



MADE IN ITALY SINCE 1958

OPERATOR'S AND MAINTENANCE MANUAL SNOW BLADE

LS

ORIGINAL INSTRUCTIONS



READ THIS MANUAL CAREFULLY BEFORE USE



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0. FOREWORD

1. AIM OF THE INSTRUCTION MANUAL FOR USE AND MAINTENANCE

The operator's and maintenance manual was written by the company **BONATTI CARICATORI S.r.l** in accordance with the requirements of the directive on machines and of its relevant harmonized rules and it is valid for the models LSN LSR LSL LSI

This manual was issued to provide to the user a general knowledge of the snow blade and to enable its use in safety conditions.

- The manual must accompany the snow blade in all its movements. It contains the instructions to carry out without any risk all operations at work and during the rest period.
- The operator must understand this manual properly before carrying out working activities.
- Untrained operators can cause damages and injuries to persons.
- Direction: right and left direction refer to the forward direction of travel of the tractor.



The competent responsible has the obligation, according to the rules in force, to read carefully the content of this Instruction Manual and to have drivers and maintenance operators read it for the parts of their competence.



CAUTION

- Plates, stickers and notices mentioned in this OPERATOR'S MANUAL must be compulsorily replaced by the user or by the owner of the snow blade before they become illegible upon request to the company **BONATTI CARICATORI S.r.l**
- No responsibility will be assigned to the manufacturer in case of damages due to an untimely replacement.
- If a plate, sticker or notice was partially illegible or even missing, the user is obliged not to use the snow blade up to the application of the plate, sticker or notice.
- Punching mentioned in this manual must not absolutely be altered or made illegible.

2. ADRESSEES

This Instruction Manual is addressed to installers, operators/users and to qualified personnel entitled to the use and maintenance of the snow blade.

The snow blade is designed for use to clear squares, streets and roads from the snow. The use of the snow blade is reserved for qualified figures, technical experts, in particular that:

- have reached the legal age;
- are physically and psychologically capable of performing activities of particular technical difficulty;
- have been instructed properly to the use and maintenance of the snow blade;
- have been considered by the employer suitable to perform the task entrusted to them;
- are able to understand and interpret the operator's manual and the safety requirements;
- know emergency procedures and their implementation;
- have understood the operating procedures as defined by the manufacturer of the snow blade.

The instructions, the documentation and the drawings contained in this manual are of confidential technical nature and of strict property of the manufacturer and, therefore, except for the purposes to which it was created, any reproduction in whole or in part of the content and/or of the format, must take place subject to the prior approval by the manufacturer.



The term SPECIALIZED/QUALIFIED PERSONNEL refers to personnel that on the basis of training and professional experience has been expressly authorized to carry out the installation, the use and the maintenance of the snow blade .

3. PICTOGRAMS

In this manual three types of safety warning are used: DANGER, CAUTION and IMPORTANT. These warnings point out the relevant risk levels undergone by the personnel engaged in driving the tractor with the applied snow blade.



The symbol of danger is used to point out dangerous situations for the personnel. If this signal is ignored, it is possible to incur the danger of serious injuries that in some cases can also cause death.



The symbol caution is used to point out dangerous situations for the integrity and the efficiency of the snow blade and, therefore, they can involve the security and safety of persons, as well.



The symbol important is used to draw the attention to important information that the involved personnel must know and keep in mind.

1. GENERAL INFORMATION

1. MANUFACTURER'S IDENTIFICATION DATA

MANUFACTURER	BONATTI CARICARORI SRL
REGISTERED AND ADMINISTRATIVE OFFICE	STRADA PROVINCIALE OVEST N. 36 – 46020 – PEGOGNAGA - MN
PHONE-NR.	+39 0376 558089
FAX-NR.	+39 0376 559890
EMAIL-ADDRESS	info@bonatticaricatori.it

2. CE MARKING OF THE SNOW BLADE

Each snow blade is identified by means of a CE plate on which the reference data of the loader are indelibly recorded.

The identification plate can be positioned on the aileron support or on the aileron according to the LS snow blade model.

The photo below is purely illustrative, the plate will have the data relating to the machine purchased



Always quote these references in any communication with the manufacturer or with service centres.

3. DECLARATIONS

The snow blade is produced in accordance with the relevant Community Directives applicable when placing it on the market. A declaration of conformity is issued together with the documentation of the loader as per the facsimile here below:



The undersigned BONATTI SILVANO, born in San Benedetto Po on 06/09/1949
resident in PEGOGNAGA (MN) in Strada Provinciale Ovest
Legal Representative of the Company BONATTI CARICATORI s.r.l.
based in PEGOGNAGA (MN) in Strada Provinciale Ovest, 36
manufacturer of the following machine:

Type:

SNOW BLADE

Trade name:

LSN LSR LSL LSI

Serial-Number:

.....

Equipped with the following accessories:

.....

Suitable to the agricultural tractor:

.....

Frame-Number:

.....

DECLARES:

at his sole personal responsibility, that it complies with the requirements of the machines

Directive 2006/42/CE by the European Parliament and Council dated 17/05/2006.

The technical files are kept at the Company Bonatti Caricatori srl with reference to Mrs. Bonatti Giorgia.

Pegognaga, on .. - .. -

The Legal Representative
Bonatti Silvano

PROHIBITION OF PUTTING INTO SERVICE

The snow blade cannot be put into service after undergoing building alterations or addition of other components that do not fall within ordinary or extraordinary maintenance without a new declaration of compliance with the requirements of Directive 2006/42/CE and of applicable CE/UE directives.

Place, date
Pegognaga on .././....

The manufacturer
Bonatti Silvano

4. SAFETY RULES

The snow blade was manufactured in compliance with the Technical Standards listed below.

<u>STANDARD</u>	<u>Title</u>
EN ISO 12100	Safety of machinery - General principles for design - Risk assessment and risk reduction
EN ISO 4413	Oil-hydraulics — General rules and safety requirements for systems and relevant components
EN 15583-1	Winter road equipment-Snow blades -Part 1: Product description and requirements

5. INFORMATION ABOUT TECHNICAL ASSISTANCE

- The snow blade is covered by warranty, as provided for in the general sales conditions.
- If during the period of validity malfunctions or failures of parts of the **snow blade** occur, provided that they fall under the cases indicated in the warranty, the manufacturer, after appropriate checks, will repair or replace the defective parts.
- Interventions for modifications carried out by the user, without the express written consent of the manufacturer, invalidate the warranty and release the manufacturer from all liability for any resulting damage caused by a defective product.
- Interventions for modifications carried out by the user on the safety devices with a degradation of their effectiveness, without the express written consent of the manufacturer, invalidate the warranty and release the manufacturer from all liability for any resulting damage caused by a defective product.
- The use of non-original spare parts or of parts different from the ones explicitly indicated by the manufacturer as "safety devices" invalidate the warranty and release the manufacturer from all liability for any resulting damage caused by a defective product.

