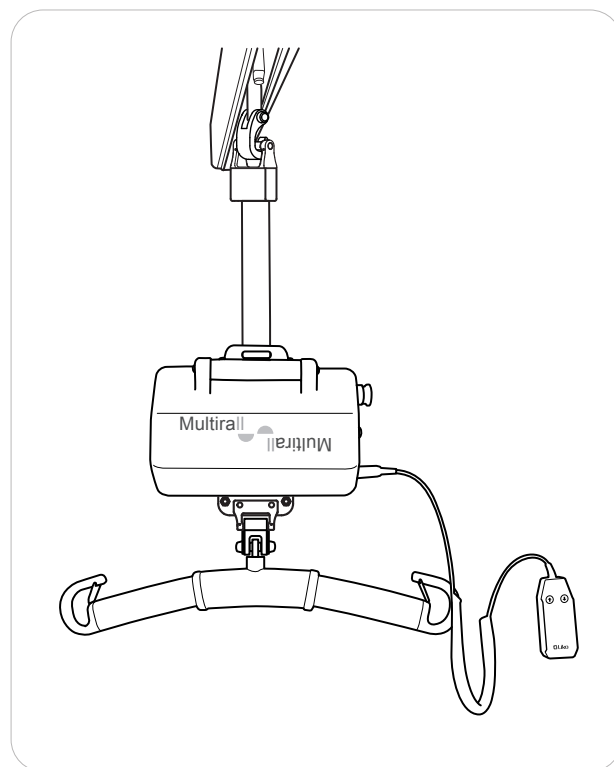
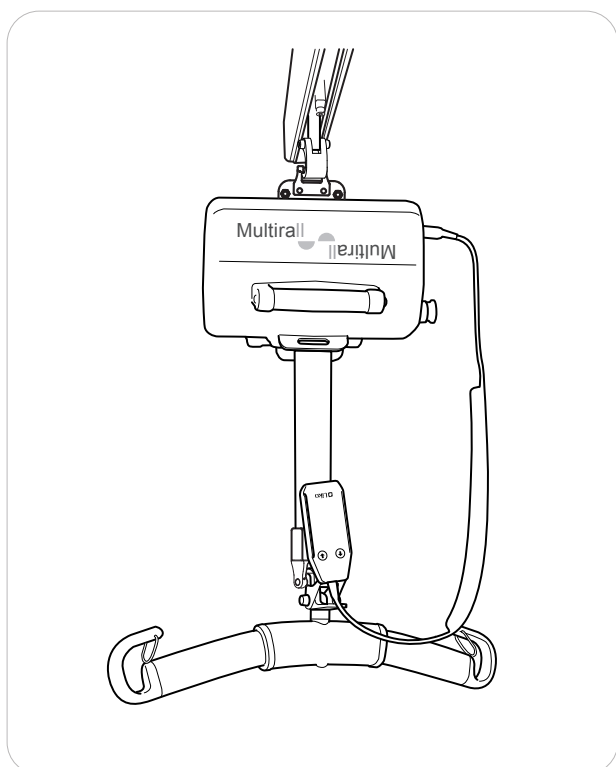



Multirall™ 200 overhead lift

Service Manual

Product No. 3130001



 *In this document, this warning symbol indicates that special care should be taken. If instructions are not followed there is a risk of serious injury to patient or caregiver.*

Spare part statement

*Liko AB will as manufacturer of stationary & mobile lifts keep spare parts available for 10 years after the last manufacturing date of the product.
Spare parts are available in the spare parts list or in the Service Manual for each model of lift.
Components (manufacturing parts) are not available after last manufacturing date.*

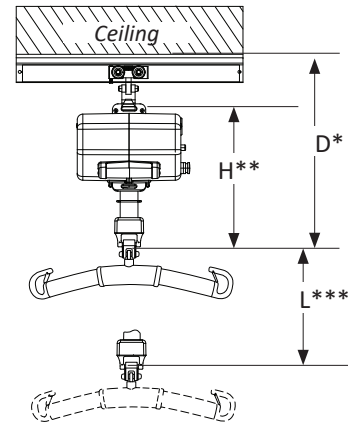
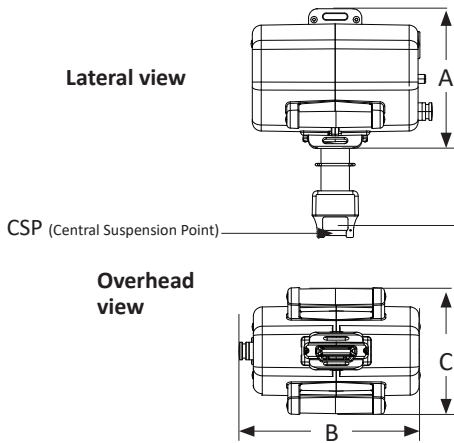
*Repairs and maintenance may only be performed by personnel authorized by Hill-Rom and using original Liko™ spare parts.
For information regarding Service and Maintenance education, contact your Hill-Rom representative.
For contact information please visit our website: www.hill-rom.com*

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Multirall™ 200 overhead lift

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1.1 Dimensions Multirall™ 200 overhead lift



Measurements in mm.

