tralift® TE

electric chain hoists

For 1/8 to 2 ton capacity hoists:

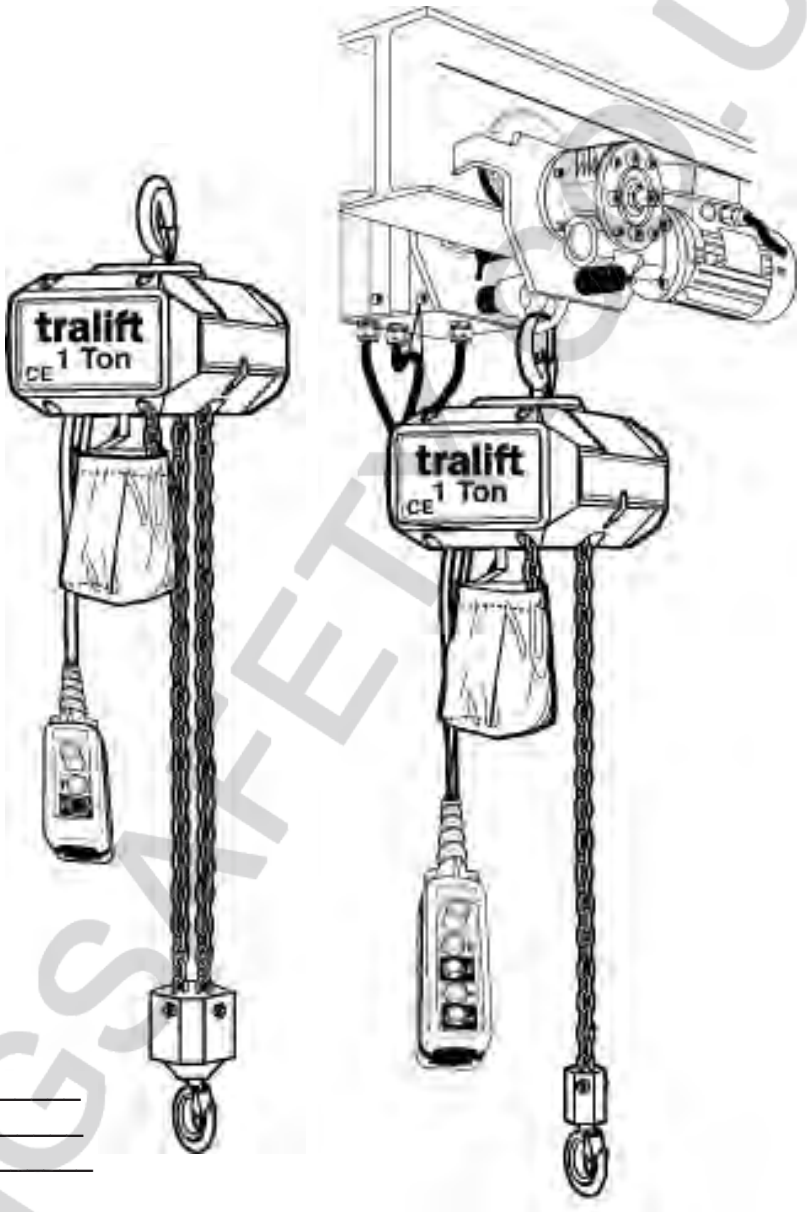
TE 125

TE 250

TE 500

TE 1000

TE 2000



CE meets or exceeds ANSI/ASME B 30.16 equipment in accordance with CE directives OVERHEAD HOISTS

Version: 2005

Date:_____
Issued By:_____
Serial Number:_____

Operation & Maintenance Manual
for Electric Powered Chain Hoists

Tractel Group
Griphoist Division

Our tralift TE electric chain hoist is built in accordance with the specifications contained in this operating, maintenance, and parts manual and complies with:

- **Applicable sections of the "ANSI/ASME B30.16 "Overhead hoists" and ASME HST-IM standard.**
- **The National Electrical Code (ANSI/NFPA 70)**
- **The Occupational Safety and Health Act (OSHA) 29 CFR1910, 1926**

