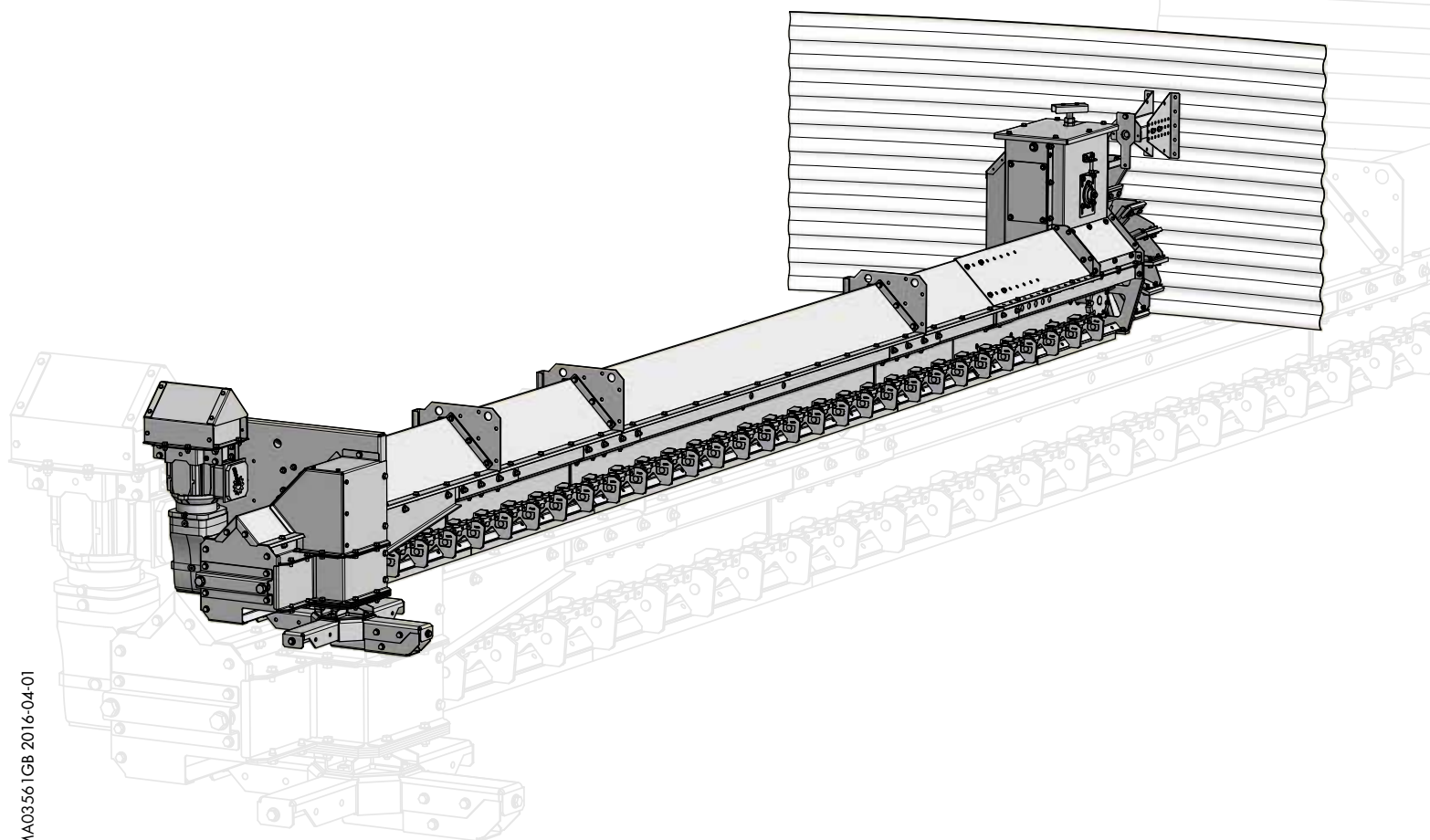




KTIS



Goods inspection

Check that the number of packages agrees with the delivery note and that the packing and goods are not damaged. Make a note of any damage and missing materials on the consignment note and report it to the carrier and to us. Make sure the delivery is complete after unpacking the goods. Any materials that are found to be incorrect must not be assembled.

Warranty

A 2-year factory warranty from the day of delivery applies to all models of Skandia Elevator AB machinery. A condition of the warranty and any subsequent compensation is that Skandia Elevator AB is contacted and an agreement reached between the customer and Skandia Elevator AB on how any faults should be rectified. The warranty covers all parts that are damaged or break due to faulty design or manufacture. Faults and damage caused by faulty assembly, incorrect use or lack of maintenance will not be covered

CE mark

A CE mark is located on the transmission side of the drive and is proof that the machine has been manufactured in accordance with EU machine directives and complies with safety requirements. The CE mark contains information concerning year of manufacture, model designation and order number. Always specify the order number in the event of a claim and on orders for spare parts.

EC Declaration

Skandia Elevator AB
Arentorp
S-53494 Vara
SWEDEN

declare under our sole responsibility that the product:

KTIS

order number:

.....
to which this declaration relates is in conformity with Council Directive of 29 December 2009 on the harmonisation of the member States relating to machinery, 2006/42/EC.

Unless otherwise specified on the CE mark, the product is manufactured in accordance with EU Machinery Directive and is classified as Category II OD/OD.

Vara 29/12 2009

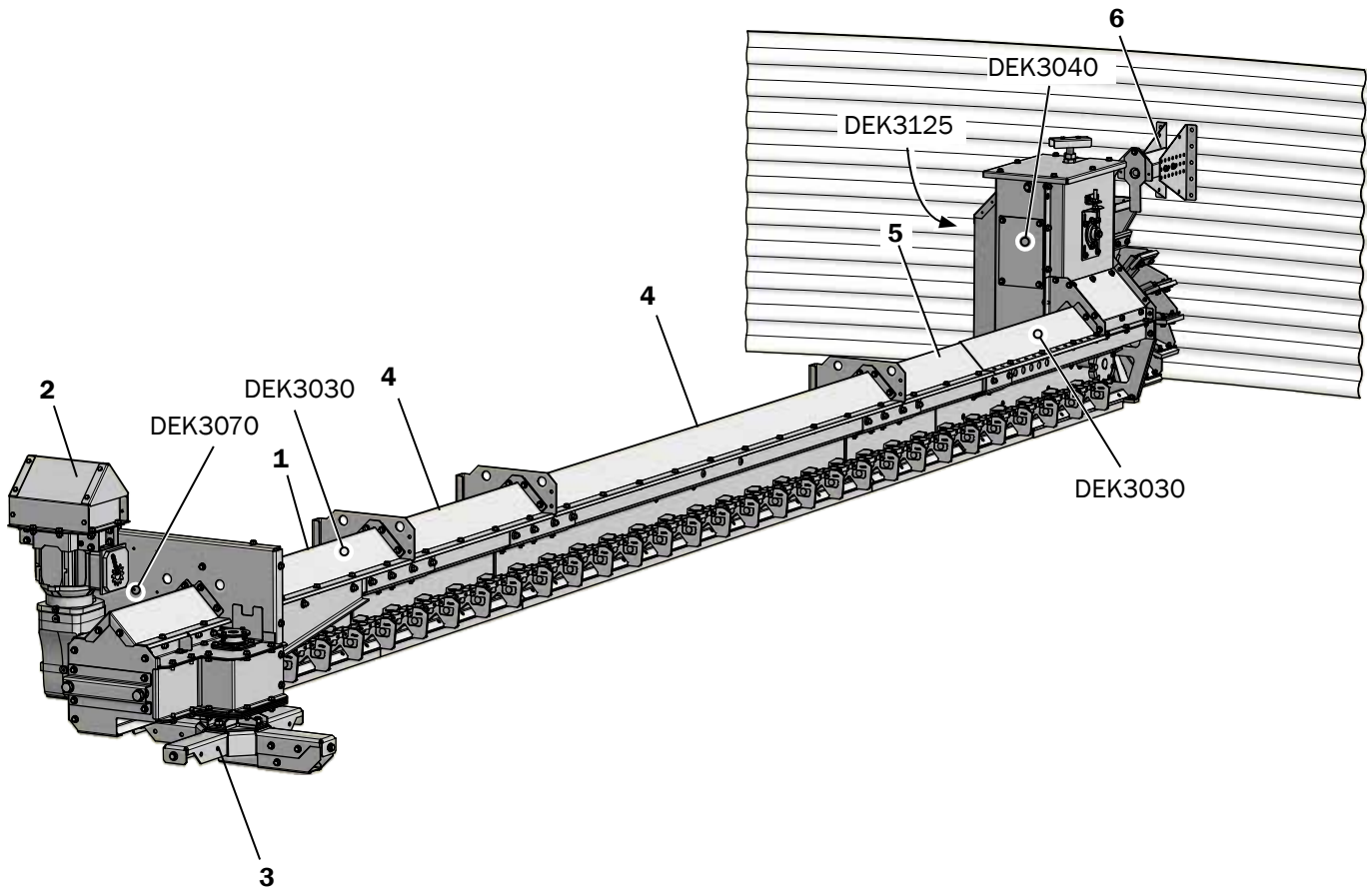
Joakim Larsson, CEO

Thank you for choosing Skandia Elevator!

Your conveyor system must be assembled correctly and maintained thoroughly if it is to operate satisfactorily. These assembly instructions and the separate maintenance instructions must be followed for the warranty to apply.

We hope you will be pleased with your Skandia conveyor equipment for a long time.

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Before assembly	11
Connection of the machine	13
Assembling the machine	14
Settings for the forward driving end/support wheel	22
Assembly/location of electrical connection components	23



Parts	Pos.
Drive	1
Angle gear motor	2
Centre outlet cross	3
Intermediate section	4
Forward driving end	5
Rotation switch	6
Safety decals	DEK x x x x

The owner of the transport equipment is responsible for these assembly instructions always being available to the fitters, electricians, maintenance technicians and engineering technicians concerned.

Incorrect assembly and/or operation may lead to personal injury or damage to the conveyor equipment and/or other equipment. It can also cause malfunctions or a reduction in capacity.

Read the assembly instructions carefully before assembly, electrical connection, maintenance or operation commences. If any part of these instructions should be difficult to comprehend, please get in touch with your reseller for assistance.

The safety information is presented and interpreted as follows:

⚠ WARNING!

Disregarding instructions given in warnings can cause serious personal injury or death.

⚠ IMPORTANT!

