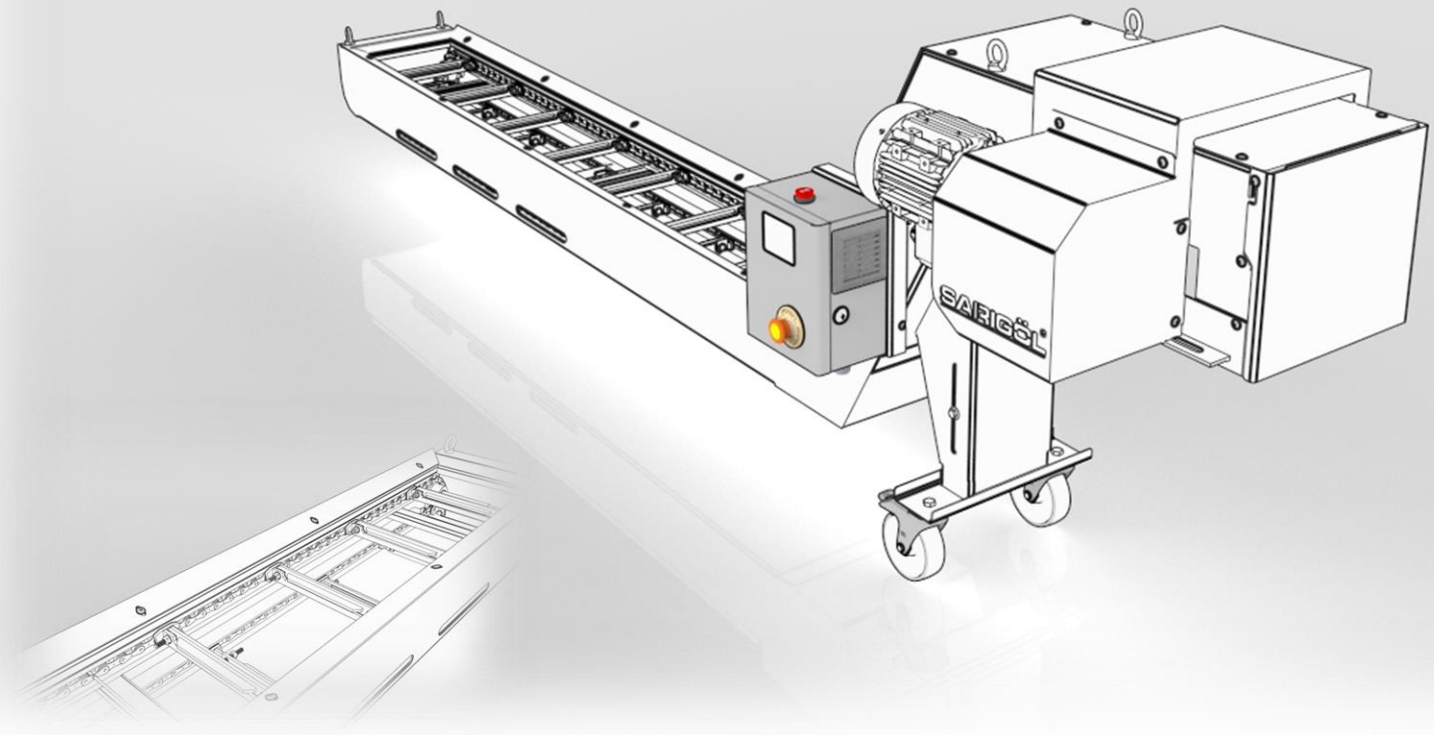
SARIGÖL®
conveyor systems
design & make it.



Scraper Conveyor

User Manual

SARIGÖL®
conveyor systems
design & make it.

Health and Safety

This manual contains instructions for the user's daily operation with the equipment.

This manual must be accessible at all times to the person or persons working with the equipment.

It is important to meet the following conditions:

• The manual and other valid documents are retained for the entire service life of the equipment.

• The manual and other relevant documents are included as part of the equipment.

• This manual is forwarded to other users of the equipment.

• This guide is updated whenever any additions or changes are made to the equipment.

• This manual describes the methods used when using the equipment.

Safety Code

Before you start:

• Please read the relevant sections of the instructions before using the equipment and carrying out maintenance or service.

• Assume that all electrical equipment is under voltage

• Assume all hoses and pipelines are under pressure

• When servicing and maintaining equipment/machine, ensure that the electrical supply is turned off.

The connection is disconnected and the pressure in the pipes and hoses is released in a controlled manner.

• Service and maintenance must be carried out by authorized service and maintenance.

Staff only.

• Only use spare parts approved by Sarıgöl Konveyör Sistemleri.

• Make sure the machine is securely mounted and installed in accordance with the instructions.

• Only use the machine for its intended use.

• In case of abnormal vibration or noise – stop the machine and consult the manual.

• Electrical installation should be done by a qualified electrician.

Cutting fluids in tanks must be drained before any lifting operations are carried out.

Scraper Conveyor

1 General Definition of the Machine and Safety

1.1 Introduction

- Pay attention to all safety and operating warnings stated in this manual, this will reduce the possibility of accidents and increase the life of the machine.
- Before assembling, operating and maintaining the machine, make sure that this user manual has been read and understood by the relevant persons (operators, maintenance staff, etc.).
- It is dangerous for unauthorized persons outside the workplace to interfere with the device.
- Failure to comply with the instructions, procedures or safety warnings contained in this manual may result in accidents, damage and injuries.

1.2 General Warning

- The system is protected against any electrical leakage or jamming. Although the machine is equipped with safety systems, warning, warning and usage labels are placed on the machine. These labels must be observed and adhered to.

In addition to the company label containing conveyor information, there are various warning and warning labels on the conveyor. These labels are placed to help the user determine their behavior when using and maintaining the conveyor, to identify possible risks and to warn people at risk. Do not remove the labels on the conveyor in any way.

- Safety labels ensure healthy and safe operation of you and your machines.
- If one or more of the labels is removed or falls off for any reason, please request it from the manufacturer. Be sure to follow the warnings.

