

Serial: Matricola





**ALPEGO S.p.a. con Socio Unico**  
Società soggetta a direzione e coordinamento di Torrico S.r.l.  
Via Giovanni e Giuseppe Cenzato, 9  
36045 Lonigo (VI) - Italy

Tel +39 0444 64.61.00  
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Capitale Sociale € 2.000.000 i.v.  
Cod. Fisc. / Part. IVA EORI IT02009840246  
REX ITREXIT02009840246  
R.E.A. 199795/VI/1996  
Reg. Imp. VI N° 22374/VI/1996  
N. Mecc. VI 011754

### UK Declaration of Conformity

We as the manufacturers:

#### **ALPEGO S.p.a con Socio Unico**

VIA Giovanni e Giuseppe Cenzato, 9  
36045 Lonigo (VI) ITALIA

conforming to:

The Supply of Machinery (Safety) Regulations 2008 - S.I. 2008/1597

declare under our sole responsibility, that the agricultural machine (combined seed drill only on Alpego equipment):

Codice / Code : ArticoloHY

Serial:Matricola

fulfils all the relevant provisions of **The Supply of Machinery (Safety) Regulations 2008**, and also fulfils all the relevant provisions of the following UK Regulations:

- Electromagnetic Compatibility Regulations 2016.

The machine referenced above is manufactured in accordance with the following designated standards:

**EN ISO 4254-1:2015**  
**EN ISO 4254-9:2018**  
**EN 15811:2014**

The person authorized to draw up the technical file is the Technical Director of Alpego at the company headquarters

Lonigo: gg/mm/aaaa

**ALPEGO S.p.a. con Socio Unico**

**PEGORARO LUCA**  
Chief Technology Officer





**Read this manual thoroughly before using the machine.  
Being well informed is essential for safe machine usage.  
This manual should be kept for the whole working  
life of the machine.**

Thank you for choosing us, You have purchased an excellent quality product that is guaranteed by decades of experience.

On leaving the factory, each machine is accurately inspected to guarantee the absence of defects.

Should any material defect be found in spite of inspection, please contact your dealer immediately.

Please contact us if you need further information or if something needs to be clarified.

Our aim is to constantly improve the product and keep it top level.



AS THE TRIANGLE INDICATES DANGER, PLEASE BE CAREFUL WHEN IT APPEARS!

THE TERM MACHINE IS USED TO INDICATE THE COMMERCIAL NAME OF THE PRODUCT TO WHICH THIS MACHINE REFERS



All information contained in this manual is informative and does not bind the producer. The information contained herein can be changed without forewarning .

N.B.: View of the machine. **ALPEGO** normally considers the machine as being viewed from the rear to identify better the particulars and to better assemble the parts that must respect the position “**right or left**” as in description (e.g.: right or left cardan joint, right or left tine, etc.)

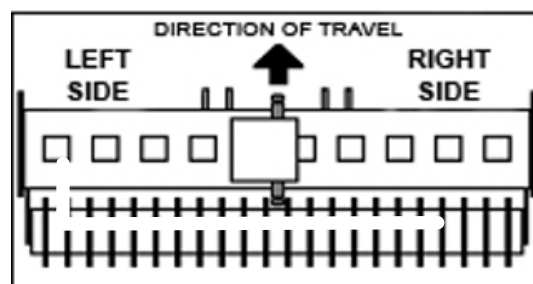


Fig. 1 Running direction

# 1 GENERAL INFORMATION

## 1.1 Machine receiving

- The shipped material shipped is carefully controlled before being delivered to a forwarding agent.
- Once received your machine, make sure that it has not suffered any damage during transport and that the packing has not been tampered with.
- In case of any damage or missing parts, inform the carrier and the Manufacturer within 8 days, producing photographic documentation.

## 1.2 Documents supplied with the machine

In this manual, all references or indications relative to:

- CE marking;
- CE declarations of conformity;
- declarations of incorporation of any machine;
- directives and standards issued by the European Parliament and Council and relative transposition Laws in the Italian State”;
- harmonised standards whose references have been published in the Official Journal of the European Union”;
- only refer to machines destined to the European Community market. For all machines not destined to the European Community, these references and indications have no significance and value.

The machine is supplied with:

- Machine instruction manual.
- EC declaration of conformity.
- Spare Parts Catalogue.

Moreover, the following manuals are included:

Cod.	Description
Q00A00126	Owner's Manual of the DOSAL metering unit
Q00A00129	Owner's Manual of the row-marking discs (foldable power harrows)
Q00A00170	Owner's Manual of the row-marking discs (rigid power harrows)
Q00A00159	Owner's Manual of the “Alpetronic ISOBUS”

**Tab. 1 Documents supplied with the machine**

### 1.3 Scope of the manual

This instruction manual is an integral part of the machine and provides the machine operator and maintenance man with the necessary information for being able to use the machine correctly. It must be kept with the machine until its complete demolition.

- This manual must be carefully read and understood before transport, installation, using and carrying out any maintenance on the machine.
- The manual must be carefully kept for the entire life of the machine and must be transferred to any other user or subsequent owner.
- It must be kept in a place near the machine and available for consultation by the users.
- Users are understood to mean machine operators and maintenance personnel.
- Make sure that all users have thoroughly understood the instructions for use and any symbols indicated on the machine.
- The manual must be consulted taking care not to damage it, to not remove any pages, not to replace and not to cancel information or modify its contents.
- It must be kept where protected from heat, damp and corrosive agents.
- Possible accidents can be prevented by following the technical instructions indicated in the manual. In any case, always comply with the national safety regulations.
- In the event of transfer or sale, the manual must always be delivered along with the machine.
- If it is damaged or lost, require the machine manufacturer or the previous owner a copy. The manual is considered to be an integral part of the machine.

We also recommend to contact the Manufacturer for any requirements of information, replacements or accessories.



Do not carry any operations whose correct procedures are not fully understood.

### 1.4 Guarantee

1. ALPEGO's implements are guaranteed for a period of 12 (twelve) months from the day of delivery to the final user: the date of the delivery note marks the beginning of the period of warranty.
2. The warranty covers any and all material and manufacturing defects and only so, that the allegedly defective product can be used exclusively for the purpose for which it has been manufactured. It is therefore the task of the Purchaser to ask and clarify whether the supplied product fits the purposes which the purchase must fulfil. Should the problem being claimed under warranty not compromise the performance, the function and/or the safety of the machine, the ALPEGO Co. reserve the right to find the most suitable solution, without, however, being under any obligation to replace the whole unit or parts thereof. The warranty guarantees exclusively the replacement of the defective part or parts and the assembly of the same in the product which is deemed defective. It does not entail the payment of any other expense incurred in relation to the warranty (which, in any case should be foreseen and avoided by the behavior of the good "Pater Familias, as this term is understood and defined in the Italian legal system).

THEREFORE, NO WARRANTY CLAIM WILL BE HONORED IN THE FOLLOWING CASES:

- Improper use of the product.
- Inability or impossibility of identifying the serial number of the machine.
- Modifications of the product performed by unauthorized personnel without the manufacturers's approval.
- Insufficient, inadequate or non existing maintenance the product has deteriorated because it has been poorly stocked or sheltered.
- On parts which are subject to normal wear-and-tear.
- Non-original spare parts have been used instead of the original ALPEGO S.p.a. parts.
- Exceeding of power and load limits indicated in the Alpego's technical data and use and maintenance manuals.

THEY ARE EXCLUDED FROM THE WARRANTY:

- All the lubricants and greases
  - All the components subject to wear and to contact with the soil
  - Accidental breakages due to transport.
  - Defects due to incorrect installation.
  - Maintenance fees for ordinary or extraordinary service
3. Material deemed defective must be claimed following the procedures indicated by the MANUFACTURER at the time when the alleged defect is discovered and it is necessary – otherwise the right to the warranty may become void – to agree with the MANUFACTURER in writing (an e-mail or a fax will suffice) whether the product can still be used or the work with it can be continued or the type of intervention necessary to correct the problem, should this exist and persist.
  4. No conditions of warranty are admissible other than those exclusively and expressly accepted by the COMMERCIAL MANAGEMENT of ALPEGO S.p.a.
  5. Any modification carried out on the supplied product, without the explicit and written authorization of the COMMERCIAL MANAGEMENT of Alpego S.p.a. forfeits the right to the warranty.
  6. The product deemed not to be in compliance or to be defective must be made available at the premises of the Alpego S.p.a Company or at the premises of one of their authorized representatives.
  7. The formality of the procedure for the presentation of a claim under warranty foresees (as per the instructions given in the relevant form):
    - The filling out of the form concerning the NON-CONFORMITY CLAIM (this form contains some guidelines for its compilation and, if necessary, contact the Alpego S.p.a. Commercial Service Department).
    - The sending of said form to Alpego S.p.a. (by Registered Letter or fax, provided that in the latter case its receipt is acknowledged by the Alpego's Commercial Services).
    - The sending of possible other elements or documents with the purpose of explaining the reasons of the claim (photos, films, analyses, actual findings, sketches, etc.).
    - Making available to the Alpego Co. the claimed item only if specifically requested by the same, in compliance with what is stated under point 6).

8. In order to perform the immediate service and because of administrative and fiscal reasons, all materials alleged to be defective will be charged and invoiced to the customer when they are shipped; the possible acknowledgment of the warranty coverage, which will occur after the material has been received and an analysis of the causes of the alleged defect or lack of conformity has been performed, will give rise to the right of being credited with the price of the materials and eventually their assembly on the implement.

#### CHECK-UPS TO BE MADE AT THE TIME WHEN THE MERCHANDISE IS RECEIVED

9. The claims concerning the quantity or the state of the merchandise received (packing and/or obvious and considerable situations of nonconformity) will have to be made, with a remark on the delivery document, directly to the transporting agent and at the time when the merchandise is unloaded at the buyer's premises. The claim made at the moment when the products are delivered make it possible to take advantage of the insurance, if it has been stipulated either by the shipping agency and/or by the customer. In order to guarantee that the loading procedures have been correctly executed at departure, Alpego S.p.a. always keep photos of the loadings on file.
10. Possible claims concerning the quality of the supplied merchandise must be presented in writing, using the relevant claim form. This filled out form must be sent by registered letter or fax (provided the receipt of the latter is confirmed by the Alpego S.p.a. Commercial Service Dept.) not later than 8 days from the receipt of the merchandise and they do not entitle the buyer not to make the payment at the expiration dates which have been agreed upon.

## 1.5 Updating the manual

The information, descriptions and illustrations contained in this manual reflect the state of the art at the time the machine, of which it is an integral part, was placed on the market and complies with all laws, directives and standards applicable at that time; it cannot be considered inadequate simply because it has been subsequently updated on the basis of new experience.

Any modifications, adjustments, etc. made to machines subsequently marketed do not oblige the manufacturer to intervene on the machine previously supplied or to consider it and its manual as deficient or inadequate.

Any additions to the manual that the manufacturer deems appropriate to send to users must be kept together with the manual and form an integral part thereof.



**The manufacturer reserves the material and intellectual property rights of this publication and prohibits its dissemination and duplication, even in part, without his prior written consent.**

### 1.5.1 Symbols used in this manual

Below are the various symbols used in the manual to highlight particularly important information:



**WARNING** - To indicate special information.



**CAUTION DANGER** - To indicate actions which, if not carried out correctly, may cause general accidents or may generate malfunctions or material damage to the machine; they therefore require particular attention and suitable training.



**IT IS FORBIDDEN** - To indicate actions that **MUST NOT** be performed.



To indicate the personal protective equipment that personnel must wear to carry out a specific operation.

## **1.6 Manufacturer's name and address**

The manufacturer's identification data are given below:

ALPEGO S.p.A.