ADDITIONAL RELATED STANDARDS

The latest revision approved by the American National Standards Institute applies:

- **ANSI Z244.1 Safety Requirements for the lockout/ tag out of energy sources**
- **ANSI/ASME B30.9 Slings**
- **ANSI/ASME B30.20 Below-the-Hook lifting devices**
- **ANSI/ASME B30.10 Hooks**
- **ANSI Z241.2 Safety Requirements for Melting and Pouring of Metals in the Metalcasting Industry**
- **References for CSA codes Canadian Electrical Standards**
- **CE Certified**

As stated by OSHA, the National Electrical Code shall apply to electric chain hoists so end users or their installers are required to provide current overload protection and grounding on the circuit section. To comply with the application sections of these articles, all the installations have to be checked.

Explanation of Symbols used in this manual

Symbol	Code Word	Definition	Possible consequence of non-compliance
	WARNING	IMMEDIATE or possible imminent danger	Fatal or serious injury!
	CAUTION	Possible danger situation	Minor injuries to persons!
	NOTE	Possible danger situation	Damage to equipment or it's surroundings
	N/A	Instruction for documentation in writing (i.e record keeping)	N/A

Table 001

GENERAL WARNING

READ THIS GENERAL WARNING FIRST

IN HOISTING OPERATIONS, SAFETY AND PROPER OPERATION IS A MATTER OF LIFE OR DEATH FOR RIGGERS, OPERATORS AND BY-STANDARDS.
THIS WARNING IS YOUR SHARE OF DUTIES FOR ACHIEVING SAFETY.

YOUR DUTY TO UNDERSTAND AND COMPLY

1) It is the rigger's, operator's and their employer's responsibility(if they operate under an employer's control) to strictly conform to the following warnings.

2) It is imperative for safety and efficiency of the operations that this manual be read and FULLY UNDERSTOOD by the rigger and the operator before rigging or operating the tralift TE. ALL INSTRUCTIONS contained herein must be carefully and strictly FOLLOWED, including applicable guidelines for safe practice.

3) Should you hand over a tralift TE, under whatever conditions, to any party operating out of your control, you must join a clean copy of this manual and draw the other party's attention that strictly following all the instructions therein is a matter of life or death.

4) Before rigging and operating this tralift TE hoist, the rigger and the operator must become aware of all the requirements of federal, state, provincial and local safety regulations not only applicable to the tralift TE hoist but also to the entire suspended system and any component of it.

5) Tralift TE may be used in the design and manufacture of cranes or monorails. Additional equipment or devices may be required for crane and monorail to comply with applicable crane design and safety standards. The crane designer, crane manufacturer, or user is responsible for furnishing these additional items for compliance. Refer to ANSI/ASME B30.17, "Safety Standard For Top-Running Single Girder Cranes", ANSI/ASME B30.2 "Safety Standard For Top-Running Double Girder Cranes", and ANSI/ASME B30.11 "Safety Standard For Underhung Cranes and Monorails."

6) Never use the tralift TE hoist for any job other than lifting materials according to the instructions of this manual.

7) Never lift people or near people. Warn people of an approaching load.

8) Never use a tralift TE hoist which has been modified.

9) Never lift more than the rated load capacity of the hoist.

10) The tralift TE hoist is for lifting loads in a vertical direction. The hoist must not be used for pulling or tensioning applications.

YOUR DUTY TO INSPECT AND MAINTAIN

11) Keep this manual available at all times for easy reference whenever required. Extra copies are available from the supplier.

12) Carefully take notice of all the labels affixed to the tralift TE. Never rig or operate the hoist if any label(normally fixed on the hoist) is obscured or missing. The supplier will provide extra labels per customer's request.

13) Every time the hoist is to be rigged or used, check that the hoist, load chain and other components of the suspended system are complete and in good working condition prior to proceeding.