1.3 Electricity 

- The drive box is made according to protection class IP54. Drive power connection cables are protected by rubber coated steel spiral. Drive power connection cables are protected by rubber coated steel spiral. Thus, the system, which does not receive dust or water, is protected from external factors. The spiral that protects the power cables will prevent the cables from being cut or broken. Do not use worn or crushed cables, replace them.

 **While motors or gearmotors are operating, live, bare (open plug / terminal box), moving or rotating parts pose a risk of life-threatening or serious injury. Documents must be followed.**

1.4 Driving System

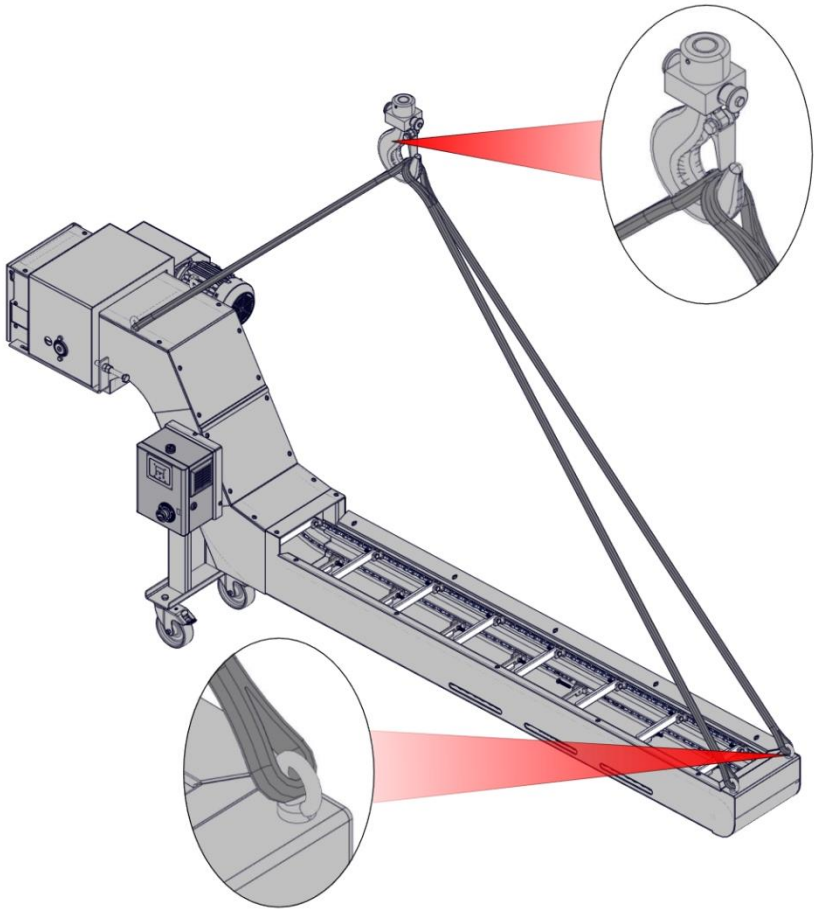
- The drive system of the machine, including the motor, reducer, shaft, gear and chain, is safely enclosed. Thus, the working parts will not be affected by external interventions, and external factors will not come into contact with the working parts. In addition, risks that may arise from machine rotating parts have been eliminated and users have been warned with the necessary warning and warning labels.

1.5 Tow Hitch

- For domestic shipments, conveyors can be connected to 2 or 4 lifting eyes on the conveyor and lifted with the help of a crane, in accordance with loading and unloading (Figure 1.5.1).

Stay at a safe distance from the load during loading and unloading. Do not intervene except by authorized persons.

FIGURE 1.5.1



2. Conveyor Description and Components

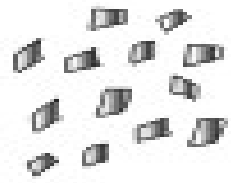
Scraper conveyors are used to transport short, thin, broken chips from materials such as transmission steel, manufacturing steel, aluminum alloy metals, brass, as well as fiber, teflon, delrin.

These are systems designed to evacuate the chips generated during the manufacturing process and to separate cooling/cutting fluids from the chips. It can be produced with a tank to send cooling/cutting fluids back to the system, or just as a conveyor to be placed in the existing tank.

When the chip conveyor is used correctly, the sawdust generated during manufacturing will be transported out of the machine in a clean and safe manner. Thus, it will save you time and labor loss.

