



**METAL-FACH**



**FRONT LOADER  
T229, T241  
INSTRUCTION MANUAL  
TRANSLATION OF THE ORIGINAL POLISH MANUAL  
REVISION II  
JANUARY 2019**





## EC DECLARATION OF CONFORMITY

The undersigned:	Jacek Kucharewicz, Chairman of the Board	
declares hereby with full responsibility, that the complete machine:		
<b>Front Loader</b>		
1.1.	Brand (trading name of the manufacturer)	Metal-Fach
1.2.	Type:	T229
1.2.1.	Variant:	
1.2.2.	Version:	
1.2.3.	Trade Name(s) (if any):	N/A
1.3.	Category, Subcategory and Vehicle Speed Indicator	N/A
1.4.	Company name and manufacturer address:	Metal-Fach sp. z o.o. ul. Kresowa 62 16-100 Sokółka, Poland
1.4.2.	Name and address of the authorised representative of the manufacturer (if applicable):	N/A
1.5.1.	Location of the rating plate of the manufacturer:	Main frame
1.5.2.	Method used to fix the rating plate of the manufacturer:	Bonded
1.6.1.	Location of the vehicle identification number on the chassis	N/A
2.	Machine identification number:	N/A
<p>complies with all the relevant regulations of Directive 2006/42/EC and Regulation of the Minister of Economy dated 21 October 2008 on principal requirements for machines (Journal of Laws of 2008, No. 199, item 1228, as amended)</p> <p>The following harmonized standards were applied to assess the compliance:  <u>PN-EN ISO 4413: 2011, PN-EN ISO 13857: 2010, PN-EN ISO 12100: 2012</u>  and standards: PN-ISO 3600:1998, PN-ISO 11684:1998 and Regulation of the Minister of Infrastructure dated 31 December 2002 on technical conditions of vehicles and the range of their necessary equipment (Journal of Laws of 2003, No. 32, item 262, as amended).</p> <p><b>Safety Testing Report No.: MF/8/2010</b></p> <p><b>This declaration of EC conformity becomes null and void if the machine is changed or reconstructed without manufacturer's consent.</b></p>		

Sokółka

(Place)

Jacek Kucharewicz

(Signature)

04/Dec/2010

(Date)

Chairman of the Board

(Position)



## EC DECLARATION OF CONFORMITY

The undersigned	Jacek Kucharewicz, Chairman of the Board	
declares hereby with full responsibility, that the complete machine:		
<b>Front Loader</b>		
1.1.	Brand (trading name of the manufacturer)	Metal-Fach
1.2.	Type:	T241
1.2.1.	Variant:	
1.2.2.	Version:	
1.2.3.	Name(s) (if any):	N/A
1.3.	Category, Subcategory and Vehicle Speed Indicator	N/A
1.4.	Company name and manufacturer address:	Metal-Fach sp. z o.o. ul. Kresowa 62 16-100 Sokółka, Poland
1.4.2.	Name and address of the authorised representative of the manufacturer (if applicable):	N/A
1.5.1.	Location of the rating plate of the manufacturer:	Main frame
1.5.2.	Method used to fix the rating plate of the manufacturer:	Bonded
1.6.1.	Location of the vehicle identification number on the chassis	N/A
2.	Machine identification number:	N/A
<p>complies with all the relevant regulations of Directive 2006/42/EC and Regulation of the Minister of Economy dated 21 October 2008 on principal requirements for machines (Journal of laws of 2008, No. 199, item 1228, as amended)</p> <p>The following harmonized standards were applied to assess the compliance:  <u>PN-EN ISO 4413: 2011, PN-EN ISO 13857: 2010, PN-EN ISO 12100: 2012</u>  and standards: PN-ISO 3600:1998, PN-ISO 11684:1998 and Regulation of the Minister of Infrastructure dated 31 December 2002 on technical conditions of vehicles and the range of their necessary equipment (Journal of Laws of 2003, No. 32, item 262, as amended).</p> <p><b>Safety Testing Report No.: LB/37/2009</b></p> <p><b>This declaration of conformity EC becomes null and void if the machine is changed or reconstructed without manufacturer's consent.</b></p>		

Sokółka  
(Place)

01.10.2009  
(Date)

Jacek Kucharewicz  
(Signature)

Chairman of the Board  
(Position)

## Machine data

<b>Type of machine:</b>	Front Loader
Type designation:	T229
Serial number(1):	_____
Machine manufacturer:	METAL-FACH Sp. z o.o. 16-100 Sokółka ul. Kresowa 62 Phone: (0-85) 711 98 40 Fax: (0-85) 711 90 65
Seller:	_____
Address:	_____ _____
Phone/Fax:	_____ _____
Delivery date:	_____
Owner or user:	Name: _____
Address:	_____ _____
Phone/Fax:	_____

(1) The data is located on the machine rating plate located on the front part of the machine main frame

## Machine data

<b>Type of machine:</b>	Front Loader
Type designation:	T241
Serial number(2):	_____
Machine manufacturer:	METAL-FACH Sp. z o.o. 16-100 Sokółka ul. Kresowa 62 Phone: (0-85) 711 98 40 Fax: (0-85) 711 90 65
Seller:	_____
Address:	_____ _____
Phone/Fax:	_____ _____
Delivery date:	_____
Owner or user:	Name: _____
	Address: _____ _____
	Phone/Fax: _____

(2) The data is located on the machine rating plate located on the front part of the machine main frame

## INTRODUCTION

The information included in the Instruction Manual is valid as of the date of issue. The manufacturer reserves the right to make design changes in machines and due to this fact some values or illustrations may not correspond to the actual state of the machine supplied to the user. The manufacturer reserves the right to make design changes without changing this instruction. The instruction manual is included as the basic equipment of the machine. The user is obliged to read the contents of this manual before commencing operation and to meet the recommendations included in it. It will ensure a safe and trouble-free machine operation. The machine was constructed in compliance with the standards in force and current legal provisions. This instruction manual describes the basic safety and operation principles of the Front Loaders made by Metal-Fach, type T229 and T241.

The material obligations of the manufacturer are presented in the Guarantee Certificate, which includes the complete regulations currently in force in the guarantee coverage.

If the information included in the instruction manual proves to be incomprehensible, you should contact the distributor's office, where the machine was purchased or the manufacturer directly for assistance.

The spare parts catalogue functions as a separate list and is attached in the form of a CD during the machine purchase and also is available at: [www.metalfach.com.pl](http://www.metalfach.com.pl).

This Instruction Manual, according to the Act of 4 February 1994 on copyrights and related Laws (Journal of Laws of 1994, No. 24, item 83) is protected by copyright. It is prohibited to copy and distribute the contents and figures without the consent of the proprietor of the copyright.

**Manufacturer address:**

Metal-Fach sp. z.o.o.

Ul. Kresowa 62

16-100 Sokółka

**Telephone:**

Phone: (0-85) 711 98 40

Fax: (0-85) 711 90 65

### Symbols used in the Manual:



CAUTION

The symbol points to especially important information and recommendations. Non-compliance with the described recommendations threatens serious damage to the machine due to its incorrect operation.



WARNING

The symbol indicates the possibility of occurrence of a hazard which, if not prevented, may result in death or serious injury. This symbol informs on a smaller level of the risk of injury than the symbol including the word "DANGER".



The symbol indicates useful information.



## Table of contents

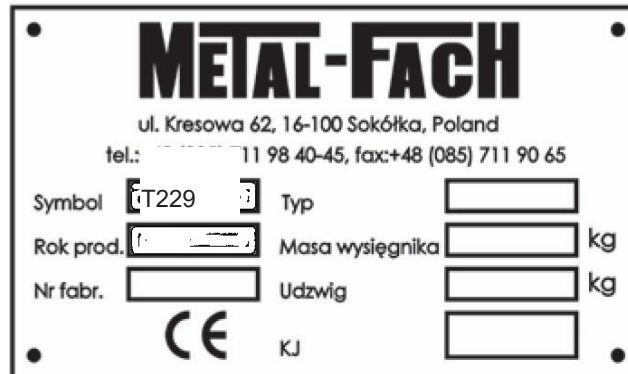
INTRODUCTION .....	7
1. General description.....	11
1.1 Machine identification.....	11
1.2 Front Loader Design .....	14
1.3 Location of pictograms .....	15
1.4 Arrangement of Pictograms on the Machine.....	18
1.5 T229 and T241 Front Loader Characteristics .....	19
1.6 Front Loader Dimensions.....	20
1.7 General safety principles.....	21
2. Coupling with the Tractor .....	23
2.1 Tractors Dedicated for Use with Front Loaders .....	23
2.2 Use with the Tractor .....	27
2.3 Loader-Tractor System Stability.....	28
2.4 Detaching from the Tractor .....	29
3. Start-up .....	31
3.1 Loader Control Lever Functions.....	31
3.2 Counterweight Control .....	32
3.3 Connecting the Loader Hydraulic System.....	32
4. Ongoing Control and Adjustment Components .....	34
4.1 Front Loader Joystick.....	34
4.2 Arrangement of Adjustment Controls .....	34
5. Front Loader Operation .....	36
5.1 Work Tool Installation.....	36
5.2 Work Tools .....	38
5.3 Hydraulic System .....	44
5.4 Loader Operation .....	45
5.5 Vibration Damper .....	45
5.6 End of Operation .....	47
6. Scheduled Inspections.....	48
6.1 User Inspections .....	48
6.2 Service inspections .....	48
7. Authorised service .....	49
7.1 Guarantee service.....	49
7.2 Routine service .....	49
7.3 Ordering spare parts .....	49

8. Front Loader Transport.....	50
8.1 Load Transport.....	50
8.2 Road Traffic Participant.....	50
9. Front Loader Storage.....	53
10. Residual Risk.....	54
10.1 Residual Risk Description .....	54
10.2 Residual Risk Assessment.....	54
11. Loader Disposal.....	55
12. Typical faults and troubleshooting .....	56
13. Accessories .....	57
NAME AND ABBREVIATION INDEXES .....	58
ALPHABETICAL INDEX.....	59
NOTES .....	60

## 1. General description

### 1.1 Machine identification

Front loaders should be identified using the nameplate, which is permanently attached to the main frame. The data included on the nameplate of the T229 Front Loader are shown in the figure below. The T241 Front Loader is equipped with its corresponding nameplate.



**Figure 1.** The name plate of the T229 Front Loader



NOTE

#### NOTE

Entering public roads without the nameplate or with an illegible nameplate is prohibited.



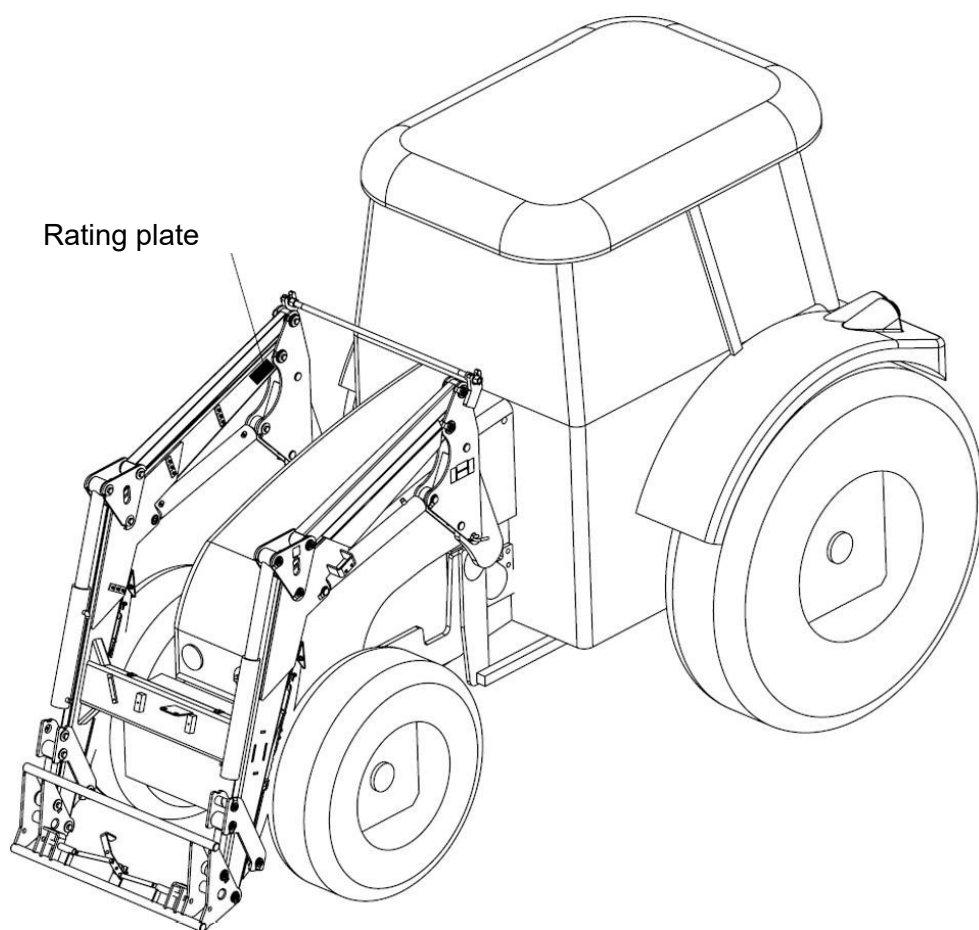
Upon purchase, check the compliance of the factory number located on the machine rating plate with the number written in the Instruction Manual and Guarantee Certificate - it is crucial for validating the guarantee. In the case of the user contact with the service, seller or manufacturer, the user is obliged to indicate the information included on the machine rating plate.



The Instruction Manual is provided as the basic equipment of each trailer.

In the case of the sale of the machine to another user it is obligatory to provide the Instruction Manual. It is recommended for the Front Loader supplier to archive the Instruction Manual receipt confirmation by the purchaser, submitted with the machine to the new user.

**Please read the Instruction Manual carefully!**



**Figure 2.** Location of the nameplate on the machine

Adherence to its indications will allow hazard prevention, the efficient and productive machine operation and the guarantee validity for the period granted by the manufacturer.

Detailed explanation regarding the design, functioning, operating principle and any other matters related to the machine can also be provided by authorised dealers/ manufacturer.



**NOTE**

**NOTE**

The Loader must not be operated by persons who have not read this Manual.

The Loader must be used according to its intended use by being attached to suitable farm tractors (Chapter 2.1).