A	B	C	D*	H**	L***
264	295	210	443	308	1600

Measurements in inch.

A	B	C	D*	H**	L***
10.4	11.6	8.3	17.4	12.1	63.0

* Min. distance from ceiling to CSP at max. lifting height.

** Installation dimensions: the distance between the attachment point for the lift unit on the carriage and the CSP at max. lifting height.

*** Lifting interval: the distance between max. lifting height and min. lifting height measured in CSP.

1.2 Technical Data Multirall™ 200 overhead lift

- Maximum load:** 200 kg (440 lbs)
- Batteries:** 2 X 12 V DC, (2.4 Ah - 2.6 Ah), Valve-regulated lead-acid gel-type batteries. New batteries are provided by Liko.
- Battery charger:** SMP CC-10-43-24; 100-240 V AC, 40-60 Hz, max 600 m A
- Lifting speed:** 60 mm/s (2.3 in/s)
- Lifting interval:** 1600 mm (63 in)
- Electrical data:** 24 V DC, 8.5 A
- Lift motor weight:** 8.7 kg (19 lbs)

Emergency lowering device: Mechanical and electrical

- Intermittent power:** Int. Op 10/90, active operation max 6 min.
- Sound level:** 62.2 dB(A)
- Protection class:** IP 30 (lift unit)
IP 43 (hand control)
- Operating forces of controls:** Button on hand control: 4.5 N
Button on end cover: 4 N
- Ambient temperature:** Min. + 10°C - Max. + 40°C
(Min. 50° F - Max. 104° F)

Intended for indoor use.

Type B, in accordance with the electrical shock protection class.

Class II equipment.

Multirall is equipped with an SFS (Single Fault Safety) safety drum. This safety design provides protection against uncontrolled lowering. The lift strap has a tenfold safety.

Component X1 (Murata CSTCC4M00G53) on PCBA contains a SVHC, Lead titanium zirconium oxide (Pb(Ti,Zr)O3), which exceeds the limit according to REACH Regulation.

2.0 Troubleshooting, Multirall™ 200 overhead lift

The lift doesn't work.



- 1. Check that the Emergency Stop button is not activated.**
- 2. Check that the battery is charged. If the battery does not charge check charger voltage.**
- 3. Check that the hand control is correctly connected. If connected, check the hoist switches for operation.**
- 4. If the lift still does not work satisfactorily, please contact Hill-Rom.**

The lift emits a repeated sound or light signal.



- 1. Charge the battery immediately.**
- 2. If the lift still does not work satisfactorily, please contact Hill-Rom.**

The lift is stuck in the high position.



- 1. Check that the Emergency Stop button is not activated.**
- 2. Check that the battery is charged. If the battery does not charge check charger voltage.**
- 3. Check that the hand control is correctly connected. If connected, check the hoist switches for operation.**
- 4. Try to lower the lift; the limit switch might be engaged.**
- 5. Use indicated electrical or mechanical emergency lowering to lower the patient onto a firm surface.**
- 6. If the lift still does not work satisfactorily, please contact Hill-Rom.**

