

# Arbeitsbühne



Prüfbescheinigung 97022

Typ:	S 3-2 L
Baujahr:	2005
Fabrikations-Nr.:	8046/05
Nutzlast (Personen + Material):	240 kg
Eigengewicht:	155 kg
Zulässiges Gesamtgewicht:	395 kg
Länge:	2 m
Erforderliches Hebezeug:	2 Tirak X 300 P
Nutzkraft:	3,0 kN pro Gerät
Zulässige Belastung bei Personentransport:	300 kg pro Gerät

GREIFZUG Hebezeugbau GmbH · 51469 Bergisch Gladbach  
Scheidtbachstraße 19-21  
Tel.: 0 22 02/10 04-0 · Fax.: 0 22 02/10 04-50+70

# Motorized Suspended Scaffolding



Type:	S 3 - 2 L
Year of manufacture:	2005
Serial number.:	8046/05
Safe working load :	240 kg
Dead weight:	155 kg
Admissible total weight:	395 kg
Length:	2 m
Hoist type:	2 pcs X 300 P
Lifting capacity:	300 kg per hoist
Admissible load for man riding:	300 kg per hoist

Zertifikation No. 97022

GREIFZUG Hebezeugbau GmbH · 51469 Bergisch Gladbach  
Scheidt bachstraße 19-21

Tel.: 0 22 02/10 04-0 · Fax.: 0 22 02/10 04-50+70

# Arbeitsbühne

Typ S 3-2 L bis S 3-8 L  
mit stirnseitiger Aufhängung

Baujahr: 2005

Fabr.-Nr.: 8046

Erforderliches  
Hebezeug:

TIRAK Typ X 300 PB und XA 300 PB

## Nutzlast-Tabelle

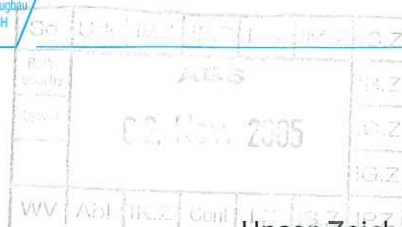
Max. Belastung/Meter: 120 kg

Typ	Länge (m)	Eingesetzte Bühnenelemente	Eigengewicht (kg)*	Nutzlast (kg)*
S 3-2 L	2	2 m	155	240
S 3-3 L	3	3 m	170	360
S 3-4 L	4	2 + 2 m	195	405
S 3-5 L	5	3 + 2 m	210	390
S 3-6 L	6	3 + 3 m	225	375
		2 + 2 + 2 m	235	365
S 3-7 L	7	3 + 2 + 2 m	250	350
S 3-8 L	8	3 + 3 + 2 m	265	335
		2 + 2 + 2 + 2 m	275	325

\* **Richtwerte** für Bühne mit stirnseitigen Tragrahmen, 2 Winden, Zentralsteuerung,  
Abfangsicherungen BLOCSTOP und Fassadenrollen, **ohne Zubehör.**

GREIFZUG Hebezeugbau GmbH  
51469 Bergisch Gladbach • Scheidtbachstr. 19-21  
Tel.: 0 22 02/10 04-0 • Telefax 0 22 02/10 04-70





Air Liquide AGS GmbH  
Project Manager, IP.Z  
Herrn Dr. Norbert Nipper  
Fütingsweg 34  
47805 Krefeld

Unser Zeichen: VBK 3489/Dw

**Verantwortlich:**

**Innendienst:** Herr Dworak  
Telefon-Nr.: 0 22 02/10 04-10  
Telefax-Nr.: 0 22 02/10 04-4110  
[thomas.dworak@tractel.com](mailto:thomas.dworak@tractel.com)

**Aussendienst:** Herr Diel  
Telefon-Nr.: 0 20 52/8 29 83  
Telefax-Nr.: 0 22 02/10 04-41600  
Autotelefon: 01 72/2 02 69 91  
[andreas.diel@tractel.com](mailto:andreas.diel@tractel.com)

Datum: 31.10.2005

Ihre Telefon-Nr.: 02151/3799-655  
Ihre Telefax-Nr.: 02151/3799-317

**Greifzug-Arbeitsbühne aus Bestellung 4500025626 – Unsere Auftrags-Nr. 61400**

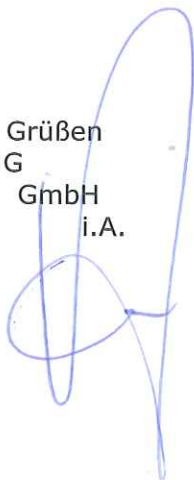
Sehr geehrter Herr Nipper,

anbei erhalten Sie wie abgesprochen ein Blechtypenschild für die Bühne aus dem oben genannten Auftrag sowie zusätzlich 2 Stück Typenschilder zum Aufkleben (1 x deutsch und 1 x englisch).

Bitte rufen Sie uns bei Rückfragen an.

Mit freundlichen Grüßen  
GREIFZUG  
Hebezeugbau GmbH  
ppa. i.A.

Anlagen:  
w.o.





# TIRAC Prüfzertifikate



1.1 Gerät/Machine/Appareil/Typ/Type <b>Tirak X 300 P</b>		Kunde/Customer/Client <b>Air Liquide AGS GmbH</b>		Jahr der Constr. Année de fabr. <b>2005</b>		Geräte-Nr. Serial No. No. de fabrication <b>23222</b>	
1.2 Tragfähigkeit (Material) Safe working load (Material) Capacité de levage (Material) <b>300</b> <input checked="" type="checkbox"/> kg <input type="checkbox"/> lbs.		Zul. Belastung (Personen-transport) Admissible load (man-riding) Charge admissible (levage de personnes) <b>300</b> <input checked="" type="checkbox"/> kg <input type="checkbox"/> lbs.		1.3 Seil-Ø Wire rope Ø Ø du câble <b>8</b> <input checked="" type="checkbox"/> mm <input type="checkbox"/> in.			
Motor / Moteur 2.1 Typ <b>B 80/6 - 4 F</b> Nr. <b>SP 209</b> Nenn-Spannung Nominal voltage <b>400</b> V <input checked="" type="checkbox"/> D/3 phases/triphasé <input type="checkbox"/> W/singl. ph./monoph.		Mindest-Spannung Minimum voltage Tension minimale		Steuerung Control Commande <b>D 20.12 A</b>		Arbeits-Geschwindigkeit Working speed Vitesse de travail <b>8,5</b> <input checked="" type="checkbox"/> m/min <input type="checkbox"/> U/min	
Leistung Output Puisissance <b>0,5</b> kW		Mindest-Spannung Minimum voltage Tension minimale		Steuerung Control Commande		Arbeits-Geschwindigkeit Working speed Vitesse de travail	
Betriebsbremse / Service brake / Frein de service 3.1 Typ <b>Precima Gr. 10</b> Spulenspannung Coil voltage Tension de la bobine <b>205</b> V =		2.3 Sonstiges / Other / Autre					
Sonderausstattung / Special equipment / Équipement spécial 4.1 Mobile Winde mit Mobile winch with Treuil mobil avec <input type="checkbox"/> automatische Seilspolchor automatic reeler enrouleur automatique		Trommel für Drum for Tambour pour		m Seil m wire rope m de câble		4.2 Mitgeliefertes Seil Installed wire rope Câble installé <input type="checkbox"/> x <input type="checkbox"/> m	
4.3 Mit/with/avec <b>BLOCKSTOP</b> Typ Type Type		Geräte-Nr. Serial No. No. de fabr.				Seilspezifikation/Rope specification/Spécification du câble	
4.4 Sonstiges Other Autre							
4.5							
Sichtkontrolle / Visual check / Contrôle visuel 5.1 Typenschildbeschriftung Name plate marking Marquage plaque d'identité <input checked="" type="checkbox"/>		Lastbolzen Anchoring pin Broche d'amarage <input type="checkbox"/>		Handrad Hand wheel Volant <input checked="" type="checkbox"/>			
5.2 Betriebsbremse Service brake Frein de service <input checked="" type="checkbox"/>		Luftspalt Air gap Entrefer <input checked="" type="checkbox"/>		Lüfterbügel Brake release lever clearance Liberté de la manette de cde. du frein <input checked="" type="checkbox"/>		LÖSHEBEL Brake release lever Manette de commande du frein <input checked="" type="checkbox"/>	
5.3 Sonstiges Other Autre							
Funktionskontrolle / Function control / Contrôle de fonctionnement 6.1 Leerlauftest No-load test Essai à vide		Leerlaufstrom No-load current Courant à vide <b>1,14</b> A		6.2 Automat. Seilabzug / Automatic rope-reeling Enroul. automatique du câble Motorenlüg Motor side Côté moteur		Test Check Contrôle <input checked="" type="checkbox"/>	
6.3 Tragfähigkeitstest Rated capacity test Essai de charge nominale <b>300</b> <input checked="" type="checkbox"/> kg <input type="checkbox"/> lbs.		Heben / Lift / Levage Motordrehzahl Motor speed Vit. du moteur <b>370</b> U/min		6.4 Überlasttest Overload test Essai de surcharge <b>375</b> <input checked="" type="checkbox"/> kg <input type="checkbox"/> lbs.		6.5 Notablass Emergency descent Descente d'urgence <b>200</b> kg <input checked="" type="checkbox"/> oder <input type="checkbox"/> kg <input type="checkbox"/> lbs.	
6.6 Betriebsbremsfunktion Service brake function Fonctionnement du frein de service <input checked="" type="checkbox"/>		6.7 Geräusch normal Normal noise Bruit normal <input checked="" type="checkbox"/>		6.8 Sicherheitsbremsfunktion Secondary brake function Fonctionnement du frein secondaire <input type="checkbox"/>			
Bei Sonderausführungen / For special equipment / Pour équipement spécial 7.1 Endschalterkontrolle Limit switch test Contrôle fin de course Seileinlauf Rope entry Entrée du câble <input type="checkbox"/>		Seilauslauf Rope exit Sortie du câble <input type="checkbox"/>		7.2 Funktion Seilwickler/Seiltrommel Function of rope reeler/drum Fonct. enrouleur/tambour du câble <input type="checkbox"/>		7.3 Hubkraftbegrenzer / Lifting force limiter Limiteur de force de traction Eingestellt auf Adjusted to Régulé à <b>325</b> <input checked="" type="checkbox"/> kg <input type="checkbox"/> lbs.	
8.1 Sonstiges/Other/Autre							
8.2							
8.3							
8.4							
9. Datum Date <b>12.09.05</b>		Zeichen Signature <b>[Signature]</b>		Hersteller Manufacturer Fabricant <b>GREIFZUG Hebezeugbau GmbH</b>		D-51469 Bergisch Gladbach	