2.1 Suitable Chip Types

Broken

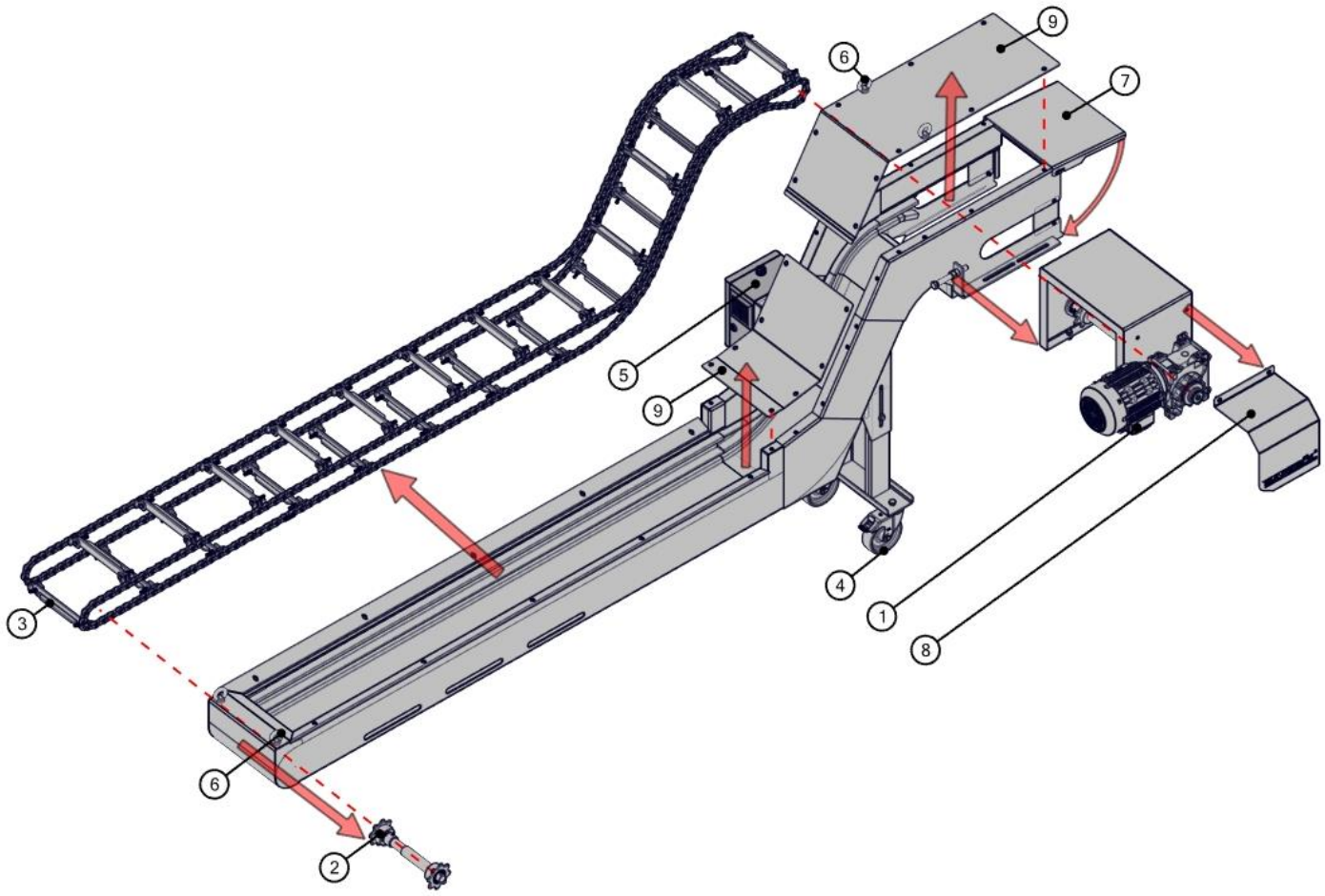


Short

Do not touch the chips with bare hands!

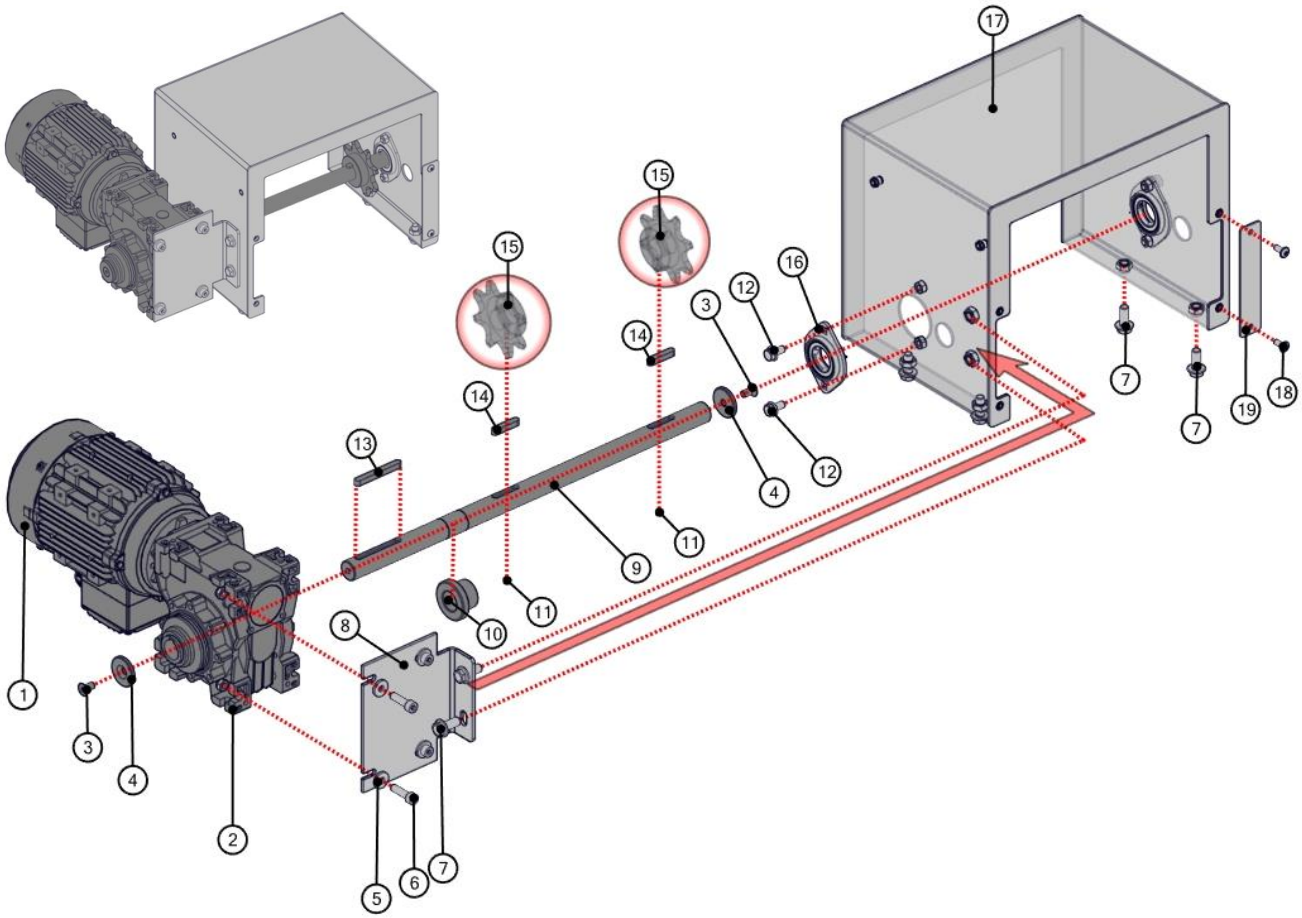
Use personal protection!