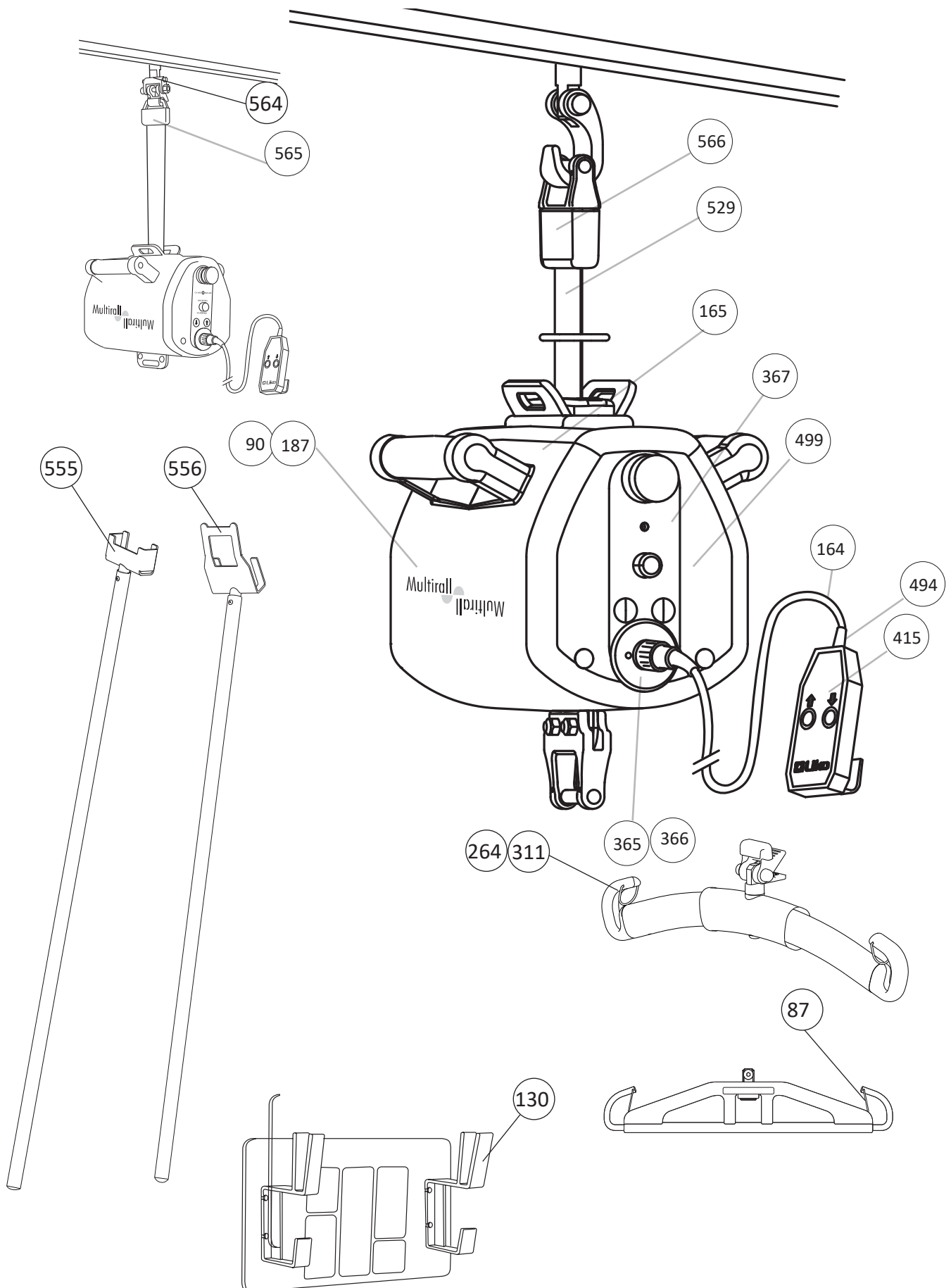
You hear unusual sounds.



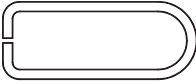
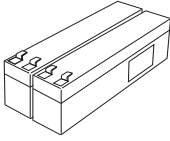


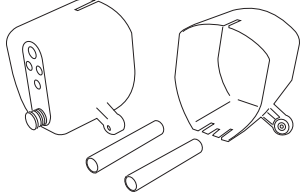
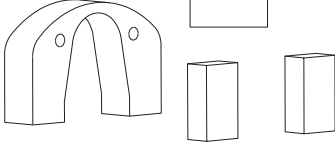
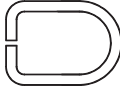

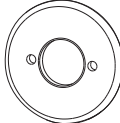
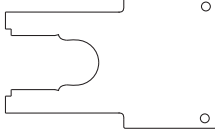
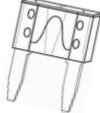
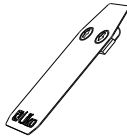
Contact Hill-Rom.