The Front Loader is intended for the loading and unloading of loose and bulk agricultural materials such as: fertilisers, grain, gravel, root crops, manure, silage, bales of silage, hay and straw.



Using the Loader for purposes other than listed above shall be considered improper use.

The Loader is not equipped with any protections against accidental boom lowering.



The Loader is not designed for lifting which requires people to be present near the lifted load.



WARNING

Using the Loader for loading flexible containers and pallets is prohibited.

During operation, the operator of the Loader is not exposed to noise which may cause loss of hearing, since the noise level of a running machine does not exceed 70 dB (A) and the operating position is located inside the tractor cab.

During operation, the operator of the Loader is not exposed to vibrations, since the level of vibrations affecting the upper limbs of the operator does not exceed  $2.5 \text{ m/s}^2$ , while the vibrations on the body are less than  $0.5 \text{ m/s}^2$ , and the operating position is located inside the tractor cab.



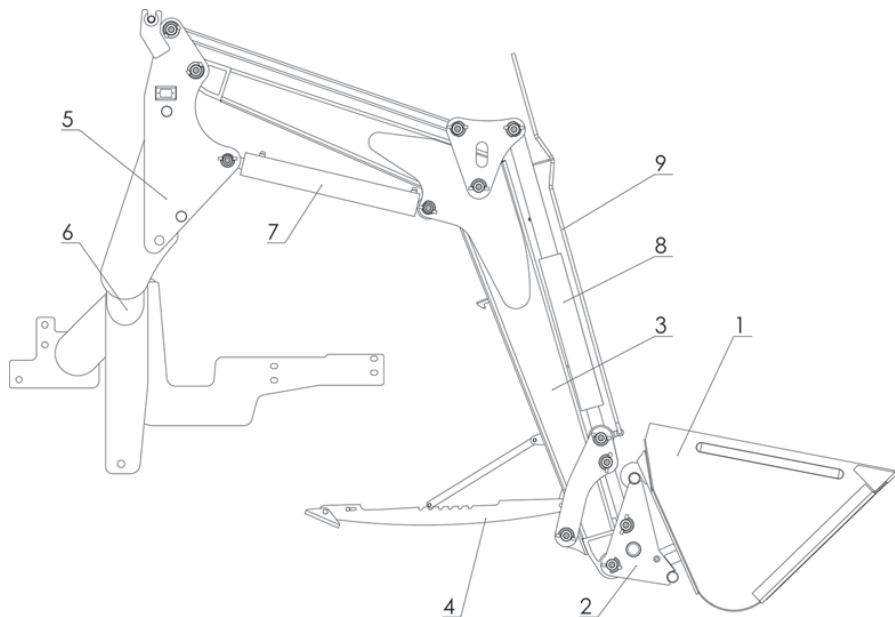
WARNING

The manufacturer shall not be responsible for any hazards or damage resulting from any unauthorised modifications of the machine.

## 1.2 Front Loader Design

The Front Loader consists of the following assemblies:

- 1 - Work tool
- 2 - Coupling frame
- 3 - Boom
- 4 - Support
- 5 - Mounting plate
- 6 - Support frame
- 7 - Boom cylinder
- 8 - Frame cylinder
- 9 - Levelling indicator
- 10 - Valve block



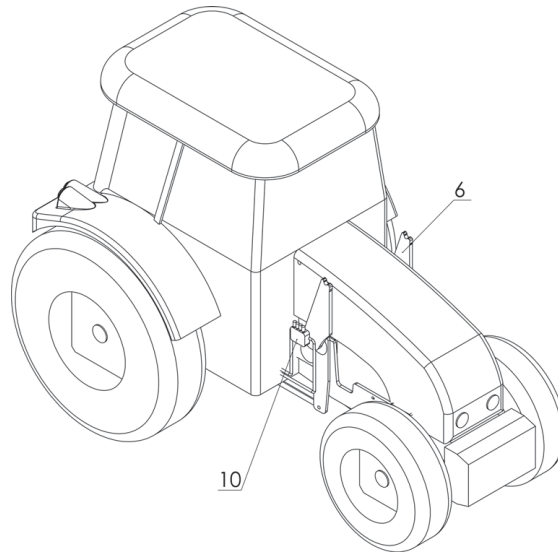
**Figure 3.** T229 Loader Design

The Front Loader is a hydraulic machine installed on the front of a farm tractor. The Loader is supplied from the tractor's hydraulic system. Installation of the Loader is possible owing to the support frame (6), which is permanently installed on the tractor.

FRAME INSTALLATION IS TO BE CARRIED OUT BY AUTHORISED SERVICE CENTRES OF THE DEALER/MANUFACTURER.

Assemble the Loader by fastening the mounting plates (5), which are integral parts, to the support frame (6) (Chapter 2.2.) The up-down motion of the boom (3) is achieved using the boom cylinder (7) – a double-acting hydraulic cylinder. The rotary movement of the coupling frame (2) is achieved by the frame cylinder (8) – a double-acting hydraulic cylinder. The Loader can be supplied with a levelling indicator (optional) (9). The design of the Loader is complemented by the support (4) used for attaching the Loader to a tractor and during storage of the machine.

### 1.2.1 Front Loader Frame



**Figure 4.** Front Loader Frame



Frame installation is to be carried out by authorised service centres of the dealer/manufacturer.



**NOTE**

Do not disassemble or modify the Front Loader frame after it has been installed by an authorised service centre.

The designs of the support frames of the Loader are individually adapted to the particular tractors. The manufacturer offers around 200 designs of these frames.







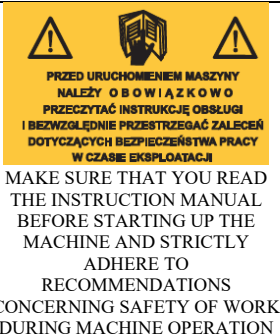
The Front Loader may be attached only to a tractor equipped with a support frame (6) recommended by the manufacturer and installed by an authorised dealer/manufacturer.

Install a hydraulic valve block (10) on the right-hand side of the frame (6) and connect it to the hydraulic system of the tractor. Install the controller (joystick) inside the tractor cab and connect it to the valve block (Chapter 5.3).







### 1.3 Location of pictograms

The warning pictograms on the machine (Chapter 1.4) inform the operator about the dangers and hazards which may occur during operation. Ensure that the symbols are clean and legible.

**Table 1.** Location of pictograms

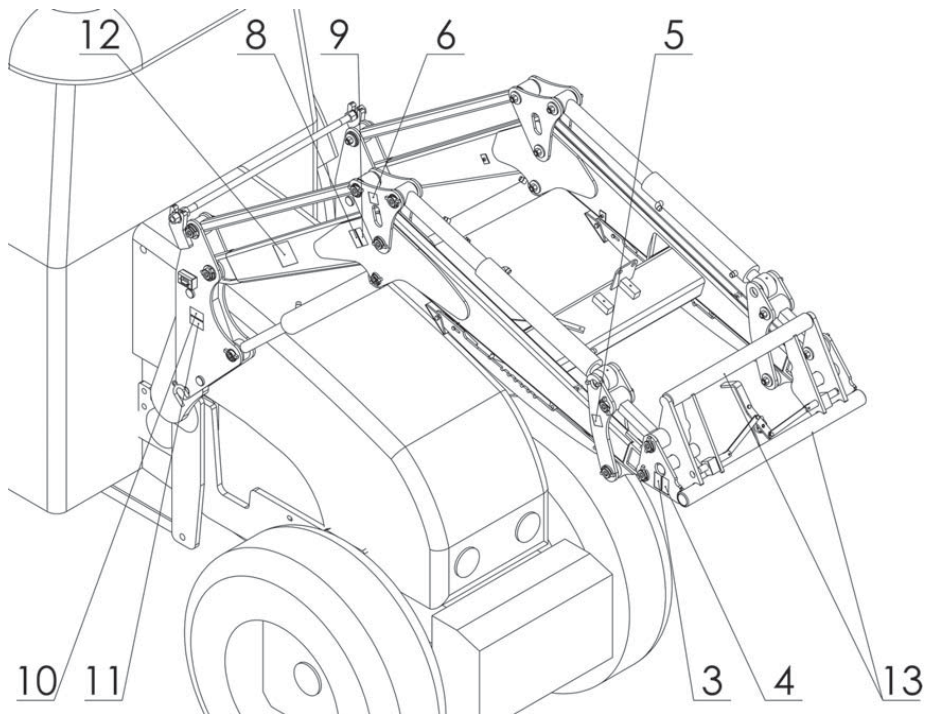
No.	Safety sign (mark)	Meaning of the sign or content of the inscription	Position on the trailer
1	2	3	4
1		Read the instruction manual	Left mounting plate
2		Switch off the engine and remove the key before maintenance or repair	Left mounting plate
3		Keep a safe distance from a working or moving loader. Risk of crushing by the Loader boom.	Mounting frame.
4		Keep a safe distance from power lines during loader operation.	Mounting frame.
5		Keep a safe distance from the machine.	Support III, left and right.
6		Suspension slings attachment point.	Support II, left and right.
7	 <p>PRZED URUCHOMIENIEM MASZYNY NALEŻY O B O W I A Z K O W O PRZECZYTAĆ INSTRUKCJĘ OBSŁUGI I BEZWZGLĘDNI PRZESTRZEGAĆ ZALECEŃ DOTYCZĄCYCH BEZPIECZEŃSTWA PRACY W CZASIE EKSPLOATACJI</p> <p>MAKE SURE THAT YOU READ THE INSTRUCTION MANUAL BEFORE STARTING UP THE MACHINE AND STRICTLY ADHERE TO RECOMMENDATIONS CONCERNING SAFETY OF WORK DURING MACHINE OPERATION</p>	Information pictogram.	Left mounting plate.



8		<p>Transporting or lifting people prohibited. Keep a safe distance from a working or moving loader.</p>	
9		<p>Keep a safe distance from a raised boom or bucket.</p>	
10	 <p>ZAKAZ UŻYWANIA ŁADOWACZA DO PODNOSZENIA WYMAGAJĄCEGO OBECNOŚCI OSÓB W POBLIŻU UNOSZONEGO ŁADUNKU</p> <p>THE LOADER IS NOT DESIGNED FOR LIFTING WHICH REQUIRES PEOPLE TO BE PRESENT NEAR THE LIFTED LOAD.</p>	<p>Information pictogram</p>	<p>Left and right mounting plate</p>
11		<p>Avoid contact with liquid under pressure.</p>	<p>Right mounting plate.</p>
12		<p>Loading capacity.</p>	<p>Boom arms</p>
13		<p>Warning strip – red and white.</p>	<p>Welded frame</p>

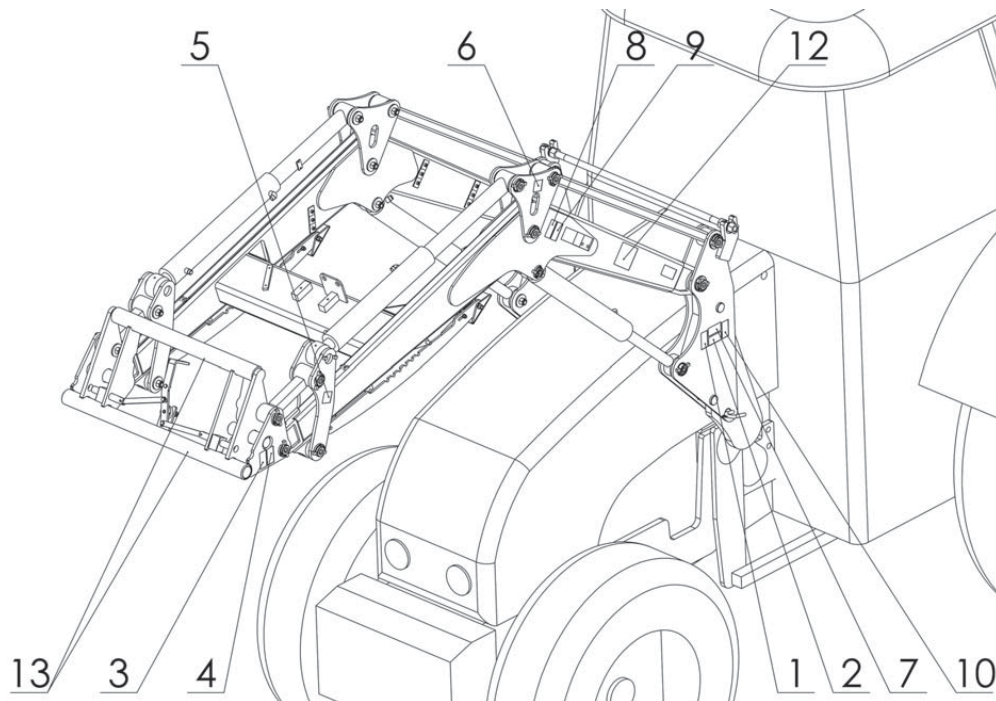
**1.4 Arrangement of Pictograms on the Machine**