2.2 Conveyor Component Groups



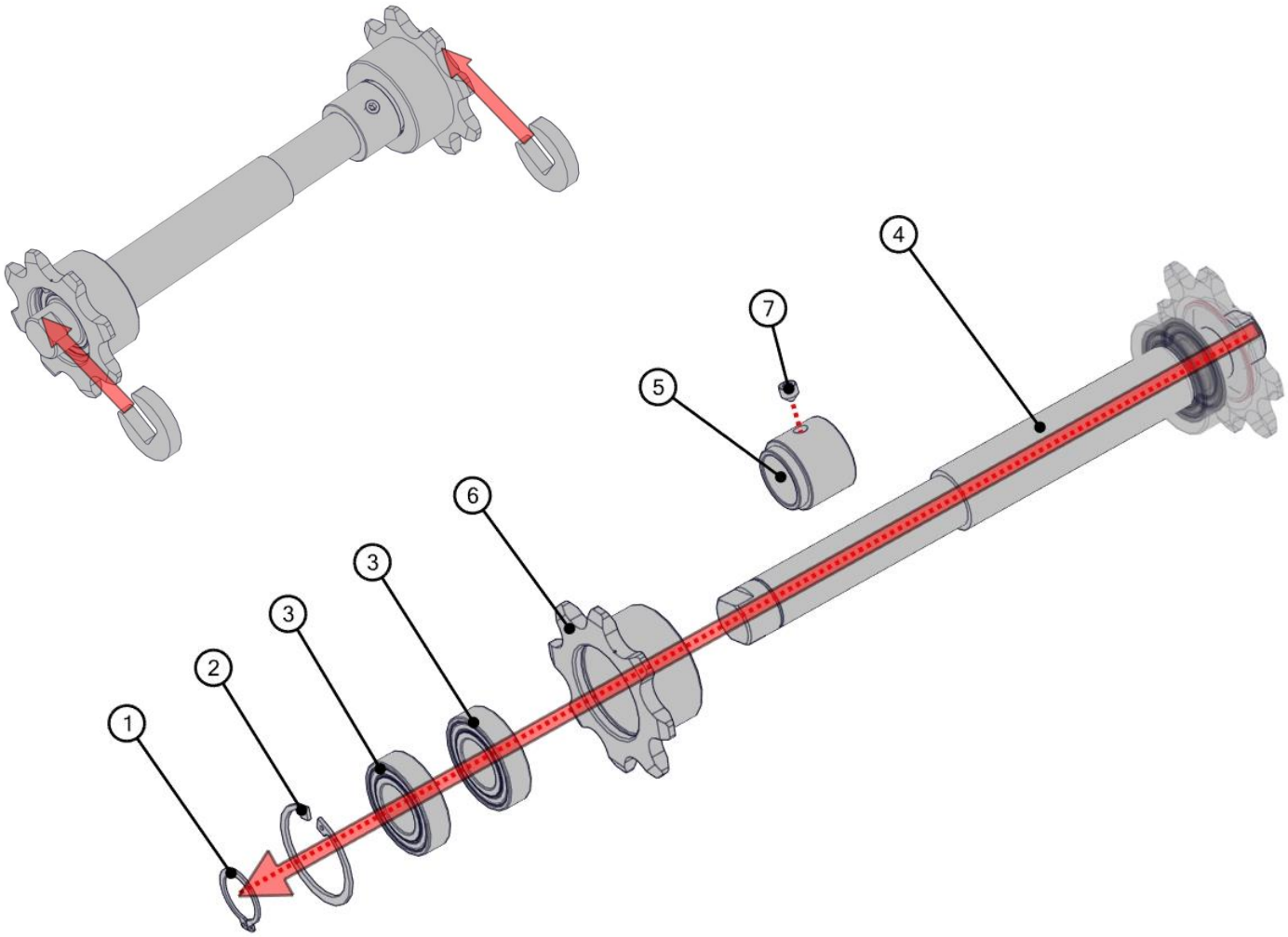
BALLOON NO	GROUPS
1	Impulsion and turnbuckle group
2	Rear idler return group
3	Scraper group
4	Wheeled foot group
5	Electricity control group
6	Lifting eye group
7	Pop-up cover group
8	Reducer protection cover group
9	Body cover group