We invite our customers to address to our After-Sales Service before effecting the above-mentioned interventions on the snow blade.

Eventual defects clearly and visibly existing at the time of delivery of the product (aesthetic defects on visible parts, breakages, dents, operational defects, missing parts, etc.) must be immediately reported to the company.



The manufacturer is not liable for any defect that is not reported by the customer at the time of delivery.

2. SAFETY

1. GENERAL SAFETY WARNING

The manufacturer has made any possible effort in designing the snow blade to make it as SAFE as possible.

The snow blade is fitted with all protections and safety devices considered necessary and it is accompanied by sufficient information so that it can be used in a safe and correct way.



CAUTION

IT IS ESSENTIAL TO OBSERVE THE FOLLOWING INDICATIONS CONCERNING THE USE OF THE AGRICULTURAL TRACTOR EQUIPPED WITH SNOW BLADE:

- DO NOT TRANSPORT PEOPLE ON BOARD OF THE TRACTOR, EXCEPT FOR THE TRACTORS ADAPTED AND TYPE-APPROVED FOR THE CARRIAGE OF A NUMBER OF PERSONS.
- Study and familiarize with the exit or leaving points of the tractor as an alternative to the usual ones.
- IT IS FORBIDDEN TO GET INTO OR OUT OF THE TRACTOR WHEN IT IS MOVING.
- Make sure that eventual people based in the surroundings are completely outside the range of operation of the tractor before starting it or operating the equipment. Use the horn. Respect all indications given by flags, trucks and signals.
- Let the tractor move at a sufficiently low speed to ensure the highest possibility of control in any event.
- It is always necessary to move slowly on grounds with marked roughness, on the slopes, in proximity to ravines or in obstructed areas as well as on icy or slippery ground.
- While operating in reverse, always watch in the direction towards which the tractor is moving. Pay attention to the presence of people: if anyone of them enters the maneuvering area, STOP THE TRACTOR.
- Always keep a safe distance to the other vehicles and obstacles to ensure the necessary conditions of visibility.
- Always maintain a clear vision of the whole maneuvering or operating surrounding area.
- The cab windows must always be efficient and clean.
- Pay close attention to soft grounds, in proximity of recently built walls: the weight of the tractor could cause the fall of the wall.
- Observe the instruments at the beginning and frequently during the operations: if the brakes manometer signals a lower pressure than the minimum operating one, stop the tractor immediately.
- Do not use the snow blade to lift or carry people.
- Do not use the snow blade as working platform or as scaffold nor for other unorthodox usages.
- Pay attention to the presence of people in the range of operation of the snow blade.
- Always examine the operating area looking for eventual risk conditions. Here are some examples: slopes, protruding areas, trees, demolished constructions, fires, high scarps, ravines, cliffs, uneven ground, pits, peaks, crests, digs, heavy traffic, crowded parking and service areas, closed places. If similar conditions exist, proceed with extreme caution.
- Possibly, avoid to move transversely to slopes. Proceed upright-hill (from above to below and vice versa) in case the tractor slips laterally uphill, steer immediately directing the front part downwards.
- While working on slopes, there is no rule that can replace the operator's experience and common sense.
- Keep head, body, limbs, hands, feet away from the snow blade.
- ALWAYS REMOVE THE IGNITION KEY OF THE TRACTOR BEFORE EFFECTING ANY INTERVENTION ON THE SNOW BLADE (cleaning, repairs and maintenance).
- ALWAYS REMOVE THE IGNITION KEY OF THE TRACTOR WHEN IT HAS TO BE LEFT IN A PARKING AREA OR AT REST IN ORDER TO AVOID ACCIDENTAL OR UNAUTHORIZED STARTS.
- DANGEROUS SITUATIONS CAN OCCUR DURING THE FOLLOWING PHASES:

PHASE	TRANSPORT, HANDLING	INSTALLATION, PUTTING INTO USE, DISASSEMBLY,	MAINTENANCE, ADJUSTMENT, REPAIR
TYPE OF DANGER			
OVERTURNING, SLIPPING, FALL OF THE SNOW BLADE	X	X	X
MECHANICAL FAILURE OF THE COMPONENTS	X	X	X
ACCIDENTAL FALL OF COMPONENTS AND ACCESSORIES	X	X	X
CRUSHING OF PEOPLE	X	X	X
IMPACT, CONTUSIONS AND SLIPPING	X	X	X
SHEARING AND IMPRISONMENT	X	X	X
RISKS DERIVING FROM LIFTING OR LOWERING OF MECHANICAL PARTS	X	X	X



IMPORTANT THE MANUFACTURER IS RELIEVED OF ALL RESPONSIBILITIES DERIVING FROM DAMAGES CAUSED BY THE SNOW BLADE TO PERSONS, THINGS OR ANIMALS IN CASE OF:

- use of the snow blade by not properly trained personnel;
- misuse of the snow blade;
- defects of electrical, hydraulic or pneumatic supply due to the user's negligence;
- incorrect installation;
- lacks of planned maintenance;
- unauthorized modifications or interventions;
- use of non-original or non-specific spare parts for the model;
- total or partial failure to comply with the instructions;
- use contrary to the specific national rules;
- calamities and exceptional occurrences.

2. SPECIAL SAFETY WARNING

The snow blade is destined to the installation on agricultural tractors: before carrying out the installation, make sure that the tractor has sufficient characteristics: read carefully the section "INSTALLATION MODALITIES".



IMPORTANT DO NOT INSTALL THE SNOW BLADE ON NOT ADAPTED TRACTORS.



IMPORTANT OPERATING IN COMPLETE SAFETY REQUIRES A QUALIFIED OPERATOR.

A QUALIFIED OPERATOR MUST DO AS FOLLOWS:



IMPORTANT a) UNDERSTAND WRITTEN INSTRUCTIONS, LAWS AND RULES.

- The instructions written by the company BONATTI include the delivery report, the operator's manual and the warnings on the snow blade (decals).
- Check the laws and regulations on site. The laws can provide special safety requirements for the employer.



IMPORTANT b) HAVE A REAL TRAINING ON DRIVING MANOEUVRES.

- The operator's training must consist in verbal demonstration and instruction. This instruction is provided by the Company BONATTI or, as an alternative, by the installer before the delivery of the snow blade.
- The new operator must start in an area without people around and must use all the control devices until being able to drive the tractor with the snow blade applied to it, by using it in full autonomy and according to the instructions concerning the area of operations. Always wear protective clothing: HELMET, GLOVES AND SAFETY SHOES.



CAUTION The Tractor with the Snow blade falls within those work equipments for which a specific operator license is required (article 73, paragraph 5 of Legislative Decree nr. 81/2008).



IMPORTANT c) KNOW CONDITIONS OF USE.