**1.4.1 Arrangement of Pictograms on the Machine – right-hand side**



**Figure 5.** Arrangement of pictograms on the machine – right-hand side

**1.4.2 Arrangement of Pictograms on the Machine – left-hand side**



**Figure 6.** Arrangement of pictograms on the machine – left-hand side

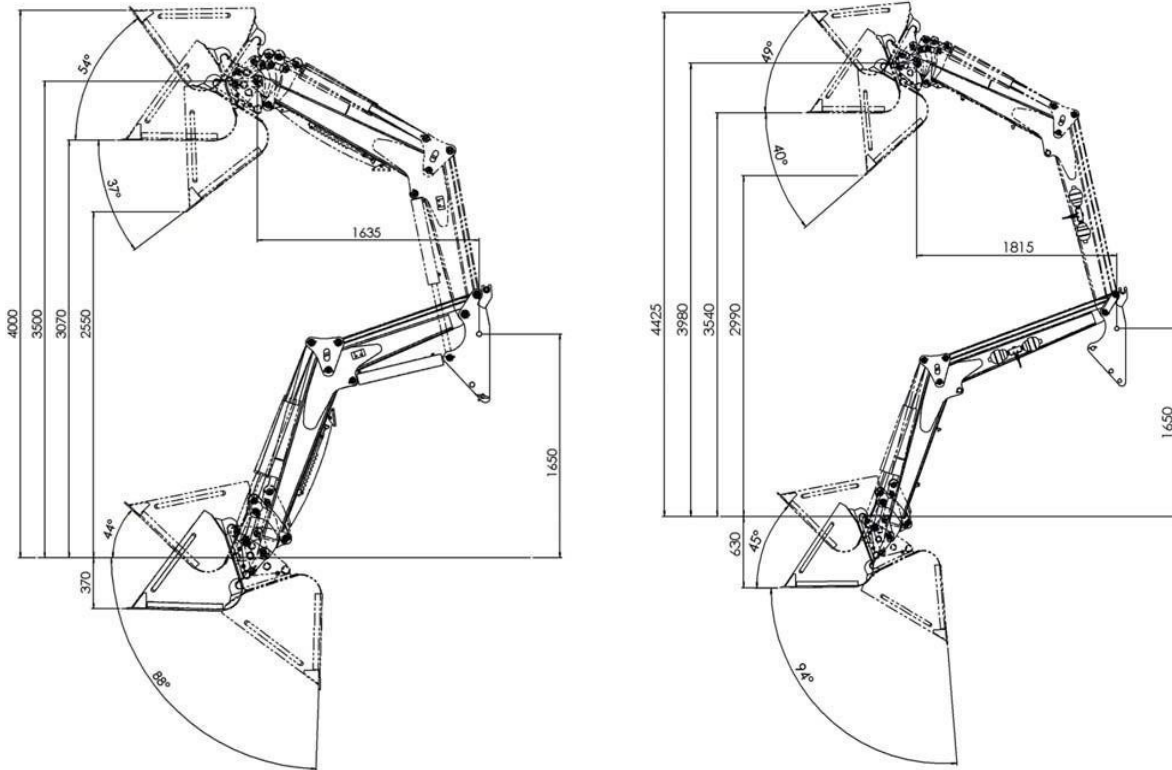
## 1.5 T229 and T241 Front Loader Characteristics

**Table 2.** Technical specifications

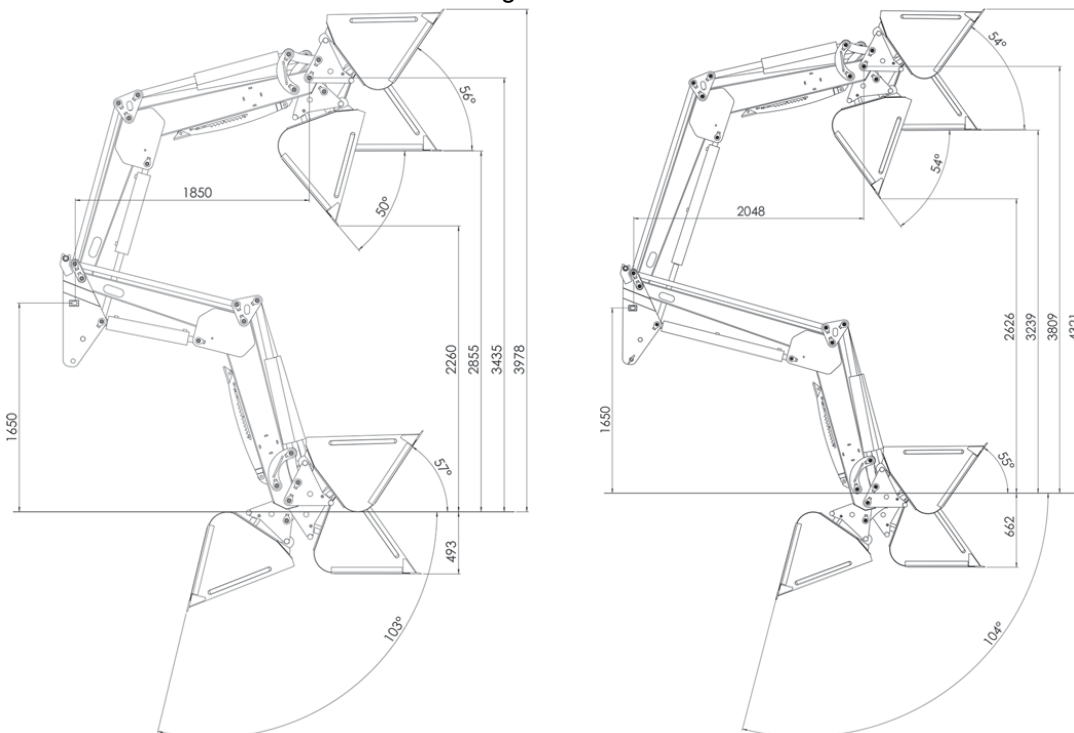
No.	Detailed list	Unit	Data	Data	Data
1.	Type of loader		T229-D	T229-I	T229-K
2.	Maximum Lifting Capacity at pivot axle	kg	1,600	1,300/1,600	1,300/1,600
3.	Lifting height	mm	4,425	4,000	4,000
4.	Loose Materials Bucket Loading Height	mm	3,540	3,070	3,070
5.	Loose Materials Bucket Unloading Height	mm	2,990	2,550	2,550
6.	Type of Lifting Cylinder		SCJ90/45/500 SCJ90/45/400	SCJ70/40/500 SCJ70/36/400 S90/45/500 SCJ80/45/400	SCJ70/40/500 SCJ70/36/400 S90/45/500 SCJ80/45/400
7.	Operating pressure	MPa	16	16	16
8.	Loader Weight	kg	650	600	600
9.	Counterweight + Ballast Weight	kg	820	650	650
10.	Tractor and Loader dimensions in transport arrangement: length (without the work tool) width	Mm mm mm	6,020 2,100 4,200	5,420 2,100 3,700	5,420 2,100 3,700
11.	Working speed	km/h	max. 10	max. 10	max. 10
12.	Transport speed	km/h	max. 15	max. 15	max. 15
13.	Operator Number		1	1	1
14.	Sound pressure level at the operator's work place	dB(A)	less than 70	less than 70	less than 70

\* The Table presents the dimensions for FARMER F-9258 TE tractor loader (attachment point at 1,650 mm).

### 1.6 Front Loader Dimensions



**Figure 7.** The figure shows the dimensions of the T229 Front Loader at extreme positions of the work tool. The dimensions apply to the loader installed on the tractor at the attachment point at the height of 1,650 mm from the ground. The dimensions of the Loader when installed on other tractors differ from those shown in the figure.



**Figure 8.** The figure shows the dimensions of the T241 Front Loader at extreme positions of the work tool. The dimensions of the loader installed on the tractor at the attachment point at the height of 1,650 mm from the ground. The dimensions of the Loader when installed on other tractors differ from those shown in the figure.

## 1.7 General safety principles

1. The Loader must be operated and repaired in accordance with the rules of health and safety in agriculture defined in the Regulation of the Minister of Agriculture and Food Economy of 12 January 1998.
2. The Front Loader may be operated only by an adult with a valid licence for driving farm tractors and proper knowledge of health and safety regulations with regard to agricultural equipment operation, provided that they have read and understood this Instruction Manual.
3. Read and thoroughly understand this Instruction Manual and observe its recommendations, paying close attention to the instructions concerning the safe operation of the loader.
4. The Manual indicates the machine components posing potential threats. Dangerous places are marked on the machine with a yellow label with warning pictograms. Special attention must be paid to the dangerous places and recommendations must be strictly adhered to.
5. You should learn the meaning of the pictograms attached.
6. All the adjustment, repair and service works should be executed with the tractor engine off, making sure before that it is protected in the correct way against accidental starting up.
7. The technical condition of the Loader must be verified before starting work, especially after longer breaks.
8. The machine must be equipped with all of its covers and supports.
9. It is forbidden to use damaged hydraulic power hoses. Immediately replace damaged hoses with new ones. Impermeable protective clothing and gloves must be worn while replacing hoses.
10. The tractor's hydraulic system pressure must be released prior to attaching the hydraulic hoses of the Loader.
11. The counterbalance must be installed before operating the machine.
12. Before and during operation or transport of the Loader, make sure that no bystanders, especially children, are present nearby.
13. People are not allowed to stand on the work tools of the Loader.
14. Ensure that there is enough free space in the Loader's zone of operation.
15. Working on sloping ground on inclines exceeding 8° across the slope and 12° along the slope is prohibited.
16. Do not exceed the maximum capacity of the Loader.
17. Use extreme caution when driving with maximum load and over uneven ground.
18. Do not lift loads to the extreme heights on inclined or sloping ground.
19. Entering and operating the Loader in the area under raised assemblies of the machine is prohibited.
20. Use extreme caution when attaching and detaching the Loader to/from the tractor. The machine must be attached to a tractor equipped with the support frame (Chapter 1.2).
21. Take particular care during loading and unloading operations.
22. Loading and unloading operations which require assistance of other people are prohibited.
23. Loading and unloading of flexible containers and pallets is prohibited.
24. During operation, use appropriate work clothing and footwear with non-slip soles.
25. The hydraulic system of the Loader may be controlled only from inside the tractor cab.
26. Make sure that in the area of loader operation there are no low-mounted power,

- telephone or gas lines (work tools of the machine can extend to up to 4 m).
27. Do not take sharp corners or brake sharply while carrying loads.
  28. Use caution while lifting a load. There is a potential risk of a load falling on the operator's work station. The protective frame of the tractor provides only partial protection of the operator.
  29. Traffic Law and the manufacturer's recommendations must be observed during transport on roads (Chapter 8.2).
  30. Detach the work tool from the Loader before driving on public roads.
  31. A tractor with loader attached may drive on public roads without the counterbalance provided that full manoeuvrability of the tractor is maintained.
  32. During each break at work, switch off the engine and remove the key from the key switch, engage the auxiliary brake of the tractor and lower the Loader onto the ground.
  33. When parking on slopes, apart from the operations specified above, put chocks under the wheels of the tractor.
  34. Check the correctness of the boom support mounting in the storage position and in the position for installation on the tractor.
  35. Maintain tyre pressures at the level specified in the Instruction Manual of the tractor.
  36. Operating the Loader under the influence of alcohol is prohibited.
  37. Operating the Loader under the influence of drugs or narcotics is prohibited.
  38. Operating the Loader under the influence of drugs which adversely affect the ability to drive and overall psychomotor performance, and under the influence of drugs which cause a loss of concentration or a delay in response time is prohibited.
  39. It is prohibited to drive the Loader near an open fire.
  40. Always observe fire regulations and immediately eliminate any hazards occurring in the course of operation of the Loader or when parked.
  41. Avoid open flames and do not smoke during operation of the Loader.
  42. Before each ride to work, check if the tractor is equipped with a dry powder fire extinguisher. If missing, the tractor must be provided with one.

## 2. Coupling with the Tractor

### 2.1 Tractors Dedicated for Use with Front Loaders

#### 2.1.1 Tractors Dedicated for Use with the T229 Front Loader

**Table 3.** Tractors Dedicated for Use with the T229 Front Loader

Tractor Make	Tractor Type
BELARUS	80.1, 82.1, 800, 820, 890, 892, 900, 920, 950, 952, 1021, 1025
	920.3, 922.3, 952.3, 1021.3, 1025.3
	1221.3 (with front three-point linkage)
CASE	CS 86 (with front three-point linkage)
	CS 105 Pro
	JX 80
	JXU 85, 95
	JX 95, 90
	1056 AXL International
CLAAS	Celtis 456 RX
FARMER	F-8244-C2, F-8248
	F-10244-C1
	F-8258
	F-9258TE, F-7258 TE
FARMTRAC	70 4WD, 665 DT
	80 4WD, 675 DT
	685 DT
	690 DT
FENDT	Farmer 309LS Turbomatic (1989)
	Farmer 311LSA Turbomatic (1984)
FOTON POLMOT	824, 704
INTERNATIONAL	Synchron 1055 (1965)
	5620 Premium
JOHN DEERE	5820
	3040 Power Synchron
JUMZ	Jumz Farmer FJ-8244, F10244
	Jumz (with D65M-USSR engine)
KUBUTA	ME9000, ME8200
	M1085 Dual Speed
	M8540
	M6040
LAMBORGHINI	Lamborghini 70 Lampo, Roller.
	Lamborghini 70W Lampo
	Lamborghini 70W Lampo, Same 70W Roller
	Lamborghini R2.56, R2.66
	Lamborghini G.Prix LS 874-90
	Lamborghini G.Prix 95 Target with front three-point linkage

	Lamborghini G.Prix Target, Same Explorer 95 Classic, Same Explorer II 90
	Lamborghini 1050 Premium
	Lamborghini 1060
	Lamborghini R4. 95
	Lamborghini R4. 105
	Lamborghini R3EVO 85, 100
SAME DEUTZ- FAHR	Deutz -Fahr 410, 420 Agrofarm, 85, 100 Agrofarm
	Same Silver 130 (with front three-point linkage)
	Same Dorado3 80
	Agroplus 70, 80
	Agroplus 87
	Agroplus 95
	Agroplus 100
	Agrofarm 410, 420 (Lamborghini R3 EVO 85, 100)
	Agrofarm 85, 100
	Agrofarm 430
	DX 4.50
	DX 85, 90
	Agrotron 4,90 S
	Agrotron K120
	Agroplus 70, 80
LANDINI	105 Vision
	105 Vision (with front three-point linkage)
	125 Landpower (with front three-point linkage)
	95 Powerfarm
MASSEY FERGUSON	MF-188A 9 (without a cab)
	MF-398
	MF-575
	MF-1014
	MF-2620
	MF-3060 and probably MF-3050
	MF- 30800, 3090
	MF-3095
	MF-3655 Turbo
	MF-4255
MTZ	80, 82
MTZ-PRONAR	82A, 82SA, 82TS, 82TSA, 1025A
McCORMICK	CMAX 100
NEW HOLLAND	7056-Bis
	80-66S
	TD 60, 70D-old
	TD 60, 70D Plus - new
	TD 80D, TD 85D, TD 90D
	TD 95D



