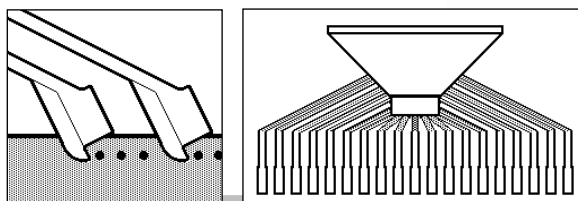




SEED-DRILLS



AIRSPEED



JET-M

Codice	Q00A00168/2	CE	 	GB	USE AND MAINTENANCE MANUAL
Da matr:	46962				
A matr:					

INSTRUCTIONS TRANSLATED FROM THE ORIGINAL

ALPEGO S.p.a.

Sede Amministrativa: Via torri di Confine, 6
36053 GAMBELLARA (VICENZA) - ITALY

Sede legale:

Via Giovanni e Giuseppe Cenzato,9
36045 LONIGO (VICENZA) - ITALY

Tel +39 0444/64.61.00

Fax +39 0444/64.61.99

e-mail : info@alpego.com

web site : www.alpego.com



- MACCHINE PER LA LAVORAZIONE DEL TERRENO
- ERPICI ROTANTI FISSI E PIEGHEVOLI
- COLTIVATORI A DENTI ED A DISCHI
- SEMINATORI MECCANICHE, PNEUMATICHE E COMBinate
- DISSODATORI E RIPUNTATORI
- FRESATRICI E ZAPPATRICI
- TRINCIASARMENTI
- TRINCIASTOCCHI

I	GB	D	F	E
Dichiarazione di conformità CE Seminatrice combinata solo su attrezzatura Alpego ai sensi della Direttiva Europea 2006/42 CE e 2014/30/UE	EC Certificate of conformity Seed Drill combined only on Alpego's machine conforming to European Directive 2006/42 EC and 2014/30/UE	EG Konformitätserklärung Sammaschinen nur für Alpego-Maschinen kombiniert entsprechend der Europäische Richtlinie 2006/42 EG und 2014/30/UE	Déclaration de conformité CE pour Semoirs combiné uniquement sur du matériel Alpego conforme à la Directive Européenne 2006/42CE et 2014/30/UE	Declaración de conformidad CE Sembradoras combinada solo en equipos Alpego. Conforme a la Directiva Europea 2006/42 CE y 2014/30/UE
La ditta sottoscritta	We	Wir	Nous	la empresa

ALPEGO S.p.a
VIA Giovanni e Giuseppe Cenzato 9
36045 Lonigo -(VI)-ITALIA

dichiara sotto la propria responsabilità che la macchina agricola modello :	declare in sole responsibility, that the agricultural machine model :	erklären in Verantwortung, da das landmaschine typ :	déclarons sous notre seule responsabilité que le machine agricole modèle :	declara bajo su propia responsabilidad que la la maquinaria agrícola modelo:
--	--	---	---	---

Codice / Code : Sî	Serial:Inglese
---------------------------	-----------------------

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: UNI EN ISO 4254-1 UNI EN ISO 13857 UNI EN ISO 14018 UNI EN ISO 4254-5 UNI EN ISO 4413 ISO 11684 La persona autorizzata a costituire il fascicolo tecnico è il Direttore Tecnico di Alpego presso la sede aziendale.	to which this applies, conforms to the basic safety and health requirements of European Directive For the adaptation of it blots some have been adopted the norms: UNI EN ISO 4254-1 UNI EN ISO 13857 UNI EN ISO 14018 UNI EN ISO 4254-5 UNI EN ISO 4413 ISO 11684 The person authorized to drawn up the technical dossier is the Technical Director of Alpego at the company headquarters.	auf das sich diese Erklärung bezieht, den einschlägigen grundlegenden Sicherheits und Gesundheitsanforderungen der Europäische Richtlinie. Für die Anpassung von ihr befreit einiges sind angenommen worden den Normen: UNI EN ISO 4254-1 UNI EN ISO 13857 UNI EN ISO 14018 UNI EN ISO 4254-5 UNI EN ISO 4413 ISO 11684 Die zur Erstellung der Technischen Dokumentation befugte person ist der technische Direktor von Alpego am Firmensitz	faisant l'objet de la déclaration est conforme aux prescriptions fondamentales en matière de sécurité et de santé stipulées dans la Directive Européenne. Pour l'adaptation d'elle en éponge ont été adoptés les normes : UNI EN ISO 4254-1 UNI EN ISO 13857 UNI EN ISO 14018 UNI EN ISO 4254-5 UNI EN ISO 4413 ISO 11684 La personne autorisée à constituer le dossier technique est le Directeur Technique d'Alpego au siège de la société.	està conforme a los requisitos esenciales de seguridad y de defensa de la salud de Directiva Europea . Para la equiparación de las máquinas han sido adoptadas las normas UNI EN ISO 4254-1 UNI EN ISO 13857 UNI EN ISO 14018 UNI EN ISO 4254-5 UNI EN ISO 4413 ISO 11684 La persona autorizada a preparar el expediente técnico es el Director Técnico de Alpego en la sede de la empresa.
---	--	---	--	--

Lonigo: gg/mm/aaaa

ALPEGO S.p.a.
PEGORARO LUCIANO
Un Legale Firmatario

**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.



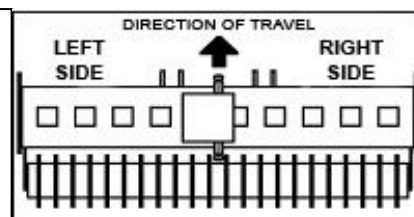
AS THE TRIANGLE INDICATES DANGER, PLEASE BE CAREFUL WHEN IT APPEARS!

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.)



INDEX

1. GENERAL INFORMATION.....	1
1.1. PURPOSE OF THE MANUAL	1
1.2. DOCUMENTS SUPPLIED WITH THE MACHINE	1
1.3. WARRANTY	1
1.4. MACHINE IDENTIFICATION	2
2. TECHNICAL SPECIFICATIONS.....	3
2.1. MACHINE DESCRIPTION	3
2.2. JET-M SEED-DRILL COMPONENTS	4
2.3. TECHNICAL DATA TABLE	4
2.4. SOUND LEVEL	4
3. SAFETY REGULATIONS	5
3.1. USING THE MACHINE SAFELY	5
3.2. HYDRAULIC CONNECTIONS.....	6
3.3. CARRYING OUT MAINTENANCE SAFELY	6
3.4. CLOTHING	6
3.5. CIRCULATING ON ROADS.....	7
3.6. ECOLOGY	7
3.7. SAFETY SIGNALS.....	8
4. INSTALLATION.....	9
4.1. APPLYING THE SEED BOX FAST COUPLING	9
4.2. CONNECTION OF THE FRONT HOPPER WITH ALPEGO MACHINES.....	9
4.3. LINKAGE OF SEEDING BAR 300-350.....	10
4.3.1. INSTALLATION OF “FAST” CONFIGURATION.....	10
INSTALLATION “AUTO-LEVEL” CONFIGURATION.....	12
4.3.2. LINKAGE OF SEEDING BAR 300-350	14
4.3.3. PLATFORM ADJUSTMENT	15
4.4. CONNECTING THE SEED-DRILL BAR 400	15
4.4.1. INSTALLING QUICK HOOKS	15
4.4.2. ASSEMBLY OF THE SEED COVERING HARROW	16
4.4.3. HITCHING THE SEEDING BAR 400	16
4.5. ASSEMBLY OF THE REAR LIGHTS	17
4.6. CHECKING THE RAISING CAPACITY AND TRACTOR STABILITY	18
5. USER INSTRUCTIONS.....	20
5.1. OLEODYNAMIC BLOWER MOVEMENT	20
5.1.1. HYDRAULIC CONNECTION WITH THE TRACTOR	20
5.1.2. STARTING	21
5.1.3. OIL COOLING	21
5.2. DISTRIBUTION	21
5.3. ADJUSTEMENT OF THE FOLLOWING HARROW	22
5.4. REGULATING THE SOWING DEPTH	22
5.5. ADJUSTMENT OF THE COULTER-DISC SCRAPER	23

5.6. UNHITCHING THE SEED-DRILL (OPTIONAL)	23
6. MAINTENANCE	25
6.1. CHECKS AND CONTROLS.....	25
6.2. LUBRICATION	25
6.3. EMPTYING THE SEED FROM THE HOPPER	26
6.4. END OF SEASON OPERATIONS.....	26
7. ACCESSORIES.....	27
7.1. ROW MARKING.....	27
7.2. PRE-SPROUTING DISCS	27
7.3. PRESS WHEEL	28

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 use of the combined machine (power harrow / rotary tiller / cultivator with seeder) defines this manual as an integral part of the use and maintenance manual of the power harrow or the rotary tiller or the cultivator.
- 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.
- The Manufacturer reserves the right to modify the implement without promptly updating this issue. In case of dispute the valid reference text remains the Italian version.

1.2. DOCUMENTS SUPPLIED WITH 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

COD.	DESCRIPTION
Q00A00169	Owner's Manual of the AIRON metering unit
-	Owner's Manual of the row-marking discs
D15686	Owner's Manual of the "SUPER PLUS" Computer

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.

WARRANTY FORFEITURE

The guarantee is rendered null and void immediately if:

- there is a manoeuvring error
- 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.
- bolt or material other than those specified are used
- If the maximum power limit allowed is exceeded

The warranty only covers design, assembly and painting defects and exclusively in the case of use of the product in accordance with the instructions provided in this instruction manual;

The Seller is not liable for components supplied by third parties and installed on its machines.

For what is not expressly foreseen therein, please refer to the general sales conditions.