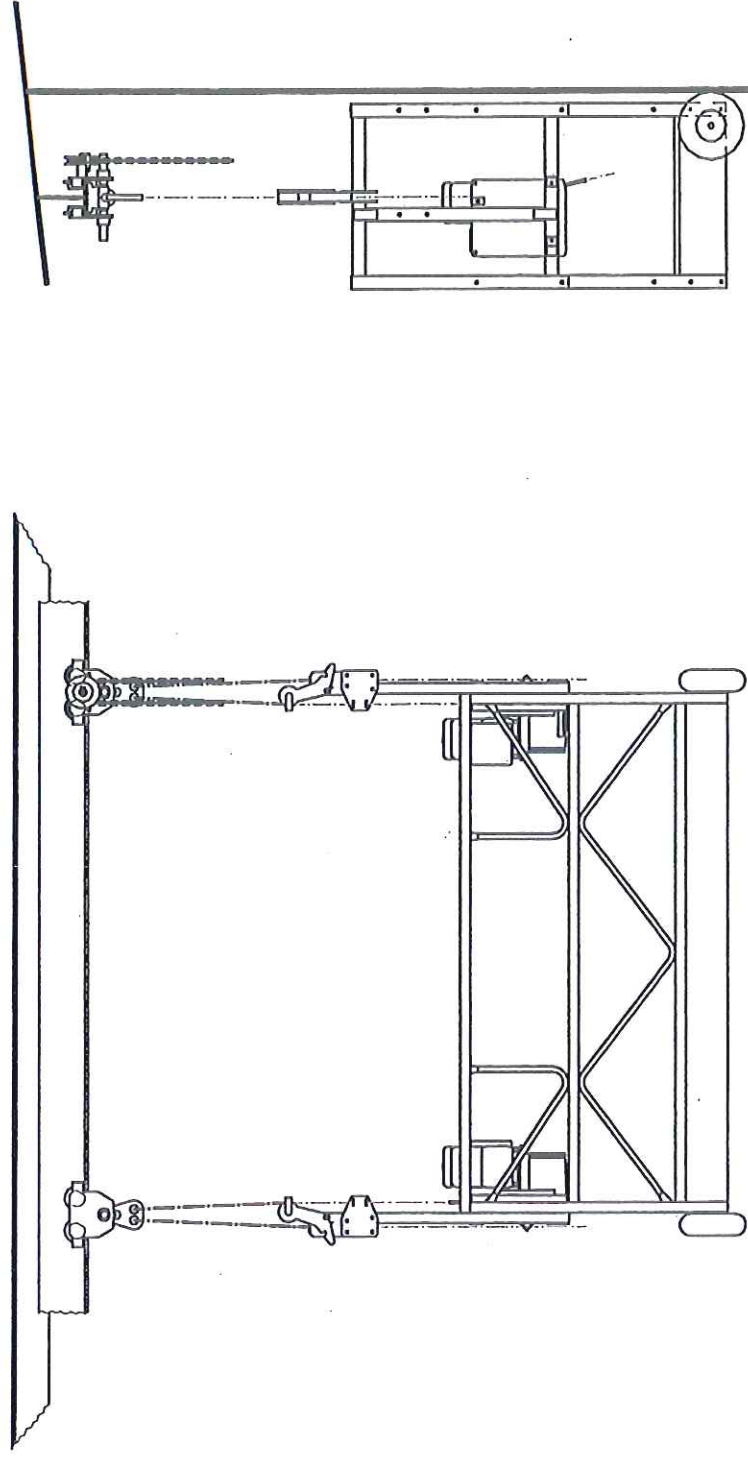
TIRAC - Prüfzertifikat 2




1.1 Gerät/Machine/Appareil/Typ/Type <b>Tirak X 300 P</b>		Kunde/Customer/Client <b>Air Liquide AGS GmbH</b>		Baujahr Year of constr. Année de fabr. <b>2005</b>		Geräte-Nr. Serial No. No. de fabrication <b>23221</b>	
1.2 Tragfähigkeit (Material) Safe working load (Material) Capacité de levage (Matériel) <b>300</b> kg		Zul. Belastung (Personentransport) Admissible load (man-lifting) Charge admissible (levage de personnes) <b>300</b> kg		1.3 Seil-Ø Wire rope Ø Ø du câble <b>8</b> mm			
Motor / Moteur 2.1 Typ <b>B 80/6-4 F</b> Nr. <b>86218</b>		Nenn-Spannung Nominal voltage Tension nominale <b>400</b> V		<input checked="" type="checkbox"/> D/3 phases/triphasé <input type="checkbox"/> W/single ph./monoph.		<input checked="" type="checkbox"/> 50 Hz <input type="checkbox"/> 60 Hz	
Leistung Output Puissance <b>0,5</b> kW		Mindest-Spannung Minimum voltage Tension minimale <b>400</b> V		Steuerspannung Control voltage Tension de commande <b>400</b> V			
2.2 Steuerung Control Commande <b>D 20.12 A</b>		Schaltplan-Nr. Wiring diagram No. Schéma de connex. No. <b>33207A</b>		Arbeits-Geschwindigkeit Working speed Vitesse de travail <b>8,5</b> m/min		<input checked="" type="checkbox"/> m/min <input type="checkbox"/> ft/min	
Betriebsbremse / Service brake / Frein de service 3.1 Typ <b>Precima Gr. 10</b>		Spulenspannung Coil voltage Tension de la bobine <b>205</b> V		2.3 Sonstiges / Other / Autre			
Sonderausstattung / Special equipment / Équipement spécial 4.1 Mobile Winde mit Mobile winch with Treuil mobile avec <input type="checkbox"/> automatischem Seilspeicher automatic reeler enrouleur automatique <input type="checkbox"/> Trommel für Drum for Tambour pour		m Seil m wire rope m de câble		4.2 Mitgeliefertes Seil Installed wire rope Câble installé <b>8</b> x <b>19</b> mm			
4.3 Mitw/ith/avec <b>BLOCSTOP</b> Typ Type		Geräte-Nr. Serial No. No. de fabr.		Seilspezifikation/Rope specification/Spécification du câble			
4.4 Sonstiges Other Autre							
4.5							
Sichtkontrolle / Visual check / Contrôle visuel							
5.1 Typenschildbeschriftung Name plate marking Marquage plaque d'identité <input checked="" type="checkbox"/>		Lastbolzen Anchoring pin Broche d'amarrage <input type="checkbox"/>		Handrad Hand wheel Volant <input checked="" type="checkbox"/>			
5.2 Betriebsbremse: Service brake: Frein de service: Lufthalt Air gap Entraîné <b>0,3</b> mm <input checked="" type="checkbox"/>		Lüfterbügel Brake release lever clearance Liberté de la manette de cde. du frein <b>1</b> mm <input checked="" type="checkbox"/>		Lüfterhebel Brake release lever Manette de commande du frein <input checked="" type="checkbox"/>			
5.3 Sonstiges Other Autre							
Funktionskontrolle / Function control / Contrôle de fonctionnement							
6.1 Leerlauftest No-load test Essai à vide		Leerlaufstrom No-load current Courant à vide <b>1,8</b> A		6.2 Autom.-Seilzug Automatic rope reeling Enrôleur automatique du câble Motorseitig Motor side Côté moteur <input checked="" type="checkbox"/>		Nur / only / seulement TIRAK T Getrieboxseitig Gear box side Côté réducteur Total Check Contrôle <input type="checkbox"/>	
6.3 Tragfähigkeitstest Rated capacity test Essai de charge nominale <b>300</b> kg <input checked="" type="checkbox"/>		Heben / LIFT / Levage Motordrehzahl Motor speed Vit. du moteur <b>1360</b> U/min Stromaufnahme Current consumption Cons. de courant <b>2,1</b> A		6.4 Überlasttest Overload test Essai de surcharge <b>375</b> kg <input checked="" type="checkbox"/>		6.5 Notablass Emergency descent Descente d'urgence <b>200</b> kg <input checked="" type="checkbox"/>	
6.6 Betriebsbremsfunktion Service brake function Fonctionnement du frein de service <input checked="" type="checkbox"/>		6.7 Geräusch normal Normal noise Bruit normal <input checked="" type="checkbox"/>		6.8 Sicherheitsbremsfunktion Secondary brake function Fonctionnement du frein secondaire <input type="checkbox"/>			
Bei Sonderausführung / For special equipment / Pour équipement spécial							
7.1 Endschalterkontrolle: Limit switch test: Contrôle fin de course: Seileintritt Rope entry Entrée du câble <input type="checkbox"/>		Seilexit Rope exit Sortie du câble <input type="checkbox"/>		7.2 Funktion Seilwickler/Seiltrommel Function of rope reeler/drum Fonct. enrouleur/tambour du câble <input type="checkbox"/>		7.3 Hubkraftbegrenzer / Lifting force limiter Limiteur de force de traction Eingestellt auf Adjusted to Réglé à <b>300</b> kg <input checked="" type="checkbox"/>	
8.1 Sonstiges/Other/Autre							
8.2							
8.3							
8.4							
9. Datum Date <b>12.09.07</b>		Zeichen Signature <b>[Signature]</b>		Hersteller Manufacturer Fabricant <b>GREIFZUG Hebezeugbau GmbH</b> <b>D-51469 Bergisch Gladbach</b>			

G 133.7-0303

Empfänger von: +49 2202 180470



Index	Datum	Name	Änderung			
Allgemeintoleranzen			Verwendung:			
Längenmaße	ISO 2768-mK	Name	Datum	Material:	Mapblatt:	
bis ±0.1	gez. 28.09.2004	Agün	28.09.04	Blasek	Ursprung:	
bis ±0.2	Maßstab 1:20 DIN A3	Benennung:				Dosname :01\45260103
bis ±0.3		 Ein Unternehmen der TRACTEL-Gruppe				
bis ±0.5						
bis ±0.8						
bis ±1.2		Arbeitsbühne ALTA S 3 - 2 L				
bis ±1.2		An Corso Roll- und Haspelfahrwerk				
bis ±1.2		Code: -				Plan-Nr. 45260103
bis ±1.2		Reproduktion, Verö...enlichung oder sonstige Verwendung sind verboten.				

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## Montage- und Bedienungsanleitung

# A r b e i t s b ü h n e

Typ	S 3 - 2 L
Baujahr	2005
Fabrikationsnummer	8046/05
Nutzlast	240 kg
Eigengewicht	155 kg
Zulässiges Gesamtgewicht	395 kg
Länge:	2 m
<hr/>	
Hebezeug	2 TIRAK X 300 P
Nutzkraft	3,0 kN pro Gerät
Zul. Belastung bei Personentransport	300 kg pro Gerät
Lieferdatum	16.09.2005



Návod na montáž a prevádzku

MOTORIZOVANÉ ZÁVESNÉ LEŠENIE

Typ:	S 3 – 2 L
Rok výroby:	2005
Sériové číslo:	8046/05
Bezpečné prevádzkové zaťaženie:	240kg
Vlastná hmotnosť:	155kg
Povolená celková hmotnosť:	395kg
Dĺžka:	2m
Typ zdvíhacieho zariadenia:	2 TIRAK X 300 P
Nosnosť:	300kg každé zdvíhacie zariadenie
Povolené zaťaženie pre zdvih človeka:	300kg každé zdvíhacie zariadenie

Výrobca:

GREIFZUG Hebezeugbau GmbH • D-51149 Bergisch Gladbach  
Schleichstraße 19-21 • Fax 0 22 02/10 04-70/50

022 02/10 04-0

## 1. Všeobecne

Organizácie pre bezpečnosť pri práci stanovujú, že motorizované závesné lešenie GREIFZUG môže byť prevádzkované jedine skúsenou obsluhou.

Takáto obsluha musí byť plne oboznámená s týmto návodom na obsluhu ako aj bezpečnostnými predpismi pre závesné prevádzkové plošiny, stanovenými miestnymi úradmi bezpečnosti práce.

Je potrebné určiť jednu osobu, ktorá bude za lešenie zodpovedná.

## 2. Bezpečnostné kontroly pred uvedením do prevádzky

### 2.1 Kontrola zavesenia

- a) Vzdialenosť medzi závesnými bodmi musí zodpovedať vzdialenosti medzi strmeňmi lešenia. Šikmé zavesenie nie je povolené.
- b) Skontroluj upevnenie ocelových lán a závesný systém, či sú v dobrom stave.
- c) Vzdialenosť medzi závesnými bodmi a vstupmi ocelových lán na lešení musia byť rovnaké - šikmé zavesenie nie je povolené.

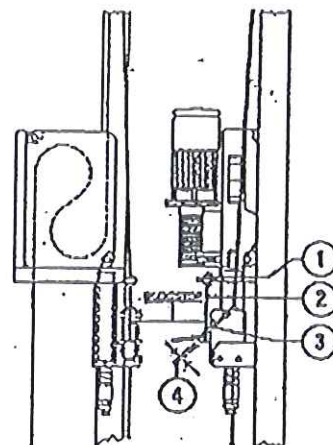
### 2.2 Kontrola lešenia

- a) Skontroluj, dotiahnutie všetkých spojov a matic na lešení a konkrétne upevňovacie spoje a matice zdvíhacieho zariadenia, bezpečnostného zariadenia BLOCKSTOP a strmeňov.
- b) Skontroluj prechod závesného a bezpečnostného ocelového lana cez kladku (keď sa používajú strmene tvaru C). Skontroluj prechod závesného lana cez vedenie ovládacej klapky BLOCKSTOP (pri použití koncových strmeňov).
- c) Závesné ocelové laná a bezpečnostné ocelové laná, ktoré presahujú výšku budovy o 3m a viac, musia byť navinuté samostatne na úrovni terénu a uchovávané uviazané minimálne 3-krát.



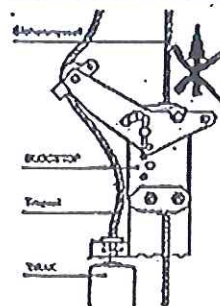
### 2.3c Kontrola bezpečnostného zariadenia BLOCKSTOP (strmeň tvaru C)

- a) Skontroluj, či bolo bezpečnostné zariadenie BLOCKSTOP správne nastavené, skús potiahnuť bezpečnostné ocelové lano nahor keď závesné lano nie je zaťažené, napr. keď je lešenie usadené na zemi. Toto nesmie byť možné. V opačnom prípade musí byť BLOCKSTOP nastavené takto:
- b) Zdvihni lešenie asi 20cm nad zem.
- c) Povol' matice (1) ovládacej páky (2) a nastav jej výšku tak, aby medzera medzi ovládacou pákou a ručne otvoreným držiakom (3) je okolo 2 – 3mm.
- d) Dotiahni matice a spust' lešenie na zem kým závesné ocelové lano nie je úplne uvoľnené.
- e) Skontroluj opäť ako je uvedené vyššie.



### 2.3s Kontrola bezpečnostného zariadenia BLOCKSTOP (na koncových strmeňoch)

- a) Skontroluj, či bolo bezpečnostné zariadenie BLOCKSTOP správne nastavené, skús potiahnuť bezpečnostné ocelové lano nahor keď závesné lano nie je zaťažené, napr. keď je lešenie usadené na zemi. Toto nesmie byť možné. V opačnom prípade musí byť BLOCKSTOP vymenené a zaslané dodávateľovi na opravu.



## 3. Bezpečné prevádzkové zaťaženia

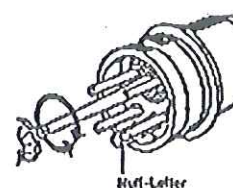
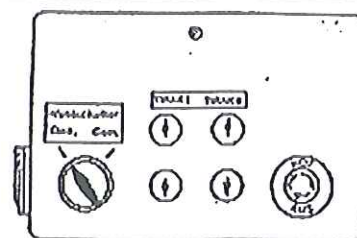
Bezpečnostné prevádzkové zaťaženie, uvedené na štítku lešenia, platí dovtedy, kým nezmeníte pôvodnú konštrukciu lešenia.

Ak lešenie predĺžite alebo skráťte alebo ak používate dvojposchodovú verziu, prevádzkové zaťaženie sa prirodzene zmení. Zoznam zodpovedajúcich bezpečných prevádzkových zaťažení je uvedený v Prílohe D.

## 4. Prevádzka

### 4.1 Prevádzka pomocou centrálného ovládania

- a) TIRAK sa ovláda z centrálného ovládania. Pri spustení otočte tlačidlo EMERGENCY STOP doprava – vyskočí zo svojej polohy.
- b) Prepni spínač SELECTOR SWITCH do polohy „gemeinsam = simultánne ovládanie“ a stlač tlačidlo „UP“. Ak sa lešenie pohybuje smerom dolu, otoč fázový invertor na zástrčke centrálného ovládania.
- c) Ak sa lešenie dostane do šikmej polohy, zastav ho. Prepni spínač SELECTOR SWITCH do polohy „einzeln = samostatné ovládanie“ a vráť lešenie späť do horizontálnej polohy. Po spätnom prepnutí do polohy „gemeinsam = simultánne ovládanie“ je možná normálna prevádzka lešenia.



### 4.2 Ovládanie horného koncového spínača

- a) Fungovanie horného koncového spínača sa musí skontrolovať počas prvej skúšobnej prevádzky stlačením rozpojovačov rukou počas pohybu hore. Zdvíhacie zariadenie sa musí okamžite zastaviť.
- b) Horné koncové spínače nesmú byť počas bežnej prevádzky dosiahnuté. Ak k tomu dôjde, spusti lešenie kým sa rozpojovače nevrátia do normálnej polohy.

## 5. Zabezpečenie priestoru pod lešením

Vykonajte preventívne opatrenia kvôli ochrane ľudí voči akýmkoľvek rizikám v priestore pod lešením.

## 6. Prevádzka vo veternom počasí

V prípade silného vetra alebo víchrice sa prevádzka musí prerušiť kým nie je lešenie priečne zabezpečené vodiacimi lanami alebo podobne.

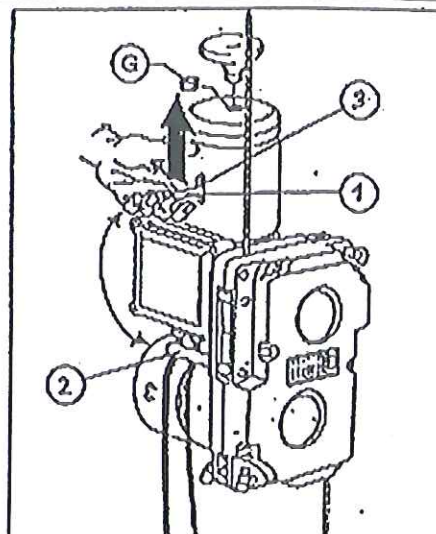
Lešenie sa musí spustiť na zem.

## 7. Manuálna prevádzka

Zdvíhacie zariadenia TIRAK sú vybavené odstredivými brzdami, ktoré umožňujú spúšťanie pri regulovanej rýchlosti v prípade výpadku prúdu.

- a) Pri spustení odoberte páku uvoľnenia brzdy (1) z držiaka TIRAK (2).
- b) Zasuň do otvoru motora (3). Uvoľni brzdú vytiahnutím páky hore spolu na oboch zdvíhacích zariadeniach\*).