Administrative headquarters and Registered office : Via Giovanni e Giuseppe Cenzato, 9  
36045 LONIGO (VICENZA) - ITALY

Tel: +39 0444/646100

Fax: +39 0444/646199

E-mail: [info@alpego.com](mailto:info@alpego.com)

Website: [www.alpego.com](http://www.alpego.com)

## **1.7 Recipients**

The machine is intended for professional use and thus must be entrusted to qualified operators and who specifically meet the following requirements:

- They are adults.
- They are physically and mentally fit to perform operations of particular technical difficulty.
- They have been adequately trained in operating and maintaining the machine.
- They are able to understand and interpret the Instruction Manual and the safety precautions.
- They are knowledgeable of the emergency procedures and how to implement them.
- They have understood the operating procedures defined by the manufacturer of the machine.

## **1.8 Testing**

Premise:

- The machine has been built under the close supervision of qualified personnel and has been inspected and tested with the aim of eliminating any possible "carelessness" during the course of its construction.
- The testing operations were carried by simulating normal machine work cycles and situations.
- The machine has been designed and built in accordance with current safety standards.

DURING TESTING, NOTHING WAS FOUND TO BE FAULTY.

## **1.9 Spare parts**

Please remember the importance of using original Alpego spare parts and lubricants for achieving always the highest quality. It is mandatory to use only Alpego spare parts and lubricants to benefit from the warranty Alpego. The use of non-original spare parts, and faulty or incorrect assembly, relieves the maker of any responsibility.

## 1.10 Qualifications and duties of personell



The machine must only be used by suitably trained operating personnel who are in conditions of health enabling the regular carrying out of their activities.

### **DANGER ZONE**

Zone inside or near the machine in which the presence of an exposed person constitutes a risk for that person's safety and health.

### **EXPOSED PERSON**

Anyone situated entirely or partially in a danger zone.

### **OPERATOR**

An operator who carries out the duties of ordinary operations required for irrigator operation: operating the controls, supervision of the operative cycle, cleaning of surfaces and intervention in case of malfunction. In normal production, the operator must operator with all the protectors enabled.

### **MANUFACTURER'S TECHNICIAN**

The Manufacturer's personnel or other personnel authorized by the Manufacturer to carry out complex activities of installation, preparation, repair and, by request, training of machine operating personnel.

### **MECHANICAL MAINTENANCEMAN**

He is directly employed by the user or the Manufacturer, and is in any case adequately trained to carry out ordinary and extraordinary maintenance on the system, and records the results in special registers.

### **ELECTRICAL MAINTENANCEMAN**

Specialized technical personnel able to operate the machine in normal conditions, and intervene on electrical parts to carry out all the adjustments, maintenance and repairs required.

### **HANDLING AND TRANSPORT PERSONNEL**

Personnel that have received adequate training on use of the lifting and handling devices.

### **DISPOSAL PERSONNEL**

Skilled persons able to correctly carry out their specific duties and who are suitably trained by the Employer in matters of safety and health.

## 1.11 Machine identification

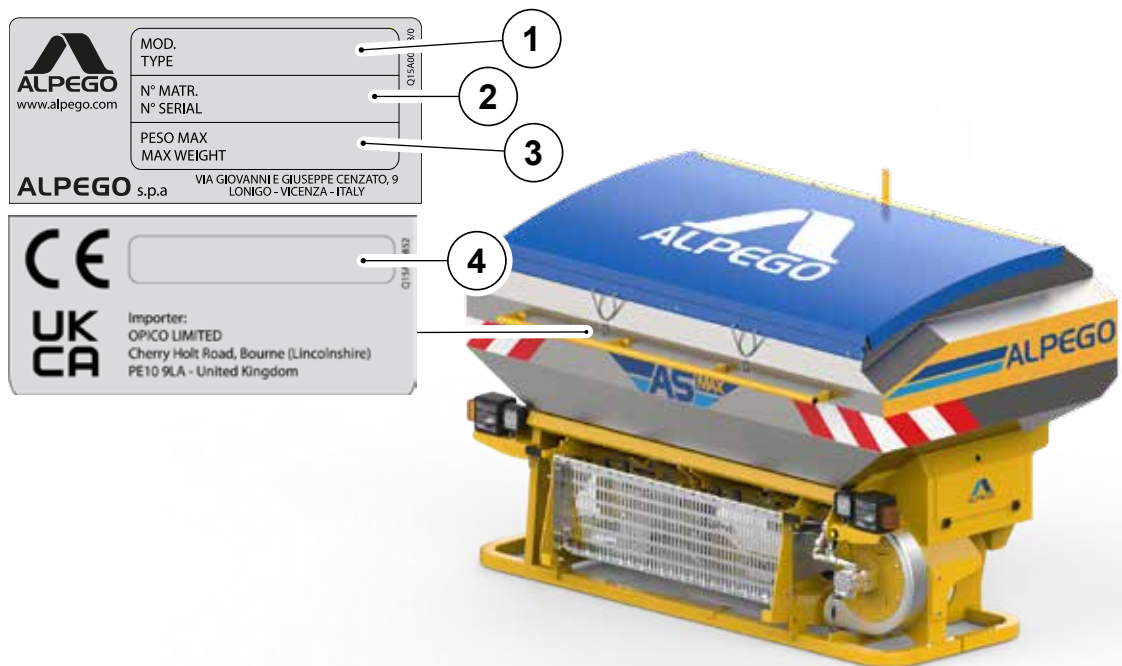
The machine covered by this manual is identified by the serial number label with its technical characteristics, located at the point indicated at Fig. 2.

The label must **NEVER BE REMOVED** until the machine is decommissioned, at which time it is removed from the support and destroyed.

The serial number unambiguously identifies the machine, makes it possible to trace its specific characteristics and identify the components installed in it. Without this number it is not possible to identify product-specific spare parts with certainty.

Always provide the type of machine and the serial number, or at least the serial number, in the event of a call-out. The registration plate is characterised by the following entries:

1. Machine model.
2. Machine serial number.
3. Maximum weight.
4. Date of manufacture.



**Fig. 2 Marking data**



IT IS FORBIDDEN to remove, cover, move or damage the machine's identification plate.

In case the nameplate should deteriorate or become poorly visible or missing, it is mandatory to replace it by requesting it directly from ALPEGO S.p.a.



## 2 TECHNICAL SPECIFICATION

### 2.1 Machine description

The front hopper mod. ASMAX must only be used for working agricultural lands. Any other use differing from the one described in this manual can damage the machine and be dangerous for the operator.

The front hopper mod. ASMAX is suitable for use combined with implements Alpego for the preparation of the soil.

The front hopper mod. ASPRO can be used with other equipment for working the soil, but only with the addition of a special assembly kit.

The front hopper mod. ASMAX is ideal for sowing cereal: wheat, barley, rye, oats, rice; fine seeds and fodder: rape, clover, alfalfa; and for big seeds: soya, peas.

The front hopper mod. ASMAX is suited for the distribution of various types of fertilizers.

The seeds are set in the soil by coulter organs, sock or discs, and are distributed continuously. The quantities to be distributed are calibrated by a special metering unit made to rotate by a controlled electric motor.

The seeds are distributed and transported to the coulters by compressed air that is produced by a fan. The fan is moved by the tractor power takeoff, or hydraulically as in the Plus version.

The disc or sprint sock coulter is mounted on a super-elastic support that gives excellent depth and pressure control on the soil and regulates the height of the seed bar.



The correct distribution is guaranteed up to a max. incline of 10% (front and side). The Manufacturer will not be held responsible in the case of use on steeper inclines.

For the development and the construction of this implement the following guidelines of the Standard 2006/42CE have been studied and applied:

- UNI EN 14018
- UNI EN ISO 4254-1
- UNI EN ISO 13857
- UNI EN ISO 4254-5
- ISO 11684
- UNI EN ISO 4413

The machine will work well if used correctly and if maintenance is carried out regularly. Users are strongly advised to scrupulously observe the instructions given in this manual in order to prevent any inconvenience that could impair good machine operation and its durability.

Users must follow the instructions given in this manual because the Manufacturer cannot be held responsible for any damage or injury caused by negligence and the non-observance of such instructions.

The Manufacturer assures complete assistance with regard to immediate and accurate technical service, as well as anything that may be necessary for a better operation and maximum performance of the implement.

## 2.2 Machine parts

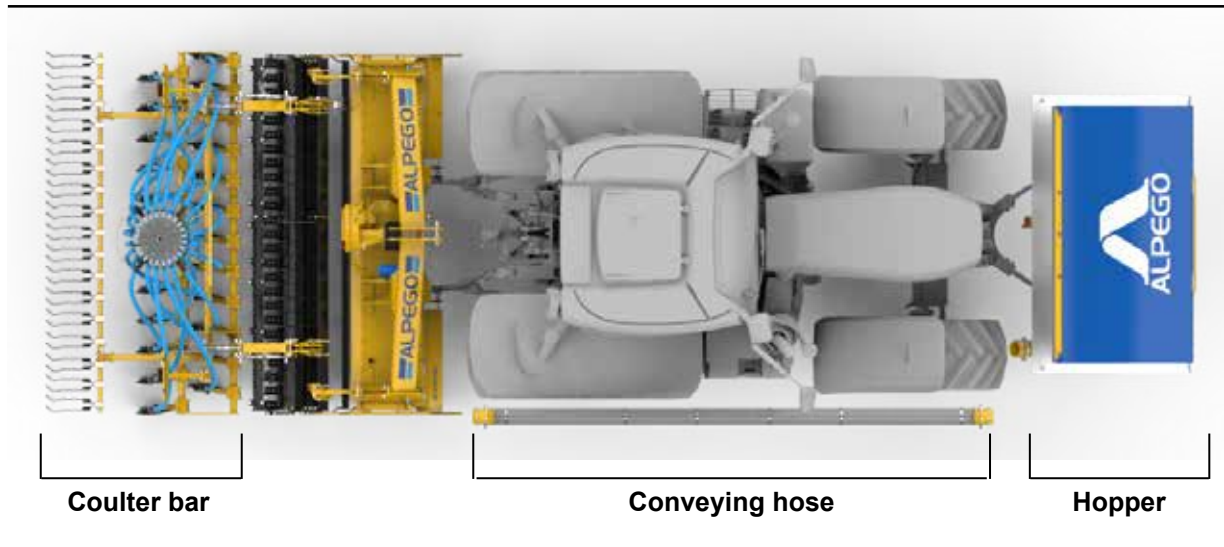


Fig. 3 Overview of ASmaX parts

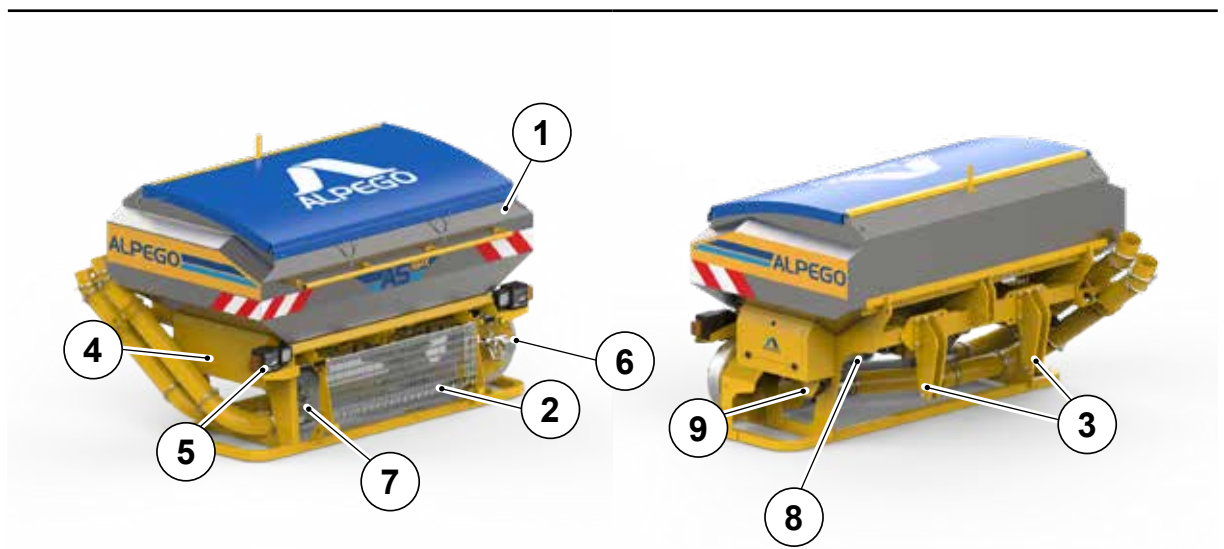


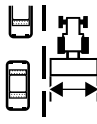


Fig. 4 Overview of ASmaX parts

Ref.	Description	Ref.	Description
1	Hopper	6	Fan
2	Steps for filling the hopper	7	Metering unit
3	3-point hitch	8	Electric motor
4	Electric control panel	9	Radar (optional)
5	Front lights		

Tab. 2 ASmaX parts description

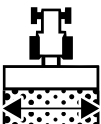
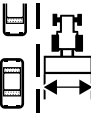

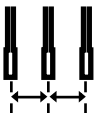

## 2.3 Technical specifications of the machine

### 2.3.1 Front

			
Mod.	cm	dm <sup>3</sup>	Kg
ASmaX	250	2300	820

Tab. 3 "Front" Technical specifications

### 2.3.2 Rear

					
Coulter bar	cm	cm	n°	cm	Kg*
RUBBER	400	250	32	12.5	916
	450		36		1010
	500		40		1084
	600		40	15	1170
			48	12.5	1270
			48**		1370
	700**		54		1470
	800**		62		

Tab. 4 "Rear" Technical specifications

\* The weights include the complete coulter bar (following harrow, quick hitches, distribution head) options not included.