1.4. MACHINE IDENTIFICATION

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

 www.alpego.com D01988/3  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

- Model of the machine
- Serial number
- Maximum weight of the machine
- Costruction year [es: 1305 = 13 (2013) + 05 (may)]

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

2. TECHNICAL SPECIFICATIONS

2.1. MACHINE DESCRIPTION

- The mod. **JET-M** seed-drill should only be used for working agricultural ground. If used in manners other than those described in this manual, the machine can be damaged and become dangerous for the user.
- The seeder mod. **JET-M** is suitable for use combined with implements Alpego for the preparation of the soil.
- The mod. **JET-M** seed-drill can be used with equipment for working the ground in combination with a suitable assembly kit.
- The mod. **JET-M** seed-drill is suitable for sowing cereal: wheat, barley, rye, oats, rice; fine seeds and fodder: rape, clover, alfalfa; large seeds: soy, peas.
- The seeds are deposited in the soil by means of disc coulters and they are distributed continuously; the distributed quantities are regulated by an electric motor. The seeds are distributed and transported to the coulters by compressed air. The air is produced by a fan that is moved hydraulically.
- The disc is mounted on a super-elastic support that gives excellent depth and pressure on the ground, regulating the height of the seed bar.

For the plan and the realization of the machine in object they have been examined and continuations the Norms of the directive 2006/42 CE which:

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

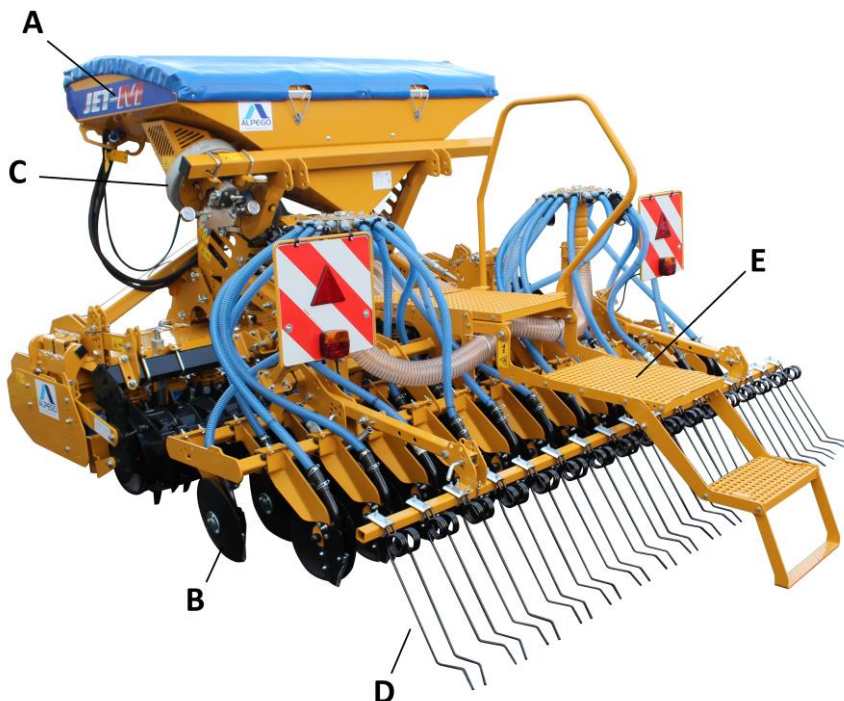
The machine will operate well if used correctly and if the correct maintenance is carried out. It is therefore advisable to follow what is indicated in this manual in order to prevent any inconvenience that could prejudice good machine operation and long duration.

The Manufacturer denies all responsibility for accidents/injury/damage caused by negligence and the non-observation of the regulations given in this manual.

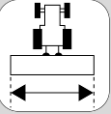
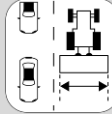

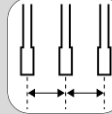

The Manufacturer is, however, at your complete disposal to guarantee technical assistance and anything that may be necessary for optimum performance and maximum return.

2.2. JET-M SEED-DRILL COMPONENTS

- A. Seed hopper
- B. Coulters
- C. Fan
- D. Rear seed covering harrow
- E. Hopper loading ladder



2.3. TECHNICAL DATA TABLE

Model	 mm.	 mm.	 N°	 mm.	Hopper Capability	Oil tractor capacity Lit	 Kg.
JET-M 300	3000	3000	24				-
JET-M 350	3500	3500	28	125	1000	-	-
JET-M 400	4000	4000	32				-

2.4. SOUND LEVEL



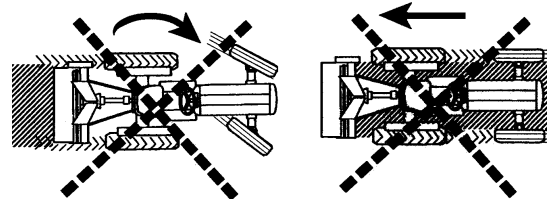
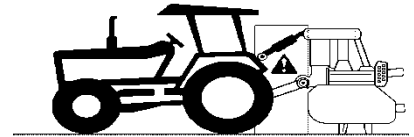
If the tractor is equipped with a cabin, the sound level will depend on the soundproofing level of the cabin itself. If the tractor does not have a cabin or is used with the windows open, the noise level emitted by the machine while working and measured at a distance of 200 mm from the rear window exceeds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

3. SAFETY REGULATIONS

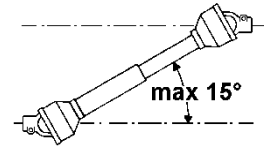
3.1. USING THE MACHINE SAFELY



- Read the user and maintenance manual carefully before starting to use and carry out maintenance on the equipment.
- The manufacturer cannot be held responsible for any damage caused to people, animals or things caused by the non-observance of the safety regulations.
- The seeder has to be combined with an implement (power harrow / rotary tiller / cultivator) connected to the tractor 3-point hitch and the machine has to be operated by an operator
- It is forbidden to use the machine for purposes other than those expressly indicated in this manual.
- It is forbidden for people to drive the tractor if they do not have a current driving licence, if they do not have the necessary experience, or if they are not in good health.
- Examine the stickers on the machine carefully and respect the indications they give.
- While manoeuvring, do not allow people or animals to enter the operating range of the machine.
- Do not allow people, animals or things to approach the machine while it is working in order to avoid being hit by the clods and stones that the machine ejects.
- It is forbidden to enter the area between the tractor and the machine to activate the external commands of the hydraulic lifter
- Always remain seated in the driving position of the tractor, and only come down when the tractor power takeoff is disabled and the handbrake has been activated.
- During work pauses deactivate the power takeoff, switch off the motor, position the machine on the ground and activate the tractor handbrake.
- Do not work without the protections.
- Do not allow the machine to operate loadless (i.e. while it is out of the ground).
- Do not turn sharply if the machine is embedded in the ground, and never work in reverse.
- Always raise the machine when changing direction and reversing.
- During transport, or each time the machine has to be lifted, it is advisable to regulate the tractor lifting group in such a manner as to keep the machine at a height of minimum **45 cm** from the ground. Avoid using public roads if the machine is dirty with earth, grass or other things that produce dirt and can cause traffic blockage. Do not allow the machine to fall violently to the ground; instead lower it slowly to permit the gradual insertion of the blades into the earth.
- Not following the points mentioned below causes all the machine components to oscillate strongly, which compromises their integrity.
- While transporting on roads with the machine raised, lock the command lever of the tractor hydraulic lifter.
- The machine and its accessories (if present) should be equipped with suitable signals and protections when on the road.
- Do not use the machine as a means of transporting people, animals or things.
- Do not work on earth or in places that can compromise machine stability.
- Only use the drive shaft supplied by the manufacturer, which is equipped with the relative safeties against overloads.



- The cardan shaft protection should always be reliable. It should be checked periodically and fixed using the chains to prevent it from rotating.
- Always disable the Power Takeoff when the cardan shaft is at an angle of more than 15°, see figure.
- The seed-drill can transport chemical substances that are mixed with the seeds. Do not allow adults, children or pets to approach the seed-drill.
- No-one should approach or try to open the seed tank when the seed-drill is working or ready to be used.



3.2. HYDRAULIC CONNECTIONS

- When connecting the hydraulic pipes to the tractor hydraulic system, make sure that the hydraulic systems of the machine tool and the tractor are not under pressure.
- In cases of operational connections of a hydraulic type between the tractor and the machine tool, all plugs and sockets should be marked with colours in order to exclude errors. Should an exchange occur, the danger of accidents arises.
- The hydraulic system is pressurised. To avoid the danger of accidents, suitable auxiliary instruments should be used when searching for leaks.
- Never exceed the indicated pressure of the oleodynamic system.

3.3. CARRYING OUT MAINTENANCE SAFELY

- 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.

3.4. 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.)



3.5. CIRCULATING 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. Before the seed-drill is transported, it must be emptied of all the seeds. Transportation with seeds inside it could cause break-downs and change the loads on the axles of the tractor.
4. obligation to respect the rules for the protection of one's own safety and that of others, taking all possible precautions.
5. Projecting parts and those beyond the width of the tractor must be fitted with the relative protections.
6. The entire implement must be equipped with its own lighting system complete with flashing lights and indicators.
7. Warning boards to indicate the projecting parts of the implement must be affixed where necessary.
8. 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.
9. Comply with the load limits on the axles.
10. Bear in mind the limits imposed by the overhang and projection from the sides of the tractor

3.6. ECOLOGY

Respect current user country laws regarding the use and elimination of products used for lubrication, maintenance and machine cleaning. Carefully observe the indications given on the packaging of the products themselves. Respect current norms even when scrapping the machine.