\* Na lešeníach s postranným zavesením BLOCKSTOP zastaví pohyb dole keď sa lešenie dostane do šikmej polohy. Zostup je možný iba po uvoľnení zopnutého BLOCKSTOP nasledujúcimi krokmi:



- Odstráň gumenú krytku (G) z krytu motora.
  - Umiestni ručné koleso na hriadeľ motora, otvor brzdu a otáčaj koleso kým sa závesné ocelové lano nenapne a BLOCKSTOP sa opäť otvorí.
  - Odpoj ručné koleso a inštaluj gumenú krytku.
  - Pokračuj v zostupe.
- c) Ak chceš pohyb zastaviť, uvoľni páku.
  - d) Po použití vráť páku do držiaka TIRAK.

## 8. Horizontálny posun lešenia

- a) Zastav lešenie asi 20cm nad zemou.
- b) Demontuj vyrovňavacie závažia ocelového lana a vytiahni bezpečnostné ocelové laná tak, aby bolo možné umiestniť zavesenie v novej polohe.
- c) Spusti lešenie na zem a vytiahni závesné ocelové laná rovnako.
- d) Presuň kotviaci systém do novej polohy a skontroluj podľa kap. 2.1.
- e) Opatrné zdvihnutie umožní presun lešenia do novej polohy.
- f) Zdvihni lešenie asi o 20cm, dotiahni bezpečnostné ocelové laná rukou a upevni vyrovňavacie závažia bezpečnostných lán.



## 9. Odstraňovanie porúch

Vďaka bezpečnej a robustnej konštrukcii nie sú motorizované lešenia GREIFZUG náchylné k poruchám. Vďaka jednoduchej konštrukcii dokáže poruchu zariadenia prakticky vždy odstrániť obsluha lešenia.

Nižšie sú uvedené možné poruchy a spôsob ich odstránenia.

Problém	Príčina	Náprava
Zdvíhacie zariadenie fungujú v nesprávnom smere.	Otočenie fázy na napájacom prívode.	Vymeň fázy na zástrčke otočením fázového invertora.
Lešenie sa pohybuje dolu ale nie je schopné ísť hore.	Jedna fáza chýba, čiže vypálená poistka alebo uvoľnené spojenie.	Skontroluj poistky a/alebo kábel a zástrčky.
Bez výpadku prúdu sa jedno zdvíhacie zariadenie zastaví.	Ochranné relé sa preplo do „0“ kvôli preťaženiu alebo inej príčine.  Ovládací kábel horného koncového spínača nie je správne zapojený.	Skontroluj zaťaženie.  Po ochladení sa motor opäť spustí. Ak nie, kontaktujte elektrikára. Správne zasun kábel koncového spínača do ovládacej skrinky TIRAK.
Ani pri bežiacom motore nie je možné spúšťanie pretože jeden BLOCKSTOP blokuje lešenie na bezpečnostnom ocel'ovom lane.	Bezpečnostné zariadenie BLOCKSTOP bolo nesprávne nastavené. (strmeň tvaru C)  Šikmá poloha (koncový strmeň)	Zdvihni lešenie kým sa závesné lano nenapne. Vypni BLOCKSTOP ručne a spusti lešenie. Nastav na úrovni terénu (kap. 2.3). Zdvihni lešenie kým nie je závesné lano zaťažené a BLOCKSTOP sa opäť neotvorí.

## 10. Mimo prevádzky

Keď sa lešenie nepoužíva, musí byť umiestnené na zemi s jemne uvoľnenými ocel'ovými lanami.

Hlavný napájací kábel musí byť vždy odpojený od zdroja napätia.

## **C) ÚDRŽBA A SERVIS**

### **11. Harmonogram a odporúčania**

#### **11.1 Závesný systém a lešenie**

- a) Denne kontrolujte závesný systém a lešenie podľa kap. 2.
- b) Každoročne skontroluje celé zariadenie špecialista.
- c) Pri strmeňoch tvaru C: pravidelné mazanie vodiacej rúrky podpery TIRAK aby sa zabezpečila bezporuchová prevádzka BLOCKSTOP.

#### **11.2 Zdvíhacie zariadenie TIRAK**

TIRAK musí byť kontrolovaný najmenej raz ročne a minimálne po 500 hodinách prevádzky špecialistom výrobcu alebo dodávateľom.

#### **11.3 Ocelové laná**

Každý týždeň kontroluj ocelové laná v súlade s predpismi miestnych úradov bezpečnosti práce.

#### **11.4 Kontrolné záznamy**

Výsledky každoročnej kontroly musia byť zaznamenané písomne.

Ak to požadujú miestne úrady bezpečnosti práce, výsledky kontroly musia byť zaznamenané v špeciálnom zošite.

## **D) PRÍLOHA**

Táto príručka obsahuje:

- Návod na prevádzku a údržbu zdvíhacích zariadení TIRAK
- Zoznam bezpečných prevádzkových zaťažení.



## Assembly and operating instructions

### MOTORIZED SUSPENDED SCAFFOLDING

Type: S 3 - 2 L

Year of manufacture: 2005

Serial number: 7730/05

Safe working load: 240 kg

Dead weight: 155 kg

Admissible total weight: 395 kg

Length: 2 m

Hoist type: TIRAK X 300 P

Lifting capacity: 300 kg

Admissible load for  
man riding: 300 kg

#### Manufacturer:

GREIFZUG Hebezeugbau GmbH • D-51469 Bergisch Gladbach  
Scheidtbachstraße 19-21 • Fax: 0 22 02/10 04-70+50

 022 02/10 04-0



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## A) MOUNTING INSTRUCTIONS

### 1. General

Setting up of GREIFZUG Motorized Suspended Scaffoldings must only be carried out under the supervision and the responsibility of an experienced professional, who is familiar with the equipment and the present instruction manual.

Before starting the mounting operation, thoroughly inspect all parts and equipment. Use only original parts and original GREIFZUG wire ropes. Check its entire length to be undamaged and look at the end to be well tapered.

### 2. Suspension and Wire Rope Mounting

#### 2.1 Suspension

The scaffolding is to be anchored at suitable building parts or special constructions, which have to be properly fixed to the building.

These building parts resp. constructions must be able to support the following minimum loads:

<u>TIRAK - Type*</u>	<u>Minimum Carrying capacity</u>
X 300 PB-Series	300 kg x 2,6= 780 kg
X 500 PB-Series	500 kg x 2,6= 1300 kg
T 550 PB-Series	450 kg x 2,6= 1170 kg
T 1000 PB-Series	800 kg x 2,6= 2080 kg

\* Equally valid for air-driven TIRAK hoists.

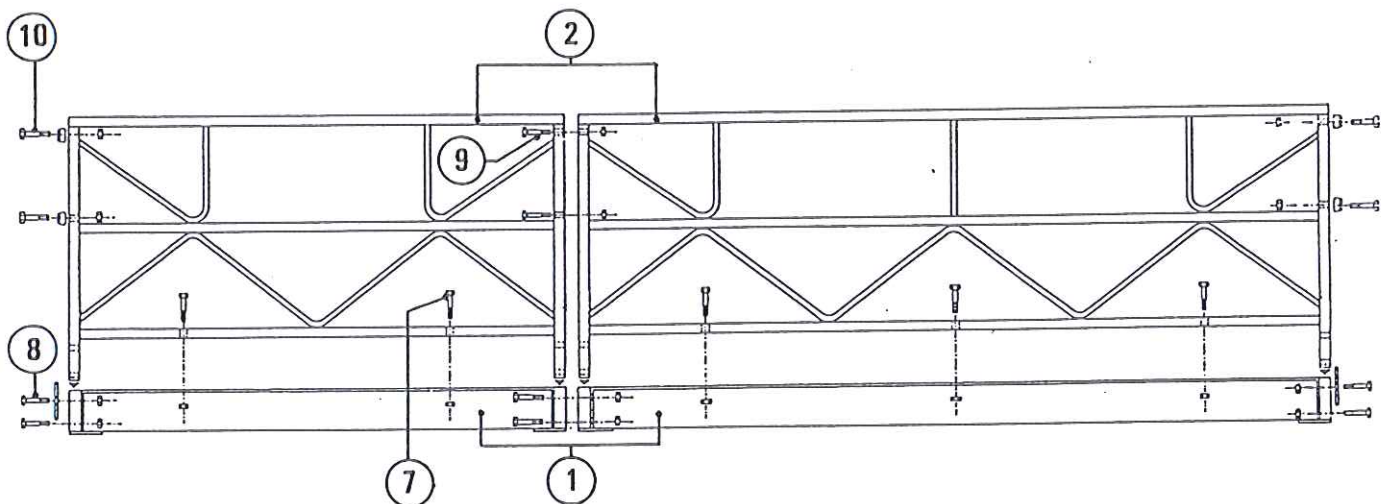
#### 2.2 Wire rope anchoring

- a) Unroll suspension wire ropes and safety wire ropes from the roof.  
Never pull them sideways from the drum/reel.
- b) Check the wire ropes to be undamaged (no broken wires) and without links or slings. Especially look for a well tapered end. If there is no other local security regulation, check according to DIN 15 020, part 2.
- c) Fix and secure the wire ropes to the suspension by means of bolts and forelocks.
- d) Fix a buffer plate on the suspension wire rope underneath its sleeve.  
If there are projecting building parts, the plate has to be placed in such a height to stop the working cage before it collides with those parts.

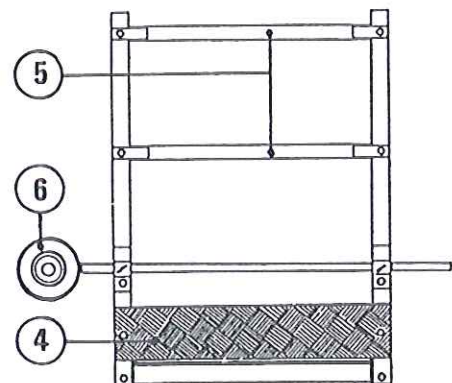
### 3. Scaffolding Assembly

#### 3.1 Platform Assembly

- a) Put the guard rails (2) onto the platform units (1) and fix them with screws (7).
- b) For longer scaffoldings connect the number required of platforms to each other by means of bolts (9).
- c) Close the ends of the platform by means of end toe boards (4) with screws (8). Fix guard rail to platform in the lowest hole.
- d) Only for scaffoldings with rear suspension (C-shaped stirrups): Close the ends of the platform with guardrail tubes (5) and screws (10).



- e) Fix the guide rollers (6) to the guard rail.





### 3.2c Assembly of platform and C-shaped stirrup

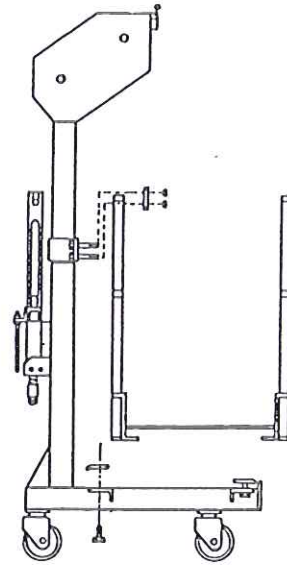
(For rear suspension only)

- a) Disassemble lashes of the C-shaped stirrups.  
Put the platform on the stirrup.

Distance between stirrup and scaffolding end: max. 1 meter.

On scaffoldings with one stirrup only, it naturally has to be in the middle of the platform.

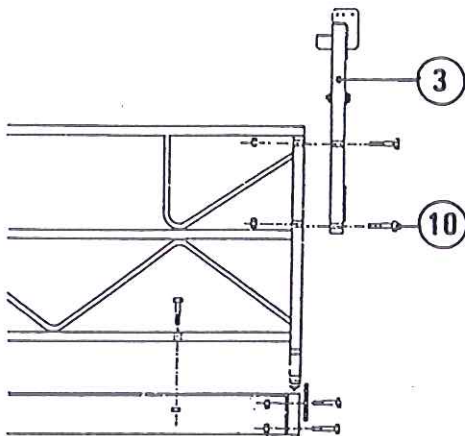
- b) Put on the lashes to grip over the platform profile and tighten the bolts.
- c) Fix the stirrup to the the upper guard rail tube by means of the connecting parts.



### 3.2s Assembly of platform and End-stirrup

(For lateral suspension only)

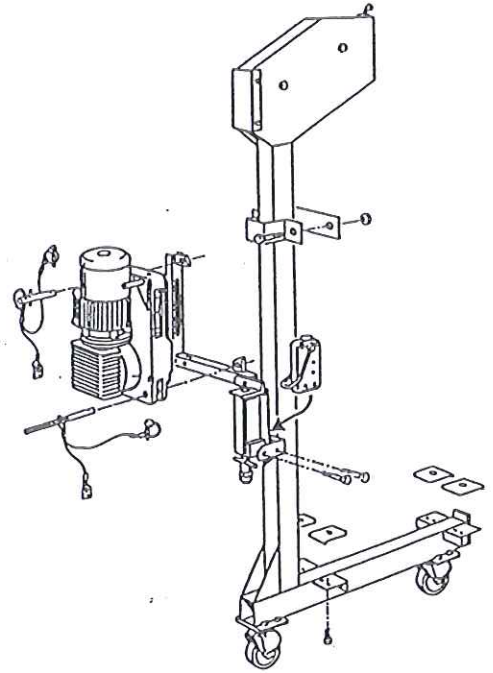
Fix end stirrups (3) with bolts (10) to both ends of the platform.



### 3.3c TIRAK and BLOCSTOP Safety Device Assembly

(For rear suspension only)

- a) Bolt TIRAK winch - motor upside - to the C-shaped stirrup.
- b) Connect upper limit switch cable to its adapter on the TIRAK control box.
- c) If not preassembled, fix the BLOCSTOP safety device to its support on the stirrup. For the adjustment see chapter 6.3



### 3.3s TIRAK and BLOCSTOP Safety Device Assembly

(For lateral suspension only)

#### a) TIRAK-Assembly

##### I) TIRAK T 550/1000 PB:

Bolt the bracket (6) of the endstirrup (3) to the appropriate position:

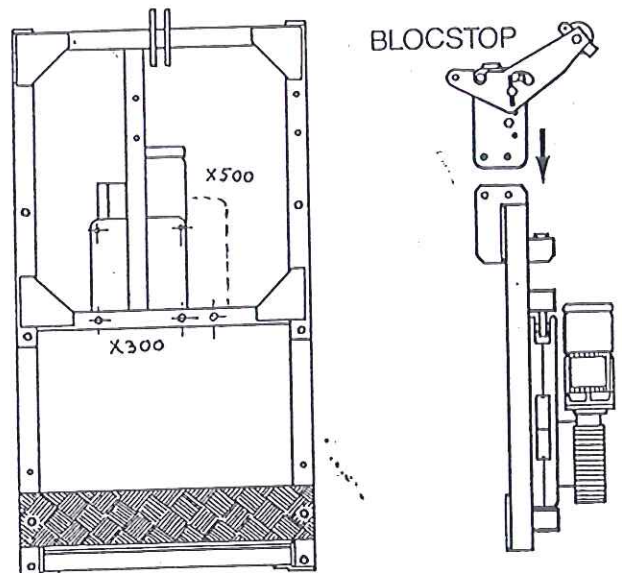
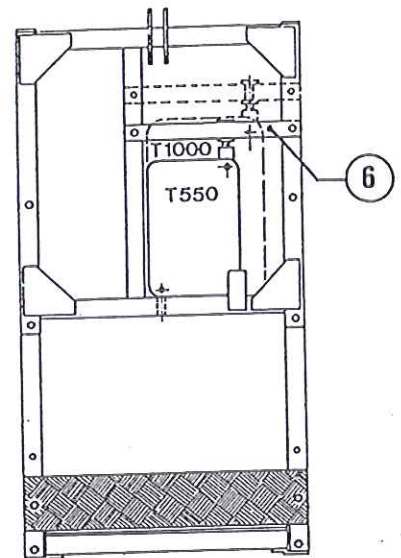
UP = for TIRAK T 1000 PB  
DOWN = for TIRAK T 550 PB

Put on the TIRAK and secure by means of bolt and forelock.

