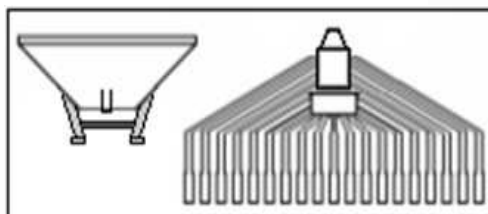




## SEED-DRILL



**AS4**

Codice	D15834/2	CE		GB	USE AND MAINTENANCE MANUAL
Da matr:	32150				
A matr:					

INSTRUCTIONS TRANSLATED FROM THE ORIGINAL

## ALPEGO s.r.l.

36053 GAMBELLARA VICENZA ITALIA  
VIA TORRI DI CONFINE , 6  
TEL. 0444/646100 - FAX 0444/646199  
E-mail: info @ alpego.com  
Internet: www.alpego.com

CAP. SOCIALE L. 199.000.000  
PART. IVA 02009840246  
C.C.I.A.A. 199795  
REG. SOC. TRIB. VI N° 22374  
N. MECC. VI011754



**MACCHINE ED ATTREZZATURE PER LA  
LAVORAZIONE DEL TERRENO , SINGOLE  
E COMBinate  
DISSODATORI, COLTIVATORI  
ERPICI ROTANTI , FRESATRICI –  
TRIVELLE**

<b>I</b>	<b>GB</b>	<b>D</b>	<b>F</b>	<b>E</b>
<b>Dichiarazione CE di conformità'</b> ai sensi della direttiva CE 2006/42 <b>La ditta sottoscritta</b>	<b>EC Certificate of conformity</b> conforming to EEC Directions 2006/42 <b>We</b>	<b>EG Konformitätserklärung</b> entsprechend der EG-Richtlinie 2006/42 EWG Wir	<b>Déclaration de conformité pour la CE</b> conforme à la directive de la 2006/42 CE Nous	<b>Declaración CE de conformidad.</b> Conforme a la directiva CE 2006/42 la empresa / el productor

## ALPEGO s.r.l.

VIA TORRI DI CONFINE N°6  
36053 GAMBELLARA -(VI)-ITALIA

dichiara sotto la propria responsabilità' che la macchina <b>modello :</b>	declare in sole responsability, that the product <b>model :</b>	erklären in alleiniger Verantwortung, da das Produkt <b>Typ :</b>	déclarons sous notre seule responsabilité' que le produit <b>modèle :</b>	declara bajo su propia responsabilidad que <b>la màquina modelo:</b>
--	---	---	---	---

Codice / Code:	<b>MODELLO MACCHINA SEMINATRICI «SEMIN_AS3_40032_IDRO_PLUS»</b>	N° matricola / serial n°:
----------------	---	---------------------------

È' Conforme ai requisiti Essenziali di Sicurezza e di Tutela della Salute di cui alla Direttiva CE 2006/42 Per l'adeguamento delle macchine sono state adottate le norme:	to which this applies, conforms to the basic safety and health requirements of EC Directions 2006/42 For the adaptation of it blots some have been adopted the norms:	auf das sich diese Erklärung bezieht, den einschlagigen grundlegenden Sicherheits und Gesundheitsan- forderungen der EG-Richtlinie 2006/42 EWG Für die Anpassung von ihr betrifft einiges sind angenommen worden den Normen:	faisant l'objet de la déclaration est conforme aux prescriptions fondamentales en matière de sécurité et de santé stipulées dans la Directive de la CE 2006/42 Pour l'adaptation d'elle en éponge ont été adoptés les normes :	està conforme a los requisitos esenciales de seguridad y de defeusa de la salud de la directiva CE 2006/42 Para la equiparación de las màquinas nan sido adoptado las normas
UNI EN 708 UNI EN ISO 4254-1 UNI EN 14018 UNI EN 982 ISO 3757-2 ISO 11684	UNI EN 708 UNI EN ISO 4254-1 UNI EN 14018 UNI EN 982 ISO 3757-2 ISO 11684	UNI EN 708 UNI EN ISO 4254-1 UNI EN 14018 UNI EN 982 ISO 3757-2 ISO 11684	UNI EN 708 UNI EN ISO 4254-1 UNI EN 14018 UNI EN 982 ISO 3757-2 ISO 11684	UNI EN 708 UNI EN ISO 4254-1 UNI EN 14018 UNI EN 982 ISO 3757-2 ISO 11684

Gambellara: \_\_\_\_\_

La ditta \_\_\_\_\_

**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!**

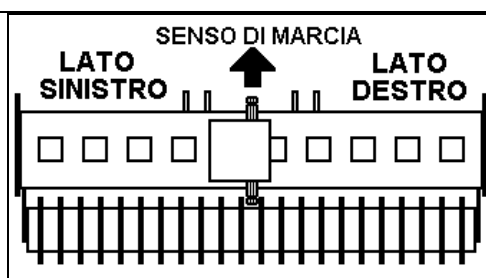


**THE TERM MACHINE IS USED TO INDICATE THE COMMERCIAL NAME OF THE PRODUCT TO WHICH THIS MACHINE REFERS**

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.)



# Sommario

<b>1. GENERAL INFORMATION.....</b>	<b>1</b>
1.1. PURPOSE OF THE MANUAL .....	1
1.2. DOCUMENTS ACCOMPANYING THE MACHINE .....	1
1.3. WARRANTY.....	1
1.4. IDENTIFICATION OF THE MACHINE.....	1
<b>2. TECHNICAL SPECIFICATIONS.....</b>	<b>2</b>
2.1. DESCRIPTION.....	2
2.2. MACHINE DESCRIPTION.....	3
2.3. CHART OF TECHNICAL DATA.....	4
2.4. SOUND LEVEL .....	4
<b>3. SAFETY REGULATIONS .....</b>	<b>5</b>
3.1. USE THE MACHINE SAFETY .....	5
3.2. HYDRAULIC CONNECTIONS.....	6
3.3. ASSEMBLY OF ELECTRIC AND ALECRONIC INSTRUMENTS AND COMPONENTS .....	7
3.4. CARRYING OUT MAINTENANCE SAFETY .....	7
3.5. TRAVELLING ON ROADS.....	8
3.6. CLOTHING.....	8
3.7. ECOLOGY.....	8
3.8. SAFETY SIGNALS.....	9
<b>4. INSTALLATION .....</b>	<b>11</b>
4.1. TRANSPORT .....	11
4.2. LIFTING.....	11
4.3. CONNECTING THE HOPPER QUICK COUPLING .....	12
4.4. CONNECTING TO THE DISC HARROW OR THE POWER HARROW .....	13
4.5. FITTING THE SEED BAR.....	14
4.6. FITTING THE RADAR .....	14
4.7. FITTING THE SEED COVERING HARROW .....	15
4.8. ASSEMBLING THE REAR LIGHTS .....	15
4.9. ASSEMBLING THE SEEDER PIPES .....	16
4.10. CONNECTING THE FRONT HOPPER WITH THE SEED-DRILL .....	19
4.11. CHECK OF THE TRACTOR STABILITY AND ITS LIFTING POWER.....	20
<b>5. INSTRUCTIONS FOR USE.....</b>	<b>21</b>
5.1. SYSTEMS FOR FEEDING AND CONVEYING THE SEEDS .....	21
5.1.1. HYDRAULIC CONNECTION WITH THE TRACTOR .....	22
5.1.2. HYDRAULIC CONNECTION TO TRACTORS WITH OPEN-CENTER HYDRAULIC SYSTEMS.....	23
5.1.3. ADJUSTEMENT OF THE OIL FLOW WITHOUT A VARIABLE DISPLACEMENT PUMP.....	23
5.1.4. START-UP OF THE SEED-FEEDING DEVICE .....	24
5.1.5. SETTING THE TIME OF THE LOADING CYCLE .....	25
5.1.6. OPERATION OF THE LOADING CYCLE.....	26
5.2. OPERATION OF THE BLOWER.....	27
5.2.1. HYDRAULIC CONNECTION WITH THE TRACTOR .....	27
5.2.2. ADJUSTEMENT OF THE OIL FLOW WITHOUT A VARIABLE DISPLACEMENT PUMP.....	28
5.3. DISTRIBUTION.....	28
5.4. UNHITCHING THE SEED-DRILL .....	28
<b>6. MAINTENANCE .....</b>	<b>29</b>
6.1. MAINTENANCE OF THE SEED-FEEDING HOPPER .....	29
6.2. CHECKS AND CONTROLS.....	30
6.3. LUBRICATION .....	31
6.4. LUBRICATING THE GREASERS.....	31
6.5. END OF SEASON OPERATIONS.....	31
<b>7. IRREGULARITIES .....</b>	<b>32</b>
<b>8. ACCESSORIES.....</b>	<b>34</b>

## 1. GENERAL INFORMATION

### 1.1. PURPOSE OF THE MANUAL

This manual was created by the machine producer and is an integral part of the documentation that accompanies the machine.

The manual defines the purpose for which the machine was produced, it establishes correct machine application and limits of use.

The constant application of the indications given in this manual guarantees the safety of those who use the machine, as well as working economy and longer machine duration.

This manual has been divided into sections. To make it easier to find a specific topic, consult the initial index.

The images that appear in this manual are given as an example. Even if substantially different from the machine you possess, the safety and information are guaranteed.

### 1.2. DOCUMENTS ACCOMPANYING THE MACHINE

The following documents should be supplied with the machine:

- User and maintenance manual
- Spare parts catalogue
- EC Conformity Declaration

The machine may be supplied complete with different options/fittings. For the assembly and the use of those check the specific manuals supplied with the documents of the machine

CODE	DESCRIPTION
D16555	Owner's Manual of the <b>DOSAL</b> metering unit
Q00A00129	Owner's Manual of the <b>row-marking discs</b>
Q00A00134	Owner's Manual of the <b>seeding bar</b>
Q00A00132	Owner's Manual of the <b>following harrow</b>
D16347	Owner's Manual of the <b>Alpetronic Power Computer</b>

### 1.3. WARRANTY

When delivered, make sure that the machine and any accessories were not damaged during transport.

**Any complaints should be presented in writing within 6 days from the date of delivery.**

#### GUARANTEE FORFEITURE

The guarantee is rendered null and void immediately if:

- there is a manoeuvring error
- If the universal joint has not been sufficiently maintained (see owner's manual of universal joint)
- If the maximum power limit allowed is exceeded (see technical data on the table 2.3)
- the instructions described in this manual are not followed
- original spare parts are not used
- any modification is made to the machine without having obtained authorisation from the manufacturer.

### 1.4. IDENTIFICATION OF THE MACHINE

At the 3 points of connection to the tractor is placed the identification plate of the machine bearing the following data:

 www.alpego.com CE ALPEGO s.p.a. Tel. +39 0444646100 Fax. +39 0444646199 e-mail: info@alpego.com	MOD. TYPE
	N° MATR. N° SERIAL
	PESO KG WEIGHT
	ANNO YEAR
	VIA GIOVANNI E GIUSEPPE CENZATO, 9 LONIGO - VICENZA - ITALY

1. Model of the machine
2. Serial number
3. Maximum weight of the machine
4. Construction year [es: 1305 = 13 (2013) + 05 (may)]

**The specified weight refers to the machine provided with the accessories.**

## 2. TECHNICAL SPECIFICATIONS

### 2.1. DESCRIPTION

- The **AS4** seed-drill 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 **AS4** seed-drill can be used with other equipment for working the soil, but only with the addition of a special assembly kit.
- The **AS4** seed-drill has two separate pieces that are connected to each other by a spiral-reinforced hose which conveys the seeds between the two parts. A main seed hopper with a capacity of 1400 litres (can be expanded to 2000 litres) is positioned at the front of the tractor. It does not require any hydraulic connections or a powertake-off (PTO), just electrical connections for the front lights. This hopper is simply a seed reserve, while the real machine is at the rear of the tractor. It includes a suction system that totally automatically conveys the seed when needed, a secondary tank for temporary accumulation, the secondary seed hopper that directly supplies the metering unit, and the distribution system with a seed bar at the end. With the machine designed in this manner, it is possible to combine a seed-drill with a folding seed-bed preparing unit, because the secondary hopper is compressed transversally, which keeps the whole metering system as close as possible to the distributor. This limits the damaging effects when the seeds move the long distance between the metering unit and the coulters.
- The **AS4** seed-drill is ideal for sowing cereal: wheat, barley, rye, oats, rice; fine seeds and fodder: rape, clover, alfalfa; and for big seeds: soya, peas.
- The seeds are deposited in the soil by coulter organs, sock or discs, and are distributed continuously. A special revolving metering unit driven by a wheel which adheres to the ground regulates the quantities to be distributed.
- 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.

