

Redcord®

Sliding Suspension System



 **Original Installation and User Manual**

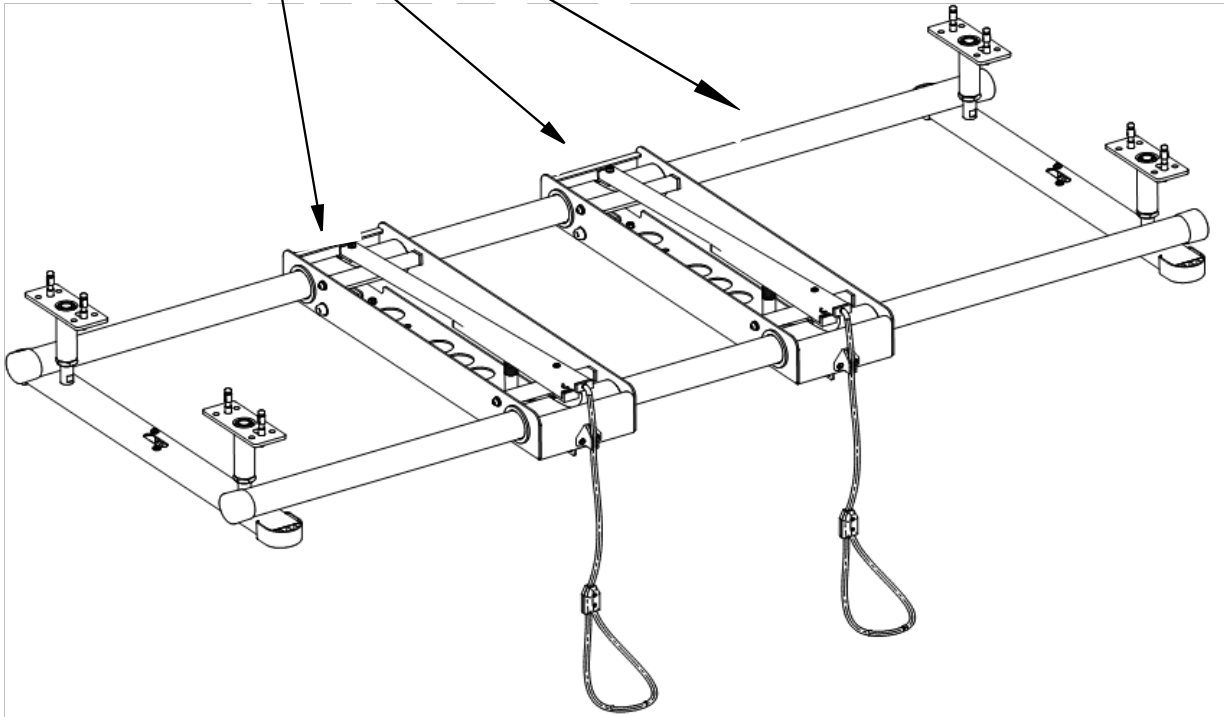
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1. Redcord Sliding Suspension System

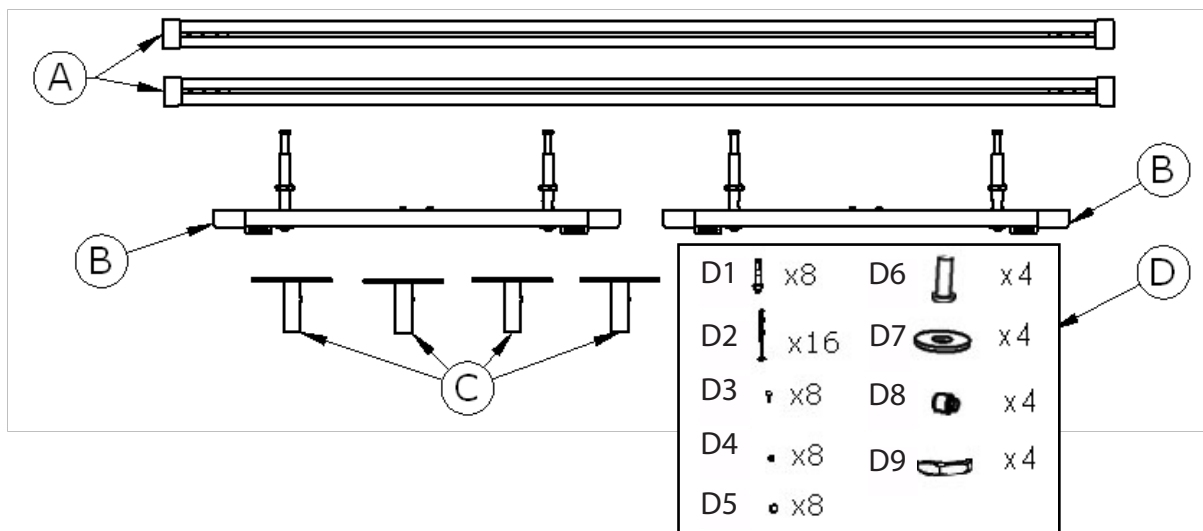
Congratulations for investing in the Redcord Sliding Suspension System (SSS).
The SSS consists of two independent components:

1. support frame (1 pc)
2. traverse (2 pcs)



Please check the content of the packages. Contact your supplier if anything is missing.
An overview of suppliers can be found on www.redcord.com

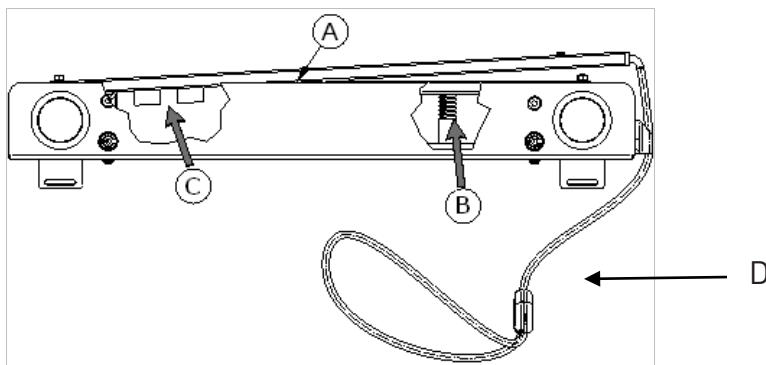
2. Content for the support frame



Content for the support frame (cont.)

Designation	Quantity	Name / description
A	2	Anodized aluminum sections (L = 180cm) with zinc-plated inserts and 4 black plastic caps.
B	2	Crosspieces with special caps (L = 77cm) and standard leg 15cm. Fixed assembly is prepared for mounting the Redcord Trainer or Redcord Professional to the crosspieces. Single pulley is built-in for each (2) crosspieces.
C	4	Standard leg, length = 15cm
D1	8	Expand Bolts, M8x65mm
D2	16	Wood screws, 81x100mm, torx TX40
D3	8	Screw M6x14, bit 5
D4	8	Washer M6
D5	8	Plastic plug
D6	4	Screw 10x35, bit 6
D7	4	Washer M10
D8	4	Screw M8x10, bit 4 (safety guard)
D9	4	Nut M30

3. Content for the Traverse



Designation	Quantity	Name / description
A	1	Traverse with brake system and a mount for Redcord Trainer apparatus. Fixed assembly is ready for use.
B	1	Spring.
C	2	Set of additional brakes (can be screwed out and used as replacement for damage brake)
D	1	Brake rope



Sliding Suspension System is made in conformity with essential requirements concerning medical equipment (class I, rule 1) and is marked with CE mark, as per manufacturer's declaration.