	TD 5030, TD 5020
	TD 5040, TD 5050
	T 4030
	T 6010 Delta
	T 6030 Delta
	TL 100a (T5040, T5050, T5060)
	TL 80, 90, 100
PRONAR	5112
	5130
	5135
	85 Zefir
	1025A II
RENAULT	Billancourt 92109
STEYER	8065 Turbo
URSUS	4512
	4514, 5314
	5714, 5314, 4514
	6014
	6024
	3724 (with Metal - Fach cab)
	914, C-385 (Zetor 8011, 8145)
	914 Bizon, 1014 (Zetor 8045, 10145)
	1224
VALTRA	A95 (MF-4455)
	A95 (with front three-point linkage)
ZETOR	5340, 6340, 7340, 5320
	6245, 7245, 7045, 7745, 5320, 6211, 7711, 4340, 5340 (ver. 3 - basic)
	6245, 7245, 7045, 7745, 5320, 6211, 7711, 4340, 5340
	5245
	8540, 9540, 10540 Intercooler
	9641, 10641, 11441 Forterra Turbo
	9641, 10641, 11441 Forterra
	6441, 7441, 8441 Proxima - 2006
	6441, 7441, 8441 Proxima - new, 75 Proxima
	7321, 7341 Super Turbo, 6321, 6341
	8011, 8145 (URSUS 914, C-385)
	8045, 10145 Crystal (URSUS 914Bizon, 1014)
	12145 Turbo, 12111
	95 Proxima Power (9542.12)
	105 Proxima Plus (10541)
	95, 105, 115 Fronterra

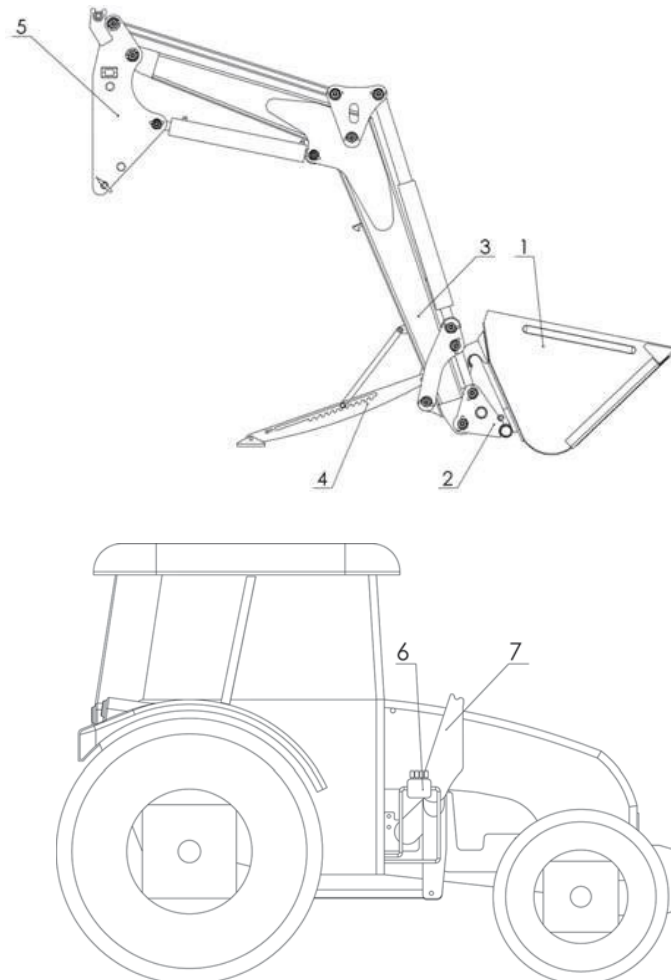
## 2.1.2 Tractors Dedicated for Use with the T241 Front Loader

**Table 4.** Tractors Dedicated for Use with the T241 Front Loader

Tractor Make	Tractor Type
CASE	JX 80, 70, 60
	JX 90, 95
	JXU 85, 95, 105JX 1090U
	1090 U (without front three-point linkage)
CLAAS	Axos 340 CX
	Arion 410 CIS
FARMER	F-8244-c2, F-8248
	F-9258
	F-9285 TE, F-7258 TE
	F4-7258, F4-6258
JOHN DEERE	5820
	5080M
	6330
McCORMICK	CMAX 100
MTZ/PRONAR	80, 82, 82A, 82SA, 82TS, 82TSA, 1025A,
BELARUS	80.1, 82.1, 800, 820, 890, 892, 900, 950, 952, 1021, 1025
NEW HOLLAND	TD 5030, TD 5020
	TD 5040, TD 5050
	TL100A, T5040, T5050, T5060
	T6040 Delta, TS 100A
	T6030
URSUS	Ursus 914 Bizon, 1014 - Zetor8045, 10145
	Ursus 6824, 5524
	Ursus 3724
	Zetor 5340, 6340, 7340
	Zetor 6441, 7441, 8441 Proxima - new,
	Zetor 75 Proxima
	Zetor 95 Proxima Power
LAMBORGHINI	Lamborghini R3 EVO 85, 100, 75 Rekord
DEUTZ FAHR SAME	Deutz Fahr 410, 420 Agrofarm
	Deutz Fahr 85, 100 Agrofarm
	Same Explorer 85, 100
	Deutz Fahr 430 Agrofarm
	Same Dorado 80
	Deutz Fahr Agroplus 320
	Deutz Fahr Agroplus 320 Ecoline
DEUTZ FAHR	Agroplus 100

KUBOTA	Agrofarm 430
	Agrotron K120
	M5840
	M105S
	M6040
VALTRA	A95

## 2.2 Use with the Tractor



**Figure 10.** Frame installation on the tractor



Frame installation on the tractor is to be carried out by authorised service centres of the dealer/manufacturer.

A tractor with the frame installed is shown in Figure 8. Install the two-section hydraulic valve block of the Loader (6) on the right-hand side of the frame (7). Connect the valve block to the tractor's hydraulic system.



An employee of an authorised service centre of the dealer or an experienced operator must be present during the first time the Loader is attached to the tractor.

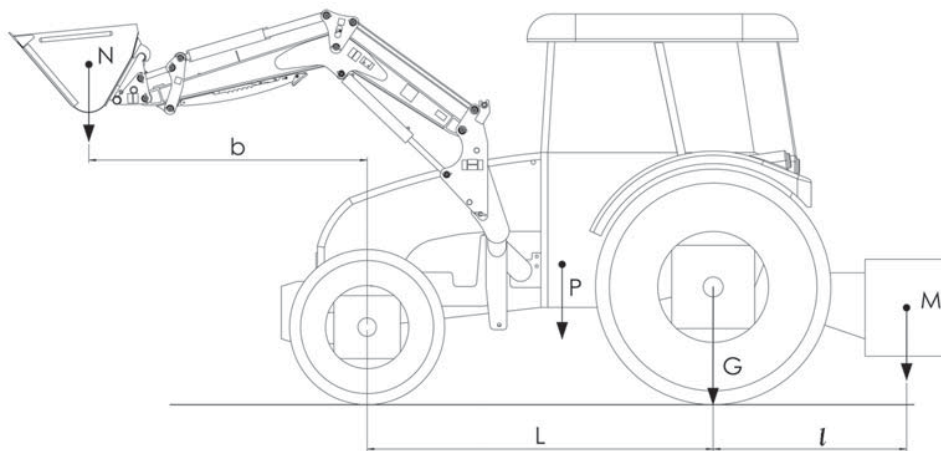
To connect the loader with the tractor, perform the following steps:

- park the Loader on solid and level ground propping it with the support (4), as shown in the figure above,
- carefully, drive the tractor with the frame (7) installed in the service centre up to the Loader near enough to be able to connect the hydraulic hoses of the Loader with the two-section valve block (6),
- connect the hydraulic hoses of the Loader with the two-section valve block (6),
- Set the connecting device in the socket of the frame mounted on the tractor (make use of the movements of the Loader hydraulic cylinders (Chapter 3) and drive the tractor with precision, if necessary),
- secure the connection of the connecting device with the frame using bolts with pins,
- retract the support (4).



Do not disassemble the frame installed by the service.

### 2.3 Loader-Tractor System Stability



**Figure 11.** Loader-Tractor System Stability

Installation of the Loader on the tractor shifts the centre of gravity and may in extreme cases have a negative impact on the stability of the system.

The centre of gravity of the system can be adjusted by installing a counterbalance on the rear three-point linkage to secure a rear axle load exceeding 20% of the total weight of the entire system (sum of the weights of the tractor, loader, work tool, counterweight and load).



Check the stability of the system before loading operations with the maximum load capacity.

WARNING

Stability of the system is ensured when the following condition is fulfilled:

$$\frac{G \cdot L + M(l + L) - N \cdot b}{L} > \frac{P + N + M}{5}$$

where:

- P - weight (kg) of tractor with boom,
- N - weight (kg) of accessories with max. load,
- M - weight (kg) of rear counterweight,
- G - rear axle load (kg) with the device for fitting work tools mounted and the boom in the most advanced position (without rear counterweight),
- b – horizontal distance (mm) of the front axle centre from the centre of gravity of the work tool, with load, in the most advanced position,
- l – horizontal distance (mm) of the rear axle centre from the centre of gravity of the rear counterbalance,
- L – wheelbase (mm).

Verification of the stability conditions is to be performed by authorised service centres of the dealer.

The user may verify the stability conditions by weighing the tractor at maximum load with full equipment twice.

## 2.4 Detaching from the Tractor

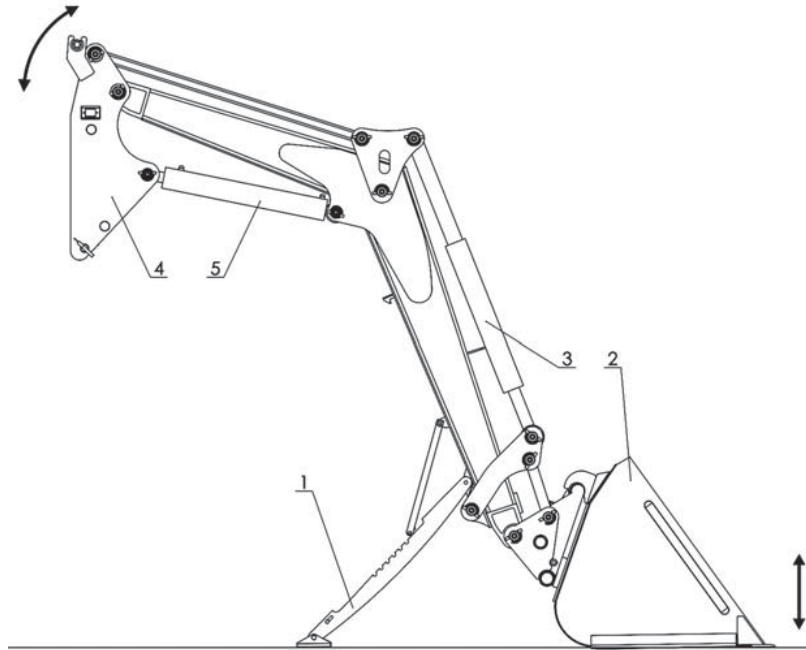


The Loader is to be detached from the tractor by a single operator without the aid of other people.

Make sure that no bystanders, especially children, are present in the Loader storage area and its immediate vicinity.



It is recommended that an employee of an authorised service centre of the dealer or an experienced operator should be present during the first time the Loader is attached and detached to/from the tractor.



**Figure 12.** Detaching the Loader from the tractor.



CAUTION

**CAUTION**

Make sure the power hydraulic system is tight.



Store the Loader on solid, level and even ground.

To detach the Loader from the tractor, perform the following steps:

- lower the Loader gently supporting the tool (2) on the ground,
- take out the support (2), prop it against the ground and secure the support (1) propped against the ground,
- lower the Loader onto the ground,
- remove the security bolts,
- gently raise the mounting plate (4) using the hydraulic cylinder (3),
- the Loader can be detached from the support structure,
- detach the hydraulic hoses of the Loader from the hydraulic valve block.



The Loader should be stored with a work tool installed (Chapter 9 - Front Loader Storage).

### 3. Start-up



The first start-up of a newly purchased front loader should be performed in the presence of an experienced operator or an employee of the dealer's service centre.



WARNING

Prior to first start-up of the Loader, read this manual carefully paying close attention to the sections concerning the safety of the operator and bystanders.



In the event of any uncertainties regarding safety, contact the dealer/manufacturer.

Connect the hydraulic hoses of the Loader to the dual-circuit external hydraulic system of the tractor.

Connect the two-section hydraulic valve block (installed on the frame of the Loader) to the hydraulic system of the tractor if not equipped with a dual-circuit external hydraulic system (Chapter 5.3).

Install the controller (joystick) inside the cab if the tractor is not equipped with a dual-circuit external hydraulic system (Chapter 4.1).

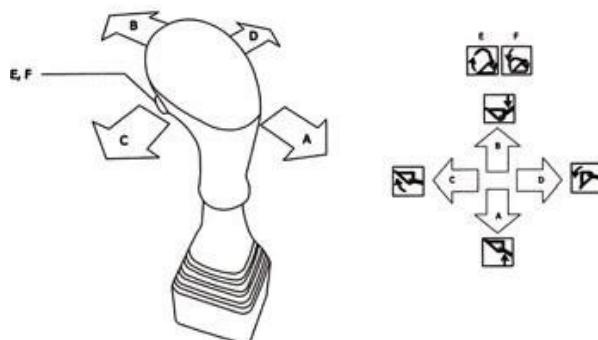


WARNING

Do not adjust the hydraulic distributor or the overflow valve. It has been correctly set by the manufacturer.

#### 3.1 Loader Control Lever Functions

The joystick allows you to control the operation of the valve block and solenoid valve for smooth and precise control of the Loader. The valve block controls the operation of the boom and work tool, while the solenoid valve allows you to close and open the grabber.



**Figure 13.** Control functions of the Loader control lever

Figure 13 shows the control functions of the Loader joystick.

A - upward boom movement,

A - downward boom movement,

C - tool clockwise rotation,

D - tool anti-clockwise rotation,

E – opening the grabber,

F – closing the grabber.

### 3.2 Counterweight Control

The counterweight is controlled from the operator's cab using internal levers designed for controlling the lower three-point linkage connectors of the tractor.



**WARNING**

Do not adjust the hydraulic distributor or the overflow valve. It has been correctly set by the manufacturer.