2.2.1 Propulsion Group



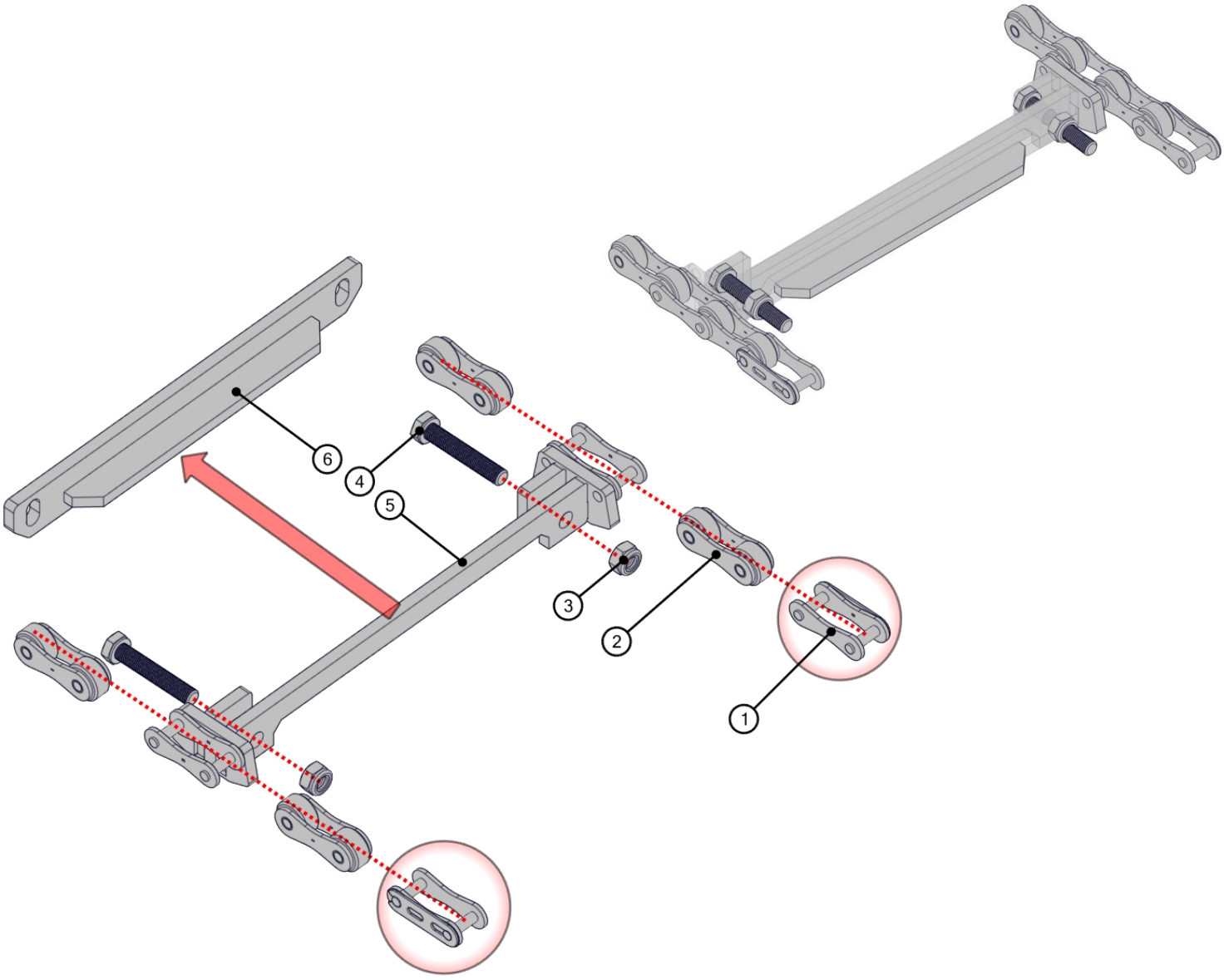
BALLOON NO	ITEM NO	DESCRIPTION	QUANTITY
1	150-01-0125	ELECTRIC MOTOR (0,55KW 1400RPM 71/B14 NO FOOT)	1
2	150-01-1429	REDUCER (FRT Q60 D:100 (9RPM) TLI VARVEL)	1
3	150-01-0078	SCREW SOCKET HEAD COUNTERSUNK BLACK DIN 7991 (M8X16)	2
4	150-01-0327	CUSTOM MADE WASHER (OUTER DIAMETER: 38MM INNER DIAMETER: 8MM THICKNESS: 5MM)	2
5	150-01-0581	INCH FLAT WASHER THICK WHITE (5/16")	4
6	150-01-0073	SCREW SOCKET HEAD FULL THREAD BLACK DIN 912 (M8X30)	4
7	150-01-0041	SCREW FLANGED FULL THREAD WHITE DIN 6921 (M10X25)	6
8	150-01-0477	REDUCER CONNECTİON PART	1
9	150-01-0264	DRIVE SHAFT	1
10	150-02-0010	TORQUE LIMIT 25-PIECE RING	1
11	150-01-1970	SETSCREW DIN 916 (M8X8)	2
12	150-01-0053	FLANGE SCREW FULL THREAD WHITE DIN 6921 (M8X16)	4
13	150-01-0114	STRAIGHT KEY DIN6885(8X7X70)	1
14	150-01-0113	STRAIGHT KEY DIN 6885(8X7X40)	2
15	150-01-0464	CHAIN SPROCKET (31.75 PITCH 25MM 8 TEETH)	2
16	150-01-1261	SHEET BEARING (SBPFL 2015)	2
17	150-01-0509	BRIDGE TENSIONING ASSEMBLY	2
18	150-01-1407	SCREW FLANGED BUTTON HEAD SOCKET DIN 7381 BLACK GALVANIZED 10.9 GRADE M6X16	2
19	150-01-1627	COVER	1

2.2.2 Rear Idler Return Group



BALLOON NO	ITEM NO	DESCRIPTION	QUANTITY
1	150-01-0106	EXTERNAL CIRCLIP (DIN 471/25)	2
2	150-01-1073	INTERNAL CIRCLIP (DIM 472/47)	2
3	150-01-0541	BEARING (6005 2RS)	4
4	150-01-0265	REAR IDLE SHAFT	1
5	150-01-0004	31.75 PITCH REAR IDLE SHAFT RING	1
6	150-01-2192	CHAIN SPROCKET IDLE (31.75 PITCH Z:8 Q:47mm)	2
7	150-01-1970	SETSCREW DIN 916 (M8X8)	1

2.2.3 Scraper Group



BALLOON NO	ITEM NO	DESCRIPTION	QUANTITY
1	150-01-0254	CHAIN LOCK (A2052)	2
2	150-03-0059	CHAIN A2052 (31.75 PITCH WITH PINS - ROLLER THICKNESS: 9mm)	4
3	150-01-0375	NUT NYLON INSERT WHITE DIN 985-6 QUALITY (M8)	2
4	150-01-0330	SCREW FULL THREAD BLACK DIN933 (M8X45)	2
5	150-01-0510	CARRIER	1
6	150-01-0073	CARRIER	1

3. Installation and Assembly

3.1 Installation of the Conveyor and the Connections

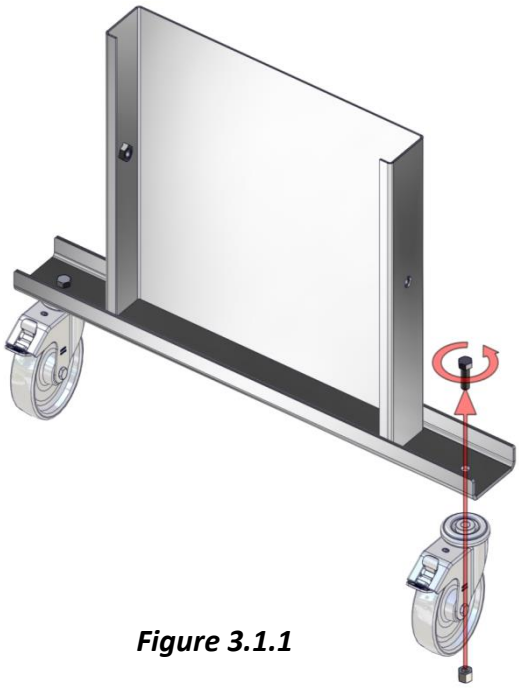


Figure 3.1.1

The assembly can be accomplished using the transport wheels contained within the conveyor packaging (Figure 3.1.1).