For the development and the construction of this implement the following guidelines of the Standard 98/37CE have been studied and applied:

UNI EN 14018	UNI EN 1553	UNI EN 982	ISO 11684	ISO 3757-2
--------------	-------------	------------	-----------	------------

La seminatrice **AS4** è stata realizzata per la combinazione con erpici di tipo "ALPEGO" in quanto garantisce il rispetto della normativa EN 708

Dal corretto uso e dall'adeguata manutenzione dipende il regolare funzionamento della macchina è consigliabile quindi osservare quanto descritto in questo manuale allo scopo di prevenire qualsiasi inconveniente che potrebbe pregiudicare il buon funzionamento e la sua durata.

È importante attenersi a quanto descritto nel presente manuale in quanto la Ditta Costruttrice declina ogni responsabilità dovuta a negligenza ed alla mancata osservanza di tali norme.

La Ditta Costruttrice, è comunque a completa disposizione per assicurare assistenza tecnica e tutto ciò che può essere necessario per il miglior funzionamento e la massima resa della macchina.

The **AS4** seed-drill has been built in view of combining it with power harrows of the "ALPEGO" type, since this combination guarantees the observance of Standard EN 708.

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 DESCRIPTION

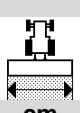
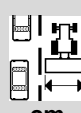

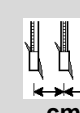












- |                            |  |                                  |
|----------------------------|--|----------------------------------|
| A. Seed suction hose       | F. Hood spy hole   | L. Air conveyor to metering unit |
| B. Housing of feeding unit | G. Fan blower  | M. Row-marking disc support      |
| C. Fine powder filter      | H. Secondary hopper for metering unit supply                       | N. Hydraulic hoses               |
| D. Feeding unit hopper     | I. Hydraulic cylinders for folding of seed-bed preparing implement | O. Unit for adjustment of roller |
| E. Electric control panel  | K. Row-marking disc  |                                  |



- |  |                             |                                      |
|--|-----------------------------|--------------------------------------|
| P. Metering unit                           | U. Seed covering unit       | X. Stretcher of seed conveying hoses |
| R. Distribution head                       | V. Radar                    | Y. Hose conveying air to fan blower  |
| S. Hoses for conveying seed to the coulter | W. Seed bar regulating unit | Z. Rear lights and signals           |
| T. Coulter                                 |                             |                                      |

## 2.3. CHART OF TECHNICAL DATA

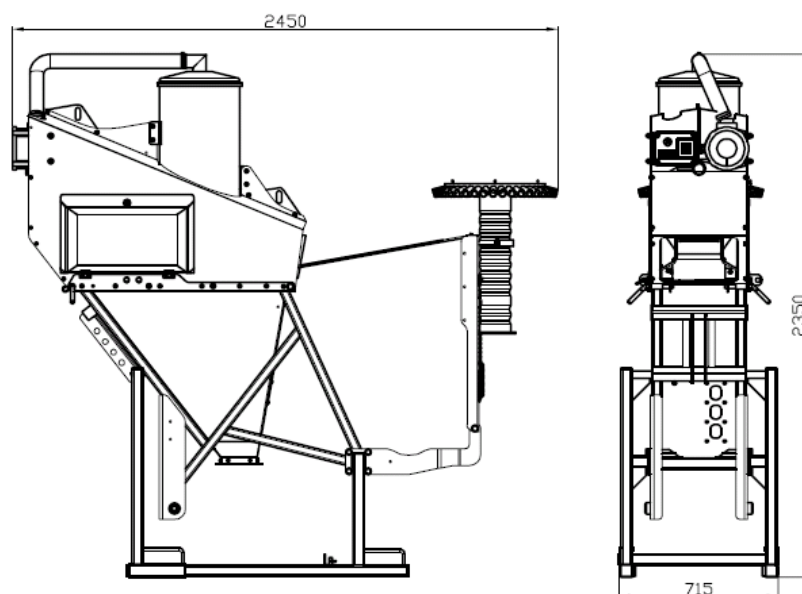
MODEL	 cm	 cm	 N °	 cm	 dm <sup>3</sup>	 Tot min Lit/min	 Kg	 Kg
AS4 - 400	400	250	32	12.5	 100	90	460 - 490	400
AS4 - 450	450		36	12.5			470 - 500	
AS4 - 500	500		40	12.5			480 - 510	
AS4 - 600	600		40	15			490 - 520	

	MOD.	* Kg		MOD.	* Kg		MOD.	* Kg		MOD.	Kg		Kg
AS4 - 400	570		AS4 - 400	624		AS4 - 400	92		AS4 - 400	100		192	
AS4 - 450	620		AS4 - 450	680		AS4 - 450	94		AS4 - 450	103			
AS4 - 500	670		AS4 - 500	734		AS4 - 500	96		AS4 - 500	108			
AS4 - 600	-		AS4 - 600	804		AS4 - 600	96		AS4 - 600	112			

\* =Weight including 2 seed bars+mounting kit(broadcast seeding kit serie5)

ES:

AS4-400	+	Seed discs bar	+	Seed covering tines	+	Row-marking discs	=	Total Weight
475 Kg		624 Kg		100 Kg		192 Kg		1391 Kg



## 2.4. SOUND LEVEL



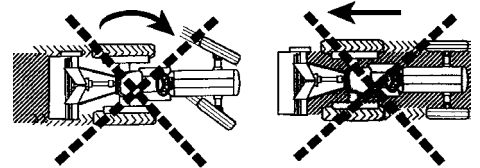
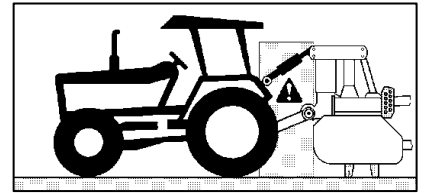
If the tractor is equipped with a cabin, the sound level will depend on the soundproofing level of the cabin itself. If the tractor does not have a cabin or is used with the windows open, the noise level emitted by the machine while working and measured at a distance of 200 mm. from the rear window exceeds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



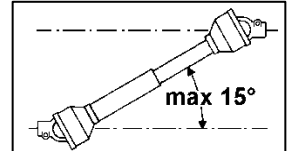
### 3. SAFETY REGULATIONS

#### 3.1. USE THE MACHINE SAFETY

- Read the user and maintenance manual carefully before starting-up, before using the machine and before carrying out maintenance on the equipment.
- The manufacturer cannot be held responsible for injuries caused to people and animals, or damage caused because the safety regulations have not been observed by the user.
- The machine cannot be used for different purposes other than those expressly indicated in this manual.
- It is forbidden for people to drive the tractor if they do not have a suitable driving licence, if they do not have the necessary experience, or if they are not in good health.
- Examine the adhesive labels on the machine carefully, and make sure you follow their indications.
- While manoeuvring, do not allow people or animals to approach within the working range of the machine.
- While working do not allow people, animals or objects to approach within the area where sods and stones are thrown out by the machine.
- It is absolutely forbidden to enter the space between the tractor and the machine to operate the external controls of the hydraulic lift.
- Always remain seated in the tractor driver's seat. Only leave the driver's seat when the tractor power take off has been disengaged and the handbrake has been pulled.
- During working stops switch off the engine, lower the implement to the ground, disengage the tractor power takeoff and pull the tractor handbrake.
- Make sure never to work if guards have been removed.
- Do not let the implement run when raised (out of the ground).
- While working do not take turns while the machine is set in the ground. Never work in reverse gear.
- Always lift the implement when changing direction and reversing.
- During transportation, or whenever the machine has to be lifted, the tractor lift should be regulated so that the machine is kept at a maximum distance of not more than 45 cm. off the ground. Do not circulate on roads if the machine is dirty with soil, grass or other materials which may soil the roads and/or cause traffic problems. Do not lower the machine to the ground abruptly, but rather do so slowly so as to allow the tines to penetrate into the soil gradually.
- Unless you follow this rule, strong stressing forces will be exerted on all the components of the machine and they may compromise its integrity.
- While driving on the road with the machine lifted off the ground, put the lever controlling the hydraulic lifting mechanism of the tractor in the blocked position.
- The implement and its accessories for transit on public roads must be complete with suitable signs and safety guards.



- Do not work in terrains or places which may compromise the stability of the implement.
- Use only the universal joint supplied by the manufacturer, complete with the safety device against overloads.
- The protection device of the universal joint must always be in good working order and has to be checked at regular intervals and secured by means of chains in order to prevent it from revolving.
- Always disconnect the power takeoff when the universal joint forms an angle exceeding  $15^\circ$ , see picture.
- The seed-drill may transport chemicals used to coat the seeds. Therefore, never allow people, children or pets to approach the seed-drill.
- Nobody can be allowed to approach the hoppers or to attempt to open them while the seed-drill is working or about to be started.



## 3.2. HYDRAULIC CONNECTIONS

- Make sure that the hydraulic systems of the machine and the tractor are not under pressure when you connect the hydraulic hoses to the hydraulic system of the tractor.
- When linking functional connections, for example between the tractor and the machine tool, colour mark all the intakes and plugs to avoid mistakes. Connection mistakes can cause accidents.
- The hydraulic system is pressurised. To avoid accidents, use suitable auxiliary instruments if you have to search for leaks.
- Never exceed the pressure indicated for the oleodynamic system.

### **3.3. ASSEMBLY OF ELECTRIC AND ALECRONIC 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.

### **3.4. CARRYING OUT MAINTENANCE SAFETY**

- Do not allow unauthorised people to carry out maintenance or tamper with the machine in any manner.
- Maintenance and repairs should be carried out in suitably equipped workshops.
- Always use original accessories and spare parts to respect the manufacturer's requirements. Not using original parts and accessories renders the guarantee null and void and can cause function irregularities that prejudice machine safety.
- When carrying out any operation on the machine always disable the tractor power takeoff, insert the handbrake, remove the ignition key and make sure that nobody boards the tractor.

## 3.5. TRAVELLING ON ROADS

If necessary, the machine can be transported on the roads while hitched to the tractor. The operator must check, compare and adapt the implement so that it fully complies with the Highway Code in force in the country of use. Bear in mind the following recommendations:

1. Comply with the instructions in this manual when you hitch the machine to the tractor;
2. The machine must remain blocked and raised from the ground during transport.
3. You must take all possible precautions and comply with the pertinent laws in order to safeguard yourselves and others.
4. Projecting parts and those beyond the width of the tractor must be fitted with the relative protections.
5. The entire implement must be equipped with its own lighting system complete with flashing lights and indicators.
6. Warning boards to indicate the projecting parts of the implement must be affixed where necessary.
7. The braking distance and steering capacity of the tractor are influenced by the weight of the machine hitched to its power lift. When driving round bends, take great care and allow for the action of the centrifugal force that shifts the machine's center of gravity.
8. Comply with the load limits on the axles.
9. Bear in mind the limits imposed by the overhang and projection from the sides of the tractor

## 3.6. CLOTHING

Always wear safety gear and clothes. Make sure no dangling parts are present as they may get caught in moving parts. For the same reasons please always remove watches, rings, necklaces, wristbands etc. Long hair may be a danger as well, please keep them tied.