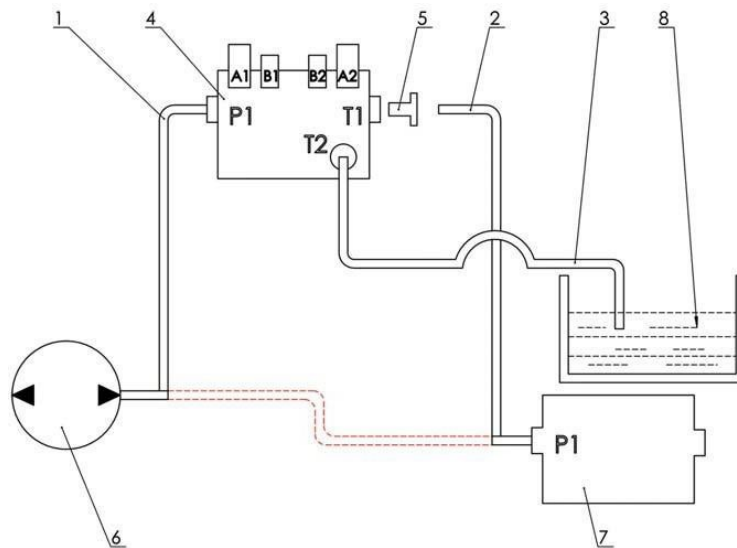
### 3.3 Connecting the Loader Hydraulic System

Connect the loader valve block (4) to the hydraulic system of the tractor, as shown in the diagram below.

Procedure:

- disconnect the tractor valve block (7) from the pump (6),
- use line (1) to connect the tractor pump to port P1 of the Loader valve block (6),
- install a valve block connector (5) in port T1 of the Loader valve block (4),
- using connector (5), connect the Loader valve block (4) to port P1 of the tractor's hydraulic valve block (7) with line (2),
- using the overflow line (3), connect the overflow port T2 of the Loader valve block (4) with the tractor's hydraulic oil tank.





**Figure 14.** General diagram of the Loader's hydraulic connections

Description of the diagram design shown in figure 14:

- 1 - Power cable
- 2 - Outlet line
- 3 - Overflow line
- 4- Loader valve block
- 5 - Valve block connector
- 6 - Tractor hydraulic pump
- 7 - Tractor hydraulic valve block
- 8 - Tractor hydraulic oil tank



**WARNING**

Ensure the proper purity of oil. The purity of oil in the tractor's hydraulic system must be compliant with condition 20/18/15 of ISO 4406-1996.



**CAUTION**

**NOTE**

Ensure the tightness of the hydraulic system before and after each use of the Loader.

## 4. Ongoing Control and Adjustment Components

### 4.1 Front Loader Joystick



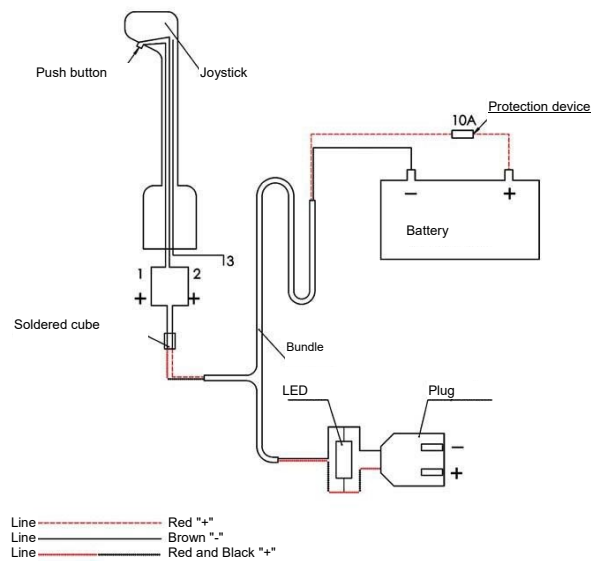
The first installation of the Loader controller must be performed in an authorised service centre of the dealer/manufacturer.

Install the Loader controller (joystick) inside the cab and connect it to the electrical system of the tractor using the Loader socket.

The wiring diagram of the joystick is shown in figure 15.

Connect the joystick to the two-section valve block installed on the support frame with Bowden cables.

Joystick wiring diagram

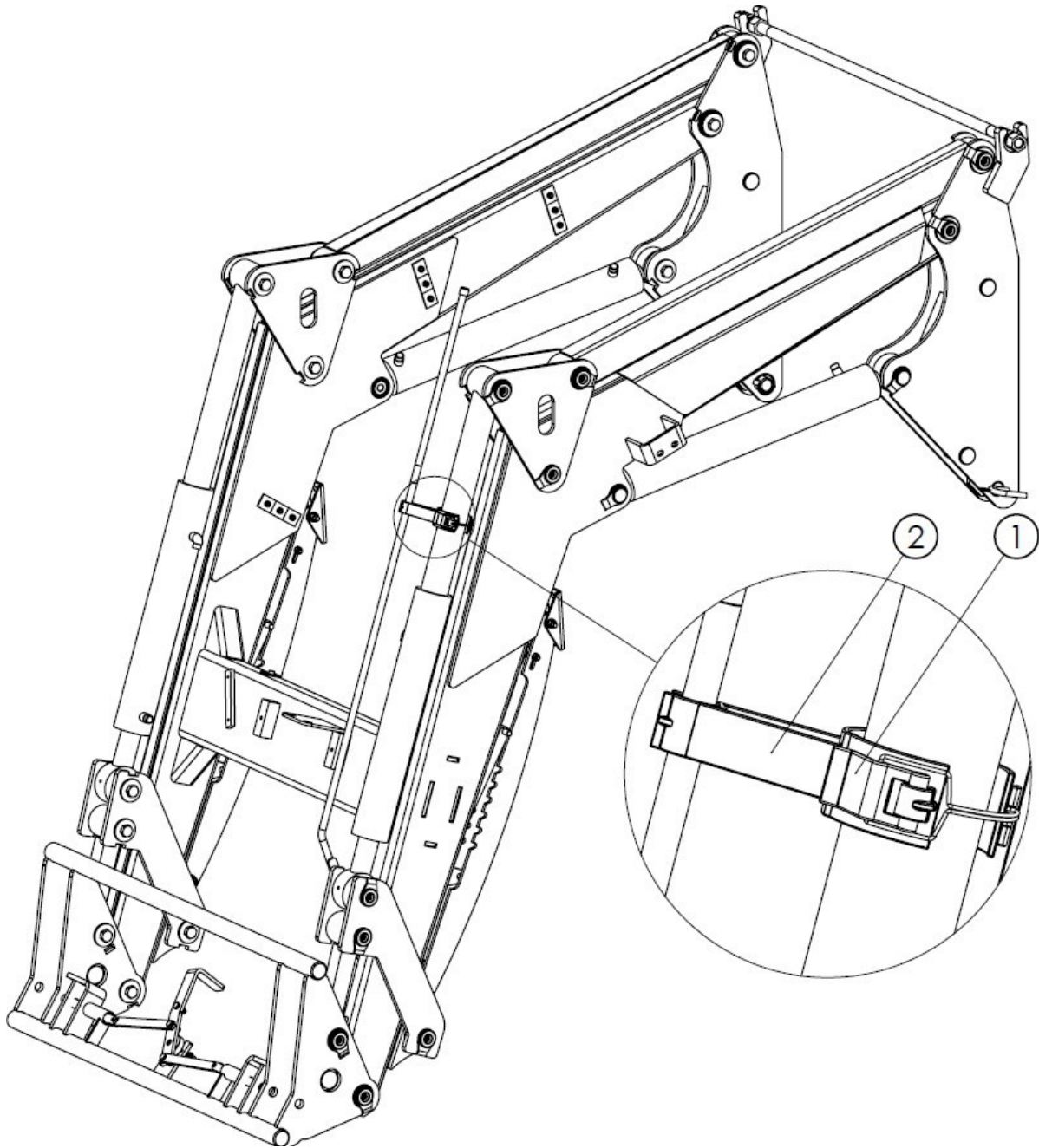


**Figure 15.** Joystick wiring diagram

### 4.2 Arrangement of Adjustment Controls

The level indicator of the Loader must be adjusted after each tool installation. Procedure:

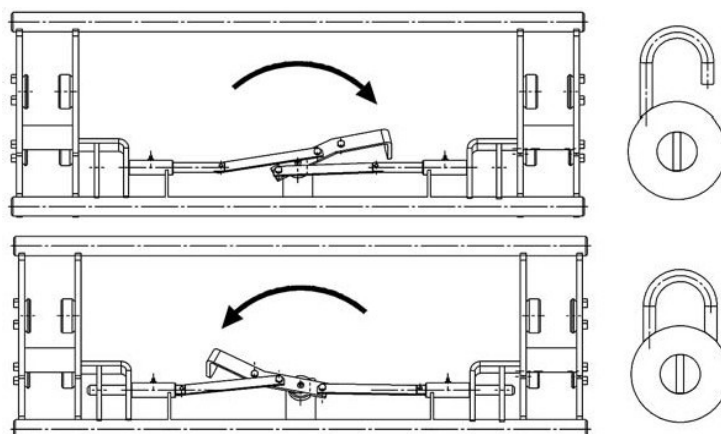
- set the tool in the desired working position,
- unlock the support (1),
- set the support (2) placing its centre in the middle of the yellow indicator,
- lock the support (1).



**Figure 16.** Adjusting the indicator (1 - lock; 2 - support)

## 5. Front Loader Operation

### 5.1 Work Tool Installation



**Figure 17.** Work tool installation

The Front Loader is intended for working both with mechanical tools and tools which must be connected to the Loader hydraulic system.



**WARNING**

Make sure that no bystanders, especially children, are present in the area where the work tool is being installed and its immediate vicinity.



**NOTE**

**NOTE**

Prior to installation of a work tool, set the locking device in an open position, as shown in the upper sketch.  
After the installation of a work tool, set the locking device in the locked position, as shown in the lower sketch.

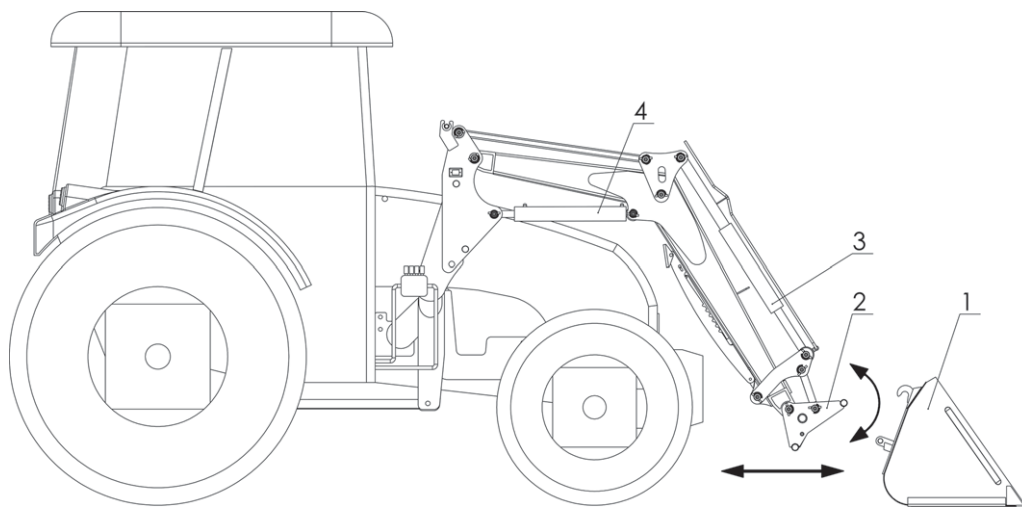


The operators must install and remove tools on their own and with extreme caution.



During maintenance operations, use appropriate work clothing and footwear with non-slip soles.

### 5.1.1 Mechanical Tool Installation

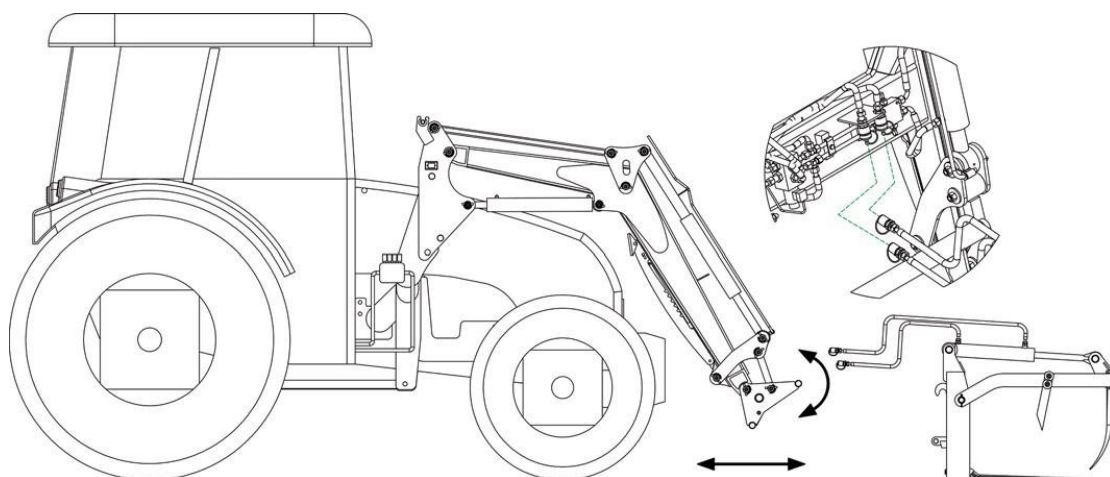


**Figure 18.** Mechanical tool installation: 1 - work tool, 2 - coupling frame, 3 - arm cylinder, 4 - boom cylinder

Figure 18 shows the installation of a tool which does not need to be connected to the Loader hydraulic system.

To install such equipment, do the following:

- drive the tractor up to the tool (1) placed on solid, level and even ground,
- lower the Loader to move the coupling frame (2) below the hitch hooks of the tool (1),
- set the locking device in the open position (see previous page),
- lower the coupling frame (2) downwards,
- carefully approach the tool,
- place the tool hitches (1) in the coupling frame guides (2),
- set the locking device in the locked position (see previous page).



**Figure 19.** Installation of a tool which requires connection to the Loader hydraulic system

To install a tool using the hydraulic system of the Loader, the first operations must be carried out similarly to the installation of a mechanical tool:

- drive up to the tool (1) placed on solid, level and even ground,
- lower the Loader to move the coupling frame (2) below the hitch hooks of the tool (1),
- set the locking device in the open position (see above),
- lower the coupling frame (2) downwards,
- carefully approach the tool,
- place the tool hitches (1) in the coupling frame guides (2),
- set the locking device in the locked position (see above),
- connect the hydraulic lines of the tool to the hydraulic system of the cylinder, as shown in Fig. 19.