Ignoring the instructions given in important texts may cause damage to the conveyor equipment and/or other equipment. It can also cause malfunctions or a reduction in capacity.

NB! indicates that the text contains information that will simplify the assembly process.

General

⚠ WARNING!

- Ensure that everyone responsible for assembly, electrical connection, maintenance and operation of the conveyor equipment has read and understood the instructions and safety information.
- Use protective gloves, helmet, steel-toed boots, ear defenders, protective goggles and high-vis vest when carrying out assembly, electrical connection, maintenance and operation of conveyor equipment.



WARNING!

- Stop the machinery and turn off electric power before attempting any type of assembly, electrical connection or maintenance work.
- Do not start the machinery without the lid, hatches, covers, guards and connections fitted in such a way they can only be opened with tools.
- The sweep conveyor's conveyor chain and forward driving wheel are not fully built-in for functional reasons. Do not remain in the vicinity of the machine while it is operating.
- The silo's centre and intermediate outlet hoppers are not protected for functional reasons. Do not remain in the vicinity of the outlet hoppers while the machine is operating.
- The connections to the bottom conveyor must be firmly attached and fully sealed.
- The rotating drive shaft is partially exposed between the angle gear motor and the drive end.

IMPORTANT!

- If a short circuit should occur, ensure that the electrical equipment is in working order before continuing operation.
- Ensure that the electrical equipment is kept free from dirt, dust, moisture and electrostatic charge.
- The machine is not designed to stand or walk on.

Electrical connection

Incorrect electrical connection may lead to personal injury or damage to the conveyor equipment and/or other equipment. It can also cause malfunctions or a reduction in capacity.

WARNING!

- All electrical equipment is to be connected by a qualified electrician. See separate connecting directions for electronics.
- The power switch must be permanently mounted and located to allow easy access when carrying out maintenance work.

IMPORTANT!

- Ensure the motor protection is set to the correct ampere setting for the motor.
- Ensure that the rotation guard is engaged during operation.

Maintenance

Inadequate maintenance may lead to personal injury or damage to the conveyor equipment and/or other equipment. It can also cause malfunctions or a reduction in capacity.

WARNING!

Read the separate maintenance instructions before taking the machine into service.

Safety decals

WARNING!

The machine is supplied with safety decals on delivery. They must not be removed or defaced. If a safety decal becomes damaged, you can order a new one free of charge from Skandia Elevator AB. Specify the part number of the decal. See the section below and the previous chapter Machine Overview.






There are safety decals for:






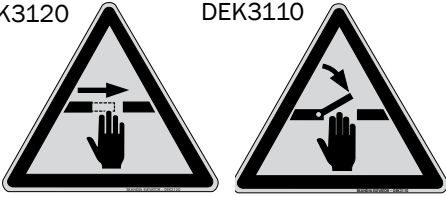


- Mandatory (white symbol on round blue background).
- Forbidden (black strike-through symbol on round white background with red surround).
- Warning (black symbol on triangular yellow background with black surround).

WARNING!

The mandatory instruction, forbiddance or warning given on all safety decals must be considered or serious injury or death may follow.

Skandia Elevator machines have the following safety decals:

Part number/Safety decal Refer to the "Machine Overview" chapter for placement.	Written definition
DEK3090 	Read the "Back stop" section in the elevator's assembly instructions before test starting the motor for the first time.
DEK3100 	Do not place the valve with the motor side face down.
DEK3140 	Changing settings and equipment is prohibited.
DEK3030 	Warning for conveyor chain!
DEK3060 	Warning for bucket belt!

<p>DEK3040</p> 	<p>Warning for chain drive!</p>
<p>DEK3050</p> 	<p>Warning for belt drive!</p>
<p>DEK3070</p> 	<p>Warning for rotating conveyor drive shaft!</p>
<p>DEK3080</p> 	<p>Warning for rotating elevator drive shaft!</p>
<p>DEK3125</p>  <p>DEK3120 DEK3110</p> 	<p>Warning for moving machinery!</p>
<p>DEK3010</p> 	<p>Warning for dust explosion!</p>
<p>DEK3130</p> 	<p>Warning, a maximum of 2 people = 200 kg/440 lbs may be on the platform and ladders simultaneously!</p>

⚠ IMPORTANT!

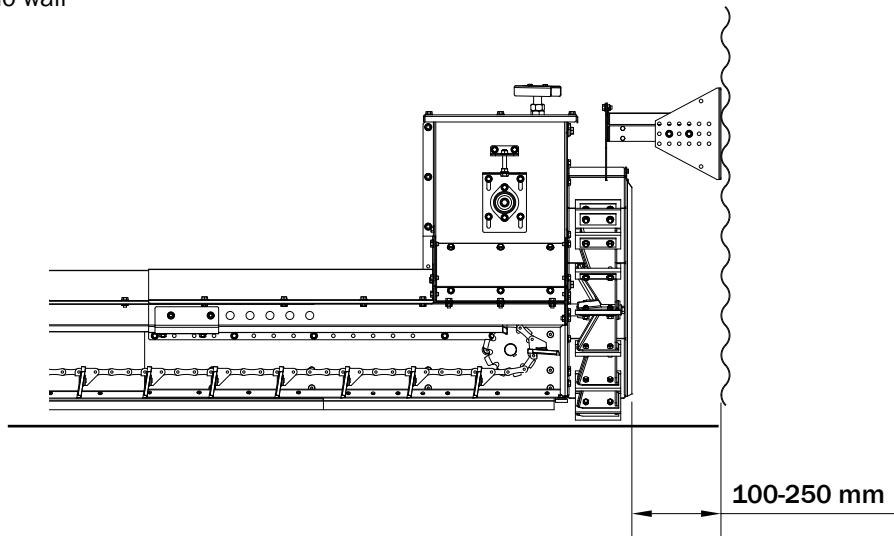
Ensure that the centre and intermediate outlet hoppers are braced from below if they are fitted in an inclined floor.

The conveyor is assembled on site in the silo.

NB! The centre hopper is fitted before or after fitting the sweep conveyor's centre outlet cross (A) depending on the type of silo floor.

⚠ IMPORTANT!

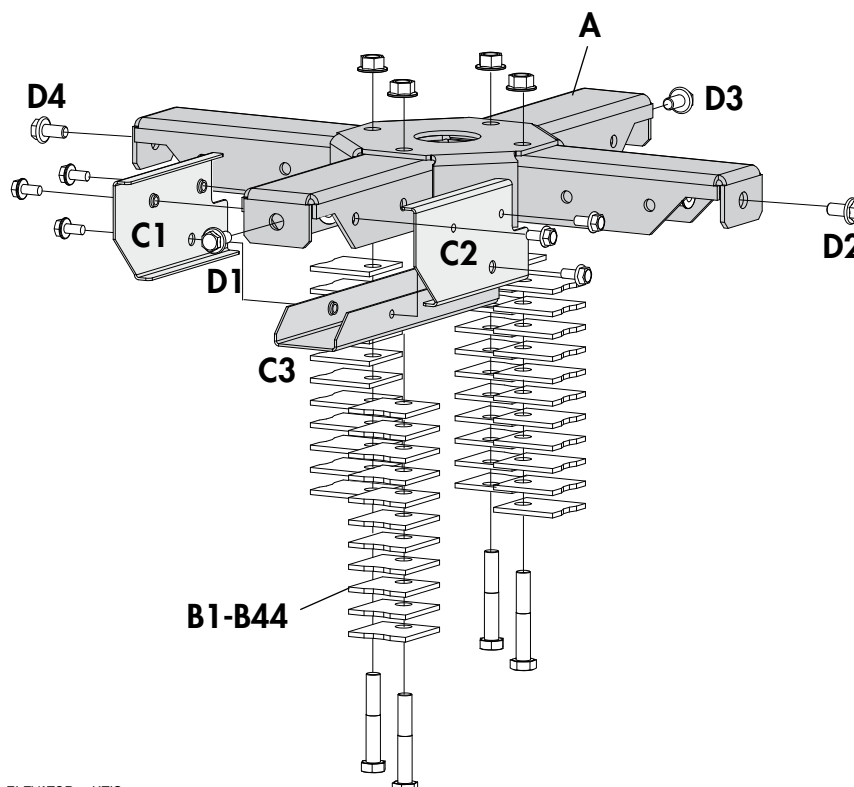
The machine must have a distance of between 100-250 mm from the silo wall



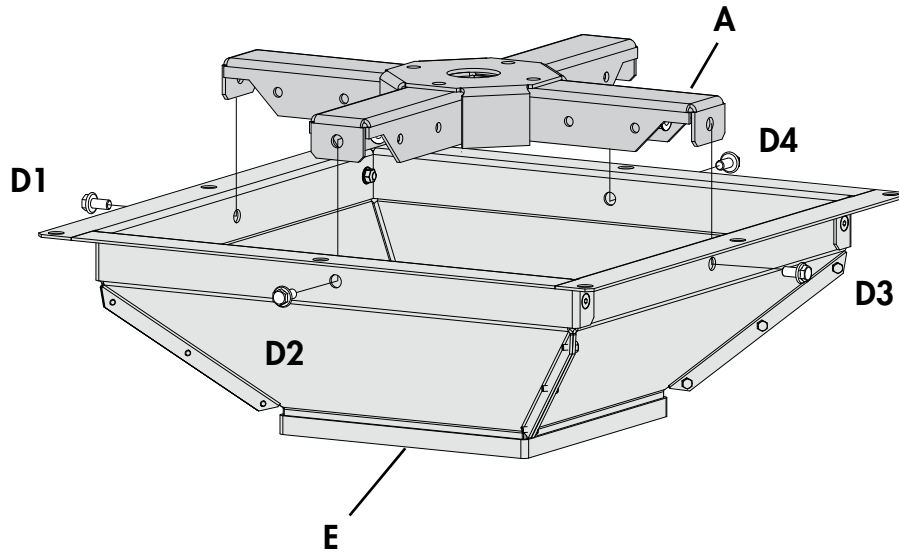
1.

Remove the shims, B1-B44, cable protectors C1-C3 and bolt unions (D1-D4) from the centre outlet cross (A).

NB! For reassembly of cable protectors C1-C3, see the last chapter, "Assembly/location of electrical connection components".



2.
Fit the centre outlet cross (A) in the centre outlet hopper (E) with bolt unions (D1-D4).



 **WARNING!**

- The sweep conveyor's conveyor chain and forward driving wheel are not fully built-in for functional reasons. Do not remain in the vicinity of the machine while it is operating.
- The connections to the bottom conveyor must be firmly attached and fully sealed.

