



BERNINA Q 24 | Q 20

Frame Mounting Manual



Contents

IMPORTANT SAFETY INSTRUCTIONS	4
1 My BERNINA	7
1.1 Key to signs	7
2 Assembling the Frame	8
2.1 Overall view	8
2.2 Overview components	9
2.3 Unpacking the delivery	9
2.4 Delivery content of small parts for assembling the Frame	10
2.5 Basic frame	14
Screwing feet to the legs	14
Adjusting the height of the Frame	15
Adjusting the height of the Frame corresponding to the height of the user	16
Adjusting the length of the legs	16
Connecting the legs with the lower bar	17
Assembling the back bar	19
Assembling the front bar	23
2.6 Rail supports	26
Assembling the rail supports	26
Adjusting the side parts for the BERNINA Q 20 (with the Q 24 they are already adjusted)	28
2.7 Table tops	28
Attaching the angles at the rear crossbar	28
Assembling the angles at the front crossbar	29
Assembling the shelf panels	29
2.8 Frame	31
Aligning the Frame	31
2.9 Tracks	32
Assembling the rear track	32
Assembling the front track	33
2.10 Top and backing rail	35
Assembling the top rail	35
Assembling the backing rail	37
2.11 Carriage and machine	39
Assembling the carriage and the parking position magnet	39
Attaching the stand profiles with the stand profile kit to the bottom side of the machine	41
Mounting the roller pairs to the stand profiles	45
Mounting the front stand profile	46
Mounting the rear stand profile	48
Positioning of the machine	49
2.12 Dead bar and take-up rail	51
Attach the dead bar	51
Attaching the Take-up rail	52
Assembling the handwheel of the Take-up rail	53
2.13 Leaders and side clamps	55
Basic information on the attachment of the leaders	55

	Attaching the Backing leader.....	56
	Attaching the Take-up leader.....	57
	Attaching the Top leader.....	57
	Attaching the side clamps.....	58
3	Attachment.....	60
3.1	Detailed illustration of screws, washers, nuts and slot nuts.....	60
3.2	Servicing and cleaning the Frame and the carriage.....	60
	Checking and cleaning the Frame.....	60
	Checking and cleaning the carriage.....	61
3.3	Disposal.....	61
	Disposing the Frame.....	61
	Index.....	62

Edition notice

Text, Setting and Layout

BERNINA International AG

Photos

Patrice Heilmann, Winterthur

BERNINA International AG, Steckborn

Order number

2015/06 en 0365655.0.04

2nd Edition

Copyright

2014 BERNINA International AG

All rights reserved: For technical reasons and for the purpose of product improvements, changes concerning the features of the machine can be made at any time and without advance notice. The supplied accessories can vary depending on the country of delivery.

IMPORTANT SAFETY INSTRUCTIONS

Please be aware of the following basic safety instructions when using your Frame. Before using the Frame, read instruction manual of the Frame and the separate instruction manual of the BERNINA Q 20 / Q 24 carefully.

Danger

To reduce the risk of electrical shock:

- Never leave the Frame unattended as long as it is plugged in.
- Always unplug the machine from the electrical outlet immediately after using and before cleaning.

Protection against LED radiation:

- Do not view the LED light directly with optical instruments (e.g. magnifier). The LED light corresponds with protection class 1M.

WARNING

To reduce the risk of burns, fire, electric shock or injury to persons:

- The packings of the machine and the Frame are bulky and heavy. That's why they should only be carried by the help of another person.
- Position the packings and the single part so that they lay/stay upright solidly and can't topple over.
- To assemble the Frame and the machine, at least 2 adult people are needed.
- While assembling the single and small parts, be careful that they are out of the reach of children (choking hazard)!
- During the assembly be careful that you don't pinch your fingers.
- Use this Frame only for purposes as described in this manual.

- Do not use the Frame outdoors.
- Do not use the Frame as a toy. Close attention is necessary when this machine is used by or near children.
- The Frame can be used by children older than 8 or by people with reduced physical, sensory or mental capabilities or if there is a lack of experience and knowledge how to operate the Frame as long as they are supervised or have been given instruction concerning the responsible use of the appliance and are aware of the involved risks.
- Children are not allowed to play with the Frame and the machine.
- Cleaning and maintenance work must not be carried out by children unless they are supervised.
- Never operate this machine if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Contact the nearest authorized BERNINA dealer to arrange further details.
- Only use accessories recommended by the manufacturer.
- Never insert any objects into any openings of the Frame.
- Do not operate the Frame where aerosol products (sprays) or oxygen are being used.
- Keep fingers away from all moving parts. Special care is required around the quilting needle.
- Keep fingers away from all moving parts. Special care is required in the area of the take-up rail, the top rail and the backing rail as well as around the carriage.
- Turn power switch to «0» (off) when making any adjustments in the needle area, such as threading the needle, changing the needle, threading the bobbin thread or changing the presser foot, etc.

- To disconnect, turn power switch to «0» (off), then remove the plug from the outlet. Do not unplug by pulling the cord, instead grasp the plug to pull it from the outlet.
- Always disconnect the power plug from the electrical outlet when cleaning and maintenance adjustments, which are mentioned in the instruction manual, are carried out.
- This machine is provided with double insulation (except USA/Canada). Use only identical replacement parts.

SAVE THESE INSTRUCTIONS!

Appropriate use

Your BERNINA machine with the Frame is conceived and designed to pursue ambitious hobby performance. It answers the purpose to quilt fabrics as it is described in this instruction manual. Any other use is not considered appropriate. BERNINA assumes no liability concerning consequences resulting from an inappropriate usage.

1 My BERNINA

1.1 Key to signs

 **DANGER** Labels a danger with a high risk which can lead to death or severe injury unless it is avoided.

 **WARNING** Labels a danger with a medium risk which can lead to death or severe injury unless it is avoided.

 **CAUTION** Labels a danger with a low risk which can lead to light or medium injury unless it is avoided.

NOTICE Labels a danger which can end up with damage unless it is avoided.

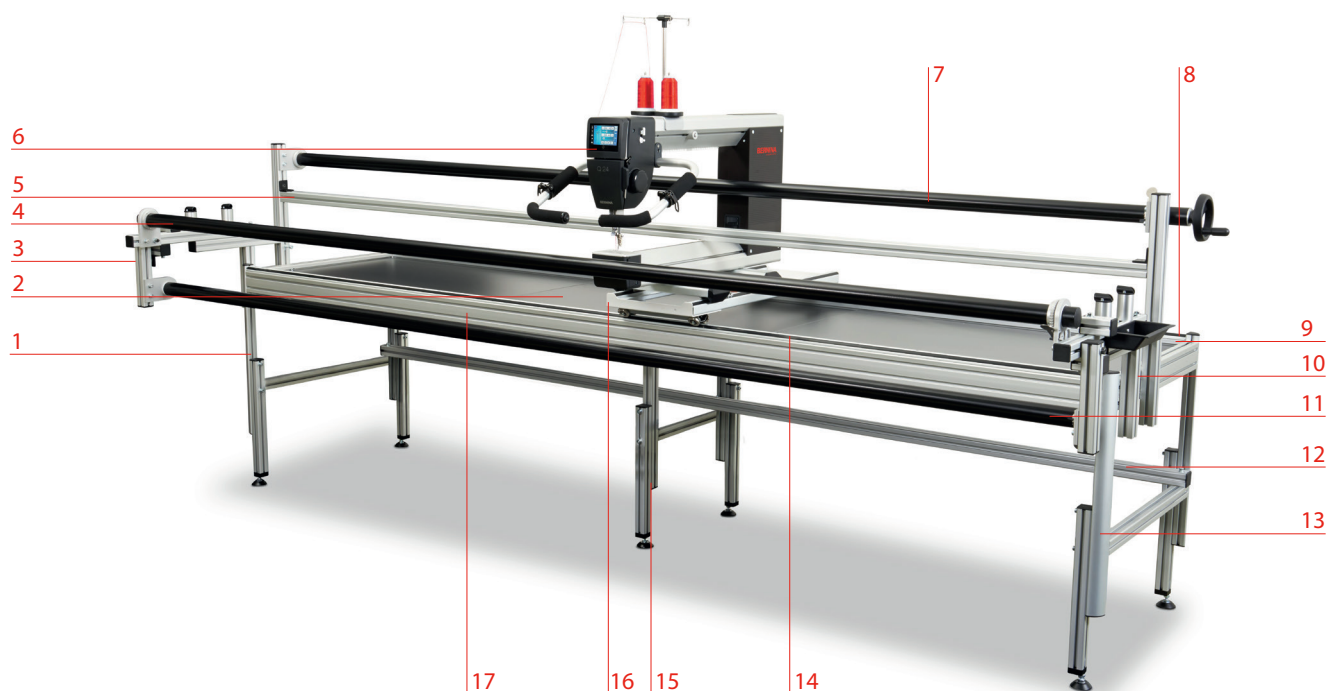


Tips provided by BERNINA **Quilt experts** can be found next to this sign.

By means of illustration, sample pictures are used in this instruction manual. The machines as well as the accessories shown in the pictures may vary from the delivery content of your machine.

