

Maintenance instructions for T80 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 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)

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

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)

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

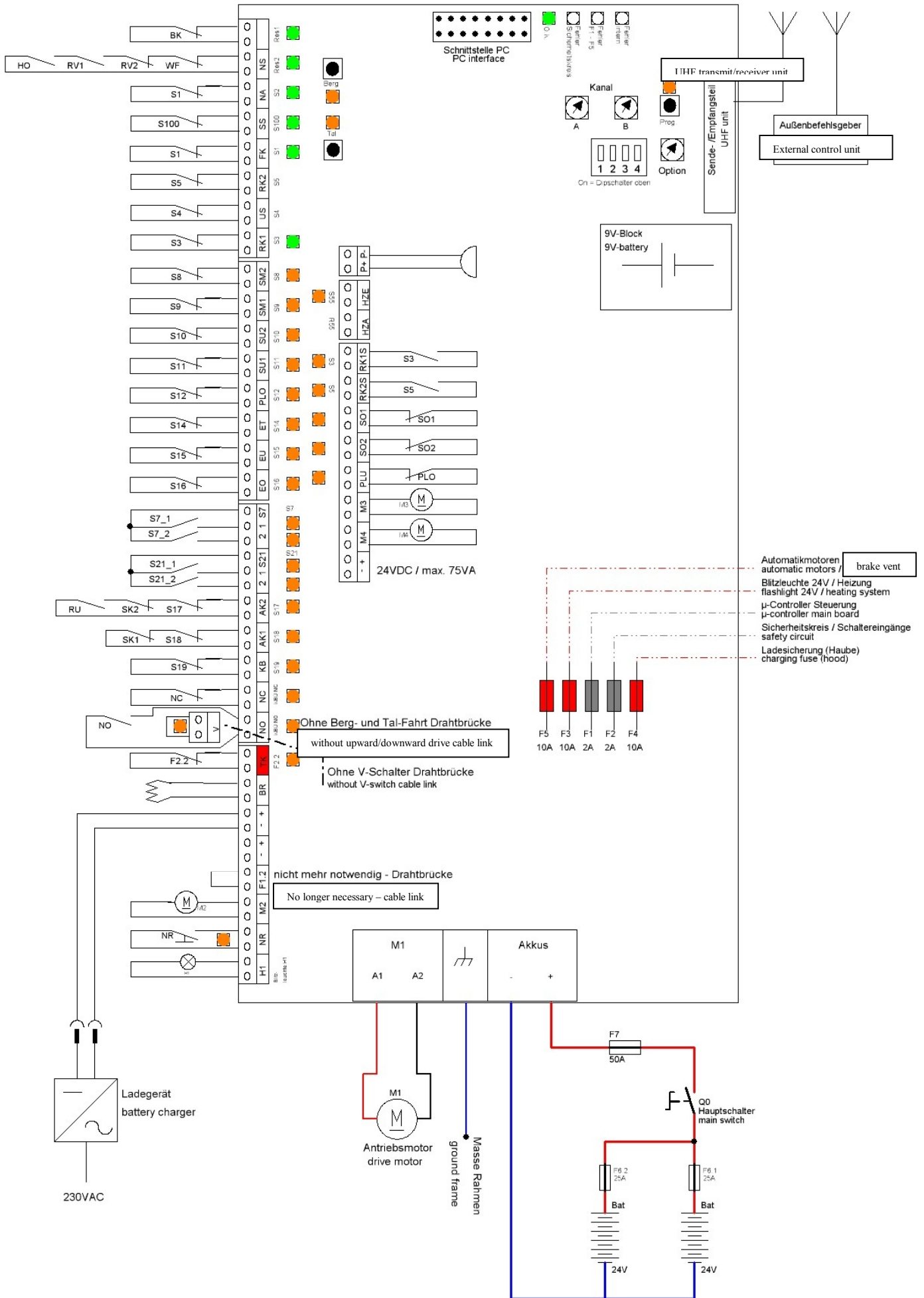
6 V batteries (4 x)
12 V batteries (4 x)
Roller lever switch (1x)
Plunger switch (1x)
Microswitch (2x interior area, 2x exterior area)
Guide rollers incl. bearings (4x)

Maintenance plan based on EN 13015		Manufacturer: LIPPE Lift GmbH Weststrasse 48, D-32657 Lemgo		Location:	
Page 1 of 4		Designation of the lift: Inclined stair lift T80 (chair 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				
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	If present
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	
2.9	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		A	Voltage at the battery charging station must lie between 25.5 V and 29.5 V
2.10	Running track tube: <i>Examine for corrosion, breakages and deformations</i>			B	
Intervals: A = once per year B = every 2 years					