If it is Always wear safety gear as required by your local authorities (safety shoes, gloves, earplugs, masks, etc.)


















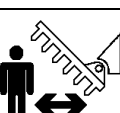
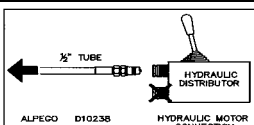


## 3.7. ECOLOGY

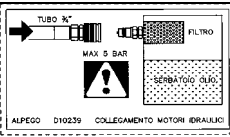
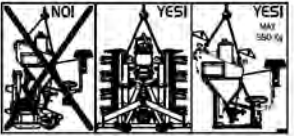

Respect the regulations in your country regarding the use and disposal of lubricating products, maintenance operations and machine cleaning. Carefully follow the instructions given on the packaging of the products used. Respect current standards for machine scrapping.

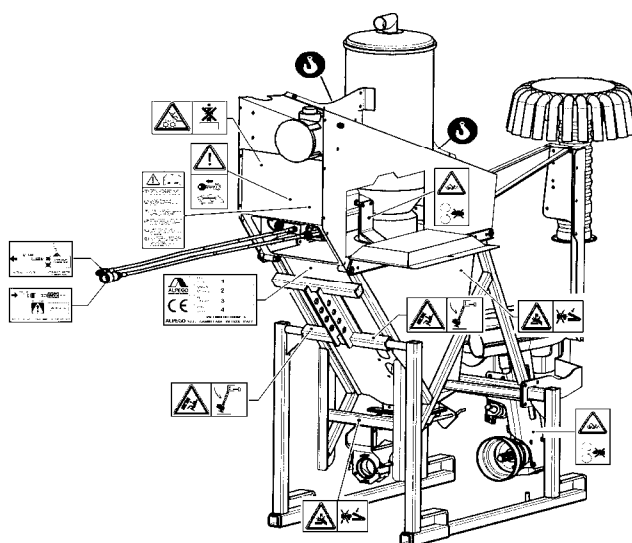
### 3.8. SAFETY SIGNALS

The various adhesives on the machine are there to highlight the source of danger. Observe them carefully and follow the indications for using the machine safely. The labels should be kept clean and be legible – if damaged they should be replaced.

FIGURE	CODE	INDICATIONS
 <p>PRIMA DI USARE L'ATTREZZATURA È OBBLIGATORIO LEGGERE IL LIBRETTO USO &amp; MANUTENZIONE ED I CONSIGLI ALLA SICUREZZA E/O CORRISPONDENTE.</p>	<b>D02612</b>	You MUST read the user and maintenance manual and the safety instructions before using the equipment. The manual and the instructions must be followed during use.
	<b>D02627</b>	Indicates the hooking point for machine transportation
 	<b>D02613</b>	Indicates the danger of shearing while the machine is working
 	<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>D02609</b>	Indicates that it is forbidden to climb on top of the machine while it is working.
 	<b>D02608</b>	Indicates the danger of entanglement while working on the universal joint shaft. Do not approach the shaft while it is rotating.
 	<b>D02615</b>	Indicates the need to switch off the tractor and remove the ignition key during maintenance operations
 	<b>D02614</b>	Indicates the danger of crushing from all the rotating organs
 	<b>D02616</b>	Indicates the position of a support leg that must always be locked into place when the machine is not being used to keep the machine stable.
 	<b>D02621</b>	During row marking disc closing operations, indicates the danger of moving bodies and prohibits people from remaining in the activity range of the machine
	<b>D10238</b>	Indicates that the hydraulic hose driving the 1/2" turbine must be connected to the tractor hydraulic connection having priority delivery.



 <p>ALPEGO D10239 COLLEGAMENTO MOTORI IDRAULICI</p>	<p><b>D10239</b></p>	<p>Indicates that the hydraulic ¾" return hose must be connected to the tractor oil tank, and that the return counter-pressure can not exceed 5 Bar.</p>
	<p><b>D11445</b></p>	<p>It shows the lifting point on the seed-drill on its own or in combination with the power of disc harrow. Warning: The lifting points of the seed-drill ARE NOT suited to lift the combined implement</p>
	<p><b>Q15A00531</b></p>	<p>The sticker depicts the compulsory PPE (Personal Protective Equipment): coverall, mask, earplugs, safety shoes, gloves</p>



## 4. INSTALLATION

### 4.1. TRANSPORT

The machine can easily be transported even over long distance with suitable means of transportation: lorries, trailers, train cars etc.



The loading and unloading of the machine can be rather dangerous operations, unless they are performed with the utmost care: have all unauthorized personnel leave the area; clear and circumscribe the loading area; check that the available means of transportation are in good working order and strong enough for the job at hand.

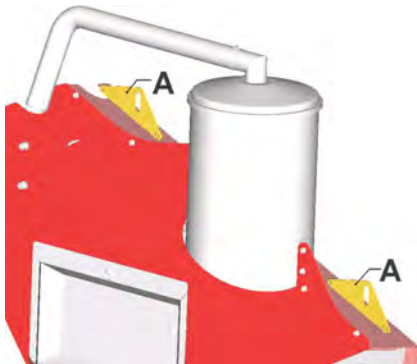


It is also necessary to make sure that the area of operation is free and that there is enough escape space, i.e. a free and safe area where it is possible to move quickly should the machine fall down. Said operations are to be performed exclusively by personnel trained to perform this type of work.

Before beginning the loading operation make sure that the available means is certified for this type of transportation and that it is strong enough to support the weight of the machine. To this end see CHART OF TECHNICAL DATA (see Par. 2.3) for the weight of the machine.

This chart is also useful to check the possibility of transit of the machine through narrow passages.

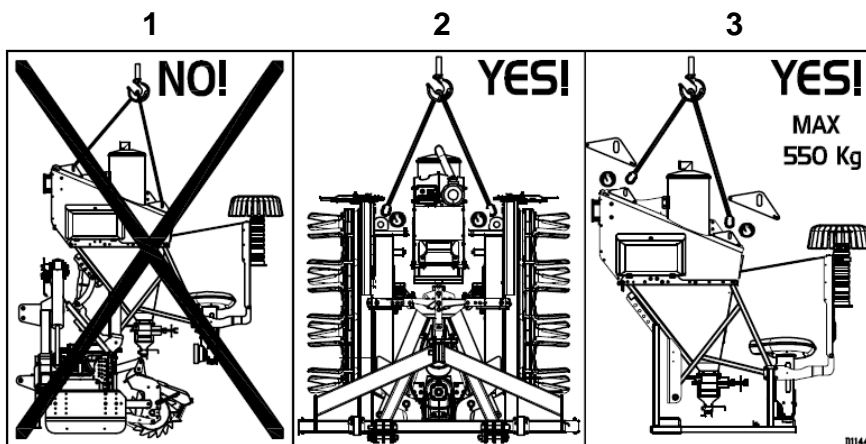
### 4.2. LIFTING



The hopper is delivered (not combined with any implement) with the lifting plates **A** not mounted. Attach the plates **A** to the upper lid of the hopper, as shown in the sketch and then lift the seed-drill: during this lifting operation the seed-drill should not be lifted more than 200 mm. from the ground. In order to avoid damaging the hopper metal plates use approved lifting belts.



Should the rear hopper already be combined with a specific implement (power or disc harrow) it is mandatory to pay attention to the sticker at the front of the seed-drill for the lifting operations.



The sticker means:

- 1) It is absolutely forbidden to lift the combined implement using the lifting plates of the seed-drill
- 2) Only lift combined implement by the hooks for the lifting of the power harrow or the disc harrow
- 3) Lift ONLY seed-drill using the lifting plates **A**, which had been previously assembled on the hopper

## 4.3. CONNECTING THE HOPPER QUICK COUPLING



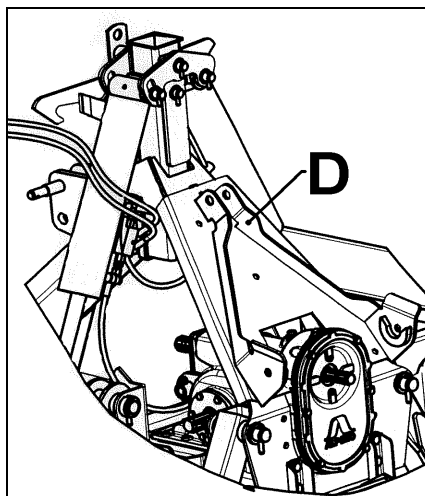
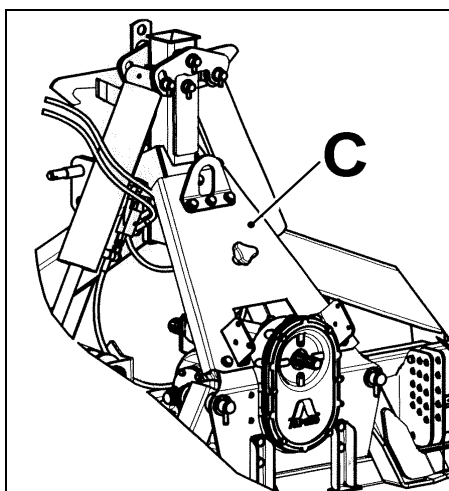
**!! maintenance, adjustment and work preparation operations must be carried out while the tractor engine is switched off, the ignition key has been removed and the seed-drill is standing on the ground supported by its support legs.**

To connect the seed-drill to a folding power harrow, replace the covering sheet **C** (supplied with the machine) with the welded support **D**, using the same fixing screws as you would for part **C**.

This type of connection can only be used on ALPEGO machines, and it changes depending to the model:

**S05093** Coupling kit for **DK**

**S05094** Coupling kit for **DX**



#### 4.4. CONNECTING TO THE DISC HARROW OR THE POWER HARROW



Mounting the seed drill on a disc harrow or on a power harrow is a very sensitive phase, therefore you must follow the instructions carefully while carrying out this entire operation. It must be performed on a horizontal surface, with the seed-drill positioned stably on its support legs.

Proceed as follows:

Make sure that the three-point rear connection has been correctly fitted to the disc harrow or the power harrow and that the screws have been tightened correctly.

Lift the seed-drill using the points marked by the label. Use approved lifting belts that are strong enough for the weight of the machine.

When the seed-drill has been lifted, remove the support legs.



The machine should be lifted and transported with proper means, strong enough to carry its weight, and by personnel trained in this kind of work.

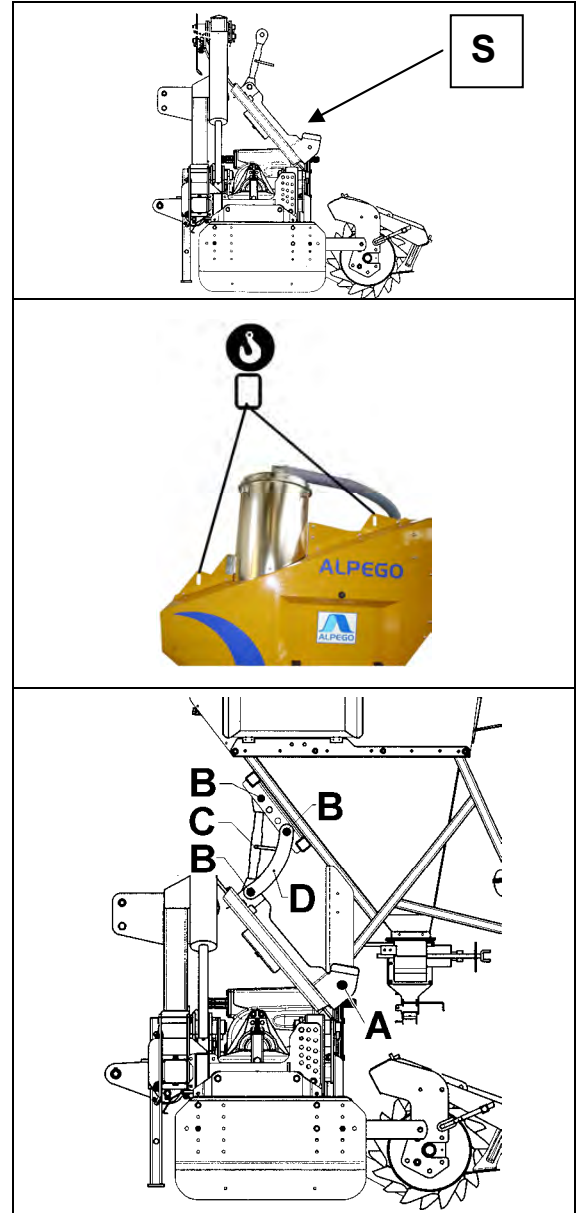
Lower the machine and couple it to the three-point hitch at the rear of the folding harrow.