2 Assembling the Frame

2.1 Overall view



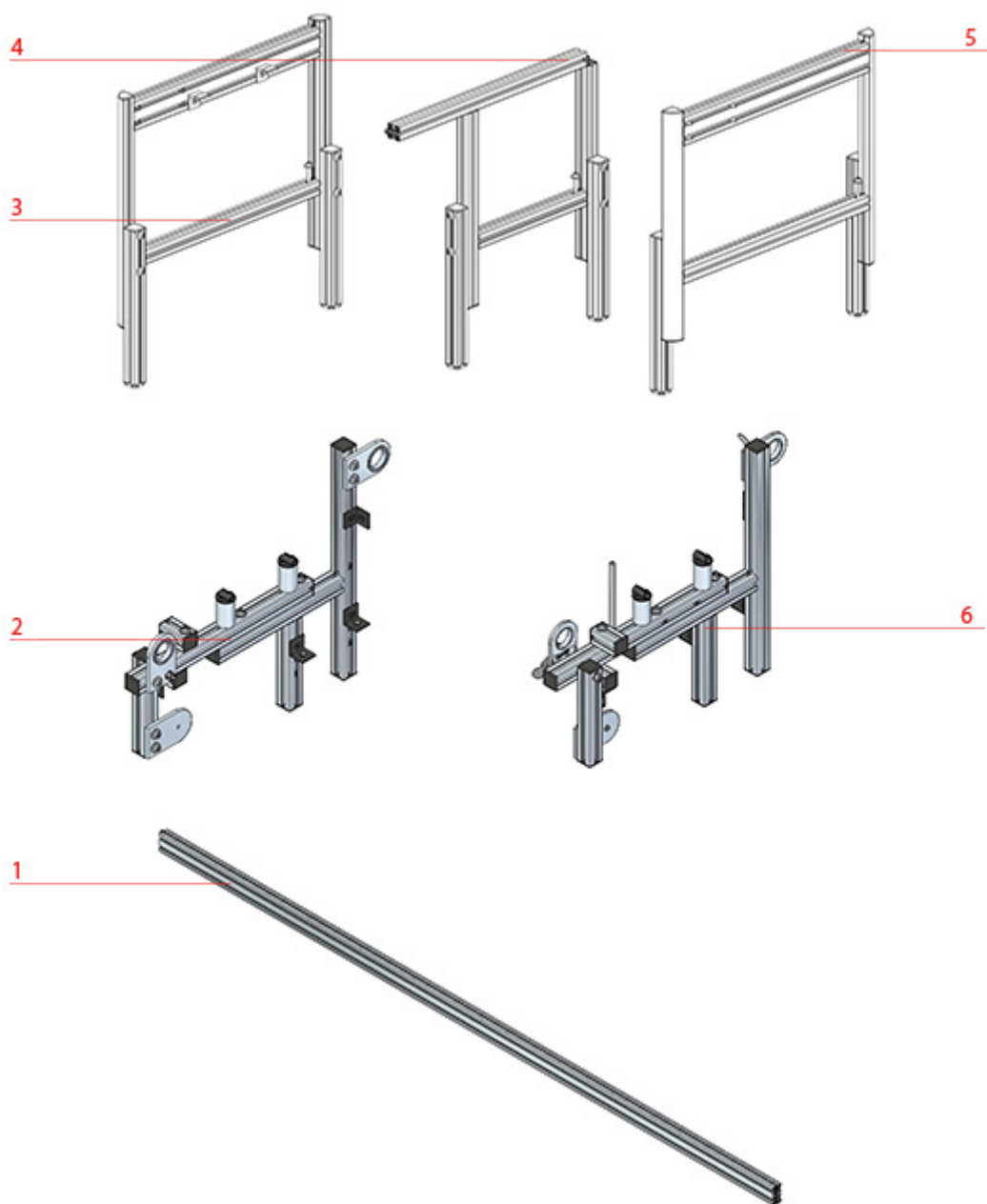
- | | | | |
|---|-------------------|----|--------------------|
| 1 | Left legs | 10 | Right rail support |
| 2 | Table tops | 11 | Top rail |
| 3 | Left rail support | 12 | Lower bar |
| 4 | Backing rail | 13 | Right legs |
| 5 | Dead bar | 14 | Tracks |
| 6 | Machine | 15 | Center legs |
| 7 | Take-up-rail | 16 | Carriage |
| 8 | Tracks | 17 | Front bar |
| 9 | Back bar | | |

Sequence of the assembly stages:

- Building up the base frame (see page 14).
- Assembling the rail supports (see page 26).
- Assembling the table tops (see page 28).
- Assembling the tracks (see page 32).
- Assembling the top and backing rail (see page 35).
- Assembling the carriage and the machine (see page 39).
- Assembling the dead bar and the take-up rail (see page 51).
- Attaching the leaders and side clamps (see page 55).

2.2 Overview components

The following illustrations show the most important components and parts for assembling the Frame. This facilitates the construction which is described in the following chapters.



- | | | | |
|---|----------------------------------|---|-----------------------------------|
| 1 | Bars (3 pieces) | 4 | Legs in the center |
| 2 | Side part/Rail support left side | 5 | Legs on the right side |
| 3 | Legs on the left side | 6 | Side part/Rail support right side |

2.3 Unpacking the delivery

The standard delivery content of a BERNINA Q 20 / Q 24 Frame Version contains basically 3 cardboard boxes as outer packaging. In some cases the number of cardboard boxes may vary slightly depending on the kind of delivery and the version.

Delivery content:

Cardboard box	Content	Size (cm)	Weight
1	Machine Q 20 / Q 24 including standard accessories	Ca. 112 x 77 x 42	Ca. 40 kg
2	Short parts for Frame and small parts Accessories carriage Q 20/ Q 24	Ca. 120 x 80 x 70	Ca. 75 kg
3	Long parts for Frame	Ca. 350 x 30 x 24	Ca. 66 kg

Procedure when unpacking:

- > Open the packaging and unpack the single components.
- > Please inspect the individual components for any damages.
- > Check whether the delivery content is complete.
- > If some components are missing or if questions concerning the assembly arise, contact your specialized BERNINA dealer immediately.

2.4 Delivery content of small parts for assembling the Frame

Following all small parts, which are included in the cardboard box 2 (short parts frame and small parts) are listed and illustrated. They are stored in two big plastic bags. Therefore the delivery content can be checked. Every small part has been given a corresponding abbreviation (T1, S3, W4 etc.). These abbreviations are also used in the detailed assembly instruction of the following chapters and serve as an easy identification and allocation of the single small parts.

For an easy allocation of the bags and their contents some of the bags are labeled.

Packaging	Number	Content/ Component	Abbreviation	Comment
Bag big 1	9	Allen keys (in a set)	T1	
	3	Open-end wrench (6x7, 13x14, 13x17)	T2	
Bag 1A	1	Cylinder bolt M8x50	S2	Allen
	1	Washer M8	W3	
	6	Slot nut M6 with ripped lock washer and cylinder bolt (M6x12) screwed	SN1	Allen SN1 with screw and washer
Bag 1B	8	Cylinder bolt M8x40	S1	Allen

Packaging	Number	Content/ Component	Abbreviation	Comment
	8	Ripped lock washer M8	W2	
	2	Cylinder bolt M8x50	S2	Allen
	2	Washer M8	W3	
Bag 1C	6	Base screwed with nut	M1	
	6	Washer	W1	
Bag 1D	8	Slot nut M6 with ripped lock washer and cylinder bolt (M6x12) screwed	SN1	Allen

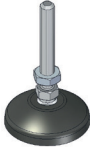
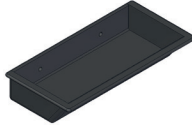


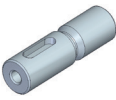




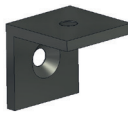


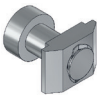



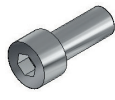
Packaging	Number	Content/ Component	Abbreviation	Comment
Bag big 2	2	Tray bowls, black	M2	
Bag 2A	1	Magnet round	M8	
	1	Rubber cap for magnet, black	M9	
	1	Cylinder bolt M8x40	S1	Allen
	1	Countersunk head screw M4x45, black	S5	Allen
	1	Nut M4	N1	
Bag 2B	4	Rounded head screw M5x12	S7	Allen
Bag 2C	1	Handwheel, black	M3	
Bag 2C1	1	Countersunk head washer D25	W4	
	1	Countersunk head screw M5x10	S3	
	1	Locking piece	M4	







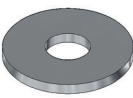
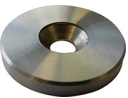


Packaging	Number	Content/ Component	Abbreviation	Comment
Bag 2C2	1	Winder bolt	M5	Wheel included
Bag 2D	2	Set ring (with screwed headless screws)	M6	
	3	Ratchet wheel (with screwed headless screws)	M7	
Bag 2E	2	Cylinder bolt M8x20	S4	Allen
Bag 2F	16	Cylinder bolt M4x16	S6	Allen
Bag 2G	8	Metal corner, black	M10	
Bag 2G1	10	Countersunk head screw M8x14, black	S8	Allen
	14	Strips of felt selfadhesive, black	M11	

Illustrations small parts for assembling the Frame



In addition to the following partly schematic illustration of the parts, you can also find two illustrations in the attachment showing the enclosed screws, washers, nuts and slot nuts. These illustrations serve as an additional support to assign the parts clearly and to display the size comparison among them.

Category	Illustration	Illustration	Illustration	Illustration
Miscellaneous - M	M1 	M2 	M3 	M4 
	M5 	M6 	M7 	M8 
	M9 	M10 	M11 	
Nut - N	N1 			
Slot not - SN1	SN1 			
Screws - S	S1 	S2 	S3 	S4 

Category	Illustration	Illustration	Illustration	Illustration
	S5 	S6 	S7 	S8 
Washers- W	W1 	W2 	W3 	W4 
Tools - T	T1 	T2 		

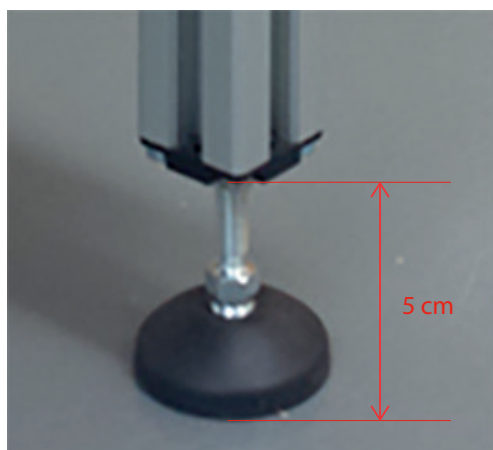
2.5 Basic frame

Screwing feet to the legs

> Following components and tools are ready:

- Center leg
- Left leg
- Right leg
- 6 feet
- 6 washers
- Open-end wrench

> Screw the feet along with the washers to the legs so that the distance between the lower edge of the profile and the lower edge of the foot is about 5cm. The feet will be adjusted individually later on to level the Frame (see page 31).



Adjusting the height of the Frame

There are two reasons why the height of the Frame needs to be adjusted:

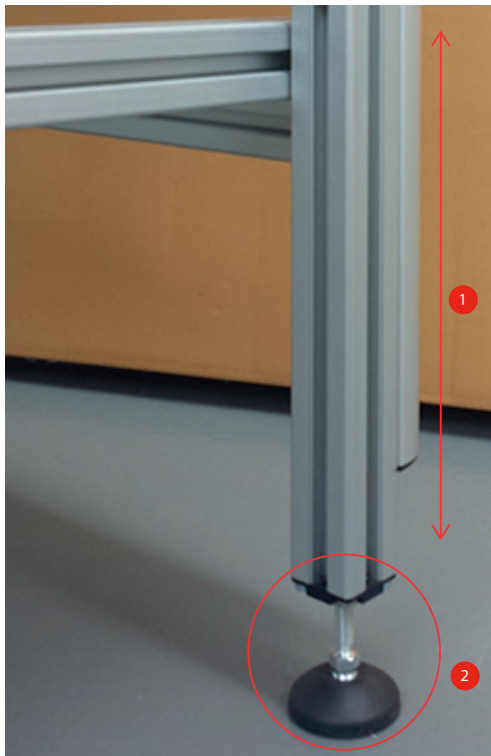
1. To adjust the height of the Frame corresponding to the user's body height (manually, without the optional hydraulic height adjustment):

- Before assembling the Frame by adjusting the legs (Length of the legs) (1).

2. To align the Frame (levelling):

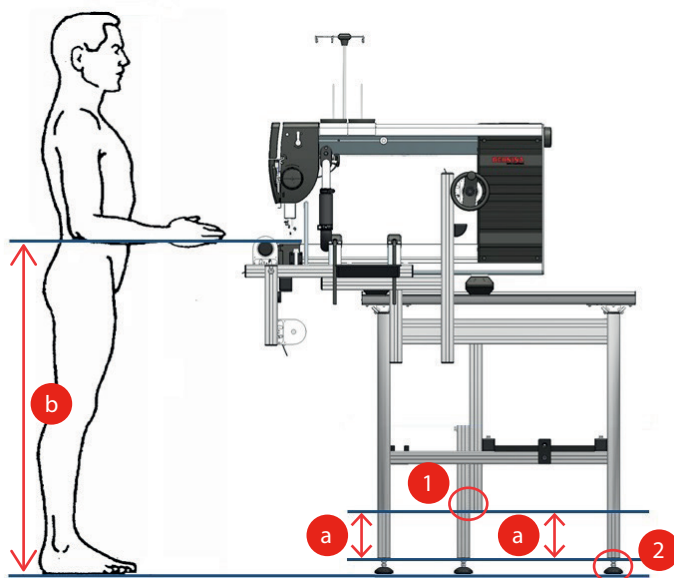
- After assembling the Frame by adjusting the height of the feet (initial position = 5 cm between the lower edge of the profile and the lower edge of the foot (2) (see page 31)

Only if both adjustments have been carried out correctly, the optimal ergonomics and the best possible quilting quality can be ensured.