- The operator must know all the forbidden uses of the snow blade and of the areas of operation. For example, he must know the excessive slopes of the scarps.
- Do not wear low-cut dresses. Always wear safety glasses when carrying out maintenance or repairing the snow blade. In certain operations it is required to wear safety glasses, ear protective devices or kits for special application. Please, address to DEALERS OF SAFETY EQUIPMENTS.

In order to be a **qualified operator** he must not consume drugs or alcoholic drinks that modify his quickness and coordination while working. An operator who makes use of prescribed drugs must have a medical certificate attesting to the capacity to drive or not to drive a tractor with snow blade in complete safety.

3. INTENDED USE

The snow blade model LS for agricultural tractors is designed to carry out cleaning operations of yards or road cleaning. It enables to stack the snow in the desired direction as the blade can be oriented rightward and leftward of about 30° by actuating the specific hydraulic cylinders with which it is equipped. The snow blade is fitted with a specific coupling to be fastened to the three-point-lifter of the tractor and with hydraulic hoses for the connection of the tractor by means of quick couplings. The snow blade works with the tractor distributor. On demand it can be equipped with a shockproof valve, wheels or sledges.



DANGER

Keep at a sufficient safety distance from scarps or trenches during work. In case of scarps or not shored up trenches the distance depends also on the type of soil.

4. CONTRAINDICATIONS TO USE



CAUTION THE SNOW BLADE MUST NOT BE USED:

- for uses other than the ones established by the manufacturer or not mentioned or different from the ones in this manual;
- in explosive (ATEX unenforceability) or corrosive atmosphere or with high concentration of dusts or oily substances in suspension in the air;
- in atmosphere at risk of fire;
- in corrosive atmosphere;
- in atmosphere with dusts dangerous for the operator's health;
- in closed places;
- with electric bridges and/or mechanical means that exclude utilities/parts of snow blade itself.

5. RESIDUAL RISKS

It is necessary to pay attention to the following residual risks that are existing when using the snow blade and that cannot be eliminated.



CAUTION: DANGEROUS MOVEMENTS

No persons other than the operator must stand around the tractor equipped with snow blade. In case of presence of third parties, stop all movements immediately and oblige them to move away.



CAUTION: DEVICES FOR INDIVIDUAL PROTECTION

Before proceeding with maintenance or adjustment operations, the operator must have and from time to time use the devices for individual protection as required by safety regulations and suitable to the type of maintenance to carry out as gloves, glasses, helmet, non-slip shoes, etc.



CAUTION: REMOVED PROTECTIONS

If protections are removed - for instance to carry out maintenance interventions - do not start the tractor for any reason before all protections are repositioned and fastened correctly.

6 SIGNALIZATION

6.1 LOCATION OF SERIAL NUMBER AND SAFETY SIGNS



3. INSTALLATION

1. TRANSPORT AND HANDLING

The snow blade can be transported with a normal means able to bear its weight and dimensions. It is recommendable to use always means able to bear the weight and the dimensions of the machine in order to prevent damages to the blade, to persons and to surrounding things.

As the snow blade is supplied totally assembled, it has only to be positioned in the place of use. Lift the blade by means of the specific lifting eyebolt positioned on the back using proper lifting means. Always check the correct balance of the weight of the blade in order to prevent unexpected movements or falls to the ground.



The Manufacturer is not liable for damages to persons, animals or things due to the use of lifting systems different from the mentioned ones.

2. INSTRUCTIONS FOR ASSEMBLING AND DISASSEMBLING OF THE LOADER TO THE TRACTOR

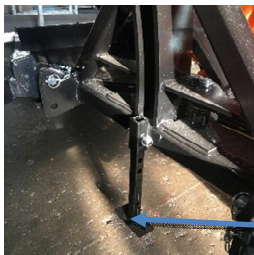


CAUTION It is important to comply with the below-mentioned instructions in order to avoid causing serious damages to things or persons and injuries or death of the operator.

2.1 ASSEMBLY OF THE SNOW BLADE TO THE TRACTOR

- Make sure that the snow blade is on the ground on flat and solid soil, also supported by the stabilizing feet, as shown in picture 1)

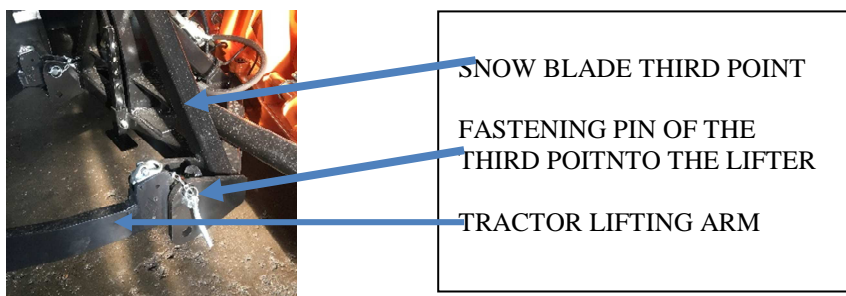
1)



STABILIZING FOOT

- Start the tractor and move slowly towards the snow blade advancing forwards, if the blade coupling is in the front, or in reverse, if the blade coupling is in the back, up to the positioning of the couplings of the tractor lifter in correspondence with the lower holes of the fixed support of the snow blade
- Apply the parking brake
- Turn off the engine of the tractor
- Move the lever of the hydraulic controls in its four positions for a number of times to unload the hydraulic pressure
- Get off the tractor
- Put near the lifter arms of the tractor in position with the lateral pins of the blade
- Insert manually the arm of the right and of the left lifter and fasten it to the blade with the preset pins by fixing them through the specific split pins as shown in picture 2). After this operation the blade is fastened to the tractor

2)



- Connect the third upper point of the agricultural tractor with the mechanical screw arm to the snow blade, which is provided with a safety lock by fixing it with the specific passing pin and the corresponding safety split pin as shown in picture 3)

3)



- Connect the hydraulic hoses of the snow blade to the tractor with the provided quick couplings
- Lift the stabilizing foot and lock it in its rest position by means of the specific locking pin by fastening it with the safety split pin
- The blade is ready for use

2.2 DISASSEMBLY OF THE SNOW BLADE FROM THE TRACTOR

- Stop the tractor and lower the snow blade on flat and solid soil
- Lower manually the pin of the stabilizing foot and lock it with the specific pin and the corresponding safety split pin so that the snow blade is properly supported by the stabilizing foot
- Move the lever of the hydraulic controls in its four positions for a number of times to unload the hydraulic pressure
- Disconnect the hydraulic hoses by means of the quick couplings
- Disconnect the upper third point of the snow blade from the mechanical screw arm, by removing manually the safety split pin and the locking pin
- Remove the locking split pins and extract manually the fastening pins from the right arm and from the left arm of the tractor lifter
- Check that the blade is completely unhooked from the tractor
- At this point the snow blade is unhooked and disassembled from the tractor
- Start the tractor and move forwards or in reverse slowly depending on whether the blade coupling to the tractor is in the back or in the front

3. TESTS FREE OF LOAD



IMPORTANT Before carrying out snow removal operations, carry out at least one empty test in order to verify the absence of anomalies.