14) A careful and regular inspection of the tralift TE hoist, its load chain and other components of the installation is part of the safety requirements. If you have any questions, call the supplier.

15) Do not use a hoist with twisted, kinked, damaged or worn load chain.

16) Shut down a hoist that malfunctions or performs unusually. Report such malfunctions.

17) Do not attempt to lengthen or repair load chain.

18) Make sure hoist limit switches function properly.

YOUR DUTY TO TRAIN AND CONTROL THE OPERATOR

19) An operator must not be assigned to a hoisting job or to rigging for a job, if that person is not...
    a) ...mentally or physically fit for that job.
    b) ...trained for the job to be performed.
    c) ...familiar with all applicable safety rules and requirements.
    d) ...familiar with the scaffold equipment as rigged.
    e) ...trained for working under the above requirements.

20) Never disassemble the tralift TE. Except for the operations described in this manual, the maintenance, disassembly and repair of the tralift TE hoists must be performed exclusively by qualified technicians authorized in writing by the supplier. Tralift TE spare parts in accordance with the serial number of each machine must be exclusively utilized. No substitutions are allowed.

21) Never let the tralift TE hoist and other equipment of a suspended system be managed or operated by a person other than those authorized and assigned to the job.

22) Training operators must be set up by a trained person of the user or of its technical consultant according to the working conditions. Prior to putting the equipment into operation, contact **TRACTEL Inc**.

23) Every suspended job must be placed under the control of a person having the required competence and the authority for checking that all the instructions described by this manual be regularly and efficiently carried out.

YOUR DUTY OF SAFETY BEYOND THE TRALIFT TE

As being only one piece of the system, the tralift TE hoist can contribute to the required SAFETY ONLY, IF …

24) ...it is fitted on compatible equipment.

25) ...other components meet the requirements of the applicable safety regulations and are of the proper quality and assembled to form a safe system.

26) ...every upper support is stable and sufficiently strong according to the load(either static or dynamic).

27) ...the supporting structure provides the requested resistance to every load to be applied(either static or dynamic) during operating the equipment.

28) ...all the requirements in strength and resistance are obtained with the necessary safety factor (see regulations and professional standards).

29) ...all the calculations, design and subsequent work necessary to the above requirements have been made by a competent person on the basis of proper technical information regarding the site.

YOUR DUTY TO AVOID TAKING RISKS

30) Do not leave a load supported by the hoist unattended unless specific precautions have been taken.
31) Should you decide that the tralift TE hoist is no longer able to be used, take precautions in disposing of it properly so that it cannot be used anymore.
32) Tralift TE hoist MUST NOT be used in explosive atmospheres. It has not been designed for such an application.
33) Do not operate unless the load is centered under the hoist.
34) Protect the hoists load chain from weld splatter or other damaging contaminants.
35) Do not operate the hoist when it is restricted from forming a straight line from hook to hook(or lug to hook) in the direction of loading.
36) Do not use the load chain as a sling.
37) Do not apply the load to the tip of the hook or to the hook latch.
38) Never operate a hoist unless load slings or any other approved attachments are properly sized and seated in the hook saddle.
39) Do not apply load unless load chain is properly seated in the chain wheel(s) or sprocket(s).
40) Do not operate beyond the limits of the load chain travel.
41) Do not allow the load chain or hook to be touched by a live welding electrode or be used as a electrical or welding ground.
42) Do not use the hoist for lifting loads that are not freely suspended or loads that are guided.
43) Do not wrap the load chain around a load.

LIFTING PEOPLE OR OTHER APPLICATIONS CONTACT:

Tractel Inc., Griphoist Division

Tractel Group
Griphoist Division

TABLE OF CONTENTS: tralift TE

Always concerned to improve the quality of its products, the TRACTEL Group reserves the right to modify the specifications of the equipment described in this manual. The companies of the TRACTEL Group and their agents or distributors will supply on request descriptive documentation on the full range of TRACTEL products such as lifting and pulling machines, permanent and temporary access equipment, safety devices, electronic load indicators, accessories such as pulley blocks, hooks, slings, ground anchors, etc…

NOTE:
The TRACTEL network is able to supply after-sales and regular maintenance service.