3.0 Spare Parts positions

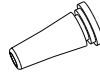
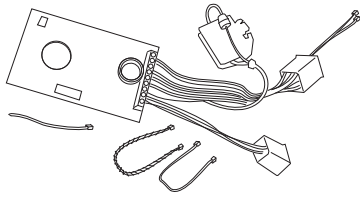
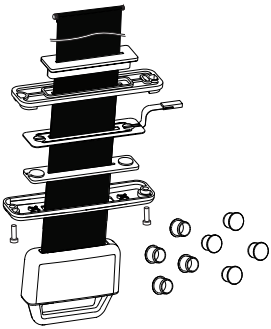


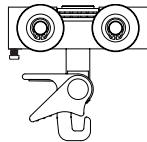
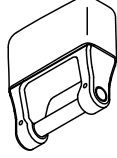
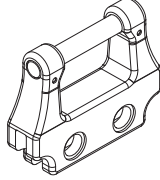
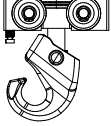
Prod. No.	Product
3130001	Multirall™ 200 overhead lift




5.0 Spare Parts List

31190018	87	Latch	pair		3EN640271
31290007	90	Battery 2,4-2,6 Ah/12 V	pair		3SE630239
3106004	130	Parking Bracket <i>Fits Instruction Placard Multirall, 3136003</i>	pce		-
31390004	164	Cable for Hand control with Conn. Plug	pce		3SE640231
31390005	165	Cover complete MR	pce		3SE640232
31390006	187	Battery Cushions MR	set		3SE640233
31590011	264	Latch universal	pair		3SE630229
31590014	311	Latch, composite <i>Fits Universal SlingBar from S/N 1299511</i>	pair		3SE640242
31390008	365	Contact Lock washer	st		3SE650230
21090026	366	Special tool for Lock washer	st		-
31390009	367	Fuse 10A, 10pce	set		3SE650231
21090061	415	Key pad Hand Control 2-buttons (Replaces Spare Part No. 21090060 and 21090038)	pce		3EN650261

5.0 Spare Parts List


31290091	494	Cable grommet, 10 pce	set		3SE690214
31390010	499	Electronic Card II MR	pce		3SE690219
31390014	529	Lift Strap Multirall <i>(including Limiting switch)</i>	pce		3SE670220
31390013	555	Extension Arm Multirall <i>Fits Carriage S65, Prod. No. 3136011</i>	pce		3EN690245
31390012	556	Helping Hand Multirall <i>Fits Carriage S50, Prod. No. 3136010</i>	pce		3EN690244
3136010	564	Carriage S50, MR	pce		-
31590027	573	Q-Link II	pce		3EN690292
3126020	578	Carriage adapter Multirall for S65	pce		3EN680109
3136015	576	Carriage hook for MR/LR	pce		3EN680069

5.0 Spare Parts List

PROD. NO.	POS. NO.	NAME	UNIT	ASSEMBLY INSTR.	
3136016	577	Adapter MR/LR Fits Carriage hook for MR/LR, Prod. No. 3136015	pce		-

4.0 Spare Parts Assembly Information

Assembly Instructions to Liko™ spare parts are attached with the products. The assembly instructions are also available in Agile and on the Partner Web. Document number to spare parts assembly instructions can be found in the spare parts list.

Key pad hand control 2-buttons 

Assembly Instruction

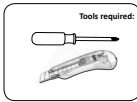
Product No. 21090061

Contains: Key pad hand control 2-buttons **Qty:** 1

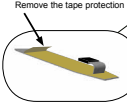
Fits:

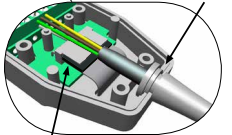
	Prod No.	Up to S/N:
HandControl LR 2 buttons	3126031	231 002 414
HandControl LR with wiring cable	3126033	233 000 133
HandControl LR S, ES, 2 buttons	3126034	234 020 350
Handkontroll MR	3136001	201 002 904


(Fits only to hand controls up to these S/N. They are without Rev. No.)

Tools required: 

Remove the old Key pad by carefully using a sharp tool.


Remove the tape protection 

Ensure that the cable gland is located in the intended track 

Press the plug 

NOTE
Make sure the spare part is mounted according to the assembly instruction.
- Check all functions related to the changed spare part.
- Repairs and maintenance may only be performed by personnel authorized by Hill-Rom and using original Liko™ spare parts.

3EN650261 Rev. 3
ENGLISH

Enhancing outcomes for patients and their caregivers: 

www.hill-rom.com | www.liko.com

Document Number

△ NOTE

- Always make sure the spare part is mounted according to the assembly instruction.
- Mandatory: Check all functions related to the changed spare part according to the assembly instruction.
- Repairs and maintenance may only be performed by personnel authorized by Hill-Rom and using original Liko™ spare parts.

Liko technical documentation can be found on the Partnerweb:

<https://partner.liko.com>

“My information” - “Documents”

If you don't have access, send a mail for registration to: se.customer.service@hill-rom.com

Carriage Adapter MR for S65



Assembly Instructions

Product No. 3126020

Contains:

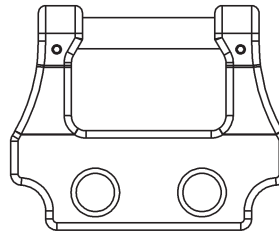
Carriage Adapter MR for S65
Threaded Bushing
M6 Fasteners

Part No.