The bushes on the seed-drill frame must fit into the lower holes of the connection without there being any interference.

Put the screws (A) into the lower connection (without tightening them for the time being), then position the tie-rod C into the three points of the seed-drill and harrow (see diagram) with the pin (B). Place the flanges (D) externally.



The hopper must be perpendicular to the harrow for the whole combined seed-drill to work correctly. If this is not the case, use the tie-rod C and move the hopper into its correct position (see drawing). Tighten the screws.

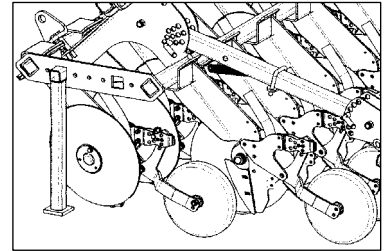


#### 4.5. FITTING THE SEED BAR



Work on a horizontal surface with the harrow in a stable position.

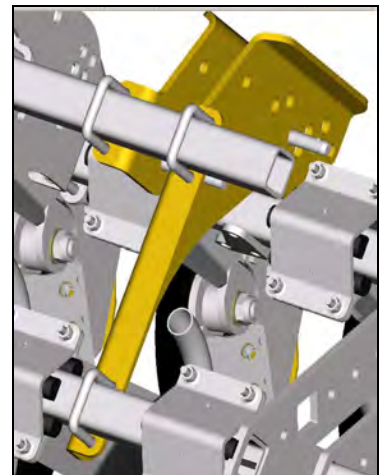
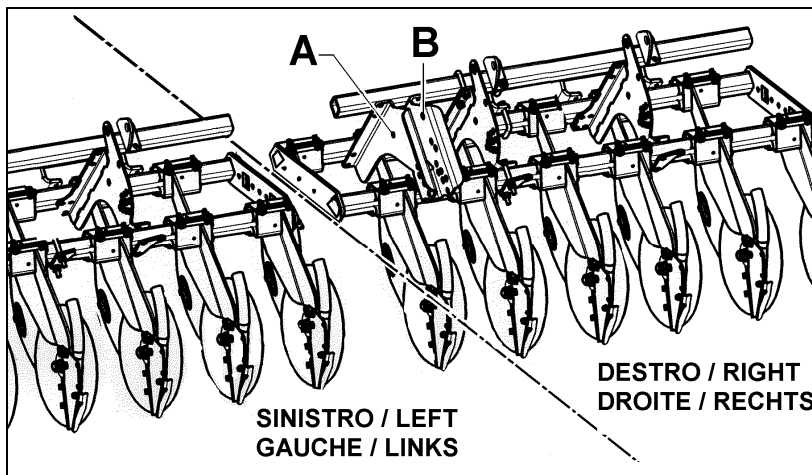
For the assembly of the seeding bar follow the instructions given in the relevant Owner's Manual.



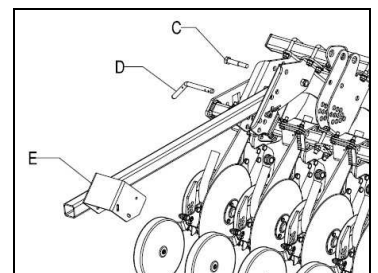
#### 4.6. FITTING THE RADAR

After the seeding bar has been mounted on the quick-hitch kit, the radar must be mounted:  
In order to do this correctly, follow the instructions below

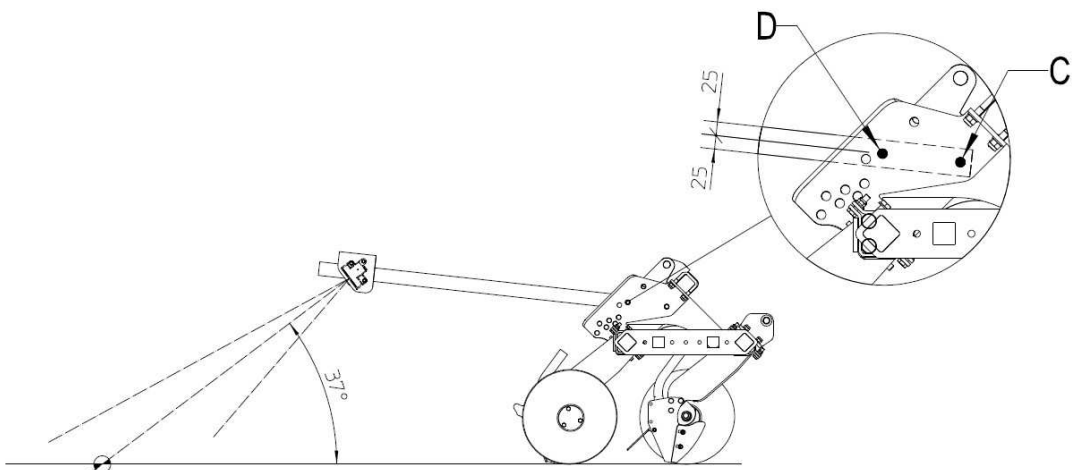
1. Mount the two side plates with holes **A** and **B** which you will find in the package without blocking them completely on the right-side seeding bar: this position coincides roughly with the position of the metering unit of the seed-drill.



2. Mount the pre-assembled radar unit parallel to the ground between the two plates with holes and secure it by inserting the screw **C**.
3. Block the arm with pin **D** as shown in the picture below.



This way the radar works in its ideal position of  $\pm 37^\circ$  in relation to the ground (the height from the ground varies between 0.4 m. and 1 m.)





## 4.7. FITTING THE SEED COVERING HARROW

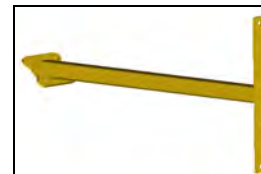


Then the seeder is delivered, the seed covering comb is supplied separately from the machine. Together with the documents of the machine you will find also the Instructions Manual concerning the following harrow: it is mandatory to follow it scrupulously

## 4.8. ASSEMBLING THE REAR LIGHTS

When the seed-drill is delivered, the rear lights and their supports are supplied dismantled and can be found inside the hopper.

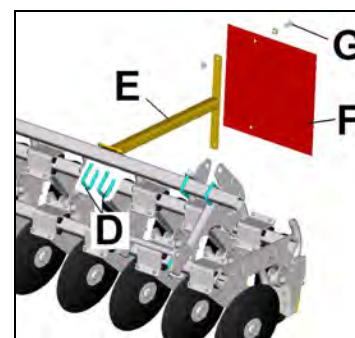
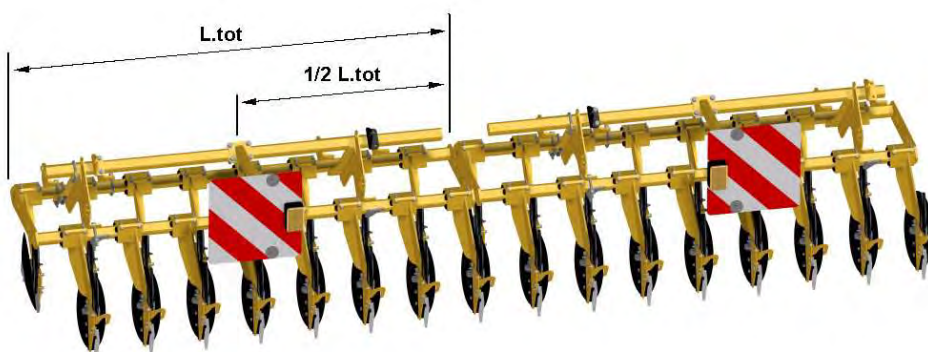
### LIGHT SUPPORT BLADE



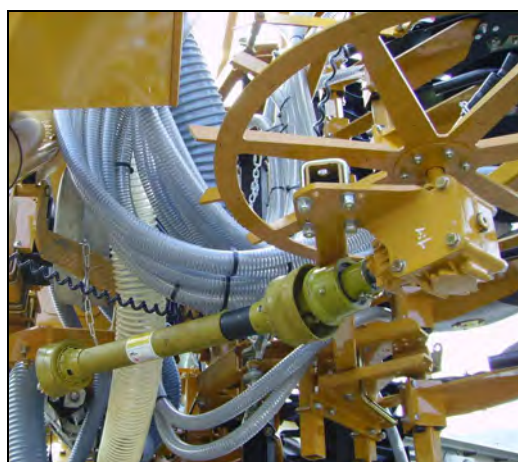
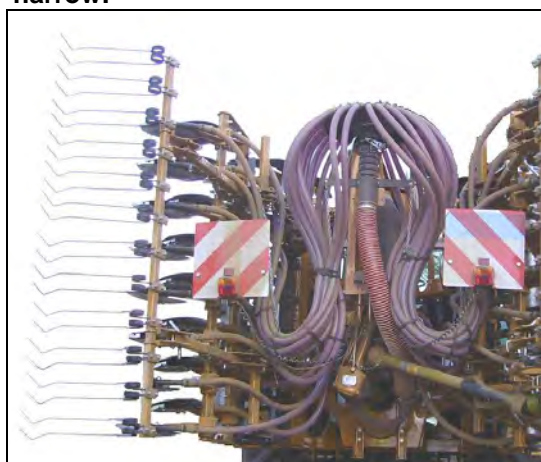
**This operation must be carried out on a horizontal surface. The seed-drill must be stable on its support legs, or positioned in a stable manner on the harrow.**

Once the position of the boards has been determined in relation to the centre of the machine (see picture) perform the following steps:

1. Position the support (E) against the upper pipe of the seed bar and insert the Ubolts (D), but do not tighten them.
2. Fix the board (F) to the support (E) using the M12x35 screws (G).



**Make sure that the electric coil that connects the two light boards does not come into contact with rotating parts or other things that could damage it during the folding and unfolding of the power harrow.**



## 4.9. ASSEMBLING THE SEEDER PIPES



Then the AS4 seeder is delivered, the seeder pipes are supplied disconnected from the seed bar. It may be obligatory to connect all the pipes, according to the bar that is to be connected (cutter or disc). Remember to follow the instructions.