Adusting the height of the Frame corresponding to the height of the user

The optimal working height is achieved when the BERNINA Quilt Frame has been adjusted so that the lower edge of the user's elbow is in line with the stitch plate respectively with the upper edge of the backing rail. The stitch plate and the upper edge of the backing rail are at a level.



As a check: With most people the belly button is in line with the lower edge of the elbow. This is rated as the guideline to adjust the height of the Frame ergonomically.

When delivered the Frame is adjusted to a person featuring the height of the elbow at about 100 cm / ca. 39 inch. This is in accordance with a person who is about 162 to 167 cm / ca. 64 bis 66 inch tall.

Differing size adjustments* are to be carried out in the following way:

Height of the elbow resp. the stitch plate from the floor, b (cm / inch)	Length of the leg Frame, a (cm / inch)**	Comment
95 / 37	5 / 2	
100 / 39	10 / 4	Delivery state
105 / 41	15 / 6	
110 / 43	20 / 8	
115 / 45	25 / 10	

*) It has to be considered that this serves as an approximate value. Individual preferences of the favored working position, gender-related or any other anatomic differences, the heel height of the used shoes etc. are not taken into account!

**) Length of the protruding leg profile (without screwed feet).

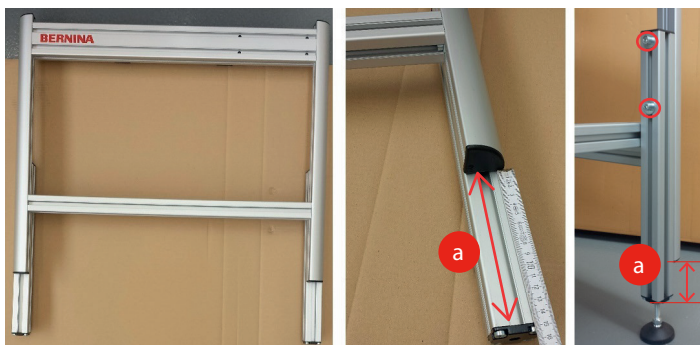
Adjusting the length of the legs

Following tools are ready:

- Allen key (T1)
- Measuring tape (not included)

> Loosen the two screws on all of the three leg elements (left, center, right) using the Allen key.

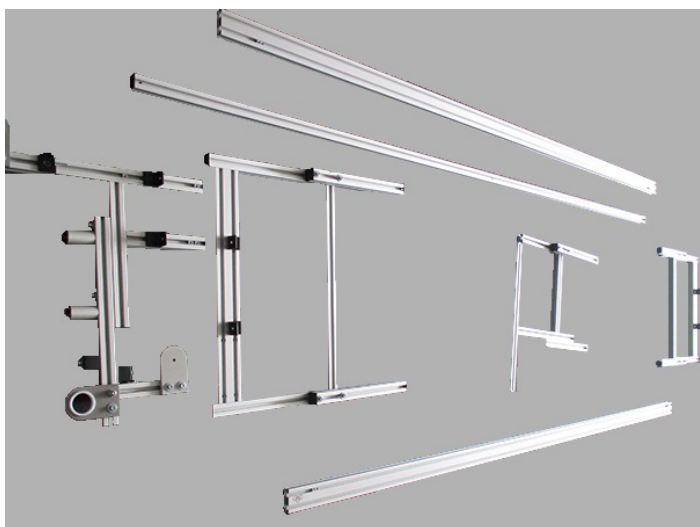
- > Readjust the legs and tighten the screws with the Allen key. Always tighten the screws using the **long** shank of the key.
- > Do this with all of the 6 legs (2 per leg element).



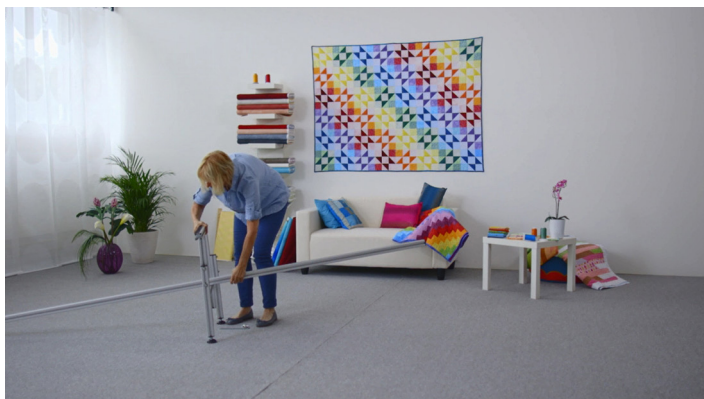
Connecting the legs with the lower bar

Following components and tools are ready:

- Lower bar
 - Center leg
 - Left leg
 - Right leg
 - 3 Screws (S2)
 - 3 Washers (W3)
 - Allen key (T1)
- > It is recommended to arrange the big parts on the floor in the correct position.



- > Adjust the lower bar, center on the center leg so that the screw hole is exactly over the preassembled slot nut.



- > Tighten the screw and its washer with the Allen key. Always tighten the screws using the **long** shank of the key.



- > Place the left edge of the lower bar on the left leg so that the screw hole corresponds with the pre-assembled slot nut.



- > Tighten the screw and its washer with the Allen key.

- > Place the right edge of the lower bar on the right leg so that the screw hole corresponds with the pre-assembled slot nut.



- > Tighten the screw and its washer with the Allen key.

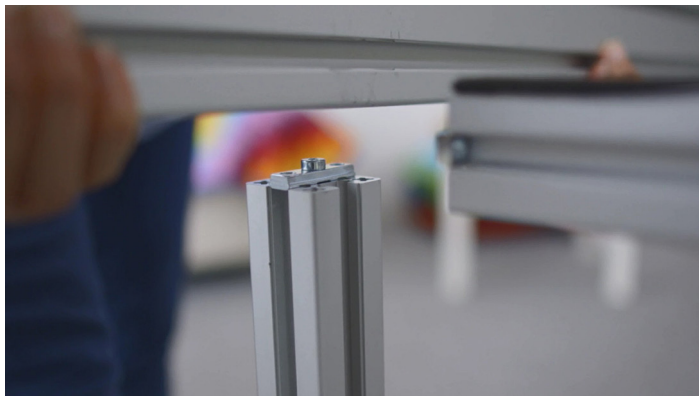
Assembling the back bar

Following components and tools are needed:

- Bar
 - 8 slot nuts (SN1)
 - Allen key (T1)
- > First loosen the longitudinal bracing on the center leg using the Allen key and move it a bit forward.



- > Position two each of four already inserted slot nuts on the left and on the right of the center leg.
- > Place the bar center on the loose end of the center leg and make sure that the inserted slot nuts point inward and that the pre-assembled bar in the groove of the bar points upward.

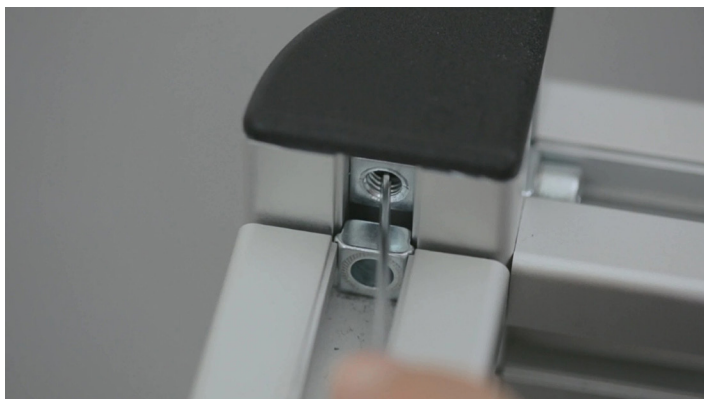


- > Put the bar into the groove of the left leg and make sure that the corners of the bar and the longitudinal bracing are flush with each other.

- > Insert the bar into the groove of the right leg and make sure that the corners of the bar and longitudinal bracing are flush with each other.



- > Insert the spring slot nut from above into the groove of the left leg and position it exactly in front of the screw hole.



- > Place the washer on the screw, insert the screw with the washer from above into the groove of the bar and tighten firmly with the Allen key. The bar and the longitudinal bracing must be at the same height.



- > Insert the spring slot nut from beneath into the groove of the left leg and position it exactly in front of the screw hole.



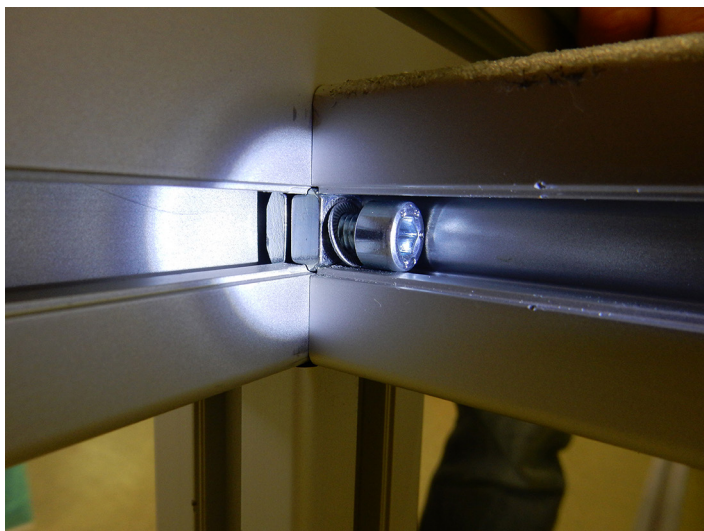
- > Place the washer on the screw, insert the screw with the washer from beneath into the groove of the bar and tighten firmly with the Allen key.
- > Repeat the last four steps on the right side.



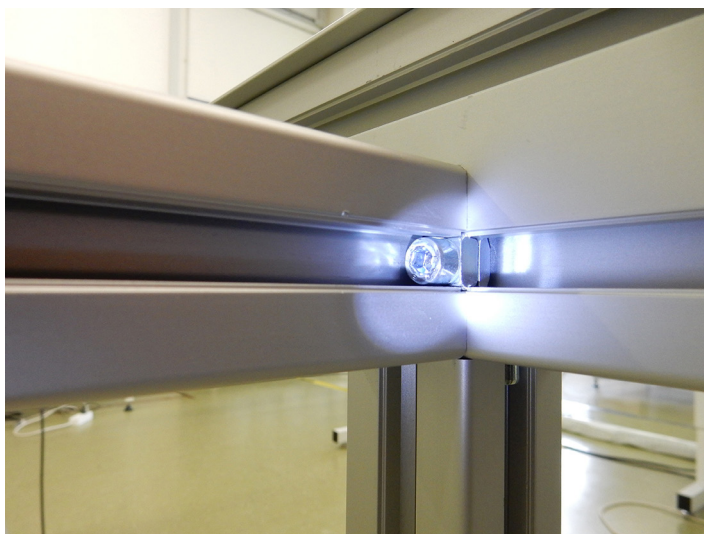
- > Insert the spring slot nut into the lower groove of the bar, on the left of the center leg and position exactly in front of the screw hole.