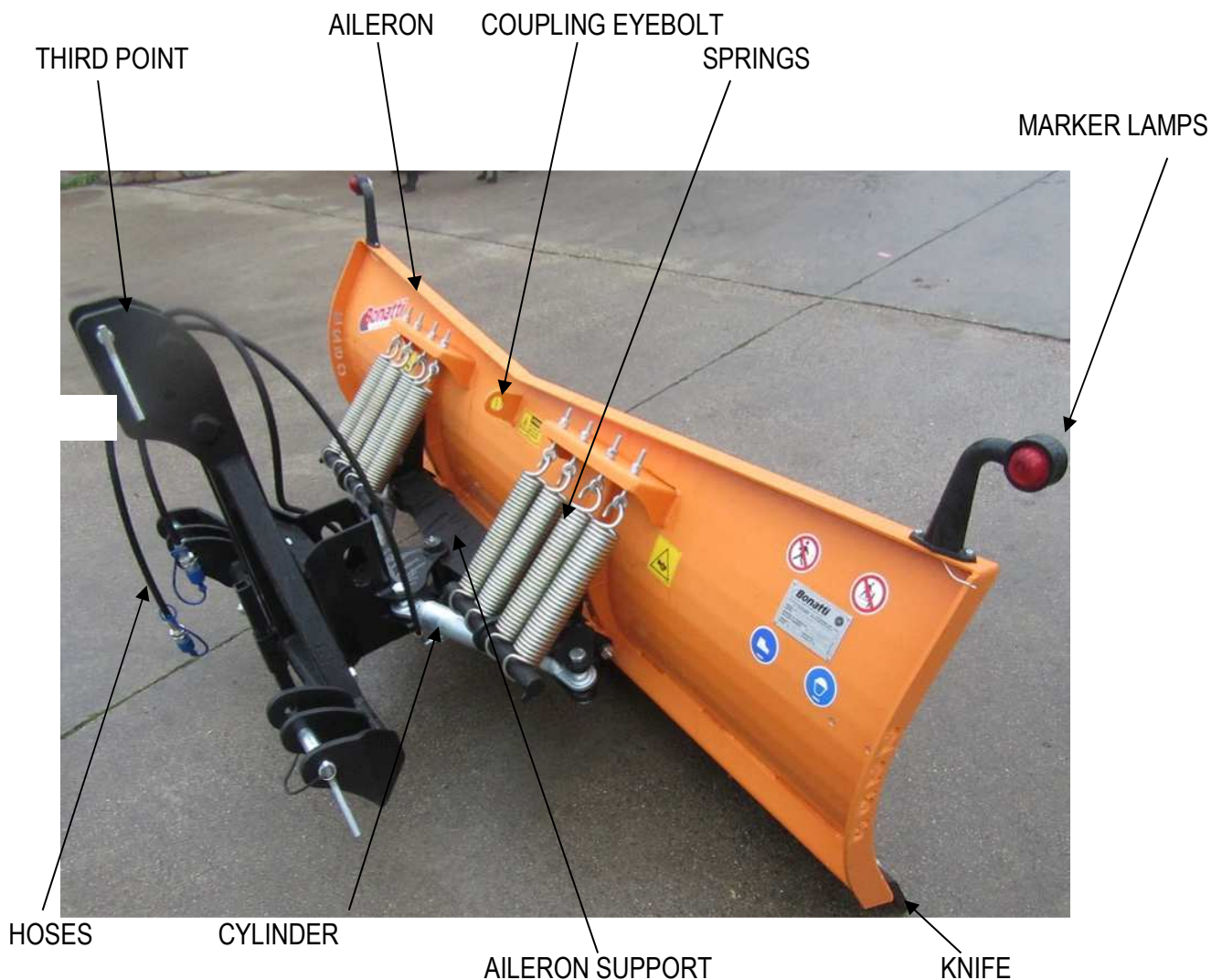
4. TESTS UNDER LOAD



IMPORTANT Carry out at least a test under load in order to verify the absence of anomalies.

4. DESCRIPTION OF THE SNOW BLADE

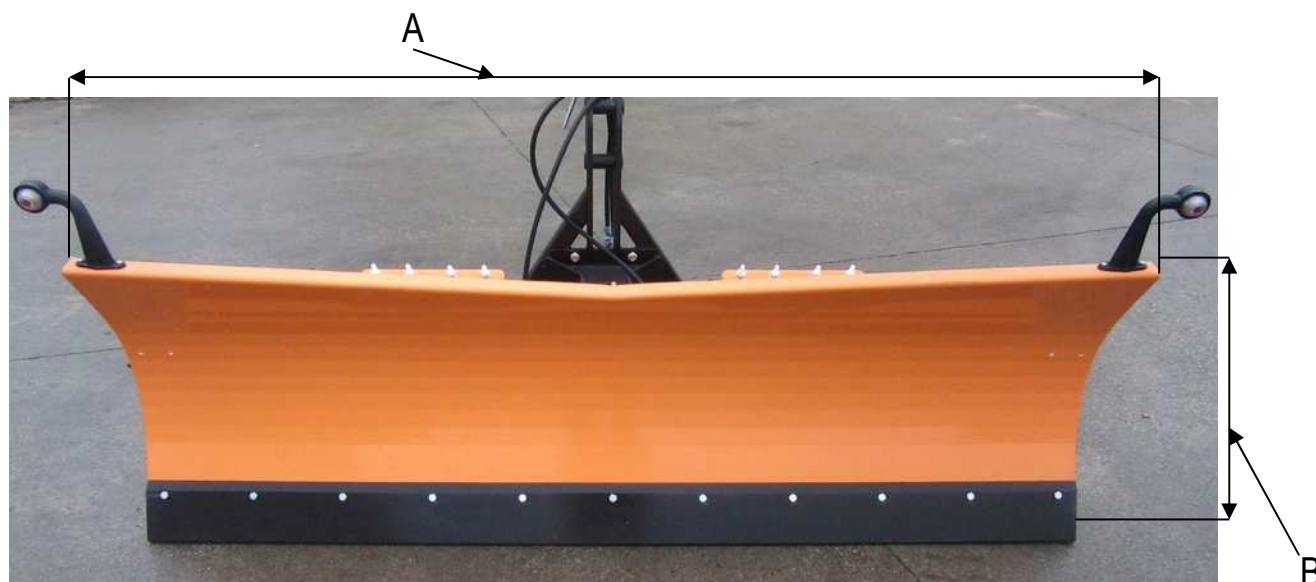
1. NOMENCLATURE OF COMPONENTS



2. TECHNICAL DATA OF LS SNOW BLADE



CAUTION THE TABLES HERE BELOW INDICATE THE TECHNICAL CHARACTERISTICS FOR EACH TYPE OF BLADE MODEL LS . ALWAYS CONFORM TO THE CHARACTERISTICS CORRESPONDING TO THE MODEL INDICATED IN THE IDENTIFICATION PLATE