\*\* Rigid/folding

## 2.4 Sound level

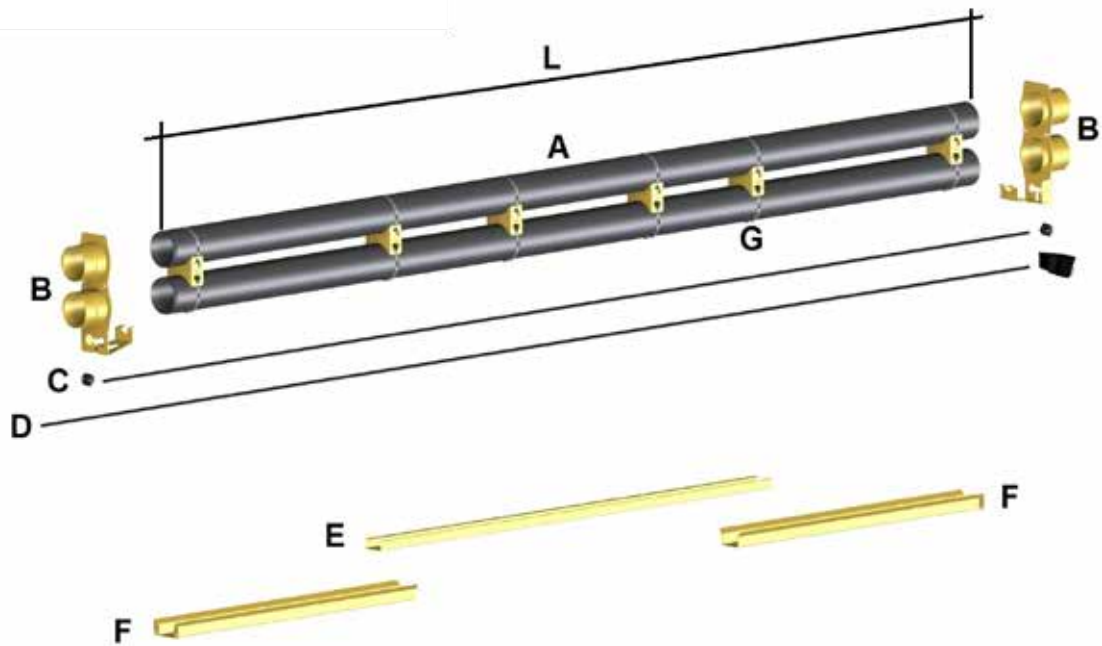


If the tractor is equipped with a cabin, the sound level will depend on the soundproofing level of the cabin itself. If the tractor does not have a cabin or is used with the windows open, the noise level emitted by the machine while working and measured at a distance of 200 mm. from the rear window exceeds 85 dBa. It is therefore advisable to use protective earmuffs as indicated in the regulations of different countries.

## 2.5 Connecting system

An unassembled front/rear transport system is supplied with the machine: it must be adapted depending on the dimensions of the tractor.

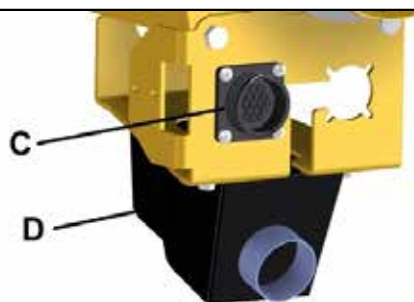
The main components are listed below:



**Fig. 5 Connecting system**

Ref.	Description	Ref.	Description
A	PVC pipe	E	Central supporting plate
B	Fittings	F	Lateral supporting plates
C	Cable for rear options (tramline, Pre-emergence etc.)	G	Metal clamps
D	ISOBUS extension		

**Tab. 5 Description Connecting system**



**Fig. 6 Connecting system**

The pipe must be mounted and placed on the right side of the tractor by following the indications given below:

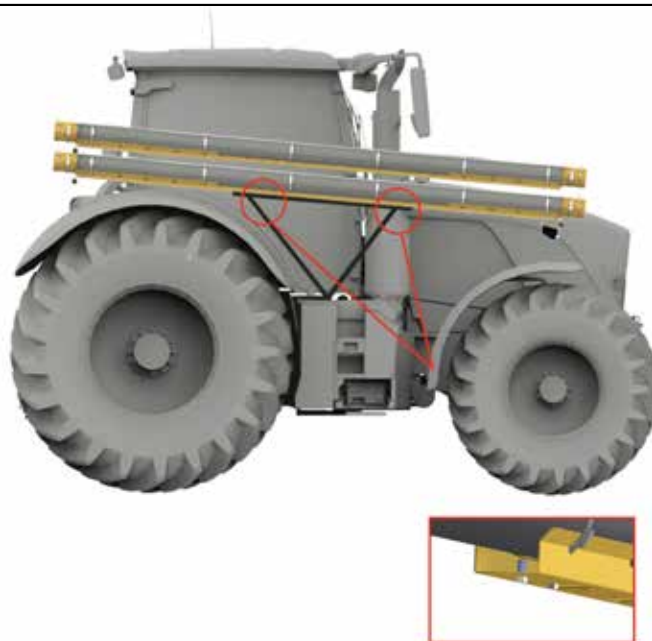
- Determine the length "L" taking into consideration the movement of the front and rear lifting units
- In order to guarantee the best performances, the pipe must not present too tight bends.
- Cut the PVC A pipe at the determined length, whereby this length must be a multiple of 100 (for example:

L= 3600; L= 3700; L = 3800)

- Assemble the remaining elements of the system
- The end-brackets **B** are designed to support different types of connectors
- Before assembling the **G/H** profiles, position the electric cables depending on the specific needs
- Exploit the intermediate holes to thread through the cables if necessary (for instance Power cable **F**)
- The system must be held in place on the tractor in a stable and safe way, preferably on the chassis of the tractor.
- In order to make the fastening easier a number of rivets is supplied. They are to be attached on the **G** or **H** profile depending on the specific needs.



A picture is shown below as an example of the system mounting on the tractor.



**Fig. 7 Connecting system**



In order to block the rivet, it suffices to mount and warp it by pulling the relevant screw.

The just installed connecting system can be left attached to the tractor and it is complete at its ends with two flanges for the quick hitch of the front hopper and the of the rear implement. Once both the front hopper and the rear implement have been hitched to the tractor, connect them pneumatically and electrically.



In order to use the tractor with other implements it is possible to unhitch the hopper and the rear implement without removing the connecting system from the tractor, thanks to the system of quick disconnection of the electric pipes and connectors.

## 2.6 Coulter bar "Rubber"

Main components:

- A. Quick-hitch parallelogram
- B. Frame of the coulter bar
- C. Seeding coulter
- D. Depth-limiting wheel (option)
- E. Following harrow
- F. "BITUBE" element for double product seeding bar

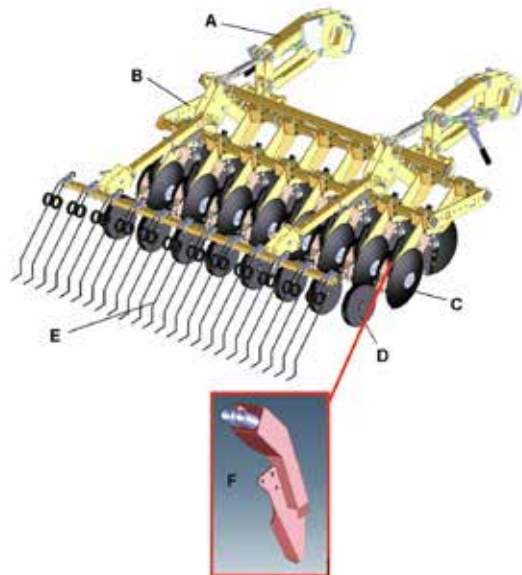


Fig. 8 Coulter bar "rubber"

### 2.6.1 Hitching/unhitching of the coulter bar on the power harrow

The quick Alpego system makes it possible to hitch and unhitch the coulter bar in a few minutes. Follow this procedure to hitch the coulter bar:

1. In order to use correctly the "ALPEGO" hitching/unhitching method, make sure that the seed-bar is securely standing on its legs.
2. Shorten the tie-rods **A**, so as to lift the hitching holes **B** of the parallelograms.

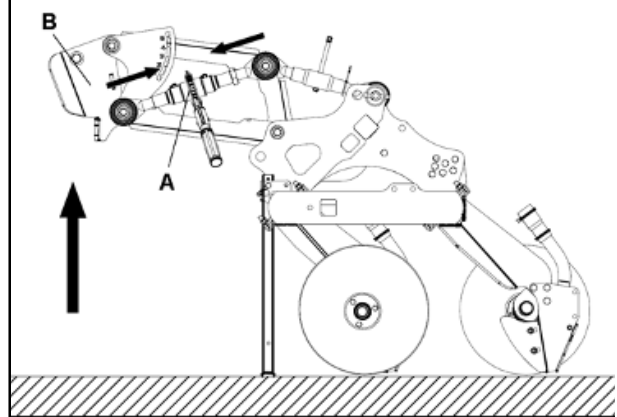


Fig. 9 Hitching/Unhitching of the coulter bar

3. Move the machine close to the seed-bar, and be careful to fit correctly the hooks **C** into the holes **B**.
4. Lift the machine and hitch the seed-bar until you slightly lift it.
5. Once the combination has been completed, lock the quick-hitch with the screws **D**.
6. Bring the supporting legs into the working position.

## 2.7 3-point switch

This device can interrupt the rotation of the metering unit's seeding shaft when the tool is lifted; it is in fact fitted at the third point.

With the third point mounted, perform these operations:

1. Place flange **A** on pin **B**; screw **C** must be aligned with the pin.
2. Insert screw **C** through flange **A** and then through bracket **D**, which, depending on the category of the third point pin, requires reducers **F** (Ø26mm – Ø32mm) to be fixed on the bracket; then, assemble component **D**, which must be centred on the third point pin and secured with handle **E**.
3. Attach flange **A** to the third point of the power harrow using the category-specific (2nd - 3rd - 4th) reducers **G** to be inserted into the holes in the attachment plates.
4. Lock the assembly with countersunk washer **H** and screw **L**.
5. Assemble microswitch **M** on bracket **D** and fix it with screws **N** so that the flexible rod passes through the slot.
6. Electrically connect microswitch **M** by connecting cable **N** to the dedicated connector "X" on the control unit.

