

Maintenance instructions for LL12 inclined stair lifts
The work is to be carried out by qualified technical personnel only!

The following work may be carried out **by qualified personnel only**:

Installation
Adjustments and settings
Maintenance work
Fault finding/rectification

Qualified personnel are persons who

- know how the machine works
- have received instruction on how it works
- have read and understood the operating, installation and service manuals
- are aware of the dangers posed by the machine (and also its components)
- know and understand the interrelationships between the mechanical components
- know and understand the interrelationships between the electrical components
- have the appropriate tools/measuring instruments and know how to use them
- have a sufficient understanding of the German or English language respectively

When carrying out any work on the machine, please note:

- Do not allow other persons to access the machine when there is an increased danger potential (covers removed, safety devices disabled etc.).
- Avoid the risk of tripping up due to the open machine, tools lying around, electrical cables etc.
- The potential dangers of the machine must not have been increased after conclusion of the work on the machine
- Parts of the machine that are not yet firmly connected to the building/running rail are to be secured against falling over



The safety instructions in the operating manual are to be observed!!

Original parts and accessories are specially designed for our platform lifts. We expressly draw your attention to the fact that parts and accessories not supplied by us have also not been tested and approved by us. The installation and/or use of such products can therefore, under certain circumstances, negatively affect the constructive specified characteristics of the lift and impair the active and/or passive travelling safety as a result. The manufacturer accepts no liability whatsoever for damage caused by the use of non-original parts and accessories.

Tools / operating resources and auxiliary materials / measuring and testing devices

Torque wrench 110 Nm (10 to 24 mm)
Wrench, open-ended/ring (7 / 8 / 10 / 13 / 14 / 17 / 30 / 40 mm)
Hexagonal wrench (2 / 3 / 4 / 5 / 6 mm)
Punch (4 / 6 mm)
Long nose pliers
Side cutter
Circlip pliers A01, A11
Phillips screwdriver (PH1, PH2)
Flat-blade screwdriver (1 x 6 mm / 0.6 x 4.5 mm)

Loctite 243
Cable drum
Lamp
Voltmeter (230 V AC / 30 V DC)

9 V block battery (1x)
1.5 V AA battery (2x for each external control unit)

Lubricants:

E-COLL NLGI 2 multi-purpose grease I, lithium saponified (- 30 °C to 120 °C) (further designation: S4)
Eurotech Neoval oil MTO 300 (further designation: S5)
OKS 2101 (further designation: S6)

Wearing parts / parts that should be carried in case exchange is necessary:

12 V batteries (2 x)
Roller lever switch (1x)
Plunger switch (1x)
Microswitch (2x)
Grooved ball bearing (4x)
Command unit on coiled cable without socket (1x)
Fuses (*torpedo fuse 25A, strip fuse 50A, blade fuse FK2 2A/T, blade fuse FK2 40A/T, blade fuse FK2 10A/T, microfuse 6.3A*)

Maintenance plan based on EN 13015		Manufacturer: LIPPE Lift GmbH Weststrasse 48, 32657 Lemgo	Location:	
Page 1 of 5		Designation of the lift: LL12 inclined stair lift		Serial no.:
Seq. No.	Work to be carried out (by qualified technical personnel only)	Measuring and testing devices, operating resources and auxiliary materials		Remarks
1.	Supports			If present
1.1	<i>Check firm seating</i>		A	
1.2	<i>Examine for corrosion, breakages and deformations</i>		A	
2.	Running track			
2.1	Fastening		A	
2.1.1	<i>Examine for corrosion, breakages and deformations</i>		A	
2.1.2	<i>Check firm seating</i>		A	
2.2	Over-travel protection device		A	
2.2.1	<i>Check position and firm seating</i>		A	
2.3	Limit switch cams		A	
2.3.1	<i>Examine for corrosion</i>		A	
2.3.2	<i>Check position, function and firm seating</i>		A	
2.4	Unlocking cams		A	
2.4.1	<i>Examine for corrosion and breakages</i>		A	Replace plastic if necessary
2.4.2	<i>Check position, function and firm seating</i>		A	
2.5	Strip for bypass switch		A	
2.5.1	<i>Check position, function and firm seating</i>		A	
2.6	Battery charging station		A	
2.6.1	<i>Examine for breakages, deformation, corrosion and wear</i>		A	
2.6.2	<i>Check contact, function, adjustment and fastening</i>	Voltmeter	A	Voltage at the battery charging station must lie between 25.5 V and 29.5 V
2.7	Gear rack		A	
2.7.1	<i>Examine for corrosion, breakages and deformations</i>			
2.7.2	<i>Check firm seating and lubrication</i>	Grease: S6		
Intervals: A = 1x per year				