3.7. 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
	D02612	Before using the equipment it is obligatory to read the user and maintenance manual and the advice on safety. All instructions must also be observed during use
	D02627	Indicates the hooking point for loading the machine on trucks and transporting it.
	D02613	Indicates the danger of shearing while the machine is working
	D02615	Indicates the need to switch off the tractor and remove the ignition key during maintenance operations
	D02624	Indicates danger caused by pressurised oil should the hydraulic pipes break. Consult the instruction manual before repairing the hydraulic systems
	D02614	It indicates the danger of crushing on the gears of the gearbox, it is recommend turning off the PTO when changing gears.
	Q15A00531	The sticker depicts the compulsory PPE (Personal Protective Equipment): overall, mask, earplugs, safety shoes, gloves

4. INSTALLATION

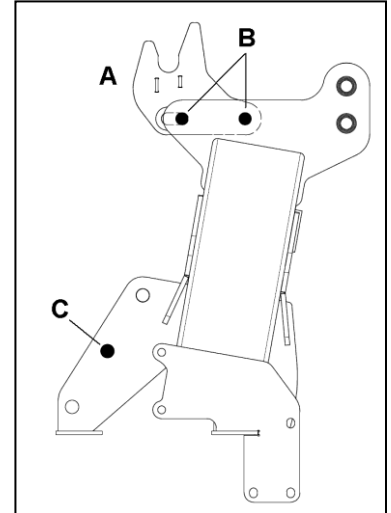
4.1. APPLYING THE SEED BOX FAST COUPLING



All maintenance, adjustment and work preparation operations should be carried out while the tractor is switched off, with the ignition key out and with the seed-drill positioned on the ground in a stable manner on its support legs.

In order to mount the seed-drill on a seedbed preparation implement all that needs to be done is to attach the quick coupling **A** to the implement, to secure it with the relevant pins **B** and to insert the pins **C**, as shown in the picture.

The fast coupling can only be used with **ALPEGO** machines.



4.2. CONNECTION OF THE FRONT HOPPER WITH ALPEGO MACHINES

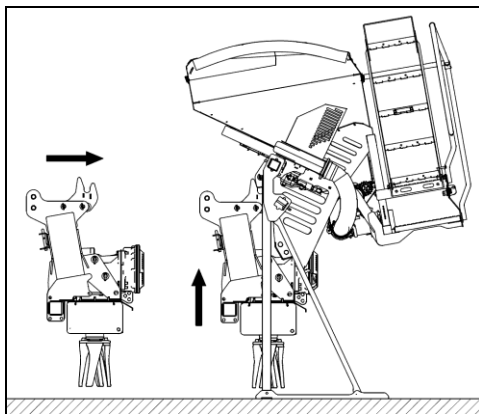


The seeder is designed to be combined just with power harrows / rotary tillers / cultivators Alpego: the connection of the machines requires intervention and preventive checks on each implement.

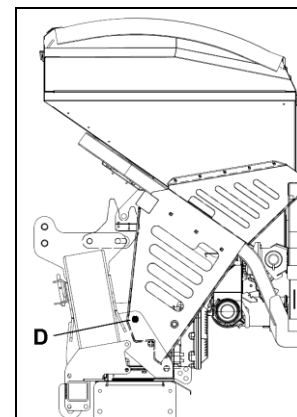
Applying things to the tractor is a very dangerous operation. Be very careful to complete the whole operation and follow the given instructions. During maneuvers it does not allow the approach of people or animals to the radius of action of the machine

Proceed as follows:

1. For the correct use of the "ALPEGO" quick assembly/disassembly system, lift the seed-drill to the minimum height to allow manoeuvring. If there are any supporting legs, check the stability of the seed-drill.
2. Drive the tractor close to the seed-drill. By using the tractor lift take position vertically on the pin of the upper arm of the seed-drill (Picture 1)
3. Lift the power harrow and secure it with the pin of the upper arm of the seed drill (Picture 1)
4. After the hitching has been achieved, insert the pins D, in order to secure the seed-drill on the power harrow (Picture 2)



Picture 1



Picture 2

4.3. LINKAGE OF SEEDING BAR 300-350

4.3.1. INSTALLATION OF “FAST” CONFIGURATION



The operation must be carried out on a horizontal plane, with the power harrow in a stable position and the supporting legs of the seeding bar inserted.

Follow the following steps:

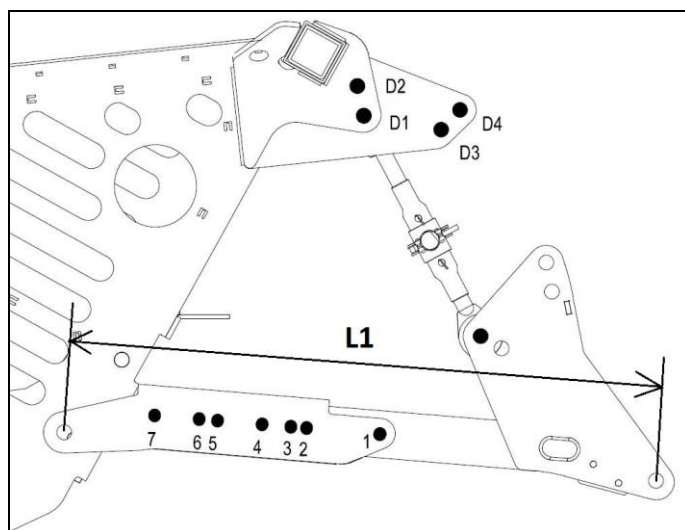
1. Assemble the telescopic arms G in the correct position according to the machine configuration (figure 3)

POWER HARROWS	ROLLER	POSITION	LENGHT (L1)	HOLES
<i>BF</i>	<i>PK3</i>	<i>6-7</i>	<i>778</i>	<i>C1</i>
<i>RM</i>	<i>PK3</i>	<i>4-5</i>	<i>885</i>	<i>C2</i>
<i>RM / RK</i>	<i>PK5</i>	<i>2-4</i>	<i>961</i>	<i>C3</i>
<i>RK</i>	<i>PK6</i>	<i>1-3</i>	<i>1001</i>	<i>C4</i>

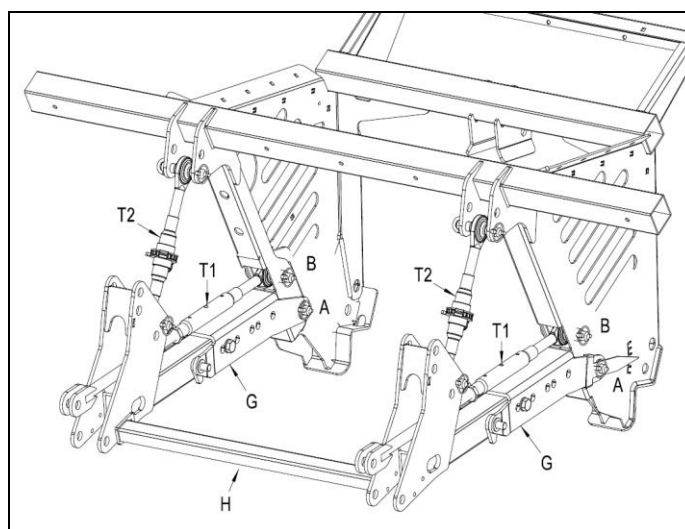
2. Assemble the arms **G** just assembled in the holes **A** of the seed-drill (figure 4)
3. Fix the tie rods **T1** in the holes **B** of the seed-drill, paying attention to position **C** (figure 4 and 5) of the upper hole according to the machine configuration
4. Fix the tie rod **T2** in the correct holes according to the machine configuration (figure 3)

POWER HARROWS	ROLLER	POSITION
<i>BF</i>	<i>PK3</i>	<i>D1/D2</i>
<i>RM</i>	<i>PK3</i>	<i>D1/D2</i>
<i>RM / RK</i>	<i>PK5</i>	<i>D3/D4</i>
<i>RK</i>	<i>PK6</i>	<i>D3/D4</i>

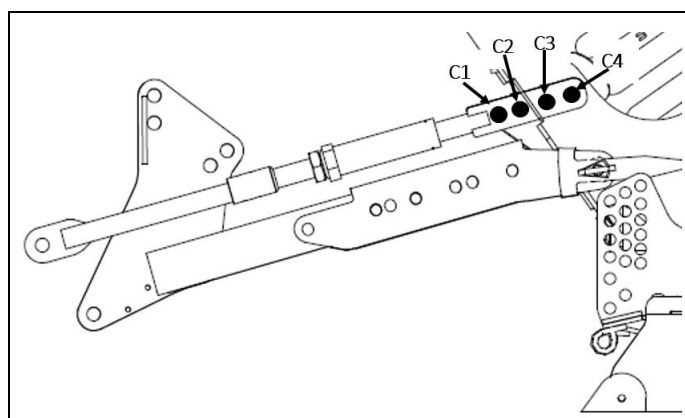
5. Combine the two telescopic arms through the frame **H** (figure 4)
6. Prepare for the seeding bar assembly operation



Picture 3



Picture 4



Picture 5

INSTALLATION “AUTO-LEVEL” CONFIGURATION



The operation must be carried out on a horizontal plane, with the power harrow in a stable position and the supporting legs of the seeding bar inserted.