 **IMPORTANT!**

Use only recommended outlet and connecting components.

Connection of centre and intermediate outlet hoppers to the following machine

Connect the centre and intermediate outlet hoppers to the following machine in accordance with its assembly instructions.

⚠ IMPORTANT!

Ensure the machine parts are assembled in a straight line and are not twisted.

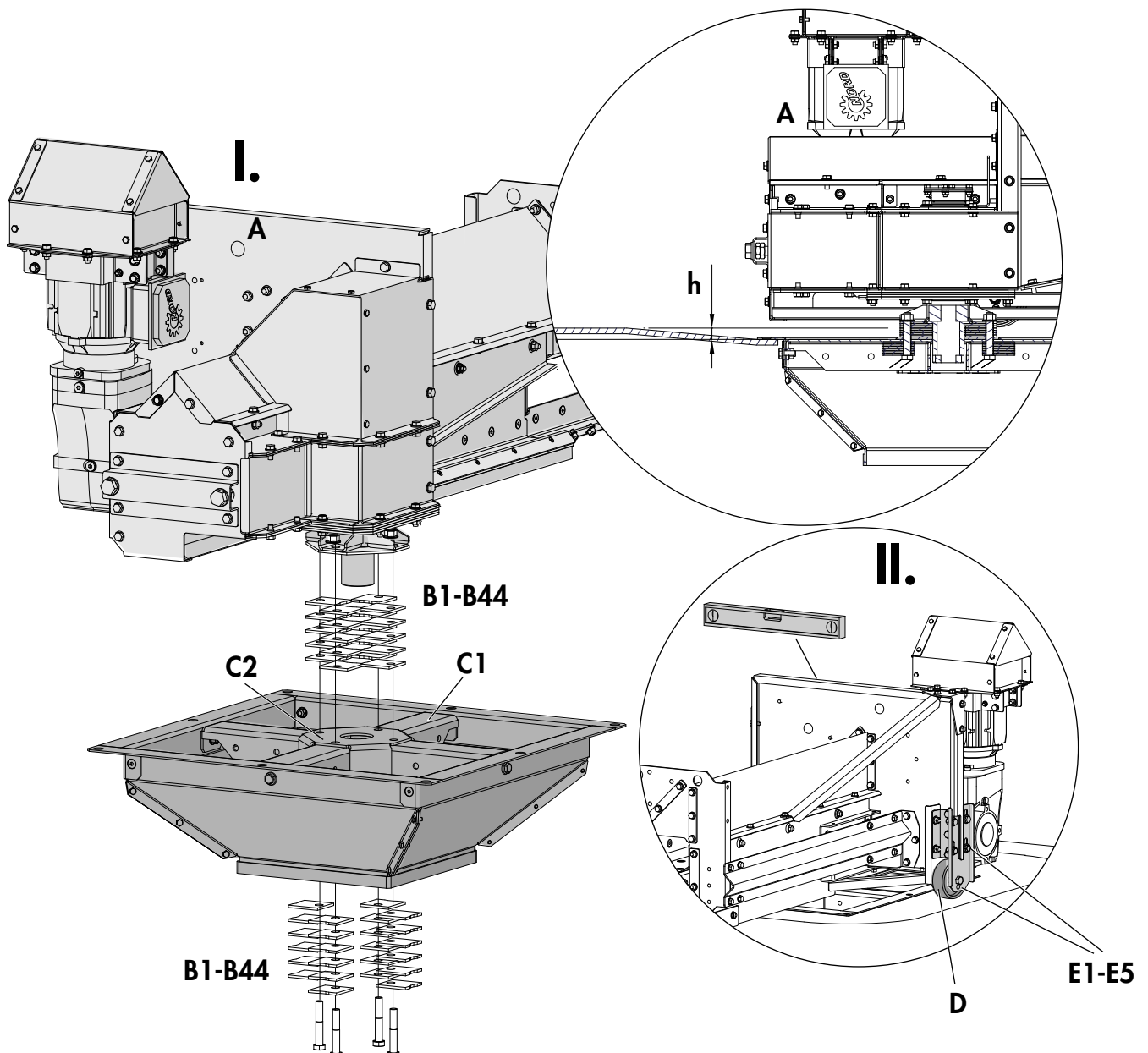
1-I.

Fit the drive end (A) in the centre outlet cross. The height (h) of the drive end above the silo floor can be adjusted by adding shims (B1-B44) in sufficient numbers on the top of the centre outlet cross (C1) centre plate (C2). The remaining shims are fitted to the underside of the centre outlet cross.

1-II. Adjust the height of the support wheel (D) with the adjustable screws (E1-E5).

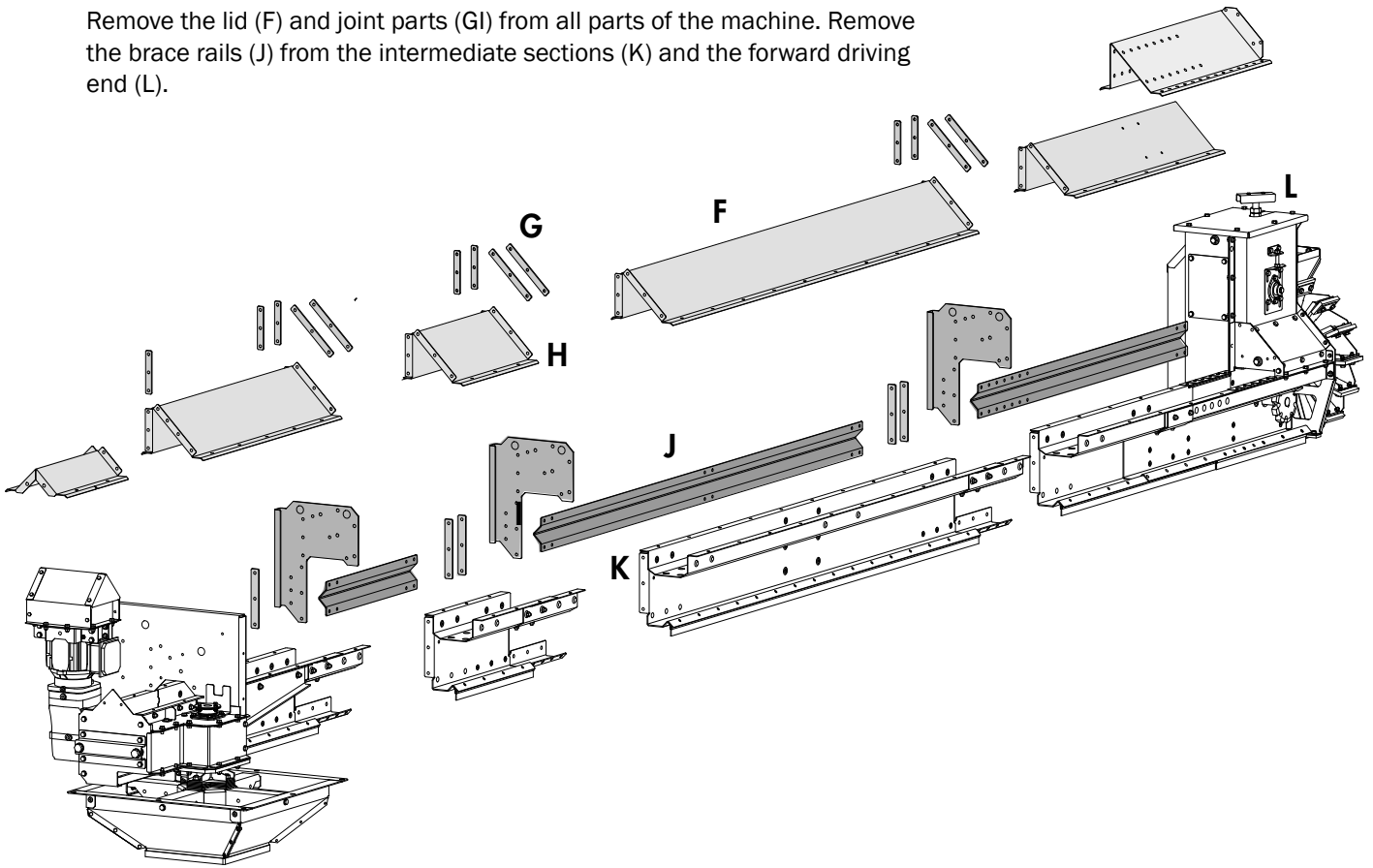
⚠ IMPORTANT!

Make sure that the drive end is horizontal across the short side.



2.

Remove the lid (F) and joint parts (G) from all parts of the machine. Remove the brace rails (J) from the intermediate sections (K) and the forward driving end (L).



3-I.

Align the forward driving end (L) next to the silo wall in a straight centre line from the drive end.

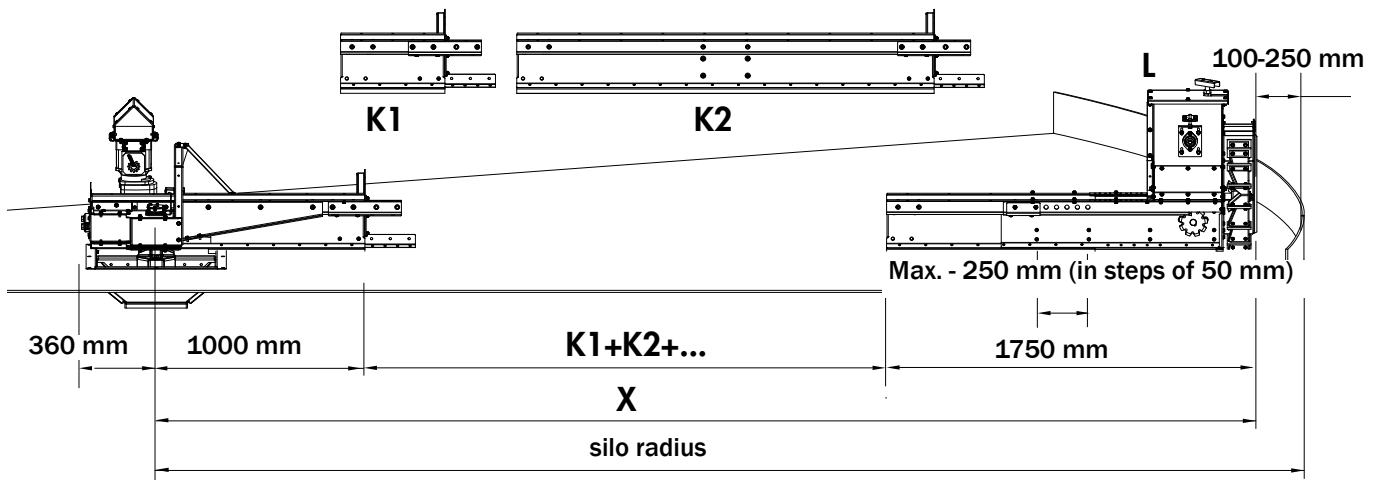


IMPORTANT!

