

FEED 471

User manual Spare parts book



SERIAL NUMBER _____

MANUFACTURING YEAR _____

TP SILVA OY
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1. General information and responsibilities

1.1. Introduction

The purpose of this manual is to ensure that the machine is used in the manner intended by the manufacturer, taking safety into consideration. Everyone operating the machine or working in close proximity to it must study this manual carefully.

Before commencing work, operators must also familiarise themselves with the machine's control and safety equipment, and ensure their proper operation.

Keep this manual in the immediate vicinity of the machine.

1.2. Connection Assurance of partly completed machinery

Machine Directive 2006/42/EC, Appendix II B

The name and address of the person who is authorized to assemble the technical file:

Name: Timo Jussila
Address: Valimotie 1, 85800 Haapajärvi

Certifies that

Product: FEED 471 log table (TP Silva firewood processor accessory)

Serial number: _____

Is in accordance with the relevant provisions of the Machinery Directive (2006/42/EC).

This partly completed machine may only be connected to a compatible TP Silva firewood processor.

Date, place: Haapajärvi, 17.05.2022

Signature: 
Seppo Koiranen
Chief Executive Officer

1.3. Purpose of use

The FEED 471 log table is intended for moving pruned wood or logs onto a TP Silva firewood processor. The firewood processor must not be used to process any treated wood, such as is found in construction waste.

The maximum diameter of the logs to be processed is 47 cm. This limit must not be exceeded. The maximum (3 m) and minimum length (1.5 m) of the logs placed on the table depend on the adjustable width setting.

1.4. Machine models and basic information

Model	FEED 471 (accessory, TP Silva)
Driving power	TP Silva firewood processor's hydraulics (max 200 bar, max 16l/min)
Weight	720 kg (+ 345 kg with the 2 m extension installed)
Height/width/length	1000-1440 / 950-1500 / 3600 (mm)
Max log diameter	47 cm
Max/min log length	3000 mm – 1500 mm
Max load-bearing capacity	2500 kg (+2000 kg with the 2 m extension installed)

The machine's serial number, year of manufacture, weight and model are provided on the grey type plate fixed to the machine's frame – right side of the in-feed conveyor A. (Figure 2, opposite side).

1.5. Safety instructions

These safety instructions are general in nature. When handling the machine, you must take into account all other relevant instructions concerning health and safety, road traffic regulations regarding transportation, as well as the provisions of the general legislation. Observing the instructions helps to prevent accidents.

The machine may only be used by persons who have familiarised themselves with the manual and the operation of the machine. The operator must not be under the influence of alcohol or narcotic substances. Persons under 18 years of age may not operate the machine. Observe all requirements placed on the operator! The operator(s) must carefully study the machine's safety and installation instructions, along with the operation and control functions, before installing and operating the machine.

General provisions:

- The machine must be used solely for loading logs.
- Only one person may operate the assembly.
- Persons under 18 years of age may not operate the machine.
- The operator must ensure that the use of the device does not cause danger to others and that there are no unauthorised persons in the danger zone. The danger zone is 10 m.
- The operator must always use approved eye and ear protection.
- The machine must be cleaned and maintained on a regular basis.
- The machine must always be stopped and the power source disconnected before performing maintenance work.
- The machine may only be transported in the transport position. This is the responsibility of the driver.
- The machine must not be operated while under the influence of alcohol or other drugs, or when tired.

- The machine must not be operated unless the operator has familiarised themselves with this instruction manual.
- The operator is not permitted to modify the structure or operation of the machine or remove protective equipment.
- Before starting up the machine, the operator must ensure that the machine and its guards are intact.

Working area and operating conditions:

- The working area must be level and solid.
- The area must be clean and free of obstructions.
- The ground must not be slippery near the machine.
- The machine must not be used indoors, as the dust may enter your airways or cause a fire hazard.
- The machine may only be used with sufficient lighting: daylight is recommended.
- The temperature range within which the machine can be operated is -20 to +30 °C. In the winter, the operator must ensure that there is no risk of slipping in the working area.

Before use:

- Place the machine in the working position and always check the safety devices before starting the machine.
- The operator must always check the integrity of any possible power cables before use.
- The operation of the safety devices must always be checked before starting the machine. Do not use the machine if part of the mechanism is not functioning properly.

During operation:

- Stop using the machine immediately if you observe a fault.
- Stop using the machine immediately if you observe that its operation causes a hazard to you, other people or property.

1.6. Guarantee terms

Roles

Guarantor

Manufacturer of the TP Silva product:

TP Silva Oy

Lahdentie 9	Valimotie 1	Kusnintie 44
61400 Ylistaro	85800 Haapajärvi	23800 Laitila
Finland	Finland	Finland
+358 6 474 5100	+358 8 772 7300	+358 2 857 1200

Retailer

The retailer is a company authorised by TP Silva Oy, which sells and markets TP Silva products in its local area. The retailer acts as the recipient in guarantee matters from the buyer. In matters regarding the guarantee, the buyer must contact the retailer from whom the machine was purchased.

Buyer

The buyer is the person or community that acquires a TP Silva product for personal use. The buyer is obliged to report faults within the guarantee terms to the retailer and to retain the receipt in order to prove where and when the TP Silva product has been purchased. When necessary, the buyer is also obliged to indicate the type plate information to the retailer.

Operator

The operator is the person or community that uses the machine.

The guarantee is valid for the original buyer for 12 months, starting from the date of purchase, but for no more than 1 000 operating hours. In guarantee matters, always contact the machine's seller before undertaking any procedures.

A guarantee demand has to be issued to the seller **immediately** upon discovery of a defect. If the defect concerns a damaged part or component, please send a photograph of the damaged part or component to the seller, if possible, so the fault can be identified. When submitting a guarantee claim, the buyer must always include the type and serial number of the machine and present a receipt that includes the date of purchase. Guarantee claims must be submitted to an authorised retailer.