CAUTION THE SNOW BLADE MUST BE INSTALLED ON COMMERCIAL TRACTORS WITH THE CHARACTERISTICS INDICATED AT THE POINT **P TRACTOR POWER Hp** OF THE FOLLOWING TABLES

2.1 MODEL **LSN**

	Model LSN	1250	1500	1750	2000	2250	2500	2500	2750
P	Tractor power in HP	15	20	25	40	50	60	60	70
A	Aileron width in mm	1250	1500	1750	2000	2500	2500	2500	2750
B	Aileron height in mm	680	700	710	720	720	730	730	750
	Number of sectors	1	1	1	1	1	1	2	2
	Width of inclined aileron in mm	1080	1290	1510	1730	1940	2140	2140	2380
	Overhang in mm	650	650	650	650	650	650	650	650
	Number of springs	3	4	4	6	8	10	8	10
	Weight of complete blade in kg	150	180	205	240	270	290	320	345

2.2 MODEL LSR

	Model LSR	1250	1500	1750	2000	2250	2500	2500	2750
P	Tractor power in HP	15	20	25	40	50	60	60	70
A	Aileron width in mm	1250	1500	1750	2000	2500	2500	2500	2750
B	Aileron height in mm	680	700	710	720	720	730	730	750
	Number of sectors	1	1	1	1	1	1	2	2
	Width of inclined aileron in mm	1080	1290	1510	1730	1940	2140	2140	2380
	Overhang in mm	650	650	650	650	650	650	650	650
	Number of springs	3	4	4	6	8	10	8	10
	Weight of complete blade in kg	150	180	250	290	320	340	380	410

2.3 MODEL LSL

	Model LSL	1250	1500	1750	2000
P	Tractor power in HP	15	20	25	40
A	Aileron width in mm	1250	1500	1750	2000
B	Aileron height in mm	600	600	600	600
	Number of sectors	1	1	1	1
	Width of inclined aileron in mm	1130	1350	1570	1800
	Overhang in mm	600	600	600	600
	Number of springs	4	6	8	10
	Weight of complete blade in kg	96	116	136	156

2.4 MODEL LSI

	Model LSI	2500	2750	3000	3250	3500
P	Tractor power in HP	70	90	100	110	120
A	Aileron width in mm	2500	2750	3000	3250	3500
B	Aileron height in mm	930	950	970	990	1010
	Number of sectors	2	2	2	2	2
	Width of inclined aileron in mm	2160	2380	2600	2810	3030
	Overhang in mm	1000	1000	1000	1000	1000
	Number of springs	10	10	12	14	16
	Weight of complete blade in kg	500	535	540	575	595

3. ACCESSORIES OF THE SNOW BLADE

All models of LS blade can be equipped with the following accessories:

- **WHEELS**: they are applied to the blade by means of a specific support and they are locked with a pin and the corresponding split pin



- **SLEDGES**: they are applied to the blade by means of the specific support and they are locked with a pin and the corresponding split pin



- **SHOCKPROOF VALVE**: it is connected to the orientation cylinders to deaden eventual recoils during the work



5. USE OF THE SNOW BLADE

1. PREPARATION FOR DRIVING

Read the operator's and maintenance manual before operating the snow blade.



CAUTION Before operating the tractor with applied snow blade the operator must have been instructed. Untrained operators can cause injuries or death.

2. DAILY OPERATIONS



CAUTION Before starting operations:

- Check the integrity of the hydraulic hoses;
- General check of hydraulic leaks;
- General check of the conditions of carpentry parts for rust or eventual failures;
- Check the integrity of instruction labels;
- Check the integrity of control indications;
- Check the correct return to zero of control levers;
- Check the presence of locking pins on the fastening frame and on the tool;
- Check hydraulic oil liquid level of the tractor.

3. WARNINGS ON THE USE OF THE SNOW BLADE



CAUTION

During work: always keep under control the operation area and prevent people from approaching.



CAUTION

When the operator is about to work for the first time with the snow blade , he must become familiar with the use of the snow blade . Therefore he will have to gain preliminary experience by following all operations which the snow blade can carry out in order to develop a certain "sensitivity" to controls and to the reactions resulting from the snow blade.



CAUTION

Before starting work make sure you have full visibility of the area of operation.
In case of night work make sure that the lighting is sufficient



DANGER

Failure to observe warnings can cause the overturning and roll-over of the tractor and can cause injuries or death.

4. TRANSPORT PROCEDURE BEFORE STARTING WORK

The snow blade must be hooked to the tractor and in transport position, i.e. lifted from the ground. For the transport it is necessary to conform to the following procedure:

- get on the tractor
- start the tractor
- make sure that nobody is present in the operating area of the tractor
- lift the snow blade by operating the hydraulic control lever of the lifting arms of the tractor

5. WORKING POSITION

The working position refers to the snow blade connected to the tractor and ready to be used. For the use it is necessary to conform to the following procedure:

- the snow blade must be lifted from the ground
- orient the blade in the direction where you want the snow to be moved, by acting on the hydraulic control levers positioned on the tractor
- lower the snow blade to the ground, by acting on the hydraulic control levers positioned on the tractor
- the snow blade is ready for work



IMPORTANT After the operations to start work and after the blade is lowered to the ground, it is not allowed to effect orientations of the same during work phases. To change the orientation of the blade it is necessary to lift the blade from the ground and to carry out again the above-mentioned procedure to place the blade in the desired new working position.



IMPORTANT Before effecting snow clearance operations, carry out at least a free of load test in order to check the absence of anomalies

6. TRANSPORT POSITION AT THE END OF WORK

The transport position at the end of work refers to the procedure to conform to in order to lead the blade in the transport position:

- lower the blade from the ground by acting on the hydraulic control levers positioned on the tractor
- incline the blade by acting on the hydraulic controls positioned on the tractor
- Now the blade can be transported
- For on-road circulation comply with the notes of the next paragraph

7. ON-ROAD CIRCULATION



IMPORTANT On-road circulation is subject to laws and regulations in force in the country where the snow blade is used.

The manufacturer of the front loader is not responsible for any consequences deriving from the non-observance of the rules of the road.

7.1 PROVISIONS FOR ON-ROAD CIRCULATION:



CAUTION

- Orange rotating light in use;
- The snow blade must be lifted from the ground and angled
- In case of sledges or wheels, they have to be positioned at the maximum possible height
- Fasten the tie rods of the lifting arms of the agricultural tractor by means of the specific adjusters in order to avoid dangerous oscillations during the transport

7.2 TRANSPORT DEVICES



CAUTION

This typology of snow blade is directly connected to the lifter of the tractor.