Follow the following steps:

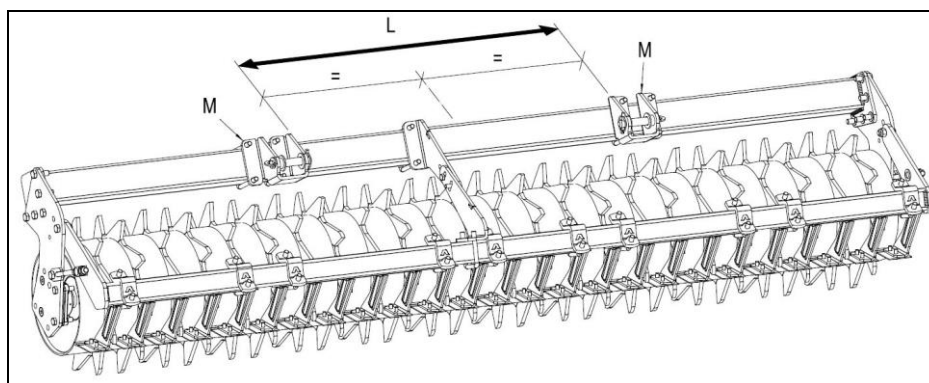
1. Install the brackets **M** on the roller at a distance **L** of 1130mm (figure 6)
2. Assemble the telescopic arms **G** in the correct position according to the machine configuration (figure 7)

POWER HARROWS	ROLLER	POSITION	LENGHT (L1)	HOLES
<i>RM / RK</i>	<i>PK5</i>	<i>2-4</i>	<i>961</i>	<i>C3</i>
<i>RK</i>	<i>PK6</i>	<i>1-3</i>	<i>1001</i>	<i>C4</i>
<i>RMAX</i>	<i>PK5</i>	<i>1-3</i>	<i>1001</i>	<i>C4</i>

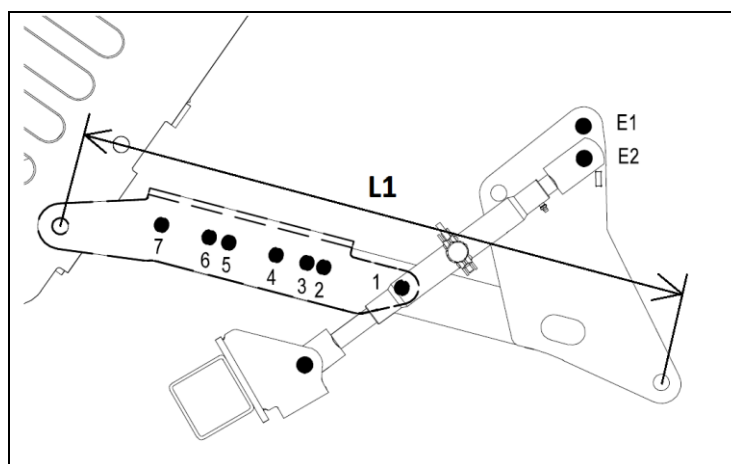
3. Assemble the arms **G** just assembled in the holes **A** of the seed-drill (figure 8)
 4. Fix the tie rods **T1** in the holes **B** of the seed-drill (figure 8) , paying attention to position **C** (figure 8 and 9) of the upper hole according to the machine configuration
5. Fix the tie rod **T3** in the correct holes according to the machine configuration (figure 7)

POWER HARROWS	ROLLER	POSITION
<i>RM / RK</i>	<i>PK5</i>	<i>E2</i>
<i>RK</i>	<i>PK6</i>	<i>E1</i>
<i>RMAX</i>	<i>PK5</i>	<i>E1</i>

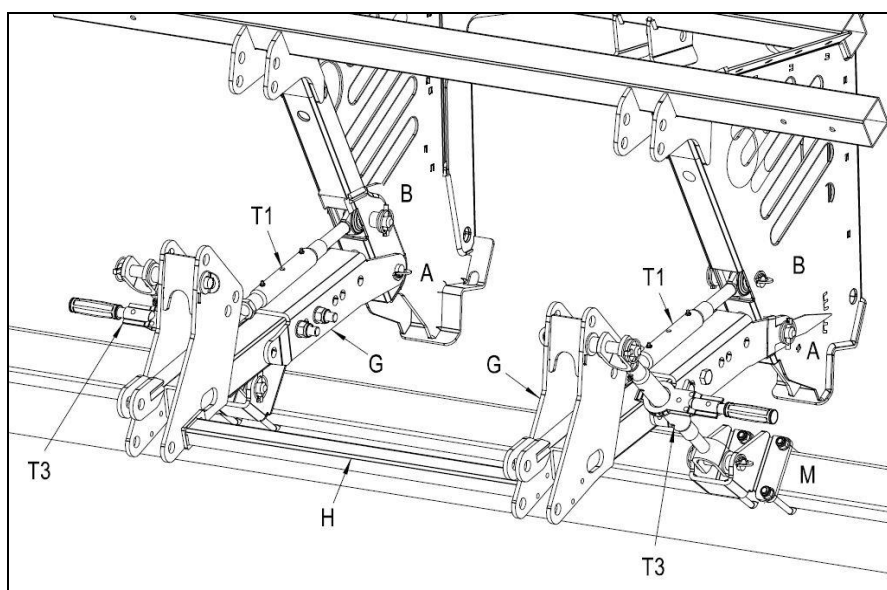
6. Combine the two telescopic arms through the frame **H** (figure 8)
7. Prepare for the seeding bar a Picture assembly operation



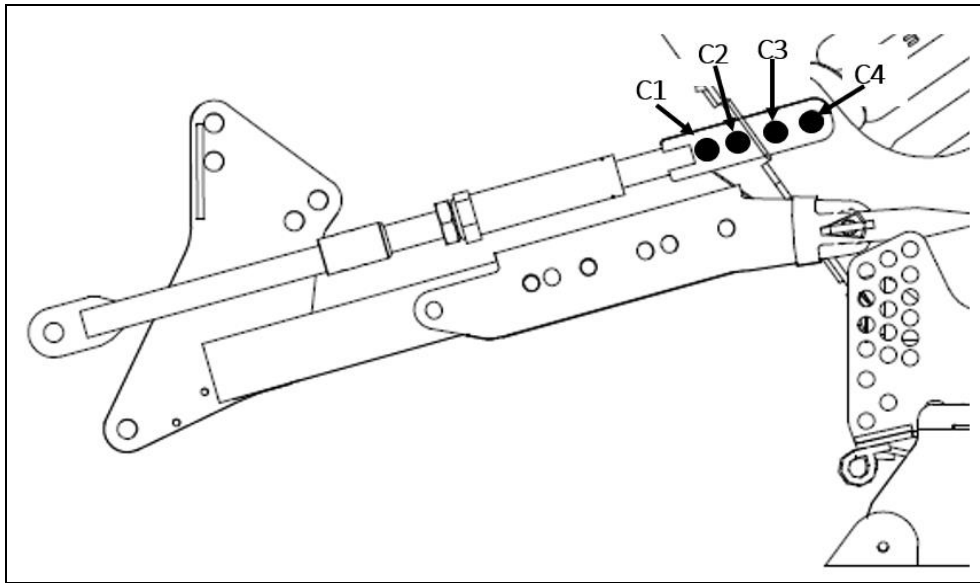
Picture 6



Picture 7



Picture 8



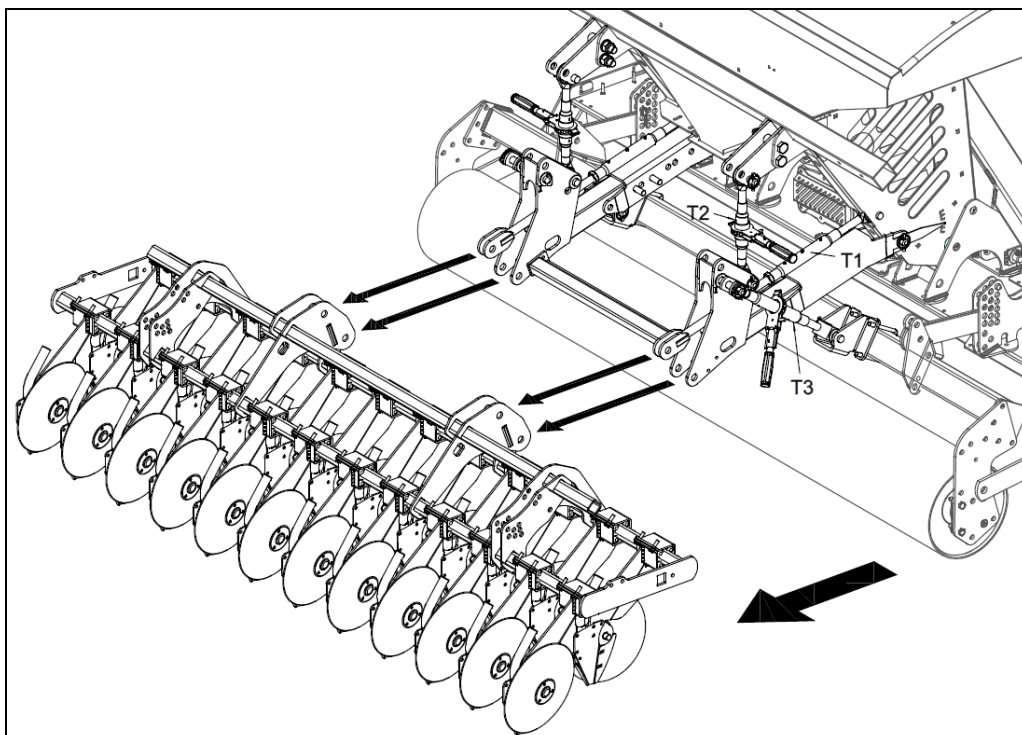
Picture 9

4.3.2. LINKAGE OF SEEDING BAR 300-350

Once the parallelograms have been installed in the correct position, the seeding bar can be connected.

Follow the following steps:

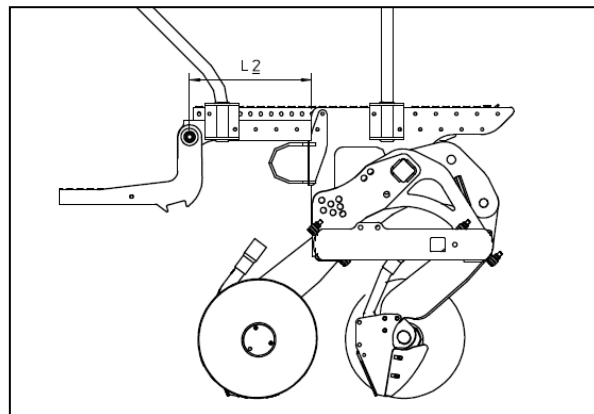
1. Make sure the seeding bar is firmly placed on the supporting legs
2. Move the machine close to the seeding bar
3. Align the holes of the arms to the lower mounting holes of the seeding bar using the tie rods T2 rods (FAST configuration) and tie rods T3 (AUTO-LEVEL configuration)
4. Lock using the appropriate pins
5. Fix the rod T1 to the upper holes of the bar attack.