The machine must have a distance of between 100-250 mm from the silo wall

3-II.

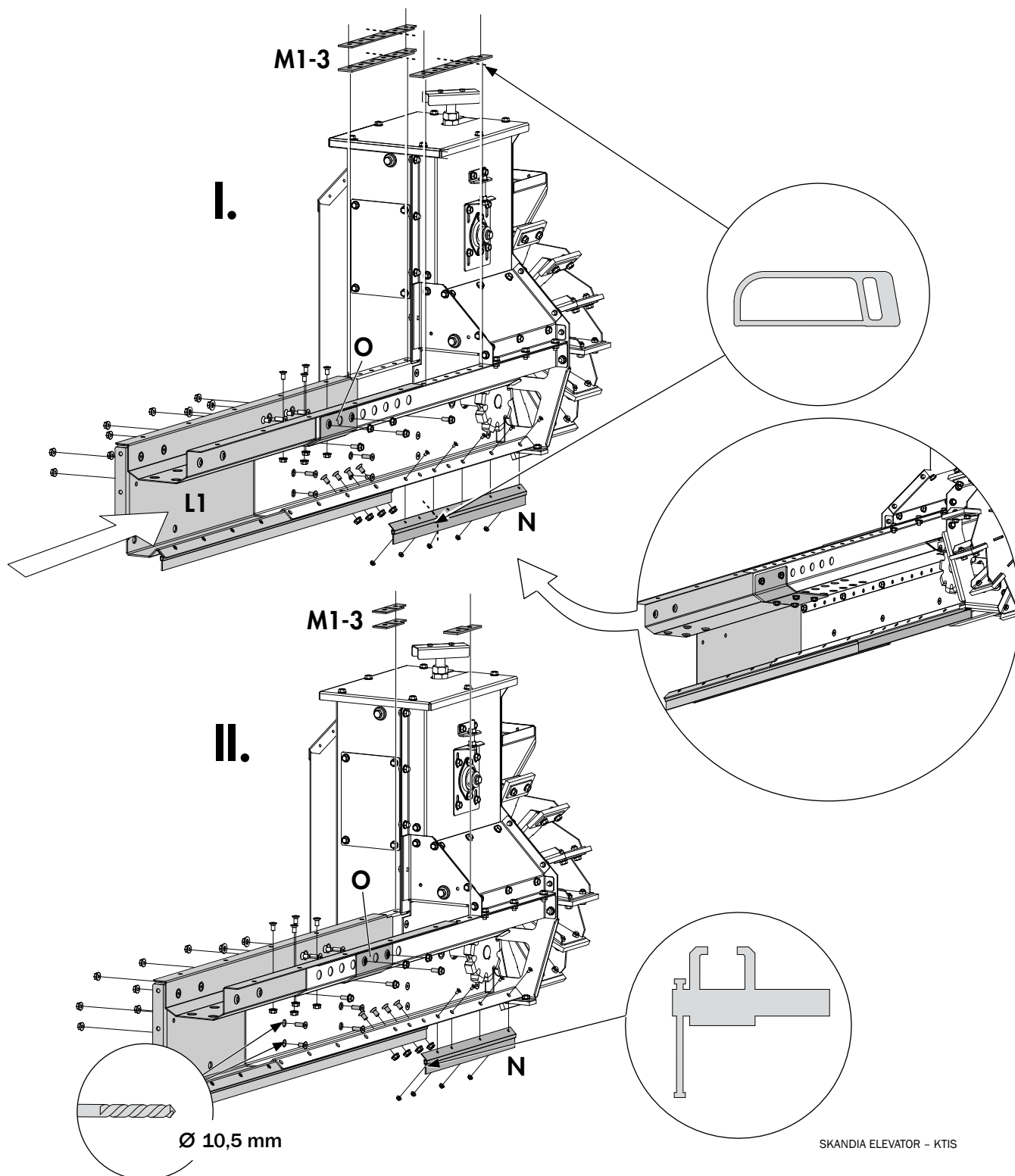
Calculate how long the X-section of the machine may be (see illustration below) and how much the forward driving end (L) may have to be shortened. Shortening can be done in steps of 50 mm from 1750 (supplied in full length) to a maximum of 1500 mm.



4.
NB! The outlet slide is easier to fit before the conveyor is assembled.

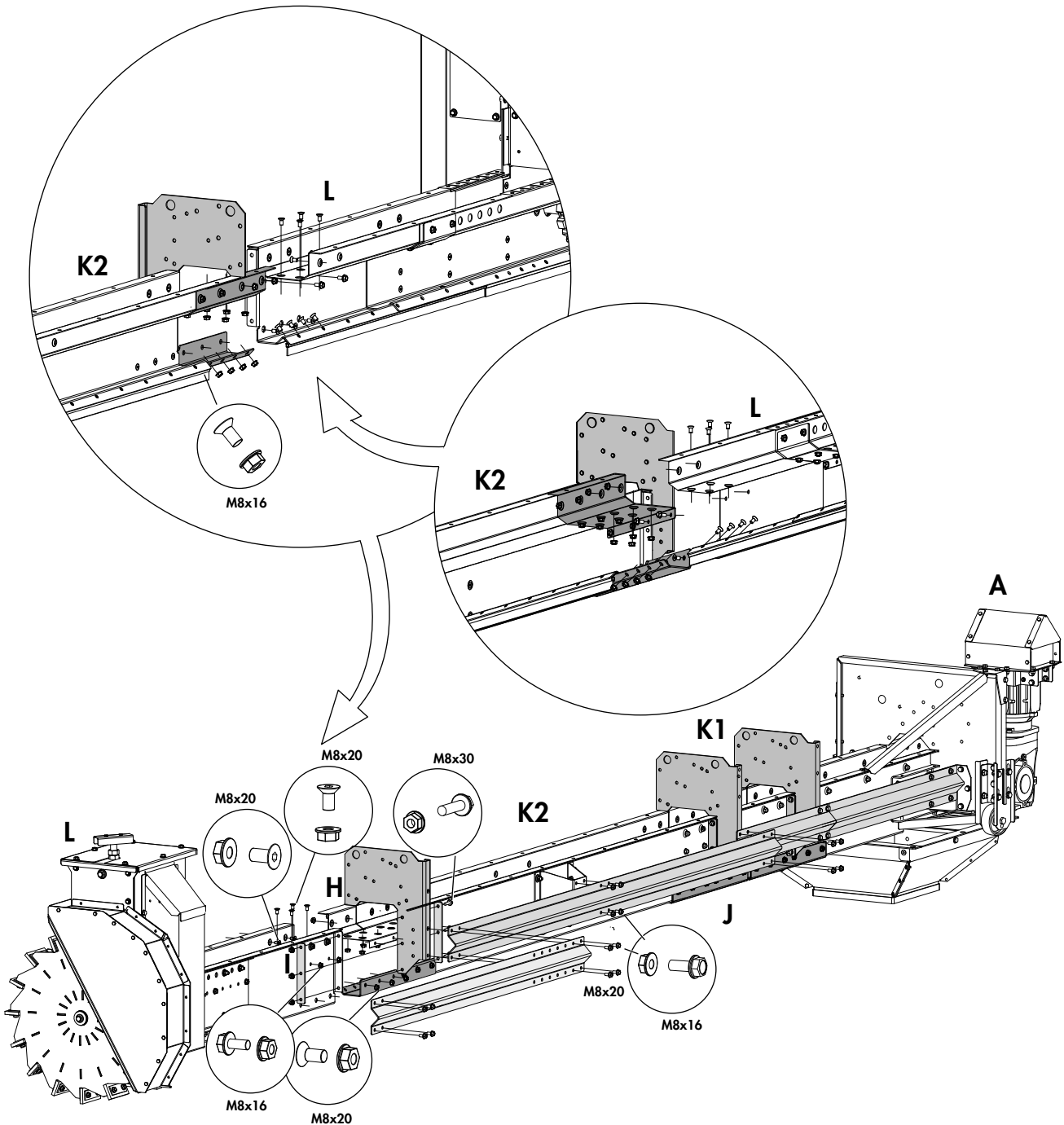
4-I.
Detach the parts (M1-3, N-0) and bolt unions in accordance with the illustration. Slide in the adjustable intermediate section part (L1) the number of mm in steps of 50 that the forward driving end shall be shortened by. Cut the shims (M1-M3) and broom moulding (N) to the right length.

4-II.
Clamp together the cut end of the broom moulding. Drill new holes and reassemble the parts (M1-3, N-0) and bolt unions in accordance with the illustration.



5.

Assemble the machine parts (A, K1-2, L) with joint parts (H, I), bolt unions and brace rails (J) in accordance with the illustration.