Before effecting transport operations, check if the tractor is equipped with locking devices preventing the descent of the lifter to avoid accidental movements during the transport. In case such devices are available, take care that they are locked before each transfer. In the absence of these devices be especially careful not to activate the descent control of the arm during transfers

8. REST PERIOD OF SNOW BLADE AFTER WORK



CAUTION Soon after getting out, in order to avoid injuries or death, before leaving the operator's seat, lower the snow blade flat on the ground. Stop the tractor engine and engage the parking brake.



CAUTION AT THE END OF WORK, before leaving the tractor, make sure that the tool is firmly lowered to the ground.



CAUTION Always remove the ignition key from the tractor.

9. INSTRUCTIONS FOR STORAGE



CAUTION In case of prolonged inactivity:

- Wash the tool carefully;
- Lubricate all unpainted parts;
- Lubricate all lubricators;
- Store in a dry location.

8 MAINTENANCE OF THE SNOW BLADE



CAUTION

CAUTION Carry out maintenance operations of the snow blade by separating it from the tractor. It is recommended to effect the maintenance as specified in the manual. Each element of the snow blade that may turn out to be damaged, not functioning or lacking in its functionality must be replaced or brought back to its initial operational efficiency, which can lead to possible damages deriving from an improper use of the machine itself. For any replacement it is necessary to contact the company Bonatti Caricatori s.r.l. as an erroneous integration of not appropriated parts could compromise the functionality of the snow blade by causing irreparable damages to things or persons.

1. LUBRICATION

1.1. HYDRAULIC SYSTEM COMBINED WITH THE TRACTOR

Intake oil filter:	refer to the maintenance manual of the tractor
Outlet oil filter:	refer to the maintenance manual of the tractor
Hydraulic oil:	refer to the maintenance manual of the tractor
TRACTOR OIL TANK CAPACITY:	refer to the maintenance manual of the tractor
HYDRAULIC OIL TYPE:	refer to the maintenance manual of the tractor

1.2. GREASING

ELEMENT		WORKING HOURS
Lubricator		10



CAUTION

- Avoid release of the oil to the environment
- Provide all necessary equipment to oil change (minimum capacity of the container: 50l)
- Wear all protective elements
- Position the tractor on even, solid and compact ground;
- Apply the parking brake of the tractor;
- Turn off the engine and remove the key;
- Move the lever of the hydraulic controls in its four positions for a number of times to unload the hydraulic pressure.
- Place the collecting container under the cap positioned down on the left of the tank
- Unscrew the cap by means of the appropriate wrench
- Make sure that the oil has been completely drained
- Replace the cap seal with a new one
- Retighten the cap
- Fill the tank to its maximum level

2. MAIN FAILURES

MAIN FAILURES	CAUSE	REMEDY
Controls do not respond	- Hydraulic pump is damaged - Lack of oil	- Replace the pump - Add oil
The snow blade move without activating of the controls	- Worn cylinder seal	- Replace the seal
Leak from the junction	- Loose junction	- Tighten the junction
The snow blade is very slow or the lifting is absent	- Defective hydraulic couplings - Defective cylinders - Incorrect pressure provided by the distributor	- Check the couplings - Check or replace the cylinders - Check the distributor o
damaged hoses	failure or wear of the hoses	replace the hoses by analogous ones of class R2

FOR OTHER TYPES OF FAILURES, IT IS RECOMMENDED TO REFER TO THE ASSISTANCE SERVICE

9 SERVICE AND SPARE PARTS

1. SERVICE

The manufacturer remains always at disposal for any type of information concerning the installation, the use and the maintenance of the snow blade.

It is advisable for the customer to ask questions in clear terms, with references to this manual and to the instructions contained in it.

2. SPARE PARTS

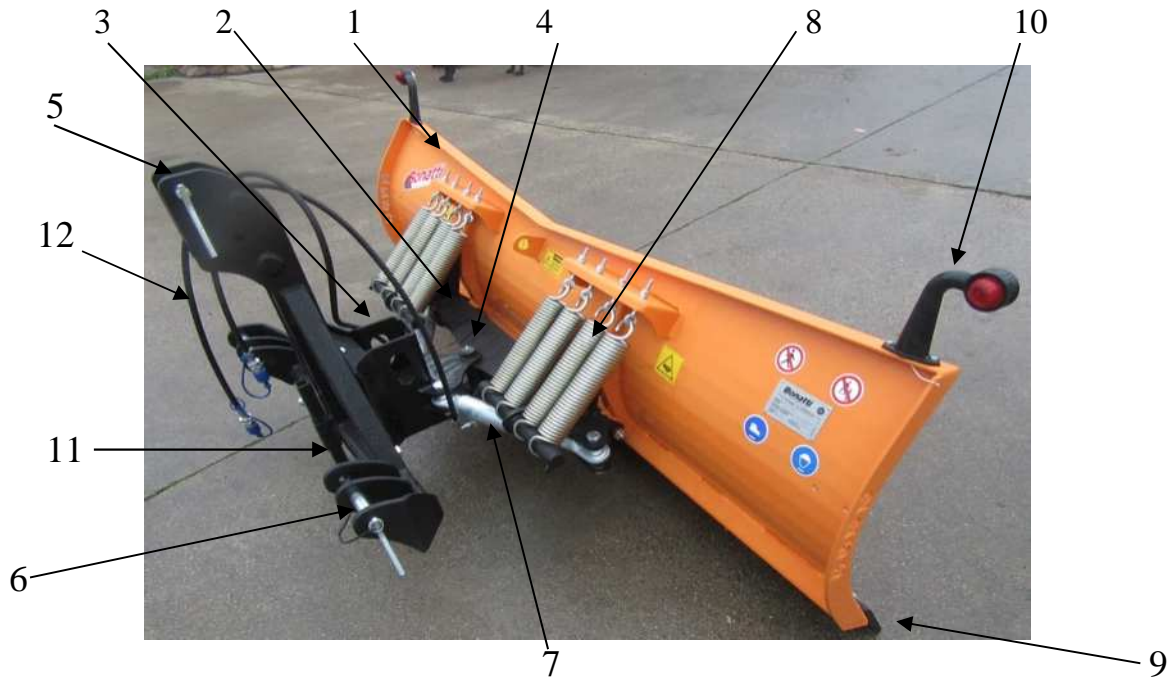


**ALWAYS USE ORIGINAL SPARE PARTS.
FOR ANY SPARE PART, CONTACT THE MANUFACTURER.**

2.1 SPARE PARTS - HYDRAULIC CYLINDER FOR SNOW BLADE

	CYLINDER	L/1025	L/1026	L/1027	L/1049	L/1064	L/1078
PART DESCRIPTION							
Gaskets kit		L/1092	L/1093	L/1094	L/1095	L/1096	L/1097
Stem kit		L/1098	L/1099	L/1100	L/1101	L/1102	L/1103