WARNING

Make sure that the connectors of the Loader's hydraulic lines connected to the tractor's hydraulic system are not contaminated.



The attachment of a mechanical or a hydraulic tool should be accompanied by an employee of the dealer service centre/manufacturer.

## 5.2 Work Tools

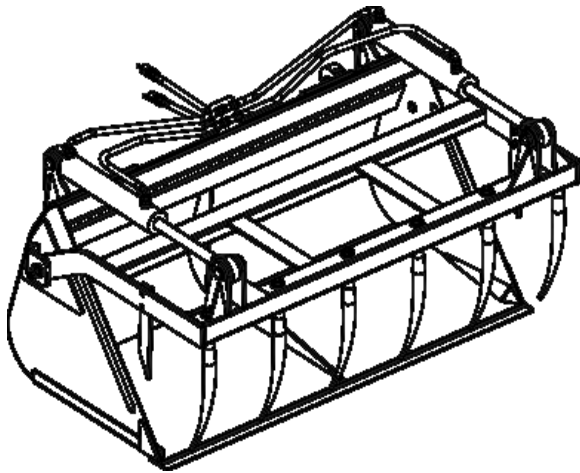
The manufacturer offers different work tools as optional equipment of the Loader. They may be purchased with the machine or at any other time.

**Each work tool is provided with a nameplate.**

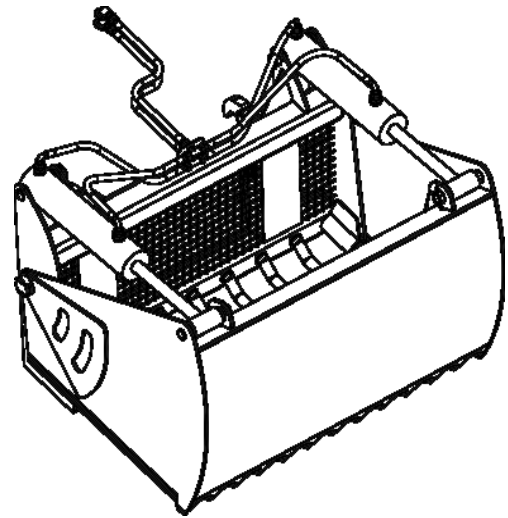


WARNING

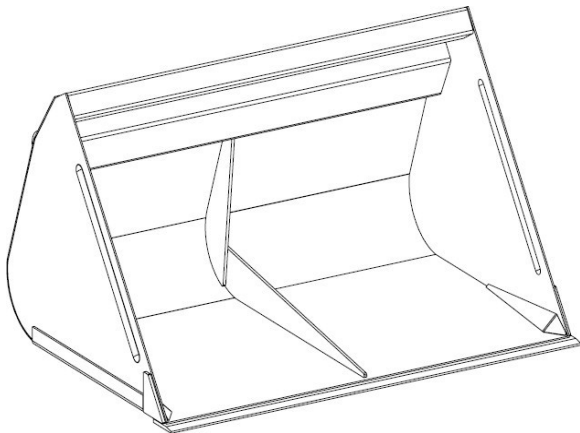
Tools cannot be loaded to exceed the maximum load capacity specified on the nameplate.



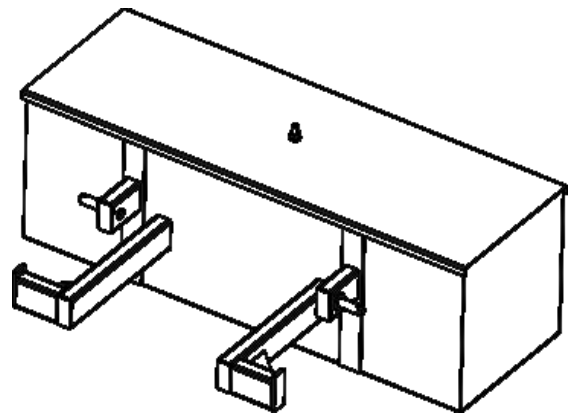
**Figure 20.** Grapple bucket



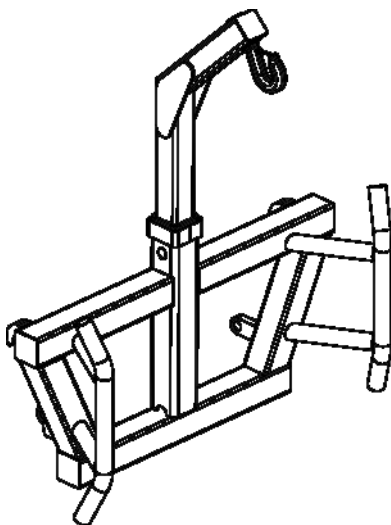
**Figure 23.** Silage cutter



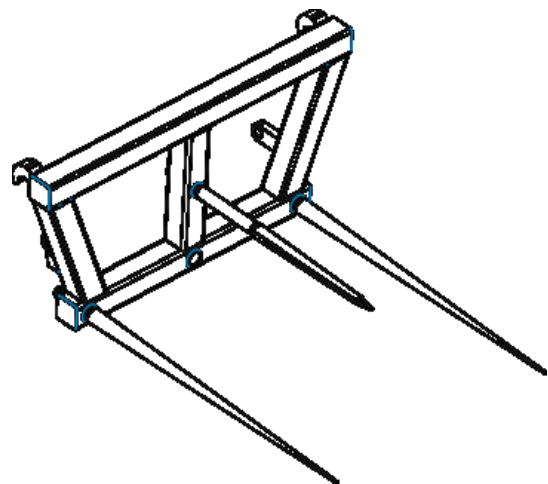
**Figure 21.** Loose material bucket



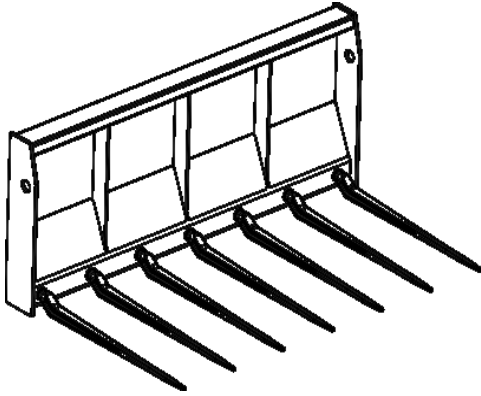
**Figure 24.** Ballast box



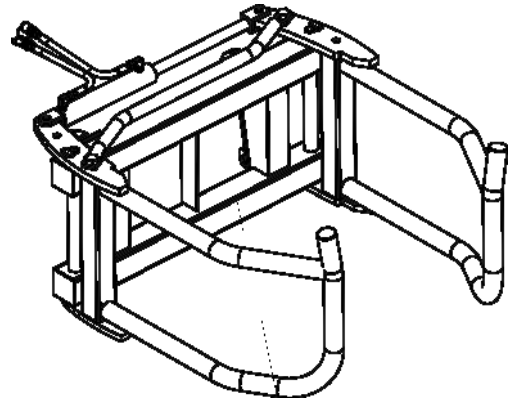
**Figure 22.** BigBag lift



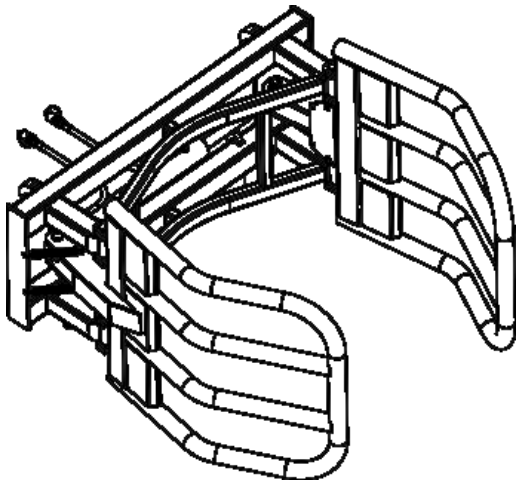
**Figure 25.** Bale fork



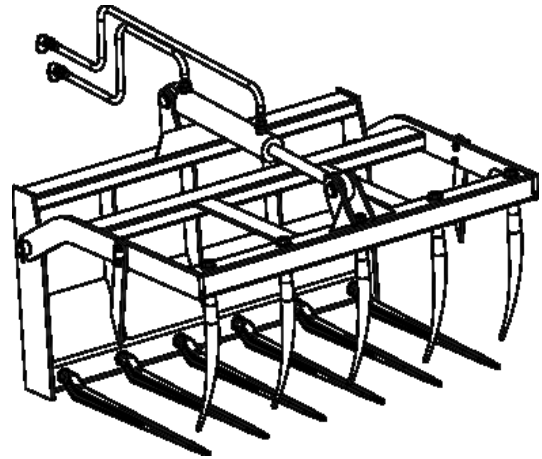
**Figure 26.** Forks for manure and straw bales



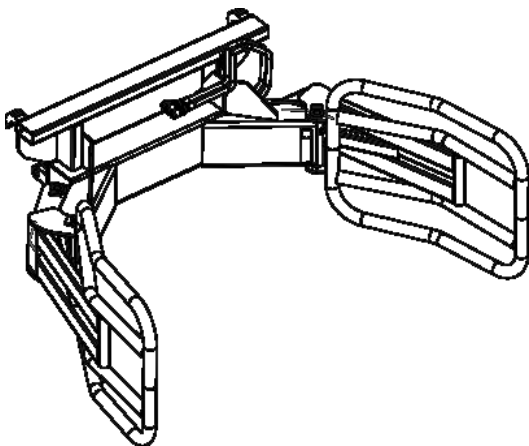
**Figure 29.** Bale grabber – light



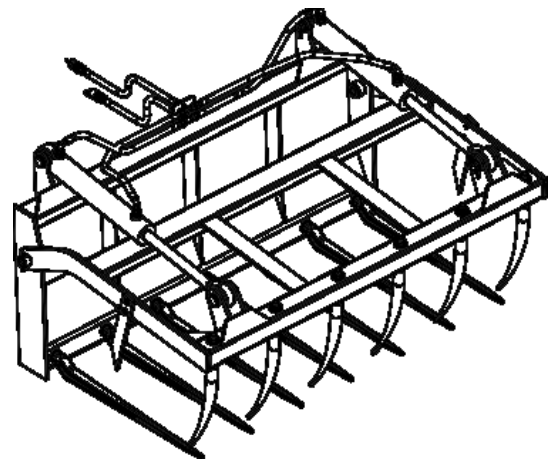
**Figure 27.** Bale grabber – heavy



**Figure 30.** Silage grabber



**Figure 28.** Bale grabber – standard

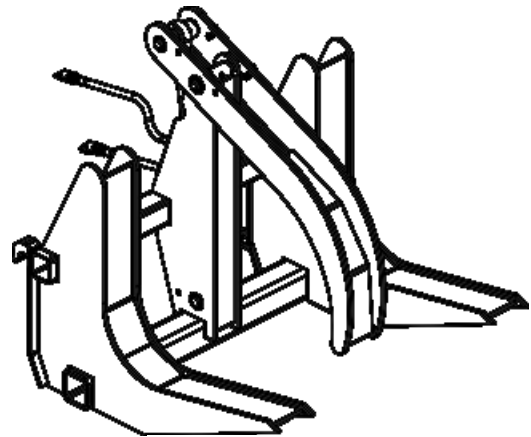


**Figure 31.** Silage grabber

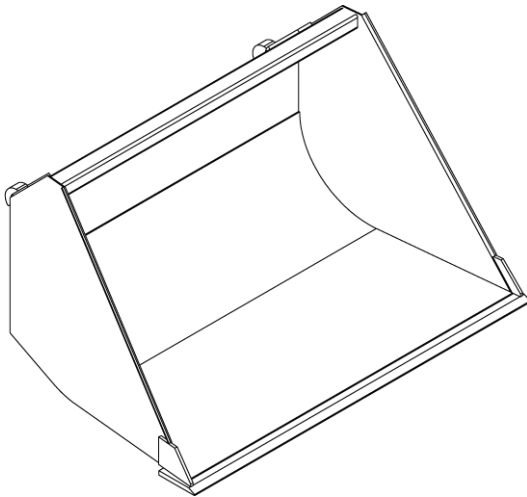


<b>METAL-FACH</b>	Produkt Chwytnik bel		
	Typ OL.CH.....		
 Metal - Fach Sp. z o.o. 16-100 Sokółka ul. Kresowa 62 tel./fax +48857119844/45 www.metalfach.com.pl	Masa	Max. udźwig	Szer. robocza
	Rok prod.	Nr fabr.	