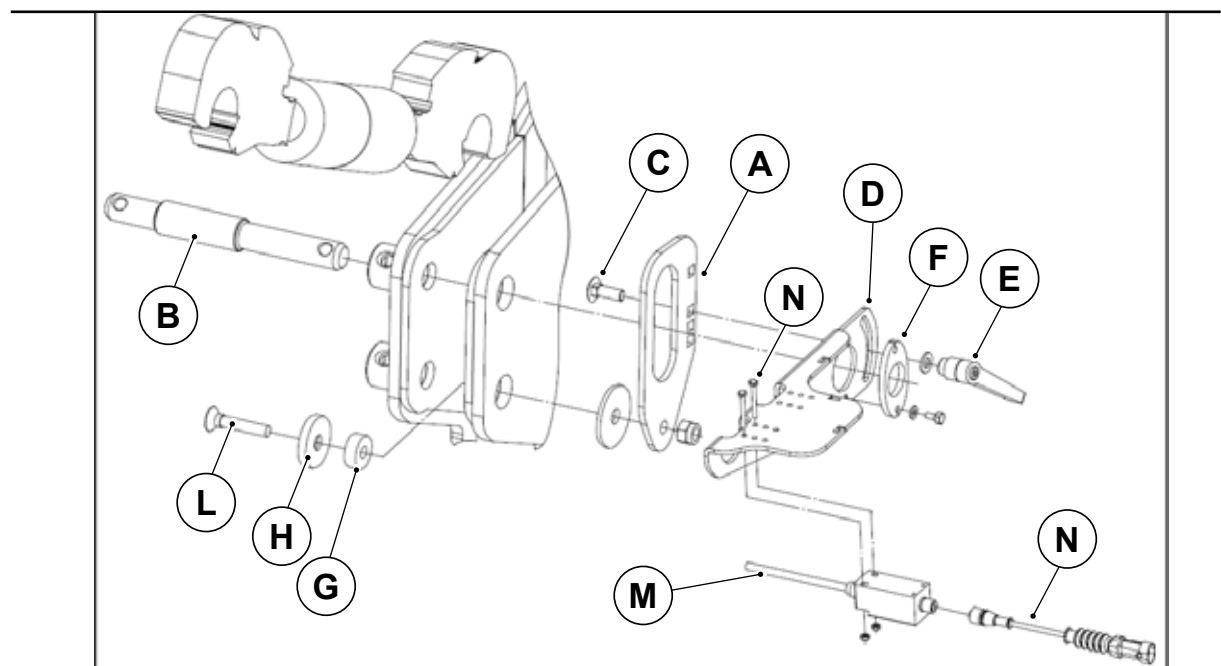
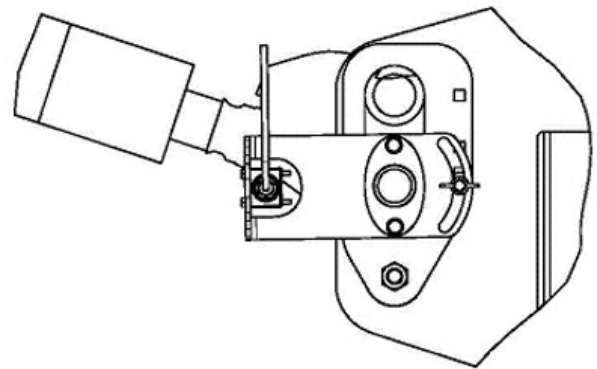


Fig. 10 3-point switch



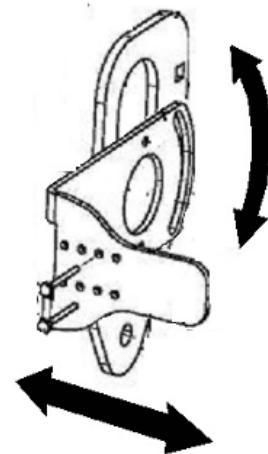


The microswitch rod must always be positioned below the third point tie rod (see figure opposite)



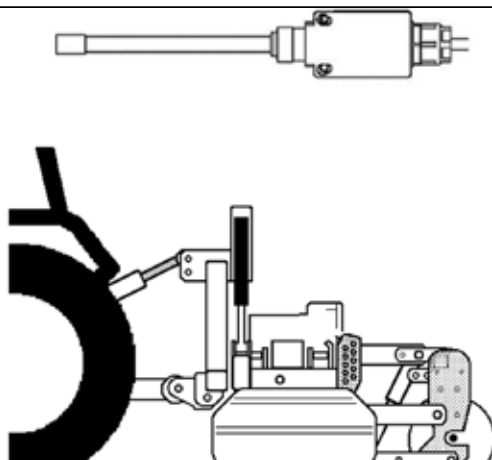
**Fig. 11 Microswitch rod**

Bracket **D** must be adjusted (see figure opposite) in such a way that, in the work position, the microswitch rod never touches the third point tie rod, while when lifting the machine, the rod is tilted.



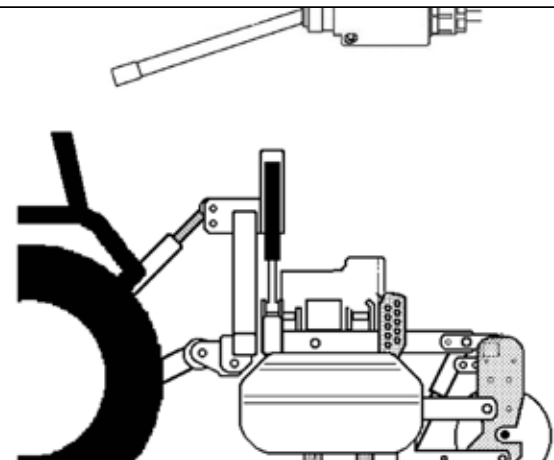
**Fig. 12 Microswitch bracket**

**WORK POSITION**



**Fig. 13 Work position**

**LIFTED POSITION**



**Fig. 14 Lifted position**



## 3 SAFETY REGULATIONS

Listed below are the safety rules to be complied with before and during machine use.

### 3.1 Instructions

The operator or any person interacting with the machine must carefully read the manual before any intervention.

- Make sure that the following instructions are read and understood and that they become routine procedure in machine use and maintenance.
- Failure to comply with or carelessness in following the safety rules for machine use and maintenance are cause of accidents.
- For each operation that must per performed on the machine, refer to the qualification levels described previously to identify the personnel qualified to perform it.



Whenever the machine is intended for use by people who do not understand any language in this manual, it is the importer or employer (or end user) responsibility to translate the instructions into the language the users understand.



The operator must only and exclusively perform the operations described in this manual. If any or additional operations or interventions from what indicated in this manual are necessary, contact the Manufacturing Company. The Company will provide all the necessary informations according to the circumstances. The Company shall not be liable for injury to people or damage to property.



**Unauthorized tampering/replacement of one or more machine parts or units, or use of accessories, tools, or consumable materials other than those recommended by the Manufacturer can represent an accident risk and relieve the Manufacturer of civil and penal responsibility. Possible modifications must be requested directly to Manufacturer specifying all the characteristic machine data and reasons; if approved, they must be carried out only by persons authorized by Manufacturer and according to the precise instructions of the same. The Manufacturer is relieved of any responsibility for possible damage to persons or property caused by carelessness in reading and implementing the procedures and/or instructions given in the manual.**

#### 3.1.1 Competence and controls

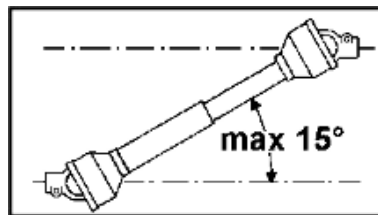
- Machine installation, starting up and extraordinary maintenance must be carried out by qualified persons.
- The machine must be commanded and controlled by a qualified person in order to avoid dangerous conditions for his safety and others.
- Before using the machine make sure that any conditions dangerous to safety have been opportunely eliminated.
- Do not lubricate the machine when it is running.
- Notify the persons in charge in case of any possible modification made on the machine or irregularity in its operation that could affect safety.
- During work, scrupulously comply with the signs and/or labels placed on the machine.
- Do not place parts of the body in the machine when it is working, and where prohibited.

- Operators must pay attention to the risks of clothes and/or long hair getting caught up or tangled in the moving parts; it is advisable to wear caps for holding hair.
- The discharging of production products or scraps or in any case pollutant substances in streams and rivers, on the ground or in the environment is strictly prohibited. These products must be collected in special containers, stored or recycled and in any case not left in the environment.
- During machine operation make sure that no unauthorized persons incautiously approach it or the controls.
- Unauthorized persons must not be allowed to approach the machine (even when it is stopped).
- In case of the presence of third parties (unauthorized persons or colleagues) near the machine, the operator must control their safety and warn them of the dangers.
- During work stops do not leave the machine on (even if idle) and unattended. Failure to comply with this rule can cause serious accidents.
- Before operating on the machine, make sure it is stopped and the ignition key is removed from the tractor.
- Do not use parts of the machine separated from the unit or from the configuration provided by the Manufacturer.
- When the machine produces a noise higher than 85 decibels for 8 hours, ear protectors or plugs must be used, in accordance with current local provisions.
- Allow only authorized suitably trained persons aged above 18, holding a licence to use the machine.
- Do not reverse the machine while operating it.
- Ensure the stability of the tractor and the slope of the ground on which work is to be done.
- Do not use the machine if a fault is suspected; contact your dealer or contact the ALPEGO Customer Service directly to inform them of the problem and request assistance.
- Do not use the machine if you are in an altered mental-physical state under the effect of alcohol or medicines such as sleeping tablets, tranquilizers, stimulants, drugs or other acceptable or illegal substances which can, in some way, slow down or alter the sensorial perceptions, reflexes or vision.
- In case of impact against an obstacle, stop the machine and check the extent of the damage. If there is even slight damage, carry out the necessary repairs before continuing with operations.
- Check the hydraulic pipes (if any) for wear, replace those that are damaged; in any case, these must be replaced at least once every 5 years, or check the expiry date (in some cases) imprinted on the pipe.
- Make sure that the protectors, guards and all the safety devices are in place and are in good working condition.
- Beware of slippery ground conditions around the machine; also do not approach ditches or channels in order to prevent possible tipping of the machine.
- Do not use parts of the machine to pull oneself up onto the machine as they are not designed to withstand weight. Furthermore, an inadvertent movement of a control lever could cause an unexpected movement of the machinery.
- Do not park the machine on steep slopes or on unstable ground.

- Only repair and/or replace faulty parts when the relative procedure is described in this manual. For operations not included in this manual, contact your local dealer or an authorized workshop.
- When the machine is being loaded on the trailer, the surrounding area is to be considered a danger zone.
- The Operator's professional training, in accordance with current legislation, is the employer's responsibility, but, due to the particularly dangerous nature of the machine, it is essential that the machine manufacturer or local dealer, put their expertise and experience at the Customer's disposal to help train personnel.
- Before starting work, the operator must be familiar with all the machine controls.
- Before using the machine, make sure all controls are in the neutral position.
- The machine is equipped with all the safety devices and control equipment, however, the user is not exempted from controlling their good functioning.
- Never operate the machine with the fixed and/or mobile guards removed or with the safety devices cut out.
- Never remove or tamper with the safety devices.
- Never carry out any maintenance work or machine adjustment without having read and understood the contents of this manual.
- Do not put hands, screwdrivers, spanners and any other tool in the zones in movement.
- To prevent a fire hazard, always keep the machine clean of foreign bodies or flammable products (oil, fuel, etc.).
- Never move the machine while it is in the field of work or on the road, while the operator or animals are on board.
- Only remove the safety guards for carrying out maintenance or checks. When the operations are complete correctly refit them (guard, sensors, etc.).
- Before starting the machine and/or when moving, make sure there are no persons or animals in the vicinity of the machine.
- It is forbidden to have the machine used by persons with physical disabilities in relation to the needs of machine.
- The Manufacturer cannot reasonably envisage every possible improper use of the machine which may lead to potential hazards.
- Keep the machine clean and free from all foreign material (debris, tools, miscellaneous objects) which may damage the machine and its parts.
- Before circulating on public highways, place the machine in the correct position for transport, as indicated by the manufacturer.
- When using a high pressure cleaner, do not spray water on electric components or connections, gaskets, joints, greasing points, the rubber or plastic parts.
- If the structure of your machine has deformed areas (for example due to possible blows) it must not be used for work. Damaged parts must be replaced.
- Use particular caution regarding the machine height from the ground on rough and uneven terrain.