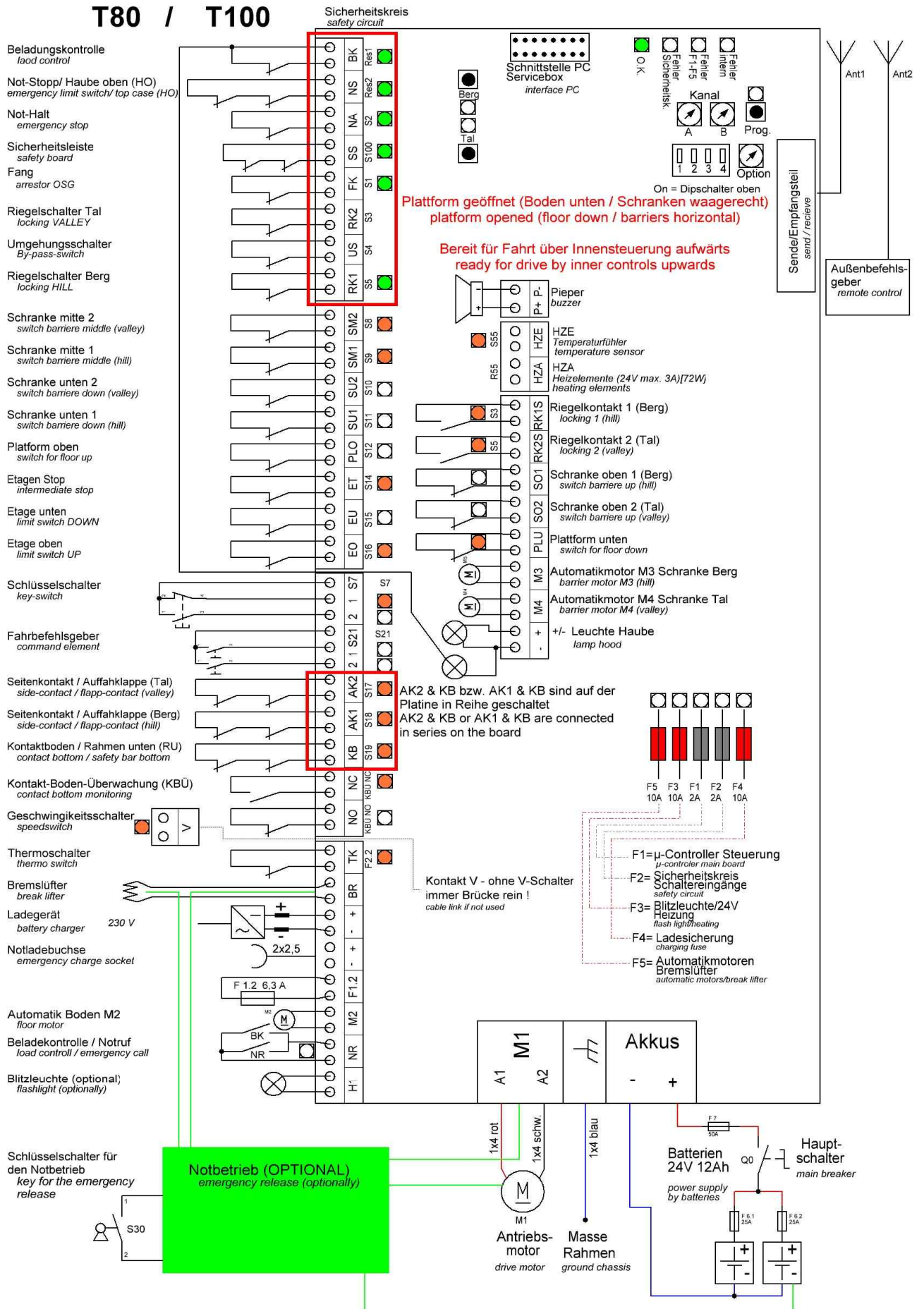
Maintenance plan based on EN 13015		Manufacturer: LIPPE Lift GmbH Weststrasse 48, 32657 Lemgo		Location:	
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3.	Lifting unit				
3.1	Roller set			A	
3.1.1	<i>Examine for corrosion, breakages and deformations</i>			A	
3.1.2	<i>Examine the fastening of the lower and <u>upper</u> roller set</i>			A	
3.1.3	<i>Check function</i>			A	
3.1.4	<i>Examine for noises, deformation, wear and dirt</i>			A	
3.2	Drive			A	
3.2.1	<i>Check firm seating of the shaft/pinion connection</i>			A	
3.2.2	<i>Check wear of the pinion</i>			A	
3.2.3	<i>Check lubrication</i>	Grease: S6		A	
3.3	Safety arrester			A	
3.3.1	<i>Examine for noises, deformation, wear and dirt</i>			A	
3.3.2	<i>Check function, adjustment and lubrication</i>	Grease: S5		A	Carefully engage the safety arrester using a long item during downward travel
3.4	Controller: <i>Check firm seating</i>			A	
3.4.1	Replace battery (for acoustic signals)	9V block battery		A	
3.5	Barriers			A	
3.5.1	<i>Check adjustment, function, play and lubrication (bearings and linkage).</i>	Grease: S4		A	
3.5.2	<i>Check function and wear of the locking device</i>			A	
3.5.3	<i>Examine for corrosion and dirt</i>			A	
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3.6	Contact base (carry out only with the base folded up)		A		
3.6.1	<i>Examine for deformation and dirt</i>		A		
3.6.2	<i>Check function, fastening and play</i>		A		
3.7	Interior controller		A		
3.7.1	<i>Check function, fastening,</i>		A		
3.8.2	<i>Examine for breakages and missing labelling</i>		A		
3.8	Exterior controller		A		
3.8.1	<i>Check function, fastening</i>		A		
3.8.2	<i>Examine for breakages and missing labelling</i>		A		
3.8.3	Replace battery	2x 1.5 V AA	A		
3.9	Motor: <i>Check fastening</i>		A		
3.10	All switches		A		
3.10.1	<i>Examine for breakages, wear and dirt</i>		A		
3.10.2	<i>Check function, adjustment, fastening and play</i>		A		
3.11	Main switch		A		
3.11.1	<i>Examine for breakages, wear and dirt</i>		A		
3.11.2	<i>Check function and fastening</i>		A		
3.12	Worm gear: <i>Examine for breakages and leaks</i>		A		
3.13	Rear wall: <i>Check fastening</i>		A		
3.14	Batteries (12 V)		A		
3.14.1	<i>Examine for corrosion and dirt</i>		A		