4. Dimension and weight for the system

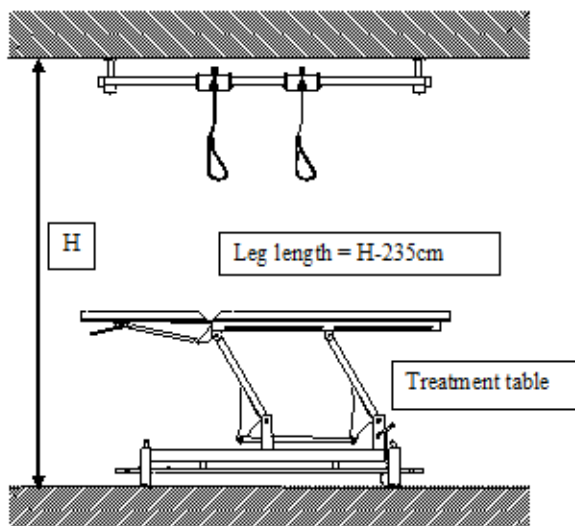
SSS element	Net weight	Gross weight	Package size cm
Support frame	16 kg	19 kg	185x37x12
Traverse (2)	5 kg	6 kg	80x23x17

5. Do you have the right leg length for your SSS?

The SSS is delivered with four standard legs that are 15cm long. If you have ordered different legs due to the height of your ceiling, then they should also be included in this order.

Please make sure you have the legs that you have ordered before you start to assemble the SSS. The optimal SSS height for the average person is 235cm from the floor. Check to see that you have the right leg lengths, by subtracting 235cm (92,5 inches) from your fixed ceiling height (H). The answer you get should approximately equal the length of the legs you have received. You may need to increase the length of the legs slightly if the system is to hang directly under a light fixture or some other object.

Legs can be ordered for lengths up to 120cm (47,2 inches) (see table below). This is suitable for a fixed ceiling height of 355cm (+/- 10cm). Ceiling heights greater than 355cm (+/- 10cm) require a customized leg solution.

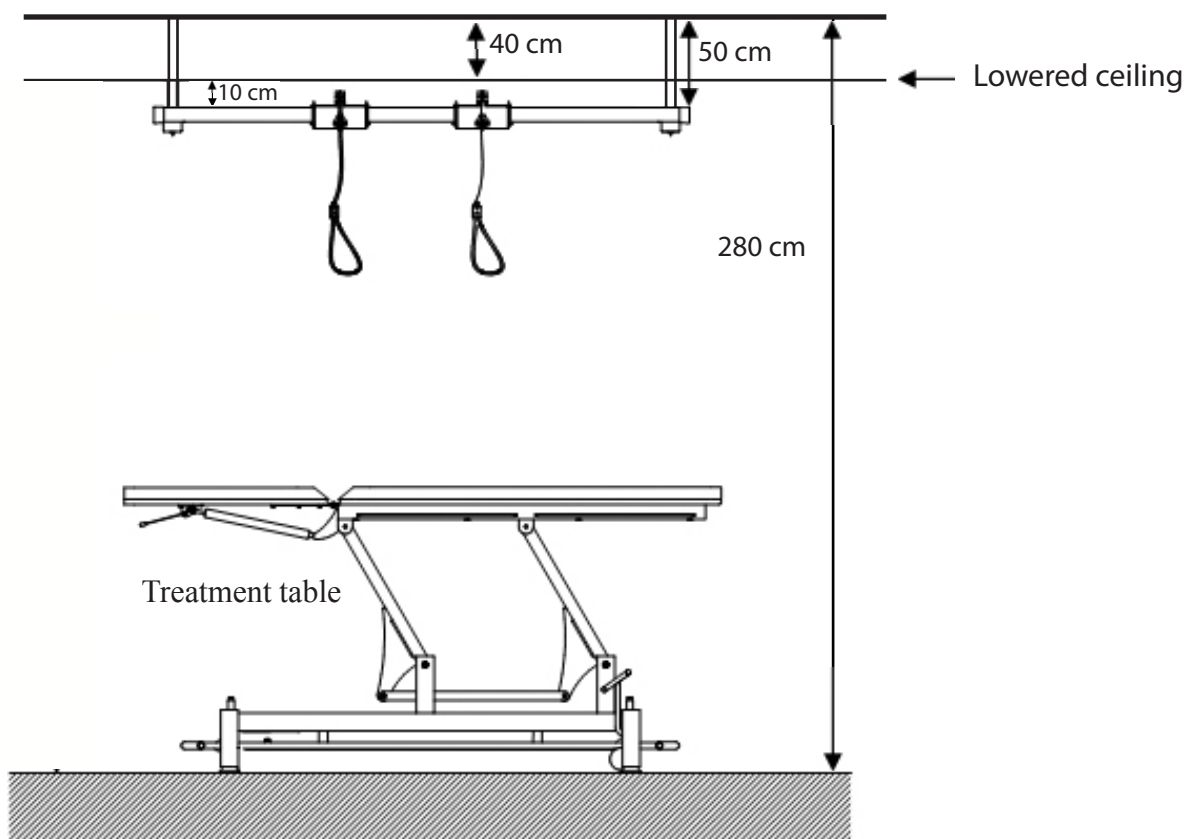


Legt A (cm)
L - 15 (standard)
L - 30
L - 40
L - 50
L - 60
L - 70
L - 80
L - 90
L - 100
L - 110
L - 120

6. Lowered ceiling

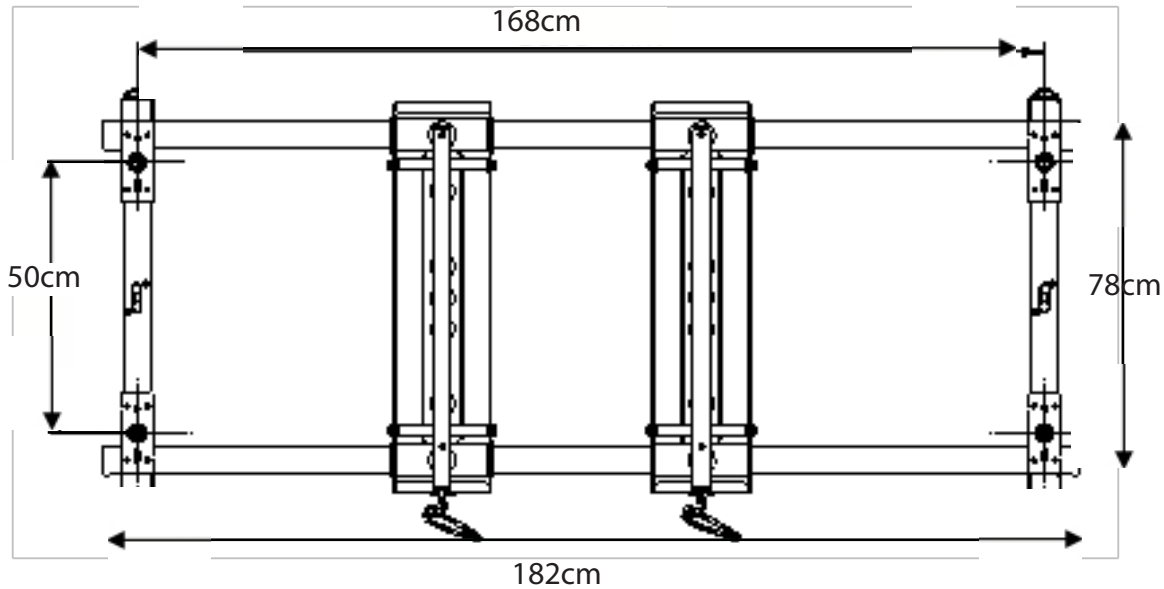
To ensure an unobstructed sliding function of the traverses, the legs of the SSS should protrude at least 10cm below a lowered ceiling.