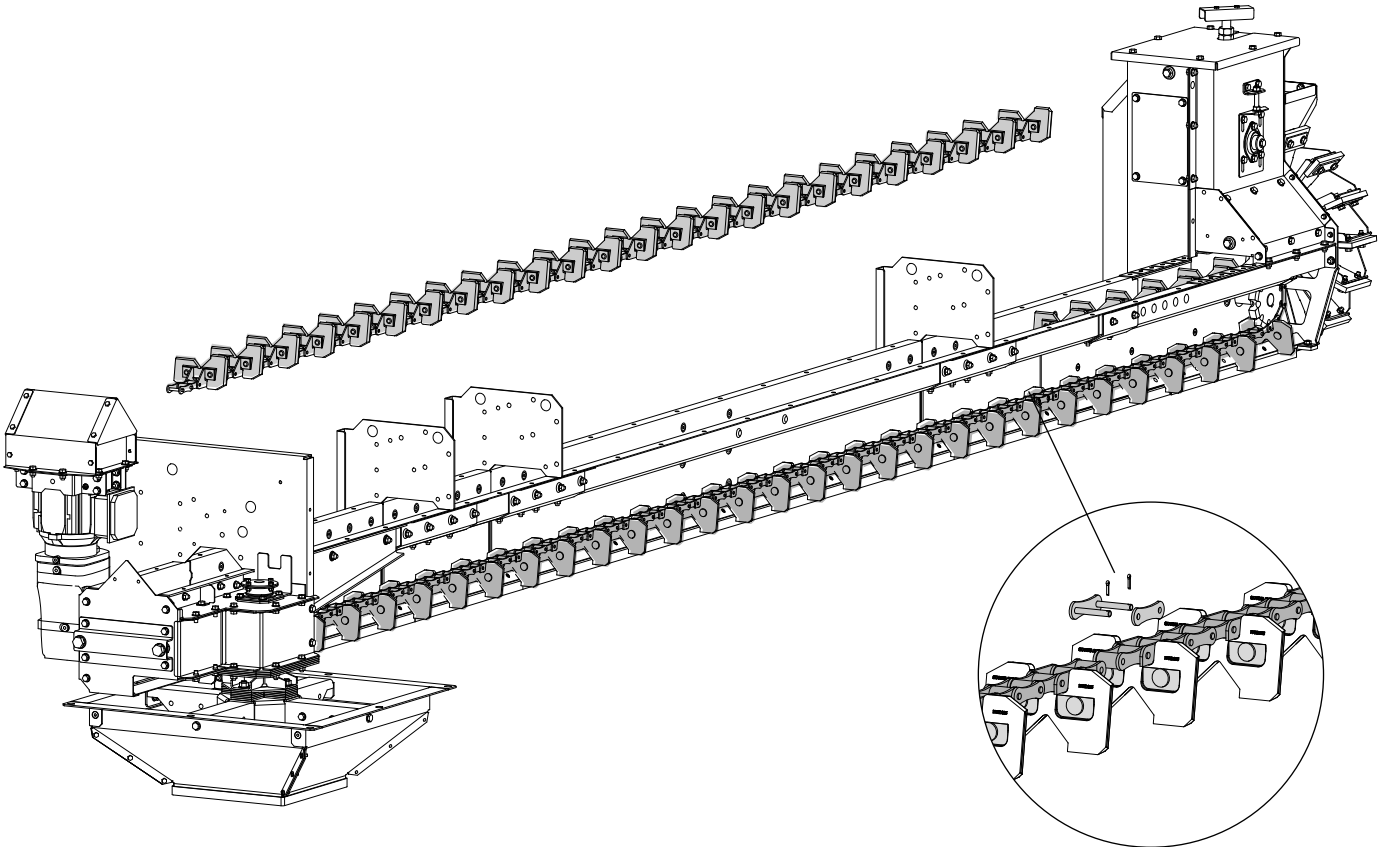
6.

Assemble the chain lengths and position in the bottom plate and on the upper level of the machine.

NB! Route the chain lengths over the chain sprockets, cut if necessary to the correct length and then fully assemble the chain.

⚠ IMPORTANT!

Ensure the conveyor chain is centred, runs freely and does not foul the sides of the conveyor.



7.

Tighten the conveyor chain with the tensioning bolts in the drive end.

NB! The tensioning bolts have self-locking fixed nuts inside the conveyor.

⚠ IMPORTANT!

- Ensure the tail end shaft is at right angles to the conveyor chain.
- Ensure the conveyor chain is not tensioned too much.

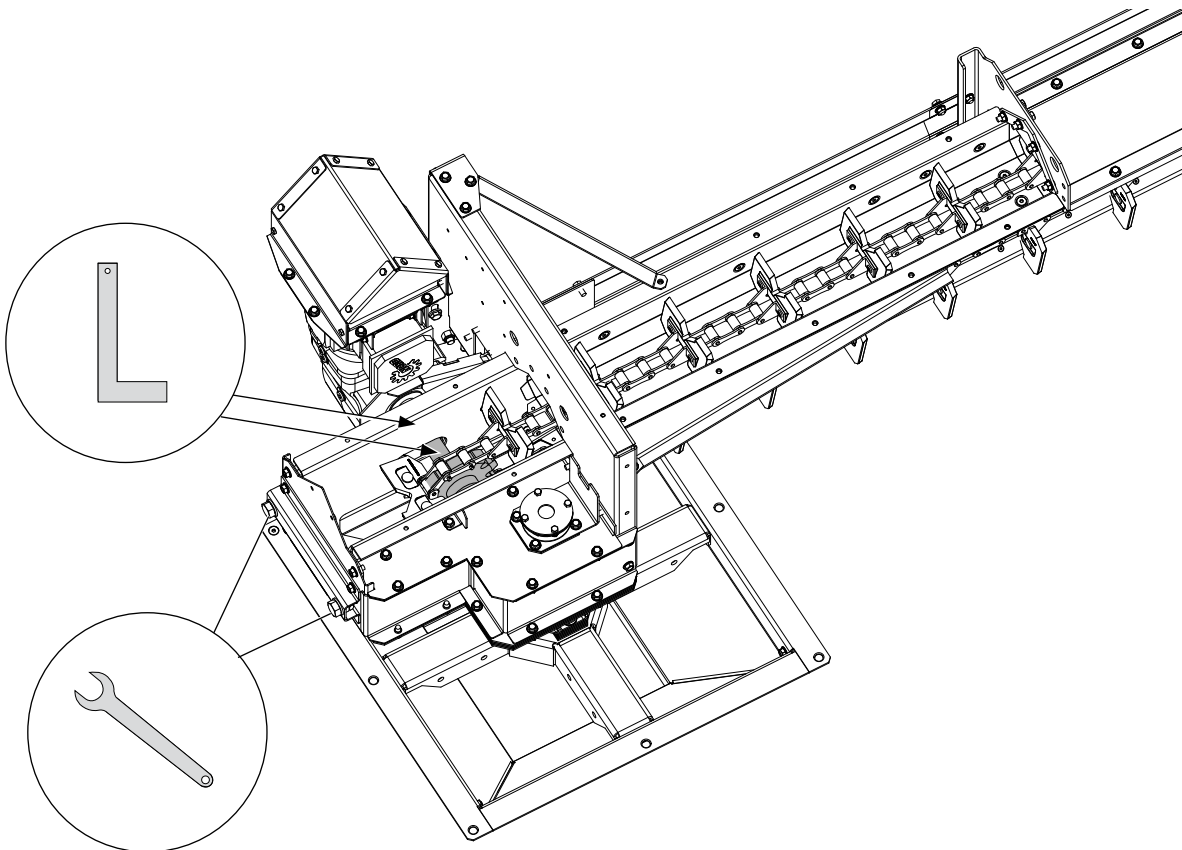
The conveyor chain is too taut if it cannot be pulled sideways at the drive wheel. Release the tension until it can be pulled slightly sideways.

Once assembly of the conveyor is complete, test run it for a while and then check the tension once again..

A new conveyor chain must be run for a period and then readjusted.

⚠ IMPORTANT!

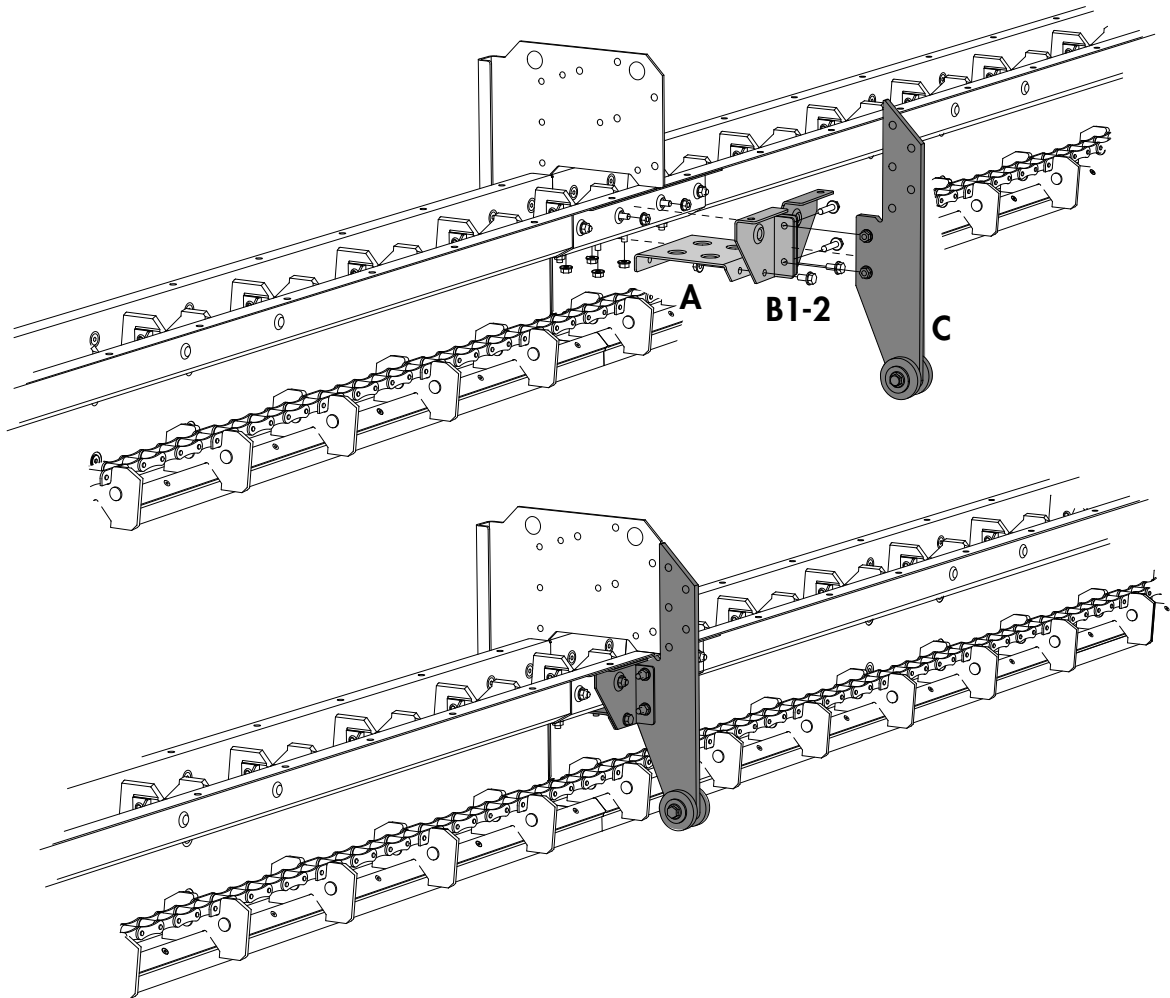
Check the conveyor chain after 50 operating hours. See separate maintenance instructions for information on maintenance.