Subsequently, the chip conveyor should be driven into the channel and/or chip discharge section of the machine, lathe, or press to be used. The chip conveyor placed under the machine must be balanced using a water gauge.

After balancing, the conveyor should be secured in place using securing bolts to ensure that it does not move during operation.

After the assembly process, electrical power should be supplied by connecting it appropriately to the control switch or panel input. Before putting the chip conveyor into operation with the machine, the operational parts that do not come into contact with the coolant should be lubricated with grease for 5 minutes of idle running.

There must be a grounding line in the operating area of the conveyor, and do not provide power without grounding. Remember that grounding errors can lead to accidents and injuries. Do not use any cable other than the standard yellow-green cable for grounding.

The chip conveyor should be operated together with the machine, and it's better to run it for a certain period (minimum 5 minutes) after the machine stops. If this process cannot be done automatically from the machine, it can be done manually from the driver/control panel on the chip conveyor. This way, you can extend the life of the chip conveyor and save energy by not running it idle.

Before commissioning the machine, attention should be paid to certain points as mentioned in the assembly section. These points are listed below:

Perform a balance check while the machine is in the operating position. Do not interfere with moving parts or components while they are in operation. Lubricate surfaces that do not come into contact with the coolant with grease.

Check the electrical connection and motor currents. Loose connections are dangerous.

Check the working direction of the machine.

3.2 Electrical Panel

Our conveyor models that require remote control operate entirely with inverters (AC speed control devices) (Figure 3.2.1 and Figure 3.2.2) specially designed and manufactured for Sarıgöl standards.

Note: Only valid for products with panels!

Figure 3.2.1

Figure 3.2.2

Drivers are initially sent programmed with values according to the customer's operation. In cases where conditions change, the parameters are adjustable according to the customer's request by accessing the Driver User Manual from our website or by requesting it electronically from our company.

- **Driver control cannot be carried out in the working environment by other than authorized personnel and cannot be intervened for change.**
- **Operations that do not comply with the requirements may cause serious financial losses or personel injuries.**
- **Operations that do not comply with the requirements may cause minor injuries or material losses.**
- **During installation, commissioning or maintenance, be sure to follow the instructions in the safety and precautions section of the manual.**
- **Do not use the control box with damaged or missing parts, otherwise there may be a risk of injury.**
- **Keep it away from flammable materials. Otherwise it may cause fire.**
- **Do not drop any cable particles or screws into the device otherwise it may cause damage.**
- **Make sure that no power is applied before connection. Otherwise, there may be a risk of electric shock.**
- **The cover must be closed properly before power is applied. Otherwise, there may be risk of electric shock.**
- **Make sure that external fasteners connected correctly. Otherwise a malfunction can occur.**
- **Do not open the speed controller cover after electric is applied. Otherwise there may be a risk of electric shock!**
- **Do not touch the speed controller device and the circuit around the device with wet hands. Otherwise there may be a risk of electric shock.**
- **Do not touch the device connection terminals (including the control terminal). Otherwise, there may be a risk of electric shock.**

Temperature, humidity, dust and vibration effect in the ambient, may cause components in the speed controller device to age. This may cause device to malfunction or reduce the life of it. For this reason, routine and periodic maintenance of the device is necessary.
The device must be servised in the following cases:

- If there is abnormal change in the motor’s operating sound
- If there is vibration during motor operation
- If there is a change in the environmental conditions of the area where the speed controller is installed
- If the speed controller is overheated

Routine cleaning

- The speed controller should always kept clean.
- The dust on the speed controller should be cleaned. In especial, metal dust should be prevented from entering the device.
- Oil stains on the speed controller should be cleaned.

Periodic check-up

- Check the ventilation ducts and keep them clean.
- Check whether the screws are less.
- Check whether the speed controller is rusted.
- Check cable connections if there are short circuit.
- Carry out the motherboard insulation test.

4. Operating

4.1 General

A driver and/or control panel including necessary equipments has been placed to operate the conveyor and to easily monitor its operation.

4.2 Operating the Conveyor

In manuel mode (Figure 3.2.2), start/stop buttons on the keypad are active without function and are suitable for manual operation. To start the conveyor in the working direction, simply press the start putton ones

The conveyor belt speed is programmed by manufacturer to the capacity required by the customer and will automatically reach the desired value.

With the up and down buttons in Figure 3.2.2, the belt can be moved manually backward and forward in any malfunction alarm situation. The belt will stop when the connection is lost with the buttons. If the belt is stucked so much that it cannot be operated for any reason, the system will go into an alarm state again and no any operations can be done by the forward and back buttons. In this case, the conveyor should not be forced by continuous trials and **technical support should be obtained by the manufacturer immediately.**

In this mode (Figure 3.2.2) start button on the keypad has the function of activating automatic operation. After all the checks are made, it is enough to press the start button ones to operate the conveyor and control it from the machine. The start button also has the function of operating it to forward direction in order to detect the conveyor's problem in case of any malfunction.

The stop button has the function of manually operating the conveyor after the conveyor is stopped from the machine. It also has the function of manually operating the conveyor backward to detect the problem in case of any malfunction. It is enough to press the start button ones to operate it backward direction. In case the malfunction in the conveyor is eliminated, pressing the start button once is sufficient for the conveyor to start automatically from the machine.

In case of malfunction in conveyors controlled by the machine, the conveyor will go into failure mode. As a result of this attempt, the conveyor will stop completely for problems that requires intervention and the fault cannot be fixed. To detect the fault, the parts of the system are belt, chain, motor, reducer, bearing, etc. all equipment must be checked by authorized staff. The conveyor can be operated manually to check the fault by using the start and stop button functions. In the case the fault is resolved, the conveyor will be started by the machine by turning it into an auto position again with the start button.

