

Maintenance instructions for T80 inclined stair lifts
The work is to be carried out by qualified technical personnel only!

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

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 may 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)
Spanner, open-ended/ring (7 / 8 / 10 / 13 / 14 / 17 / 30 / 40 mm)
Hexagon keys (2 / 3 / 4 / 5 / 6 mm)
Taper pin punch (4 / 6 mm)
Long nose pliers
Side cutters
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)
Ammeter 24 V DC min. 1A max. 50A
Ohmmeter

9V block battery (1x)
1.5 V AA battery (2x for each external command unit)
Battery 1.5V AAA (2x for each UHF handheld transmitter)

Lubricants:

OKS 469 NLGL 2 plastic and elastomer lubricant (- 40 °C to 150 °C) (further designation: S1)
E-COLL NLGI 2 multi-purpose graphite grease II (- 30 °C to 120 °C) (further designation: S2)
E-COLL NLGI 2 multi-purpose grease I, lithium soaped (- 30 °C to 120 °C) (further designation: S3)
Fina Marson L2 (further designation: S4)
Eurotech Neoval Oil MTO 300 (further designation: S5)
Ultraclean Eurotech (Technical cleaner) (further designation: R1)

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

6 V batteries (8 x)
12 V batteries (4 x)
Roller lever switch (1x)
Plunger switch (1x)
Microswitch
Guide rollers incl. bearings (4x)
Command unit on coiled cable with socket (1x)
Battery charger (1x)
Fuses: 6.3 A slow-blow micro-fuse / 2 A blade fuse / 10 A blade fuse / 25 A torpedo fuse

Maintenance plan based on EN 13015		Manufacturer: LIPPE Lift GmbH Weststrasse 48, 32657 Lemgo	Location:	
Page 1 of 5		Designation of the lift: T80 inclined stair lift	Serial no.:	
Seq. no.	Work to be carried out (by qualified technical personnel only)	Measuring and testing devices, operating 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			
2.1.1	<i>Examine for corrosion, breakages and deformations</i>		A	
2.1.2	<i>Check firm seating</i>		A	
2.2	Support steelwork: <i>Examine for corrosion, breakages and deformations</i>		B	
2.3	Vertical rods: <i>Examine for corrosion, breakages and deformations</i>		B	
2.4	Traps			
2.4.1	<i>Check function</i>		A	
2.4.2	<i>Examine for corrosion, breakages and deformations</i>		A	
2.5	Limit switch curves			
2.5.1	<i>Examine for corrosion</i>		A	
2.5.2	<i>Check position, function and firm seating</i>		A	
2.6	Unlocking curves		A	
2.6.1	<i>Examine for corrosion and breakages</i>		A	Replace plastic if necessary
2.6.2	<i>Check position, function and firm seating</i>		A	
2.7	Slot for bypass switch			If present
2.7.1	<i>Check function</i>		A	
2.7.2	<i>Examine for dirt</i>		A	
2.8	Bypass switch curves			If present
2.8.1	<i>Examine for corrosion and breakages</i>		A	
2.8.2	<i>Check position, function and firm seating</i>		A	
Intervals: A = once by year B = every 2 years				