Tractel Group
Griphoist Division

1) DESCRIPTION

1-1 Operating Principle

The tralift TE is an electric chain hoist powered by a motor driving through a gearbox. The gearbox turns a load wheel which in turn moves the chain. One end of the chain is fitted with a load hook and the other end is fitted with an end stop. The loose chain is stored in a chain bag.

The hoist is activated by a low voltage pendant control with three buttons: lifting, lowering and emergency stop. The hoist body includes a rigid or swivel hook to fit the hoist onto a support structure. The load is connected to the load hook directly or through an accessory such as a sling.

The hoist is equipped with an electromagnetic disc brake connected to the motor shaft. The brake holds the suspended load when the pendant control is not activated or in case of power failure. Safety devices ensure that the hoist conforms to safety regulations.

Figure 101 displays the basic components of the tralift TE.

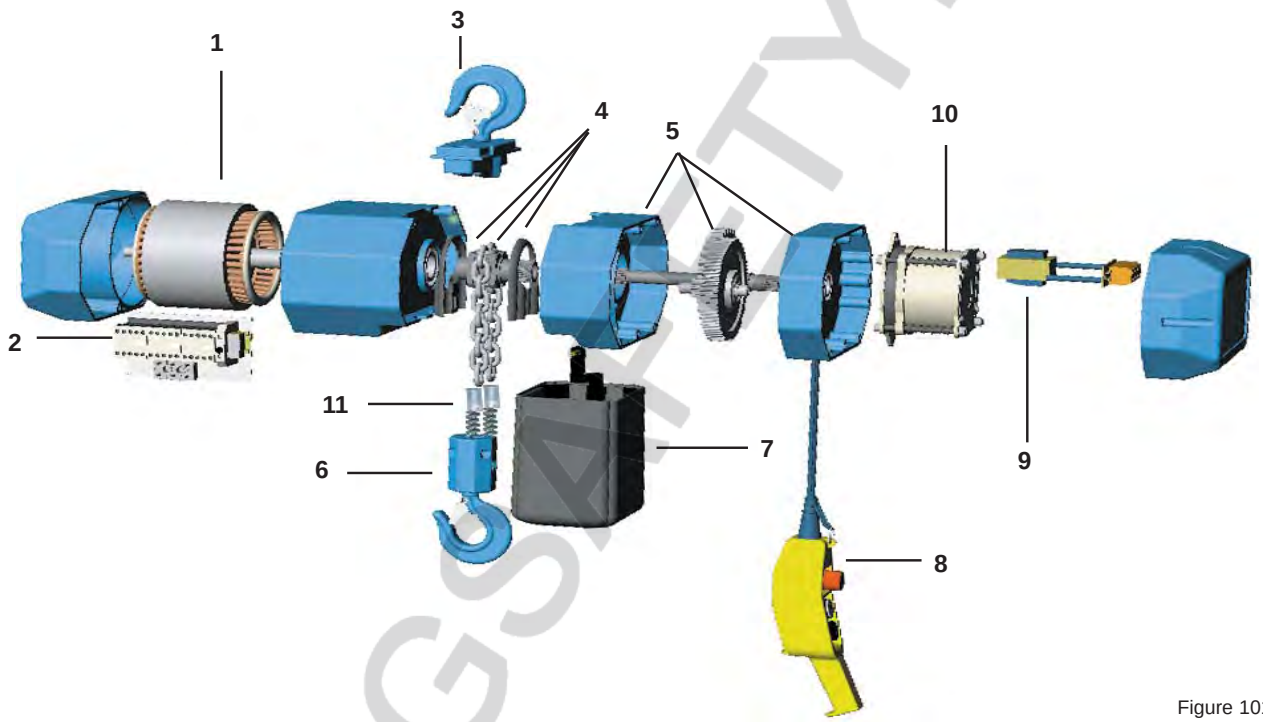


Figure 101

1. Hoisting motor
2. Electrical controls
3. Suspension hook
4. Load wheel with chain guide
5. Gearbox
6. Load hook
7. Chain bag
8. Pendant control
9. Overload friction clutch
10. Electromagnetic disc brake
11. Paddle Limit Switches