The guarantee covers

- Parts damaged in normal use due to faults in material or manufacture.
- Reasonable expenses caused by repairing a fault in accordance with the agreement between the seller or buyer and manufacturer. Faulty parts will be replaced with new ones. A faulty part or parts replaced due to a material fault should be returned to the manufacturer through the retailer.

The guarantee does not cover

- Damage caused by normal wear and tear (for example blades, mats and belts), improper use or use contrary to the instruction manual.
- Damages caused by negligence of maintenance or storage procedures detailed in the instruction manual.
- Damage caused during transport.
- Cutting blades, V-belts and oil, and normal adjustment, care, maintenance or cleaning procedures.
- Defects in a machine to which the buyer has carried out or commissioned structural or functional changes to the degree that the machine can no longer be considered equivalent to the original machine.
- Other potential costs or financial obligations resulting from the procedures mentioned above
- Indirect costs.
- Travel costs resulting from guarantee repairs.
- The guarantee for parts replaced during the guarantee period of the machine expires at the same time as the machine's guarantee.
- The guarantee is void if the ownership of the machine is transferred to a third party during the guarantee period.
- The guarantee is void if any of the machine's seals have been broken.

If a fault or defect reported by the customer is found to not be covered by the guarantee, the manufacturer has the right to charge the customer for the pinpointing and possible repair of the fault or defect in accordance with the manufacturer's current price list.

This guarantee certificate indicates our responsibilities and obligations in full and it excludes all other responsibilities.

Guarantee terms come into force when you register your customership in the extranet service found on our website.

2. Receipt and assembly

2.1. Delivery inspection

Please dispose of the log table's packaging materials in an environmentally friendly manner.

Check that the machine has not sustained any damage during transport, and ensure that all necessary parts are included in the package. In the event of any defects or damage, contact the retailer immediately.

2.2. Assembly instructions

The table can be delivered either assembled or packaged. If the table is delivered in packaged form, it must be assembled before commissioning in accordance with separate assembly instructions provided with the package.

2.3. Lifting and moving the machine

When moving the machine, make sure that the moving and lifting capacity of your tractor or forklift is sufficient for the weight of the machine. Ensure the sufficient length of the lifting prongs so that the tips rest safely under both frame plates (Figure 1). Only lift the table when it is empty and use the lifting points shown in **Figure 1**.



Figure 1. Lifting points of the machine

Note! Incorrect lifting may cause a hazardous situation or damage the machine.

2.4. Main components of the machine

FEED 471 log table is a hydraulically controlled accessory for TP Silva firewood processors. It is controlled hydraulically with the operating levers of the firewood processor's control unit.

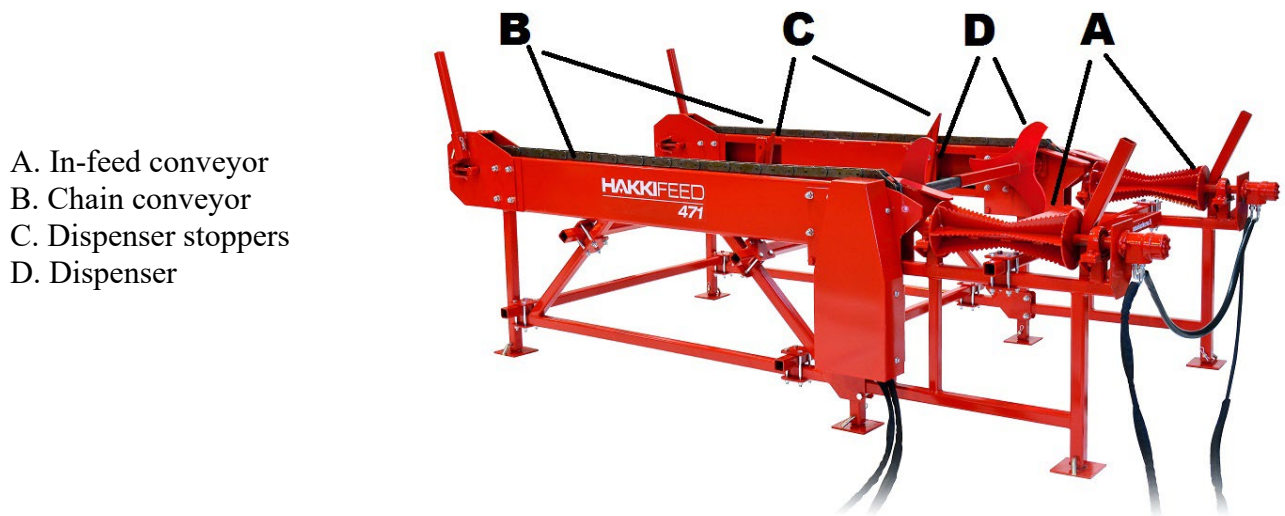


Figure 2. Main components of the machine

3. Control functions and setting up the machine

3.1. Arranging the machine for operation and transport

Before arranging the machine for operation and using it, ensure that the operating conditions, detailed in Section 1.4, are met and review the safety instructions in Section 1.5.

When preparing the table for operation, ensure that it is positioned on an even and firm foundation so that the logs on the table are straight. Make sure that the machine's hydraulic hoses cannot be caught between moving parts or cause a hazard.

When arranging the machine for transport, clear the table of wood and fix the hydraulic hoses to it with cable ties, for example.

Note! Inspect and clean the machine before arranging it for transport.

3.1.1. Adjustments

The width of the table's chain conveyor can be adjusted between 950 and 1,500 mm and locked. Adjust table width to a position where the log length exceeds the chain conveyor width by at least 500 mm.