See example below: Ceiling height is 280cm. Lowered ceiling height from the floor is 240cm. The distance between the main fixed ceiling and the lowered ceiling is 40cm. Normal calculated leg length **without** the lowered ceiling should be $280\text{cm} - 235\text{cm} = 45\text{cm}$ (+/- 10cm). However, the legs must protrude a minimum of 10cm from the lowered ceiling. 40cm legs are too short. 50cm legs are suitable as they protrude a minimum of 10cm from the lowered ceiling. The effective ceiling suspension height will be $280\text{cm} - 50\text{cm} = 230\text{cm}$ from the floor.



7. Technical Information

The distance between the legs (from center to center) is 168cm long and 50cm wide. The footprint or perimeter distances of the system is 182cm long and 78cm wide.



The SSS includes screw holes which allows for mounting to different types of ceiling surfaces/ materials. See stage x and y.

IMPORTANT:

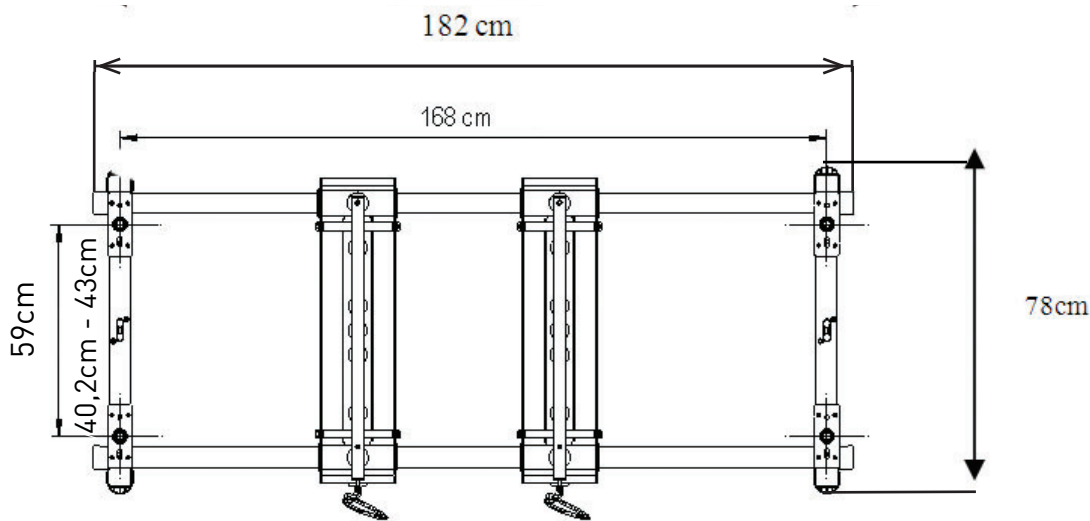
Seek professional advice about the condition of the ceiling prior to the installation of the device. Redcord (nor its distributors) takes no responsibility for the suitability or condition of the ceiling in which the equipment is installed. Redcord takes no responsibility for third party suspension legs, attachments or components.

Redcord takes no responsibility for any personal or physical damages that might arise due to incorrect installation and/or incorrect use of Redcord equipment. Redcord does not recommend using the SSS for purposes other than supervised treatment. Sport activities and heavy exercises may increase the risk of damaging the equipment and/or the user for which Redcord will not be held accountable. Redcord is not responsible for any personal or physical damage that might arise due to installation or due to the ceiling.

Please note; use different screw holes for different ceiling types.

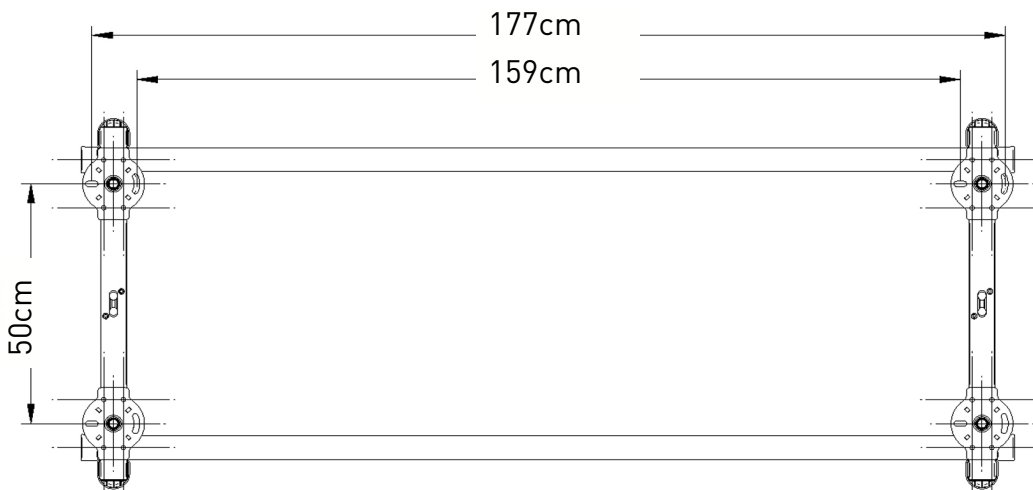
7.1 Stage x

Measurements for mounting in a **concrete ceiling for leg length up to 40cm.**



Ensure you have a strong concrete ceiling, and not one made of porous material with poor load capacity such as **ytong, siporex or leca**. Use the **oval** holes in the metal plate when installing the SSS in your concrete ceiling. See attachment 1 for more details about the metal plate

Measurements for mounting in a **concrete ceiling for leg lengths from 50cm to 100cm.**

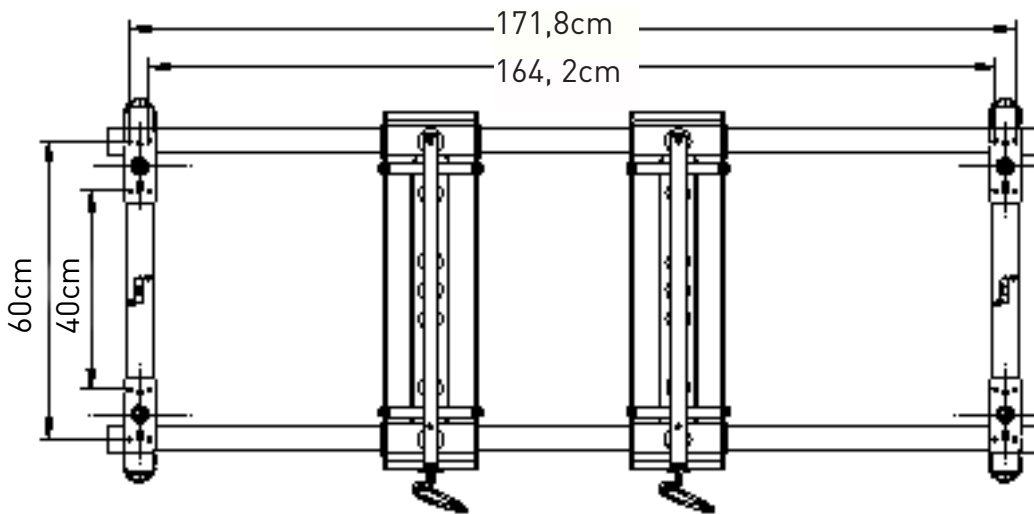


Make sure you have a concrete ceiling, not one made of porous material with poor load capacity such as **ytong, siporex or leca**. Use the **oval** holes in the metal plate when installing the SSS in your concrete ceiling. See attachment 2 for more details about the metal plate

Sliding Suspension System is able to handle a load/weight of up to 200 kg when installed properly. Max load for each of the integrated pulleys in the crosspieces is 50 kg.