1-2 Product Line

The tralift TE product line is composed of 7 different models outlined in Table 101. The rated load range of 1/8 ton to 2 ton in one or two lifting speeds is available depending on the model. On request, the hoist may be delivered with different lifting heights or pendant control cable lengths. The hoist can be fitted with push, geared or electric drive trolley available for any model(as shown in Figure 102, 103, and 104.

Model	**Rated Load** ton (kg)	**Number of Chain Falls**	**Load Chain Size** ϕ x pitch, mm	**Lifting Speed** ft/min. (m/min)	**Lifting Motor Power** hp	**Hoist Weight w/10ft (3m) of lift** lbs. (kg)
TE 125	1/8 (125)	1	4 x 12	39 (12) 39/12 (12/3.6)	0.4 0.4/0.13	55 (25)
TE 250	1/4 (250)	1	5 x 15	33 (10) 33/10 (10/3.2)	0.55 0.55/0.17	68 (31)
TE 500	1/2 (500)	2	5 x 15	16 (5) 16/5 (5/1.6)	0.55 0.55/0.17	73 (33)
TE 500	1/2 (500)	1	6.3 x 19	33 (10) 33/10 (10/3.2)	1.2 1.2/0.17	84 (38)
TE 1000	1 (1000)	2	6.3 x 19	16 (5) 16/5 (5/1.6)	1.2 1.2/0.17	95 (43)
TE 1000	1 (1000)	1	8 x 24	23 (7) 23/7 (7/2.3)	2.1 2.1/0.75	124 (56)
TE 2000	2 (2000)	2	8 x 24	13 (4) 13/3 (4/1)	2.1 2.1/0.75	141 (64)