2.2 SPARE PARTS TABLE LSN

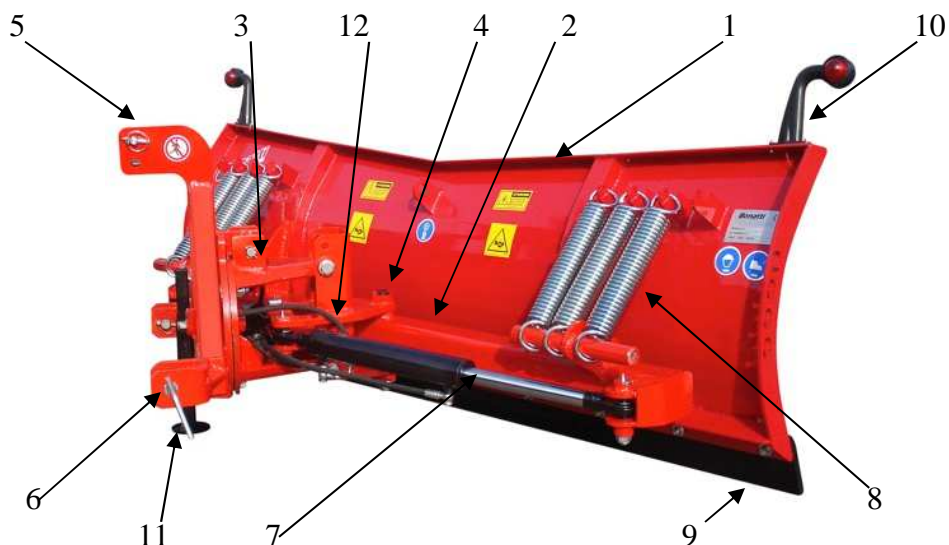


RIF	DESCRIZIONE	1250	1500	1750	2000	2250	2500 1sez	2500 2sez	2750 2sez	Qtà
1	Aileron	L/1001	L/1002	L/1003	L/1004	L/1005	L/1006			1
	Right aileron							L/1007 dx	L/1008 dx	1
	Left aileron							L/1007 sx	L/1008 sx	1
2	Aileron support	L/1009	L/1010	L/1011	L/1012	L/1013	L/1014	L/1015	L/1016	1
3	Bell	L/1017	L/1017	L/1017	L/1017	L/1017	L/1017	L/1018	L/1018	1
4	Bell pin	L/1019	L/1019	L/1019	L/1019	L/1019	L/1019	L/1020	L/1020	1
5	Third point	L/1021	L/1021	L/1021	L/1021	L/1021	L/1022	L/1022	L/1022	1
6	Third point pin	L/1023	L/1023	L/1023	L/1023	L/1023	L/1024	L/1024	L/1024	2
7	Cylinders	L/1025	L/1025	L/1025	L/1026	L/1026	L/1026	L/1027	L/1027	2
8	Springs	L/1028	L/1028	L/1028	L/1028	L/1028	L/1028	L/1028	L/1028	3-8
9	Knife	L/1029	L/1030	1031	L/1032	L/1033	L/1034	L/1035	L/1036	1
10	Remark lamps	L/1037	L/1037	L/1037	L/1037	L/1037	L/1037	L/1037	L/1037	2
11	Support foot	L/1038	L/1038	L/1038	L/1038	L/1038	L/1038	L/1038	L/1038	1
12	Rubber hoses	L/1039	L/1040	L/1041	L/1042	L/1043	L/1044	L/1045	L/1046	2



CAUTION Right and left aileron are classified with reference to the direction of travel of the snow blade

2.3 SPARE PARTS TABLE LSR

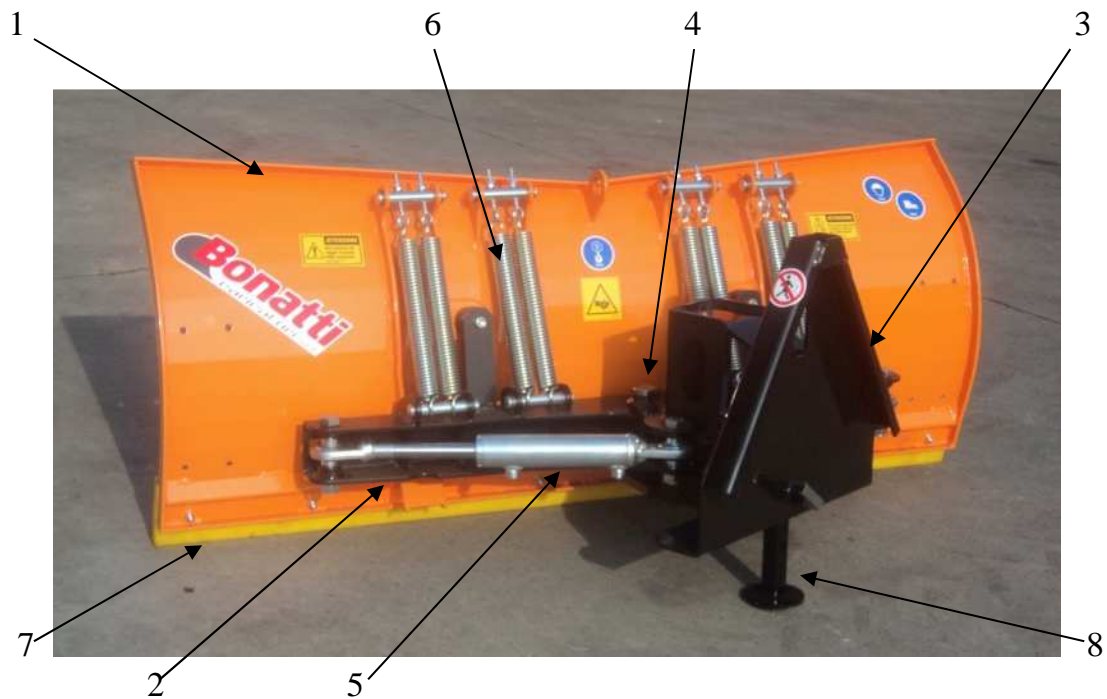


RIF	DESCRIZIONE	1250	1500	1750	2000	2250	2500 1sez	2500 2sez	2750 2sez	Qtà
1	Aileron	L/1001	L/1002	L/1003	L/1004	L/1005	L/1006			1
	Right aileron							L/1007 dx	L/1008 dx	1
	Left aileron							L/1007 sx	L/1008 sx	1
2	Aileron support	L/1009	L/1010	L/1011	L/1012	L/1013	L/1014	L/1015	L/1016	1
3	Bell	L/1047	L/1047	L/1047	L/1047	L/1047	L/1047	L/1047	L/1047	1
4	Bell pin	L/1048	L/1048	L/1048	L/1048	L/1048	L/1048	L/1048	L/1048	1
5	Third point	L/1021	L/1021	L/1021	L/1021	L/1021	L/1022	L/1022	L/1022	1
6	Third point pin	L/1023	L/1023	L/1023	L/1023	L/1023	L/1024	L/1024	L/1024	2
7	Cylinders	L/1025	L/1025	L/1025	L/1049	L/1049	L/1049	L/1027	L/1027	2
8	Springs	L/1028	L/1028	L/1028	L/1028	L/1028	L/1028	L/1028	L/1028	3-8
9	Knife	L/1029	L/1030	L/1031	L/1032	L/1033	L/1034	L/1035	L/1036	1
10	Remark lamps	L/1037	L/1037	L/1037	L/1037	L/1037	L/1037	L/1037	L/1037	2
11	Support foot	L/1038	L/1038	L/1038	L/1038	L/1038	L/1038	L/1038	L/1038	1
12	Rubber hoses	L/1050	L/1051	L/1052	L/1053	L/1054	L/1055	L/1056	L/1057	2