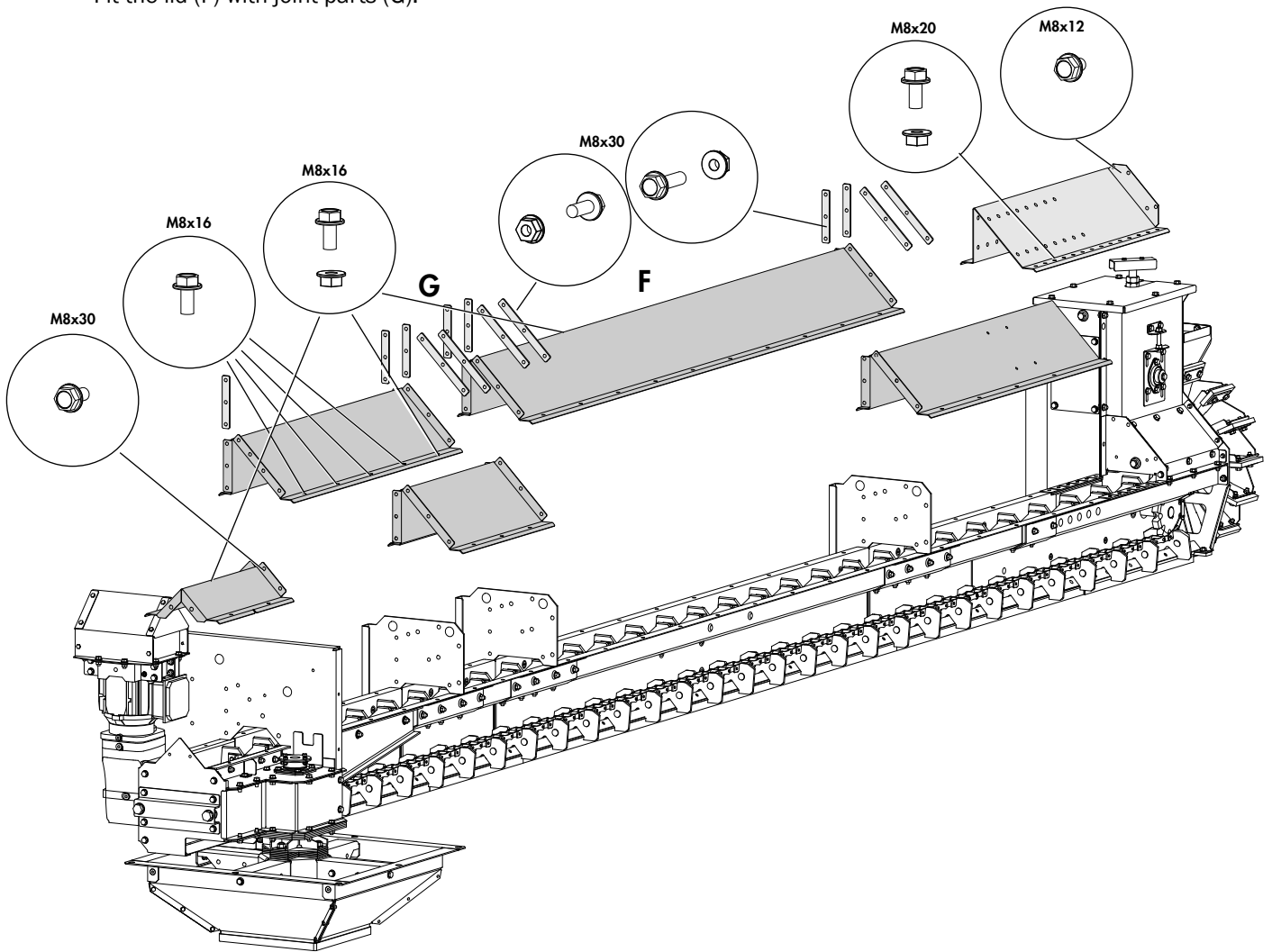
8. Applies if support wheel shall be fitted:

Fit the parts (A-C) at the central joint on the machine before the lid is fitted.
Screws fitted in the machine shall be re-used.

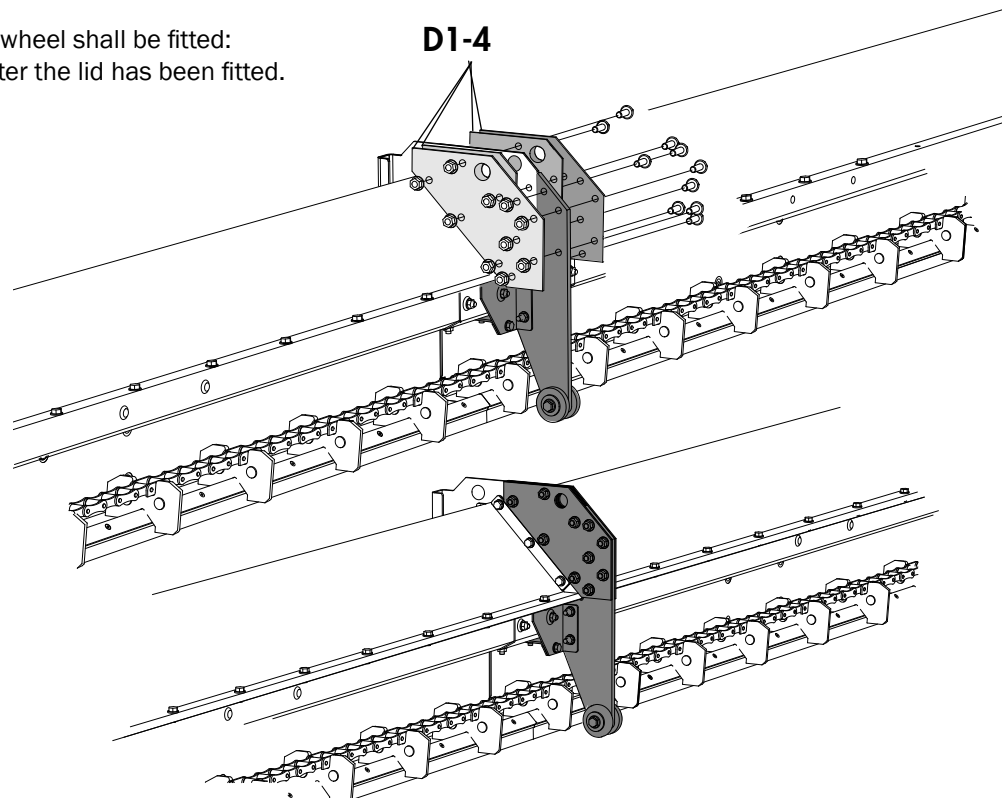
NB! The wheel on part (C) only reaches down to the floor when the silo is full
and the machine is loaded with grain.



9.
Fit the lid (F) with joint parts (G).



10. Applies if support wheel shall be fitted:
Fit the parts (D1-4) after the lid has been fitted.



11. Applies if support wheel shall be fitted:

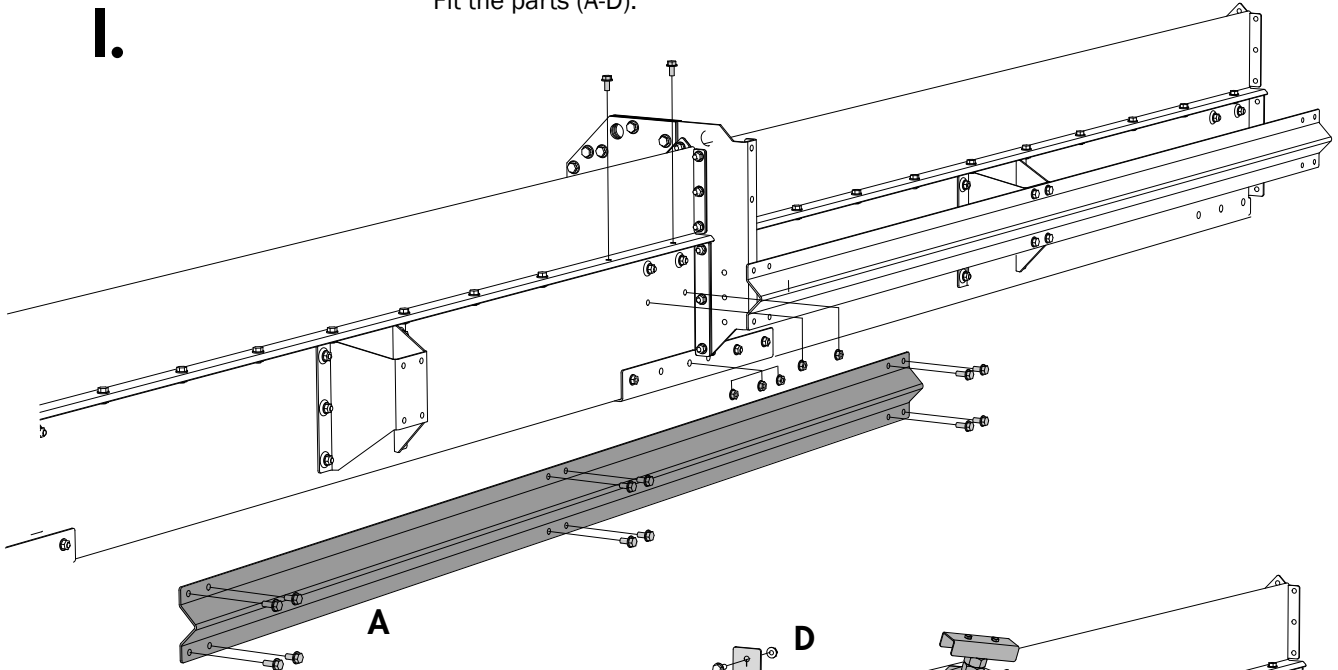
11-I.

Remove the part (A) and screws in accordance with the illustration.