Adjust the table height according to the firewood processor model in such a way that the table's in-feed conveyor A is at least 20 mm higher than the machine's in-feed belt. Adjust the distance between the machine and table to ensure the safe transfer of logs to the machine. The maximum allowed distance between the table's feed roller and the machine's in-feed arrangement is 500 mm.

3.1.2. Connecting the hydraulics

Use the operator's manual of the relevant TP Silva firewood processor for the connections!

Use of the table requires two separate control valves: Example **Figure 3**.

In-feed conveyor A ([Figure 2](#))

Connected in series to the TP Silva firewood processor's in-feed system (quick couplings **C** (red) and **D** (black))

Note! If the machine features the valve shown in figure 3, it must be opened to ensure oil flow through the quick couplings.

Chain conveyor B ([Figure 2](#))

Connected to the accessory valve of a TP Silva firewood processor (quick couplings **A** (red) and **B** (black))

Chain conveyor motor's spill hose (from the motor end): connect the hose directly to the machine's hydraulic oil tank

Note! Dispenser **D** runs when chain conveyor **B** is being operated.

Ensure that all connections are safe and secure!



Figure 3.

3.1.3. Adjusting the width of the table (according to log length)

1. Disconnect the table from the power source.
2. Clear the table of logs.
3. Loosen the fastenings in Figure 4 (10 points, four bolts each); A1–2 in the in-feed table and B1–4 in the chain conveyor.
4. Carefully narrow or widen the table between 950–1,500 mm. Ensure straightness by measuring it.
5. Retighten the fastening points in Figure 4 and test the table.

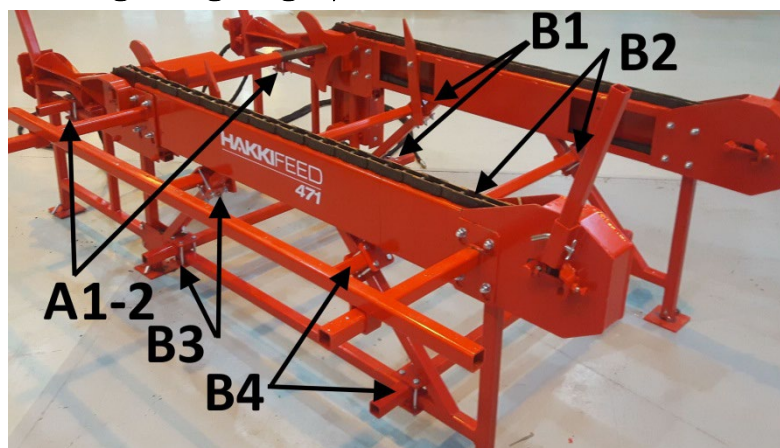


Figure 4. Fastening points

4. Operating the machine

4.1. Performing a test run on the machine

The machine may not be used before a test run has been performed and all the functions of the machine have been tested. Both the test run and testing can only be performed by a person who has studied the machine's manual.

Before the test run, all of the components of the firewood processor must be checked. If any faults or wear and tear that may affect the safe use of the machine are discovered, the processor must not be used until the faulty or worn component is replaced and safe use can be ensured.

1. Make sure that you are familiar with the functions of the machine's controls. If necessary, See Section 3.
2. Operate in-feed conveyor A (*Figure 2*) empty, and ensure that the rollers run freely and in the right direction.
3. Operate chain conveyor B empty, and ensure that the chains run freely and in the right direction.
4. Load logs on chain conveyor B, and use one log to test the operation before beginning actual work.

If a fault occurs during the test run, determine the cause of the fault and take remedial action as deemed necessary. The machine must be shut down and disconnected from the power source for the duration of both the diagnostics and repairs.

1.2. Loading logs onto the chain conveyor

Use a forklift with sufficiently sized forks to ensure safe loading.

- Always load logs from the chain conveyor side.
- Lower the logs on the chains carefully. Never drop logs on the chains.
- Load logs in the machine with the stem end first, and ensure that the centre of gravity is in the middle so that the logs cannot tip to the side off the conveyor.
- Do not exceed the load-bearing capacity of the table (Section 1.4.), and leave enough room for the free operation of dispenser D.
- Smaller logs can be stacked on top of each other, but a total height of 47 cm must not be exceeded.

Note! Ensure that there are no other people in the vicinity of the machine when loading logs!

Note! Ensure that the log's centre of gravity stays on the conveyor!

5. Machine maintenance

The machine must be disconnected from its power source before any maintenance, adjustment, replacement or cleaning measures. Only use spare parts that are supplied by the manufacturer or your retailer. If any guards of the machine have to be removed for maintenance, they must always be reattached before the machine is activated. After maintenance and adjustment measures, a test run must be carried out on the machine, according to the instructions in Section 4.1.

5.1. Chains

Tighten the chains of chain conveyor B in accordance with **Figure 5**. Adjust them by opening the lock nut and move tensioning nut as shown in Figure 4 on the left. The tightened tensioning nut after adjustment is seen on the right in the figure. The tightness is correct when the chain hangs about 10 mm from the bottom and rises about 100 mm when lifted from the centre. Excessively tight chains move sluggishly and excessively loose chains increase wear or cause jams. Check also that the lining of the chain is in the center.