4.3.3. PLATFORM ADJUSTMENT

According to the machine configuration, position the platform correctly respecting the length L2 as indicated in the table.

POWER HARROWS	ROLLER	L2
BF	PK3	356.5
RM	PK3	296.5
RM / RK	PK5	176.5
RK	PK6	176.5
RMAX	PK5	176.5



4.4. CONNECTING THE SEED-DRILL BAR 400



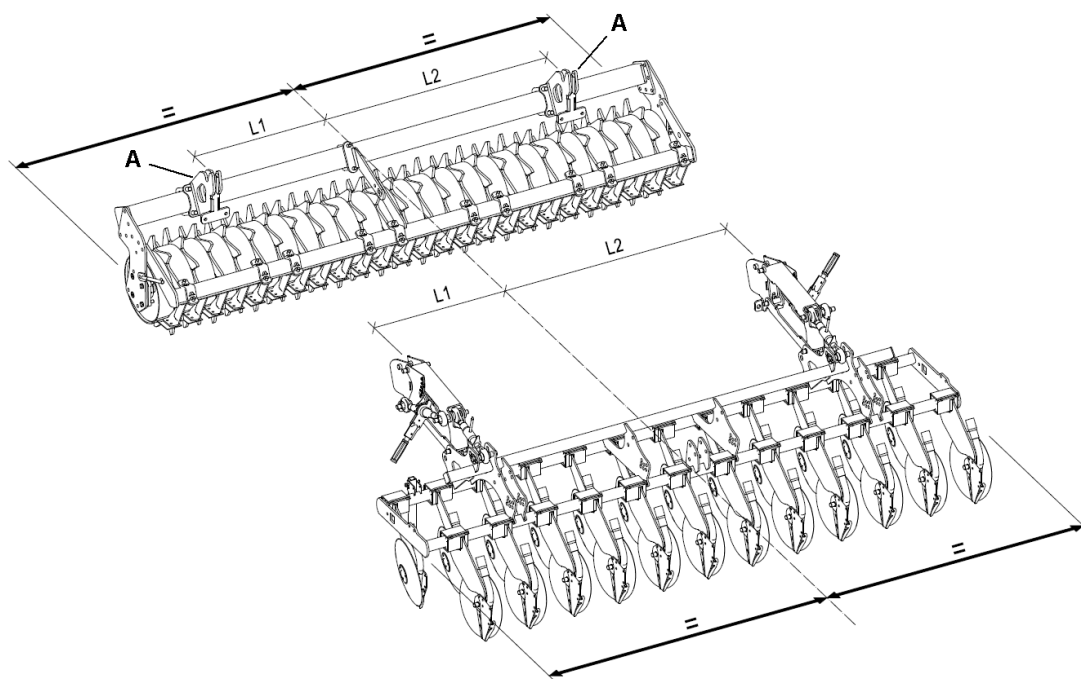
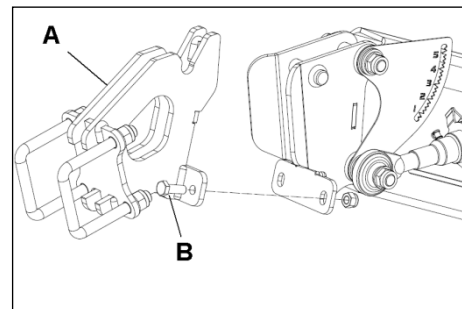
The operation should be carried out on a horizontal surface, with the harrow in a stable position and the seeding bar positioning legs inserted.

4.4.1. INSTALLING QUICK HOOKS

In order to mount the seed-bar JET-M on a machine for soil preparation you simply have to assemble the quick hooks A, supplied standard with the seeding bar, on the rear roller.

In order to do this follow these instructions:

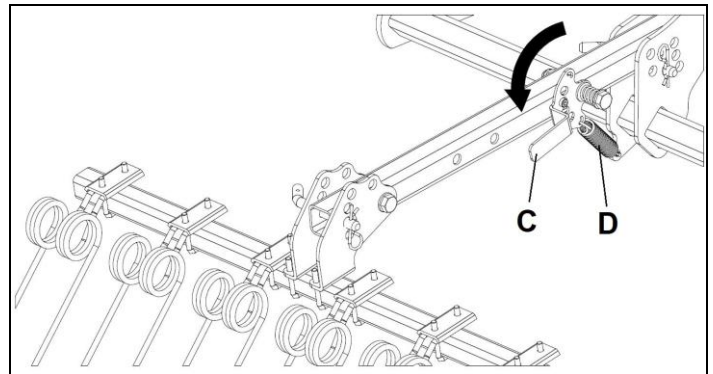
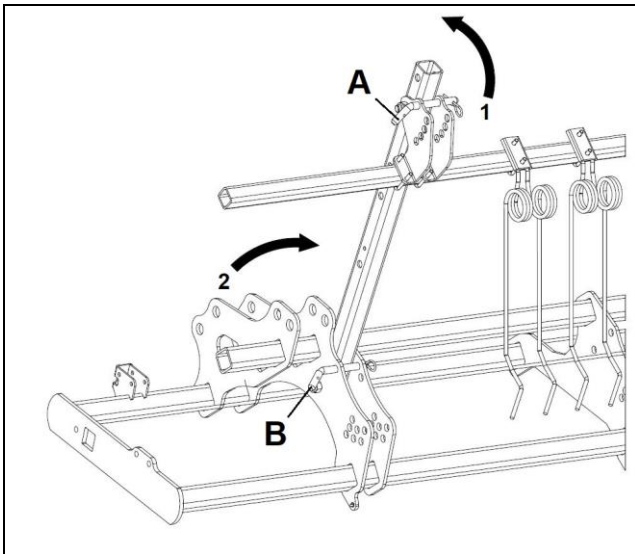
1. Remove the quick hooks A from the parallelograms by loosening the screws B
2. Fasten the hooks A on the rear roller by observing the mounting position of the parallelograms mounted on the seed-bar



4.4.2. ASSEMBLY OF THE SEED COVERING HARROW

At the time of delivery of the Seed-drill JET-M the following harrow is supplied in the shipment position. In order to position it correctly follow this instructions:

1. Remove the pins **A** and **B**, rotate the tube with the springs (1) and, at the same time, lower the complete following harrow (2) to the ground.
2. Place again the pins **A** into 1 of the 4 holes in the bracket to prevent the rotation.
3. Rotate the lever **C** to make the assembly of the loading spring **D** easier. Make sure that the spring maintains a slight tension even in the lowest working position, so as to prevent an accidental unhooking.
4. Lift the following harrow and position the pins **B** in the perforated sections under the arms supporting the following harrow. The position of pin **B** changes the pressure of the tines of the following harrow.

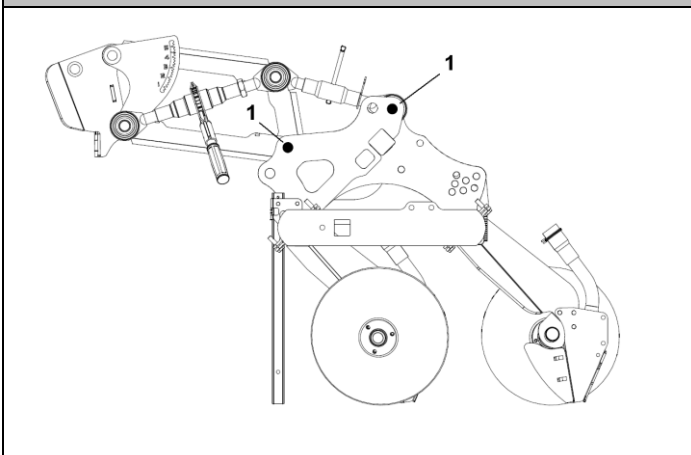


Never place the pins B in the holes above the supporting tube in order to stop its oscillation: while working structural damages to the arms may occur.

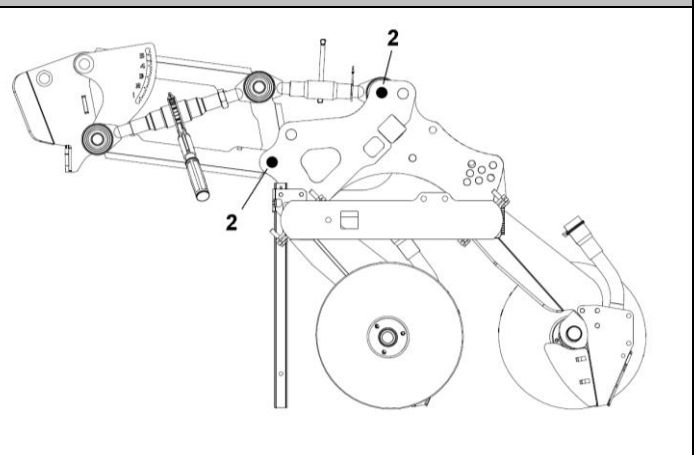
4.4.3. HITCHING THE SEEDING BAR 400

Before you hitch the seed-bar, make sure the parallelograms are mounted in their correct position. The position varies depending on the type of rear roller of the machine.