- > Place the washer onto the screw, insert the screw with the washer into the left groove of the center leg and tighten firmly with the Allen key.



- > Insert the spring slot nut into the lower groove of the longitudinal bracing, on the right side of the center leg and position exactly in front of the screw hole.
- > Place the washer onto the screw, insert the screw with the washer into the right groove of the center leg and tighten firmly with the Allen key.



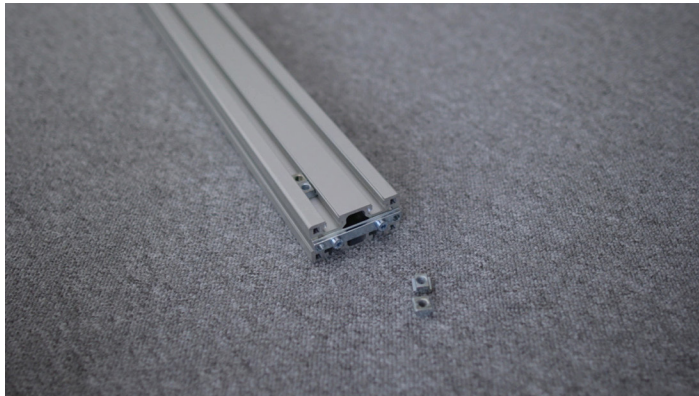
- > Insert the spring slot nut on the left and on the right next to the center leg into the lower groove of the back bar and position exactly above the screw hole.
- > Place the washer onto the screw, insert the screw with the washer into the groove of the center leg and screw tightly with the slot nut in the bar with the Allen key. Do this on the left and on the right of the center leg.



Assembling the front bar

Following components and tools are ready:

- Bar
 - 6 Slot nuts (SN1)
 - Allen key (T1)
- > Position two each of four already inserted slot nuts on the left and on the right of the center leg.



- > Put the bar centrally in front of the center leg and make sure that the inserted slot nuts point inward and that the profile is aligned upright. The pre-assembled rail in the groove of the bar has to point upwards.

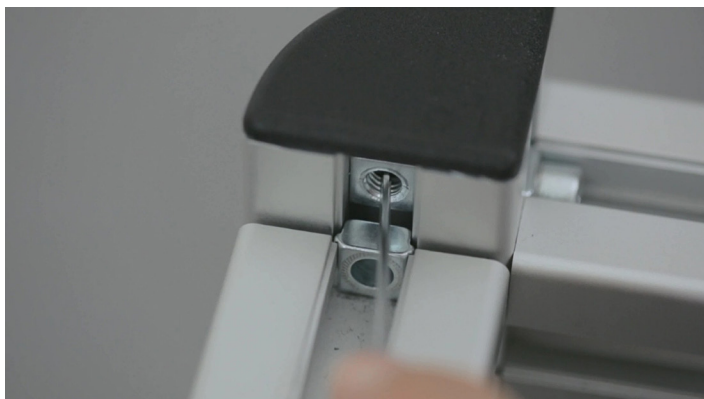


- > Put the bar into the groove of the left leg and make sure that the corners of the bar and the longitudinal bracing are flush against each other. This applies to all four corners.

- > Put the bar into the groove of the right leg and make sure that the corners of the bar and the longitudinal bracing are flush against each other.



- > Insert the spring slot nut from above into the groove of the left leg and position it exactly in front of the screw hole.



- > Put the washer onto the screw, insert the screw from above into the groove of the bar and tighten firmly with the Allen key.



- > Insert the spring slot nut from beneath into the groove of the left leg and position it exactly in front of the screw hole.

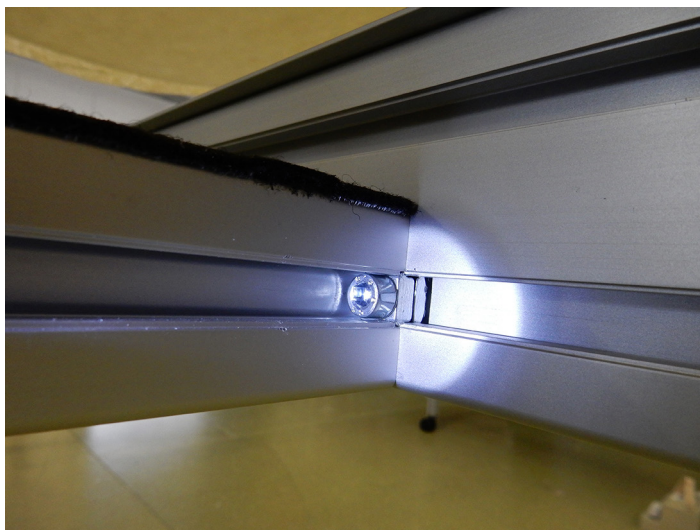


- > Put the washer onto the screw, insert the screw from beneath into the groove of the bar and tighten firmly with the Allen key.
- > Repeat the last four steps on the right side.
- > Tighten the longitudinal bracing on the center leg firmly with the Allen key.



- > Insert the spring slot nut into the lower groove of the bar, on the left side of the center leg and position exactly in front of the screw hole.

- > Put the washer onto the screw, insert the screw into the left groove of the center leg and tighten firmly with the Allen key.



- > Insert the spring slot nut into the lower groove of the bar, on the right side of the center leg and position exactly in front of the screw hole.
- > Put the washer onto the screw, insert the screw into the right groove of the center leg and tighten firmly with the Allen key.

2.6 Rail supports

Assembling the rail supports

Following components and tools are needed:

- Left rail support
 - Right rail support
 - 8 Screws (S1)
 - 8 Washers (W2)
 - Allen key (T1)
 - Level (not included)
- > Place 4 screws with washers from the inside to the outside into the screw holes of the left leg.



- > Position the left rail support from outside in front of the left leg so that the screws can be screwed with the pre-assembled spring slot nuts.

- > Tighten the screws with the Allen key slightly.



- > Push the left rail support downwards and to the front so that both angles are supported by the bar of the left legs.
- > Tighten the screws with the Allen key firmly.
- > Insert 4 screws from the inside to the outside into the screw holes of the right leg.
- > Position the right rail support from outside in front of the right leg so that the screws can be screwed with the pre-assembled spring slot nuts.
- > Tighten the screws with the Allen key slightly.
- > Push the right side part down so that both angles are supported by the bar of the right legs.

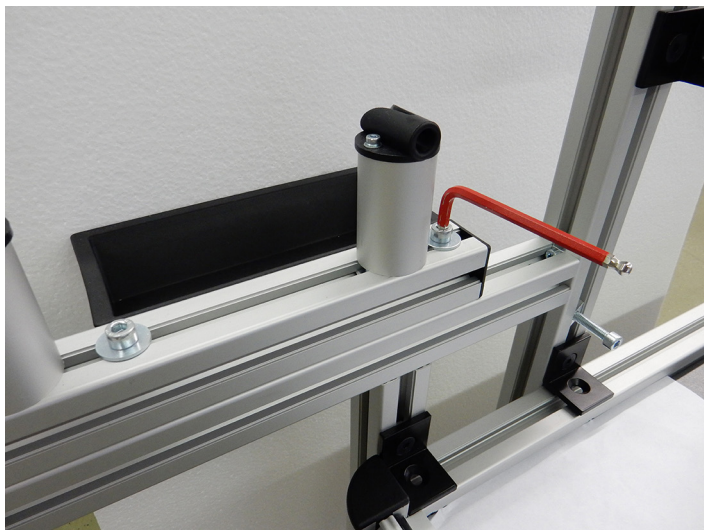


- > Tighten the screws with the Allen key firmly.

Adjusting the side parts for the BERNINA Q 20 (with the Q 24 they are already adjusted)

The following tools are needed:

- Allen key (T1)
- > Loosen both screws on the top part of the left rail support with the Allen key.



- > Push the front part of the movable bracing inwards as far as it will go against the vertical bar.



- > Tighten both screws with the Allen key.
- > Repeat the last three steps for the right side.

2.7 Table tops

Attaching the angles at the rear crossbar

Following components and tools are needed:

- 4 metal angles (M10)
 - 4 offset screws (S8)
 - Allen key (T1)
- > Position the angle above the slot nut so that the screw hole is exactly over the thread.

- > Insert the offset screw into the screw hole and tighten it carefully with the Allen key so that the angle can still be moved.



- > Go on doing this with the other angles.

Assembling the angles at the front crossbar

Following components and tools are needed:

- 4 metal angles (M10)
 - 4 offset screws (S8)
 - Allen key (T1)
- > Position the angle above the slot nut so that the screw hole is exactly over the thread.
 - > Insert the offset screw into the screw hole and tighten it carefully with the Allen key so that the angle can still be moved.



- > Repeat with the other angles.

Assembling the shelf panels

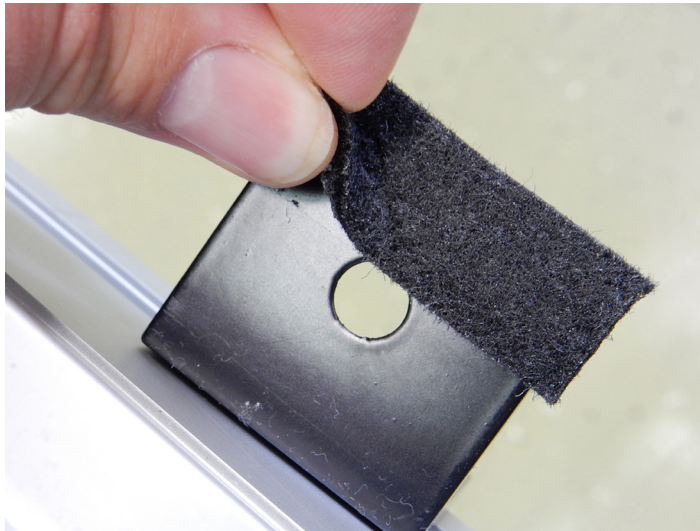
Following components and tools are needed:

- 3 Panels
- Allen key (T1)
- 12 felt pads (M11)
- Measuring tape (not included)

- > Push the angles to the following positions and tighten them with the Allen key. The distance to the shelf ends should be about 10cm so that the shelves are well supported.



- > Attach the felt pads to the pre-assembled as well as to the just mounted angles.



- > Position the table tops on the angles so that they are well supported.



- > If necessary, loosen the angles carefully and reposition them.