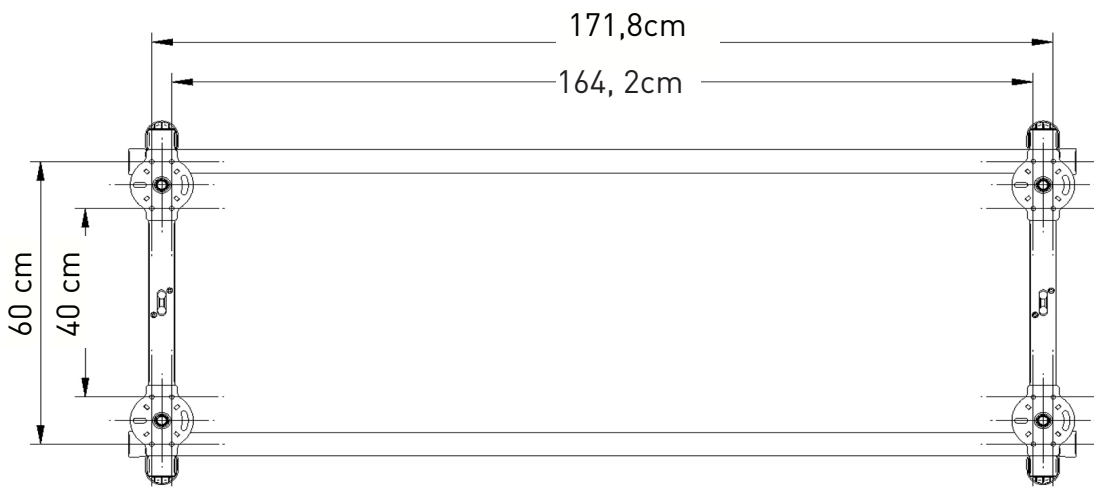
7.2 Stage Y

Measurements for mounting in a **wooden ceiling for leg lengths up to 40cm.**



Make sure you are installing the SSS in the ceiling joists, not just in the panels or wallboard. Use the **circular** holes in the metal plate when installing the SSS in wooden ceiling. See attachment 1 for more details about the metal plate.

Measurements for mounting in a **wooden ceiling for leg lengths from 50 cm to 100 cm.**



Make sure you are installing the SSS in the ceiling joists, not just in the panels or wallboard. Use the **circular** holes in the metal plate when installing the SSS in wooden ceiling. See attachment 2 for more details about the metal plate.

Sliding Suspension System is able to handle a load/weight of up to 200 kg when installed properly. Max load for each of the integrated pulleys in the crosspieces is 50 kg.

8. Necessary equipment for installation (NOT ENCLOSED)

8.1 For concrete ceiling

Hammer drill with a 8 mm concrete bit, set of hex (Allen) keys (bit 4, 5, 6), hammer, M30 and M13 open-end wrench.

8.2 For wooden ceiling

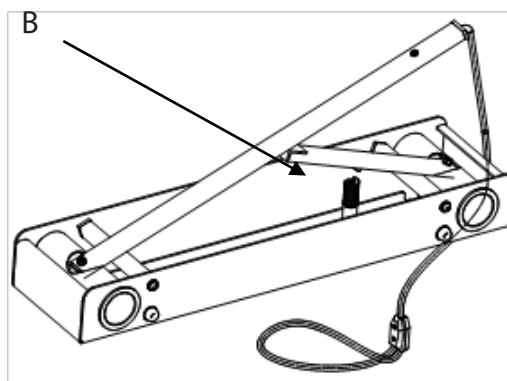
A drill, a set of hex (Allen) keys (bit 4, 5, 6), torx40, M30 open-end wrench.

9. Assembly for Redcord Sliding Suspension System (SSS)

Please assemble the entire system on the floor before mounting to the ceiling.

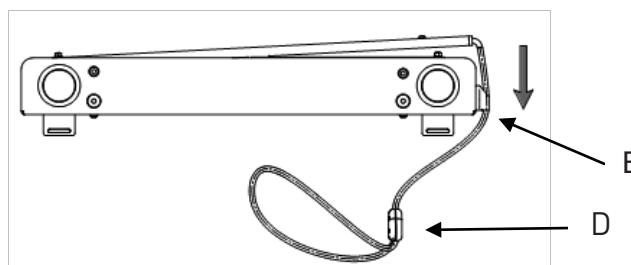
9.1.

Unpack the traverse, lift the release arm as high as possible and put the spring (B) in place.



9.2

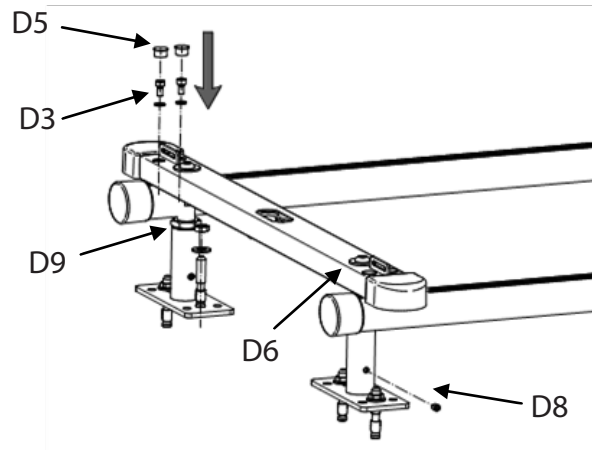
Pull the rope (D) down, so that the spring is fully compressed, and fasten the brake rope in the cleat (E). You can then easily slide the traverse on to the aluminum section.



Please **NOTE**: If you are going to use standard legs for your SSS, continue with point 9.3. If you have additional legs please refer to chapter 10 (page 13)

9.3

Assemble one crosspiece, the legs and the aluminum section. The aluminium section should be lying on the floor, with the crosspiece brackets facing upwards. Attach 2 screws (D3) in each end of the crosspiece. Put the black plugs (D5) in the screw hole after mounting is complete. Ensure that the safeguard (D8), the M30 nut (D9) and screw (D6) are fastened tight for the legs.