POSITION 1 - ROLLERS SERIES 5



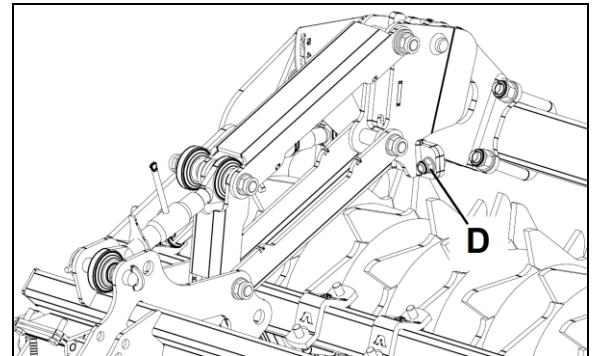
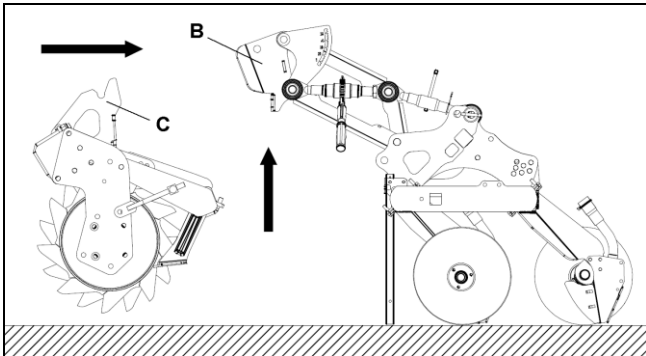
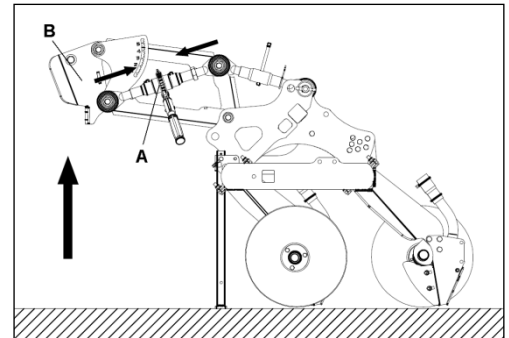
POSITION 2 - ROLLERS SERIES 6



After the parallelograms have been mounted in their correct position, it is possible to hitch the seed-bar.

Follow these instructions:

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.
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.



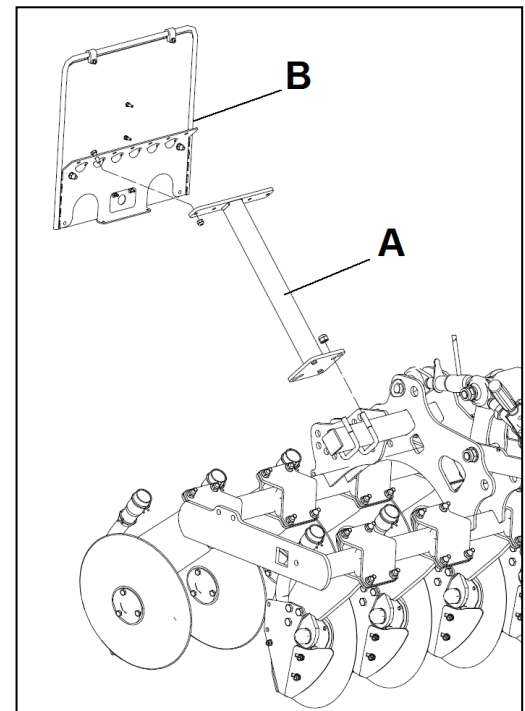
4.5. ASSEMBLY OF THE REAR LIGHTS

When the seed-drill JET-X is delivered, the plates with the rear lights and their supports are supplied unassembled and they are to be found inside the hopper.

The electric wiring is already in place on the seed-drill-bar.

To assemble the rear lights proceed as follows:

1. Place the two supports **A** on the two ends of the upper tube of the seed-drill-bar and fasten them by means of their U-Bolts
2. Mount the plates **B** on the supports
3. Connect the electric wires of the lights with the already assembled electric wiring on the seed-drill-bar.

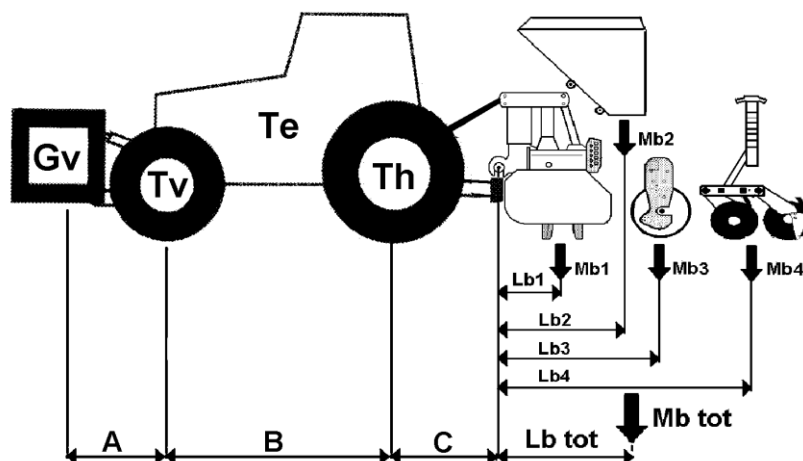


4.6. CHECKING THE RAISING CAPACITY AND TRACTOR STABILITY



When a machine comes coupled to the tractor, becoming to the ends of the street circulation integrating part of the same one, can alter of the stability and cause difficulty in the guide and the job.

The application of a machine to the tractor, involves one various distribution of the weights on the axes. Depending on the composition of the machine, it is therefore advisable to add ballast to the front part of the tractor so as to adequately distribute the weight on the axes.



Refer to the following list:

A = Distance of the front axle from the front ballast (m)	1
B = Tractor wheelbase (m)	2
C = Distance of the rear axle from the implement's lower hitch (m)	2
Gv = Ballast weight (kg)	3
Te = Empty weight of the tractor	2
Tv = Load on the tractor's front axle when empty	2
Th = Load on the tractor's rear axle when empty	2
Lb tot = Distance from the lower hitch to the center of gravity of the complete implement combination (m)	3
Lb1 = Distance from the lower hitch to the center of gravity of the first combi machine (m)	1
Lb2 = Distance from the lower hitch to the center of gravity of the second combi machine (m)	1
Lb3 = Distance from the lower hitch to the center of gravity of the third combi machine (m)	1
Lb4 = Distance from the lower hitch to the center of gravity of the fourth combi machine (m)	1
Mb1 = Overall weight of the first implement (kg)	4
Mb2 = Overall weight of the second implement (kg)	4
Mb3 = Overall weight of the third implement (kg)	4
Mb4 = Overall weight of the fourth implement (kg)	4
Mb tot = Overall weight of the entire combi machine (kg)	2

- 1) Must be measured.
- 2) Consult the tractor's operation and maintenance manual.
- 3) Must be calculated.
- 4) Consult the operation and maintenance manual of the required implement.

The ballast to add is calculated with the formula

$$Gv \text{ min.} = \frac{(Mb \text{ tot} \times (C + Lb \text{ tot})) - (Tv \times B) + (0,2 \times Te \times B)}{A+B}$$

The distance from the center of gravity of the combi machine to the lower hitch of the tractor is calculated with the formula

$$Lb \text{ tot} = \frac{(Lb1 \times Mb1) + (Lb2 \times Mb2) + (Lb3 \times Mb3) + (Lb4 \times Mb4) + (Lb.... \times Mb....)}{Mb1+Mb2+Mb3+Mb4+Mb....}$$

The overall weight of the entire combi machine is calculated with the formula

$$Mb \text{ tot} = Mb1+Mb2+Mb3+Mb4+Mb....$$

<p>On the front bridge of the tractor it must, in any case, burden at least 20% of the total mass tractor-tool in march order. It is however to hold present that, beyond to the appropriated one chosen the connection tractor-tool, the application of ballasts in front position, the limits and with the modalities indicated from the constructor of the tractor, can improve of the stability. Moreover, with firm tract or it must be made to come down to earth the toolavoiding therefore possible involuntary reductions, improving some, at the same time, the stability.</p>	Tractor wheelbase:	B	=..... m
	Distance of the front axle from the front ballast:	A	=..... m
	Tractor weight	Te	=.....Kg
	Ballast weight:	Gv	=.....Kg
	Load on the tractor's axle when empty:	Tv	=..... Kg
	Implement weight:	Mb tot	=..... Kg
	Tot center of gravity length	Lb tot	=.....m

5. USER INSTRUCTIONS

5.1. OLEODYNAMIC BLOWER MOVEMENT



The equipment is only suitable for the uses that are indicated. Using the machine for other purposes can damage it and endanger the machine operator.

Use the equipment correctly and carry out maintenance regularly to keep the machine working correctly. Follow instructions scrupulously to avoid problems that could prevent good machine operation and duration. 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 non-observance of such instructions. The oleodynamic movement of the blower must be used, kept and repaired by personnel who know the machine perfectly and the relative dangers. Make sure that the quick couplings are connected correctly. If they are not, the system components can become damaged. Disconnect the oleodynamic connections only after depressurising them.



Consult a doctor immediately if pressurised oil leaks come into contact with the skin. This kind of injury can lead to serious infections. It is totally FORBIDDEN to install oleodynamic components in the tractor cabin.

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 100 l/min. the hydraulic operation requires 45 l/min.
- Working pressure: up to 18 0 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**.

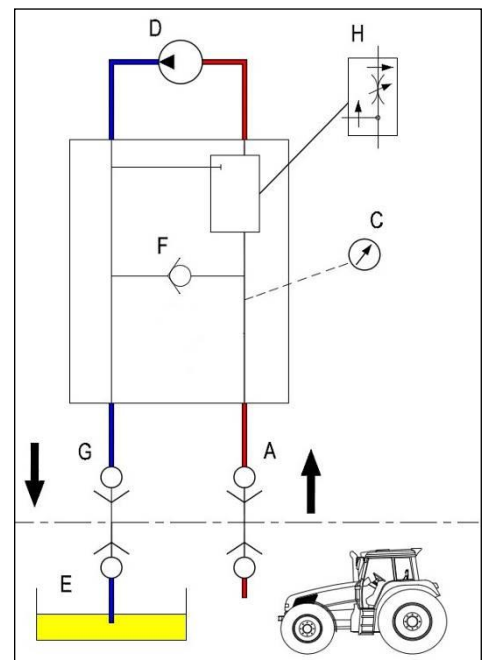
The rotation speed of the hydraulic motor, and therefore the blower, is connected to the oil flow adjustable from the tractor's controls.

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.