##### II) TIRAK X 300/500 PB:

Bolt TIRAK to the adequate holes of the lower bracket of the end stirrup.

- b) Screw Upper Limit switch and its cable to the stirrup.
- c) Connect upper limitswitch cable to the adapter of the TIRAK control box.
- e) If not preassembled, fix the BLOC-STOP safety device to its support on the stirrup. For the adjustment see chapter 6.3



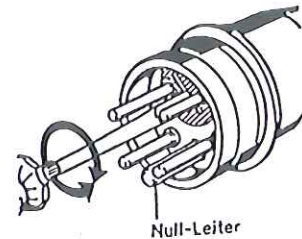
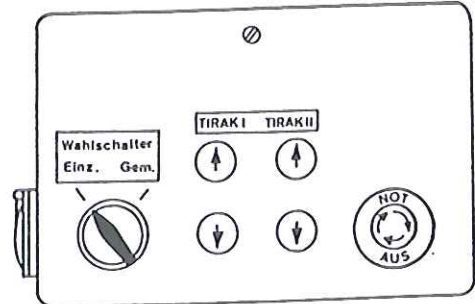
#### 4. Electric connection and wire rope installation

Electric connection must be made according to VDE 0100 § 55.

Only a building site main cabinet according VDE 0612 is valid for the connection, not wall sockets.

##### 4.1 Electric Connection and Suspension Wire Rope Installation

- a) Fix central control to the guard rail.
- b) Fix master supply cable to the guard rail by means of a fixing sleeve.
- c) Plug the Central Control to the master supply cable.
- d) Connect TIRAK hoists to the central control.
- e) The master supply cable can now be connected to the power source.  
Standard: 380 V/3P+E+N, 50 Hz, 16 A.
- f) To start operation turn EMERGENCY STOP button to the right, it comes out.



- g) With C-Shaped Stirrups: Pass the suspension wire rope over the left pull-eyes (seen from outside the platform) and insert into TIRAK wire rope inlet.

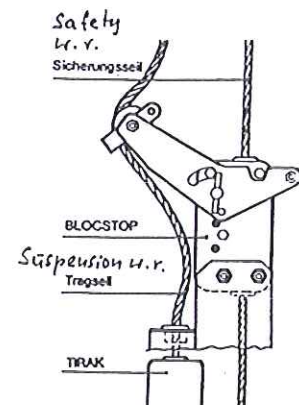
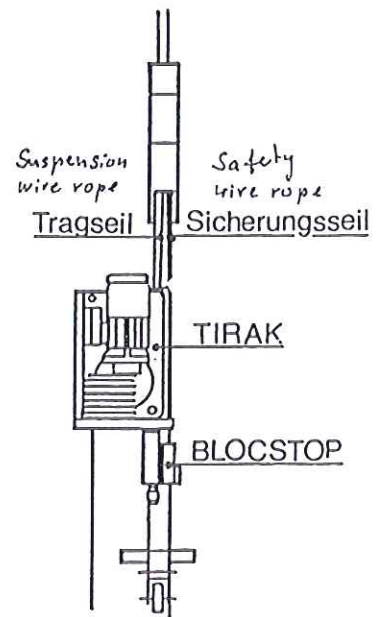
With End-Stirrups: Pass the suspension wire rope through the guide of the BLOCSTOP control pulley and insert into TIRAK wire rope inlet.

Turn SELECTOR SWITCH into position "einzeln = single control". Depress "UP" button of the corresponding TIRAK and push the wire rope inside the hoist, it reeves itself automatically coming out at the other side of the hoist.

If it does not, The TIRAK is rotating into the wrong direction. In order to correct turn the phase inverter at the plug of the Central Control.

Check that the wire rope can exit without any obstruction.

- h) Insert the second suspension wire rope in the same manner.
- i) Run the wire ropes through both TIRAK, until they are tensioned. Then turn SELECTOR SWITCH into position "gemeinsam = simultaneous control" and lift the scaffolding about 20 cm above the ground.





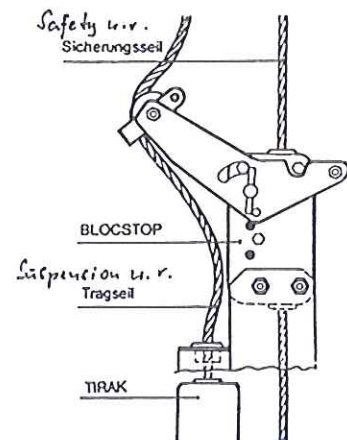
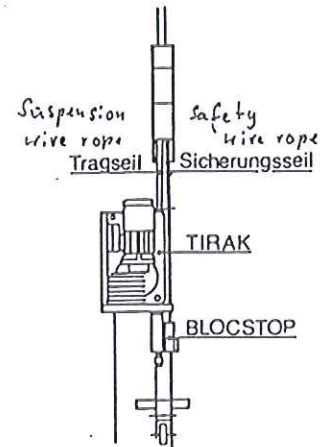
#### 4.2 Safety Wire Ropes and Rope Ends

- a) Before inserting the safety wire ropes check that suspension wire ropes and safety wire ropes do not intermingle.
- b) On C-shaped stirrups only:  
Pass the safety wire rope over the pulleys (only for C-shaped stirrups), through the BLOCSTOP and tension it by hand.

On end-stirrups only:

Put the safety wire rope through the BLOCSTOP safety device and tension it by hand.

- c) Fix the counterweight by means of the clamp to each safety wire rope at about 20 cm above ground.
- d) Suspension wire ropes and Safety wire ropes, which exceed by 3 meters or more the height of the building, must be reeled separately at ground level and maintained by binding at least three times.



\*\*\*\*\*

The GREIFZUG Motorized Suspended Scaffolding is now ready for use.

However, before starting you have to do the checks according to chapter 6.

\*\*\*\*\*

## B) OPERATING INSTRUCTIONS

### 5. General

Occupational Safety Organizations prescribe that GREIFZUG Motorized Suspended Scaffoldings can be operated and used by experienced personnel only.

This personnel must be fully acquainted with the present "OPERATING INSTRUCTIONS" as well as the Safety Regulations for Suspended Working Platforms edited by the local Occupational Safety Authorities.

One Person shall be designed as being responsible for the scaffolding.

### 6. Safety Checks before Putting into Operation

#### 6.1 Suspension Inspection

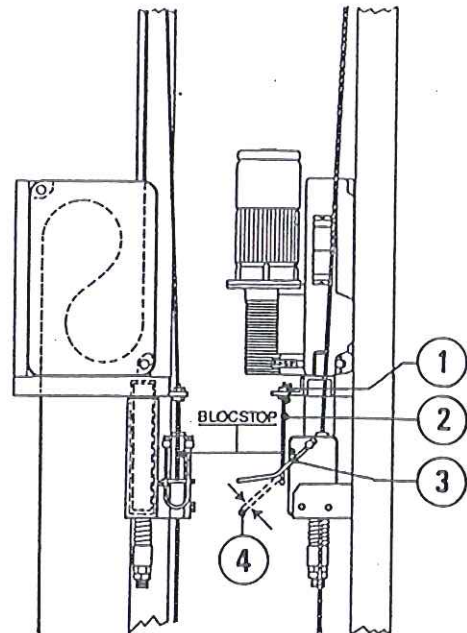
- a) The distance between the suspension points must correspond to the distance between the stirrups of the scaffolding. Oblique suspension is not allowed.
- b) Check wire rope fixing and the suspension system to be in correct state.
- c) Distances between suspension points and wire rope entrances on the scaffolding must be equal - oblique suspension is not allowed.

#### 6.2 Scaffolding Inspection

- a) Check tightening of all bolts and nuts on the scaffolding and in particular the fixing bolts and nuts for the hoist, BLOCSTOP safety device, and the stirrups.
- b) Check suspension and safety wire rope passage over the pulleys (when using C-shaped stirrups). Check suspension wire rope passage through guide of BLOCSTOP control pulley (when using end-stirrups).
- c) Suspension wire ropes and Safety wire ropes, which exceed by 3 meters or more the height of the building, must be reeled separately at ground level and maintained by binding at least three times.

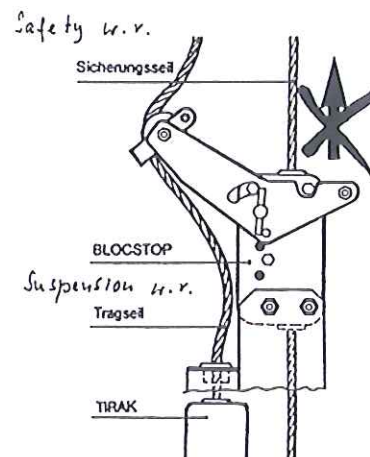
### 6.3c Inspection of BLOCSTOP Safety Device (C-shaped Stirrup)

- a) To check, if the BLOCSTOP Safety Device has been adjusted correctly, try to pull safety wire rope upwards, when the suspension wire rope is not under load, e.g. when the scaffolding is set onto the ground.  
This must not be possible. Otherwise the BLOCSTOP must be adjusted as follows:
- b) Lift the scaffolding approx. 20 cm above ground level.
- c) Loosen nuts (1) of the Control Lever (2) and adjust its height such as the clearance (4) between the control lever and the manually opened BLOCSTOP handle (3) is about 2 - 3 mm.
- d) Tighten the nuts and lower the scaffolding to ground level until the suspension wire rope is completely unloaded.
- e) Check again as outlined above.



### 6.3s Inspection of BLOCSTOP Safety Device (on end-stirrups)

- a) To check, if the BLOCSTOP Safety Device has been adjusted correctly, try to pull safety wire rope upwards, when the suspension wire rope is not under load, e.g. when the scaffolding is set onto the ground.  
This must not be possible. Otherwise the BLOCSTOP must be exchanged and sent back to the supplier for repair.



## 7. Safe Working Loads

The safe working load indicated on the scaffolding name plate is valid as long as you do not alter the scaffoldings original assembly.

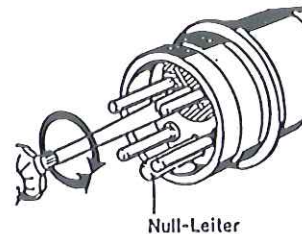
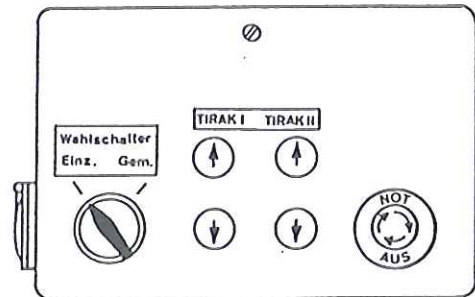
If you make the scaffolding longer or shorter, or if you use a double deck version, the safe working load naturally changes. You find a list of the corresponding safe working loads in the annex D.



## 8. Operation

### 8.1 Operation with Central Control

- a) The TIRAK is operated from a Central Control. To start turn EMERGENCY STOP button to the right - it comes out.
- b) Turn the SELECTOR SWITCH into position "gemeinsam = simultaneous control" and push "UP" button. If the scaffolding moves downwards, turn the phase inverter at the plug of the central control.
- c) If the scaffolding gets into an oblique position, stop it. Turn the SELECTOR SWITCH into position "einzeln = individual control" and bring the scaffolding back into its horizontal position. After switching back to position "Gemeinsam" the scaffolding can be normally operated.



### 8.2 Upper Limit Switch Control

- a) The functioning of the Upper Limit Switch is checked during the first test run by depressing the releasers by hand during upwards travel. The hoist must stop immediately.
- b) Upper limit switches must not be reached during normal operation. Should this nevertheless occur, lower the scaffolding until the releaser returns into its normal position.

## 9. Securing of places below the scaffolding

Take care of preventive measures in order to protect people against any hazards in the area below the scaffolding.

## 10. Operation in Windy Weather

In case of strong wind or gale the operation must be discontinued unless the scaffolding is laterally restrained by guide ropes or similar.

The scaffolding has to be lowered onto ground.

## 11. Manual Operation

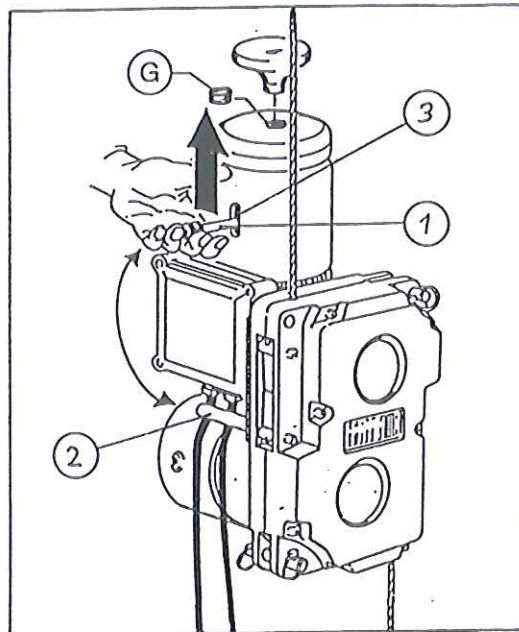
TIRAK hoists are equipped with a centrifugal brake allowing descent at controlled speed in case of current failure.

- a) To start take brake release lever (1) out of TIRAK handle (2).
- b) Insert in motor cover hole (3). Release brake by pulling lever upwards simultaneously on both hoists\*).

\* On scaffoldings with lateral suspension the BLOCSTOP stops downward travel, when the scaffolding gets into oblique position. Descent is only possible after the relieving the closed BLOCSTOP, proceeding as follows:

- Remove rubber cap (G) from motor cover.
- Put the hand wheel on the motor shaft, open the brake and turn the wheel until the suspension wire rope has taken the load and the BLOCSTOP is opened again.
- Refasten the hand wheel and the rubber cap.
- Continue with descent.