9.4

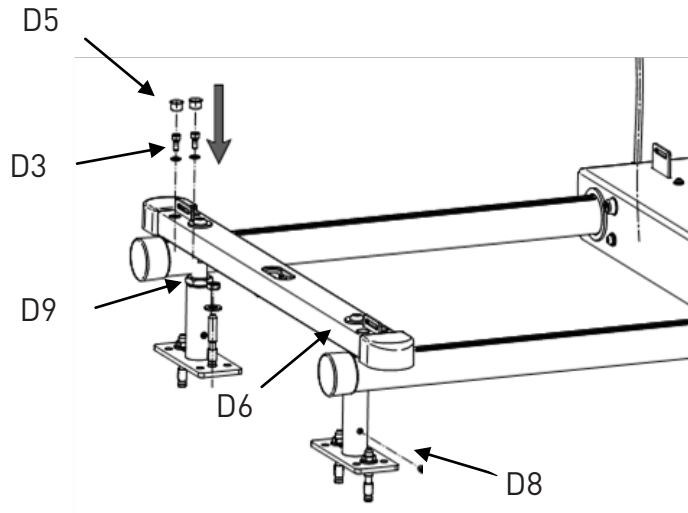
At the opposite end from the mounted crosspiece, temporarily remove the end caps on the aluminum section.



Slide the traverse onto the aluminium sections/rails by passing the 2 rails through the holes in the traverse. Put the end caps back on the aluminum sections. Ensure that the brackets on the traverse are facing up, and the brake lever arm is facing down. Ensure that both of the brake arms and the ropes are on the same side of the SSS.

9.5

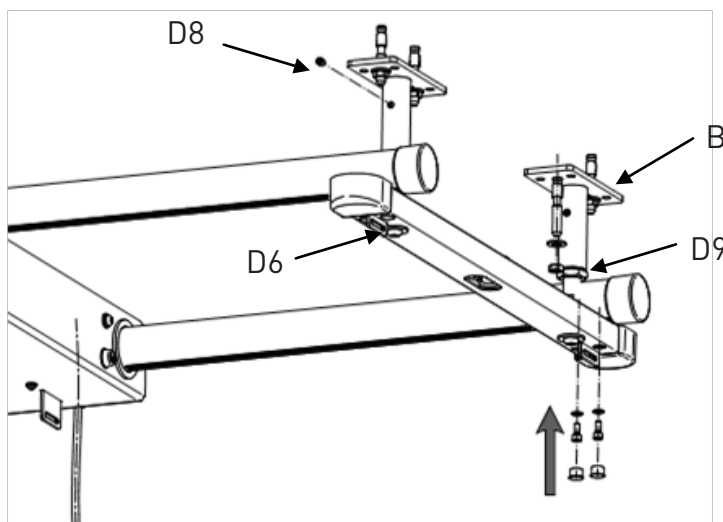
Assemble the last crosspiece, the legs and the aluminum section. The aluminium section should be lying on the floor, with the crosspiece brackets facing upwards. Attach 2 screws (D3) in each end of the crosspiece. Put the black plugs (D5) in the screw hole after mounting is complete. Ensure that the safeguard (D8), the M30 nut (D9) and screw (D6) are fastened tight for the last two legs.



It is now possible to adjust the length of all legs by 3cm (1,2 inches).

9.6

Loosen the safeguard (D8) and the M30 nut (D9). Screw the legs (B) to desired length; fasten the safe-guard and the M30 nut again. Do this for all 4 legs. Make sure all the legs have the same length before you mount the SSS to the ceiling. Check also that the screw (D6) is well fastened for all 4 legs.



The Redcord Sliding Suspension System is now ready for ceiling installation.

To increase rigidity and eliminate chance of moving the traverse along the aluminum sections when installing the SSS to the ceiling, release the brake rope from the cleat again (see chapter 13.2, page 18).

10. Additional Legs

If you need legs that are longer than standard legs (15cm) please follow the procedure below:

10.1 (Figure 1 and 2)

Remove the standard legs by loosening the safeguard (D8) and the M30 nut (D9). Screw the legs (B) from the bolt (C), see figure 2. The bolt will still be mounted to the crosspiece after the standard legs are removed.

Figure 1

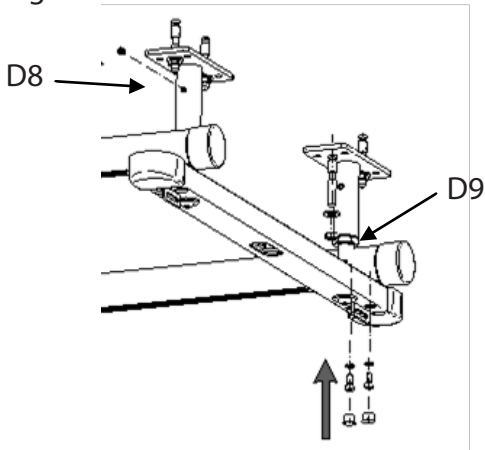
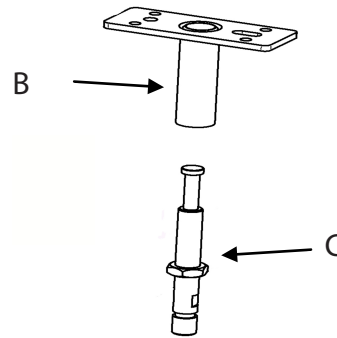


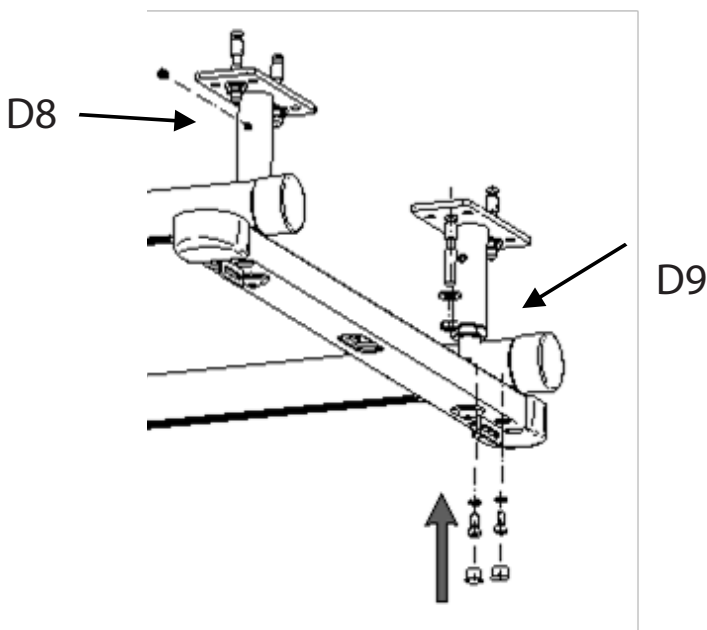
Figure 2



10.2

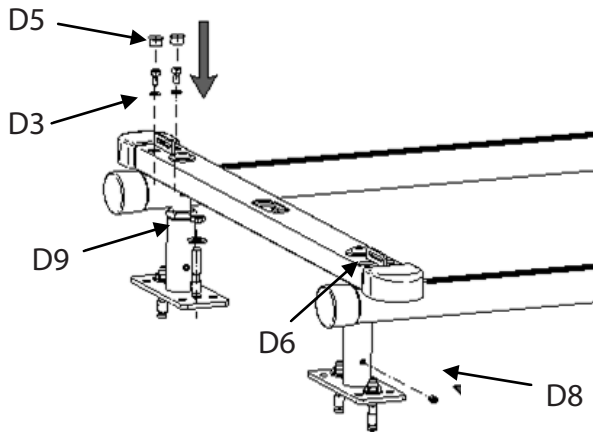
When all the standard legs are removed from the bolt, screw the longer legs to the bolt again. Fasten the safeguard (D8) and the M30 nut (D9). Do this for all four legs. Make sure you have the same length on all the legs.