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) Motor
- C) Manometer backpressures on unloading
- D) Quick coupling on **free-flow discharge ¾**
- E) Free-flow discharge

5.1.2. STARTING

With the motor off and the tractor locked, connect all the fast couplings correctly.

1. $\frac{1}{2}$ **Fast coupling (A)** for delivery to one of the hydraulic distributors having **priority flow**.
2. $\frac{3}{4}$ **Fast female coupling for return (G)** to the free exhaust ensuring the **absence of counter-pressures** above **2 bar**.

Start the tractor and run the system at minimum for a few minutes, taking the constant pressure around the whole circuit in order to avoid blower instability. Only when the oil has reached an optimum pressure and there are no more blower speed jumps can the pressure be regulated. If the equipment is used with different tractors and subsequently different distributors and different oils, the setting procedure should be repeated for every tractor. In tractors with variable capacity pump having oil capacity regulators, Starting with a small oil capacity, gradually open the internal regulator until the best working pressure MAX **150 Bar** is indicated on the gauge.

5.1.3. OIL COOLING

When using this type of system check the tank capacity and if there is an oil cooling system that is suitable for keeping the internal circuit temperature constant. If necessary, have your retailer install an oil radiator.

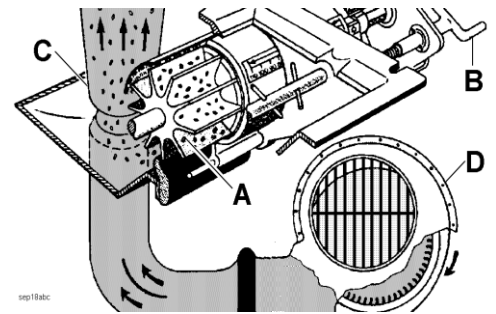
5.2. DISTRIBUTION

The metering unit, which is the main organ for the performance of the seed-drill, is positioned under the seed-hopper and it is driven by an electric motor

On the basis of the setting fixed using the command **B**, the doser star wheel **A** distributes the correct quantity of seeds to the "Venturi" type ejector **C**.

The air flow generated by the fan **D** and regulated by the throttle valve **E** transports the seed to the head of the distributor at the end of the "Venturi" tube. From here the seeds are taken to the coulters and then sown. The doser can work seeds of sizes from 1 to 10 mm, and the following can mainly be sown:

- Cereals: wheat, barley, oats, rye, triticale, sorghum, rice
- Large seeds: corn, peas, beans, soy
- Minute seeds: grass, clover, colza



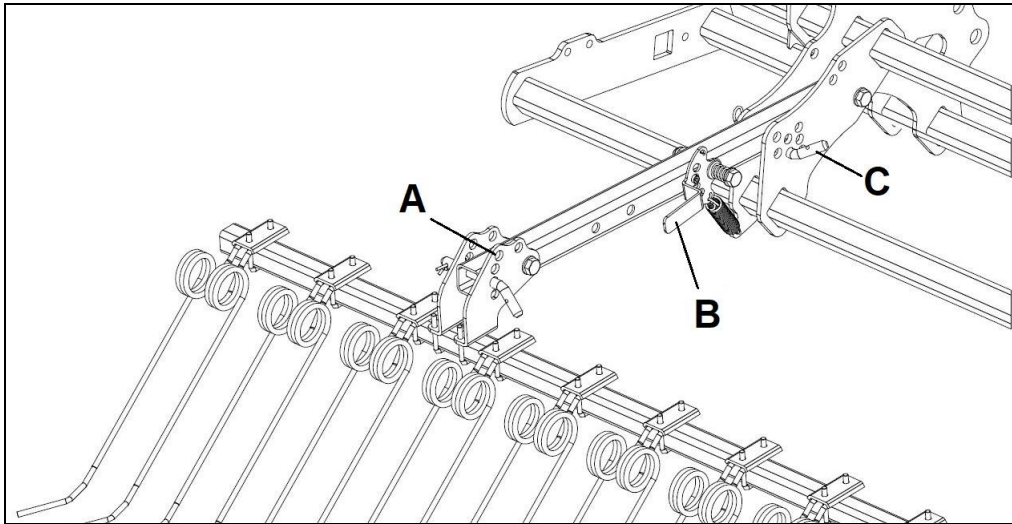
For the correct use of the distribution organs, please consult their special owner's manual

5.3. 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.

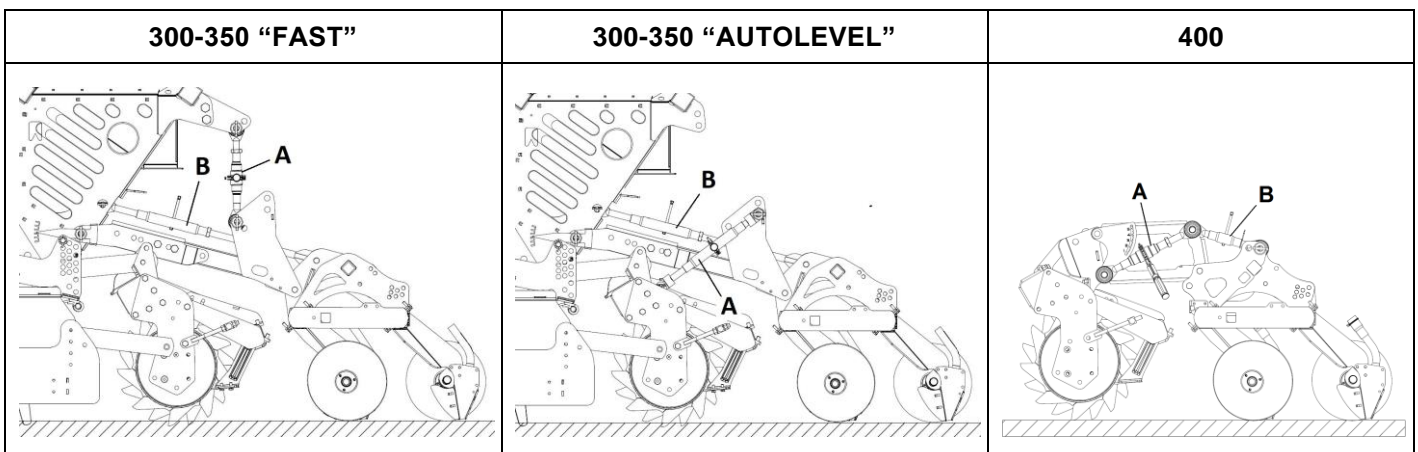
5.4. REGULATING THE SOWING DEPTH

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.

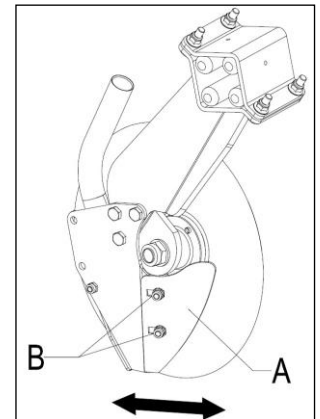
Regulate the height of the tractor lifting arms so that the seed-drill does not touch the ground while it is being transported.



5.5. ADJUSTMENT OF THE COULTER-DISC SCRAPER

Each disc coulters is provided with an adjustable scraper **A** for the constant cleaning of the disc coulters while working.

In order to adjust it, simply loosen the nuts **B** and move it in the desired direction. Once its position has been determined, tighten the nuts



Never let the scraper rest against the disc coulters, because that could either slow or block it. Maintain a minimum distance of at least 2 mm. between the scraper and the disc.

5.6. UNHITCHING THE SEED-DRILL (OPTIONAL)

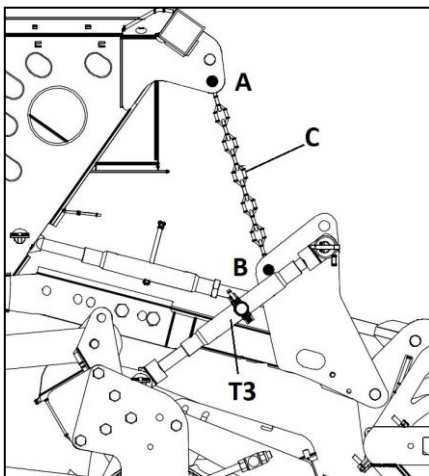


The unhitching of the seed-drill is a dangerous operation. Perform the entire operation following the relevant directions very carefully. For a safe unhitching of the seed-drill it is important to operate on a flat horizontal surface.

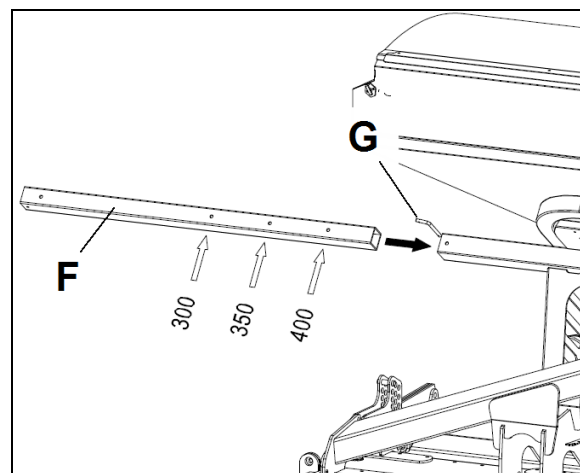
The seed-drill can only be released in the presence of the optional supporting legs not supplied as standard.