- Proceed with extreme caution to avoid sudden braking during transfers.
- Do not force any command lever if it presents resistance.
- During machine movement, do not exceed the limit angles of the drive shaft set by the manufacturer.
- Additional welds or attempts at cold or hot straightening of deformed parts are not permitted.
- Before unhooking the machine from the tractor, park it stably on the ground and ensure that it is balanced, and unhook the machine from the tractor, always ensuring the stability.
- Make sure the tractor is fitted with rear view wing mirrors which guarantee visibility along both sides of the machine.
- Bear in mind that road-holding, steering and braking performance are affected by the carrying or towing of machinery.
- During transport detach the quick couplings that connect the machine to the hydraulic system (if included).
- When disconnecting the machine, first detach the hydraulic tubes (if available). Put them back into their marked housing so that they don't break or spill oil.
- Be extra careful when using the machine downhill, because it may increase forward drive of the tractor.
- At any rate, check the maximum slope on which the tractor can operate in the operating and service manual of the tractor.
- The machine must be coupled to the tractor using solely and exclusively the hook up points designed for this purpose, in compliance with the safety regulations currently in force.
- Turn the machine with care taking into account the overhang, length, height and weight of the machine.
- Before hitching the machine, check that the tractor front axle ballast is sufficient (see section 5.4). The weights of the ballast must be laid on the supports envisioned for this purpose, in compliance with the tractor manufacturer's regulations. The load on the front axle of the tractor must not be lower than 20% of the sum of the empty weight of the tractor and that of the operator.
- The machine is not indicated for use in sectors different to agriculture.
- Before getting down from the tractor and before any maintenance operation, engage the parking brake, turn the engine off and remove the key from the ignition on the dashboard.
- Do not operate on muddy, sandy or loose ground
- Mounting the drive shaft must be done with the PTO disengaged, the tractor engine off and the ignition key removed.
- Do not go near the drive shaft while wearing garments that can get caught up.
- When coupled to the tractor, only use drive shafts to CE standards.
- Before performing any work on the hydraulic system (if any), store the machine and eliminate any pressure from the system.
- Know the area in which it is being worked. Never operate in an area in which there are obstacles like stones sticks or roots they would ruin integrity of the machine.
- For the transport on road to always use the danger blinking.

- With respect to the on-road circulation, observe the regulations in force in each country. It is very important to remember that roadability, braking capacity and direction are influenced by the weight of the machine applied to the lifting device of the tractor; moreover, in bends consider the effect of the centrifugal force that move the machine center of gravity.
- Avoid to turn empty (outside of the land) with the machine. During the job avoid to carry out curves with the buried machine, much less to work when you go behind. Lift always for the changes of direction and the reversals of march.
- During the transport, or every time the raising of the machine becomes necessary, is opportune that the lifter of the tractors comes regulated so that the same machine is not raised from earth in order more than 35 cm approximately. Avoid to go on public roads with the dirty machine of earth, grass or other that produce soil and prevent to the street traffic. Not decrease with violence the machine on the land but to make it slowly in order to concur graduates them insertion of the blades in the land.
- During road transport, with the machine lifted, please put the control lever of hydraulic lift into locked position.
- Use only the drive shaft supplied by the manufacturer and provided with the overload safety devices.
- Before inserting the power take off, assess of the number of turns defined. Do not exchange the regimen of 540 turns/min with 1000 turns/min.
- Always disconnect the power takeoff when the cardan shaft forms an angle exceeding  $15^\circ$ .



**Fig. 15 Angle cardan shaft**

- In order to avoid burnings do not touch the speed gear after a protracted use of the machine.
- Before change speed gearbox, disengage the power takeoff, switch off the tractor engine, activate the tractor parking brake and lock the rear cover of gearbox.

### 3.2 Assembly of electric and electronic instruments and components

- The machine is equipped with electronic components which may interfere on other instruments through electro-magnetic transmission. Said interferences may constitute a risk to people, if the following safety instructions are not carefully followed.
- If the assembly of electric or electronic instruments and/or components is done at a later date, the user will have to test, under his own responsibility if the new addition causes any irregularity to the electronic of the tractor or to other electronic components.
- In particular it will be necessary to make sure that the electric or electronic components which are added at a later date comply with the guidelines CEM 891336/CEE in their most recent valid version and they carry the CE brand of approval.
- In case of a later addition of mobile communication systems (i.e. radio, phone etc.) the following requirements must also be taken into account:
  1. Only instruments which comply with the national valid standards may be installed (for instance the BZT homologation for Germany)
  2. The instruments must be installed so they cannot be removed.
  3. The use of mobile or portable instruments inside the vehicle is allowed exclusively through a connection with a fixed external antenna.
  4. The transmitter is to be installed far away from the electronic of the vehicle.
  5. When the antenna is installed make sure that it is properly installed with a good earth connection between the antenna and the earth of the vehicle.
- For the laying of the cables, the assembly and the maximum power absorption allowed see also the directions given by the manufacturer of the machine.

### 3.3 Individual protection devices

The evaluation of the risks for the safety and the health of the workers made at the working site and on the tools being used, as well as the evaluation of the remaining risks of the machine, as it has been mentioned, give the EMPLOYER the possibility of evaluating the need for the adoption of the most suitable and appropriate Individual Protection Devices (IPD) to be supplied to the workers. Taking into consideration the type of machine, it is deemed appropriate to insert the following list of Individual Protection devices (IPD) to be supplied to the personnel.

- Foot protecting devices: shoes with a protection of the foot tip.
- Hand protecting devices: protective gloves
- Ear plugs or headphones
- Protecting eye-glasses
- Overalls with elastic cuffs



It will be pointed out that, in accordance with the laws in force, the worker must comply with the directions and instructions given by the EMPLOYER and use correctly the machinery, the implements and the protecting devices.

### 3.4 Clothing

Always wear protective clothing without any loose parts that could entangle in the moving components. In addition always remove watches, rings, necklaces etc. that could cause the same danger.

Gather long hair into a ponytail.

If requested by current user country norms, the machine operator should wear suitable protection systems: goggles, gloves, helmet, shoes, etc.



Fig. 16 Protection systems

### 3.5 Ecology

Respect the regulations in your country regarding the use and disposal of lubricating products, maintenance operations and machine cleaning. Carefully follow the instructions given on the packaging of the products used.

Respect current standards for machine scrapping.

### 3.6 Safety signs

The colours of warning signs are defined by the international standard ISO 3864.

Their placement on site should meet the requirements of good visibility and proximity to the source of danger.



There are safety labels on the machine, which must be strictly observed by any person operating the machine.



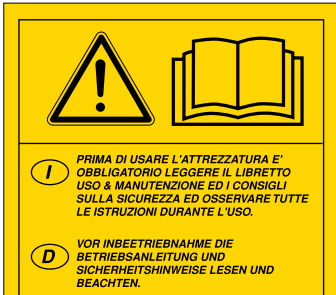


IT IS FORBIDDEN to remove or make illegible the safety, danger and obligation signs on the machine.



The total or partial failure to comply with the safety signs releases ALPEGO S.p.a. from any liability for damage to persons, property or animals.

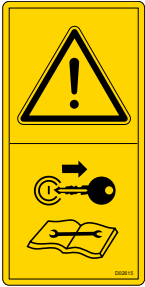


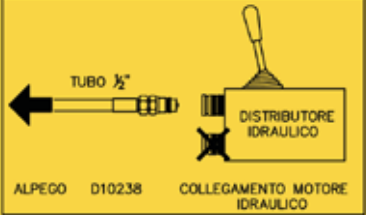
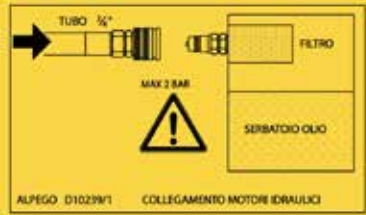

Safety signs in the workplace are a measure that further improves the operators' safety conditions by providing correct information on needs and situations requiring caution and certain behaviours.

The safety messages to be conveyed to operators by means of appropriate signs must comply with the provisions of the directive in force. By way of example, the most commonly used signs are shown below.

ADHESIVE LABEL	CODE	MEANING
	<b>D02612</b>	Before using the machine, it is mandatory to read the use and maintenance manual and the safety tips and to observe its contents during use.
	<b>D02627</b>	Indicates the hooking point for transporting the machine.
	<b>D02609</b>	It indicates the absolute prohibition to step on the machine while it is in operation.

Tab. 6 Safety signs applied to the machine



ADHESIVE LABEL	CODE	MEANING
	<b>D02615</b>	Indicates the need to switch off the tractor and remove the ignition key during maintenance operations.
	<b>D02624</b>	Indicates the danger caused by pressurised oil if the hydraulic pipes break. Consult the instruction manual before repairing the hydraulic system.
	<b>D02614</b>	It indicates danger of crushing on all the rotating gears.
	<b>D10238</b>	Indicates that the hydraulic hose driving the 1/2" turbine must be connected to the tractor hydraulic connection having priority delivery.
	<b>D10239</b>	Indicates that the hydraulic 3/4" return hose must be connected to the tractor oil tank, and that the return counter-pressure max 2 Bar.
	<b>Q15A00531</b>	Indicates the PPE (personal protective equipment) provided: overalls, mask, earmuffs, shoes and gloves.

**Tab. 6 Safety signs applied to the machine**

In the event that the plates should deteriorate or become poorly visible in general or missing, it is mandatory to replace them by requesting them directly from ALPEGO S.p.a.

ALPEGO S.p.A. declines all responsibility for any accidents or damage to persons, property or animals caused by the absence of safety plates on the machine.

## 4 TRANSPORT

The machine can be transported easily on long stretches with suitable means of transportation: lorries, trailers, railway wagons etc.



**The loading and unloading of the machine can be very dangerous, if they are not performed with the utmost care: have laymen move away; clear and circumscribe the loading area; check the integrity and the suitability of the available means.**



**It is also necessary to make sure that the area where one operates is empty and that there is a sufficient escape space, that is a free and safe area one can quickly move to should the machine fall down. Said operations must be performed exclusively by personnel trained for this type of operations.**

Before beginning the loading operation, make sure that the available means are homologated for such a transport and that they are able to lift the weight of the machine.

For this purpose check the TABLE OF THE TECHNICAL DATA for the weight of the machine.



The latter are also useful to check the possibility for the machine to negotiate difficult or narrow passages.

### 4.1 Lifting



The lifting and transporting operations must be performed with means suited for the weight of the machine and by personnel trained for this type of operations. Should it be necessary to lift the machine, hook the machine as shown in the picture and undertake the transport; during this operation the machine must not be lifted more than 200 mm. from the soil. In order to avoid damaging the metal hopper, use homologated belts on the first stretch.



It is also possible to move the hopper with the help of a forklift, by inserting the tips of the fork through the openings of the transport plates which are attached to the supporting stands (evaluate the suitable length of the fork of the forklift).



**Perform these lifting operations only with an empty hopper, without wheels or ballast.**



Fig. 17 Lifting

## 4.2 Hitching to the tractor



The operation must be performed on a flat, horizontal surface, with the multifunction hopper firmly resting on its supporting stands.

The front hopper is supplied standard with a 2nd category hitch for tractors with a front lifting unit. Should this device not be available, it is possible to adapt the hopper to the front of the tractor after a technical check by the manufacturer.