Table 101

Push Travel Trolley

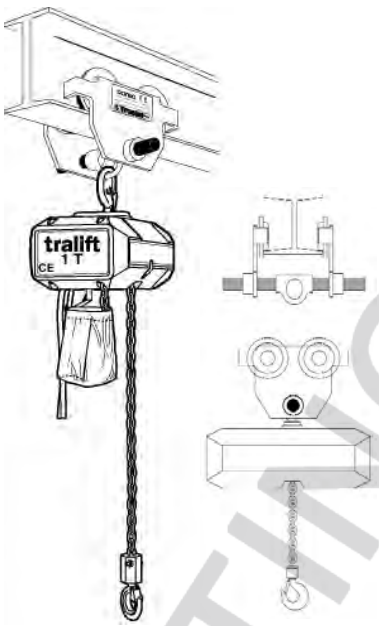


Figure 102

Geared Trolley

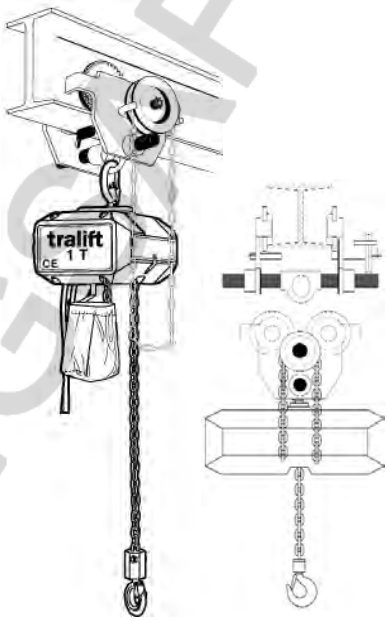


Figure 103

Electric Drive Trolley

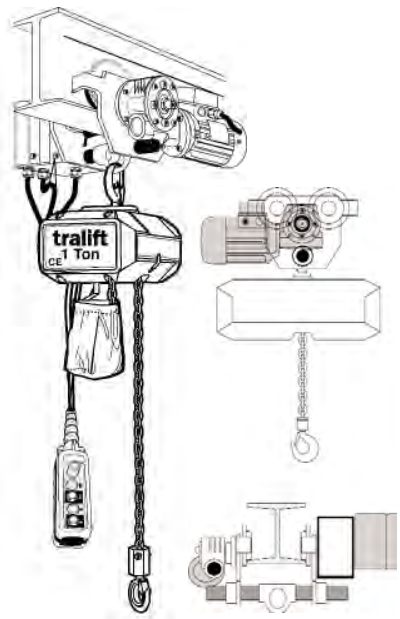


Figure 104

1-3 Description and Identification

The tralift TE is available in one or two falls versions(as shown in Figure 105). The tralift TE is a compact electric chain hoist consisting of:

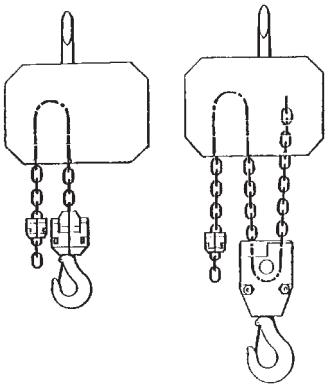


Figure 105

- A rigid suspension hook or lug.
- A cast aluminum frame made of bolted modular parts.
- A motor mounted in the hoist frame and fitted with thermal protection.
- A lifting sub-assembly with a chain sprocket wheel, chain guide, grade 80 case hardened load chain, swiveling load hook mounted on ball bearings (with return sheave for two falls models) and chain bag.
- A double gear train gearbox sub-assembly with with a friction clutch load limiting device.
- A separate asbestos-free electromagnetic brake.
- Low voltage electrical control equipment(48V).
- A set of upper and lower paddle limit switches.
- A pendant control with an emergency stop button.
- A phase protector.

The tralift TE range is delivered with two identification labels mounted on the two hoist covers. See Figures 106 and 107.

The first label includes:

- The name of the hoist
- The capacity

Figure 106

The second label includes:

- The specifications of the hoist.

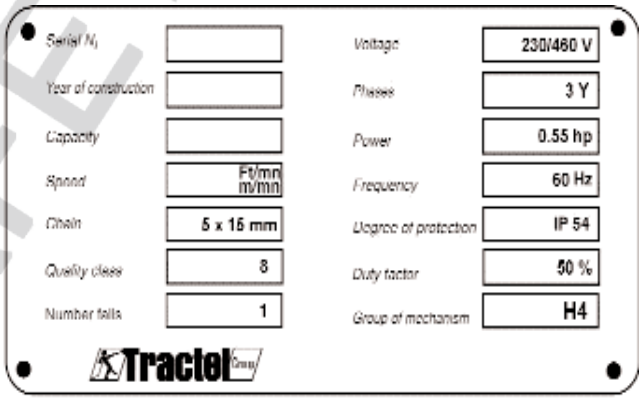


Figure 107

CAUTION

Both hoist labels must always remain on the hoist and be readable before using the hoist (see Figure 101 position 12 page 7).

2) SPECIFICATIONS

2-1 Operating Specifications

The Tralift TE range is classified as hoist duty H4 class ASME.

All models must be connected to a three phase 60Hz(cycles) power supply.

Temperature range 14° to 104°F
(-10° to +40°C)

Enclosure rating - hoist IP54 pendant IP65 (NEMA3)

NOTE:
Each TRALIFT TE fitted with load chain is proof tested to 125% of the rated load (tons) in our workshop before shipment.

2-2 Safety Devices

Thermal Protector - Device which shuts down the hoist automatically in case the motor get overheated.

Friction Clutch Located in gearbox of the hoist. If the hoist is overloaded, the friction clutch "slips" to prevent internal damage.