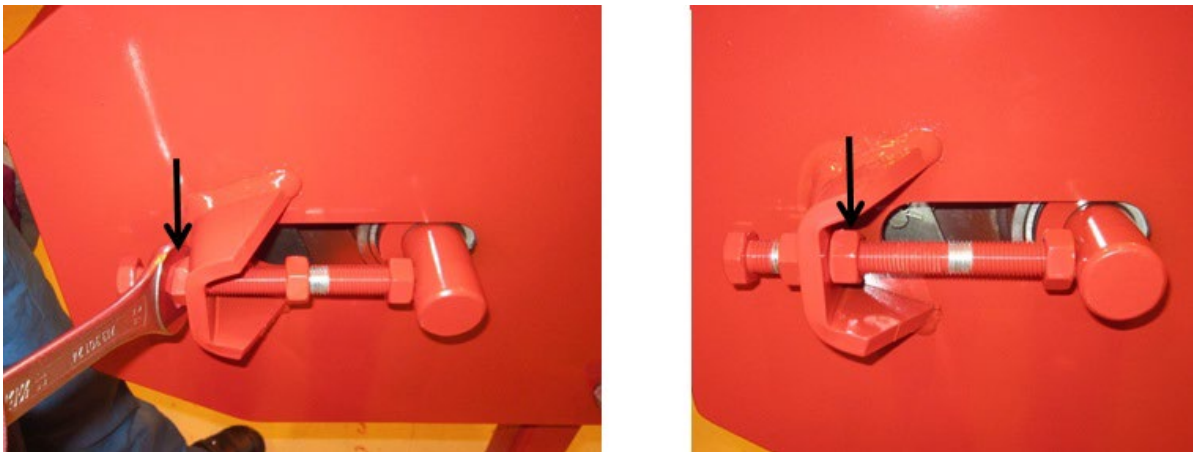


Figure 5. Tightening points – Left side: tension, right side: lock nut

Tighten the motor chain by opening the motor guard of chain conveyor B. The correct tightness is presented in Figure 5 to the left. Tension the chain as follows:

- Open the three motor fastening screws in Figure 6 (pictured in the centre).
- Open locking nut B, tighten bolt A and finally lock the locking nut and tighten the motor's fastening screws (in the middle).



Figure 6. Tightening the motor chain

5.2. Lubrication

There are a total of 13 lubrication points on the machine, presented in the figures below. The recommended lubrication intervals for each lubrication points are in brackets.

1. Chain conveyor (B) chains and support beams 2 pcs, **Figure 7: B** (every 50 hours)
2. Dispenser stoppers (A) 2 pcs, **Figure 7: A** (every 50 hours)
3. Motor chain 1 pc (under the guard), **Figure 8** (every 100 hours)
4. In-feed conveyor A bearing nipples 4 pcs, **Figure 7: C** (every 200 hours)
5. Dispenser bearing nipples: 4kpl, **Figure 7: D** (every 200 hours)

Note! Be careful when applying grease to dustproof bearings!

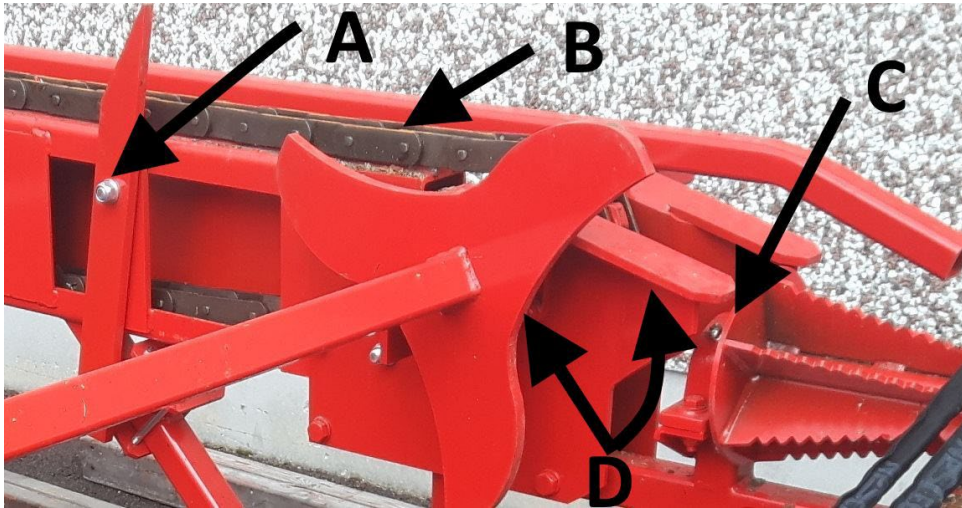


Figure 7. Lubrication points on the dispenser assembly



Figure 8. Motor chain lubrication

5.3. Washing and cleaning

Loose debris and sawdust can be cleaned from the machine with pressurised air, for example. The machine can also be washed with a high-pressure washer as long as the water jet is not aimed directly at the bearings.

Always ensure that the machine and the working area are sufficiently clean during operation. The machine must always be cleaned after use. Clean the machine at suitable intervals and always before storing the machine for a prolonged time. After washing, the machine must be lubricated according to the instructions in Section 5.2.

6. Storage

Although the machine is intended for outdoor use, it should be covered and stored in a sheltered location or indoors. Before prolonged storage, the machine must first be cleaned, then washed according to Section 5.3. and lubricated according to Section 5.2.