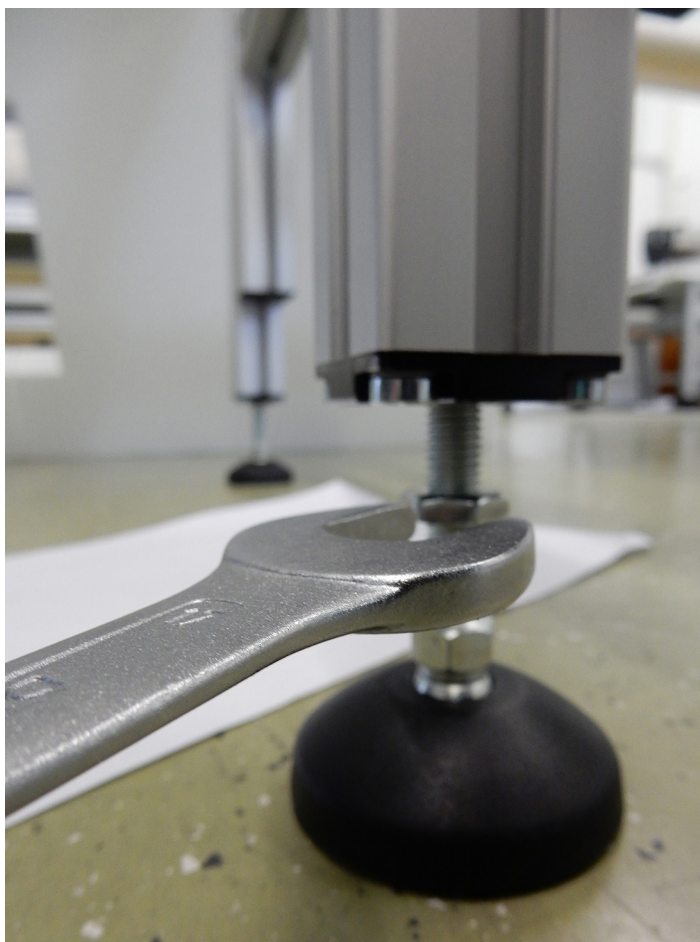
2.8 Frame

Aligning the Frame

The height adjustment of the feet of the BERNINA Quilt Frame is carried out after the assembly and serves the purpose to level the Frame on account of the floor conditions. The initial position is 5 cm (between lower edge of the profile and lower edge foot). Every foot can be adjusted upwards or downwards.

The following tools are needed:

- Open-end wrench (T2)
 - Level (not included)
 - Measuring tape (not included)
- > Bringing the Frame to its the final position for quilting.
 - > Screw in the feet of the center legs so that they are lifted from the floor.
 - > Align the Frame horizontally and vertically using the level and if necessary, screw in or unscrew the feet on the left or on the right side.
 - > Unscrew the feet of the center legs again so that they are in firm contact with the floor and the Frame is supported well.
 - > Tighten the locking screw of all the six feet using the open-end wrench.



2.9 Tracks

Assembling the rear track

Following components and tools are needed:

- 8 screws (S6)
 - 1 Track
 - 2 black plastic strips
 - Allen key (T1)
- > Position the track next to the rear bar.



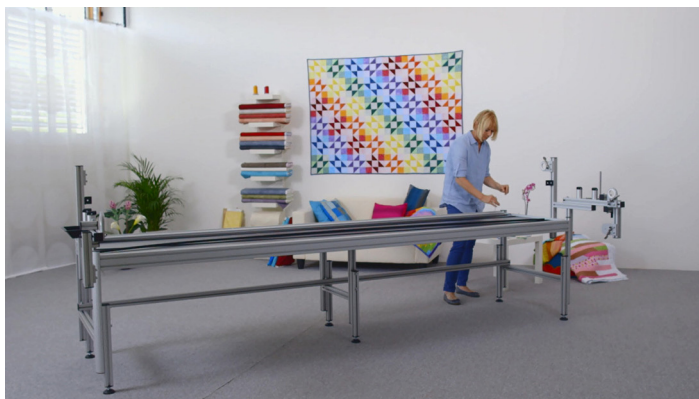
- > Align the screw holes of the pre-assembled track, which is in the upper groove of the rear bar, parallel to the screw holes of the track.



- > Position the track on the rear crossbar so that the screw holes are exactly over the threads of the preassembled track. The flat part of the track points inwards.



- > Using the Allen key, insert the screws one by one and tighten 6 of them slightly, starting at one end. Do not tighten the two other screws at the opposite end yet!



- > Lift the track at the end of the loose screws carefully and insert the black plastic strips.



- > Tighten the two last screws slightly with the Allen key.

Assembling the front track

Following components and tools are needed:

- 8 screws (S6)
- 1 Track
- 2 Black plastic strips

- Allen key (T1)
- > Position the track next to the back bar.
- > Align the screw holes of the pre-assembled rail, which is in the upper groove of the front bar, parallel to the screw holes of the track.
- > Position the track on the back bar so that the screw holes are exactly over the threads of the preassembled track. The flat part of the track points inwards.



- > Using the Allen key, insert the screws one by one and tighten 6 of them slightly, starting at one end.



- > Lift the track at the end of the loose screws carefully and insert the black plastic strips.



- > Loosen all the screws with the Allen key.
- > Pull both tracks outwards to the stop and then tighten the all the screws of the two tracks.

2.10 Top and backing rail

Assembling the top rail



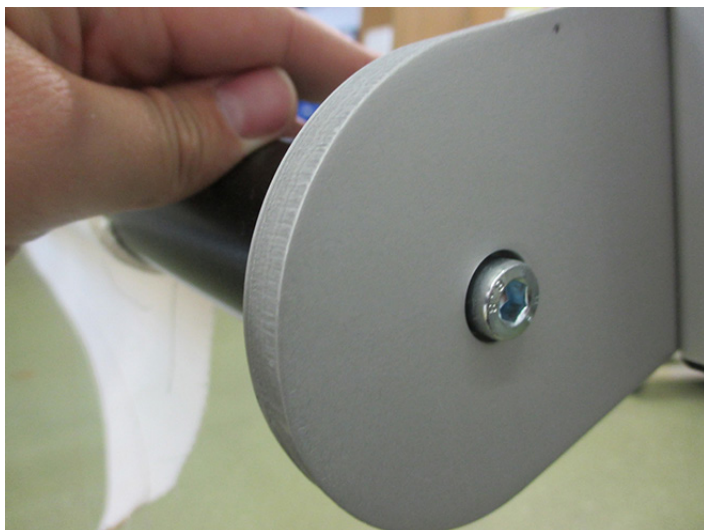
Please note: In some of the following pictures the leader fabrics has already been added to the bars. But in this instruction they will be attached not until Chapter 3.13 (Leader and side clamps). This facilitates the setup.

Following components and tools are needed:

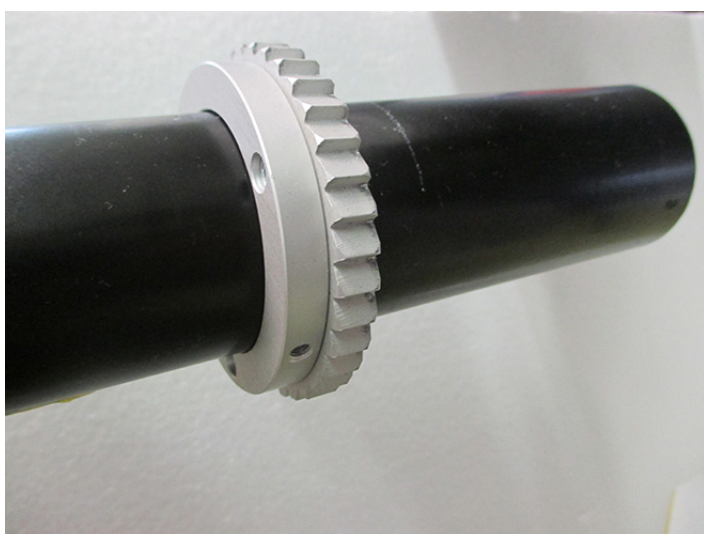
- Top rail
 - Ratchet wheel (M7)
 - 2 Screws (S4)
 - Allen key (T1)
 - Stool or any object of the same height (not included)
- > Place the stool under the right side part.
- > Place the top rail with the inside pole on the right side of the stool.



- > Position the top rail and the inside pole with the pre-assembled plastic lids exactly in front of the screw hole in the lower rail support of the left side part.



- > Pull the ratchet wheel over the right end of the top rail. The cogs of the ratchet wheel point to the front (not to the back) when you stand in front of the Frame! This means that the flange ring with the screws points inwards and not towards the end of the rail.



- > Position the top rail and the inside pole with the pre-assembled plastic lids exactly in front of the screw hole in the lower rail support of the right side part.



- > Position the ratchet wheel below the ratchet brace.
- > Tighten the screws of the ratchet wheel with the Allen key, making sure that the top rail runs smoothly and doesn't block.



Assembling the backing rail

Following components and tools are needed:

- Backing rail
 - Set ring (M6)
 - Ratchet wheel (M7)
 - Allen key (T1)
- > Pull the set ring over the left side of the backing rail.



- > Pull the ratchet wheel over the right end of the backing rail. The cogs of the ratchet wheel point to the back (not to the front) when you stand in front of the Frame! This means that the flange ring with the screws points inwards and not towards the end of the rail.



- > Position the backing rail centrally into the rail support on each end.



- > Position the set ring at the left side.
- > Tighten the screws of the set ring with the Allen key.



- > Tighten the screws of the ratchet wheel with the Allen key and make sure that the backing rail runs smoothly (without play) and doesn't block.

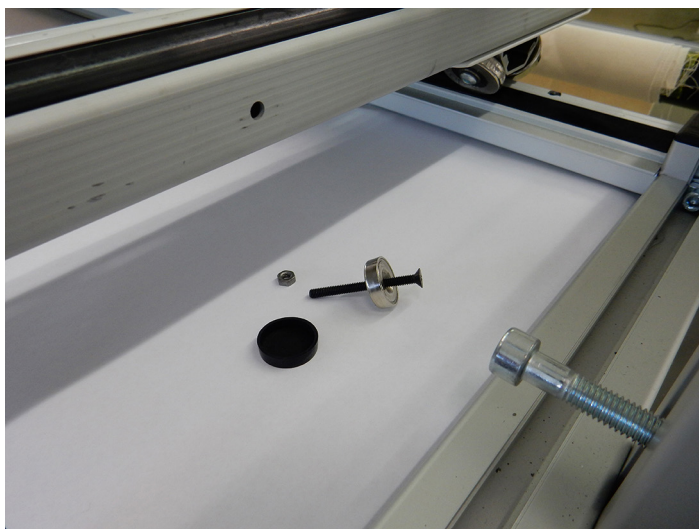


2.11 Carriage and machine

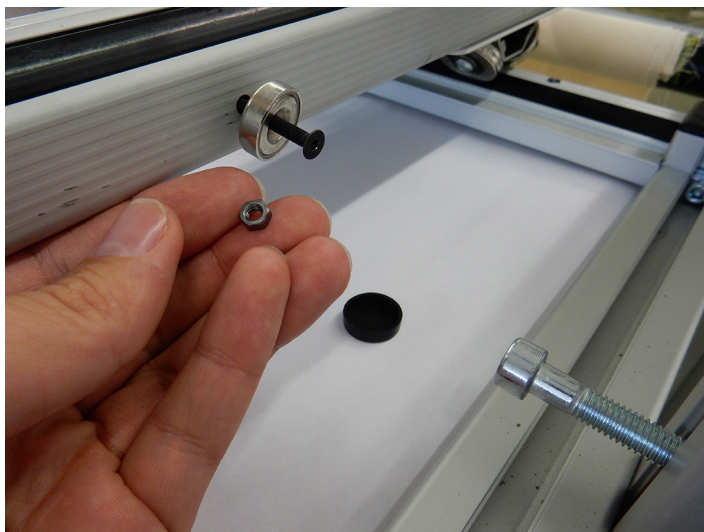
Assembling the carriage and the parking position magnet

Following components and tools are needed:

- Carriage
 - Magnet (M8)
 - Rubber cap black (M9)
 - Cylindrical screw/Parking position screw (S1)
 - Countersunk head screw (S5)
 - Nut (N1)
 - Allen key (T1)
- > Screw the parking position screw into the slot nut located in the upright bar of the left rail support and tighten it with the Allen key.
 - > Position the carriage on the tracks so that the hole for the parking position magnet points to the left (seen from the freehand side, front side of the Frame).