The transport plates must be removed when the hopper is hooked on the lifting unit of the tractor

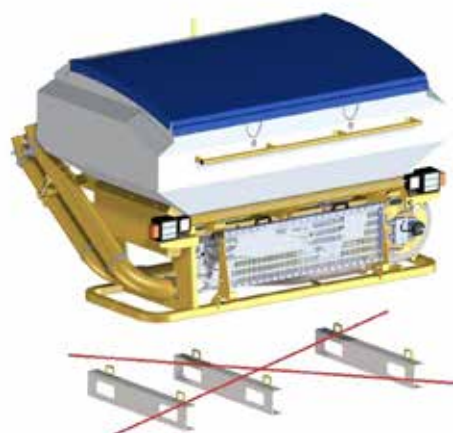



Fig. 18 Hitching to the tractor

## 4.3 7-Pole connector

The following chart shows the connection of the lights to the 7-pole connector according to an Alpego standard.

Each tractor may have a different configuration, therefore it will be up to you to adapt it to your tractor's one.

Connector	Function	Cable colour
	1. Left turn signal	Yellow
	2. High-beam lights	Blue
	3. Negativs	White
	4. Right turn signal	Green
	5. Position lights	Brown
	6. Low-beam lights	Red
	7. Working lights	Grey

Tab. 7 7-Pole connector

#### 4.4 Division of the volumes in the hopper

The hopper can be used completely for a single product or, thanks to the adjustable partition, it can be divided into  $1/2 + 1/2$  or  $1/3 + 2/3$ s to distribute one or two products at the same time even with different seed quantities.

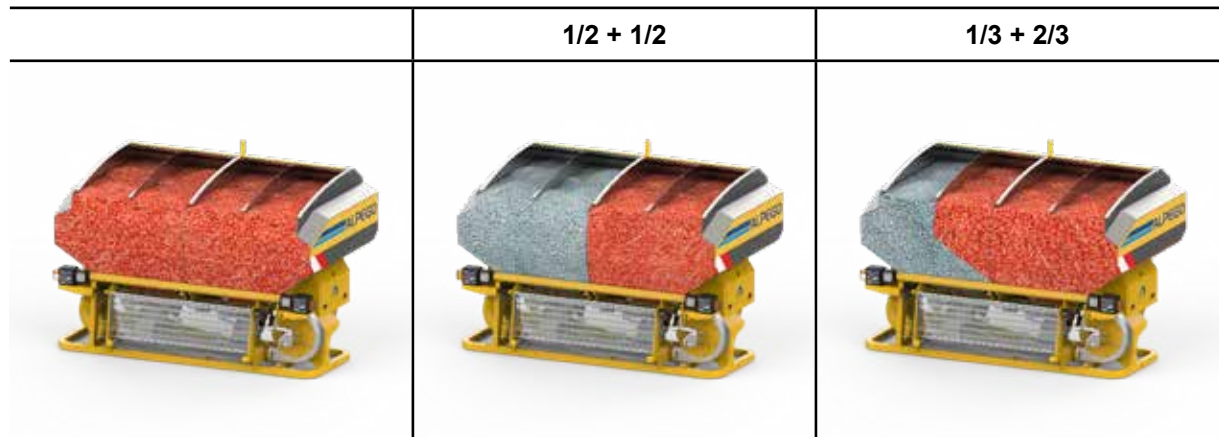


Fig. 19 Division of the volumes in the hopper

In order to vary the division of the volumes from the configuration  $1/2 + 1/2$  to the configuration  $1/3 + 2/3$  simply perform the following steps:

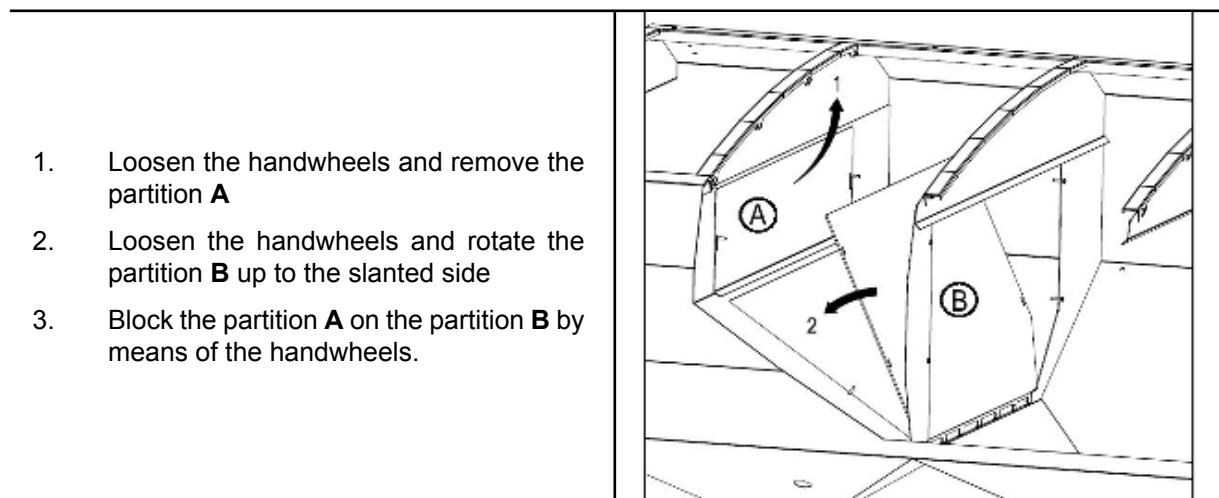


Fig. 20 Division of the volumes in the hopper

## 4.5 Check of the tractor stability and its lifting power



When an implement is hitched to a tractor and, as far as circulating on public roads is concerned, it becomes an integral part of it, it can alter its stability and make it difficult to drive it and to work.

When you add a machine to the tractor, you will change the weight distribution over the axles. It is therefore recommended to add suitable ballast to the front of the tractor, so as to distribute adequately the weight over the axles.

Calculate the ballast to be used with the following formula:

$$M \times s < 0,2 T \times i + Z (d + i)$$

$$Z > \frac{(M \times s) - (0,2 T \times i)}{(d + i)}$$

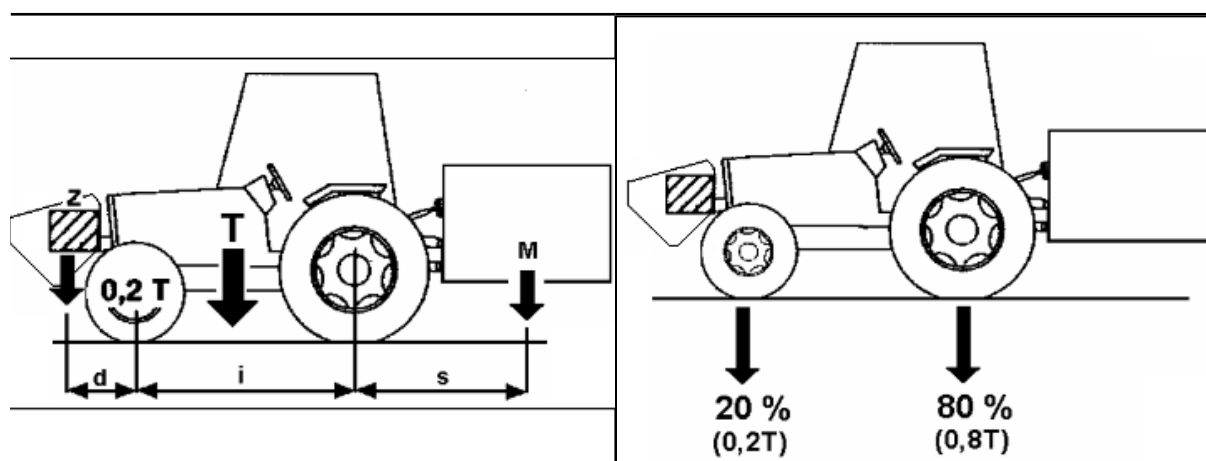


Fig. 21 Check of the tractor stability and its lifting power

### CALCULATING TRACTOR STABILITY

where:

**i** = inter-axle (m) of the tractor wheel

**d** = distance between the front axle and the front ballast (m)

**s** = projection of the implement from the rear axle (m)

**T** = tractor mass (kg)

**Z** = ballast mass + hopper with seeds (Kg)

**M** = implement mass (Kg)

At least 20% of the total tractor-implement mass must weigh on the front bridge of the tractor. It should be remembered, however, that stability can be improved with the right choice of tractor/implement combination and with the application of ballast to the front, in the limits and methods indicated by the tractor manufacturer. Moreover, when the tractor is stopped, the machine must be lowered to the ground, thereby improving stability.	<b>Tractor wheel base</b>	<b>i =</b> ..... m
	<b>Distance between the front axle and the front ballast</b>	<b>d =</b> ..... m
	<b>Projection of the implement from the rear axle</b>	<b>d =</b> ..... m
	<b>Tractor mass</b>	<b>T =</b> ..... Kg
	<b>Ballast mass</b>	<b>Z =</b> ..... Kg
	<b>Implement mass</b>	<b>M =</b> ..... Kg

## 5 INSTRUCTIONS FOR USE

### 5.1 Foreword



**The implement is suited only for the use described. Any other use deferring from the one described in this owner's manual can damage the machine and be a hazard to the user.**

The good performance of the implement depends on its proper use and an adequate maintenance. It is, therefore, advisable to follow closely the directions contained herein, so as to prevent any inconvenience which may impair the good performance and the life span of the machine. It is also important to follow the directions contained in this owner's manual, because the Manufacturer cannot be held responsible for damages caused by negligence or the non-observance of the directions. The hydraulic system driving the air-pump must be used, serviced and repaired by personnel having a perfect knowledge of the unit itself and of the hazards it may present. Check the correct plugging of the quick couplings: unless they are correct, damages may occur to the components of the system. Only disconnect hydraulic connections after they have been de-pressurized.



**The leaking of oil under pressure may cause skin wounds and severe infections. Should this happen, consult a doctor immediately. It is absolutely forbidden to install hydraulic components inside the tractor cab.**

For the configuration of the computer of the seed-drill refer to the dedicated owner's manual.

### 5.2 Hydraulic connection

Check in the Owner's Manual of the tractor its hydraulic features, which must be as follows:

- Hydraulic system of the "CLOSED CENTER" (also called LOAD SENSING )type
- Pump with variable displacement
- Oil delivery exceeding 100l/min. the hydraulic operation requires 45 l/min.
- Working pressure: till 180 Bar
- Oil cooling: should the tractor not be equipped with an adequate cooling system it is necessary to install one
- The tractor must be suited to receive a free-return flow connector (NO COUNTERPRESSURE).

The oil flow necessary to drive the blower is taken from the tractor hydraulic distributor, through a **delivery hose ½ A.**

The rotation speed of the hydraulic motor, and therefore the blower, is connected to the oil flow adjustable from the tractor's controls.

The hydraulic motor has a security system with a safety valve which makes it possible for the device to keep on turning by inertia even after the system has been shut off or a sudden break down of the system has occurred.

The pression gauge (0-10 bar) on the hydraulic valve allows to check the backpressure value.

For a correct performance it is important to connect the flow **discharge hose ¾ G** of the hydraulic motor to a free flow discharge plug of the tractor; this free discharge cannot present any counter-pressure exceeding 2 Bar.

The manometer **C** on the unloading checks these backpressures.