7. Maintenance table

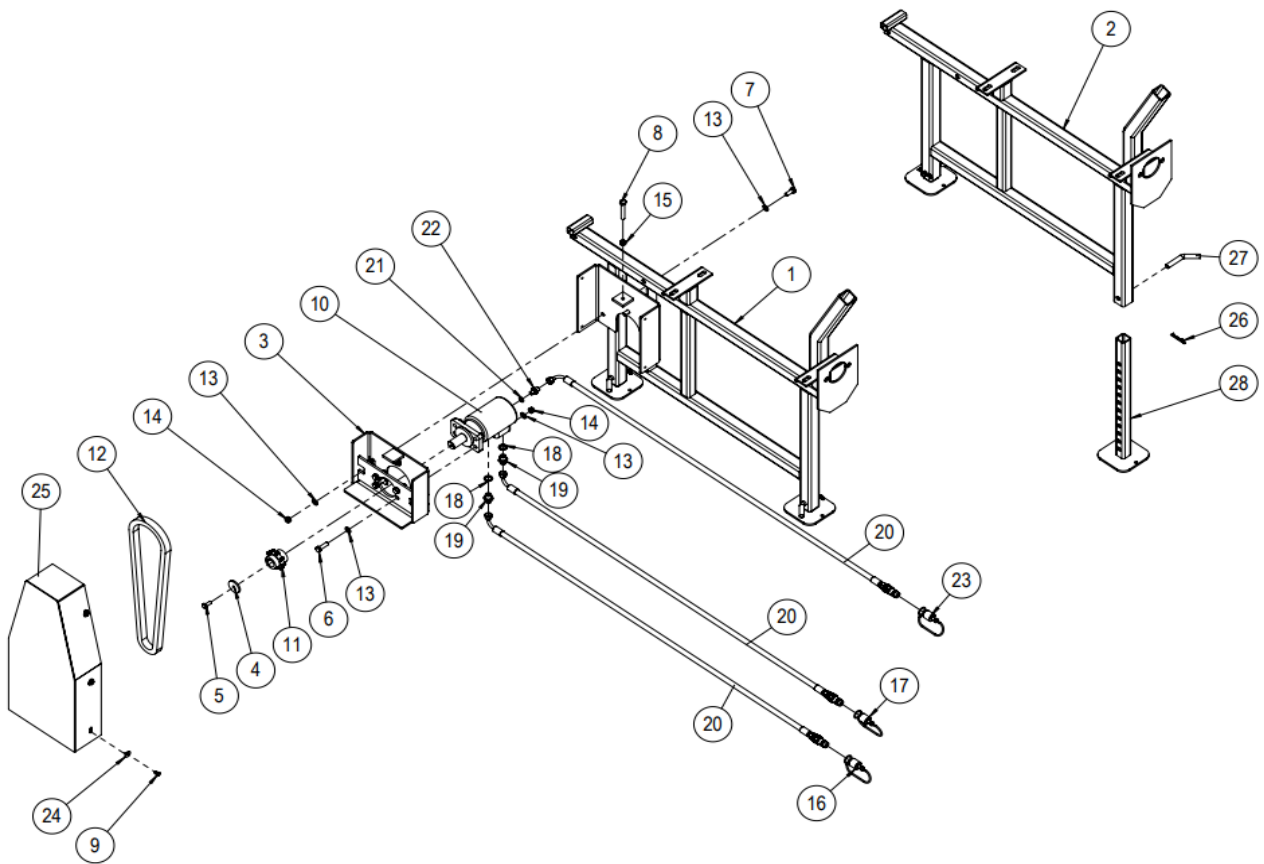
Item	Task	Daily	Interval 100 h	Interval 500 h	Substance/ accessory item
Lubrication points	Lubrication	(Section 5.2.)			Lubrication grease/oil
Chains (condition, tightness)	Check	X			
Hoses	Check	X			

8. Failures and remedial measures

Failure	Cause	Remedial measure
The chain conveyor chains are not running or are sluggish	<ol style="list-style-type: none">1. The chains are too tight or loose2. Log stuck crosswise3. Chains must be greased4. Quick coupling fault or loose coupling5. Incorrect valve pressure	<ol style="list-style-type: none">1. Check chain tension (Section 5.1)2. Remove and replace3. Grease chains4. Repair connection5. Contact the retailer
The in-feed conveyor rollers are not rotating.	<ol style="list-style-type: none">1. The feed serial connection valve is connected to the machine2. Quick coupling fault or loose coupling3. Log stuck	<ol style="list-style-type: none">1. Open the valve2. Repair connection3. Disconnect from the power source and remove blockage

9. Spare part images and listings

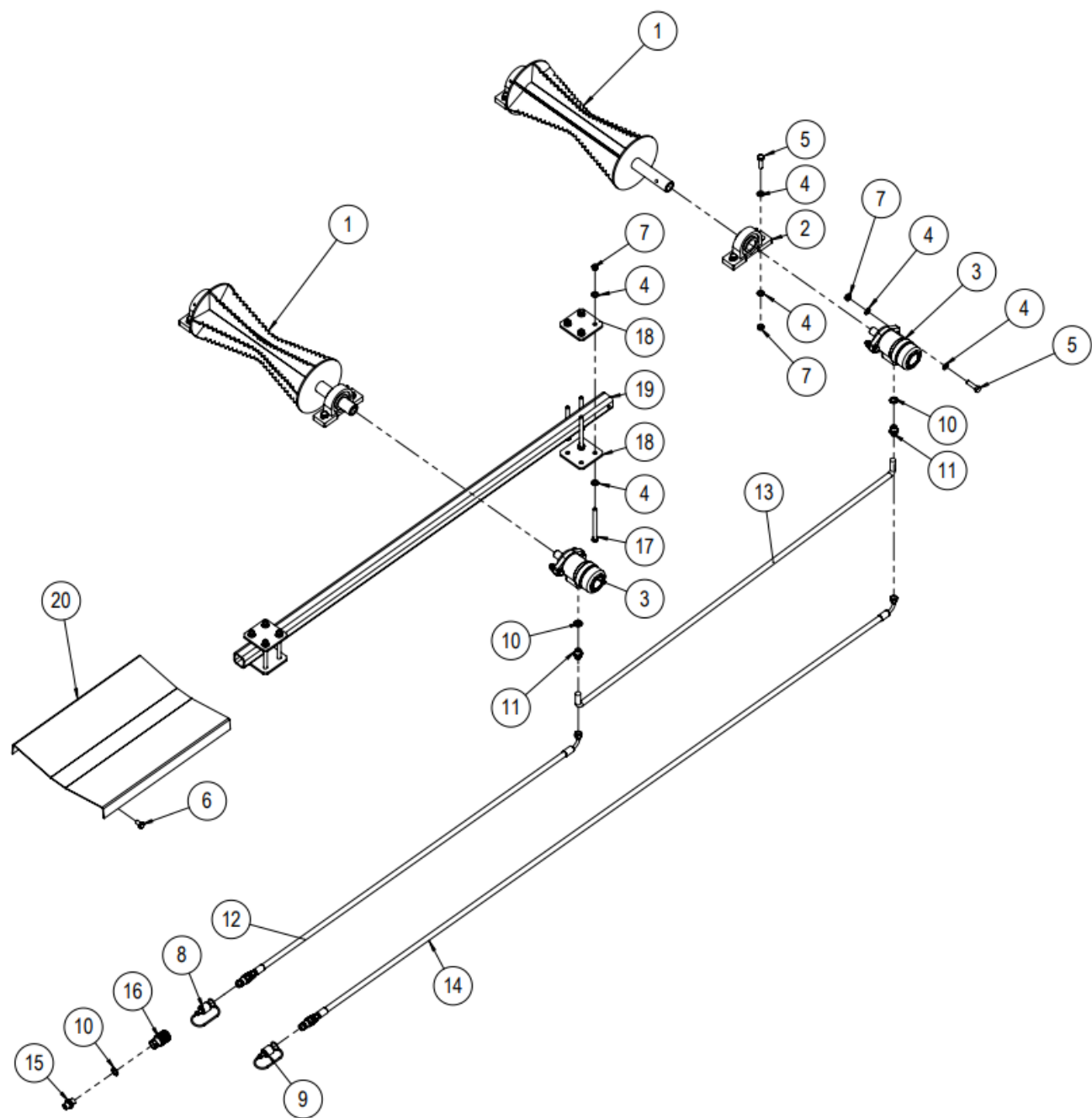
9.1. Cross conveyor 1 (48509)