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2.9	Battery charging station				
2.9.1	<i>Examine for breakages, deformation, corrosion and wear</i>			A	
2.9.2	<i>Check contact, function, adjustment and fastening</i>	Voltmeter / Ammeter		A	Voltage at the battery charging station must be between 25.5 V and 29.5 V
2.10	Running track tube: <i>Examine for corrosion, breakages and deformations</i>			B	
3.	Carriage				
3.1	Roller set				
3.1.1	<i>Examine for corrosion, breakages and deformations</i>			A	
3.1.2	<i>Examine the fastening of the lower and upper roller set</i>			A	Insert grub screw with Loctite 243 (work very carefully!!)
3.1.3	<i>Check function, adjustment and play</i>			A	
3.1.4	<i>Examine for noises, deformation, wear and dirt</i>			A	
3.2	Rotating drive				
3.2.1	<i>Examine for corrosion, breakages, noises, dirt and deformation</i>	Grease: Plastic guide: S1 Lugs/blocks (metal on metal): S2		A	
3.2.2	<i>Check adjustment, arrester, firm seating, cotter pins, function and lubrication</i>	Grease: for arrester bearing: S5 / Cleaner:R1		A	After cleaning lubricate again!
3.2.3	Main drive chain (duplex)				
3.2.3.1	<i>Check adjustment, play, lubrication/ re-tension via eccentric bush</i>	Grease : S2			
3.3	Controller: <i>Check firm seating</i>			B	
3.3.1	Replace battery (for acoustic signals)	9V block battery		A	
3.4	Barriers / arm rests				
3.4.1	<i>Check adjustment, function, play and lubrication (bearings and linkage).</i>	Grease: S4		A	
3.4.2	<i>Check function and wear of the locking device</i>			A	
3.4.3	<i>Examine for corrosion and dirt</i>			A	
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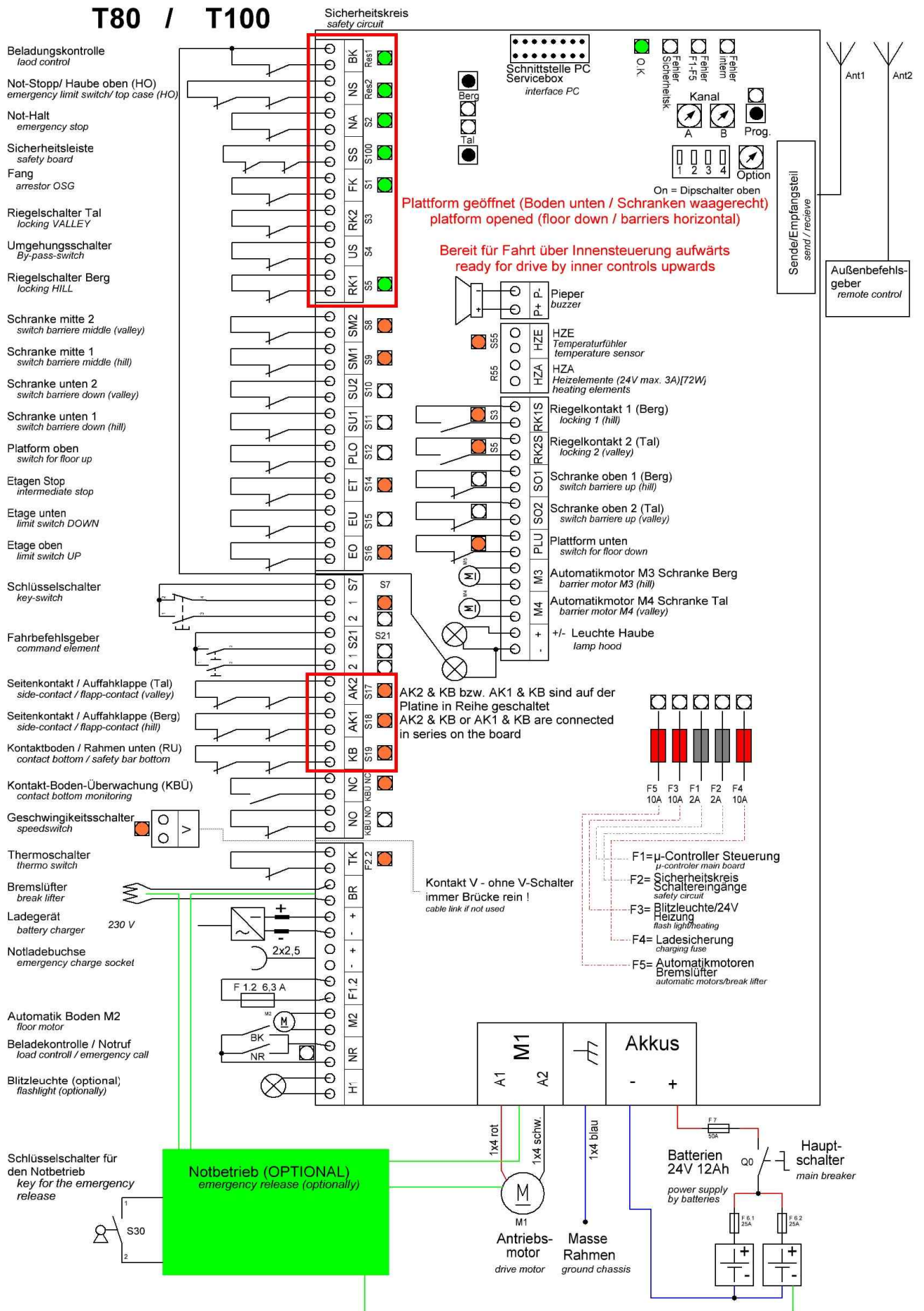
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Seq. no.	Work to be carried out (by qualified technical personnel only)	Measuring and testing devices, operating and auxiliary materials		Remarks	
3.5	Contact floor (carry out only with the floor folded up)				
3.5.1	<i>Examine for deformation and dirt</i>			A	
3.5.2	<i>Check function, fastening and play</i>			A	
3.6	Internal controller				
3.6.1	<i>Check function, fastening,</i>			A	
3.6.2	<i>Examine for breakages and missing labelling</i>			A	
3.7	External controller				
3.7.1	<i>Check function, fastening</i>			A	
3.7.2	<i>Examine for breakages and missing labelling</i>			A	
3.7.3	Replace battery	2x 1.5 V AA		A	
3.8	Motor: <i>Check fastening</i>			A	
3.9	All switches				
3.9.1	<i>Examine for breakages, wear and dirt</i>			A	
3.9.2	<i>Check function, adjustment, fastening and play</i>			A	
3.10	Main breaker				
3.10.1	<i>Examine for breakages, wear and dirt</i>			B	
3.10.2	<i>Check function and fastening</i>			A	
3.11	Worm gear: <i>Examine for breakages and leaks</i>			B	
3.12	Rear panel: <i>Check fastening</i>			B	