901435271
930000483

Qty:

1
2
4



x 1



x 2



x 4

Fits:

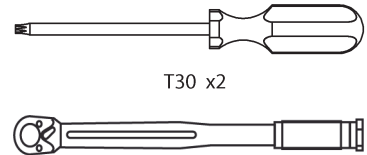
Multirall™ overhead lift (all models)

△ This symbol indicates a warning.

△ Important!

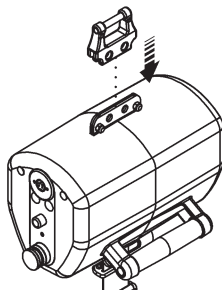
For safety reasons, it is essential that this component is correctly fitted to the lift according to these instructions.

Tools Required:



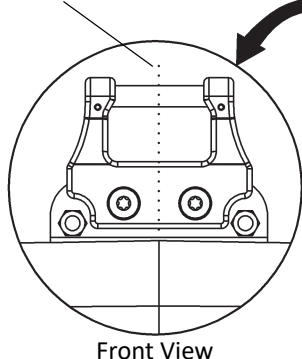
Installing the Carriage Adapter MR for S65:

1. Slide the adapter onto the lift mounting bracket.

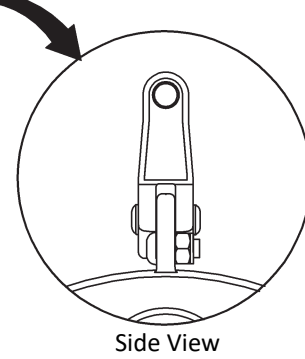
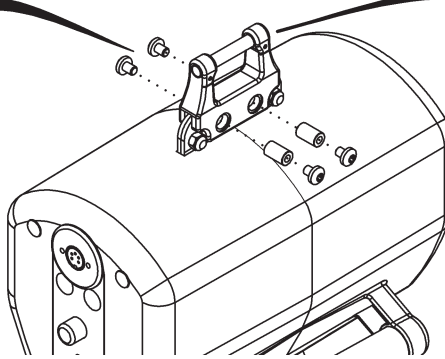


2. Place the adapter in the center of the mounting bracket and affix with the accompanying M6 screws (4) and accompanying 10 mm x 16.5 mm threaded pins (2). Stabilize the screws on one side using one T30 driver, while attaching the screws and pins on the opposite side with the other T30 driver. The recommended bolt torque is 4 N-m (35 in-lbs). Make sure the screws are entirely inserted when tightened. See the illustrations below.