9.1.1. Cross conveyor 1 part listing

No.	Part number	Name	Spec	Pcs
1	48510	Front roller frame		1
2	48511	Drive roller frame		1
3	48056	Hydraulic motor mount		1
4	48098	Washer		1
5	96139	Hex head screw	M10x25	1
6	96148	Hex head screw	M12x40	4
7	96146	Hex head screw	M12x30	3
8	96151	Hex head screw	M12x80	1
9	96160	Hex head screw	M8x12	6
10	97312	Hydraulic motor		1
11	95269	Sprocket Z9		1
12	48110	Chain 1"		1
13	96058	Washer	A12	14
14	96218	Locking nut	M12	7
15	96200	Hex nut	M12	1
16	97661	Quick coupling guard red (male)		1
17	97660	Quick coupling guard black (male)		1
18	97213	USIT 1/2"		2
19	97203	Double nipple, straight 3/8"		2
20	97076	Hydraulic hose 3/8"-5200 +suojal.		3
21	97211	USIT 1/4"		1
22	97201	Double nipple, straight 1/4" x 3/8"		1
23	97658	Quick coupling guard blue (male)		1
24	96085	Washer	M8	6
25	48060	Motor guard		1
26	96208	Cotter pin		4
27	48033	Locking pin		4
28	48015	Height adjusting tube		4

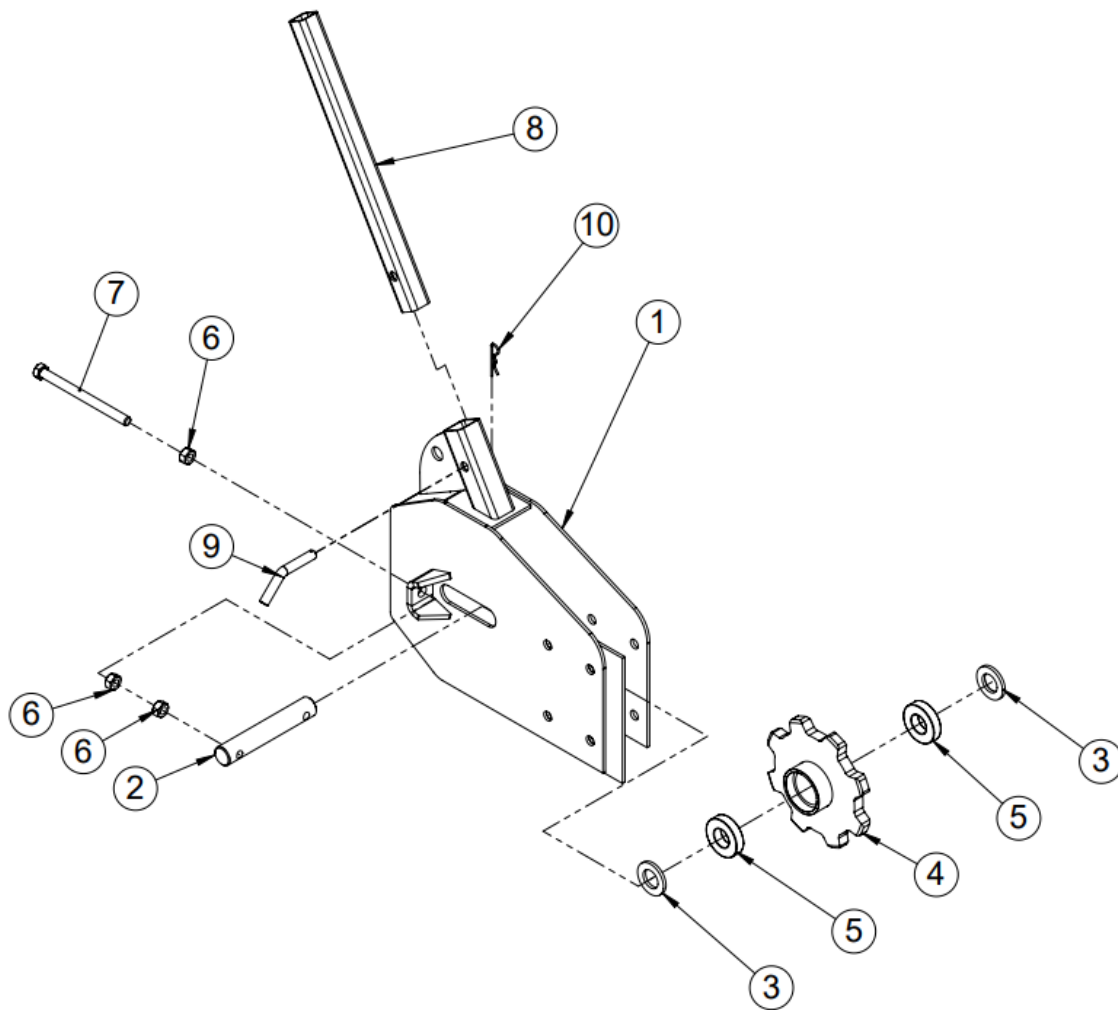
9.2. Cross conveyor 2 (48001)