- c) To stop movement, release lever.
- d) After use restore lever into TIRAK handle.



## 12. Horizontal Travel of Scaffolding

- a) Stop Scaffolding at approx. 20 cm above ground level.
- b) Remove safety wire rope counterweights and pull out the safety wire ropes as far as necessary to put the suspension to its new position.
- c) Lower scaffolding to the ground and equally run out the suspension wire ropes.
- e) Move the anchoring system into the new position and check according to chapter 6.1.
- f) Careful lifting allows the scaffolding to move into its new position.
- g) Lift the scaffolding by approx. 20 cm, tighten the safety wire ropes by hand, and fix safety wire rope counterweights.

### 13. Troubleshooting

Thanks to their safe design and robust construction GREIFZUG Motorized Scaffoldings are not prone to breakdowns. Due to their simple design, any troubles that may arise can be eliminated practically always by the operating personnel.

Listed hereunder are some of the possible troubles and their remedies:

Trouble	Cause	Remedy
Hoists turn in the wrong direction	Phase inversion at power inlet	Change phases at the plug by turning phase inverter
Scaffolding moves downwards but does not climb.	One phase is missing, i.e. a fuse is blown or there is a loose connection.	Check fuses and/or cable and plugs.
Despite faultless power supply one hoist stops.	Protection relay has switched to "0", caused by overload or other reason.	Check load. After cooling down the motor starts again. If not consult electrician.
	Control cable of the upper limit switch not/not correctly branched.	Correctly plug limit switch cable to the TIRAK control box.
Despite running motor descent is impossible because one BLOCSTOP is blocking the scaffolding on the safety wire rope.	The BLOCSTOP safety device has been set incorrectly. (C-shaped stirrup) Oblique position (End-stirrup)	Raise scaffolding until suspension wire rope is under load. Disengage BLOCSTOP manually and descend. Adjust at ground level (chapter 6.3) Go up until suspension wire rope is under load and BLOCSTOP has opened again.

### 14. Out of Operation

When the scaffolding is not used, it must be placed onto the ground with slightly slackened wire ropes.

The main supply cable must always be disconnected from the power source.



## C) MAINTENANCE & SERVICING

### 15. Schedule and Recommendations

#### 15.1 Suspension System and Scaffolding

- a) Daily check the suspension system and the scaffolding according to chapter 6.
- b) Yearly inspection of the complete installation by a specialist.
- c) On C-shaped stirrups: regularly grease the guiding tube of the TIRAK support to guarantee for a troublefree BLOCSTOP operation.

#### 13.2 TIRAK Hoist

The TIRAK must be inspected at least once a year and at the latest after 500 hours of operation by a specialist of the manufacturer or the furnisher.

#### 13.3 Wire Ropes

Weekly check the wire ropes in accordance with the regulations of the local Occupational Safety Authorities.

#### 13.4 Inspection Record

The results of the yearly inspection must be recorded in writing.

If requested by the local Occupational Safety Authorities, the results must be recorded in a special booklet.

## D) ANNEX

Parts of this instruction manual are:

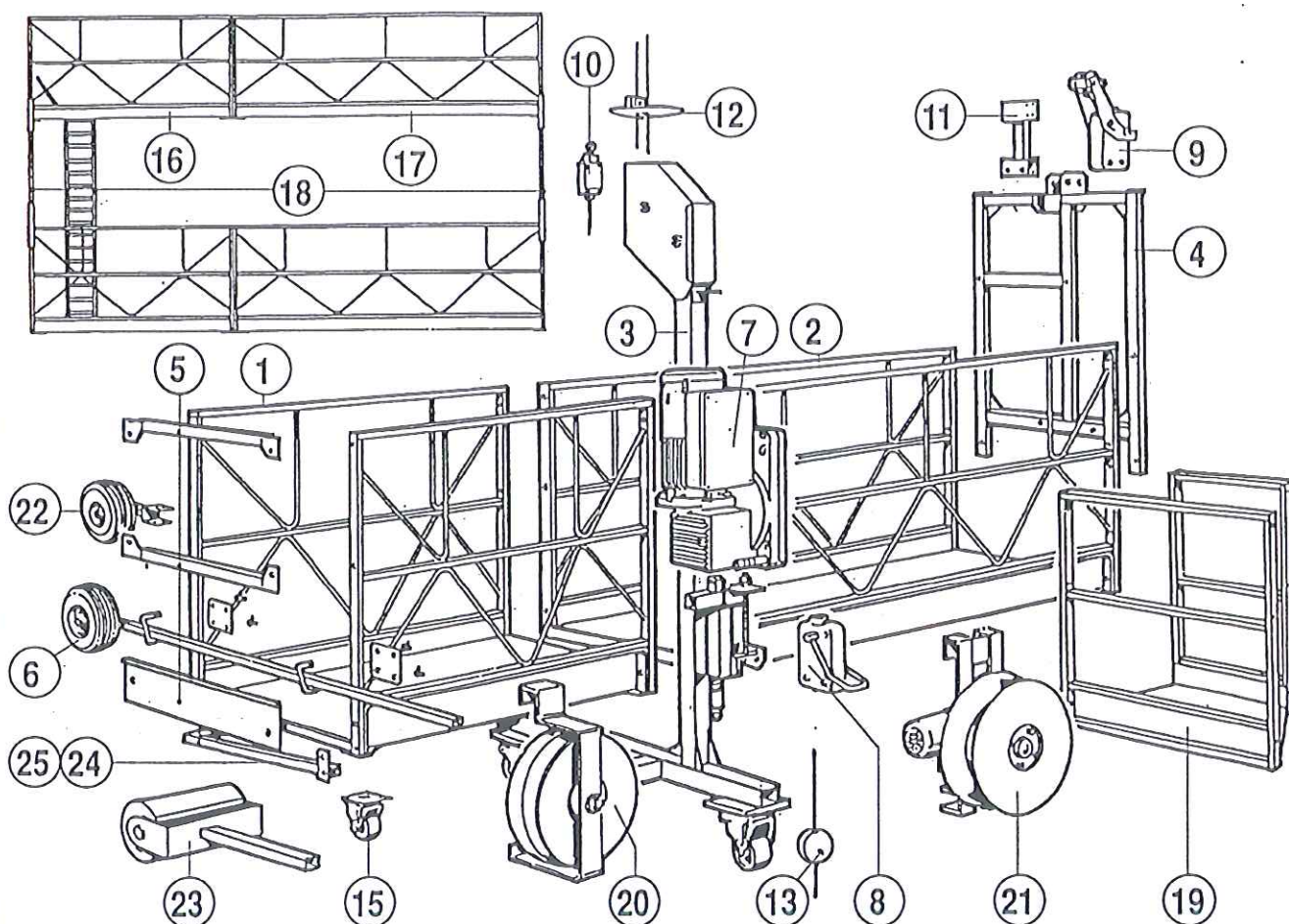
- Operating and Maintenance Manual for TIRAK Hoists
- Safe Working Load Lists

# Spare parts

Edition 2 - 05/92

## Scaffoldings Type L

For S 3 - ... L  
Scaffolding S 5 - ... L  
Types C 5 - ... L



### A) Standard parts

Pos.	Code	Designation	
1	11798	Platform element, length 2 m, with guard rails, height 1 m .....	36
2	11808	Platform element, length 3 m, with guard rails, height 1 m .....	54
3	3468	C-shaped stirrup .....	62
4	11818	End stirrup (Code 15438 for TIRAK hoist X 300 PB).....	13
5	11788	Set of 2 guard rail tubes and 1 end to board .....	4,5
6	3438	Guide rollers, Ø 250 mm, with telescopic bar .....	4,5
7	-	TIRAK hoist X 500 PB series .....	39
8	3219	Automatic safety device BLOCSTOP (for C-shaped stirrup) .....	2,5
9	3279	Automatic safety device BLOCSTOP (for for end stirrup) .....	2,5
10	13187	Upper end limit switch .....	-
11	16998	Support for limit switch (for end stirrup) .....	-
12	7488	Buffer plate for upper limit switch.....	1
13	15908	Counterweight for safety wire rope .....	8
(14)	12148	Set of screws for connection of 2 platform elements (not shown) .....	-
15	12998	Set of 4 transport rollers .....	16

### B) Accessories for double-deck platforms

16	11898	Platform element with hatch, length 2 m, with guard rails, height 1 m .....	36
17	11908	Platform element with hatch, length 3 m, with guard rails, height 1 m .....	54
18	12188	Connecting set, length 2 m (4 rods and 1 ladder) .....	16

### C) Special-equipment

19	-	Angular aluminium platform element .....	-
20	5048	Automatic rope reeler .....	-
21	4928	Motorized wire rope reeler .....	22
22	-	Guide roller, Ø 250 mm, horizontally adjustable fixing on the guardrail .....	4
23	7758	Rubber covered roller Ø 165 mm, length 240 mm, with telescopic bar .....	4
24	7858	Bumper bar, length 2 m .....	8
25	-	Bumper bar, length 3 m .....	10

All technical details are subject to alterations



## Assembly and operating instructions

### MOTORIZED SUSPENDED SCAFFOLDING

Type:	S 3 - 2 L
Year of manufacture:	2005
Serial number:	8046/05
Safe working load:	240 kg
Dead weight:	155 kg
Admissible total weight:	395 kg
Length:	2 m
Hoist type:	2 TIRAK X 300 P
Lifting capacity:	300 kg per hoist
Admissible load for man riding:	300 kg per hoist

#### Manufacturer:

GREIFZUG Hebezeugbau GmbH • D-51469 Bergisch Gladbach  
Scheidtbachstraße 19-21 • Fax: 0 22 02/10 04-70+50



022 02/10 04-0



T A B L E   O F   C O N T E N T S

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## A) MOUNTING INSTRUCTIONS

### 1. General

Setting up of GREIFZUG Motorized Suspended Scaffoldings must only be carried out under the supervision and the responsibility of an experienced professional, who is familiar with the equipment and the present instruction manual.

Before starting the mounting operation, thoroughly inspect all parts and equipment. Use only original parts and original GREIFZUG wire ropes. Check its entire length to be undamaged and look at the end to be well tapered.

### 2. Suspension and Wire Rope Mounting

#### 2.1 Suspension

The scaffolding is to be anchored at suitable building parts or special constructions, which have to be properly fixed to the building.

These building parts resp. constructions must be able to support the following minimum loads:

<u>TIRAK - Type*</u>	<u>Minimum Carrying capacity</u>
X 300 PB-Series	300 kg x 2,6= 780 kg
X 500 PB-Series	500 kg x 2,6= 1300 kg
T 550 PB-Series	450 kg x 2,6= 1170 kg
T 1000 PB-Series	800 kg x 2,6= 2080 kg

\* Equally valid for air-driven TIRAK hoists.

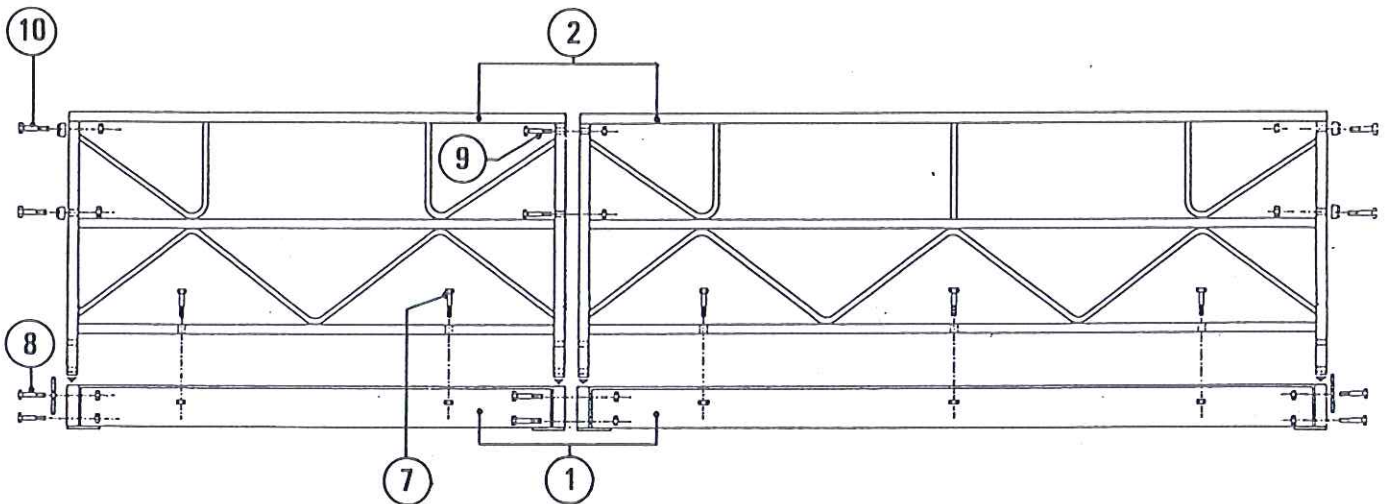
#### 2.2 Wire rope anchoring

- a) Unroll suspension wire ropes and safety wire ropes from the roof.  
Never pull them sideways from the drum/reel.
- b) Check the wire ropes to be undamaged (no broken wires) and without links or slings. Especially look for a well tapered end. If there is no other local security regulation, check according to DIN 15 020, part 2.
- c) Fix and secure the wire ropes to the suspension by means of bolts and forelocks.
- d) Fix a buffer plate on the suspension wire rope underneath its sleeve.  
If there are projecting building parts, the plate has to be placed in such a height to stop the working cage before it collides with those parts.

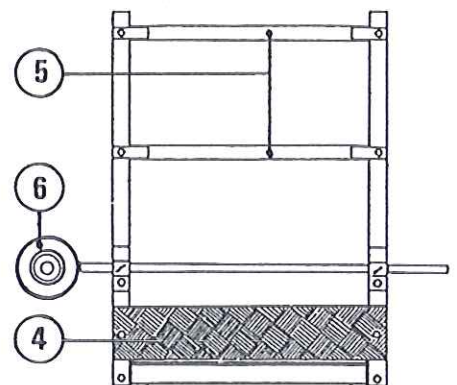
### 3. Scaffolding Assembly

#### 3.1 Platform Assembly

- a) Put the guard rails (2) onto the platform units (1) and fix them with screws (7).
- b) For longer scaffoldings connect the number required of platforms to each other by means of bolts (9).
- c) Close the ends of the platform by means of end toe boards (4) with screws (8). Fix guard rail to platform in the lowest hole.
- d) Only for scaffoldings with rear suspension (C-shaped stirrups): Close the ends of the platform with guardrail tubes (5) and screws (10).



- e) Fix the guide rollers (6) to the guard rail.