After the longer legs are assembled to both crosspieces continue assembling the aluminium section to the crosspiece.



10.3

Assemble one crosspiece, the additional legs and the aluminium section. The aluminium section should be lying on the floor, with the crosspiece brackets facing upwards. Attach 2 screws (D3) in each end of the crosspiece. Put the black plugs (D5) in the screw hole after mounting is complete. Ensure that the safeguard (D8), the M30 nut (D9) and screw (D6) are fastened tight for the legs.



10.4

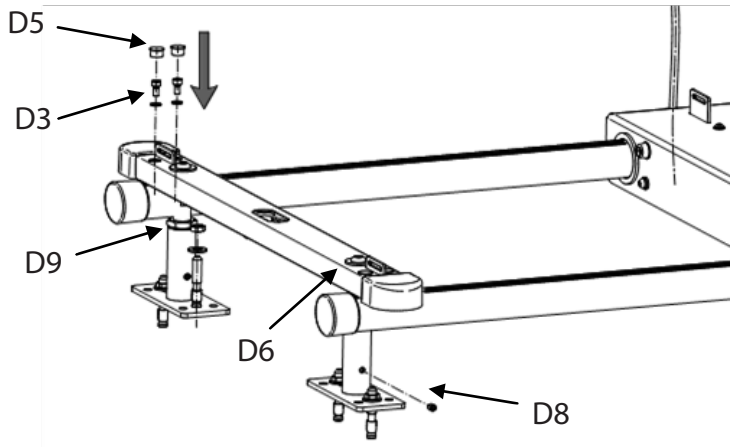
At the opposite end from the mounted crosspiece, temporarily remove the end caps on the aluminium section



Slide the traverse onto the aluminum section/rails by passing the 2 rails through the holes on the traverse. Put the end caps back on the aluminum sections. Ensure that the brackets on the traverse are facing up, and the brake lever arm is facing down. Ensure that both of the brake arms and the ropes are on the same side of the SSS.

10.5

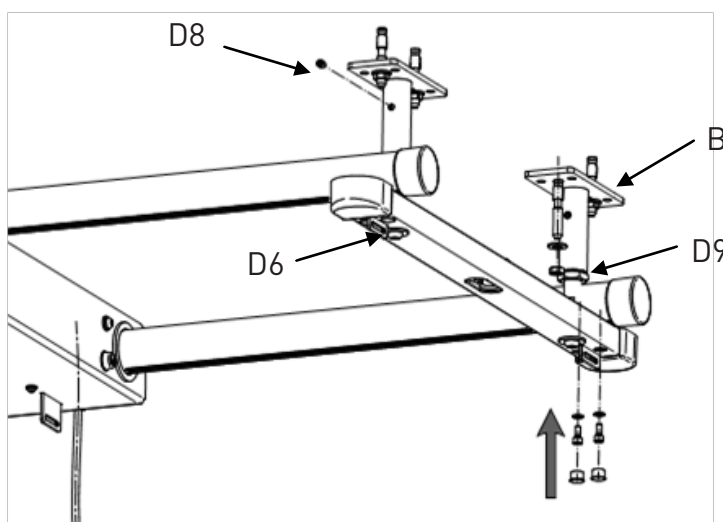
Assemble the last crosspiece, the additional legs and the aluminium section. The aluminium section should be lying on the floor, with the crosspiece brackets facing upwards. Attach 2 screws (D3) in each end of the crosspiece. Put the black plugs (D5) in the screw hole after mounting is complete. Ensure that the safeguard (D8), the M30 nut (D9) and screw (D6) are fastened tight for the last two legs.



It is possible to adjust the length of all legs by 3 cm (1,2 inches).

10.6

Loosen the safeguard (D8) and the M30 nut (D9). Screw the legs (B) to desired length; fasten the safe-guard and the M30 nut again. Do this for all the 4 legs. Make sure all the legs have the same length, before you mount the SSS to the ceiling. Check also that the screw (D6) is well fastened for all the 4 legs.



The Redcord Sliding Suspension System is now ready for ceiling installation

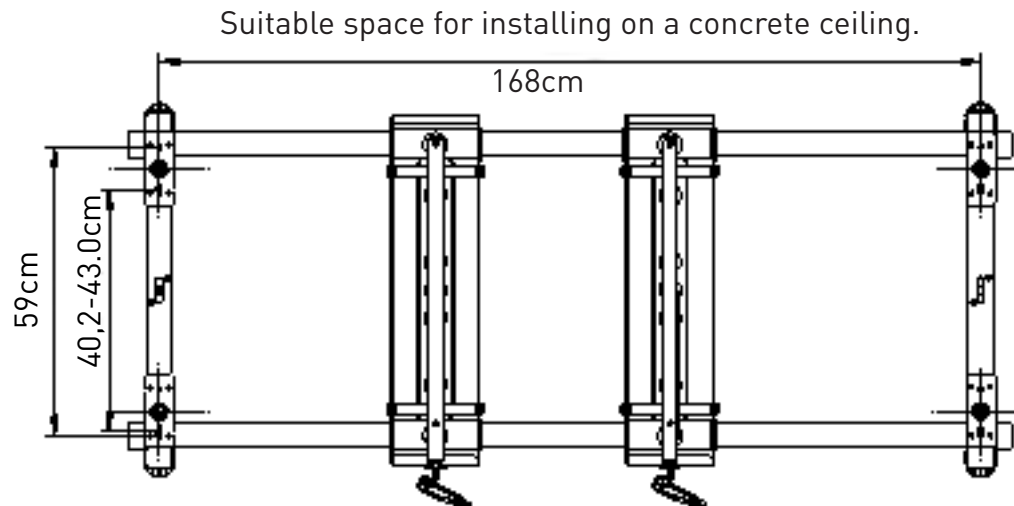
To increase rigidity and eliminate chance of moving the traverse along the aluminum sections when installing the SSS to the ceiling, release the brake rope from the cleat (see chapter 13.2, page 18).

11. Mounting the SSS on to the ceiling

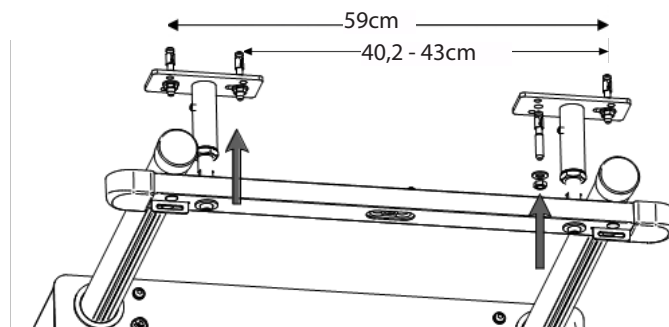
Find a suitable place to mount the system. The distances between the legs are 168 cm and 50cm. The space between the screw holes in the ceiling mounts is shown in the drawings below (for more details see attachment 1 and 2). Mark the points on the ceiling where the holes will be drilled. Check the distance between the holes. Drill the holes.

Note: If you have lowered ceiling, please read chapter 12, page 17 before you proceed.