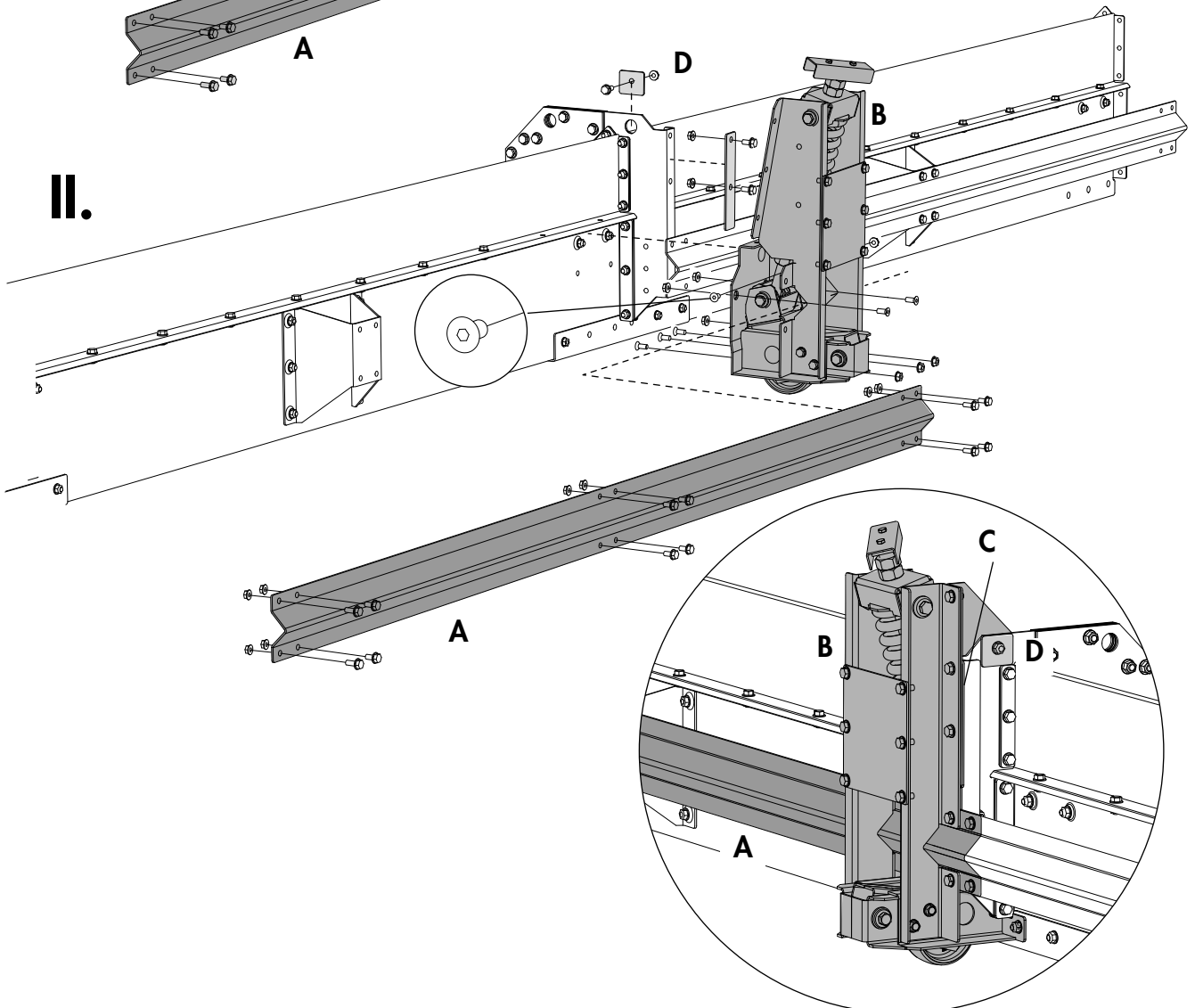
11-II.

Fit the parts (A-D).

I.



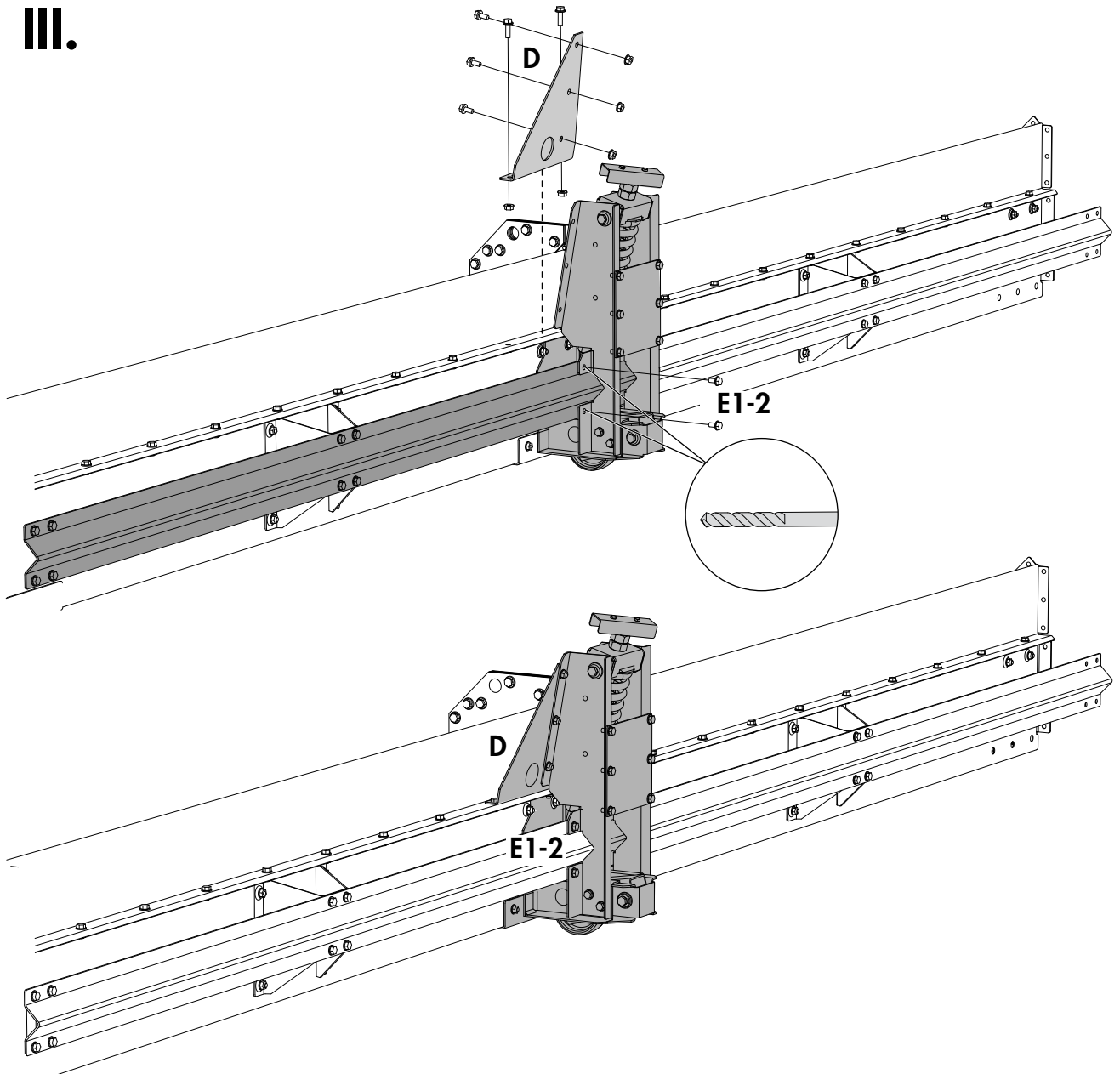
II.



11-III.

Drill holes in the part (A) in order to fit the screw (E1-2). Fit the part (D).

III.



12.

The rotation guard (P) stops the conveyor when it has run one revolution in the silo.

 **WARNING!**

All electrical equipment is to be connected by a qualified electrician. See separate connecting directions for electronics.

 **IMPORTANT!**

Ensure that the rotation guard is engaged during operation.

12-I.

Set the machine in its start/stop position (just behind the intermediate outlet hoppers).

12-II.

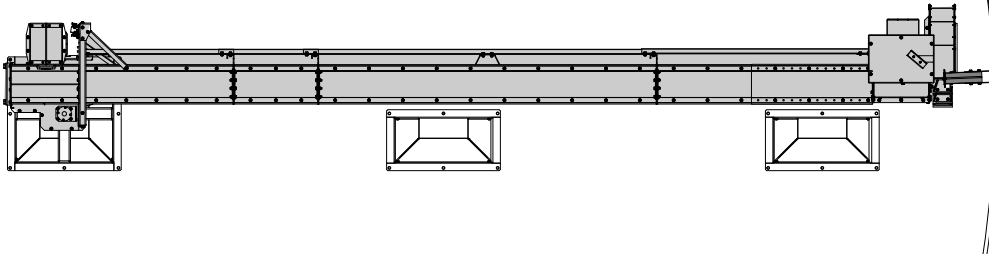
 **IMPORTANT!**

Raise the machine to its maximum height. See the next chapter "Settings".

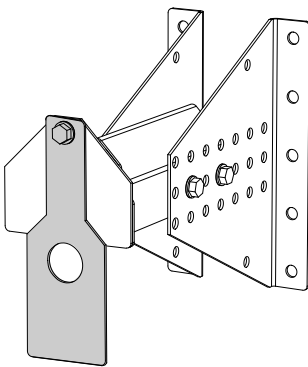
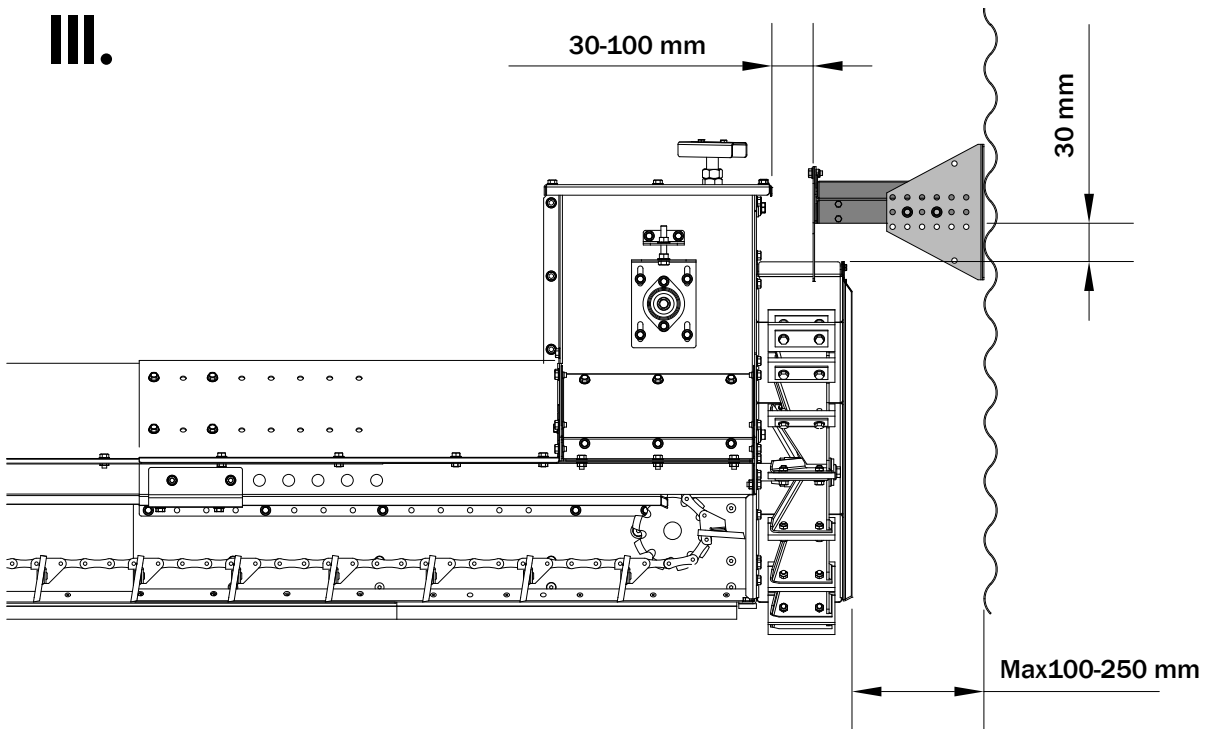
12-III.