Paddle Limit Switches Electrical contact switches that prevent the hook and end stop from being run into the hoist body. When the switches are tripped, the hoist shuts off.

Phase Protector Device used to prevent reverse operation in a situation when the hoist phases are installed improperly.

Electromagnetic Brake Engages automatically in case of power failure. Is asbestos free and totally independent from the lifting motor.

Emergenency Stop Button located on pendant control station used to shut the hoist off in event of operator problems.

2-3 Physical Dimensions

Tables 201 through 202 and Figures 201 through 202 show the hoists physical dimensions and bottom hook dimensions.For further configuration dimensions, contact Tractel.

- Page 11
  Tralift TE w/ Hook Suspension

- Page 18
  Tralift TE - Bottom Hook

2-4 Wiring Diagrams

The electrical diagrams are found on the following pages:

- Single speed electric chain hoist page 19
  All models

- Two speed electric chain hoist page 21

Tralift TE w/ **Hook Suspension**

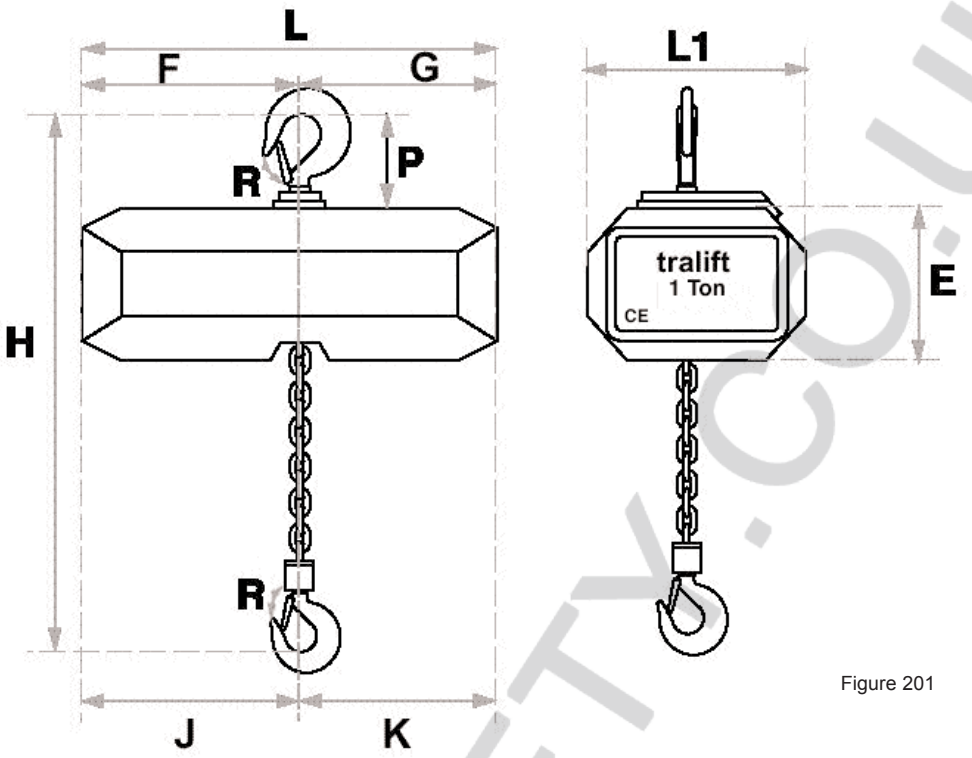


Figure 201

Model	Number of Chain Falls	L	L1	E	F	G	H	J	K	P	R
TE125	1	19.3	7.9	6.9	11.8	7.5	13	11.8	7.5	3	0.9
TE250	1	20	8.7	7.5	12.2	7.9	13.4	12.2	7.9	3	0.9
TE500	2	20	8.7	7.5	12.2	7.9	16.9	12.2	7.9	3.3	0.9
TE500	1	20.9	9	7.9	13	7.9	15.7	13	7.9	3.6	0.9
TE1000	2	20.9	9	7.9	13	7.9	18.9	13	7.9	4.1	1.2
TE1000	1	23	11.4	7.3	13.8	9.3	19.3	13.8	9.3	4.1	1.2
TE2000	2	23	11.4	7.3	13.8	9.3	22.8	13.8	9.3	4.3	1.5

Table 201

NOTE:
Dimensions in inches.