Center line



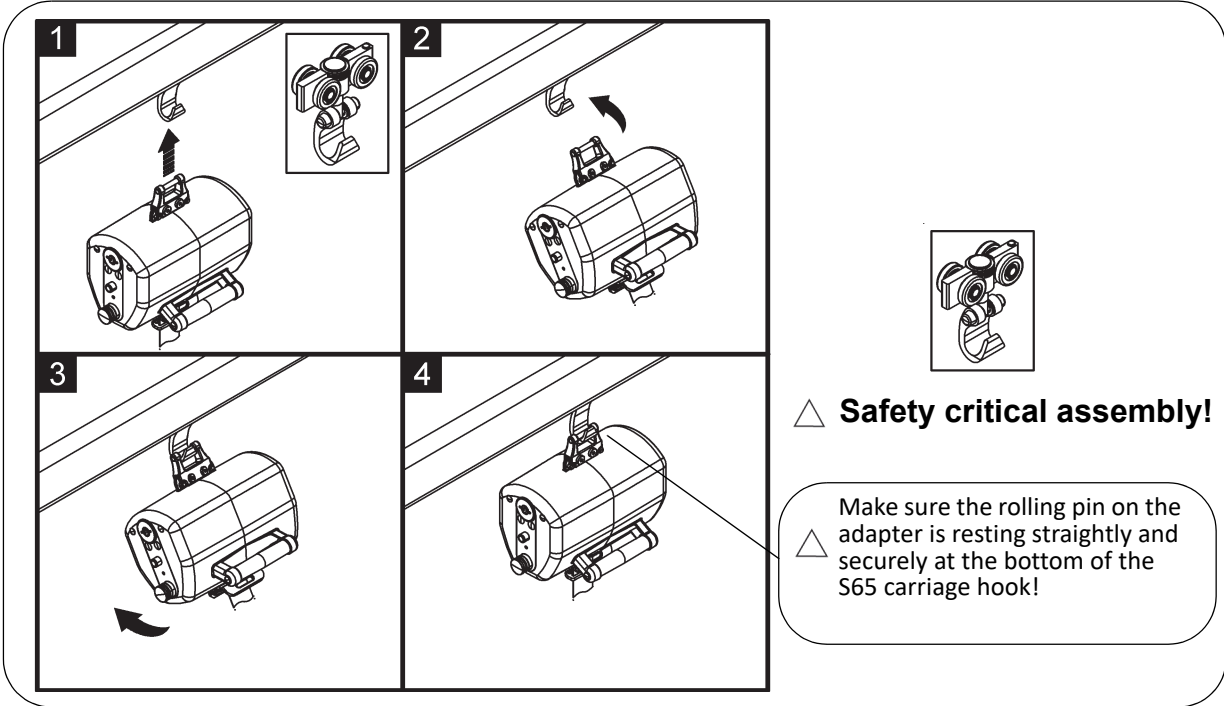
Front View



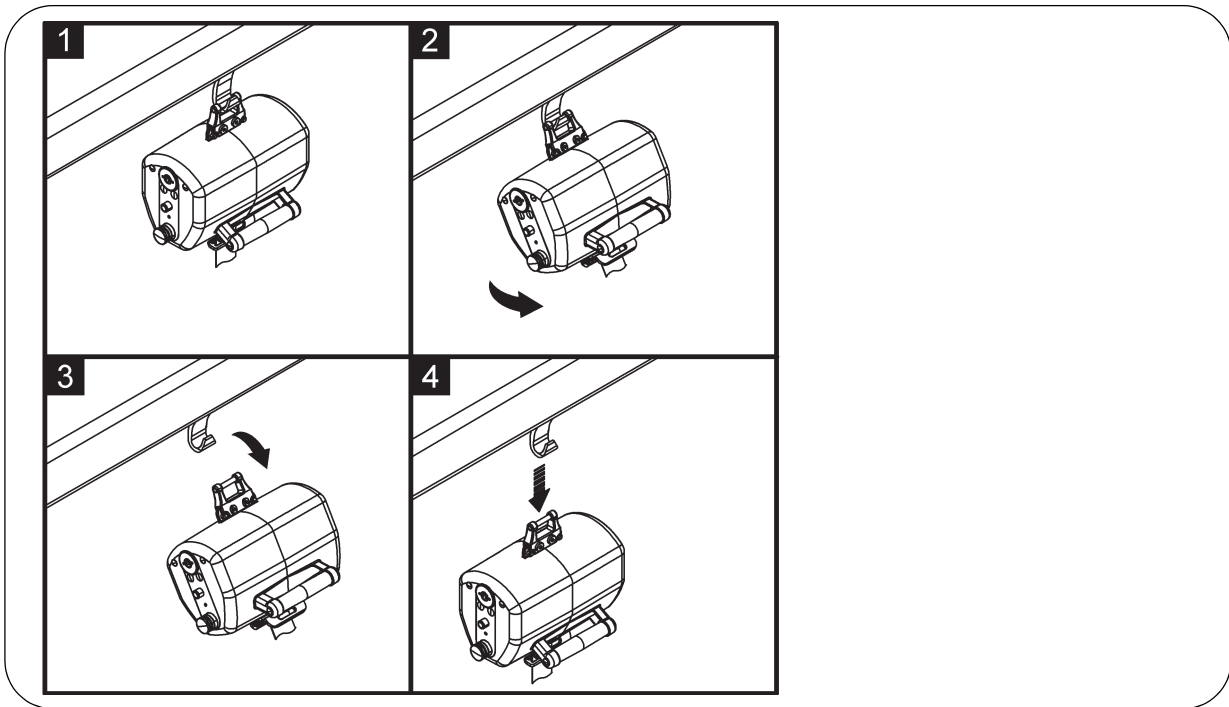
Side View

Mounting and Dismounting the Lift Unit with Attached Carriage Adapter MR for S65:

Mounting: Follow the steps below to attach the lift assembly to the S65 carriage hook.



Dismounting: Follow the steps below to remove the lift assembly from the S65 carriage hook.



△ NOTE

- Make sure the adapter is attached according to the instructions.
- Check all functions related to the adapter.
- Make sure when mounting the carriage that it is resting securely in the S65 hook and is not angled or leaning to one side.
- Repairs and maintenance may only be performed by personnel authorized by Hill-Rom and using original Liko™ spare parts.

6.0 Periodic Inspection Information, Multirall™ 200 overhead lift

INFORMATION

According to ISO 10535:2006 Annex B, Periodic Inspection of medical device Liko™ overhead lift should be performed at least once a year. For Liko™ overhead lifts Periodic Inspection Liko overhead lifts (3EN191001) is available on the Partner Web (and internally in Agile).