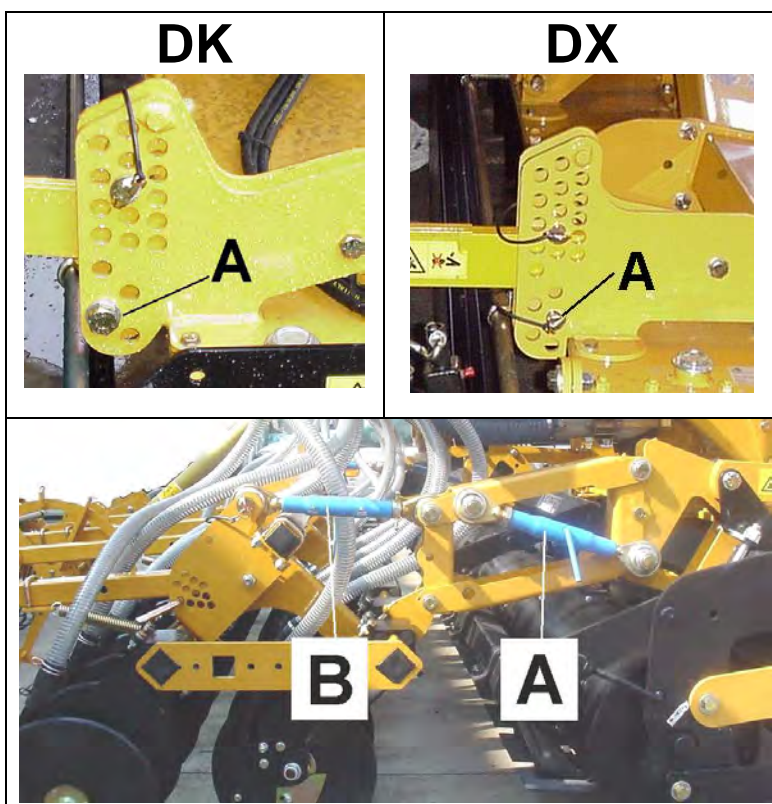
To connect the pipes to the bar:

1. Make sure that the hopper is connected to the machine frame correctly (see par 4.4)
2. make sure that the seed bar is connected to the harrow roller correctly
3. Position the lower pin **A** of the roller blade regulation for Alpego harrows **DK** **DX** (see photo)



**Never change the position of pin A. Doing so could compromise pipe connection to the cutter bar and the distributor**

4. Regulate the height (lengthening tension rod **A** raises the bar, shortening the tension rod lowers it) and slope (tension rod **B**) of the seed bar that is to be used.

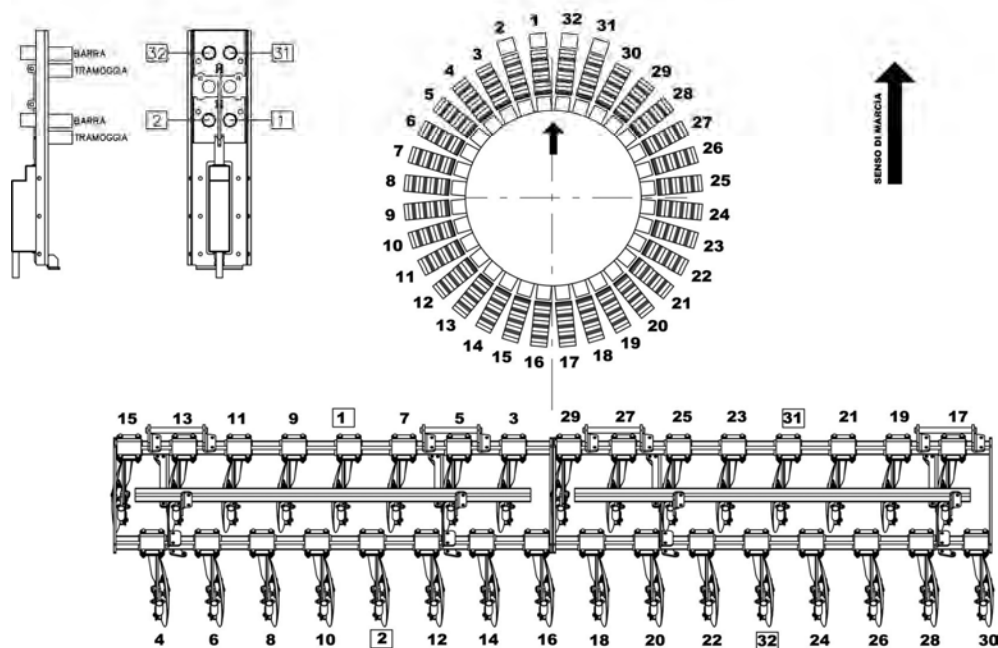


1. Position the seeder pipes following the drawing.



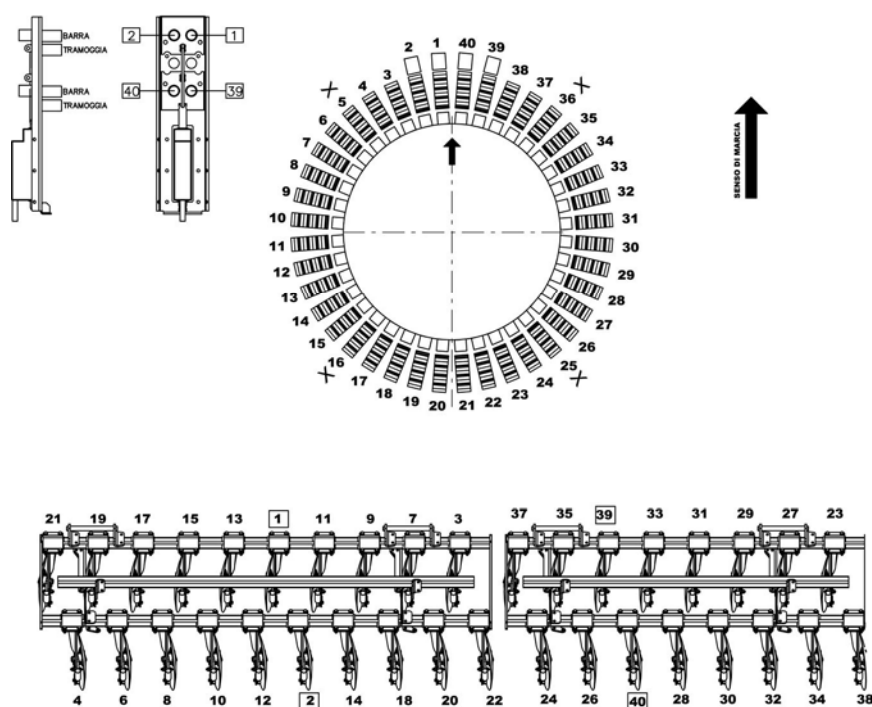
Make sure that the arrow on the distributor is in the direction of the hopper

## AS4 - 4m



## AS4-4,5m

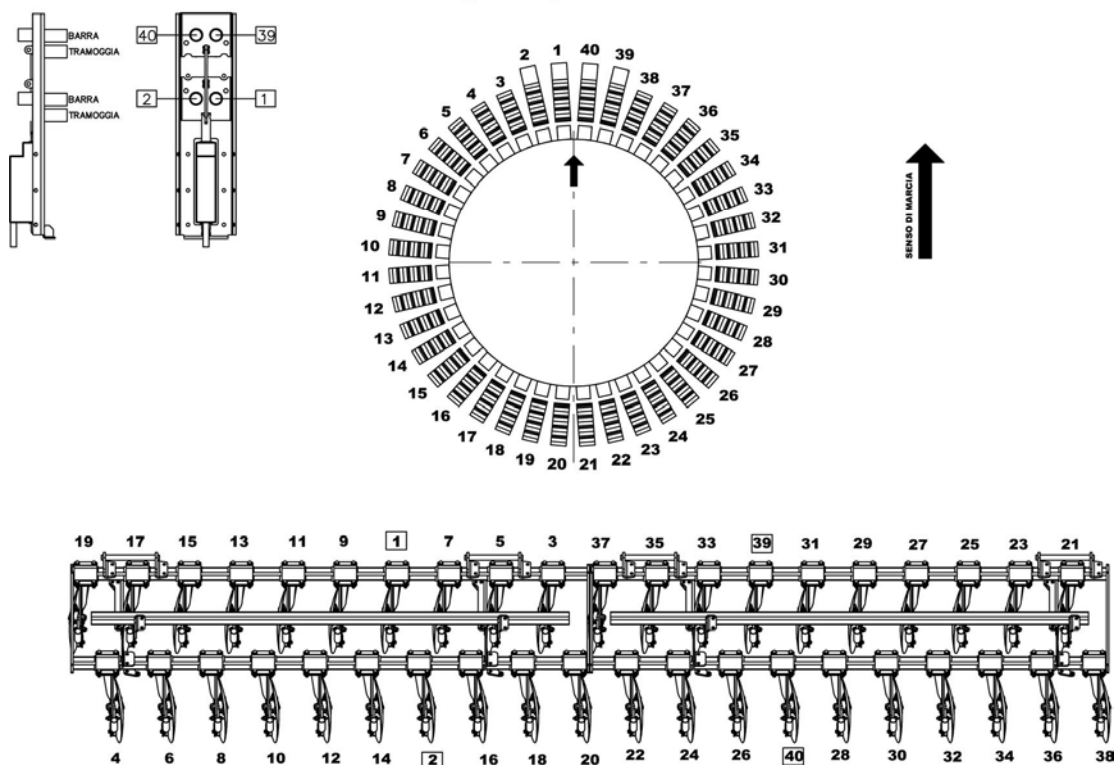
Aggiornato con produzione al 29/07/14





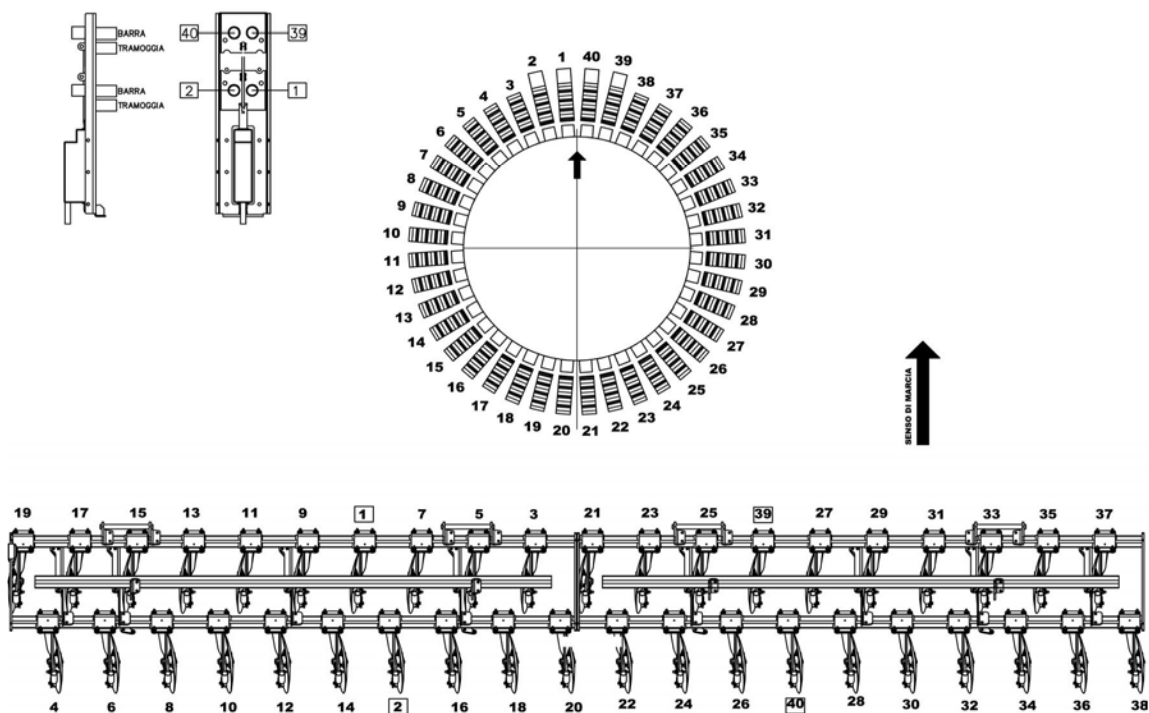
## AS4-5m

Aggiornato con produzione al 29/07/14



## AS4- 6m

Aggiornato con produzione al 31/07/14



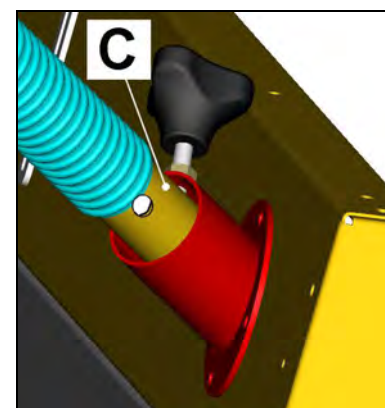
2. The seeder pipe closing springs (**D**) can be found inside the hopper (or connected to the corrugated pipe of the distribution mushroom).  
Insert these springs into the metal tubes of the cutter bars or discs. Once all the seeder pipes have been positioned fix them to the rubber reduction as shown on the right (**D**).