3.13	Batteries (6 V and/or 12 V)				
3.13.1	<i>Examine for corrosion and dirt</i>			B	
3.13.2	<i>Check firm seating, function and voltage</i>	Voltmeter		A	The voltage of each individual battery: min. 6.3 V (12.3 V). Difference between the individual batteries max. 0.2 V (only replace complete blocks!)
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3.14	Battery charger				
3.14.1	<i>Examine for breakages and dirt</i>			A	
3.14.2	<i>Check function and fastening</i>			A	
3.15	Charging fuse				
3.15.1	<i>Examine for breakages and dirt</i>			A	
3.15.2	<i>Check function and fastening</i>			A	
3.16	Charging brushes				
3.16.1	<i>Examine for breakages, deformation and wear</i>			A	
3.16.2	<i>Check function, adjustment and fastening</i>			A	
3.17	- Empty -				
3.18	Ramp				
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	Safety board				If present
3.19.1	<i>Examine for deformation and corrosion</i>			A	
3.19.2	<i>Check function, adjustment and play</i>			A	
3.20	Side ramp				If present
3.20.1	<i>Examine for deformation, corrosion, wear and dirt</i>			A	
3.20.2	<i>Check function, fastening and lubrication</i>	Grease: S4		A	
3.21	Automatic gearbox				If present
3.21.1	<i>Examine for breakages, deformation and wear</i>			A	
3.21.2	<i>Check chain elongation, function, fastening and cotter pins</i>			A	
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3.22	Couplings			If present
3.22.1	<i>Examine for breakages, deformations, noises and wear</i>		A	
3.22.2	<i>Check function, adjustment and cotter pins</i>		A	
3.23	Folding seat / safety belt			If present
3.23.1	<i>Examine for breakages, tears and deformation</i>		A	
3.23.2	<i>Check function and fastening</i>		A	
3.24	Unlocking cams			
3.24.1	<i>Examine for deformation and dirt</i>		A	
3.24.2	<i>Check function, adjustment and lubrication</i>	Grease: S4	A	
3.25	Emergency unlocking device: <i>Check function and marking</i>		A	
3.26	Hand wheel: <i>Check fastening and labelling</i>		A	
3.27	Emergency call: <i>Check function</i>		A	Check batteries if present (9V)
3.28	Changeover switch for driving uphill/downhill			
3.28.1	<i>Check adjustment, function and fastening</i>		A	
3.29	Side contact switch			
3.29.1	<i>Check function, adjustment and play</i>		A	
3.30	Contact switch, rear cover			If present
3.30.1	<i>Check function, adjustment and play</i>		A	
3.31	Contact switch, underside of frame			
3.31.1	<i>Check function, adjustment and play</i>		A	
3.32	Contact switch, top side hood			
3.32.1	<i>Check function, adjustment and play</i>		A	
3.33	Overload protection			
3.33.1	<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>

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

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>