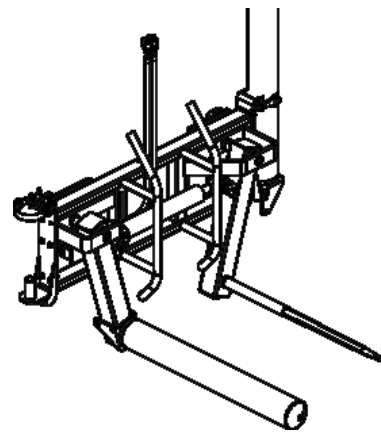
**Figure 32.** Tool nameplate



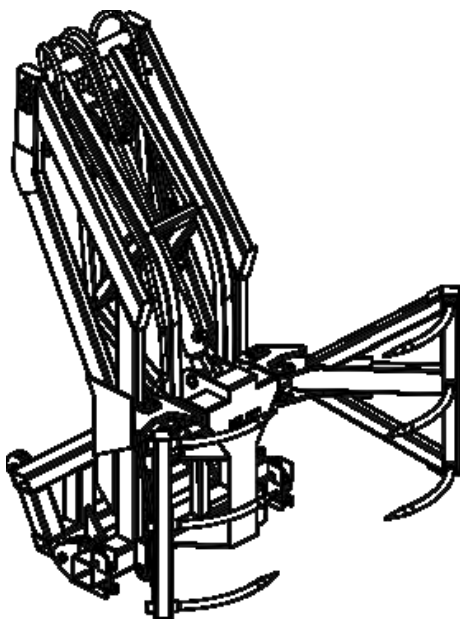
**Figure 35.** KRAB log gripper



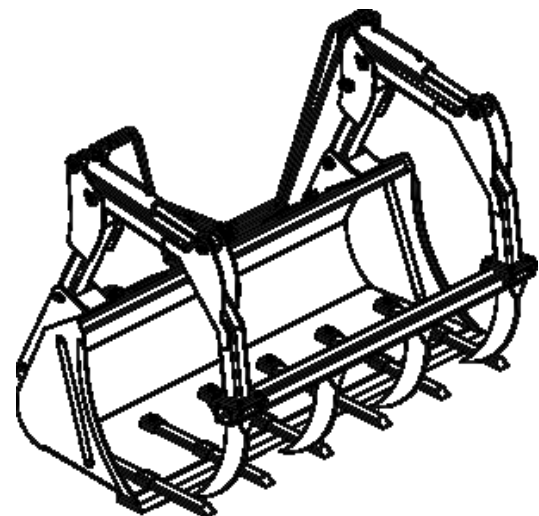
**Figure 33.** Loose material bucket



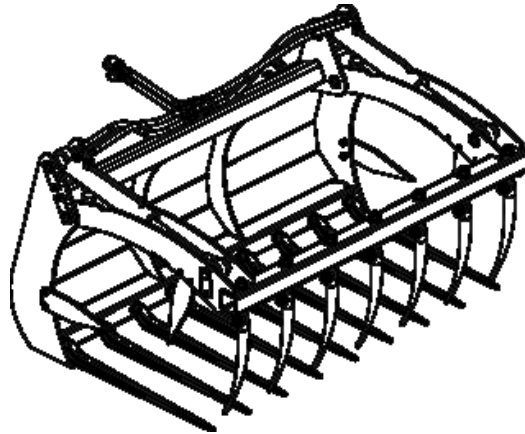
**Figure 36.** Multifunction bale grabber



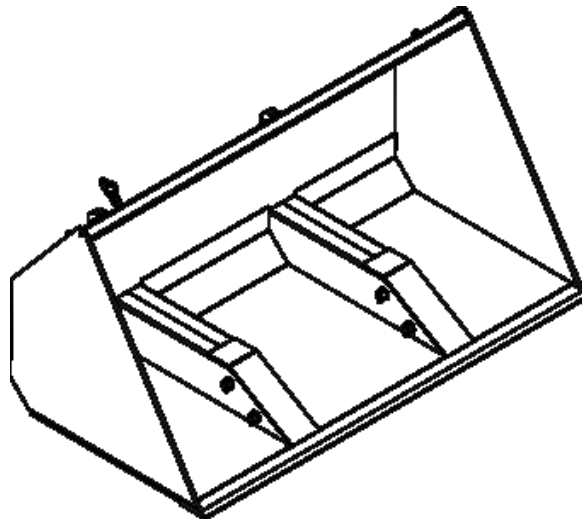
**Figure 34.** Expandable bale grabber



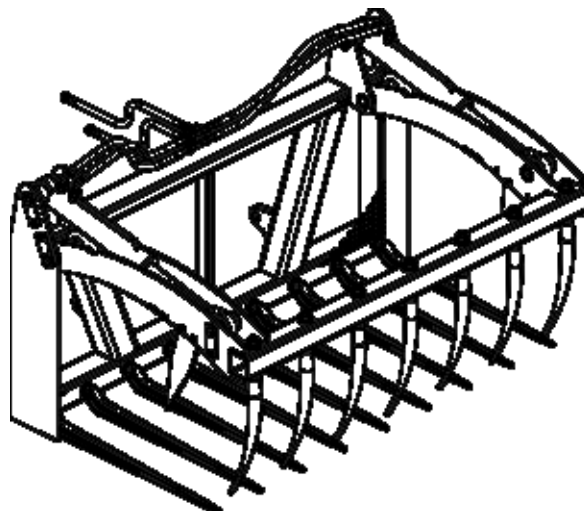
**Figure 37.** MAXI bucket



**Figure 38.** Q model silage grabber



**Figure 39.** High dump bucket



**Figure 40.** Z model silage grabber

**Table 5. Tool Specifications**

No.	Type of Equipment	Weight of equipment [kg]	Volume [m <sup>3</sup> ]	Load Capacity [kg]	Number of tines (lower/upper frame)	Tine spacing (lower/upper frame)
1.	Bucket for loose material:					
	Width 1.2m	144	0.38	650	---	---
	Width 1.5m	164	0.48	800		
	Width 1.8m	194	0.57	950		
	Width 2.0m	207	0.64	1,050		
	Width 2.2m	225	0.70	1,150		
Width 2.4m	243	0.76	1,300			
2.	Bucket for loose material:				---	---
	Width 1.4m	155	0.45	750		
	Width 1.7m	183	0.56	950		
	Width 2.0m	214	0.67	1,050		
	Width 2.2m	226	0.74	1,250		
3.	Bale grabber	183	1,000-1,400	600	---	---
4.	Bale grabber – heavy	186	950-1,600	900	---	---
5.	Bale grabber – light	151	850-1,400	500	---	---
6.	Silage grabber 1.2 m (1 cylinder)	216	0.55	500	6/5	216/282
7.	Silage grabber 1.5m (1 cylinder)	242	0.68	650	7/6	230/286
8.	Silage grabber 1.8m (1 cylinder)	275	0.82	800	9/8	210/247
9.	Silage grabber 1.2 m (2 cylinders)	250	0.55	500	6/5	216/282
10.	Silage grabber 1.5m (2 cylinders)	275	0.68	650	7/6	230/286
11.	Silage grabber 1.8m (2 cylinders)	305	0.82	800	9/8	210/247
12.	Forks for manure and straw bales 1.2 m	130	0.27	500	6	216
13.	Forks for manure and straw bales 1.5m	150	0.34	650	7	230
14.	Forks for manure and straw bales 1.8m	172	0.41	800	9	210
15.	Grapple bucket, 1.5 m	300	0.77	800	6	290
16.	Grapple bucket, 1.8m	335	0.92	950	8	250
17.	Silage cutter, 1.2 m	415	0.55	750	9	140
18.	Silage cutter, 1.5m	560	0.7	900	13	118

19.	Bale fork	55	---	1,000	3	760/230
20.	Big Bag lift	75	---	1,000	---	---
21.	Ballast box, 650 kg	125	0.35	650	---	---
22.	Ballast box, 800kg	135	0.45	800	---	---
23.	Expandable bale grabber	300	0.8-1.6	700	3 by 3	335
24.	Multifunction bale grabber	200	0.6-1.7	800	---	---
25.	Silage grabber "Q" Model					
	OL.KRZ 1,2	235	0.55	500	6/7	215/180
	OL.KRZ 1,5	265	0.68	650	6/9	225/180
26.	Silage grabber "Z" Model					
	OL.KRZ 1,2	235	0.55	500	6/7	215/180
	OL.KRZ 1,5	265	0.68	650	6/9	225/180
27.	OL.KRZ 1,8	295	0.82	800	9/11	210/170
	KRAB log gripper	255	0.5-1.0	850		
	MAXI bucket	695	0.5	800	4/6	559/362
29.	High dump bucket	550	1.6	650	---	---

### 5.3 Hydraulic System

The Front Loader's hydraulic system is driven by the hydraulic system of the tractor. Connection to the tractor's hydraulic system is made using the connectors of the Loader. Loader operation is controlled using the controller (joystick) installed in the operator's cab.

Connect the Loader hydraulic system through the two-section valve block (installed in the Loader frame (Chapter 2.2) to the tractor's hydraulic system.

A diagram for and the method of connecting the two-section valve block to the tractor's hydraulic system are provided in Chapter 3.3



Do not adjust the block valve. It has been correctly set by the manufacturer. The proper setting of the valve protects the machine against unauthorised overloading.



**WARNING**

Ensure the proper purity of oil. The purity of oil in the tractor's hydraulic system must be compliant with condition 20/18/15 of ISO 4406-1996.

## 5.4 Loader Operation

Before using the Loader:

- check the tightness of all nuts and bolts, in particular the screws connecting the support to the tractor,
- tighten loose connections with a correct torque,
- check all bolt connections,
- check the condition of hydraulic lines and quick couplers,
- damaged hydraulic hoses and quick couplers must be replaced,
- check the condition of the hydraulic and electrical system of the tractor,
- lubricate all lubrication points (Chapter 6.1),
- verify the operation of the hydraulic system lifting the boom up and rotating the tool,
- ensure that the hydraulic system is not leaking,
- check the proper operation of the braking system,
- check tyre pressure,
- check the tool mounting on the Loader,
- check the stability of the system (Chapter 2.3).

## 5.5 Vibration Damper

The Loader can be supplied with a hydraulic vibration damper as an option. The damper ensures that the operator comfort during work is improved and the tensions, when present, reduced. It damps the Loader vertical movements when operating on uneven terrain. The assembly consists of two hydraulic accumulators with differing pre-set charge pressures.

The damping feature can be disabled for most of the operation, but it is recommended to be enabled for the heavy-duty works.

Depending on a damper installed, switch the valve lever to the “open” setting to enable it mechanically, or use the button on the joystick to enable it electrically.

Annual inspections of the accumulator pressure charge in a professional service centre are recommended.



**DANGER**

**DANGER!**

Before you enable the damper depressurise the system by lowering the equipment onto the ground. Danger of trapping by the boom's sudden movement.



The hydraulic damper valves are secured by chemical sealant. Removing the seal will void the guarantee!!!

**Table 6.** Metrical bolt tightening torque values

<b>Tightening torques of metrical bolts in Nm</b>							
<b>Size Ø mm</b>	<b>Pitch mm</b>	<b>Bolt version – strength classes</b>					<b>Wheel nuts, wheel bolts</b>
		<b>4.8</b>	<b>5.8</b>	<b>8.8</b>	<b>10.9</b>	<b>12.9</b>	
3	0.50	0.9	1.1	1.8	2.6	3.0	
4	0.70	1.6	2.0	3.1	4.5	5.3	
5	0.80	3.2	4.0	6.1	8.9	10.4	
6	1.00	5.5	6.8	10.4	15.3	17.9	
7	1.00	9.3	11.5	17.2	25	30	
8	1.25	13.6	16.8	25	37	44	
8	1.00	14.5	18	27	40	47	
10	1.50	26.6	33	50	73	86	45
10	1.25	28	35	53	78	91	
12	1.75	46	56	86	127	148	
12	1.50						80
12	1.25	50	62	95	139	163	
14	2.00	73	90	137	201	235	
14	1.50	79	96	150	220	257	140
16	2.00	113	141	214	314	369	
16	1.50	121	150	229	336	393	220
18	2.50	157	194	306	435	509	
18	1.50	178	220	345	491	575	300
20	2.50	222	275	432	615	719	
20	1.50	248	307	482	687	804	400
22	2.50	305	376	502	843	987	
22	2.00						450
22	1.50	337	416	654	932	1,090	500
24	3.00	383	474	744	1,080	1,240	
24	2.00	420	519	814	1,160	1,360	
24	1.50						550
27	3.00	568	703	100	1,570	1,840	
27	2.00	615	760	1,200	1,700	1,990	
30	3.50	772	995	1,500	2,130	2,500	
30	2.00	850	1,060	1,670	2,370	2,380	

## 5.6 End of Operation

After use:

- check all bolt connections,
- check the condition of hydraulic lines and quick couplers,
- ensure that the hydraulic system is not leaking,
- remove the work tool from the Loader,
- leave the Loader in the idle position or remove it from the frame (Chapter 2.5),
- protect the hydraulic lines against UV rays.



**WARNING**

Any unauthorised changes in the setting of the two-section block valve of the Loader invalidate the warranty and the manufacturer shall not be responsible for any hazards or damage resulting from such changes.

## 6. Scheduled Inspections

### 6.1 User Inspections

After each use of the Loader:

- check all bolt connections,
- check the condition of hydraulic lines and quick couplers,
- ensure that the hydraulic system is not leaking,
- remove the work tool from the Loader,
- leave the Loader in the idle position or remove it from the frame (Chapter 2.4),
- protect the hydraulic lines against UV rays.

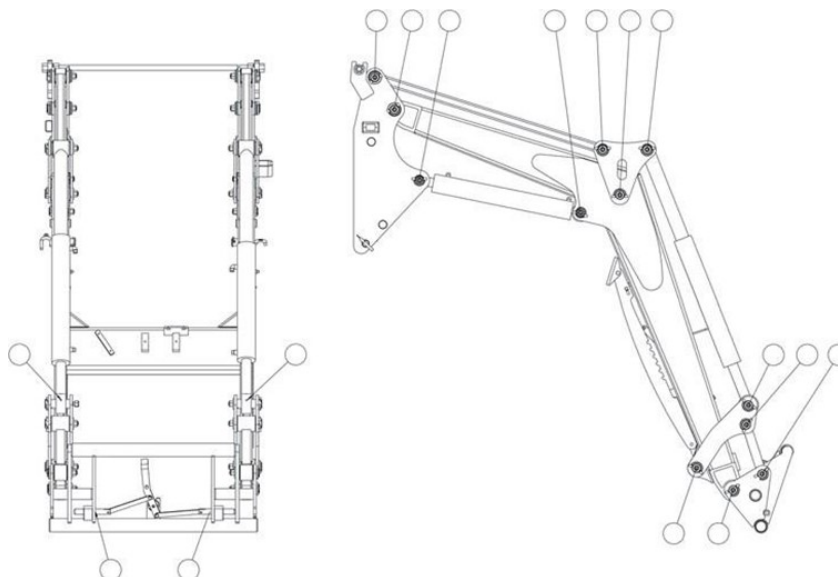
The rating plate can only be replaced in the service. Illegible pictograms should be replaced with new ones. Replace damaged grease nipples.

After each 10 hours of operation and at the end of the season, lubricate the points shown in the figure with LT-43 Bearing Grease. Replace hydraulic hoses every 3 years.

Following the first 10 hours of operation, inspect and retighten all bolts and nuts using correct torque. Recheck every 50 hours of operation.

Inspections and maintenance operations must be carried out with the engine switched off and key removed from the ignition, with the auxiliary brake engaged and the boom lowered onto the ground. The machine must be cleaned and thoroughly inspected, paying attention to the quality of protective paint coating. If necessary, re-coat the machine with the paint repair kit offered by the manufacturer.

Before each season, verify loader operation (without load) by activating the arm and rotating the tool (Chapter 3).



**Figure 41.** Lubrication points

### 6.2 Service inspections

The periodical routine inspections are recommended to be performed after each two seasons of machine use.

It is recommended to use original spare parts to ensure full capacity of the Loader for a long period of use.