- A) Quick coupling on the delivery side  $\frac{1}{2}$
- B) Motor
- C) Manometer backpressures on unloading
- D) Quick coupling on free-flow discharge  $\frac{3}{4}$
- E) Free-flow discharge

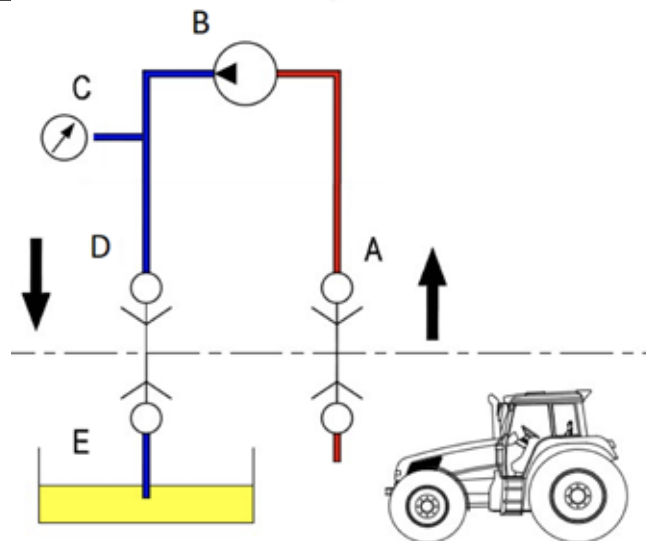


Fig. 22 Hydraulic connection

### 5.3 Distribution

The metering unit is the main element that makes the seed-drill work. It is positioned under the seed hopper and it is driven by the driving wheel through a mechanical chain transmission and a universal joint.

The metering unit, which consists of a cylinder containing longitudinal hollow sections **A**, distributes a certain quantity of seed - depending on the calibration set using the control **B** - to the "Venturi" -type ejector **C**.

The air flow generated by the fan blower **D** and regulated by the butterfly throttle **E** transports the seeds to the distributor head that can be found at the end of the "Venturi" tube. From here, the seeds are taken to the coulters and then sown. The metering unit can work with seeds of between 1 and 10 mm.

The main seeds are:

- Cereal: wheat, barley, oats, rye, triticale, sorghum, rice
- Large seeds: corn, peas, beans, soya
- Small seeds: grass, clover, rape

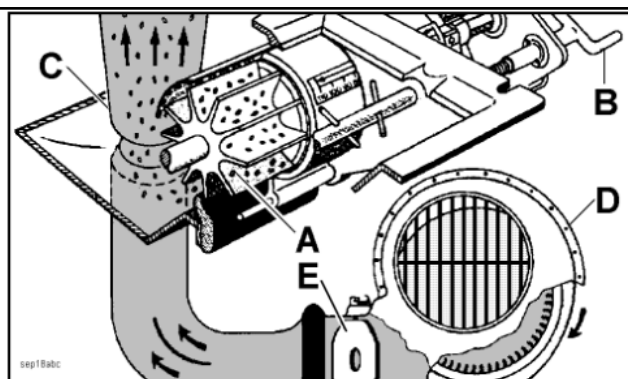


Fig. 23 Distribution



## 5.4 Emptying the seed from the hopper

In order to remove the seeds from the hopper it is necessary to:

1. Connect a flexible hose having a diameter of 70mm. with the outlet hose **A**
2. Position a container under the end of the flexible hose
3. Loosen the hand-wheel **B**
4. Open the outlet shutter by means of the handle **C**
5. Discharge the seed product completely
6. Once all the seeds have been discharged close the shutter

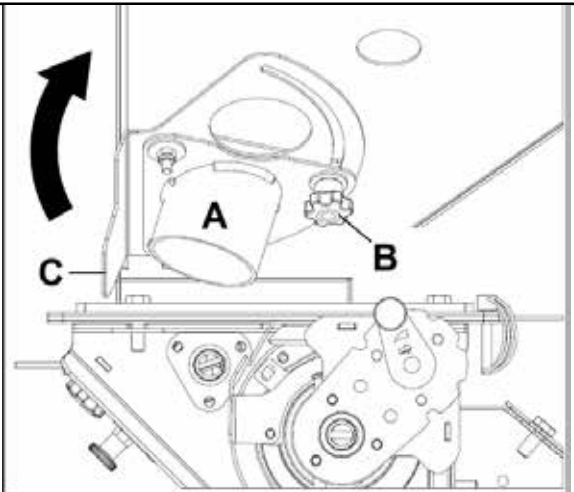


Fig. 24 Emptying the seed from the hopper

## 5.5 Adjustement of the following harrow

You can change the impact angle of the spring blades by changing the position of the arms in one of the 4 holes **A**.

The working pressure of the spring tines of the seed covering harrow can be varied using the pins **B**.

The height of the following harrow can be varied by means of the pins **C** in the perforated sections under the arms supporting the following harrows.



**NEVER** put the pin **C** into the holes over the supporting square pipe to stop oscillation. Doing this can structurally damage the arms while the machine is working.

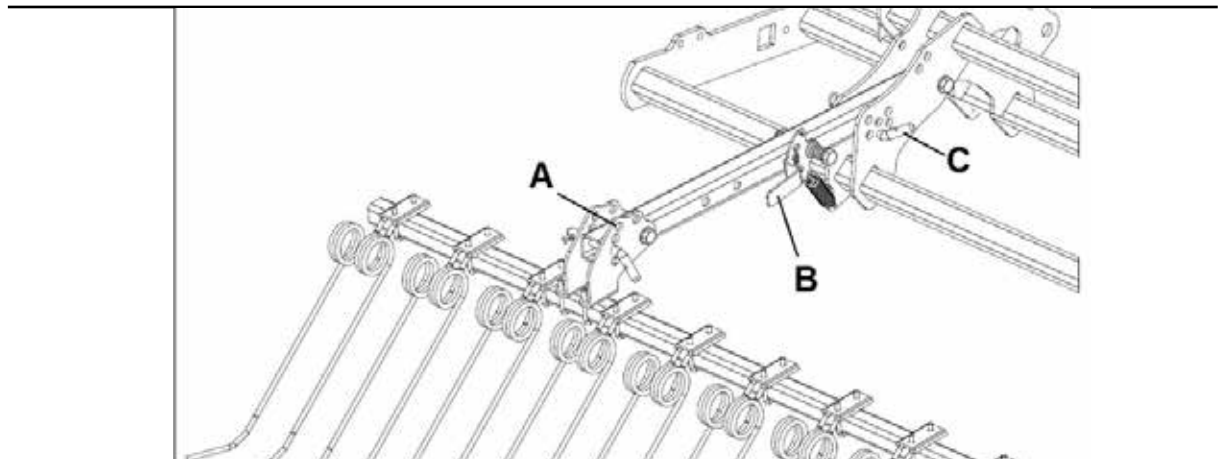


Fig. 25 Adjustement of the following harrow



## 5.6 Regulating the sowing depth

Before setting the seed-drill, it is essential that you adjust the power harrow or the tiller in its working position, to check the correct sowing depth.

Once you have done this, you can adjust the seed bar depth by lengthening or shortening the tie-rod **A**. If you act on the tie-rod **B** you modify the angle of the disc bar.

Thanks to the super elastic joint, the pressure on the coulters remains constant along the whole bar, and only the height from the ground is adjusted.

Regulate the height of the tractor lifting arms so that the seed-drill does not touch the ground while it is being transported.

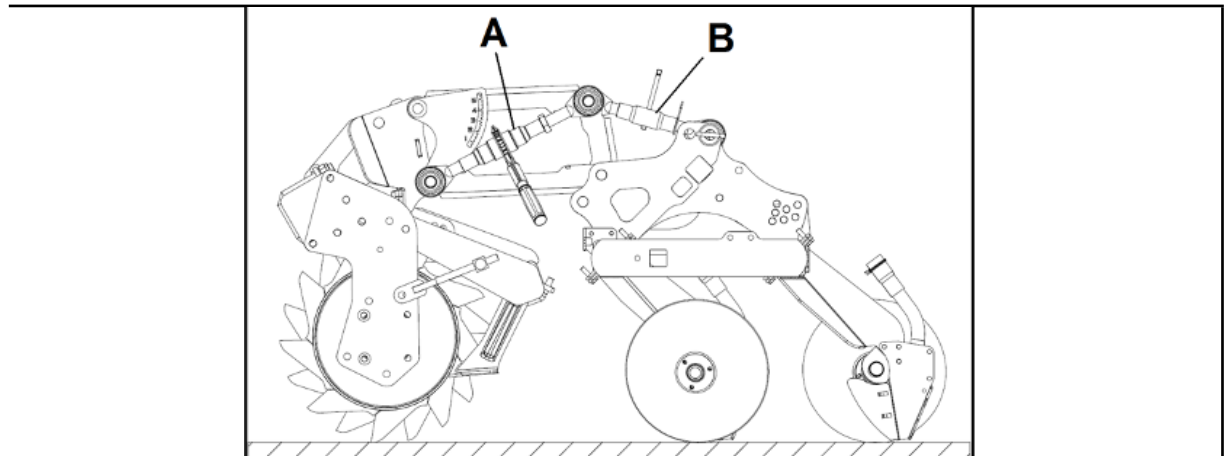


Fig. 26 Regulating the sowing depth

## 5.7 Unhitching the front hopper



**The unhitching of the hopper from the tractor can be a very hazardous operation. Use extreme caution while performing the entire operation and follow directions strictly.**

To unhitch the seed-drill correctly, you must work on a horizontal surface as follows:

- Lower to the ground the supporting stands and secure them firmly with the appropriate pins.
- Disconnect all hydraulic and electric connectors supplying the seeder/fertilizer spreader
- Remove the conveying corrugated hose from the connecting system
- Unhitch the hopper from the tractor and make sure it remains in a stable position.

## 6 MAINTENANCE



Before performing any operation on the machine disconnect the P.T.O., turn off the tractor engine, remove the ignition key, wait for the complete stop of all moving organs and pull the hand brake.

### 6.1 Checks and controls

#### 6.1.1 Visual checks

Periodically check:


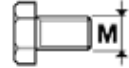

- That the lights work correctly
- The hydraulic system (motor, hoses, fittings) for defects or leaks
- That there are no obstructions, bends or damages in the hoses transporting the seeds



If necessary, replace the damaged parts.

#### 6.1.2 Tightening of the bolts

During the first 8 working hours it is important to check that all the bolts are perfectly tight, because the stress generated while the machine is at work causes the structure to settle. If necessary, tighten the bolts as shown in the following chart. Repeat this check on the coulters and the following harrow springs every 50 working hours.

			8.8 (Nm)	10.9 (Nm)	12.9 (Nm)
13	M 8	1.25	25	37	44
		1.00	27	40	47
17	M 10	1.50	50	73	86
		1.25	53	78	91
19	M 12	1.75	86	127	148
		1.25	95	139	163
22	M 14	2.00	137	201	235
		1.50	150	220	257
24	M 16	2.00	214	314	369
		1.50	229	336	393
27	M 18	2.50	306	435	509
		1.50	345	491	575
30	M 20	2.50	432	615	719
		1.50	482	687	804
32	M 22	2.50	502	843	987
		1.50	654	932	1090
36	M 24	3.00	744	1080	1240
		2.00	814	1160	1360

Tab. 8 Tightening of the bolts

### 6.1.3 Lubrification



Read the warnings written on the containers carefully. **ALWAYS** keep oils and greases out of the reach of children. Avoid contact with the skin. After using the product, wash hands well. You must follow the current environment protection laws when handling spent oil.

INTERVAL H=hour	UNIT	OPERATION
every 8/10h working hours	Hopper	-
	Coulter bar	- Ratchet tie rods on parallelograms

## 6.2 End of season operations

At the end of the season, or if you believe that you will not use the machine for a long period of time, the following operations should be carried out in order to maintain its integrity:

- Carefully remove all the seeds from the hopper and the distribution organs.
- Wash the machine with plenty of water, especially the hoppers, then dry it. While doing this keep flap B open (figure above) and remove the connection bend to the Venturi. Do not use a water cleaner.
- Leave flap B open (figure above) to protect against mice that can damage the machine.
- Carefully check and, if necessary, replace any worn or damaged parts
- Tighten all screws and bolts
- Protect all unpainted parts with lubricant
- Cover the machine to protect it
- Position it on a flat surface in a dry area, out of the reach of unauthorised people.

It is an advantage to have the machine ready for use the next time you need it.