### 3.2c Assembly of platform and C-shaped stirrup

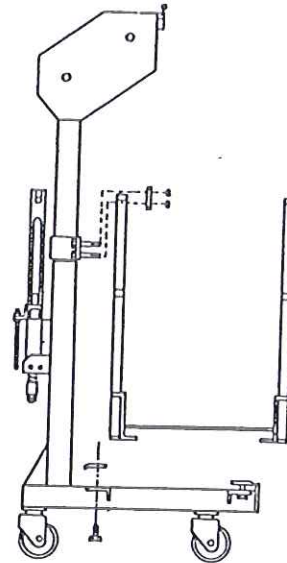
(For rear suspension only)

- a) Disassemble lashes of the C-shaped stirrups.  
Put the platform on the stirrup.

Distance between stirrup and scaffolding end: max. 1 meter.

On scaffoldings with one stirrup only, it naturally has to be in the middle of the platform.

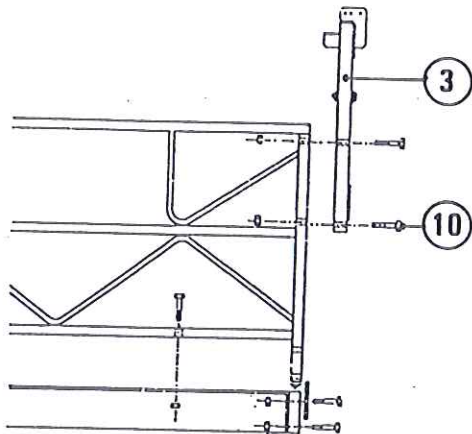
- b) Put on the lashes to grip over the platform profile and tighten the bolts.
- c) Fix the stirrup to the the upper guard rail tube by means of the connecting parts.



### 3.2s Assembly of platform and End-stirrup

(For lateral suspension only)

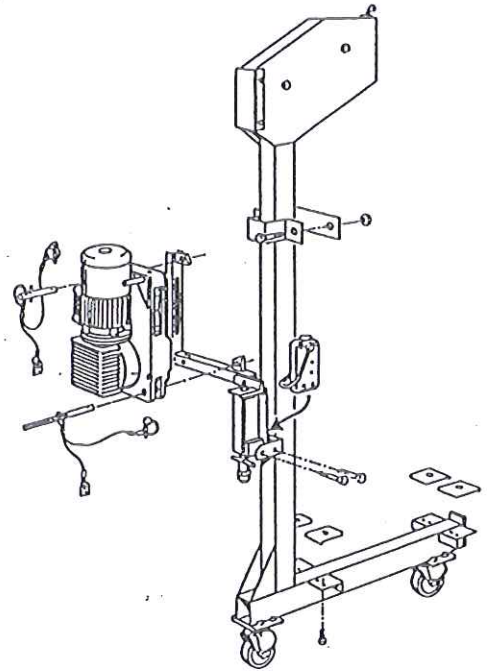
Fix end stirrups (3) with bolts (10) to both ends of the platform.



### 3.3c TIRAK and BLOCSTOP Safety Device Assembly

(For rear suspension only)

- a) Bolt TIRAK winch - motor upside - to the C-shaped stirrup.
- b) Connect upper limit switch cable to its adapter on the TIRAK control box.
- c) If not preassembled, fix the BLOCSTOP safety device to its support on the stirrup. For the adjustment see chapter 6.3



### 3.3s TIRAK and BLOCSTOP Safety Device Assembly

(For lateral suspension only)

#### a) TIRAK-Assembly

##### I) TIRAK T 550/1000 PB:

Bolt the bracket (6) of the endstirrup (3) to the appropriate position:

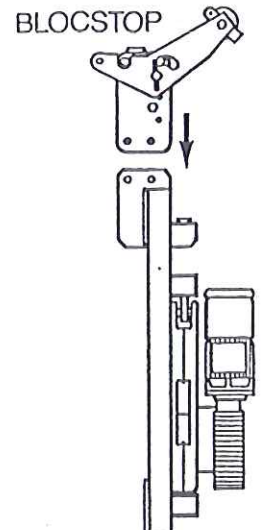
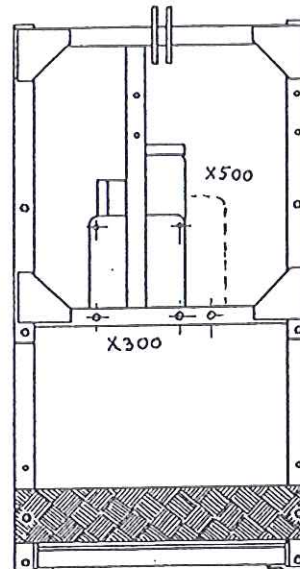
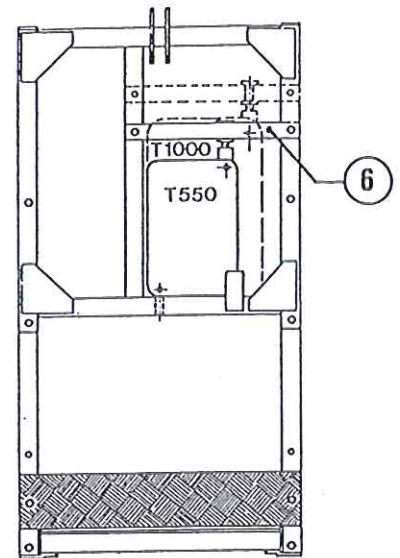
UP = for TIRAK T 1000 PB  
DOWN = for TIRAK T 550 PB

Put on the TIRAK and secure by means of bolt and forelock.

##### II) TIRAK X 300/500 PB:

Bolt TIRAK to the adequate holes of the lower bracket of the end stirrup.

- b) Screw Upper Limit switch and its cable to the stirrup.
- c) Connect upper limitswitch cable to the adapter of the TIRAK control box.
- e) If not preassembled, fix the BLOCSTOP safety device to its support on the stirrup. For the adjustment see chapter 6.3



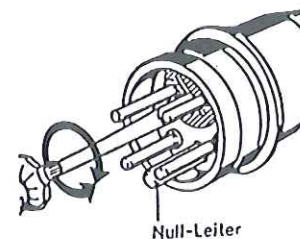
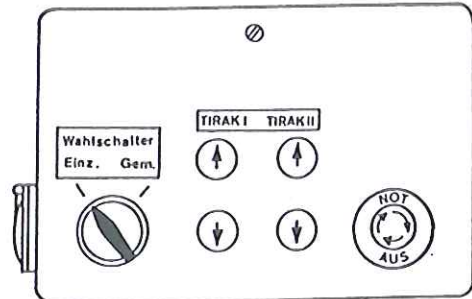
#### 4. Electric connection and wire rope installation

Electric connection must be made according to VDE 0100 § 55.

Only a building site main cabinet according VDE 0612 is valid for the connection, not wall sockets.

##### 4.1 Electric Connection and Suspension Wire Rope Installation

- a) Fix central control to the guard rail.
- b) Fix master supply cable to the guard rail by means of a fixing sleeve.
- c) Plug the Central Control to the master supply cable.
- d) Connect TIRAK hoists to the central control.
- e) The master supply cable can now be connected to the power source.  
Standard: 380 V/3P+E+N, 50 Hz, 16 A.
- f) To start operation turn EMERGENCY STOP button to the right, it comes out.



- g) With C-Shaped Stirrups: Pass the suspension wire rope over the left pulleys (seen from outside the platform) and insert into TIRAK wire rope inlet.

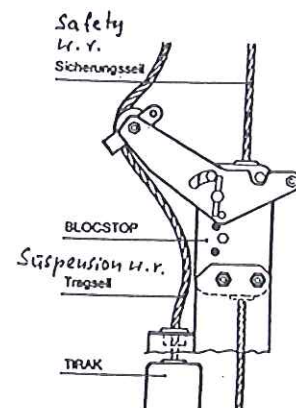
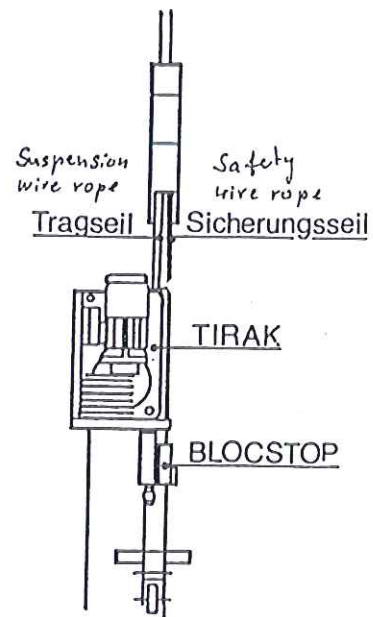
With End-Stirrups: Pass the suspension wire rope through the guide of the BLOCSTOP control pulley and insert into TIRAK wire rope inlet.

Turn SELECTOR SWITCH into position "einzeln = single control". Depress "UP" button of the corresponding TIRAK and push the wire rope inside the hoist, it reeves itself automatically coming out at the other side of the hoist.

If it does not, The TIRAK is rotating into the wrong direction. In order to correct turn the phase inverter at the plug of the Central Control.

Check that the wire rope can exit without any obstruction.

- h) Insert the second suspension wire rope in the same manner.
- i) Run the wire ropes through both TIRAK, until they are tensioned. Then turn SELECTOR SWITCH into position "gemeinsam = simultaneous control" and lift the scaffolding about 20 cm above the ground.





#### 4.2 Safety Wire Ropes and Rope Ends

a) Before inserting the safety wire ropes check that suspension wire ropes and safety wire ropes do not intermingle.

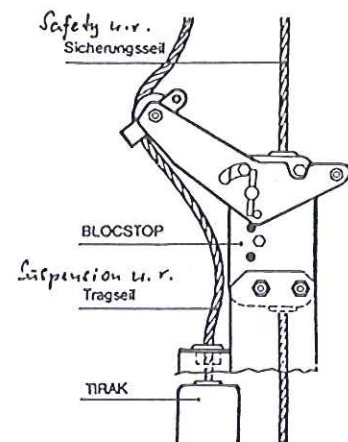
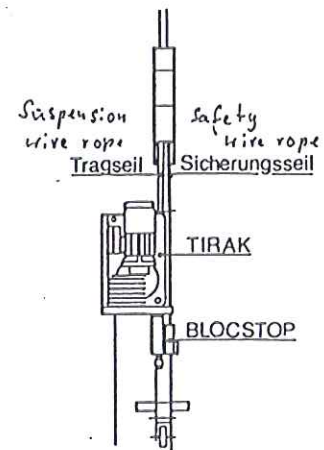
b) On C-shaped stirrups only:  
Pass the safety wire rope over the pulleys (only for C-shaped stirrups), through the BLOCSTOP and tension it by hand.

On end-stirrups only:

Put the safety wire rope through the BLOCSTOP safety device and tension it by hand.

c) Fix the counterweight by means of the clamp to each safety wire rope at about 20 cm above ground.

d) Suspension wire ropes and Safety wire ropes, which exceed by 3 meters or more the height of the building, must be reeled separately at ground level and maintained by binding at least three times.



\*\*\*\*\*

The GREIFZUG Motorized Suspended Scaffolding is now ready for use.

However, before starting you have to do the checks according to chapter 6.

\*\*\*\*\*

## B) OPERATING INSTRUCTIONS

### 5. General

Occupational Safety Organizations prescribe that GREIFZUG Motorized Suspended Scaffoldings can be operated and used by experienced personnel only.

This personnel must be fully acquainted with the present "OPERATING INSTRUCTIONS" as well as the Safety Regulations for Suspended Working Platforms edited by the local Occupational Safety Authorities.

One Person shall be designed as being responsible for the scaffolding.

### 6. Safety Checks before Putting into Operation

#### 6.1 Suspension Inspection

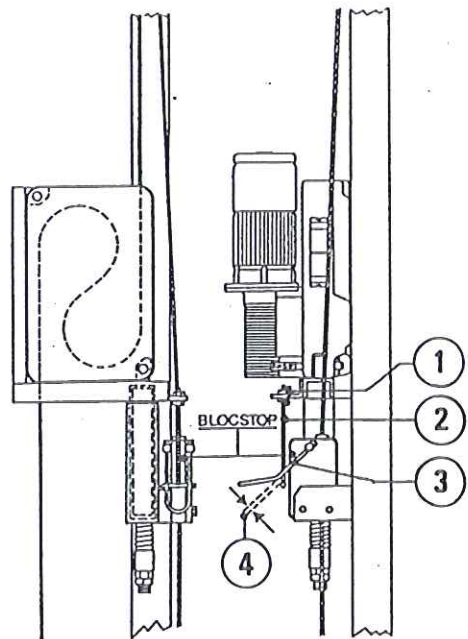
- a) The distance between the suspension points must correspond to the distance between the stirrups of the scaffolding. Oblique suspension is not allowed.
- b) Check wire rope fixing and the suspension system to be in correct state.
- c) Distances between suspension points and wire rope entrances on the scaffolding must be equal - oblique suspension is not allowed.

#### 6.2 Scaffolding Inspection

- a) Check tightening of all bolts and nuts on the scaffolding and in particular the fixing bolts and nuts for the hoist, BLOCSTOP safety device, and the stirrups.
- b) Check suspension and safety wire rope passage over the pulleys (when using C-shaped stirrups). Check suspension wire rope passage through guide of BLOCSTOP control pulley (when using end-stirrups).
- c) Suspension wire ropes and Safety wire ropes, which exceed by 3 meters or more the height of the building, must be reeled separately at ground level and maintained by binding at least three times.

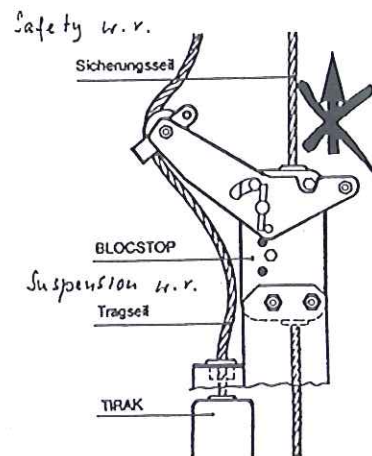
### 6.3c Inspection of BLOCSTOP Safety Device (C-shaped Stirrup)

- a) To check, if the BLOCSTOP Safety Device has been adjusted correctly, try to pull safety wire rope upwards, when the suspension wire rope is not under load, e.g. when the scaffolding is set onto the ground.  
This must not be possible. Otherwise the BLOCSTOP must be adjusted as follows:
- b) Lift the scaffolding approx. 20 cm above ground level.
- c) Loosen nuts (1) of the Control Lever (2) and adjust its height such as the clearance (4) between the control lever and the manually opened BLOCSTOP handle (3) is about 2 - 3 mm.
- d) Tighten the nuts and lower the scaffolding to ground level until the suspension wire rope is completely unloaded.
- e) Check again as outlined above.



### 6.3s Inspection of BLOCSTOP Safety Device (on end-stirrups)

- a) To check, if the BLOCSTOP Safety Device has been adjusted correctly, try to pull safety wire rope upwards, when the suspension wire rope is not under load, e.g. when the scaffolding is set onto the ground.  
This must not be possible. Otherwise the BLOCSTOP must be exchanged and sent back to the supplier for repair.