3.14.2	<i>Check firm seating, function and voltage</i>	Voltmeter	A	The voltage of each individual battery: min. 12.3 V. Difference between the individual batteries max. 0.2 V (always replace both!)	
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3.15	Battery charger		A		
3.15.1	<i>Examine for breakages and dirt</i>		A		
3.15.2	<i>Check function and fastening</i>		A		
3.16	-----			Empty	
3.17	Charging brushes		A		
3.17.1	<i>Examine for breakages, deformation and wear</i>		A		
3.17.2	<i>Check function, adjustment and fastening</i>		A		
3.18	Drive-on ramps		A		
3.18.1	<i>Examine for corrosion, deformation and dirt</i>		A		
3.18.2	<i>Check fastening, adjustment (folded up and down), function and lubrication</i>	Grease: S4	A	Readjust via eccentric if necessary; readjust tension spring if necessary; angle when folded up at least 45°	
3.19	Side ramp		A	If present	
3.19.1	<i>Examine for deformation, corrosion, wear and dirt</i>		A		
3.19.2	<i>Check function, fastening and lubrication</i>	Grease: S4	A		
3.20	Automatic gearbox		A		
3.20.1	<i>Examine for breakages, deformation and wear</i>		A		
3.20.2	<i>Check chain elongation, function, fastening and cotter pins</i>		A		
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3.21	Couplings		A	
3.21.1	<i>Examine for breakages, deformations, noises and wear</i>		A	
3.21.2	<i>Check function and adjustment</i>		A	
3.22	Unlocking cams		A	
3.22.1	<i>Examine for deformation and dirt</i>		A	
3.22.2	<i>Check function, adjustment and lubrication</i>	Fett: S4	A	
3.23	Emergency unlocking device: <i>Check function and marking</i>		A	
3.24	Hand wheel: <i>Check fastening and labelling</i>		A	
3.25	Emergency call: <i>Check function</i>		A	
3.26	Side contact switch		A	
3.26.1	<i>Check function, adjustment and play</i>		A	
3.27	Contact switch, underside of frame		A	
3.27.1	<i>Check function, adjustment and play</i>		A	
3.28	Contact switch, top side hood		A	
3.28.1	<i>Check function, adjustment and play</i>		A	
3.29	Overload protection		A	
3.29.1	<i>Check function, adjustment and play</i>		A	
4.	Others			
4.1	Test drive: <i>Check all functions and driving behaviour</i>		A	
4.2	Labelling (stickers, warning notices etc.): complete		A	<i>Possibly not supplemented at customer's request?</i>
Intervals: A = 1x per year				