Periodic Inspection
Liko™ overhead lifts
3EN191001 Rev. 3
Valid for Multirall™ overhead lifts: Libero™, Libero™, Multirall™, Multirall™

Liko information
Lift: _____
Product Number: _____
Serial Number: _____
Production year: _____

Customer reference
Agreement No: _____
Name: _____
Address: _____
Post Code: _____

OVERHEAD LIFT

Check point	Action required	Approved	Not used
1. Physical Check			
2. General inspection			
3. Carriage			
4. Hand Control			
5. Emergency stop			
6. Emergency lowering			
7. Limit Switch (not available on Model B)			
8. Charger (not available on Model B)			
9. Hoist			
10. Lift stop			

ENVIRONMENTAL IMPACT

Check point	Action required	Approved	Not used
1. Control environment			

LOAD TESTING

Check point	Max Load applied	Approved	Not used
1. Maximum Load overhead lift	kg / lbs:		
Emergency lowering Maximum Load	kg / lbs:		

Required Measurements

Check point	Measured dimensions	Approved	Not used
1. Load rating - CR strap DRB	mm / inch		

Clear service

Check point	Action required	Approved	Not used
1. Service Symbol read			

Inspection sign off
Complete inspection according to instructions for the check points (page 2-8), fill in this page and sign below.
Approve to use the overhead lift: Approved Not approved
If the overhead lift has been or is under repair, "Not approved", the lift must not be used.
Action required: Actions according to the inspection items "NOT APPROVED" should be performed immediately after performed actions, sign below. If anything is unclear or if you have questions, please contact Hill-Rom or your local Hill-Rom representative.
Contact information can be found at www.hill-rom.com.
Inspection performed by: _____ Date: _____
Name Inspector: _____
Inspector performed in accordance with ISO 10535:2006 Annex B- Periodic inspection
Enhancing outcomes for patients and their caregivers. Hill-Rom

NOTE!
⚠ Periodic Inspection shall be performed at least once per year.

Liko technical documentation can be found on the Partnerweb:
<https://partner.liko.com> - "My information" - "Documents"
If you don't have access, send a mail for registration to: se.customer.service@hill-rom.com

Periodic Inspection may only be performed by personnel authorized by Hill-Rom and using original Liko™ spare parts.

Available Liko Periodic Inspections:

- 3EN371001 Periodic Inspection Liko Mobile lifts
- 3EN111001 Periodic Inspection Liko OH Rail system
- 3EN191001 Periodic Inspection Overhead Lifts
- 3EN301001 PI Freespan™ Freestand
- 3EN601001 Periodic Inspection Liko accessories

Also available is Periodic Inspection Slings. This inspection should be performed by a person who is suitable, has good experience and sufficient knowledge about design, use and maintenance of the sling.

- 7EN160834 General Periodic Inspection Protocol Liko Slings and Sabina SupportVests

7.0 Preventive Maintenance, Multirall™ 200 overhead lift

Expected Life Time

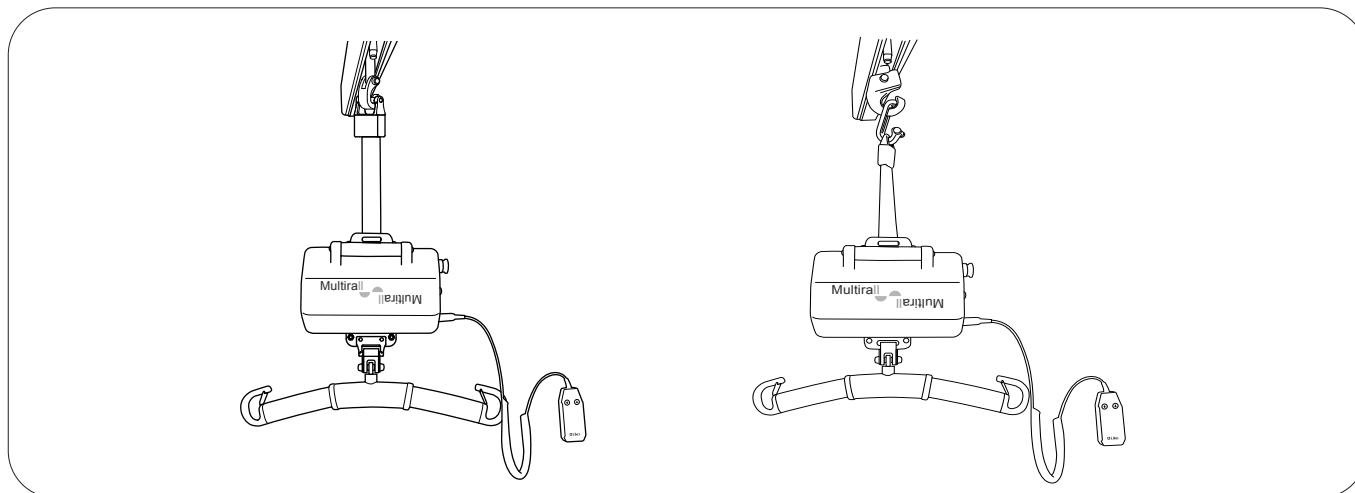
The expected life time of a Multirall™ overhead lift is 10 years of normal use provided that required Periodic Inspection and Preventive Maintenance is performed by personnel authorized by Hill-Rom and using original Liko™ spare parts.