- > Push the countersunk head screw through the magnet, insert the screw with the magnet into the hole and tighten the nut.



- > Pull the black rubber cap over the magnet.



- > Make sure that the carriage can be moved easily on the rails and all the wheels are in contact with the tracks. As a check for the best possible contact with the tracks, feel the rollers with four fingers.



- > If necessary, open the screws of the carriage and readjust. If all of the four screws need to be loosened, the carriage has to be aligned parallel to the Frame.

- > Make sure that the parking position magnet touches the parking position scrow of the left side part. If necessary, loosen the screw of the parking position with the Allen key to adjust the height and then tighten it again.



Attaching the stand profiles with the stand profile kit to the bottom side of the machine

Following components and tools are needed:

- BERNINA Q 24 / Q 20
- 2 stand profiles (supplied in the box of the machine Q 24 / Q 20)
- 1 bag containing the stand profile kit (supplied in the box of the machine Q 24 / Q 20)
- 4 Roller units and 4 profile caps black (accessories carriage, box 2)
- Allen key (T1)
- Open-end wrench (T2)
- Torx screwdriver (included in the box of the machine Q 24 / Q 20)
- Screwdriver medium size (not included)



CAUTION The machine is likely to fall over without the stand profiles.

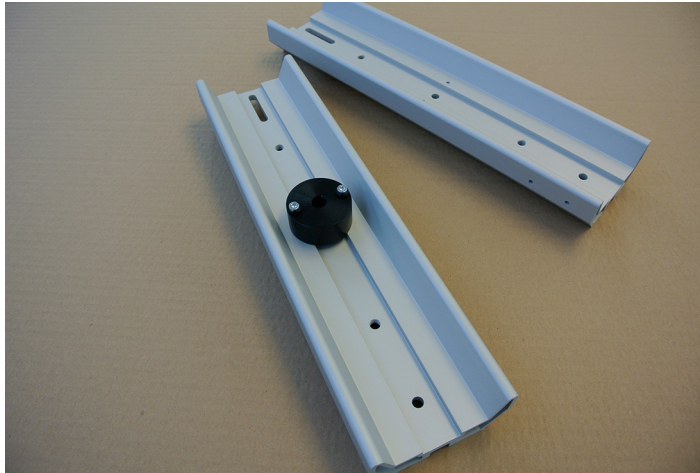
Risk of injury and damage of the machine.

- > Place machine carefully and stable.

- > Place the machine on its side on the edge of a table top, on the packaging box or to any other edge.



- > Unpack the two stand profiles as well as the bag containing the stand profile kit from the packaging of the machine.

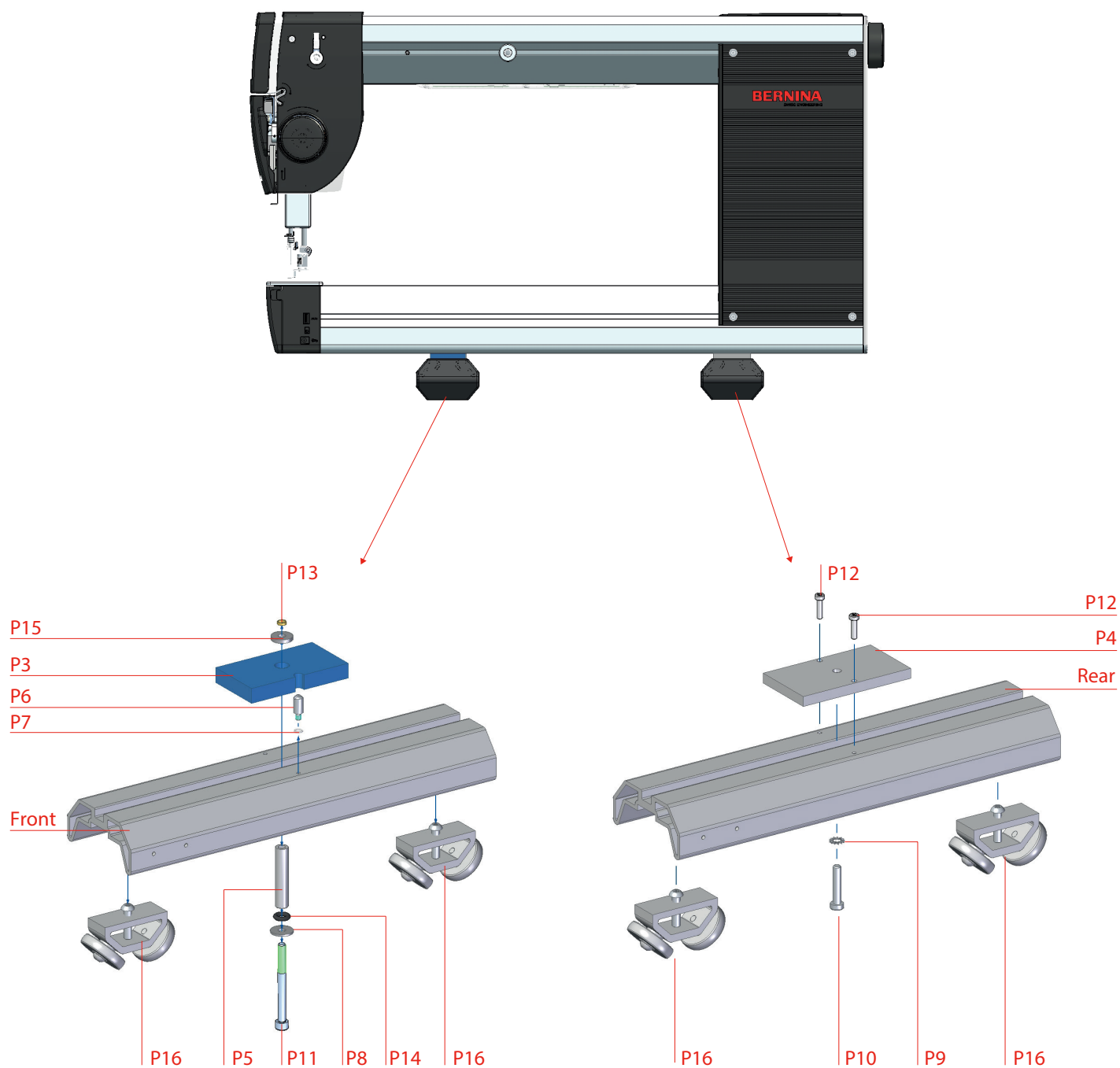


- > Check the content of the stand profile kit (bag), positions P3 to P15.

Illustration	Illustration	Illustration	Illustration	Illustration
1 x Front stand profile 	1 x Back stand profile 	1 x P3 	1 x P4 	1 x P5 
1 x P6 	1 x P7 	1 x P8 	1 x P9 	1 x P10 
1 x P11 	2 x P12 	1 x P13 	1 x P14 	1 x P15 

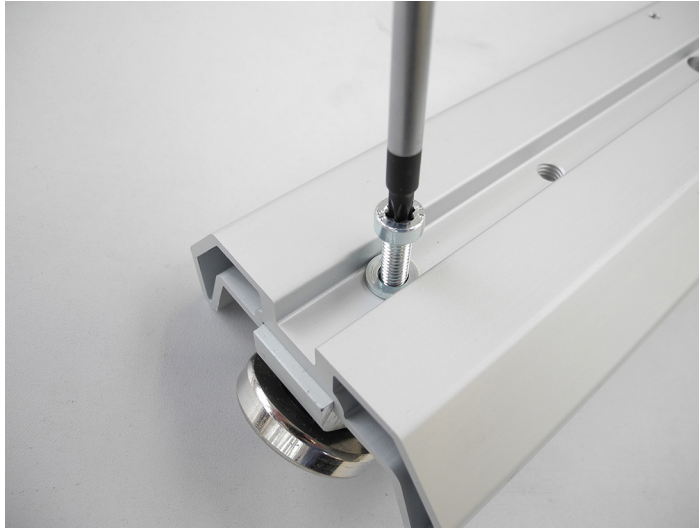
- > Mount the stand profile kit according to the overview. The illustrated parts P16 (4 pairs of rollers) are supplied with the delivery content of the box 2 (accessories carriage).
- > Attach the sleeve P5 so that the side without the chamfer is supported by U disc P15.

Assembling the Frame



Mounting the roller pairs to the stand profiles

- > Remove the 4 screws and washers on top of the 4 pairs of rollers and then mount it in the longitudinal direction at the four ends of the two stand profiles.
- > For this purpose, first insert the screws at the fixed holes and tighten with the torx screwdriver.



- > Afterwards position the roller pairs on the other side with screws and washers in the slot so that the distance from the screw head (left) to the screw head (right) is about 28 cm / 11 inch.
- > Tighten these screws slightly (final adjustment of the screw on section «Positioning of the machine») (see page 49)



Mounting the front stand profile

- NOTICE Fixed screws on the bottom side of the machine are loosened
Parts which are attached to the machine drop out.
> The fixed screws in the groove on the bottom side of the machine must **NOT** be loosened.

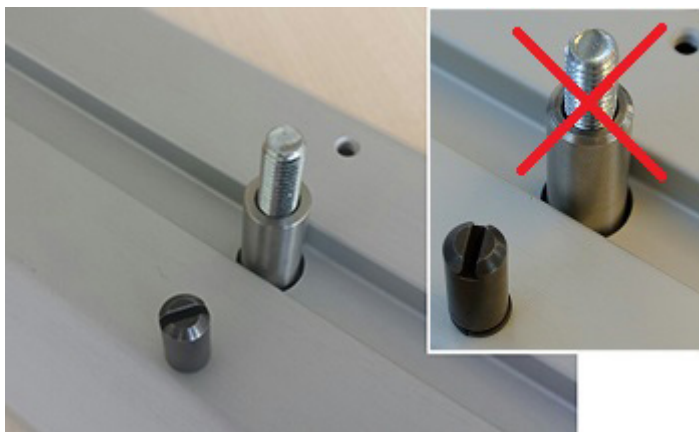
- NOTICE The slot holes of the two stand profiles are attached mirror-inverted.
The rollers of the stand profiles cannot be adjusted correctly.
> When attaching the two stand profiles, make sure that the slot holes are on the same side (on the left or the right) of the machine.

On the bottom side of the front stand profile a black cone is premounted.