## 4.10. CONNECTING THE FRONT HOPPER WITH THE SEED-DRILL

When delivered, the AS3 has a spiral-reinforced hose protruding from seedfeeding unit (**A**). This hose needs to be shortened and connected with the rigid black pipe and secured with the hose-holding metal bands. When doing this, do not create loops which could impair the movements of the seed-drill when driving up and down hill.

The rigid black pipe (**B**) must be fixed solidly to the tractor by the end user.



Use the remaining piece of spiral-reinforced hose to connect the metal pipe (**C**) with the rigid black pipe (**B**) using metal bands. While doing this, leave enough room for the hopper to rise. Do not create loops. There is a small hole in the pipe (**C**) which guarantees a breather hole, which, depending on its degree of opening, insures a variable suction capacity

AVERAGE-SIZE SEEDS LARGE SEEDS	FINE SEEDS
 OPEN	 PARTIALLY OPEN



**It is absolutely forbidden to shut the suction opening completely**



#### 4.11. CHECK OF THE TRACTOR STABILITY AND ITS LIFTING POWER



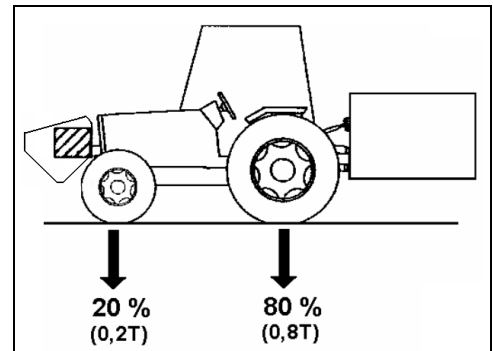
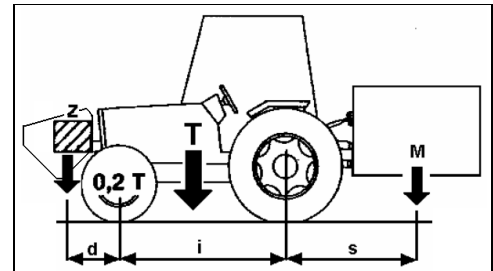
When an implement is hitched to a tractor and, as far as circulating on public roads is concerned, it becomes an integral part of it, it can alter its stability and make it difficult to drive it and to work.

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:

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

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



#### CALCULATING TRACTOR STABILITY.

were:

**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.

Tractor wheel base	i = ..... m
Distance between the front axle and the front ballast	d = ..... m
Projection of the implement from the rear axle	s = ..... m
Tractor mass	T = ..... Kg
Ballast mass	Z = ..... Kg
Implement mass	M = ..... Kg

## 5. INSTRUCTIONS FOR USE

### 5.1. SYSTEMS FOR FEEDING AND CONVEYING THE SEEDS

The feeders are machines which generate a depression inside a chamber, so as to produce an air flow which, in turn, acts as a seed conveyor. Like all machines and instruments with moving parts they can be a source of serious danger if they are operated after removing or excluding their safety guards.

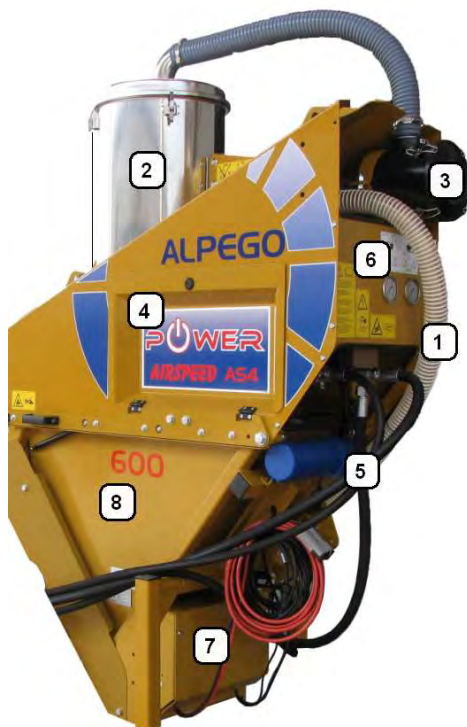
**Alpego S.r.l.** will not be held responsible for any accident occurring because of the non-compliance with the standards for the correct use and/or for faulty maintenance or if the components for the seed-conveying system are altered. The instructions given do not replace the safety standards and the technical operational data in force in the country where the machine is used and the standards suggested by common sense. The customer is to use exclusively original Alpego spare parts and to install them according to the use they are meant for.

**Alpego S.r.l.** is not responsible for the disposal of the products necessary for the good performance of the machine or for its scrapping: therefore it is necessary for the Customer to personally take care of their disposal. The equipment, so as it is delivered, produces a sound pressure lower than 80 dB, so that it is totally harmless for the operator. Should the equipment, for whatever reason, exceed said sound level, the operator must protect himself with the proper personal safety means.

Do not remove the piping connected with the depressor which acts as a protective element against rotating parts and as a muffler. As a rule, the electric wiring of the equipment is properly done and the Manufacturer guarantees its perfect safety and efficiency: in any case the operators must report any anomaly or deterioration due to use or aging, so that the correct safety conditions can be promptly restored. It is strictly forbidden to use the equipment if it does not work properly and/or if it has been damaged or has undergone poor repair. Any foreign bodies not belonging to the equipment (wrenches, screwdrivers etc.) must be removed from moving parts prior to the start up of the machine.

**Alpego S.r.l.** will not be held responsible for any damage of any kind occurring because of improper or reckless operations performed by trained or untrained personnel who have performed operations on the equipment while disregarding the instructions given in this Manual. The operator must not wear clothing with large sleeves, with strings or belts.

The equipment is protected within a casing which must be kept closed while the machine is working and the depressor is in operation. The Manufacturer will not be held responsible for any damage or malfunction of the equipment or for damages to third parties arising from the removal or the opening of the protective casing. In order to view the inside of the equipment use the proper door (4).



#### Components:

- 1) Hose connecting the front hopper with the rear hopper
- 2) Hopper of vacuum pump
- 3) In-line filter
- 4) Inspection door
- 5) Hydraulic hoses for the connection of the suction system
- 6) Manometers for the control of the pressure of the feeder and the fan
- 7) Electronic control unit
- 8) Rear hopper



**The implement is suited only for the use described. Any other use differing 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.**

### 5.1.1. HYDRAULIC CONNECTION WITH THE TRACTOR

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 40l/min. the hydraulic operation requires 18 l/min.
- Working pressure: 50 ÷ 80 Bar Max 100 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 rotational speed of the hydraulic motor and, as a consequence, of the suction unit depends on the flow pressure, which is shown on the manometer.

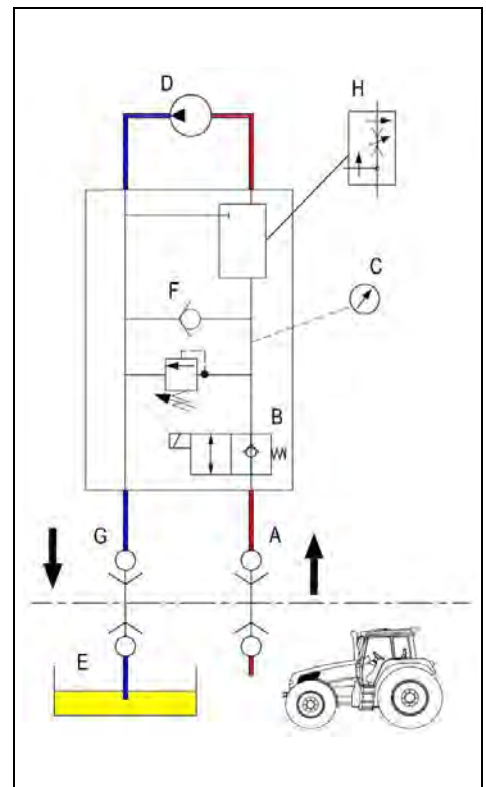
The system is complete with a safety valve which makes it possible for the device to keep on turning by inertia even after the system has been shut off or a sudden break down of the system has occurred.

A solenoid operated by the electronic control system stops the oil flow in order to interrupt the seed conveyance

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 3 Bar**.

This connection is of basic importance above all to protect the hydraulic seals of the motor, which, if damaged, would allow very dangerous oil leaks.

- A) Quick coupling on the **delivery side ½**
- B) Three-way electro-valve
- C) Manometer
- D) Motor
- E) Free-flow discharge
- F) Safety valve
- G) Quick coupling on **free-flow discharge ¾**
- H) Flow-adjusting device (option)

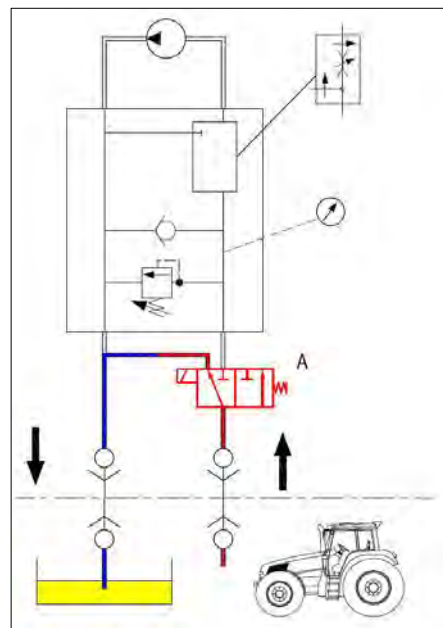


## 5.1.2. HYDRAULIC CONNECTION TO TRACTORS WITH OPEN-CENTER HYDRAULIC SYSTEMS

In general in this type of tractors the pump does not have a variable displacement, therefore, if the oil flow is interrupted it could cause damages to the pump or to the tractor distributors.

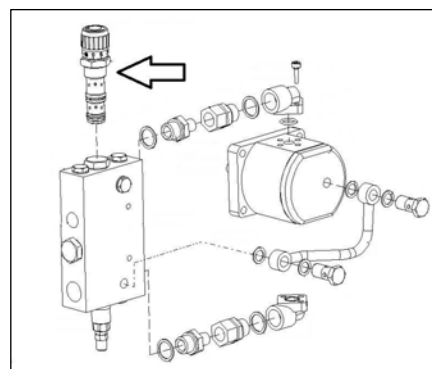
In order to avoid this kind of problems it is necessary to modify the hydraulic system of the seed-drill by adding a 3-way valve **A** which will send all the oil to the free discharge of the tractor.

There is a special kit for this purpose which is supplied on demand, complete with a 3-way valve (code S31205).



## 5.1.3. ADJUSTEMENT OF THE OIL FLOW WITHOUT A VARIABLE DISPLACEMENT PUMP

If the tractor does not have a variable displacement pump, there is a special kit for this purpose which is supplied on demand



#### 5.1.4. START-UP OF THE SEED-FEEDING DEVICE

With tractor engine switched off and tractor hand-brake pulled, connect correctly all the quick couplings.