However certain parts have a shorter life cycle and will need to be replaced in order for the overhead lift to meet its expected life time. They are listed below:

Parts that needs to be replaced:

Part	Part No.	Replacement interval:	Replacement:
Hand Control	3136001	2 years	Can be used more than 2 years if no malfunction is detected.
Battery	31290007	3 years	Can be used more than 3 years if no malfunction is detected.
Lift Strap	31390014	5 years	⚠ Must be replaced after 5 years of use, or if wear and tear are detected.

Expected Life Time Normal use is defined as 8-12 normal lifts/day	Year
Multirall™ 200 overhead lift	10



2021

Changes	Type	Prod. No.	Rev.	From S/N	Proj.
Q-link 31590005 removed as spare part to Multirall. Replaced by Q-link II 31590027.					MOD1322
Improved design of hook R2R. The new design of hook R2R is identified with an added label "R2R II" and is backwards compatible and work on both Q-link II and old Q-link.	Univ SlingBar 450 R2R	3156095	2	1210645	SUS003769
	Univ SlingBar 350 R2R	3156094	2	1210645	
	Carriage D45 with double hook	3136100	2	-	
	Hook R2R	31290056	-	From January 2021	

2019

Changes	Type	Prod. No.	Rev.	From S/N	Proj.
The Q-link changed to the Q-link II	Multirall	3130001	3	6511785	PRJ01055
New liftstrap with Q-link II 31390014 is replacing 31390011	LiftStap Multirall	31390014	-	-	PRJ01055
The S65 carriage with Single Hook has been reintroduced The Carriage adapter MR for S65 has been introduced	Multirall	3136011	2	-	PRJ01055
		3126020	-	-	

Changes	From S/N	Project
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2017

<p>Initial release of new Multirall rail attachment system. New Multirall Carriage, Helping Hand and Adapter created. 3136015, Carriage Hook for MR/LR (replacing obsoleted 3136011, S65 Carriage) 3136016, Carriage adapter 3136040, Extension Arm Adapter with new strap lock holder.</p> <p><i>New spare parts:</i> 3136010, Carriage S50 MR 31390012, Helping Hand Multirall. New spare part, increased length of extension tube. (replacing obsoleted 3136006) 31390013, Extension Arm Multirall. New spare part, increased length of extension tube. (replacing obsoleted 3136004)</p>	-	<p>SUS001865 SUS002097</p>
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Changes	From S/N	Project
2013		
<i>The lift straps has been modified. New type of seam and new treaded bolt. The Lift Strap Spare Part has got new spare part number: 3139011 LiftStrap Multirall.</i>	6 506 400	1799
2011		
<i>New version of the electronic card.</i>	6 505 000	1220
2009		
<i>New version of emergency stop</i>	-	962
<i>New version of limiting profile.</i>	6 503 288	
<i>New Hand control hanger introduces.</i>	6 503 150	
2008		
<i>Contact lock washer and Hand control hanger introduces. New decals.</i>	6 502 936	523
2005		
<i>Twist protection plate introduces . Hang-up is added.</i>	6 501 823 6 501 619	183
2003		
<i>New distributor of the electronic card. New Lift strap joint. New screws (M4x145, M6x180 and MC6S M6x70). Tape 25x25 for the batteries. New S/N decal.</i>	6 501 077 6 500 859 6 500 829 6 500 763 6 500 753	-
2002		
<i>New electronic card Version V9.6. New version of Limiting switch. Cover is also new. New version of quick release hook (TDM), fits carriage with. extension belt.</i>	6 500 591 6 500 505 6 500 503	-
2001		
<i>New electronic card and cover. Four schims 15x22x0,3 mounted on axis 15x202.</i>	6 500 332 6 500 026	-