9.2.1. Cross conveyor 2 part listing

No.	Part number	Name	Spec	Pcs
1	48039	Roller		2
2	95059	Bearing assembly	UCP208	4
3	97308	Hydraulic motor		2
4	96058	Washer	A12	40
5	96149	Hex head screw	M12x45	12
6	96144	Hex head screw	M12x20	2
7	96218	Locking nut	M12	20
8	97661	Quick coupling cover red (male)		1
9	97660	Quick coupling cover black (male)		1
10	97213	USIT 1/2"		5
11	97203	Double nipple, straight 3/8" x 1/2"		4
12	97076	Hydraulic hose 3/8" 5200		1
13	97128	Hydraulic hose 3/8" 1700		1
14	97662	Hydraulic hose 3/8" 6000		1
15	97204	Double nipple, straight 1/2" x 1/2"		1
16	97388	Quick coupling, female, 1/2" automatic		1
17	96104	Hex head screw	M12x140	8
18	48525	Pipe mounting plate		4
19	48541	Pipe beam		1
20	48565	Support		1

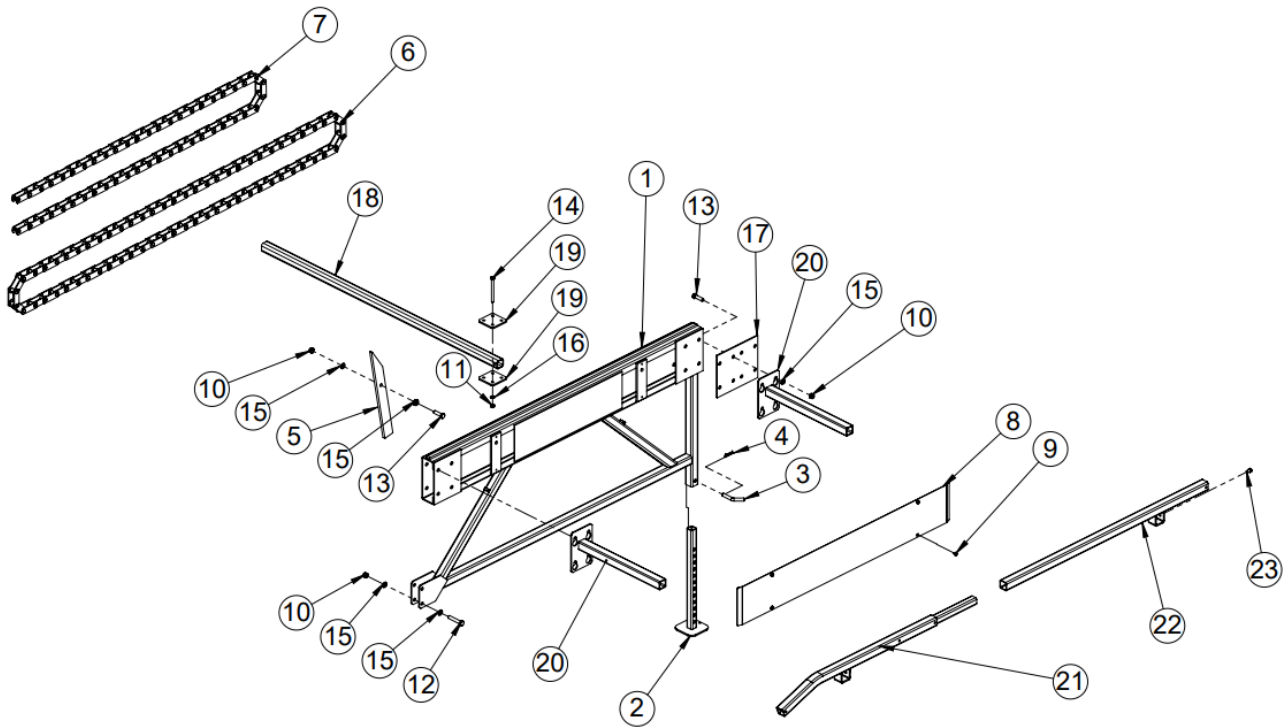
9.3. Rear roller attachment (50054597)



9.3.1. Rear roller attachment part listing

No.	Part number	Name	Spec	Pcs
1	50054598	Roller attachment		1
2	48032	Roller axle		1
3	47197	Washer		2
4	48040	Sprocket		1
5	95055	Bearing	6207	2
6	96195	Hex nut	M16	6
7	96153	Hex head screw	M16x200	2
8	48044	Rear stopper tube		1
9	48033	Locking pin		1
10	96208	Cotter pin		1