1. Quick coupling **delivery**  $\frac{1}{2}$  (A) to one of the distributors with variable delivery flow and continuous running
2. Female quick coupling **discharge**  $\frac{3}{4}$  (G) to a free-flow discharge coupling mandatorily insuring that there is no counter-pressure exceeding **3 Bars**.
3. Make sure that the hose conveying the seed from the front hopper to the rear hopper is connected correctly
4. Make sure that the lid of the intermediate hopper is air-tightly shut
5. Set the duration of loading cycle in your computer by choosing it from the chart (Paragraph concerning the setting of the loading cycle)
6. **Start the tractor engine and activate the hydraulic system** at its minimum speed for a few minutes until the constant working pressure is reached in the system, in order to avoid the instability of the unit.
7. **Connect the electric circuit to the tractor battery and start the loading cycle**

Only after the oil has reached an ideal temperature and there are no sudden speed variations of the suction system, is it possible to adjust the pressure. Should the implement be used with different tractors and, therefore, different hydraulic distributors, it is necessary to perform the calibration for each tractor used.




#### NORMAL-SIDE SEEDS

#### FINE-SIDE SEEDS

	Frumento Ble' Weizen Wheat	Segale Seigle Roggen Rye	Orzo Orge Gerste Barley	Rape Rave Raps Rape	Bietola Betterave Ruebe Beet	Trifoglio Tref Lu Rotkee Tref read	Colza Colza Colza Raps	Avena Avoine Hafer Oats	Erba medica Lucerne Gras Lucerne
<b>Kg/dm<sup>3</sup></b>	<b>0,77</b>	<b>0,74</b>	<b>0,68</b>	<b>0,65</b>	<b>0,7</b>	<b>0,77</b>	<b>0,66</b>	<b>0,5</b>	<b>0,36</b>
 <b>BAR</b>	<b>60÷70</b>							<b>50÷60</b>	
<b>Giri / min</b>	<b>3000</b>							<b>2500</b>	

#### LARGE-SIDE SIZE

	Fagioli Harigots Beans A.Bohnen	Pisello Pois Erbsen Peas	Vecce Vescs Wicken Vetches	Mais Maïs Mais Maize	Frumento duro Durum Wheat Ble Dur Dur-Hartweizen	Favino
<b>Kg/dm<sup>3</sup></b>	<b>0,85</b>	<b>0,81</b>	<b>0,83</b>	<b>0,79</b>	<b>0,82</b>	<b>0,78</b>
 <b>BAR</b>	<b>70÷80</b>					
<b>Giri / min</b>	<b>3000</b>					



### 5.1.5. SETTING THE TIME OF THE LOADING CYCLE

The specific weight changes from seed to seed and therefore it is necessary to set different loading times depending on the type of seed. Check the Alpetronic® Owner's Manual for information on how to set the time of the loading cycle.

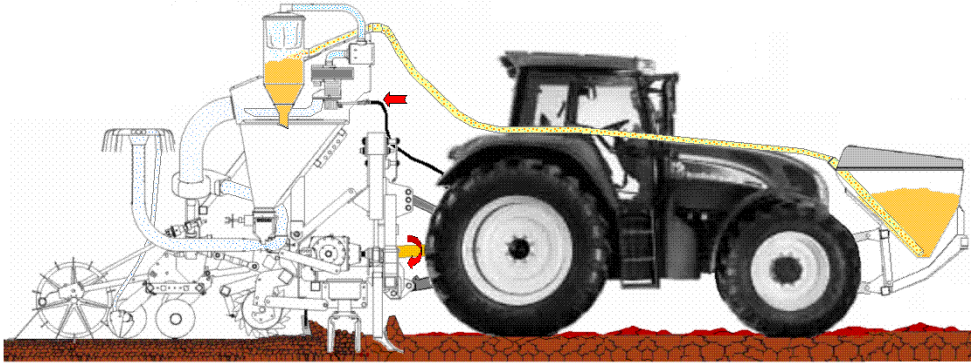
#### CHART FOR SETTING THE TIME OF THE LOADING CYCLE

Type of seed	Specific weight Kg/dm <sup>3</sup>	Time (sec)	Type of seed	Specific weight Kg/dm <sup>3</sup>	Time (sec)
<b>Fumento</b> Ble' Weizen Wheat	0,77	36	<b>Fagioli</b> Harigots Beans A.Bohnen	0,85	48
<b>Segale</b> Seigle Roggen Rye	0,74		<b>Pisello</b> Pois Erbsen Peas	0,81	
<b>Orzo</b> Orge Gerste Barley	0,68		<b>Vecce</b> Vesces Wicken Vetches	0,83	
<b>Rape</b> Rave Raps Rape	0,65		<b>Mais</b> Maïs Mais Maize	0,79	
<b>Bietola</b> Betterave Ruebe Beet	0,7		<b>Soia</b> Soya-Bean Soya Soja	0,8	
<b>Trifoglio</b> Tref Lu Rotkee Tref read	0,77		<b>Fumento duro</b> Durum Wheat Ble Dur Dur-Hartweizen	0,82	
<b>Colza</b> Colza Colza Raps	0,65		<b>Favino</b> Haricot Acherbohnen Field bean	0,78	
<b>Avena</b> Avoine Hafer Oats	0,5	30			
<b>Erba medica</b> Lucerne Gras Lucerne	0,36				

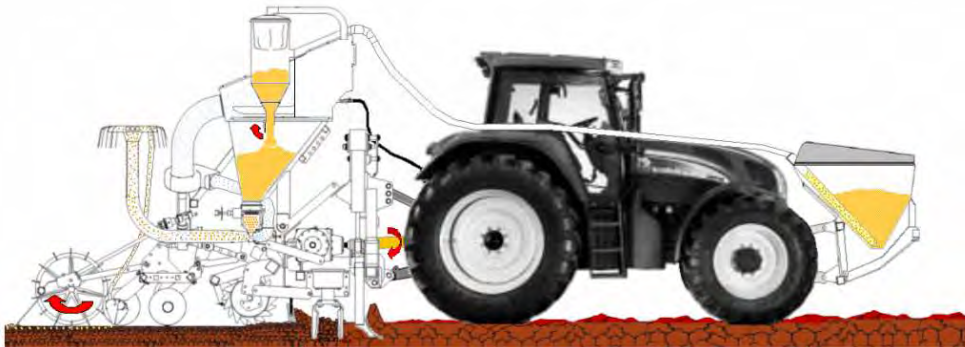
### 5.1.6. OPERATION OF THE LOADING CYCLE

**Phase 1** – After the hydraulic hoses have been correctly connected between the seed-drill and the tractor, and **once the front hopper has been filled with seeds**, it is possible to activate the **hydraulic control of the feeding unit**; **activate the loading cycle from the Alpetronic® monitor**.

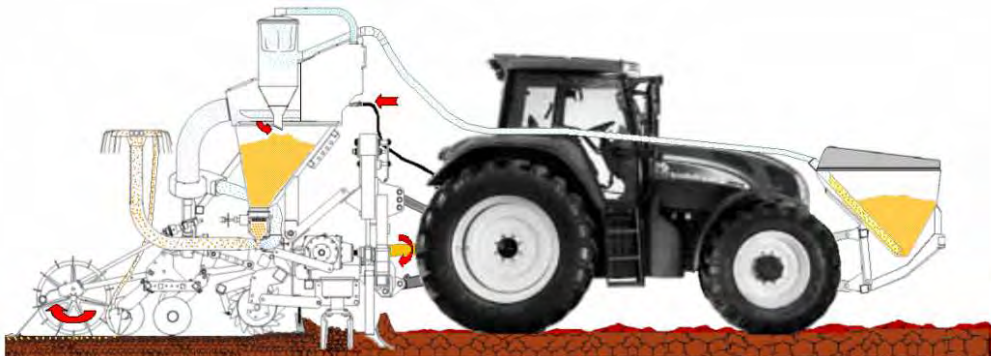
Thus begins the first phase of the seed conveyance, which transfers the seeds from the front hopper to the hopper of the feeding unit for the time which had been previously on the timer (see par. 5.1.4)



**Phase 2** – When the set time has passed, the feeding unit automatically stops conveying the seeds, which are poured into the final hopper.



**Phase 3** – After the seeds have been discharged – the process takes a few seconds – the loading cycles starts again. The cycles will be repeated until the final hopper is completely full: in order to guarantee a good performance of the feeding unit, it is **advisable** to fully fill the final hopper whenever the front hopper is filled.



**N.B. :** When the hopper is empty of seeds the computer will trigger an alarm. Fill the front hopper at the first opportunity.

## 5.2. OPERATION OF THE BLOWER



**The implement is suited only for the use described. Any other use differing 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.**

### 5.2.1. HYDRAULIC CONNECTION WITH THE TRACTOR

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 50l/min. the hydraulic operation requires 24 l/min.
- Working pressure: 100 ÷ 130 Bar Max 150 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**.

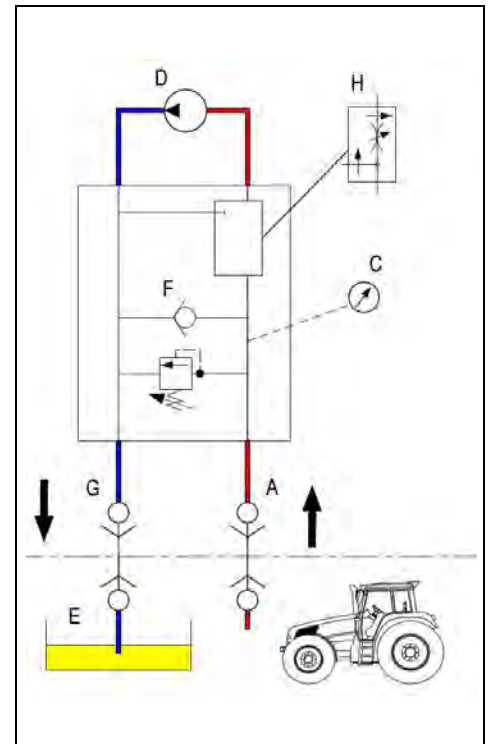
The rotational speed of the hydraulic motor and, as a consequence, of the suction unit depends on the flow pressure, which is shown on the manometer.

The system is complete 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.

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 3 Bar**.

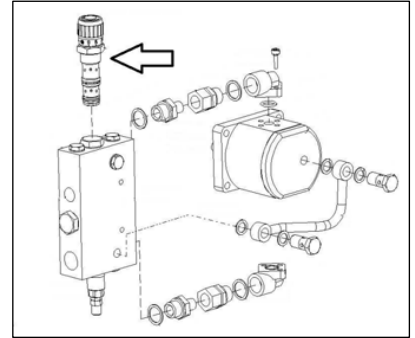
This connection is of basic importance above all to protect the hydraulic seals of the motor, which, if damaged, would allow very dangerous oil leaks.

- A) Quick coupling on the **delivery side ½**
- B) Three-way electro-valve
- C) Manometer
- D) Motor
- E) Free-flow discharge
- F) Safety valve
- G) Quick coupling on **free-flow discharge ¾**
- H) Flow-adjusting device (option)



### 5.2.2. ADJUSTEMENT OF THE OIL FLOW WITHOUT A VARIABLE DISPLACEMENT PUMP

If the tractor does not have a variable displacement pump, there is a special kit for this purpose which is supplied on demand.