## 7. Safe Working Loads

The safe working load indicated on the scaffolding name plate is valid as long as you do not alter the scaffoldings original assembly.

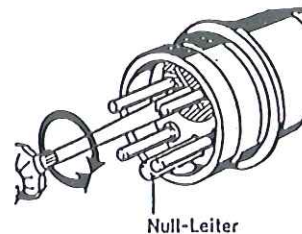
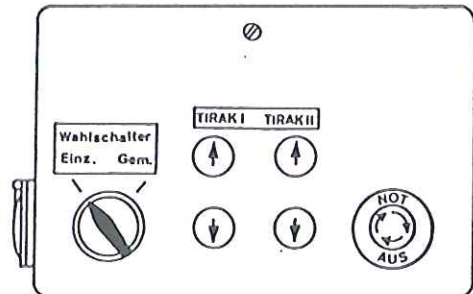
If you make the scaffolding longer or shorter, or if you use a double deck version, the safe working load naturally changes. You find a list of the corresponding safe working loads in the annex D.



## 8. Operation

### 8.1 Operation with Central Control

- a) The TIRAK is operated from a Central Control. To start turn EMERGENCY STOP button to the right - it comes out.
- b) Turn the SELECTOR SWITCH into position "gemeinsam = simultaneous control" and push "UP" button. If the scaffolding moves downwards, turn the phase inverter at the plug of the central control.
- c) If the scaffolding gets into an oblique position, stop it. Turn the SELECTOR SWITCH into position "einzeln = individual control" and bring the scaffolding back into its horizontal position. After switching back to position "Gemeinsam" the scaffolding can be normally operated.



### 8.2 Upper Limit Switch Control

- a) The functioning of the Upper Limit Switch is checked during the first test run by depressing the releasers by hand during upwards travel. The hoist must stop immediately.
- b) Upper limit switches must not be reached during normal operation. Should this nevertheless occur, lower the scaffolding until the releaser returns into its normal position.

## 9. Securing of places below the scaffolding

Take care of preventive measures in order to protect people against any hazards in the area below the scaffolding.

## 10. Operation in Windy Weather

In case of strong wind or gale the operation must be discontinued unless the scaffolding is laterally restrained by guide ropes or similar.

The scaffolding has to be lowered onto ground.

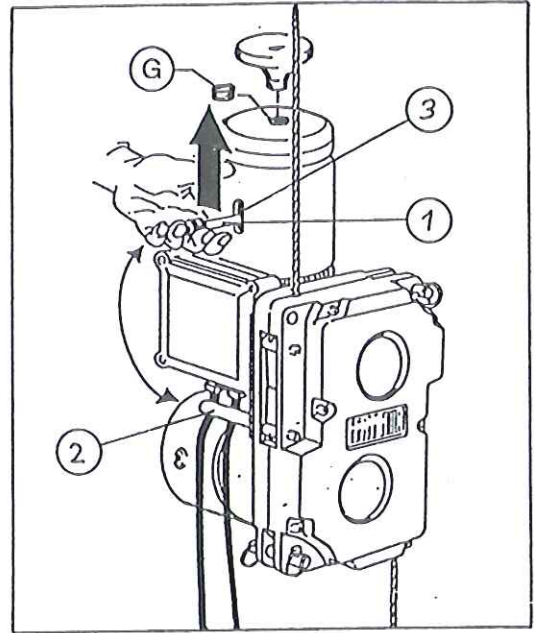
## 11. Manual Operation

TIRAK hoists are equipped with a centrifugal brake allowing descent at controlled speed in case of current failure.

- a) To start take brake release lever (1) out of TIRAK handle (2).
- b) Insert in motor cover hole (3). Release brake by pulling lever upwards simultaneously on both hoists\*).

\* On scaffoldings with lateral suspension the BLOCSTOP stops downward travel, when the scaffolding gets into oblique position. Descent is only possible after the relieving the closed BLOCSTOP, proceeding as follows:

- Remove rubber cap (G) from motor cover.
  - Put the hand wheel on the motor shaft, open the brake and turn the wheel until the suspension wire rope has taken the load and the BLOCSTOP is opened again.
  - Refasten the hand wheel and the rubber cap.
  - Continue with descent.
- c) To stop movement, release lever.
  - d) After use restore lever into TIRAK handle.



## 12. Horizontal Travel of Scaffolding

- a) Stop Scaffolding at approx. 20 cm above ground level.
- b) Remove safety wire rope counterweights and pull out the safety wire ropes as far as necessary to put the suspension to its new position.
- c) Lower scaffolding to the ground and equally run out the suspension wire ropes.
- e) Move the anchoring system into the new position and check according to chapter 6.1.
- f) Careful lifting allows the scaffolding to move into its new position.
- g) Lift the scaffolding by approx. 20 cm, tighten the safety wire ropes by hand, and fix safety wire rope counterweights.

### 13. Troubleshooting

Thanks to their safe design and robust construction GREIFZUG Motorized Scaffoldings are not prone to breakdowns. Due to their simple design, any troubles that may arise can be eliminated practically always by the operating personnel.

Listed hereunder are some of the possible troubles and their remedies:

Trouble	Cause	Remedy
Hoists turn in the wrong direction	Phase inversion at power inlet	Change phases at the plug by turning phase inverter
Scaffolding moves downwards but does not climb.	One phase is missing, i.e. a fuse is blown or there is a loose connection.	Check fuses and/or cable and plugs.
Despite faultless power supply one hoist stops.	Protection relay has switched to "0", caused by overload or other reason.	Check load. After cooling down the motor starts again. If not consult electrician.
	Control cable of the upper limit switch not/not correctly branched.	Correctly plug limit switch cable to the TIRAK control box.
Despite running motor descent is impossible because one BLOCSTOP is blocking the scaffolding on the safety wire rope.	The BLOCSTOP safety device has been set incorrectly. (C-shaped stirrup) Oblique position (End-stirrup)	Raise scaffolding until suspension wire rope is under load. Disengage BLOCSTOP manually and descend. Adjust at ground level (chapter 6.3) Go up until suspension wire rope is under load and BLOCSTOP has opened again.

### 14. Out of Operation

When the scaffolding is not used, it must be placed onto the ground with slightly slackened wire ropes.

The main supply cable must always be disconnected from the power source.



## C) MAINTENANCE & SERVICING

### 15. Schedule and Recommendations

#### 15.1 Suspension System and Scaffolding

- a) Daily check the suspension system and the scaffolding according to chapter 6.
- b) Yearly inspection of the complete installation by a specialist.
- c) On C-shaped stirrups: regularly grease the guiding tube of the TIRAK support to guarantee for a troublefree BLOCSTOP operation.

#### 13.2 TIRAK Hoist

The TIRAK must be inspected at least once a year and at the latest after 500 hours of operation by a specialist of the manufacturer or the furnisher.

#### 13.3 Wire Ropes

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Weekly check the wire ropes in accordance with the regulations of the local Occupational Safety Authorities.

#### 13.4 Inspection Record

The results of the yearly inspection must be recorded in writing.

If requested by the local Occupational Safety Authorities, the results must be recorded in a special booklet.

## D) ANNEX

Parts of this instruction manual are:

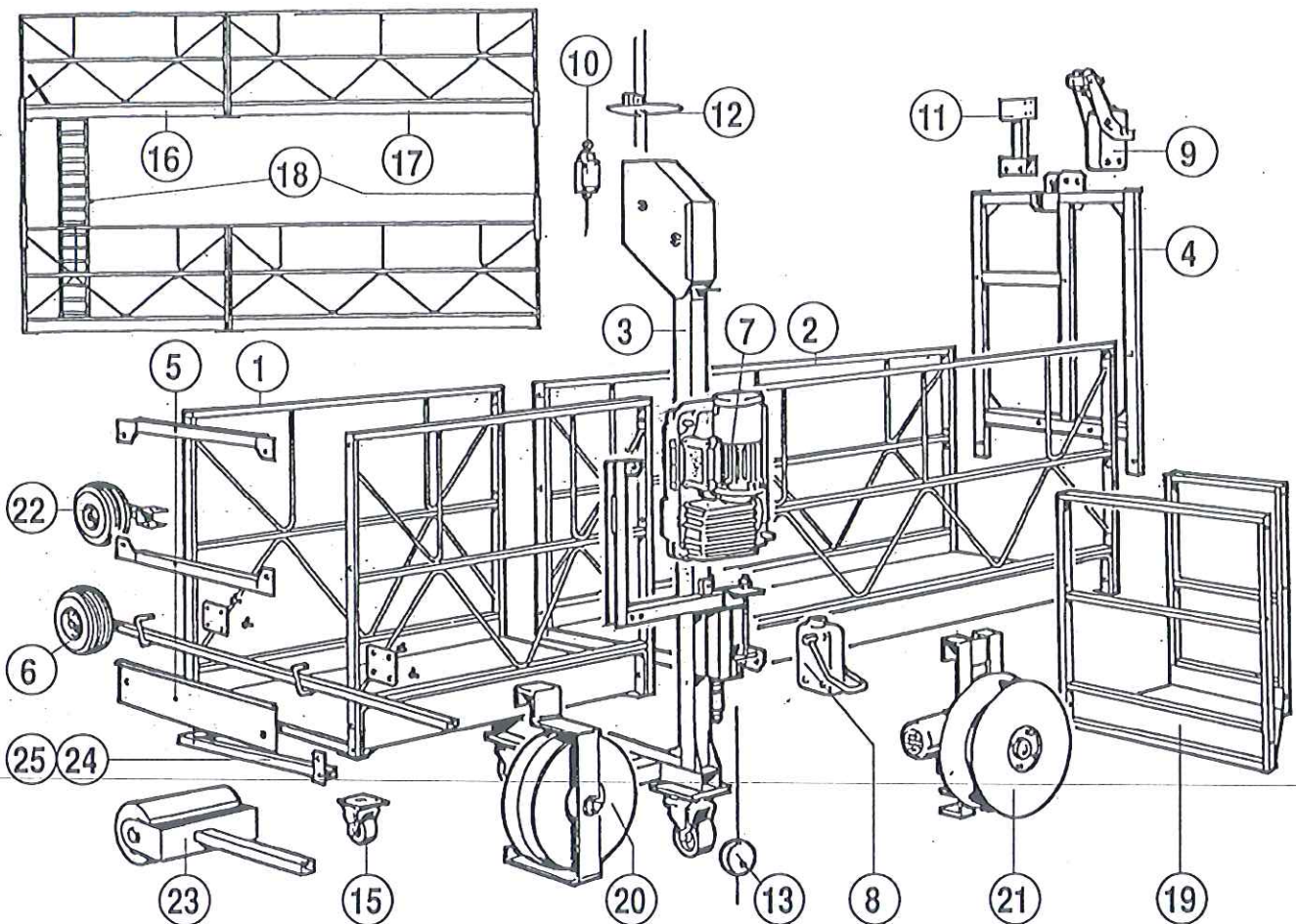
- Operating and Maintenance Manual for TIRAK Hoists
- Safe Working Load Lists

# Spare parts

Edition 2 - 05/92

## Scaffoldings Type S

For S 10 - ... S  
Scaffolding and  
Types C 10 - ... S



	Pos.	Code	Designation	Weight per unit (kg)
A) Standard parts	1	12168	Platform element, length 2 m, with guard rails, height 1 m .....	43
	2	12178	Platform element, length 3 m, with guard rails, height 1 m .....	64
	3	14908	C-shaped stirrup .....	72
	4	11918	End stirrup .....	15
	5	12158	Set of 2 guard rail tubes and 1 end toe board .....	4,5
	6	3438	Guide rollers, Ø 250 mm, with telescopic bar .....	4,5
	7	-	TIRAK hoist T 1000 PB series .....	75
	8	3239	Automatic safety device BLOCSTOP (for C-shaped stirrup) .....	2,5
	9	15949	Automatic safety device BLOCSTOP (for end stirrup) .....	2,5
	10	13187	Upper end limit switch .....	-
	11	16998	Support for limit switch (for end stirrup) .....	-
	12	7488	Buffer plate for upper limit switch .....	1
	13	15908	Counterweight for safety wire rope .....	8
	(14)	12148	Connecting screws for 2 elements (without Fig.) .....	-
	15	12998	Set of 4 transport rollers .....	16
B) Accessories for double-deck platforms	16	12198	Platform element with hatch, length 2 m, with guard rails, height 1 m .....	43
	17	12208	Platform element with hatch, length 3 m, with guard rails, height 1 m .....	64
	18	12188	Connecting set, length 2 m (4 rods and 1 ladder with buffer parts) .....	16
C) Special-equipment	19	-	Angular aluminium platform element .....	-
	20	5048	Automatic rope reeler .....	-
	21	4928	Motorized wire rope reeler .....	22
	22	-	Guide roller, Ø 250 mm, (horizontally adjustable fixing on the guard rail) .....	4
	23	7758	Rubber covered roller Ø 165 mm, length 240 mm, with telescopic bar .....	4
	24	7858	Bumper bar, length 2 m .....	8
	25	-	Bumper bar, length 3 m .....	10