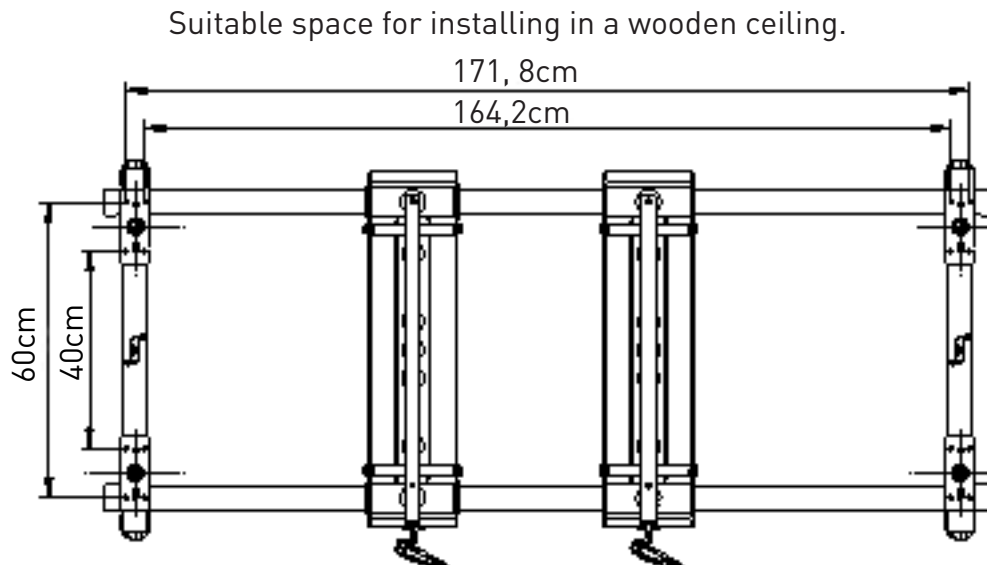
11.1 Concrete ceiling



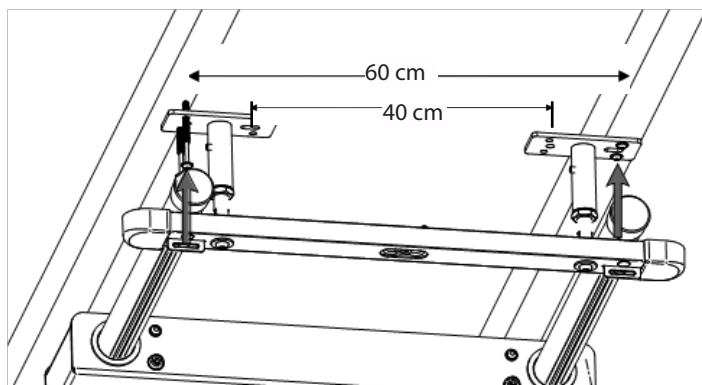
Drill 6 cm deep holes in the ceiling using a percussion drill with a 8mm bit for concrete. Pound in the split anchors and fastens the screws. Minimum 2 screws for each leg are recommended.



11.2 Wooden ceiling



Drill the holes and fasten the legs with the 100mm screws supplied with the SSS. Minimum 2 screws for each leg are recommended. The screws are self-tapping and should be screwed in by using a torx 40 bit. Apply a small amount of oil, wax or soap to the screws to make the insertion easier.



Suspend weight of about 150 kg at each corner, one corner at the time. The purpose of this weight test is to test the SSS installation, prior to using it for treating patients. It is possible to do the test by suspending yourself or two persons at each corner.

12. Mounting the SSS to a ceiling with lowered ceiling

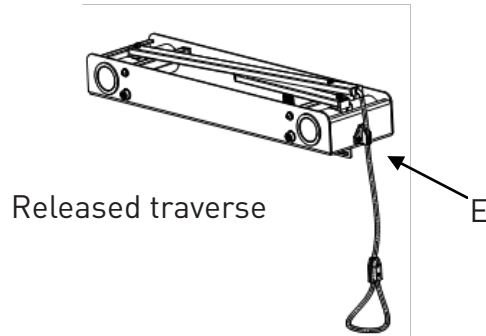
Remove the ceiling panels where the legs are to be mounted to the ceiling above. Mount the system as directed above in chapter 11. Cut small holes into the side of the ceiling panels for legs of suspension system, and return the loose panels to their original position.

13. Operating the traverse

The traverses can be released and easily moved back and forth on the aluminum section during treatment. After reaching the desired position the traverses should be set in locked position.

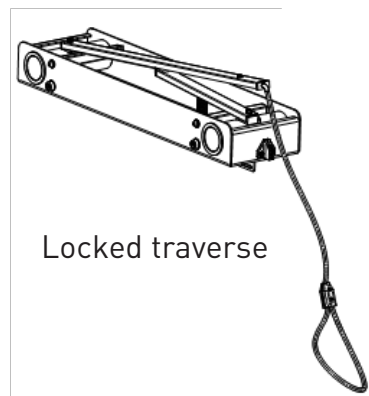
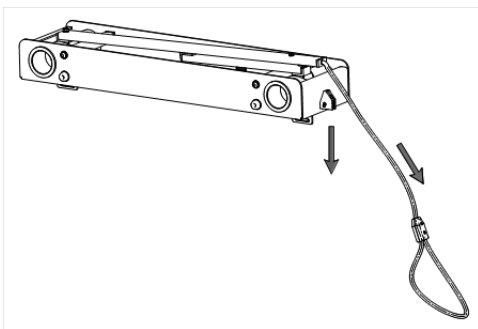
13.1 Releasing the brake/traverse

To release the brake/traverse, pull down the brake rope and fasten it in the cleat (E). The traverse can now be pulled and moved in the required direction



13.2 Locking the brake/traverse

To lock the brake/traverse, pull the brake rope simultaneously down and out releasing it out of the cleat. The brake/traverse is locked when the rope is let loose.

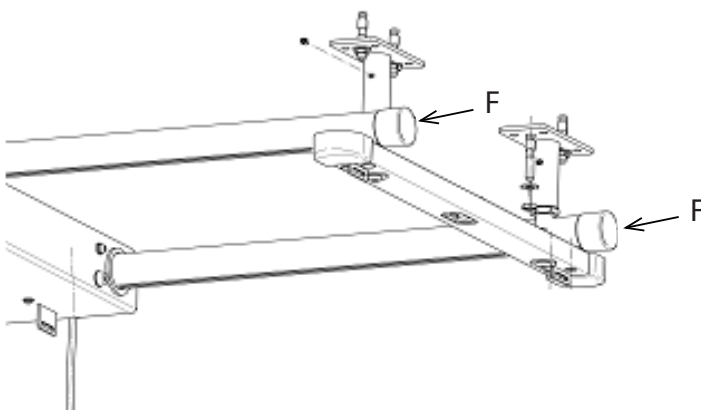


14. Mounting an extra traverse to the SSS

To mount an extra traverse onto your SSS two persons are required.

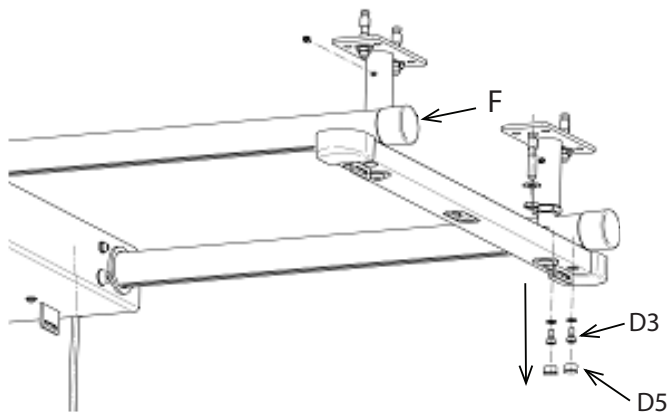
14.1

Temporarily remove the end caps (F) from one end of the aluminum sections.