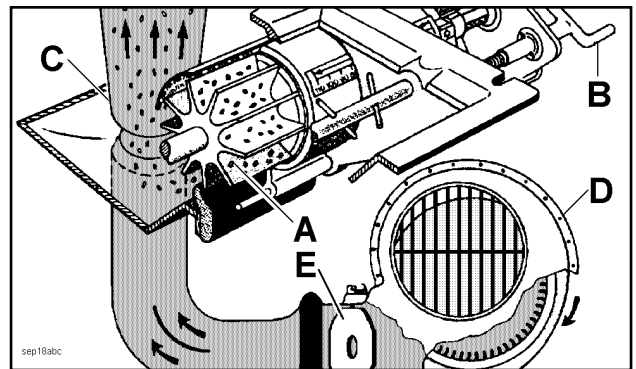


### 5.3. DISTRIBUTION

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

### 5.4. UNHITCHING THE SEED-DRILL



**Unhitching the seed-drill from the seed-bed preparation implement is a very dangerous phase. Be very careful to follow the instructions while carrying out the whole operation.**

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

- Disconnect the universal joint from the rear power takeoff of the harrow
- Disconnect the suction spiral-reinforced hose from the black rigid tube
- Remove all the hydraulic or electric connections supplying power to the seed-drill
- Unhitch the seed bar using the tie-rods on the parallelograms that are on the rear roller
- Hook up the hopper in the points that are shown on the sticker using belts suited to bear the weight of the machine
- Remove the screws of the lower connections of the seed-drill from the rear hitch of the power harrow and the pin of tie-rod of the upper arm.
- Lift the seed-drill slightly and make sure that you do not tear the seed-distributing hoses which are connected with the rear coulter bar
- Move the power or disc harrow away



## 6. MAINTENANCE

### 6.1. MAINTENANCE OF THE SEED-FEEDING HOPPER

Every once in a while, it is necessary to check if the cloth filter **A** which is inside the seed-feeding hopper is clean. Inside the filter there is an automatic cleaning device **E** consisting of a small metal frame, which shakes the filter at the end of each loading cycle.

However, if the seeds are **coated with chemicals or dust**, it may become necessary to perform manually a much more vigorous **cleaning of both filters A and B** with the help of compressed air under moderate pressure **at least once a day**

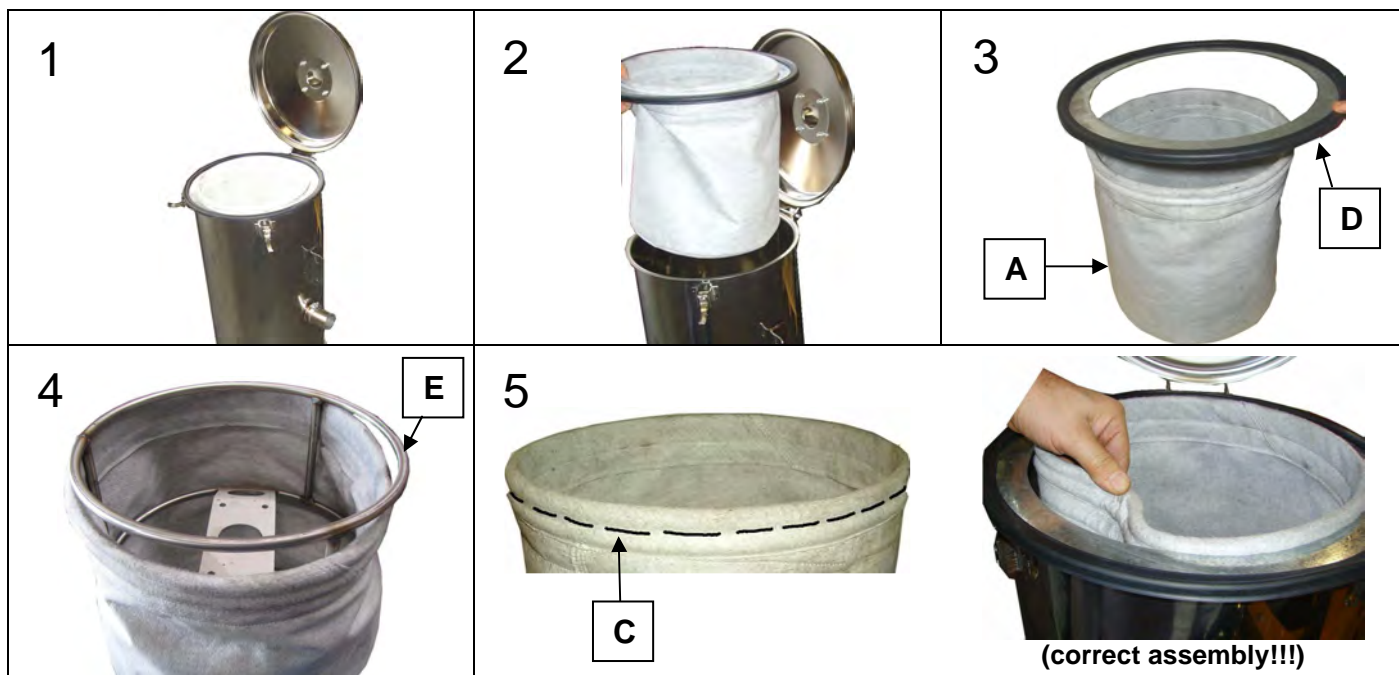
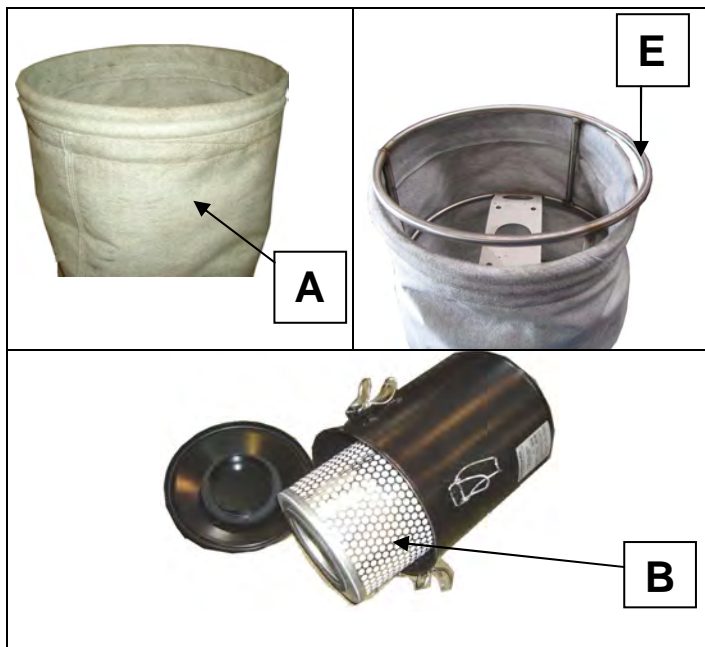
In order to ensure a good performance and efficiency it is necessary **to replace** the filters periodically

After **300 working hours** filter A intermediate hopper

After **500 working hours** on-line filter B



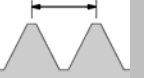
To replace filter **A** perform the following operations:

- 1) Open the lid of the intermediate hopper
- 2) Lift up the filter with the help of its supporting ring
- 3) Remove the ring with the washer from the cloth bag
- 4) Remove the metal device **E**
- 5) Make sure that the metal ring is placed well inside the filter exactly in correspondence with the broken line **C** (Filter **A** and ring **D** must become a single unit, one piece being integral with the other).



## 6.2. CHECKS AND CONTROLS

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.

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



### 6.3. LUBRICATION

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.

When you start the implement for the first time, check and if necessary lubricate the following components:

### 6.4. LUBRICATING THE GREASERS

INTERVAL h=hours	OPERATION
every 8/10h working hours	<ul style="list-style-type: none"> <li>- GREASE THE TIE-ROD NIPPLES</li> <li>- GREASE CROSSES, PIPES AND FREE WHEEL</li> <li>- GREASE ROW-MARKING DISC GREASE NIPPLES</li> </ul>

### 6.5. 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 (Ref. B point 5.4). 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. IRREGULARITIES

Should you experience any irregularity in the performance of the seed-drill perform the following simple checkups to see if any repair is necessary. If the problem remains even after the recommended checkups have been performed, contact your local dealer or the manufacturer directly.

TROUBLE	CAUSE	CORRECTION
<b>The seed-conveying and feeding unit does not start</b>	The flap of the feeding hopper is stuck	Open the door for the inspection of the feeding hopper and make sure that no foreign object is blocking the flap or if the main hopper is full
	The sensor does not correctly read the opening of the hopper flap	Turn and/or move the sensor around in its seat until the orange led lights up. It is possible to see the sensor reading in the computer monitor
	One loading cycle has run with an empty hopper	1) The front hopper is empty. Fill the front hopper with seeds and, with the hydraulic system of the suction unit activated, start the loading cycle again  2) Check the connection of the suction hose conveying the seed from the front hopper  3) Make sure that the suction hose is not clogged up  4) Make sure that the filter in the feeding hopper and the filter cartridge are not clogged up
<b>Insufficient seed being fed into the main rear hopper</b>	The alarm of the seed reserve does not go off	Increase the oil delivery to at least 30 l/' and the pressure from the tractor to 70-80 bars, check the r.p.m. of the suction fan (2550÷3500)
	The suction opening is clogged up	Check that the suction hole in the suction hose is opened correctly, depending on the type of seed being used
	The loading cycle of the timer is too short	Increase the duration of the loading cycle
	The filter in the feeding hopper is dirty/damaged	Check: that the filter is mounted correctly and that it is clean and in good working order
<b>Too much seed being fed into the main rear hopper</b>	The oil temperature is too high	Decrease the oil delivery to 30 l/' and the pressure from the tractor to 70-80 bars
	The suction hose is defective	
	The loading cycle of the timer is too long	Decrease the duration of the of the loading cycle
	The suction fan has reached a temperature of over 85° C	

TROUBLE	CAUSE	CORRECTION
<b>The suction fan works jerckily</b>	Intermittent variation of the pressure which can be read on the manometer, caused by an ecccessive quantity of the oil delivery	Decrease the oil delivery to 30 l/ and the pressure from the tractor to 70-80 bars
<b>The blower requires more than 150 bars working pressure</b>	There is an oil leak in the hydraulic motor of the suction unit.	Make sure that the ¾ " discharge hose is plugged into a free-flow discharge plug in the tractor
<b>Electronic power unit at the rear of the implement does not work or is not properly connected</b>	The monitor does not switch on	1) Check the connection with the power supply from the tractor and make sure that the poles are connected in the correct order 2) Check the connection of the cable from the monitor to the pull box 3) Check that the fuse inside the pull box is in good working order and replace it, if necessary
<b>Temperature alarm</b>	Too much seed being fed into the rear main hopper	Decrease the oil delivery to 30 l/ and the pressure from the tractor to 70- 80 bars decrease the duration of the loading cycle
	The filter in the feeding hopper is dirty or worn out	Check: - that the filter is inserted correctly - if it is clean - if it is in good working order
<b>Alarm of the loading cycle.</b>	The filter in the feeding hopper is dirty or worn out	Check: - that the filter is inserted correctly - if it is clean - if it is in good working order It is strongly advised not to increase the delivery or the pressure of the oil from the tractor

## **8. ACCESSORIES**



**The machine can be equipped with different options: for each addition keep in mind that the weight of the machine changes. Therefore, make sure that the stability of the tractor is not compromised.**

**For the assembly and the use of eventual options check the relevant documents attached to the options.**





**USATE SEMPRE RICAMBI ORIGINALI**  
*EMPLOYEZ TOUJOURS LES PIECES DE RECHANGE ORIGINALES*  
*IMMER DIE ORIGINAL-ERSATZTEILE VERWENDEN*  
**ALWAYS USE ORIGINAL SPARE PARTS**  
**USAR SIEMPRE REPUESTOS ORIGINALES**



**ALPEGO s.p.a**

*Administrative headquarters:* Via Torri di Confine, 6 36053 GAMBELLARA (VICENZA) – ITALY

*Legal headquarters:* Via Giovanni e Giuseppe Cenzato, 9 36045 LONIGO (VICENZA) – ITALY

**Tel:** 0444/646100 – **fax:** 0444/646199

**E-mail:** info @ alpego.com **Internet:** www.alpego.com