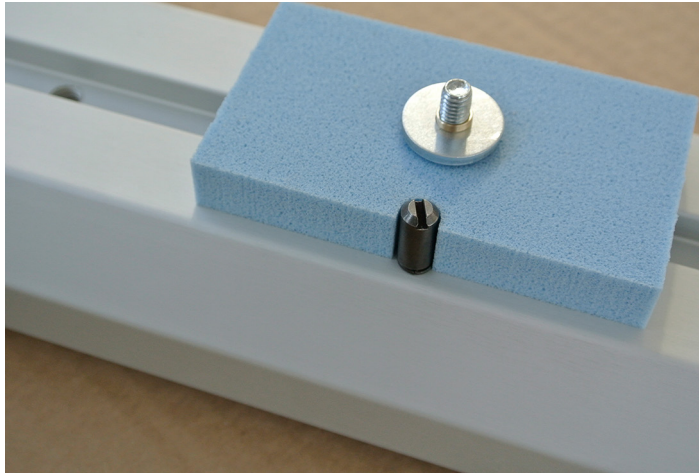
- > Screw the short threaded bolt P6 and the spring ring P7 in one of the center-positioned smaller holes of the front stand profile with the screwdriver.



- > Place the washer P8 on the long screw P11 and the black O-ring P14. Then attach the circular sleeve P5 at the top and insert the whole combination into the large hole of the black cone on the bottom side of the stand profile from above.
- > **Please note:** The circular sleeve P5 features two different sides. One with and one without chamfer. The sleeve must be attached so that the chamfer points downwards towards the head of the screw P11.



- > Place the blue damping mat P3 onto the profile from above. Be aware of the recess for the threaded bolt and the screw. Afterwards attach the large thick washer P15 and then the small thick washer P13.



- > Now mount the completely prepared front stand profile on the bottom side of the machine. The machine is still lying on its side when doing this. Tighten the screw P11 slightly in the thread of the front slot nut with the torx screwdriver. Move the profile so that the marked arrow head points to the edge of the damping mat. Now tighten the screw P11 firmly.



Mounting the rear stand profile

NOTICE Fixed screws at the bottom side of the machine are loosened

Parts attached to the machine drop out.

> The fixed screws in the groove at the bottom side of the machine must **NOT** be loosened.

NOTICE The slot holes of the two stand profiles are attached mirror-inverted

The rollers of the stand profiles cannot be aligned correctly.

> When mounting the two stand profiles, make sure that the slot holes are on the same side (on the left or on the right) of the machine.

> Fix the aluminum plate P4 with the two screws P12 on the top of the rear stand profile with the torx screwdriver.



> Attach the rear stand profile on the bottom side of the machine from beneath. For this purpose place the screw P10 and the washer P9 through the hole in the middle of the profile. Tighten the screw placed into the second movable slot nut with the torx screwdriver. This movable slot nut has already been inserted into the groove.



> Now, move the rear stand profile in that direction that the edge of the aluminum plate fits to the position of the arrowhead as shown below.

> Tighten the screw P10 now firmly.



> When you tighten P10 check that the two screw heads of P12 sink fully into the groove of the machine.
– Now both stand profiles with the pairs of rollers are mounted on the bottom of Q 20 resp. Q 24.



Positioning of the machine

Following components and tools are needed:

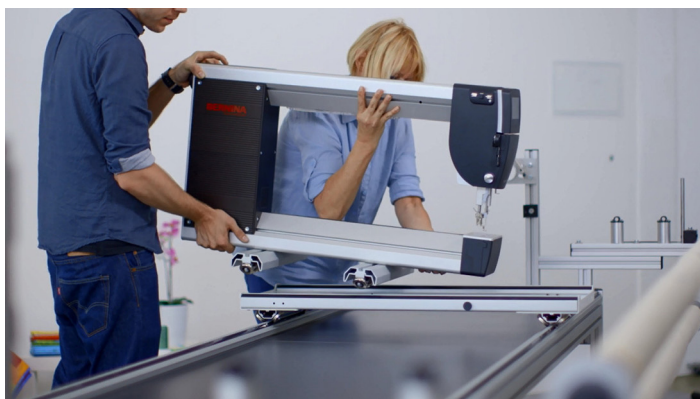
- Machine with the stand profiles in place
- 4 lateral covers

- Allen key (T1)

⚠ CAUTION The machine is transported improperly or dropped.

Risk of injury and damage of the machine.

- > Position the machine on the carriage with the help of another person.
 - > Bring the machine into parking position until the dead bar and take-up rail are installed.
-
- > Position the machine on the carriage with the help of another person.



- > Make sure that the rollers of the stand profiles at the bottom side of the machine can move freely on the carriage and that all of the wheels are in contact with the carriage when the machine is moved along the whole carriage length. Readjust if necessary.
- > Put the covers onto the stand profiles.



- > Move the machine carefully to the right and bring it to its parking position.



2.12 Dead bar and take-up rail

Attach the dead bar



CAUTION

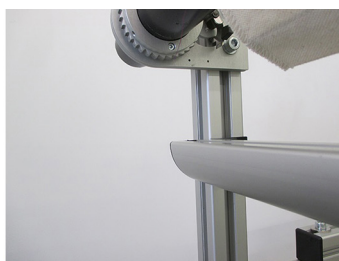
The machine falls off the carriage

Risk of injury and damage of the machine.

- > Leave the machine in parking position until the dead bar and the take-up rail are assembled.
- > Move the machine or the carriage only with care.

Following components and tools are needed:

- Dead bar
 - 2 offset screws (S8)
 - Allen key (T1)
- > Hold the dead bar with the curved side to the back and bring it through the machine throat. Position it above the pre-assembled angle of the left rail support so that the slot nut is exactly in line with the screw hole.



- > Insert the offset screw into the screw hole and tighten it with the Allen key carefully.
- > Position the dead bar above the pre-assembled angle of the right rail support, so that the slot nut is exactly in line with the screw hole.
- > Insert the offset screw into the screw hole and tighten it with the Allen key carefully.



Attaching the Take-up rail

⚠ CAUTION The machine is likely to fall from the carriage.

Risk of injury and damage of the machine.

- > Leave the machine in parking position until the dead bar and the take-up rail are assembled.
- > Move the machine or the carriage only with care.

Following components and tools are needed:

- Take-up rail
 - 1 Set ring
 - 1 Ratchet wheel (M7)
 - Allen key (T1)
- > Pull the set ring over the left side of the take-up rail.



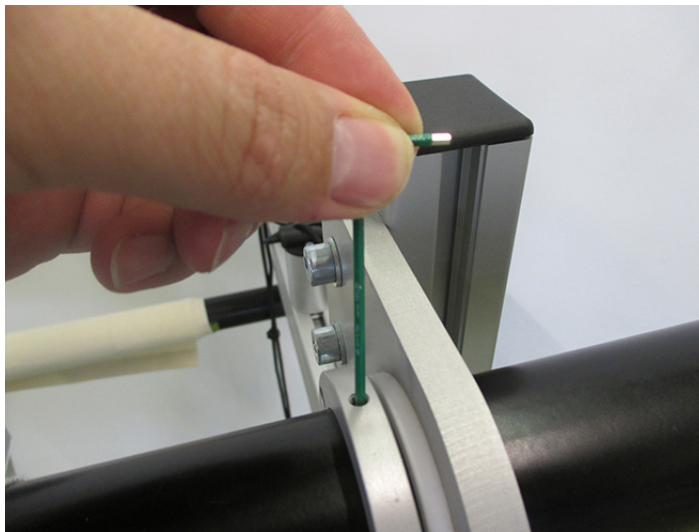
- > Pull the ratchet wheel over the right end of the top rail. The cogs of the ratchet wheel point to the back (not to the front) when you stand in front of the Frame! This means that the flange ring with the screws is inwards and not towards the end of the rail.



- > Position the take-up rail centrally in the rail brackets of the rail supports.



- > Tighten the screws of the set ring with the Allen key.



- > Position the ratchet wheel above the ratchet brace.
- > Tighten the screws of the ratchet wheel with the Allen key, making sure that the top rail runs smoothly (free of play) and doesn't block.



Assembling the handwheel of the Take-up rail

Following components and tools are needed:

- Handwheel (M3)
- Locking bolt (M4)
- Countersunk head screw (S3)
- Countersunk washer (W4)

- Sticker
- Sticker/Covering sticker round (together with the handwheel)
- Allen key (T1)



> Put the locking bolt into the groove at the end of the Take-up-rail.



> Position the handwheel exactly on the protruding end.



- > Insert the handwheel screw through the conical washer into the screw hole and tighten it with the Allen key.



- > Cover the screw of the handwheel with the sticker.

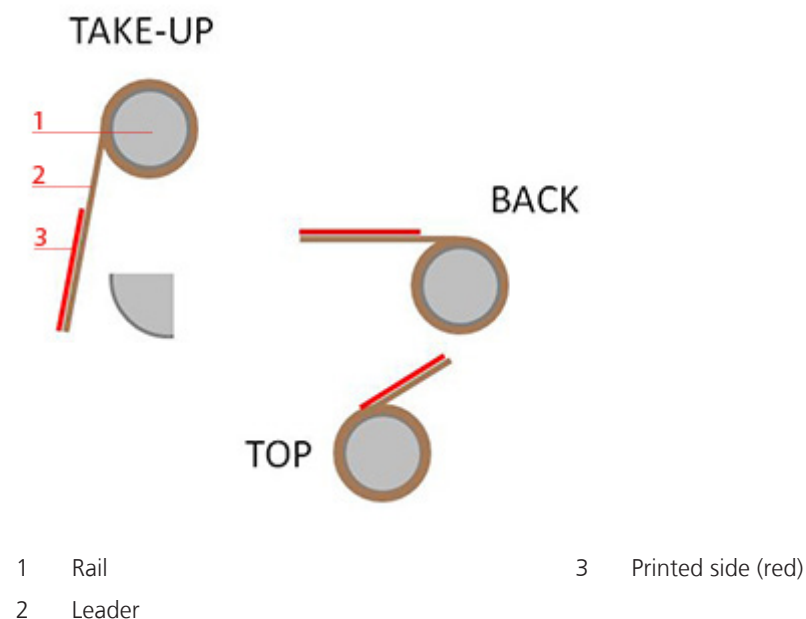
2.13 Leaders and side clamps

Basic information on the attachment of the leaders

- It is essential that all of the three leaders on the rails are centered with each other.
- The leaders are attached with double-sided adhesive tape.
- The leaders are printed on one side each.
- The leaders are rolled on the rails from different directions.

The following illustration shows how the leaders are attached on the rails correctly. This is illustrated in a crosssectional view seen from the side.

Please note the position of the printed sides (up/down) and the direction of the rolling (clockwise/ counterclockwise)!

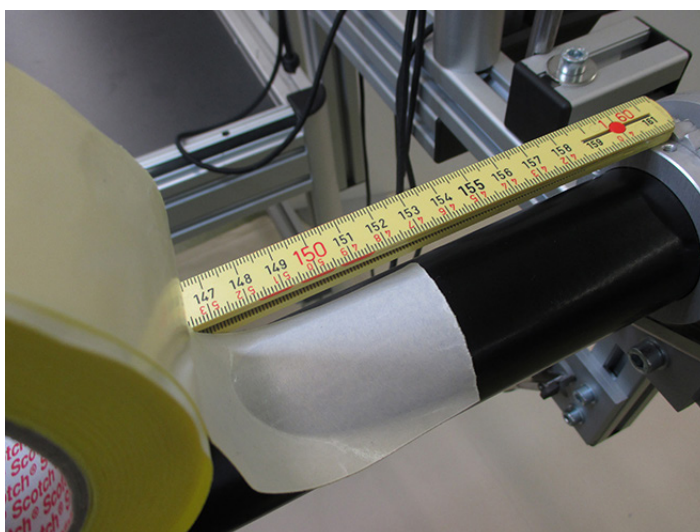


Some steps are explained and illustrated when the positioning of the first leader (Backing) is described. The two other leaders are attached in the same way and the same sequence.