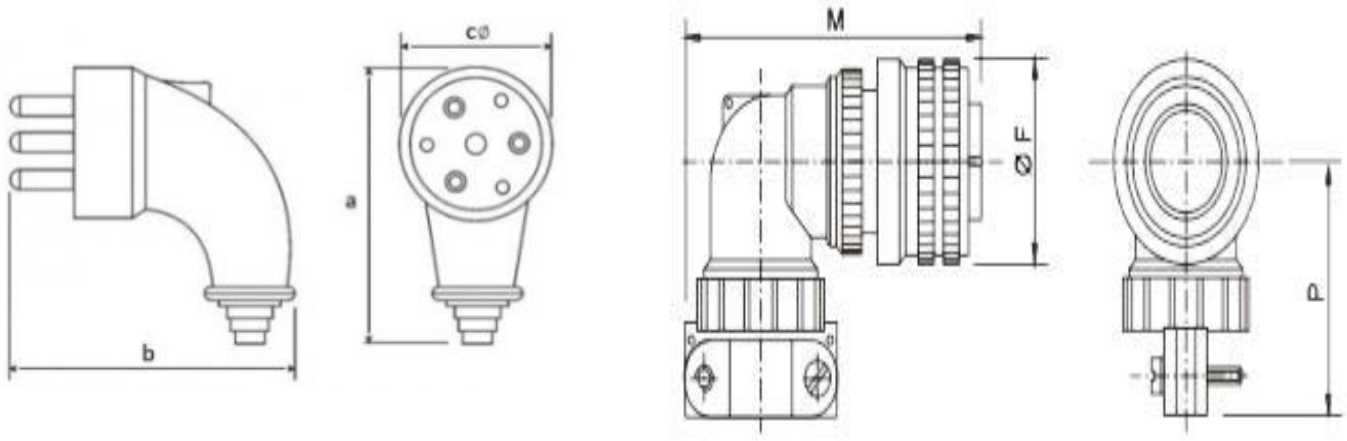
Despite all the intervention, maintenance and cleaning if the machine does not work, any action should not be taken, the conveyor should not be forced by continuous attempts and technical support should be obtained from the manufacturer immediately.

- **It is very important that no one other than an authorized operator and/or electrician is allowed to intervene in the conveyor panel, in terms of life-threatening risks.**

- **In the scraper conveyor, the belt works in the opposite direction of the hinged belt conveyor. While processing the part, the machine must be operated in the scraping direction. Otherwise, the machine will sweep back the sawdust that should be thrown out, causing jamming or damage to the scraper.**

By the usage statues of the conveyor and the customer request, the three-phase plug or military socket for the drive energy supply is sent and assembled by the manufacturer.

Note: Only valid for products with military sockets!



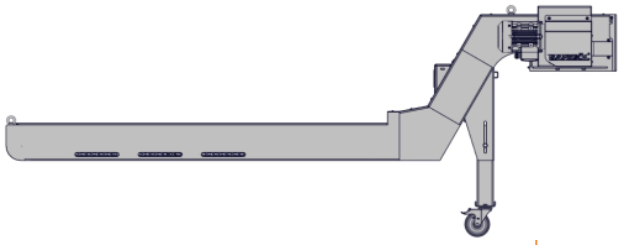
5. MAINTENANCE

5.1 Weekly Maintenance

The conveyor should be inspected and cleaned of chips and other harmful substances that may cause problems,

If there are sieves in the liquid spill spout of the conveyor, the screens must be cleaned of chips,

The coolant mixture ratio should be checked, and if missing, it should be completed.



The electrical and bolt connections of the electric motor should be checked,

The stretch of the chain should be checked and stretched if necessary. (The simplest stretch check is manually pushing the chain upwards if the gap is 10 mm (Approx. 10 Nm), tensioning is appropriate.

The distance X should be measured from both sides and should be the same. (Figure 5.1.3)

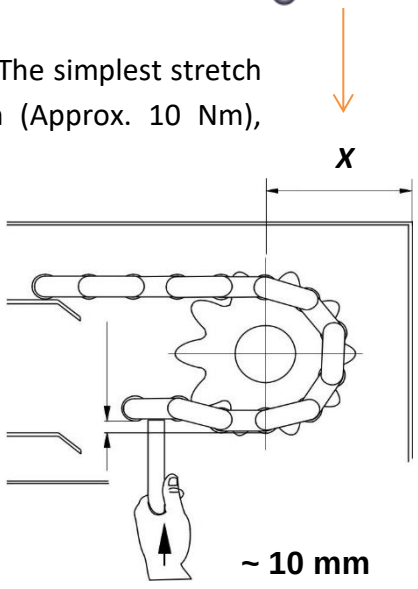
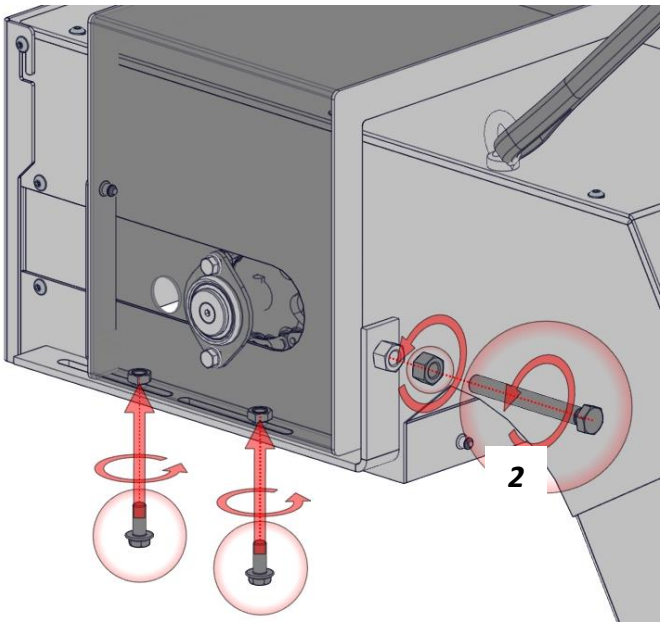


Figure 5.1.3

5.2 Monthly Maintenance

The conveyor should be removed from under the machine and the coolant should be drained.
The cleaning cover should be opened and washed with hot water or diesel fuel.
The stretch of the belt should be checked, and the chain, sprockets, axes and belts, and belt shafts should be checked.