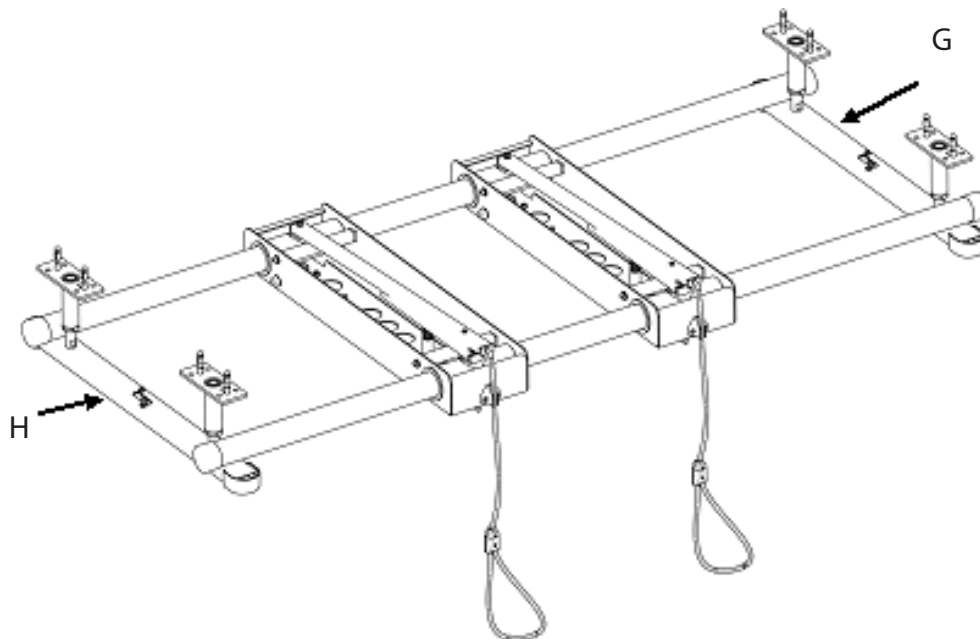
14.2

Remove the black plastic plugs (D5) and the two screws (D3) that fasten the crosspiece to the aluminum sections. Do this at each end of the aluminum sections.



14.3

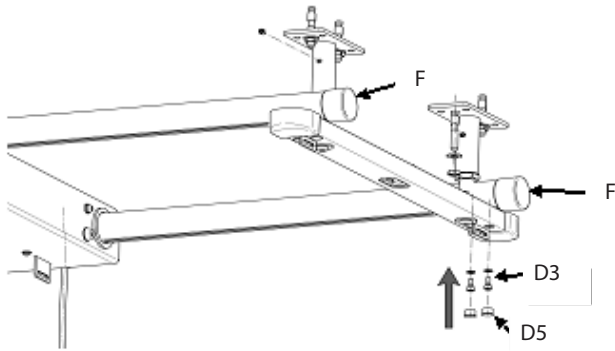
After the end caps are removed and the aluminum sections are loosened, push the aluminum sections carefully backward on crosspiece (G). When the aluminum sections are free from the crosspiece (H) an extra traverse can be placed on the aluminum sections.



Slide the extra traverse onto the aluminum sections/rails by passing the 2 rails through the holes in the new traverse. Put the end caps back on the aluminum sections. Ensure that the brake arm and the rope on the new traverse are on the same side of the SSS as the brake arm and the rope for the already mounted traverses. When the traverse has been placed on the aluminum sections, pull the aluminum sections carefully back on crosspiece (H) and assemble the aluminum section to the crosspiece again by following the next figure.

14.4

Assemble the aluminum sections to the crosspieces with screws (D3). Do this at each end of the aluminum sections. Put the black plugs (D5) in the screw holes after mounting is ready. Put the end caps (F) back on the aluminum sections.



The SSS is then ready for use.

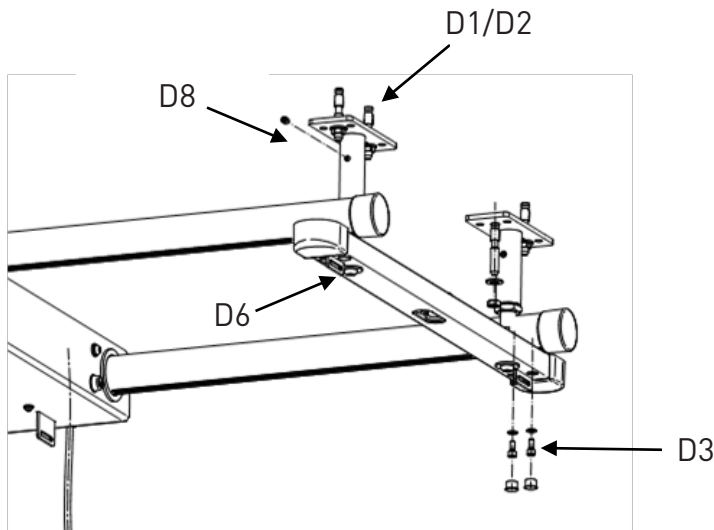
15. Security and maintenance

15.1 Security check

Grip the black plastic plugs at the end of the aluminum section and try to move the SSS vertically up and down as well as horizontally sideways. The SSS should be stable in all directions and make no noise.

Make sure:

1. All screws (D1/D2) in the ceiling are securely tightened.
2. All screws (D3) that connect the crosspieces and the aluminum sections together are securely tightened
3. All screws (D6) that connect the legs to the crosspieces are securely tightened. If some of the screws are loose, tighten them well.
4. All screws (D8) on each leg (safeguard) are securely tightened



The Redcord Sliding Suspension System (SSS) should be checked on a weekly basis. The user must be sure that all screws and nuts are tightened well and that the suspension is stable in all directions. The frequency of this routine depends on how much the suspension is used, but we highly recommended that you perform a security check every week.

Please document your security check of the Sliding Suspension System (SSS). Redcord recommend that you use the form at the end of this document to record your findings.

15.2 Spare parts:

If you need screws for the ceiling, brake ropes or other parts to your SSS, contact your supplier. An overview of all suppliers can be found at www.redcord.com.

NOTE: Only original screws from Redcord must be used.

15.3 Maintenance and cleaning of your SSS:

Keeping your SSS clean is the best maintenance you can perform. Regular cleaning of your SSS will secure proper function. By following these guidelines you will ensure proper function for many years.

Dust should be removed from the SSS with a vacuum cleaner or dry dust cloth.
NB! Remove dust from inside the traverses.

If washing is required use a soft cloth and hot water. Do not use detergent or soap.

Do **NOT** use lubricant of any kind on the aluminum sections or the traverses.
Lubricant (oil, grease, silicone etc) will:

1. Reduce (and in worst case disable) the brake function of the traverse
2. Attract dust
3. Increase friction and lead to poor operation of your SSS

16. Maintenance form

Security check for Sliding Suspension System (SSS) (See instruction in chapter Security and maintenance, chapter 15)

	Date:	Security check performed by:	Result:
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
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