Position the rotation guard (P) in accordance with the dimensions in the illustration. The rotation guard's bracket has holes that allow adjustments to the position of the rotation guard in both height and depth.

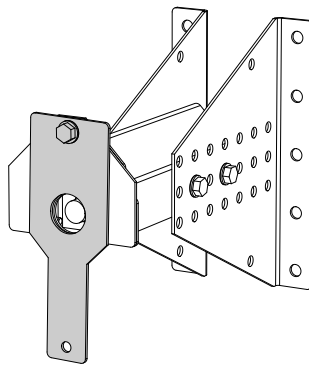
I.



III.



NC



NO

Height setting for the forward driving end/support wheel

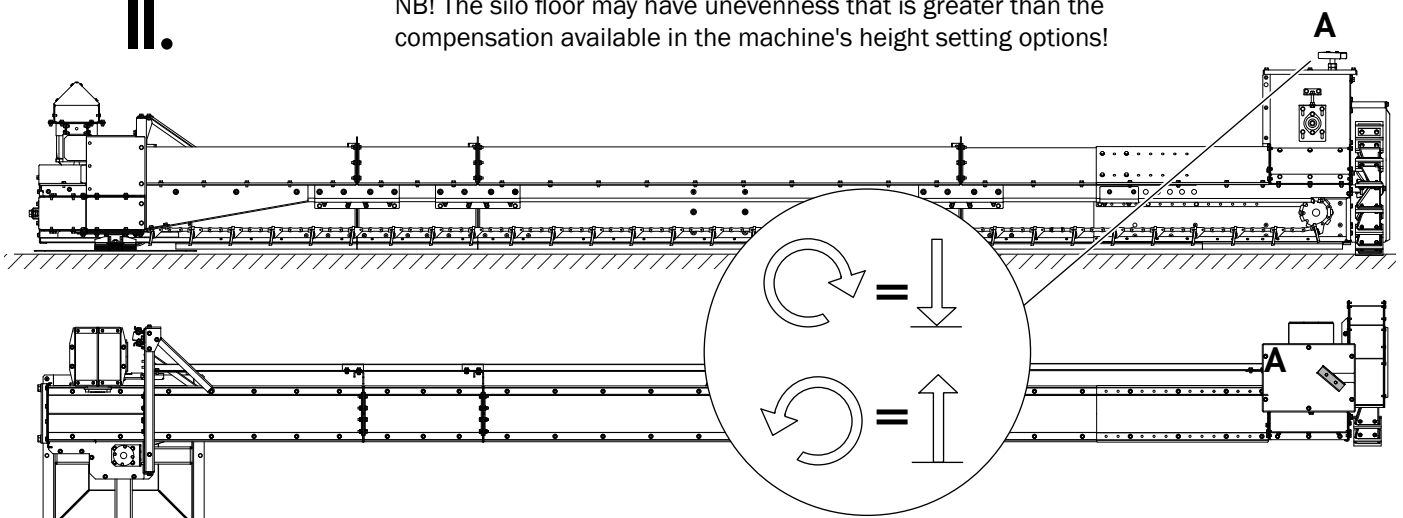
⚠ **IMPORTANT!**

Adjust the height of the forward driving end/support wheel so that the machine/sweep moulding is running horizontally along the silo floor. Turn the height adjustment knob (A) clockwise in order to lower, or anticlockwise to raise.

NB! Operate the machine (by hand) one revolution in the silo in order to check that the height setting works for the whole silo floor. If there is unevenness then the height setting may need to be adjusted slightly in order that the forward driving and sweep effect should be as efficient as possible throughout the silo. In some cases, the drive end's height may also need to be adjusted, see the chapter "Assembling the machine".

II.

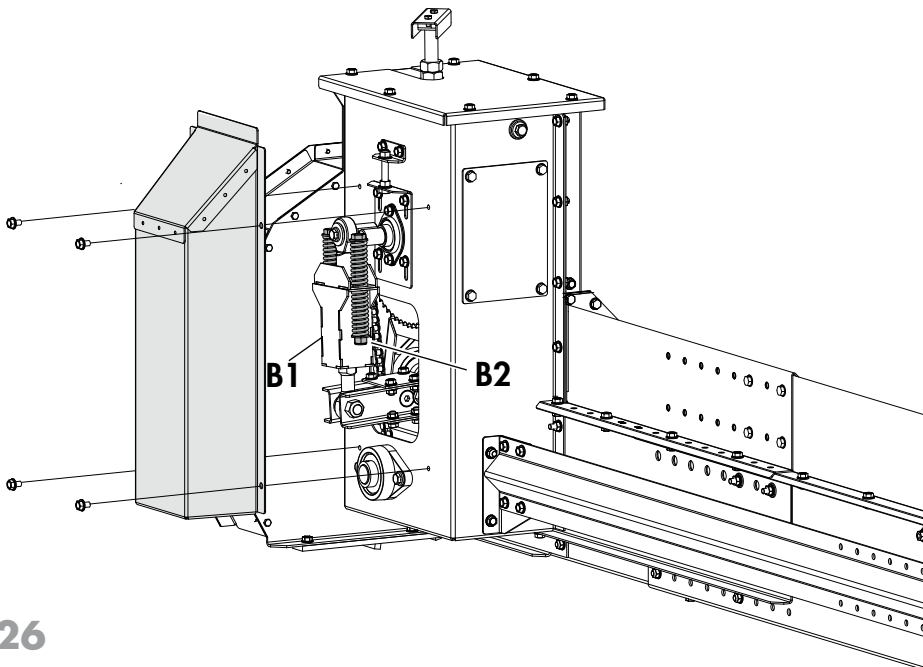
NB! The silo floor may have unevenness that is greater than the compensation available in the machine's height setting options!



Forward driving setting for the forward driving wheel

The forward driving wheel's tractive force can be increased/decreased if required by tensioning/slackening the connecting rod's spring screws (B1-2). If the forward driving wheel slips then the springs are tensioned too much. If the machine does not drive forward then they are too loosely tensioned.

NB! Tension/slacken evenly across the spring screws.



Holes for fitting electrical connection components and routing-through of cables are located on the drive end's frame plate (A).

NB! The instructions below are only assembly/positioning instructions and not electrical connection instructions.

⚠ WARNING!

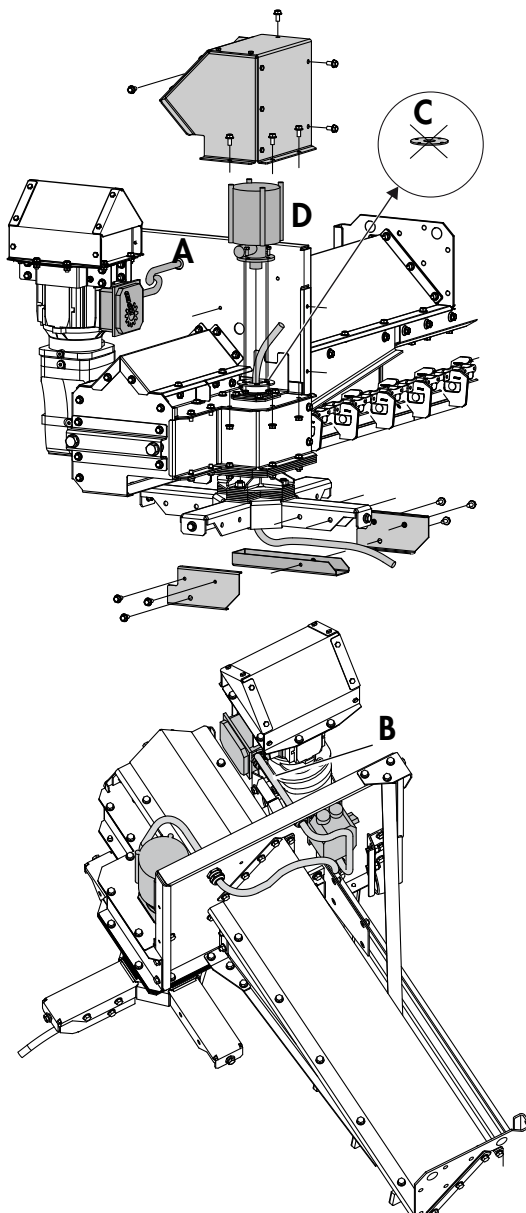
- All electrical equipment is to be connected by a qualified electrician. See separate connecting directions for electronics.

⚠ IMPORTANT!

- Ensure that the cable coil (B) is long enough to be able to tension the conveyor chain (pull the angle gear back towards the end of the drive end).
- Avoid having loose hanging cables and protect them from moving parts.
- Ensure that all protectors for cables and electrical components are fitted.

Slip ring

NB! The cover (C) (for cable entry) must not be used when fitting the slip ring (D).





SKANDIA ELEVATOR AB

KEDUMSVÄGEN 14, ARENTORP
S-534 94 VARA, SWEDEN

PHONE +46 (0)512 79 70 00
FAX +46 (0)512 134 00

INFO@SKANDIA-ELEVATOR.SE
WWW.SKANDIA-ELEVATOR.SE