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Page 2 of 4		Designation of the lift: Inclined stair lift T80 (chair lift)		Serial no.:	
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3.	Lifting unit				
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>			A	
3.2.2	<i>Check adjustment, arrester, firm seating, cotter pins, function and lubrication</i>	Grease: Plastic guide: S1 Lugs/blocks (metal on metal): S2		A	Grease: for arrester bearing: S3
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 / armrests				
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	
3.5	Contact base (carry out only with the base 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	Interior controller				
3.6.1	<i>Check function, fastening,</i>			A	
3.6.2	<i>Examine for breakages and missing labelling</i>			A	
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3.7	Exterior 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 switch			
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 wall: <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!)
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	
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3.15	Charging circuit breaker				
3.15.1	<i>Examine for breakages and dirt</i>			A	
3.15.2	<i>Check function and fastening</i>			A	Short-circuit test: Short-circuit the charging brushes on the lifting unit (activate the circuit breaker again afterwards)
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	Folding seat / safety belt				If present
3.17.1	<i>Examine for breakages, tears and deformation</i>			A	
3.17.2	<i>Check function and fastening</i>			A	
3.18	Hand wheel: <i>Check fastening and labelling</i>			A	
3.19	Emergency call: <i>Check function</i>			A	Check batteries if present
3.20	Changeover switch for driving uphill/downhill				If present
3.20.1	<i>Check adjustment, function and fastening</i>			A	
3.21	Contact switch, underside of frame				
3.21.1	<i>Check function, adjustment and play</i>			A	
3.22	Contact switch, top side hood				
3.22.1	<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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Key to PCB

Mainboard	Connectors	Anschluß	Connection
RES1	RES1	Drahtbrücke	Cable link
RES2	NS	Drahtbrücke	Cable link
S2	NA	NOT-HALT	Emergency stop
S100	SS	Sicherheitsleiste(optional)	Switch for safety board (option)
S1	FK	Fangschalter	Switch on arrester OSG
S3	RK2	Riegelschalter TAL	Switch for locking (bottom station)
S4	US	Umgehungsschalter	By-pass-switch
S5	RK1	Riegelschalter BERG	Switch for locking (top station)
S8	SM2	Schranke TAL Mitte	Switch for barrier (bottom station) middle
S9	SM1	Schranke BERG Mitte	Switch for barrier (top station) middle
S10	SU2	Schranke TAL Unten	Switch for barrier (bottom station) down
S11	SU1	Schranke BERG Unten	Switch for barrier (top station) down
S12	PLO	Plattformboden Oben	Platform floor switch, floor up (optional)
S14	ET	Etagenschalter	Switch for intermediate station (optional)
S15	EU	Endschalter Unten	Limit switch DOWN
S16	EO	Endschalter Oben	Limit switch UP
S7	S7 / 1 / 2	Schlüsselschalter am LAM	Key switch on carriage
S21	S21 / 1 / 2	Befehlsgeber am LAM	Control unit on carriage
S17	AK2	Auffahrklappe TAL	Switch for ramp (bottom station)
S18	AK1	Auffahrklappe BERG	Switch for ramp (top station)
S19	KB	Kontaktboden (Serie)	Contact base (series)
KBÜ	NO	Kontaktbodenüberwachung (optional)	Contact base monitor switch (optional)
KBÜ	NC	Kontaktbodenüberwachung (optional)	Contact base monitor switch (optional)
V	V	Geschwindigkeit (optional)	Speed switch (optional)
F2.2	TK	Thermokontakt M1	Drive motor thermal switch
Y1	BS	Bremslüfter M1	Brake vent
1X20	+ / -	Notladebuchse	Emergency battery charging socket
1X30	+ / -	Ladegerät	Battery charger
F1.2	F1.2	Ladesicherung 6A	Charging circuit breaker 6A
M2	M2	Automatikmotor Boden(optional)	Automatic base motor (optional)
S50	NR	Notruftaster (optional)	Emergency call switch (optional)
H1	H1	Blitzleuchte (optional)	Flashing light (optional)
S55	HZE	Fühler Heizung	Temperature sensor
S56	HZA	Heizelemente	Heating elements
	P+ P-	Pieper	Buzzer
S5	RK1S	Riegelschalter BERG(Schliesser)	Locking switch (top station)
S3	RK2S	Riegelschalter TAL(Schliesser)	Locking switch (bottom station)
	SO1	Schranke BERG oben	Barrier switch (top station) up
	SO2	Schranke TAL oben	Barrier switch (bottom station) up
	PLU	Plattformboden unten	Platform floor switch, floor down
M3	M3	Automatikmotor Schranke Berg	Automatic barrier motor (top station)
M4	M4	Automatikmotor Schranke Tal	Automatic barrier motor (bottom station)
24V	+ -	24V	24 V
M1 / A1 / A2	A1 / A2	Antriebsmotor	Drive motor
AKKU 24V	AKKU + -	Akkus 24V 9Ah	Rechargeable batteries 24 V 9 Ah
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 switch</i>
F4		Ladesicherung extern	<i>external charging fuse</i>
F6.1/F6.2		Sicherungen Akku´s	<i>rechargeable battery fuses</i>
F7		Hauptsicherung	<i>main fuse</i>
SK1		Seitenkontakt BERG	<i>side contact, top station</i>
SK2		Seitenkontakt TAL	<i>side contact, bottom station</i>
RV1		Kontakt Rückverkleidung BERG	<i>contact, rear cover, top station</i>
RV2		Kontakt Rückverkleidung TAL	<i>contact, rear cover, bottom station</i>
RU		Kontakt Rahmen Unterseite	<i>contact, underside of frame</i>
HO		Kontakt Haube	<i>hood contact, top</i>
BK		Beladungskontrolle	<i>load monitor</i>