## **7. Authorised service**

### **7.1 Guarantee service**

The manufacturer provides a guarantee for the machine on the terms and conditions as stipulated in the Guarantee Certificate. In the period covered by the guarantee the repairs are performed by the authorised services of the dealers or the manufacturer services.

### **7.2 Routine service**

After the warranty period, periodic inspections, adjustments and repairs of the machine are carried out by authorised dealer service centres.

### **7.3 Ordering spare parts**

Purchase the spare parts at the dealer centres, or order them at the manufacturer directly providing: last and first name or the company name and the address of the buyer, name, symbol, factory number and year of manufacture, catalogue part name, catalogue drawing or standard number, number of ordered parts, agreed terms of payment.

## 8. Front Loader Transport

### 8.1 Load Transport



The Loader is suitable for rail or road transport with the appropriate payload capacity.



WARNING

For road transport loading, use lifting devices with a lifting capacity suitable for the Loader weight. Use the elements of the frame marked with the pictogram as attachment points, or forklift trucks.

It is prohibited to lift the Loader using other means than the openings marked with appropriate pictograms, which are specially designed for this purpose, or lifting on special pallets using forklift trucks.

Lifting equipment should be operated by trained operators holding relevant qualifications.

Transporting the Loader with a load is prohibited. The transported Loader should be fixed in a solid way on a wooden transport support for the duration of transport. The pallet should be firmly attached to the base.

Figure 42 shows the dimensions of the Loader prepared for transport as cargo.

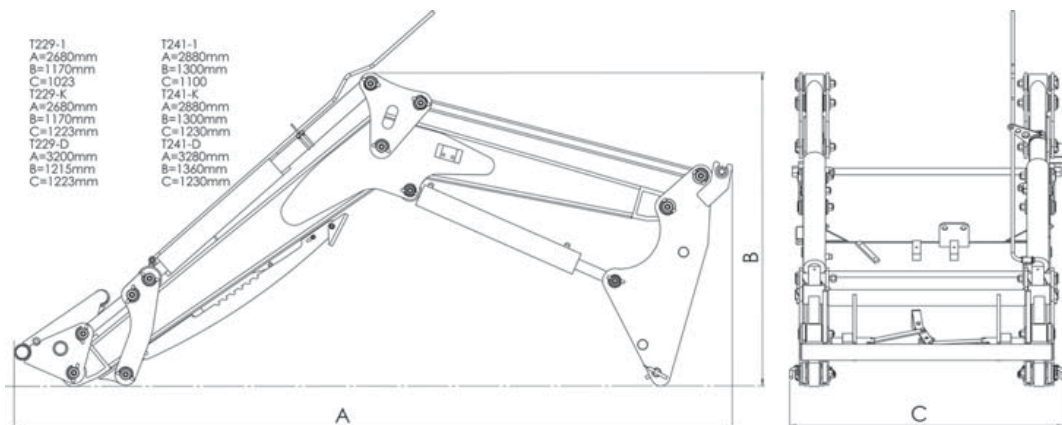


Figure 42. Dimensions of the Loader prepared for transport

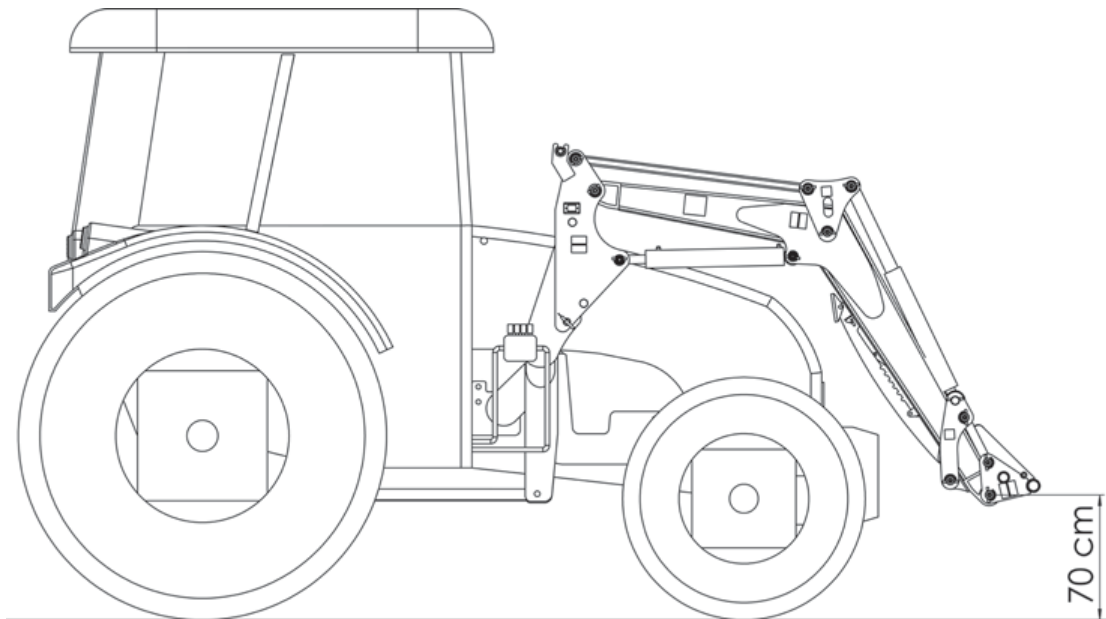
### 8.2 Road Traffic Participant

The Loader is adapted for driving on public roads as a machine installed on a farm tractor.

Only tractors with counterweight attached to the rear three-point linkage may be used for transport on public roads.

Prior to entrance on the public roads you should:

- detach the work tool,
- set the boom of the Loader in the idle position (point of rotation of the tool at the min. height of 25 cm above the ground),
- make sure that the loader beam obscure the tractor lamps,
- secure the controller (joystick) against accidental activation by sliding the lock bolt,
- adjust the speed to the current conditions, avoid exceeding the speed of 15 km/h,



**Figure 43.** Loader boom in the idle position



**WARNING**

It is prohibited to drive on public roads with a tool installed on the boom.



**WARNING**

It is prohibited to transport loads on the Loader on public roads.

Before merging with the traffic on public roads, make sure that the tractor is fully manoeuvrable. The pressure on the rear axle of the tractor must be at least 20% of the tractor weight. If this condition is not met, an additional load must be added to the rear axle.

Traffic Laws must be observed during transport on public roads.

In the event of an emergency stop of the tractor with attached loader, upon stopping on a public road the driver should:

- stop the vehicle without endangering road safety,
- Park the vehicle parallel to the road centre line, as close to the edge as possible,
- stop the tractor engine, take off the key from the ignition switch, engage the auxiliary brake and place chocks under the wheels of the tractor.
- outside built-up areas, place a warning triangle between 30 and 50 metres behind the vehicle and switch on the hazard lights,
- in a built-up area, switch on the hazard lights and place a warning triangle behind the vehicle, if it is not installed in a bracket on the rear of the machine. Make sure that it is fully visible for the other traffic participants,
- in the event of an emergency, take the necessary steps to ensure that the area is safe.

## 9. Front Loader Storage



WARNING

The Loader must be stored on solid, flat and level ground, supported by two adjustable supports. Ensure a greater stability by storing the Loader with an attached work tool (e.g. loose material bucket). A stable storage position for the Loader is secured when it is "laid down" (Chapter 8.1 Load Transport).



WARNING

It is prohibited to service the Loader standing under its raised parts during storage.



NOTE

Connectors of hydraulic hoses must be secured against oil leakage.

It is recommended to store the Loader in a dry area, protected against UV rays and other harmful factors.



WARNING

Store the Loader in an atmosphere free of aggressive agents (e.g. ammonia, chemical agents)

Secure the Loader with a waterproof tarpaulin or film if stored without roof protection.

After the end of the season, clean the Loader and check the protective coatings. All the spots without a protective coating missing should be repaired at services.

Check the condition and legibility of the rating plate. In the case where it is destroyed report at the service.

Check the condition and legibility of the pictograms. In the case where they are destroyed replace them with new ones.

## 10. Residual Risk

### 10.1 Residual Risk Description

Residual risk results from improper behaviour of the Front Loader operator. The following prohibited actions cause the highest level of risk:

- Installation of the Loader on tractors which do not comply with the requirements specified in the manual,
- Standing under raised machine units,
- Presence of people or animals in the Loader's area of operation,
- Operation or repair of the Loader with the engine switched on, and operation or repair under a raised boom which has not been secured against accidental lowering,
- Using faulty hydraulic lines,
- Operation without maintaining a safe distance from power, phone or gas lines,
- Operation of the Loader without the counterbalance installed,
- Operation of the Loader from outside the tractor cab,
- Operation of the Loader under the influence of alcohol,
- Operation of a faulty loader or without covers installed,
- Operation of the Loader on slopes exceeding 8°,
- Carrying materials with the Loader on public roads,
- Presence of people on the work tools during operation of the Loader or while driving on public roads,
- Improper use of the Loader,
- Leaving the loader unsecured on sloping ground,
- Entering the area between the tractor and the machine with the engine running.

The presentation of residual risk assumes that the Front Loader is treated as a machine which until the moment of starting up had been designed and made according to the current state of the art.

### 10.2 Residual Risk Assessment

Observing the recommendations such as:

- Careful reading and meeting the recommendations of the instruction manual,
- do not enter the area under a raised grabber,
- do not enter the Loader's area of operation,
- maintain and repair the Loader in authorised service centres,
- Operation of the machine by trained and authorised operators,
- protect the Loader from children and bystanders, it is possible to eliminate residual risk associated with loader operation, and in consequence, the machine may be operated without any risk to humans and the environment.

## 11. Loader Disposal

Disassembly and disposal should be performed by specialised service centres which are familiar with the design and operation of the Loader. Only specialised service centres have the full and up-to-date knowledge on the applied materials and risk associated with the hazards of improper storage and transport. The authorized services offer both counselling as well as performance of the complete services concerning disposal of the machine. Proper tools and auxiliary equipment (hoist, lifting jack) must be used for disassembly.



NOTE

NOTE

Store the used oil in air-tight containers. Take it to a petrol station that collects used oil immediately.



NOTE

NOTE

Disassemble the machine. Sort the disassembled parts. Supply the dismantled parts to the relevant recycling points.



While dismantling the Loader, use appropriate work clothing and footwear.

## 12. Typical faults and troubleshooting

**Table 7.** Typical Faults and Troubleshooting

No.	Fault description	Cause	Troubleshooting
1.	The hydraulic cylinders of the Loader work incorrectly.	Insufficient amount of oil in the tractor system. Insufficient oil pressure in the hydraulic system of the tractor.	Check the oil level in the tractor and refill if necessary. Check the pressure in the tractor using a pressure gauge (min 14 MPa).
		External circuit lever set improperly.	Switch on the pump drive.
		Cylinder damaged.	Check the condition of the cylinder and replace or contact the manufacturer of the Loader.
2.	Loader operation is too slow.	Insufficient amount of oil in the tractor's hydraulic system. Low capacity of the pump.	Check the oil level and refill if necessary.
3.	Oil leaks in the valve block.	Worn sealing rings.	Replace the sealing rings of the hydraulic valve block.
4.	Loader boom unable to lift loads.	Cylinder damaged.	Check the oil level and refill if necessary.
		Insufficient amount of oil in the tractor's hydraulic system.	Check the oil level and refill if necessary.
		Insufficient oil pressure in the hydraulic system of the tractor.	The pump is damaged or has insufficient capacity.



### 13. Accessories

The user can purchase the following optional and additional equipment additionally at the dealer or at the manufacturer:

- Hard copy of the Spare Parts Catalogue,
- A triangular plate indicating slowly moving vehicles (Chapter 8.2),
- Varnish coating repair set,
- Loose material bucket with a capacity of:
  - 0.38m<sup>3</sup> - (width: 1.2m);
  - 0.48m<sup>3</sup> - (width: 1.5m);
  - 0.58m<sup>3</sup> - (width: 1.8m);
  - 0.64m<sup>3</sup> - (width: 2.0m);
  - 0.70m<sup>3</sup> - (width: 2.2m);
  - 0.77m<sup>3</sup> - (width: 2.4m);
- Bale grabber,
- Silage grabber,
- Forks for manure and straw bales,
- Grapple bucket,
- Silage cutter,
- Bale fork,
- Ballast box,
- BigBag lift,
- Torque wrench.

## NAME AND ABBREVIATION INDEXES

**BHP**- occupational safety and health;

**dB (A)** - decibel A, sound pressure unit;

**kg** - kilogram, weight unit;

**km/h** - kilometre per hour, linear speed unit;

**kW** - kilowatt, power unit;

**m** - metre, length unit;

**min** - minute, an auxiliary time unit equal to 60 seconds;

**mm** - millimetre, an auxiliary length unit equal to 0.001m;

**Pictogram** - an information plate;

**Rating plate** – a manufacturer's plate unambiguously identifying the machine;

**TUZ** - three-point linkage - agricultural tractor engaging parts: see the tractor's instruction manual,

**UV** – ultraviolet radiation, invisible electromagnetic, invisible electromagnetic radiation with negative effect on human health, the UV radiation has a negative effect on rubber parts;

**V** - Volt, voltage unit;

## ALPHABETICAL INDEX

<b>A</b>	
Accessories	54
<b>C</b>	
Coupling, Tractor	22
<b>D</b>	
Dedicated Tractors	22-25
Design Description	13
Disposal	52
<b>E</b>	
Electrical System	33
Equipment	54
<b>F</b>	
Failures	53
Faults	53
<b>G</b>	
<b>H</b>	
Hydraulic Lines	30
Hydraulic System	43
<b>I</b>	
Identification, Machine	11
Intended Use	12
<b>J</b>	
Joystick, Loader	33
<b>L</b>	
Load	27
Lubrication	45
Lubrication Points	45
<b>P</b>	
Pictograms	15-17
<b>R</b>	
Rating Plate	11
Residual Risk	51
Road Traffic	47
<b>S</b>	
Safety	20
Sales	11
Scheduled Inspection	45
Service	46
Service Inspection	
Spare Parts	46
Start-up	30
Storage	50
<b>T</b>	
Technical Data	18
Transport	47-49
Tractor, Use with	26
<b>V</b>	
Vibration Damper	44
<b>W</b>	
Warning Signs	15

## NOTES

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A series of horizontal dotted lines spanning the width of the page, providing a template for handwritten notes or additional instructions.





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