All technical details are subject to alterations

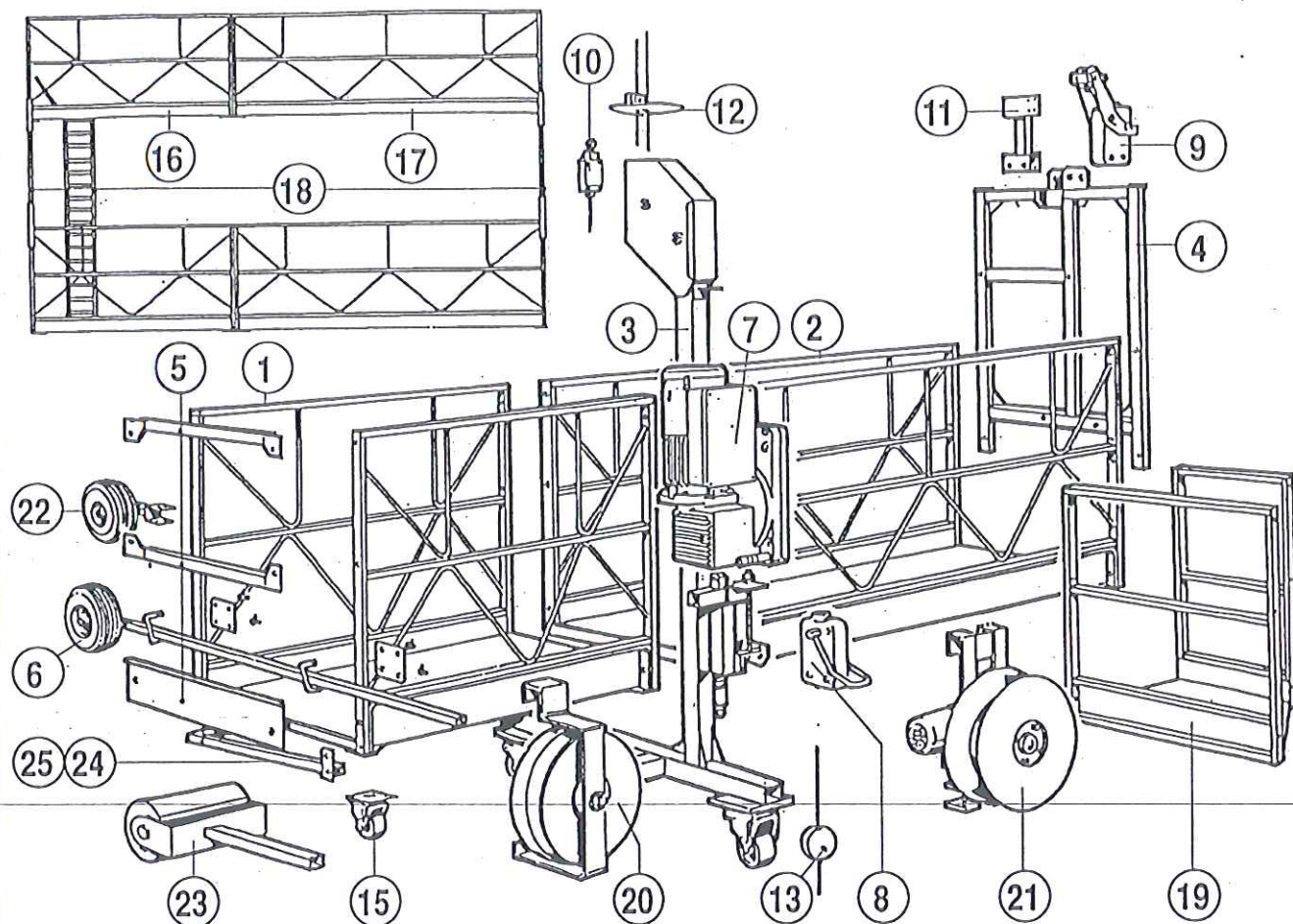


# Spare parts

Edition 2 05/92

## Scaffoldings Type L

For S 3 - ... L  
Scaffolding S 5 - ... L  
Types C 5 - ... L



### A) Standard parts

Pos.	Code	Designation	
1	11798	Platform element, length 2 m, with guard rails, height 1 m .....	36
2	11808	Platform element, length 3 m, with guard rails, height 1 m .....	54
3	3468	C-shaped stirrup .....	62
4	11818	End stirrup (Code 15438 for TIRAK hoist X 300 PB).....	13
5	11788	Set of 2 guard rail tubes and 1 end to board .....	4,5
6	3438	Guide rollers, Ø 250 mm, with telescopic bar .....	4,5
7	-	TIRAK hoist X 500 PB series .....	39
8	3219	Automatic safety device BLOCSTOP (for C-shaped stirrup) .....	2,5
9	3279	Automatic safety device BLOCSTOP (for for end stirrup) .....	2,5
10	13187	Upper end limit switch .....	-
11	16998	Support for limit switch (for end stirrup) .....	-
12	7488	Buffer plate for upper limit switch.....	1
13	15908	Counterweight for safety wire rope .....	8
(14)	12148	Set of screws for connection of 2 platform elements (not shown) .....	-
15	12998	Set of 4 transport rollers .....	16

### B) Accessories for double-deck platforms

16	11898	Platform element with hatch, length 2 m, with guard rails, height 1 m .....	36
17	11908	Platform element with hatch, length 3 m, with guard rails, height 1 m .....	54
18	12188	Connecting set, length 2 m (4 rods and 1 ladder) .....	16

### C) Special-equipment

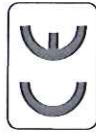
19	-	Angular aluminium platform element .....	-
20	5048	Automatic rope reeler .....	-
21	4928	Motorized wire rope reeler .....	22
22	-	Guide roller, Ø 250 mm, horizontally adjustable fixing on the guardrail .....	4
23	7758	Rubber covered roller Ø 165 mm, length 240 mm, with telescopic bar .....	4
24	7858	Bumper bar, length 2 m .....	8
25	-	Bumper bar, length 3 m .....	10

HG/ET/alt/L/E

All technical details are subject to alterations

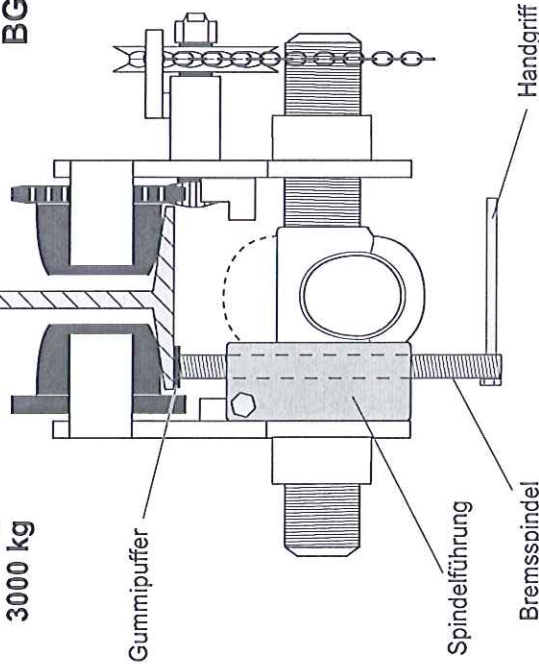


### Zusatz-Betriebsanleitung



EN 1808  
BGV C1

Tragfähigkeiten  
1000 kg  
2000 kg  
3000 kg



### 1. Allgemeines

Diese Anleitung enthält nur Anweisungen und Erläuterungen im Zusammenhang mit der Feststellbremse.

Sie ist nur gültig in Verbindung mit der Original-Betriebsanleitung für Roll- und Haspelkatzen.

## 2. Zweckbestimmung

Haspelkatzen mit Feststellbremse dienen gegen das unbeabsichtigte Wegrollen von angehängten Lasten.

Sie sind nach **EN 1808 vorgeschrieben**, wenn sie als Aufhängepunkt für „hängende Personenaufnahmemittel“ eingesetzt werden.

Außerdem haben die Haspelkatzen mit Feststellbremse die **Zulassung nach BGV C1** (Theater usw.).

## 3. Montage und Betrieb

### 3.1 Montage

- Vor dem Aufsetzen der Haspelkatze die Bremsspindel so weit wie möglich herausdrehen.
- Die Montage erfolgt gemäß Standard-Betriebsanleitung.
- Nach dem Aufsetzen und Justieren der Haspelkatze die Bremsspindel so weit reindrehen, daß zwischen Gummipuffer und Unterflansch des Trägers ca. 5 mm Spiel bleibt, damit die Haspelkatze frei verfahrbar bleibt.

### 3.2 Betrieb

Beim Einsatz mit hängenden Personen- aufnahmemitteln muß die Haspelkatze nach Erreichen einer Arbeitsposition gegen unbeabsichtigtes Verfahren blockiert werden:

Bremsspindel mit Hilfe des Handgriffs bis zum Blockieren reindrehen.

**Wichtig:** Feststellbremse lösen, bevor in eine neue Arbeitsposition gefahren werden soll.

### Hersteller-Erklärung

Die **GREIFZUG Hebezeugbau GmbH** 51434 Bergisch Gladbach, Postfach 20 04 40, vertreten durch den Geschäftsführer, Dr.-Ing. Uwe Schult, erklärt, daß die in dieser Anleitung beschriebenen Maschinen zum **Einsatz im Personentransport** den zum Zeitpunkt ihrer Inverkehrbringung in der Europäischen Gemeinschaft gültigen Vorschriften entsprechen.

#### ANWENDBARE VORSCHRIFTEN:

EG-Richtlinien: 98/37 EU EG-Normen: EN 292 – EN 1808  
Deutsche Normen: BGV D6 – BGV C1 – VBG 9a

Zulassung: Prüf-Nr. 03020 – Ident.-Nr. der Prüfstelle 0393

Die Inbetriebnahme ist solange verboten, bis die Anlage, in welche die Trägerklemme eingebaut ist, als Ganzes den Bestimmungen der Richtlinie 89/392/EWG sowie dem entsprechenden nationalen Rechtsrat zur Umsetzung der Richtlinie ins nationale Recht entspricht und die entsprechende Konformitätserklärung ausgestellt ist.

*Uwe Schult*

<b>GREIFZUG</b> Hebezeugbau GmbH	Scheidtbadstr. 19-21 51434 Bergisch Gladbach	Postfach 20 04 40 51434 Bergisch Gladbach	Tel.: 0 22 02/10 04-0 Fax: 0 22 02/10 04-70	<a href="http://www.greifzug.de">www.greifzug.de</a> <a href="mailto:info@greifzug.de">info@greifzug.de</a>
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## EG-Baumusterprüfbescheinigung

97022
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Bescheinigungs-Nummer

Name und Anschrift des Bescheinigungsinhabers: (Auftraggeber)	Greifzug Hebezeugbau GmbH Scheidtbachstraße 19 - 21, 51469 Bergisch-Gladbach
Name und Anschrift des Herstellers:	Greifzug Hebezeugbau GmbH Scheidtbachstraße 19 - 21, 51469 Bergisch-Gladbach
Zeichen des Auftraggebers: 17.7.96 Herr Busch	Zeichen der Prüf- und Zertifizierungsstelle: 622.463-Greifzug
Produktbezeichnung:	Arbeitsbühne
Typ:	ALTA-L
Bestimmungsgemäße Verwendung:	Schaffung höhen- und ortsveränderlicher Arbeitsplätze in Verbindung mit den Dachauslegern MA1 bis MA4 und MA4H
Prüfgrundlage:	Grundsätze für die Prüfung der Arbeitssicherheit von hochziehbaren Personenaufnahmemitteln (GS-BAU-08) (6.1994)

Bemerkungen:

Das geprüfte Baumuster entspricht den einschlägigen Bestimmungen der Richtlinie 89/392/EWG (Maschinen), geändert durch die Richtlinien 91/368/EWG, 93/44/EWG und 93/68/EWG.

Diese Bescheinigung wird spätestens ungültig am:

31.03.2002
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Weiteres über die Gültigkeit, eine Gültigkeitsverlängerung und andere Bedingungen regelt die Prüf- und Zertifizierungsordnung vom Januar 1993.

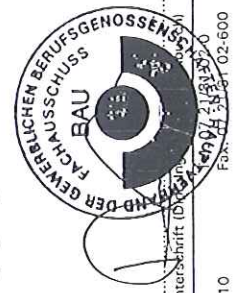
Unterschrift (Dipl.-Ing. Eckhard Schmidt)

Postadresse:  
Postfach 55 09  
76123 Karlsruhe

Hausadresse:  
Steinhäuserstraße 10  
76135 Karlsruhe

Unterschrift (Dipl.-Ing. Eckhard Schmidt)

Fax:  
07141 3531-02-600



Fachausschuß Bau - 30141 Hannover

Greifzug Hebezeugbau GmbH  
Scheidtbachstraße 19 - 21

51469 Bergisch-Gladbach

Ihre Zeichen/Ihre Nachricht vom

Unser Zeichen (bitte stets angeben)  
622.463-Greifzug

Bearbeiter  
Birkenbusch/DA

Datum  
20.03.2002

1. Nachtrag zur Bescheinigung über die Prüfung der Arbeitssicherheit BAU 97022  
hier: Arbeitsbühne, Typ ALTA-L

Sehr geehrte Damen und Herren,

aufgrund der am 12.03.2002 erfolgten Feststellungen wird die Gültigkeit der Bescheinigung

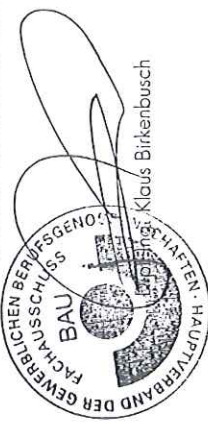
**BAU 97022**

über die Prüfung der Arbeitssicherheit vom 12.03.1997 bis zum 31.03.2007 verlängert.

Die Bescheinigung über die Prüfung der Arbeitssicherheit und die dazugehörigen Nachträge dürfen nur  
gemeinsam verwendet werden.

Mit freundlichem Gruß  
Der Fachzertifizierer

Der Leiter des Fachbereiches Zertifizierung



Dipl.-Ing. Eckhard Schmidt

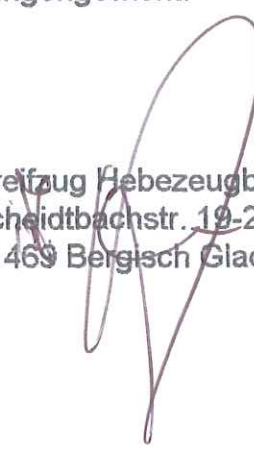
Federführung:  
Südwestliche BauBerufsgenossenschaft  
76123 Karlsruhe

Hausadresse:  
BauBerufsgenossenschaft Hannover  
Hildesheimer Straße 309, 30519 Hannover  
eMail: [fa-bau@karlsruhe.de](mailto:fa-bau@karlsruhe.de)  
Internet: <http://haume.karlsruhe.de/home/fabau>



## Seil – Attest zu Auftrag 50990

Länge des Seils:	70 m
Nennndurchmesser:	8 mm
Konstruktion:	4 x 26 W/S
Art der Einlagen:	PP
Oberfläche der Drähte:	ZNK
Nennfestigkeit der Drähte:	1810 N/mm <sup>2</sup>
Schlagart, Schlagrichtung:	SZ
Ausführung:	spannungsarm
Rechnerische Bruchkraft:	51,5 kN
Mindestbruchkraft:	39,7 kN
Längengewicht:	0,255 kg/m

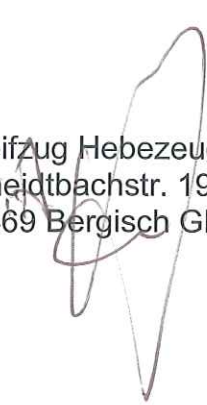
  
Greifzug Hebezeugbau GmbH  
Scheidt bachstr. 19-21  
51469 Bergisch Gladbach

Bergisch Gladbach, 18.01.2005



## Seil – Attest zu Auftrag 61400

Länge des Seils:	70 m
Nennndurchmesser:	8 mm
Konstruktion:	4 x 26 W/S
Art der Einlagen:	PP
Oberfläche der Drähte:	ZNK
Nennfestigkeit der Drähte:	1810 N/mm <sup>2</sup>
Schlagart, Schlagrichtung:	SZ
Ausführung:	spannungsarm
Rechnerische Bruchkraft:	51,5 kN
Mindestbruchkraft:	39,7 kN
Längengewicht:	0,255 kg/m



Greifzug Hebezeugbau GmbH  
Scheidtbachstr. 19-21  
51469 Bergisch Gladbach

Bergisch Gladbach, 26.08.2005