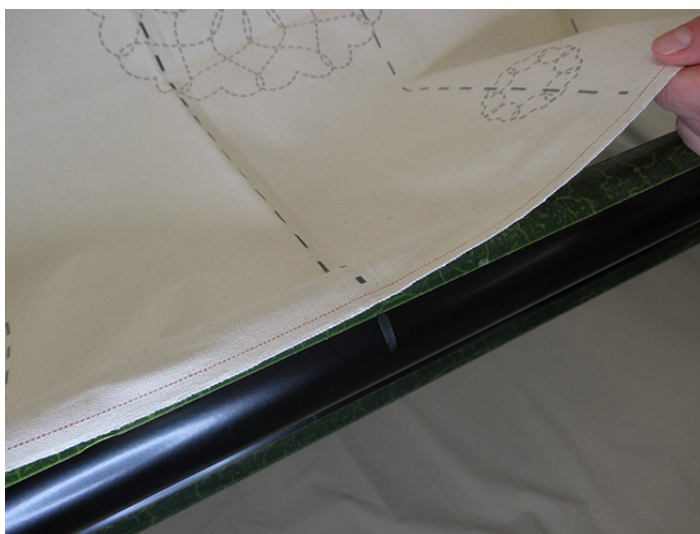
Attaching the Backing leader

Following components and tools are needed:

- Backing Leader (57.5 cm x 305 cm)
 - Double-sided adhesive tape
 - Pencil (not included)
 - Measuring tape (not included)
- > Determine the center point on the backing rail with the help of the measuring tape and mark it with a pencil.
- > On the backing rail measure out 152.5 cm on the left and on the right of the center and mark the positions with a pencil.
- > Attach the double-sided adhesive tape exactly from the left to the right marking in a straight line.



- > Remove the protection foil from the upper side of the adhesive tape.
- > Align the center marking of the backing leader in front of the backing rail with the marked center point.

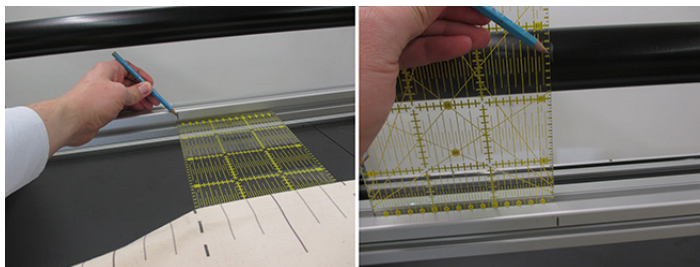


- > Attach the backing leader on the left and on the right on the upper edge of the adhesive tape in a straight line.
- > Press the leader firmly on the tape and roll the back leader up.

Attaching the Take-up leader

Following components and tools are needed:

- Take-up leader
 - Double-sided adhesive tape
 - Pencil (not included)
 - Measuring tape (not included)
- > Transfer with a pencil the center of the backing leader to the take-up rail (via diverting bar).



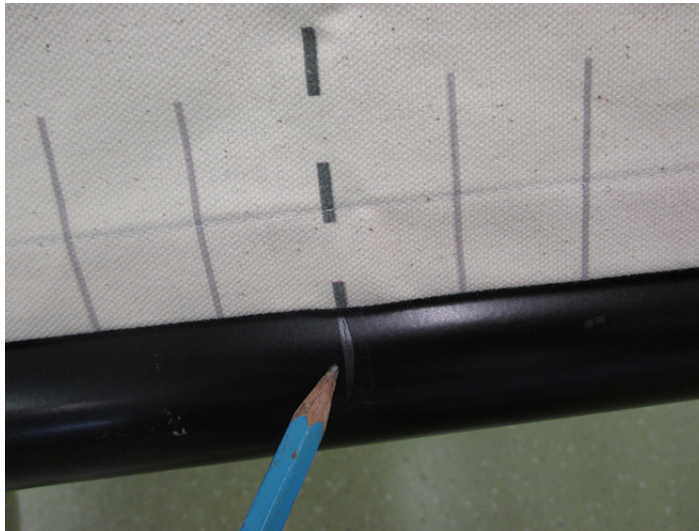
- > Please note: Carry out the following steps from the back of the frame.
- > On the take-up rail measure out 152.5 cm on the left and on the right of the center and mark the positions with a pencil.
- > Attach the double-sided adhesive tape exactly from the left to the right marking in a straight line.
- > Remove the protection foil from the upper side of the adhesive tape.
- > With the take-up leader in front of the take-up rail, line up the middle of the leader with the previously marked center on the rail.
- > Attach the take-up leader to the left and to the right on the upper edge of the adhesive tape in a straight line.
- > Press the leader firmly on the tape and roll the take-up leader up.
- > Make sure that the center points of the backing leader and the center of the take-up leader are aligned and reposition the leaders if necessary.

Attaching the Top leader

Following components and tools are needed:

- Top Leader
 - Double-sided adhesive tape
 - Pencil (not included)
 - Measuring tape (not included)
- > Unroll the already attached backing leader and pull it in a straight line to the top rail.

- > Mark the center of the unrolled backing leader on the top rail.



- > On the top rail measure out 152.5 cm on the left and on the right of the center and mark the positions with a pencil.
- > Attach the double-sided adhesive tape exactly from the left to the right marking in a straight line.
- > With the top leader behind of the top rail, line up the middle of the leader with the previously marked center on the rail.
- > Attach the top leader to the left and to the right in a straight line on the upper edge of the adhesive tape.
- > Press the leader firmly on the tape and roll the top leader up.
- > Make sure that the center of the back leader and the center of the top leader are aligned and reposition the leaders if necessary.

Attaching the side clamps

Following components are needed:

- 4 bungee cords
 - 4 safety clips
- > On the left rail support, pass the bungee cord through the opening of the holder from the inside to the outside.
 - > Attach the safety clip at the end of the bungee cord.



- > Lock the bungee cord in the holder.



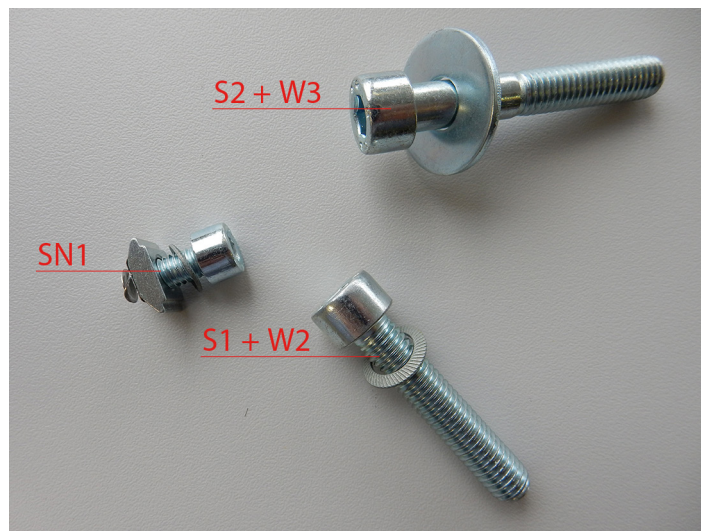
- > Repeat with the three remaining side clamps.

3 Attachment

3.1 Detailed illustration of screws, washers, nuts and slot nuts

The two following pictures show the bags 1 and 2 (small parts for assembling the Frame) with their enclosed screws, washers, nuts and slot nuts illustrated photographically. These illustrations serve as an additional support to assign the parts clearly and to display the size comparison among them. The used designations (S4, N1, ... S3 + W3 etc.) in the key correspond exactly with the ones under «Delivery content small parts for assembling the Frame» (see page 10). In both pictures every part is illustrated only once!

Bag 1



Bag 2



3.2 Servicing and cleaning the Frame and the carriage

Checking and cleaning the Frame

Over time the frame may settle and the structure should be checked periodically for proper leveling.

- > Using a level, make sure the frame is level front to back and left to right.
- > As a final test, move the machine to different positions on the frame. When letting go of the machine, it should remain in the same position.
- > Level the frame accordingly.

- > Make sure all six legs are locked in place with 17 mm self-locking counter nuts.
- > The center dle legs have to touch the floor. Make sure they are slightly overextended to minimize vibration of the machine and frame.
- > Check all external screws for tightness.
- > Check the 10-foot rails for buildup of debris and sticky residue.
- > Clean all four black Setup Programs using a soapy rag then wipe them dry.

Checking and cleaning the carriage

- > Check all 16 wheels of the machine carriage for:
 - Thread buildup.
 - Free movement.
 - Sticky residue buildup on the running surface.
- > Clean the running surface of all wheels using a soapy rag then wipe them dry.
- > Check the black rails for buildup of debris and sticky residue.
- > Clean the black rails using a soapy rag then wipe them dry.
- > Check wheels for smooth X and Y movement.
- > Check that most, if not all, of the 16 wheels make contact with the black rails over their entire range of X and Y movement. Adjust the wheels accordingly (refer to the instruction manual «Assembling the Frame», chapter «Carriage and parking position - Attaching the magnets» and chapter «Attaching the rolls to the stand profiles»).

3.3 Disposal

Disposing the Frame

BERNINA International AG is committed to the protection of the environment. We strive to minimize the environmental impact of our products by continuously improving product design and our technology of manufacturing.

When the Frame won't be used anymore, dispose it in an environmentally responsible way according to the national directive. Do not throw away this product with your household waste. When in doubt, bring the Frame to your local specialized BERNINA dealer.

- > Cleaning the Frame.
- > Sort the components by their materials and dispose of them according to the local laws and regulations.

A

Adjusting the height of the Frame	15
Adjusting the height of the Frame according to the height of the user	16
Adjusting the parking position magnet	39
Adjusting the rail supports for BERNINA Q 20	28
Adjusting the overlap of the legs	16
Aligning the Frame	31
Assembling the angles at the front crossbar	29
Assembling the back bar	19
Assembling the backing rail	37
Assembling the carriage	39
Assembling the dead bar	51
Assembling the Frame	8
Assembling the front bar	23
Assembling the front rail	33
Assembling the handwheel	53
Assembling the legs	17
Assembling the rail supports	26
Assembling the rear track	32
Assembling the shelf panels	29
Assembling the Take-up rail	52
Assembling the top rail	35
Attaching the angles at the rear crossbar	28
Attaching the Back leader	56
Attaching the side clamps	58
Attaching the stand profiles	41
Attaching the Take-up leader	57

C

Connect the legs with the lower bar	17
-------------------------------------	----

D

Disposing the Frame	61
---------------------	----

F

Fixing the Top leader	57
-----------------------	----

K

Key to signs	7
--------------	---

P

Positioning the machine	49
-------------------------	----

S

Sequence of the assembly stages	8
---------------------------------	---

U

Unpacking the delivery	10
------------------------	----



made to create **BERNINA**