Anzeige der Dioden vor Fahrtantritt über Innensteuerung
 Indication of LED's before drive by inner controls



Legende Dokumentation
Platine

Mainboard	Connectors	Anschluß	Connection
RES1	(leer) BK	Beladungskontrolle	weight-control
RES2	NS	Not-Stopp	emergency limit switch
S2	NA	NOT-HALT	emergency off
S100	SS	Sicherheitsleiste (optional)	switch for safetyboard (optionally)
S1	FK	Fangschalter	switch at arrestor OSG
S3	RK2	Riegelschalter TAL	switch for locking (valley)
S4	US	Umgehungsschalter	by-pass-switch
S5	RK1	Riegelschalter BERG	switch for locking (hill)
S8	SM2	Schranke TAL Mitte	switch for barrier (valley) middle
S9	SM1	Schranke BERG Mitte	switch for barrier (hill) middle
S10	SU2	Schranke TAL Unten	switch for barrier (valley) down
S11	SU1	Schranke BERG Unten	switch for barrier (hill) down
S12	PLO	Plattformboden Oben	floor switch, floor UP (optionally)
S14	ET	Etagenschalter	switch for intermediate stop (optionally)
S15	EU	Endschalter Unten	limit switch DOWN
S16	EO	Endschalter Oben	limit switch UP
S7	S7 / 1 / 2	Schlüsselschalter an Lift	key switch at carriage
S21	S21 / 1 / 2	Befehlsgeber an Lift	somand element at carriage
S17	AK2	Auffahrklappe TAL	switch for ramp (valley)
S18	AK1	Auffahrklappe BERG	switch for ramp (hill)
S19	KB	Kontaktboden (Serie)	switch for contact bottom (series)
KBÜ NC	NC	Kontaktbodenüberwachung (optional)	switch for contact bottom monitoring (optionally)
KBÜ NO	NO	Kontaktbodenüberwachung (optional)	switch for contact bottom monitoring (optionally)
V	V	Geschwindigkeit (optional)	switch for speed (optionally)
F2.2	TK	Thermokontakt M1	thermo switch drive motor
Y1	BR	Bremslüfter M1	brake lifter
1X20	+ / -	Ladegerät	battery charger
1X30	+ / -	Notladebuchse	emergency battery charging socket
F1.2	F1.2	Ladesicherung 6,3A	short circuit - charge contacts
M2	M2	Automatikmotor Boden (optional)	automatic motor (optionally)
S50	NR	Notruftaster (optional)	emergency call switch (optionally)
H1	H1	Blitzleuchte (optional)	flash light (optionally)
Pieper	P+ P-	Pieper	buzzer
Heizung (72/73)	HZE	Fühler Heizung	temperature sensor
Heizung (74/75)	HZA	Heizelemente	heating elements
(76/77)	RK1S	Riegelschalter BERG (Schliesser)	switch for locking (hill)
(78/79)	RK2S	Riegelschalter TAL (Schliesser)	switch for locking (valley)
(80/81)	SO1	Schranke BERG oben	switch for barrier (hill) up
(82/83)	SO2	Schranke TAL oben	switch for barrier (valley) up
(84/85)	PLU	Plattformboden unten	floor switch, floor down
M3 (86/87)	M3	Automatikmotor Schranke BERG	automatic motor barrier (hill)
M4 (88/89)	M4	Automatikmotor Schranke TAL	automatic motor barrier (valley)
24V	+ -	24V	24 V
M1 (A1 / A2)	A1 / A2	Antriebsmotor	drive motor
AKKU 24V	AKKU + -	Akkus 24V 9Ah	power supply by batteries
Rahmen Masse	GND	Masse Rahmen	ground chassis

zusätzliche, nicht in der Steuerung aufgeführten Schalter und Sicherungen			
additional switches and fuse, not mentioned on the control board			
	Q0	Hauptschalter	<i>main breaker</i>
	F4	Ladesicherung extern	<i>external charging fuse</i>
	F6.1/F6.2	Sicherungen Akku´s	<i>accumulator fuses</i>
	F7	Hauptsicherung	<i>main fuse</i>
	SK1	Seitenkontakt BERG	<i>side contact (hill)</i>
	SK2	Seitenkontakt TAL	<i>side contact (valley)</i>
	RU 1/2	Kontakt Rahmen Unterseite	<i>contact frame bottom side</i>
	HO	Kontakt Haube oben	<i>contact hood top</i>
	S30	Notbetrieb (optional)	<i>emergency release (optionally)</i>