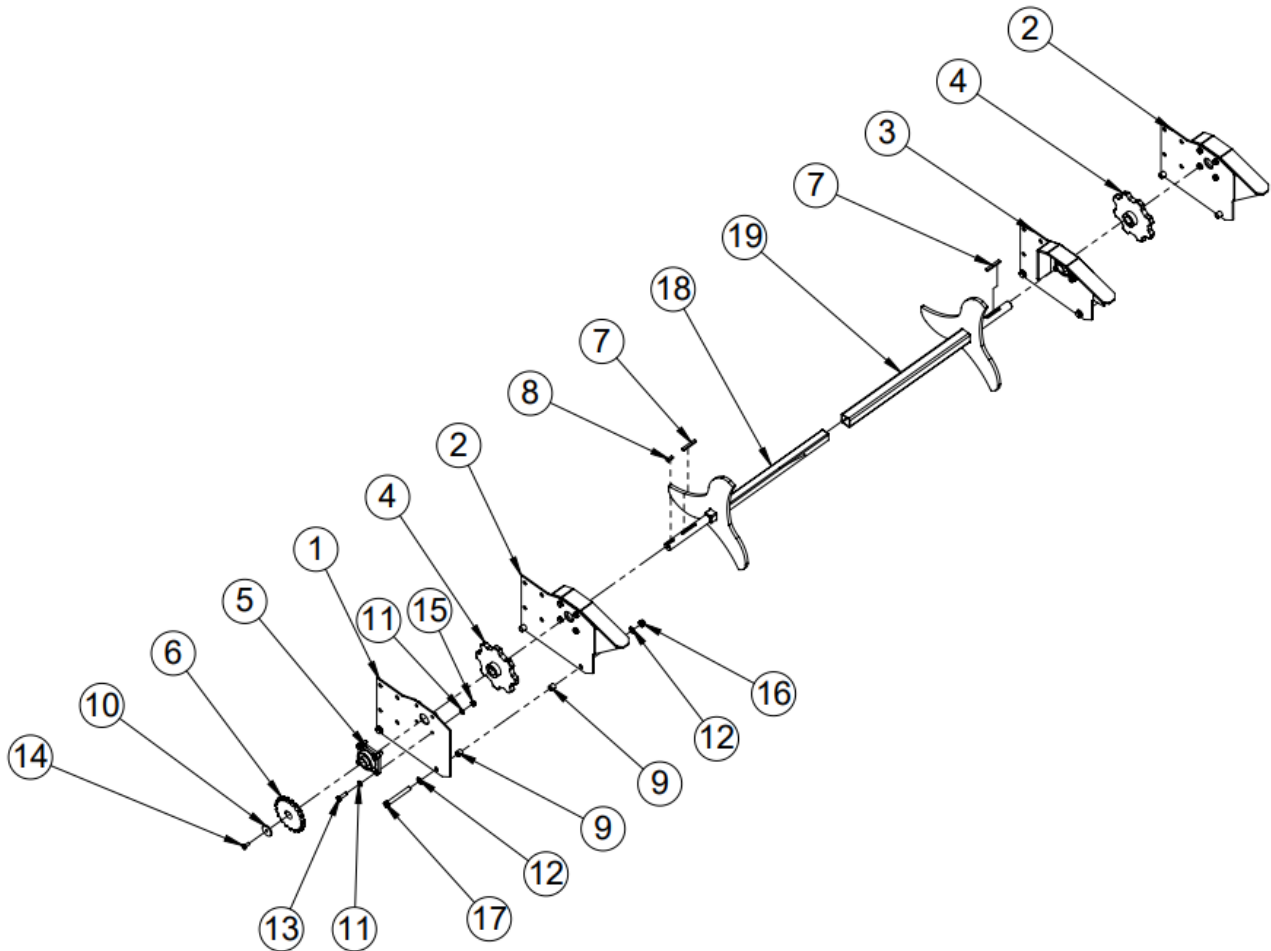
9.4. Conveyor (50056739)



9.4.1. Conveyor part listing

No.	Part number	Name	Spec	Pcs
1	48100	Conveyor frame		2
2	48015	Height adjusting tube		2
3	48033	Locking pin		2
4	96208	Cotter pin		2
5	48045	Stopper		2
6	95075	Conveyor chain 5,12m		2
7	95395	Conveyor chain 4m (2m extension)		2
8	50050499	Side guard		1
9	96552	Bolt	M8x8	4
10	96219	Locking nut	M16	32
11	96218	Locking nut	M12	32
12	96118	Hex head screw	M16x90	32
13	96117	Hex head screw	M16x55	32
14	96104	Hex head screw	M12x140	32
15	96059	Washer	A16	42
16	96058	Washer	A12	32
17	48011	Extension plate (2m extension)		4
18	48541	Pipe beam		4
19	48525	Pipe mounting plate		16
20	48531	Support		2
21	50042849	Front support		1
22	50042850	Rear support		1
23	96144	Hex head screw	M12x20	2

9.5. Log roller (50056745)



9.5.1. Log roller part listing

No.	Part number	Name	Spec	Pcs
1	48013	Roller mount		1
2	48105	Roller mount		2
3	48106	Roller mount		1
4	48023	Drive roller		2
5	95277	Bearing assembly	UCF207	4
6	95180	Sprocket		1
7	48046	Slot wedge	10x8x75	2
8	48093	Slot wedge	10x8x30	1
9	48053	Spacer		8
10	48098	Washer		1
11	96058	Washer	A12	32
12	96059	Washer	A16	8
13	96148	Hex head screw	M12x40	16
14	96139	Hex head screw	M12x25	1
15	96218	Locking nut	M12	16
16	96219	Locking nut	M16	4
17	96113	Hex head screw	M16x130	4
18	50033621	Axle 1		1
19	48545	Axle 2		1

9.6. Overview