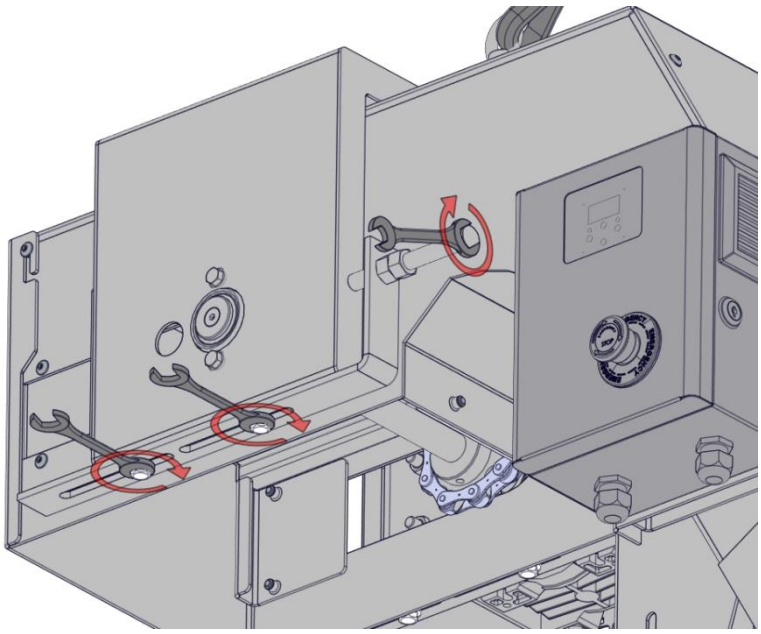
After the belt chain stretch control are done, bolts number 1 securing the cover containing the belt chain drive shaft and bearings is removed for stretchining when needed (Figure 5.2.1).
The counter nut on the stretch stud bolt number 2 is loosened and the bolt is tightened to the desired ideal amount. The counter nut is fixed again.
The fixing bolts number 1 are tightened back to the body.

Figure 5.2.1

In case of wear or breakage, be sure to warn and inform the manufacturer.

Balance control should be made when placing the conveyor under the machine.

The machine should be ready for operation by adding coolant.



5.3 Maintenance of Scraper Belt

In cases where parts are likely to fall into the conveyor, the conveyor should be stopped immediately. If the fallen part cannot be thrown out by the conveyor, the operator must take the part out of the conveyor by hand.

- **Otherwise, falling parts will cause the conveyor scrapers to get stuck and become deformed.**

In case of such negative situations, you can call our authorized company and request service and receive technical support.

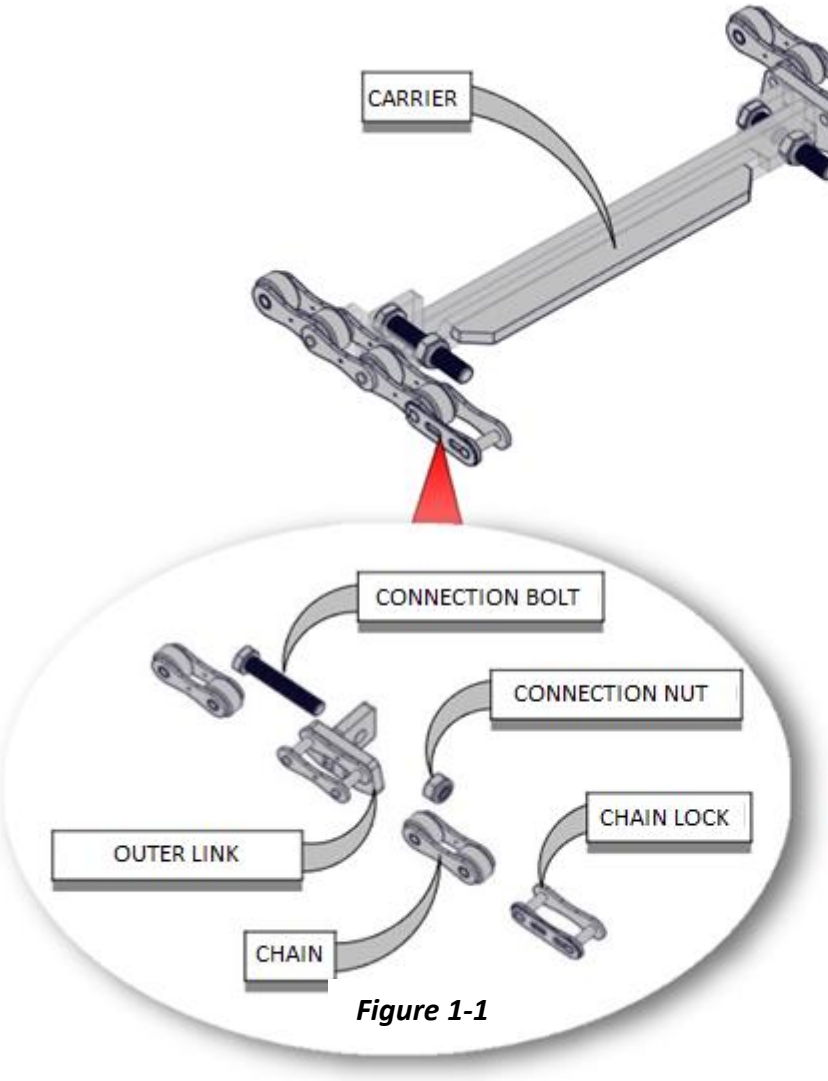


Figure 1-1

Figure 1-2

Remove the chain and carrier from the pin by pressing the slotted part on the chain lock with a flat lathe screw moving the lock part clockwise, as shown in Figure 1-1.

6. About Malfunctions

6.1 General Descriptions

The information in this booklet has been prepared based on experience gained from service work and factory tests.

The symptoms and causes of the malfunctions are mentioned according to the notifications received by our service companies and the results encountered by the service technicians.

A detailed visual inspection is useful for any problems encountered. Good monitoring of the fault prevents any unwanted damage that may occur during repair.

Firstly:

Check the electrical connections for looseness.

Check parts that may be affected by short circuit or heat.

If the problem persists despite trying the solutions specified in this book, please contact our company.

Having all kinds of troubleshooting, maintenance and repair works done by our company in terms of speed and safety is the best for your conveyor and your business.

Any action taken without knowledge may lead to wrong results, cause your business to stop unnecessarily, or cause costly damages.