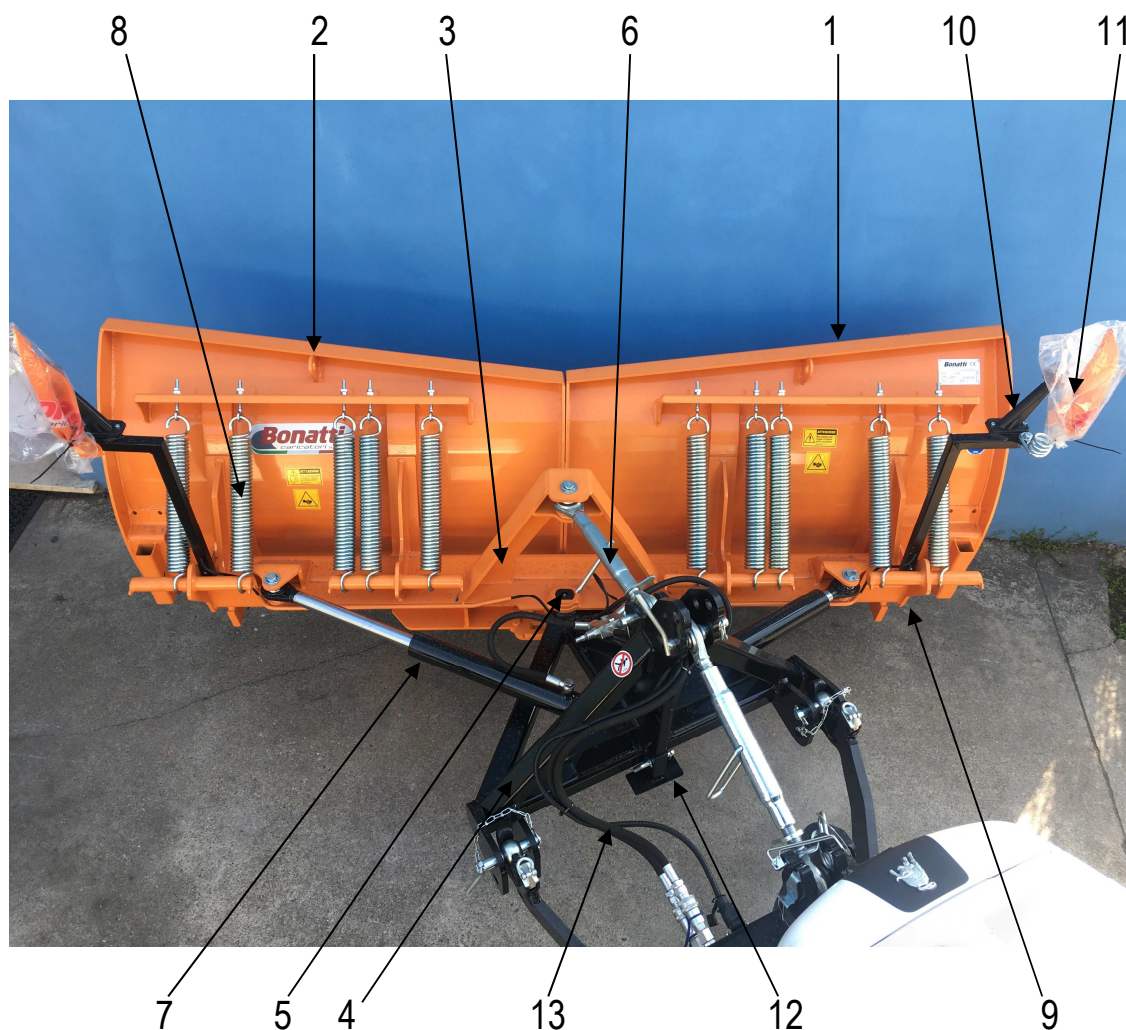
CAUTION Right and left aileron are classified with reference to the direction of travel of the snow blade

2.4 SPARE PART TABLE LSL



RIF	DESCRIZIONE	CODICE				Q.tà
		1250	1500	1750	2000	
1	aileron	L/1058	L/1059	L/1060	L/1061	1
2	Aileron support	L/1062	L/1062	L/1062	L/1062	1
3	Third point	L/1063	L/1063	L/1063	L/1063	1
4	Third point pin	L/1019	L/1019	L/1019	L/1019	1
5	Cylinders	L/1064	L/1064	L/1064	L/1064	2
6	Springs	L/1065	L/1065	L/1065	L/1065	4-10
7	Knife	L/1029	L/1030	L/1031	L/1032	1
8	Support foot	L/1038	L/1038	L/1038	L/1038	1
9	Rubber hoses	L/1066	L/1067	L/1068	L/1069	2

2.5 SPARE PART TABLE LSI



RIF	DESCRIZIONE	2500 2sez	2750 2sez	3000 2sez	3250 2sez	3500 2sez	Qtà
1	Aileron	L/1070dx	L/1071dx	L/1072dx	L/1073dx	L/1074dx	1
2	Right aileron	L/1070sx	L/1071sx	L/1072sx	L/1073sx	L/1074sx	1
3	Left aileron	L/1075	L/1075	L/1075	L/1075	L/1075	1
4	Aileron support	L/1076	L/1076	L/1076	L/1076	L/1076	1
5	Bell	L/1077	L/1077	L/1077	L/1077	L/1077	1
6	Bell pin	L/1092	L/1092	L/1092	L/1092	L/1092	1
7	Third point	L/1078	L/1078	L/1078	L/1078	L/1078	2
8	Third point pin	L/1079	L/1079	L/1079	L/1079	L/1079	10-16
9	Cylinders	L/1080	L/1081	L/1082	L/1083	L/1084	1
10	Springs	L/1036	L/1036	L/1036	L/1036	L/1036	2
11	Knife	L/1085	L/1085	L/1085	L/1085	L/1085	2
12	Remark lamps	L/1086	L/1086	L/1086	L/1086	L/1086	1
13	Support foot	L/1087	L/1088	L/1089	L/1090	L/1091	2



CAUTION Right and left aileron are classified with reference to the direction of travel of the snow blade

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DATA PROCESSING SYSTEM NR. MN02142 R.E.A. MN-n 226961
Fully paid-up share capital € 30.000,00