In the presence of the supporting legs disassemble the seed-drill according to the following steps:

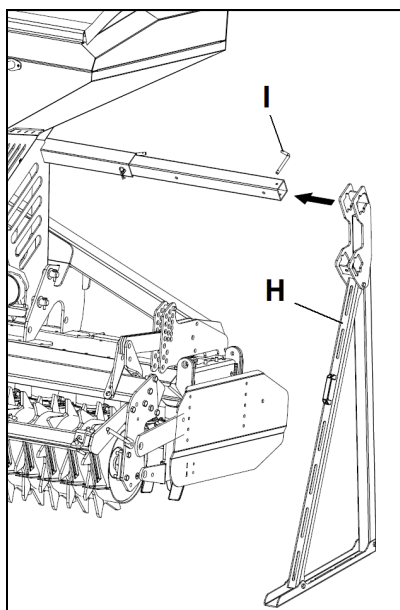
1. Remove all hydraulic and electric connectors from the connection plate
2. Only for the AUTO-LEVEL configuration, support the seeding bar by means of the chain **C** fixed in the pins **A** and **B** and unhook the tie rods **T3** from the roller (Figure 8)
3. Lift the implement at such a height as to be able to insert the supporting stands supplied together with frame of the seed-drill
4. Stop the engine and get down from the tractor
5. Insert the extension tubes **F** inside the tube of the frame and secure them with the pins **G** (Picture 9)
6. Insert the stands **H** and secure them with the pins **I** (Picture 10)
7. Remove the tightening screws **L** (Picture 11)
8. Get back on the tractor, carefully lower the stands of the seed-drill to the ground and unhitch it from the implement.



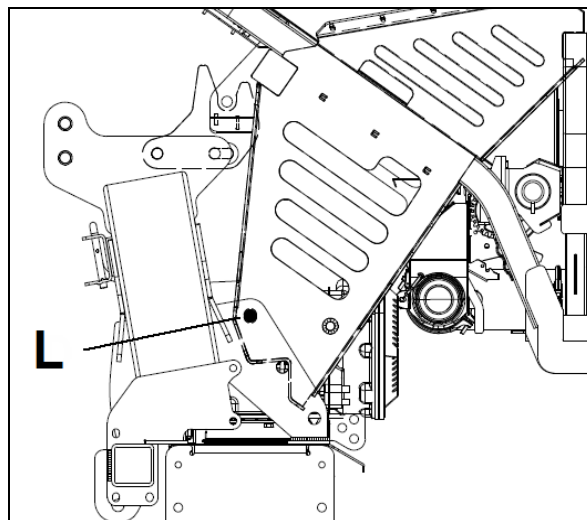
Picture 8



Picture 9



Picture 10




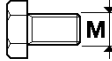

Picture 11

6. MAINTENANCE

6.1. CHECKS AND CONTROLS

During the first 8 working hours it is a good idea to check that all bolts are tight, because the force generated while working creates structure adjustment. If necessary, tighten as indicated in the table. Every 50 working hours, check the tightness of the coulters and the springs of the seed covering harrow.

Chart of the tightening torques (Nm)

			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

6.2. LUBRICATION



Always read the warnings given on the containers carefully. Always keep oils and greases out of the reach of children. Avoid contact with the skin. Wash hands well after using these products. Treat used oils in conformity with current antipollution laws.

When starting the equipment for the first time, check and if necessary lubricate the following components:

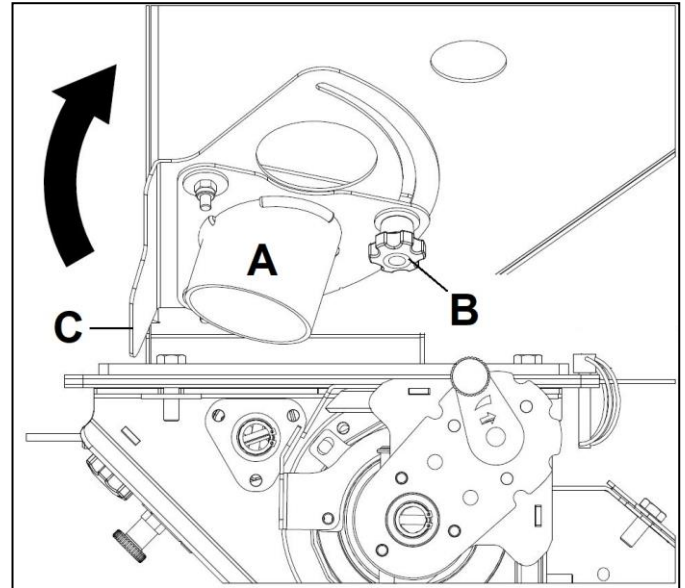
INTERVAL H=HOURS	OPERATION
every 8/10 working hours	- GREASE THE TIE ROD GREASERS - GREASE THE ROW MARKING DISC GREASERS

Lubrication should be increased if the machine is being used in heavy duty conditions.

6.3. 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.



6.4. END OF SEASON OPERATIONS

At the end of the season or if the equipment is not to be used for a long period of time, it is advisable to:

- Carefully remove all the seeds from the hopper and the distribution organs
- Wash the equipment with plenty of water, in particular the tank, then dry it.
- Accurately check and if necessary replace any damaged or worn parts.
- Tighten all screws.
- Place a layer of lubricant on all unpainted parts.
- Protect the equipment with a sheet of cloth.
- Place the equipment on a dry, flat surface and keep it out of the reach of unauthorised people.

It goes to your advantage if you find the machine ready for use the next time.

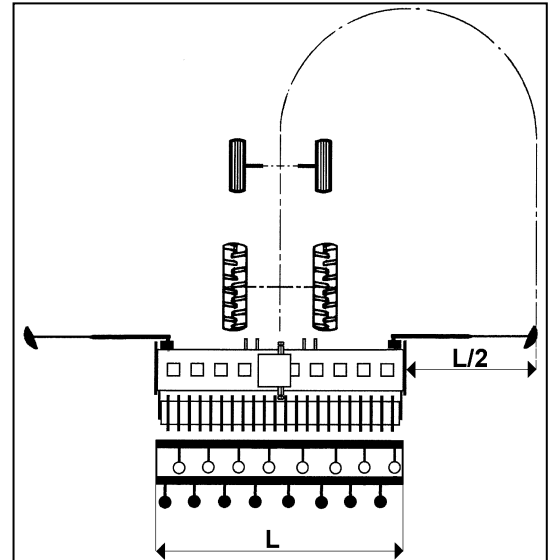
7. ACCESSORIES

7.1. ROW MARKING

The row marker is a device that traces a reference line parallel to the run of the tractor on the ground.

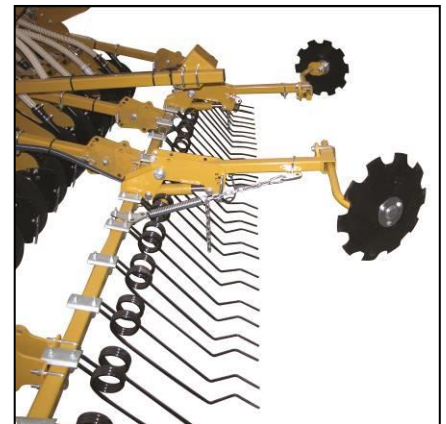
When the tractor has finished its run and inverted its direction, it proceeds along the reference line with half of the tractor track. In this manner the sowing rows are allotted equally.

- 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



7.2. PRE-SPROUTING DISCS

The pre-sprouting discs trace two reference lines in correspondence with the coulter, 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.



7.3. 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.



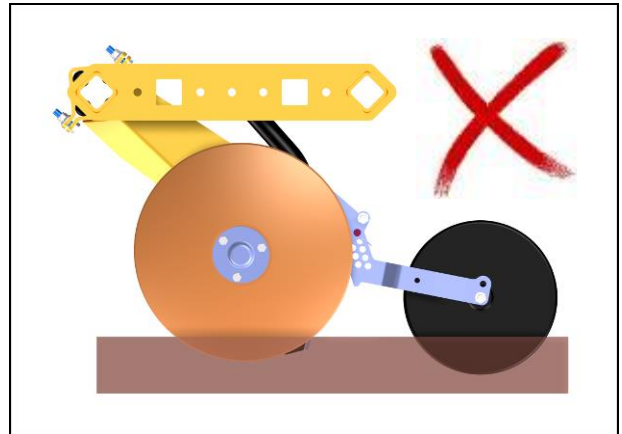
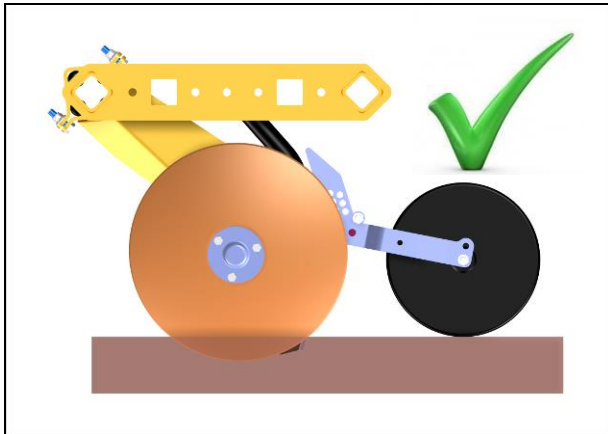
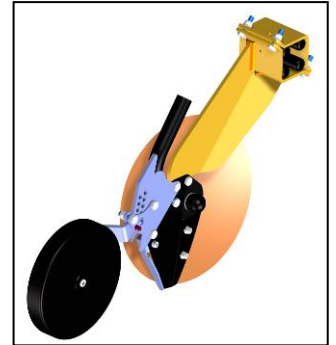
It is strongly advisable to use the press wheels on soft soils in order to avoid an excessive seeding depth. Not to be used in hard soils.



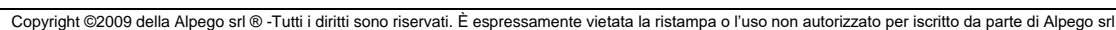
Not to be used in rocky soils.



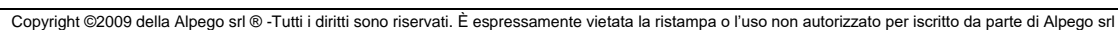
The wheels must be in contact with the soil only when the tractor is driving straight. When turning or maneuvering the SEEDING BAR MUST BE LIFTED.



This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.



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

Sede Amministrativa: Via Torri di Confine, 6 36053 GAMBELLARA (VICENZA) – ITALY

Sede Legale: 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