## 7 OPTIONS



The machine can be equipped with different accessories: at each addition keep in mind that the weights of the machine vary. Therefore, make sure that the stability of the tractor is not compromised.

### 7.1 Radar

Accessory supplied on request to have the speed parameter from the machine (not from the tractor).

1. Screw the radar to the bracket supplied with the kit
2. Fix the bracket to the machine
3. Connect the cable of the radar to the connector H already present on the machine



Please, refer to the dedicated owner's manual for the configuration of the RADAR on the computer of the seed-drill.

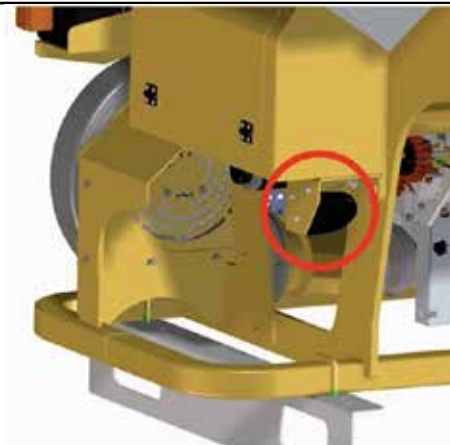


Fig. 27 Radar

## 7.2 Self-steering wheels

The self-steering wheels discharge the weight on the soil during the working phase.

The assembly of the wheels replaces the original three-point hitch and, therefore, exclude the front supporting stands.

When the wheel-set has been assembled, the hopper rests on the soil through the wheels and the new (longer) supporting stands, which are supplied with the set.



The wheels can not be mounted together with the ballast set.



**During transport on public roads DO NOT travel with the hopper lowered, because this would cause severe damages during the steering phases and, above all, it would compromise the manoeuvrability of the tractor.**



Fig. 28 Self-steering wheels

## 7.3 Ballast

Ballast elements, each weighing 25 Kg. to increase the weight to up to 600 Kg.



The ballast elements can not be assembled together with the wheel-set.

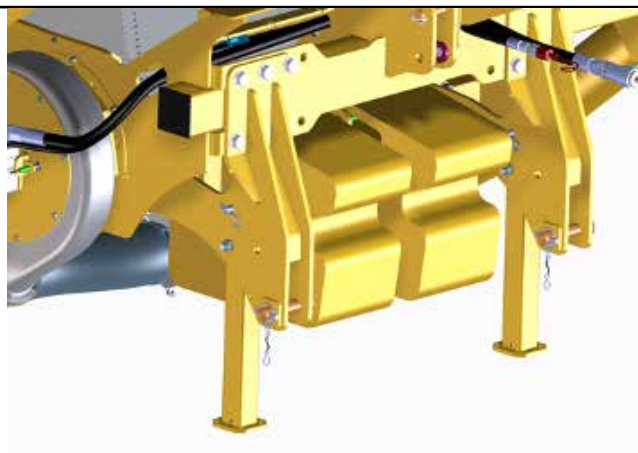


Fig. 29 Ballast

## 7.4 Row marking disc

The row marker is a device that traces a reference line parallel to the run of the tractor on the ground. When the tractor has finished its run and inverted its direction, it proceeds along the reference line with half of the tractor track. In this manner the sowing rows are allotted equally.

- Position the row marking discs in a more or less oblique manner to obtain a sufficiently deep track, even with hard ground.
- The length of the disc arm should be equal to half of the width of the machine.
- When the running direction is inverted, the row markers should be moved using the manual electric/hydraulic command.

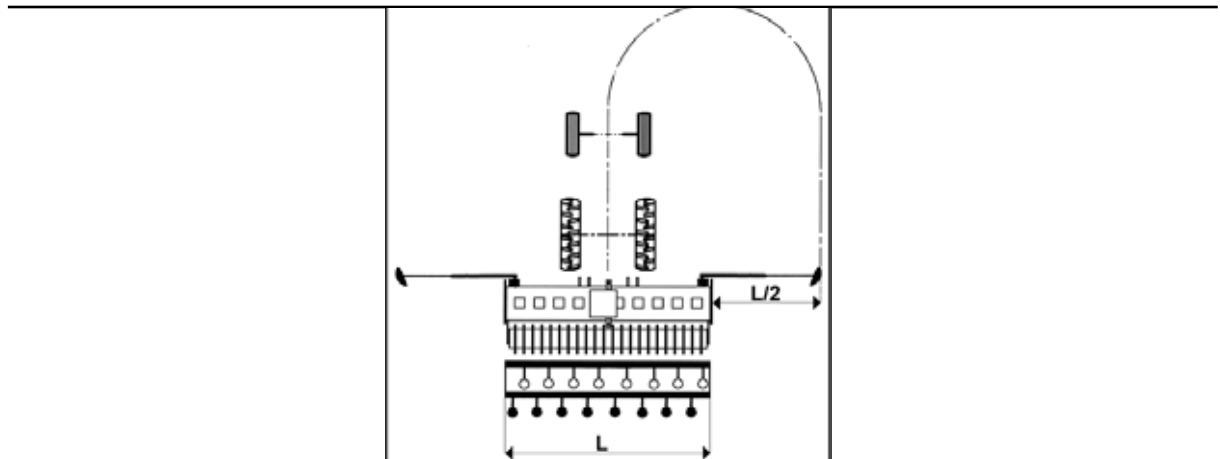


Fig. 30 Row marking disc

## 7.5 Rear 7-Pole connector

Connector	Function	Cable colour
	1. Left-side blinker	Yellow
	2. -	Blue
	3. Negativs	White
	4. Right-side blinker	Green
	5. Right Position lights	Brown
	6. Stop	Red
	7. Left Position lights	Grey

Tab. 9 Rear 7-Pole connector

## 7.6 Pre-Sprouting Discs

The pre-sprouting discs trace two reference lines in correspondence with the coulters, to which seed exclusion solenoid valves are applied.

They can only be used with the Plus models because they are directly managed by the supplied computer.

This device allows the user to treat the sown ground without treading on it.

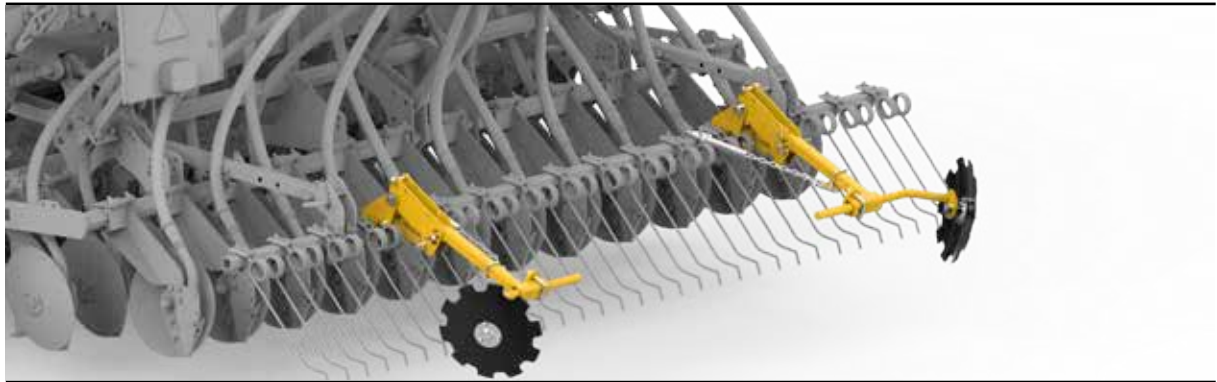


Fig. 31 Pre-Sprouting Discs

## 7.7 Shut off of the coulter bar

This device makes it possible to shut off the coulter bar by lifting it off the soil.

This is possible thanks to 2 cylinders mounted in the lower part of the parallelogram.

With this option it is, therefore, possible to work the soil without seed-drilling.



This option does not replace the manual adjustment of the tilting degree of the coulter bar and it must not be used as such.



Fig. 32 Shut off of the coulter bar



## 7.8 Press wheel

The Press Wheel allows to precisely control the seeding depth for each single disc coulters (cannot be used with Suffolk coulters).

Thanks to the easy adjustment system it is possible to accurately set the seeding depth.



**The use of the depth-limiting wheel is suited on particularly soft soils, in order to prevent the coulters from sinking too much. Do not use in particularly hard or rocky soils.**



**Do not use in particularly hard or rocky soils.**



**The wheel can only be used on straight stretches. On bends and during any manoeuvring operation LIFT THE COULTER BAR.**

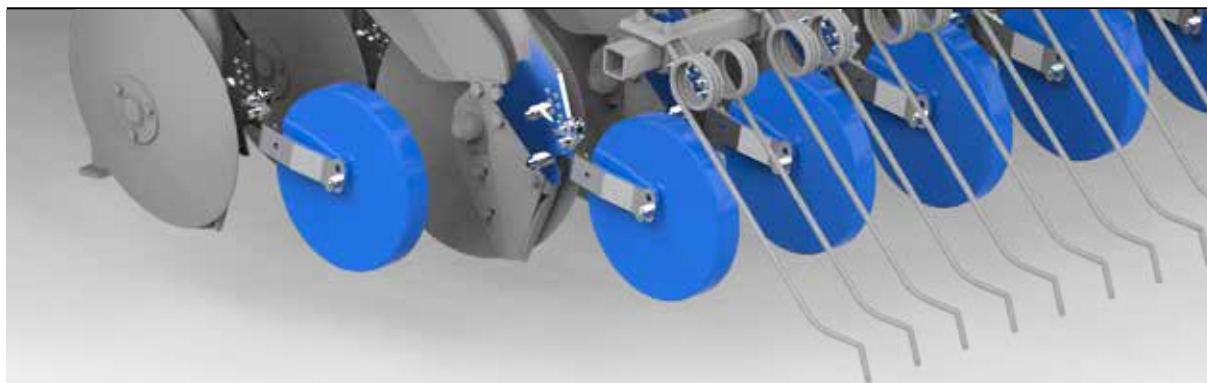


Fig. 33 Press wheel

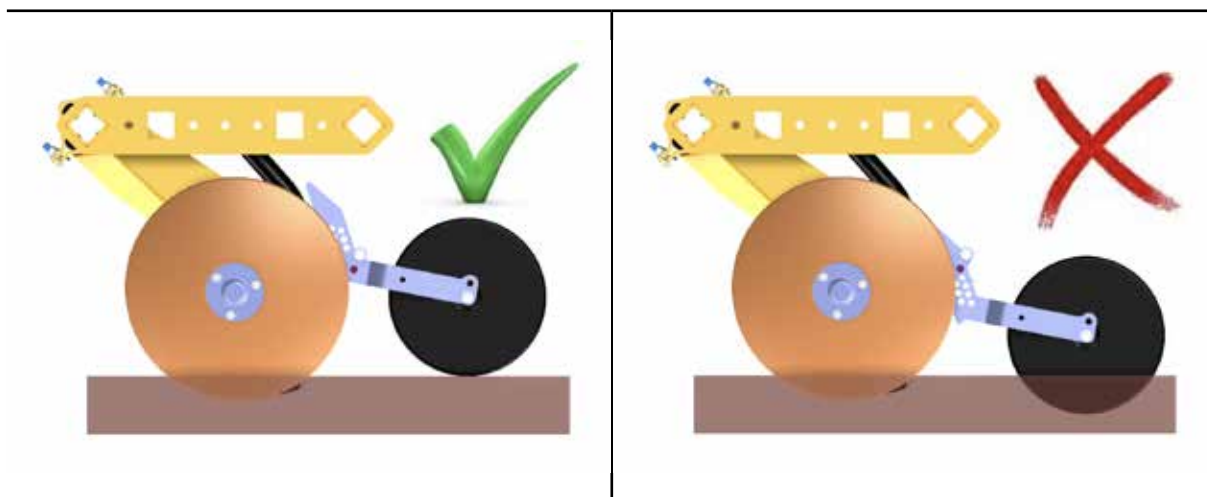


Fig. 34 Press wheel





## Note

[illegible]