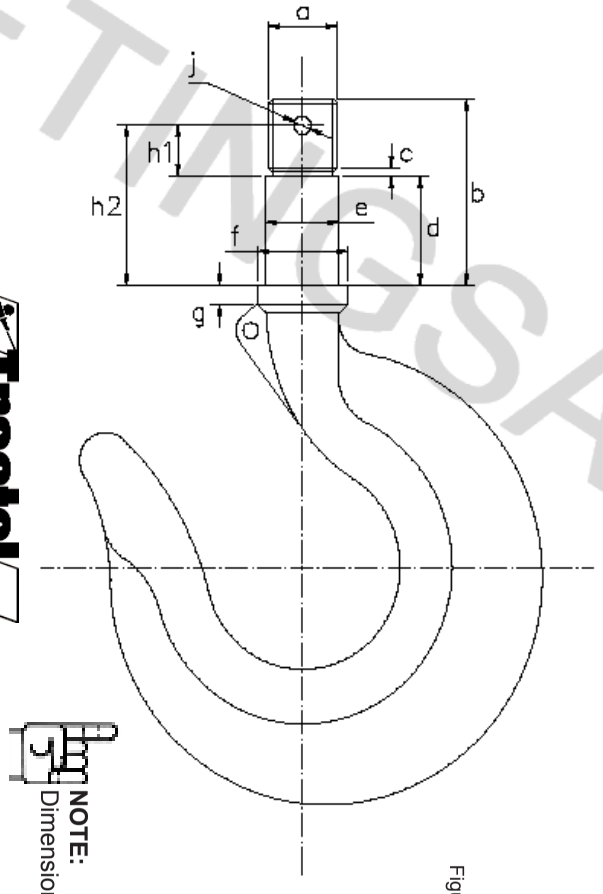


Figure 202

Capacity	Nb Fall	a	b	c	d	e	f	g	h1	h2	j
125 kg	1	M10	27		12	Ø10 $^{0}_{-0.036}$	Ø16	4		23	Ø2.5
250 kg	1	M10	27		12	Ø10 $^{0}_{-0.036}$	Ø16	4		23	Ø2.5
500 kg	1	M16	36 ±0.15	3.5	18.5 $^{+0.2}_{0}$	Ø17 $^{-0.15}_{-0.26}$	Ø19	3	13 $^{0}_{-0.2}$		Ø4 $^{+0.08}_{0}$
500 kg	2	M16	36 ±0.15	3.5	18.5 $^{+0.2}_{0}$	Ø17 $^{-0.15}_{-0.26}$	Ø19	3	13 $^{0}_{-0.2}$		Ø4 $^{+0.08}_{0}$
1000 kg	1	M16	42 $^{0}_{-0.3}$	3.5	23.5 $^{+0.2}_{0}$	Ø17 $^{-0.15}_{-0.26}$	Ø22	4 $^{+0.3}_{0}$	13.5 $^{+0.2}_{0}$		Ø4 $^{+0.08}_{0}$
1000 kg	2	M16	42 $^{0}_{-0.3}$	3.5	23.5 $^{+0.2}_{0}$	Ø17 $^{-0.15}_{-0.26}$	Ø22	4 $^{+0.3}_{0}$	13.5 $^{+0.2}_{0}$		Ø4 $^{+0.08}_{0}$
2000 kg	2	M20	58 $^{0}_{-0.3}$	4	30 $^{+0.2}_{0}$	Ø20 $^{-0.19}_{-0.29}$	Ø30	5 $^{+0.3}_{0}$		52	Ø4 $^{+0.08}_{0}$

Table 202

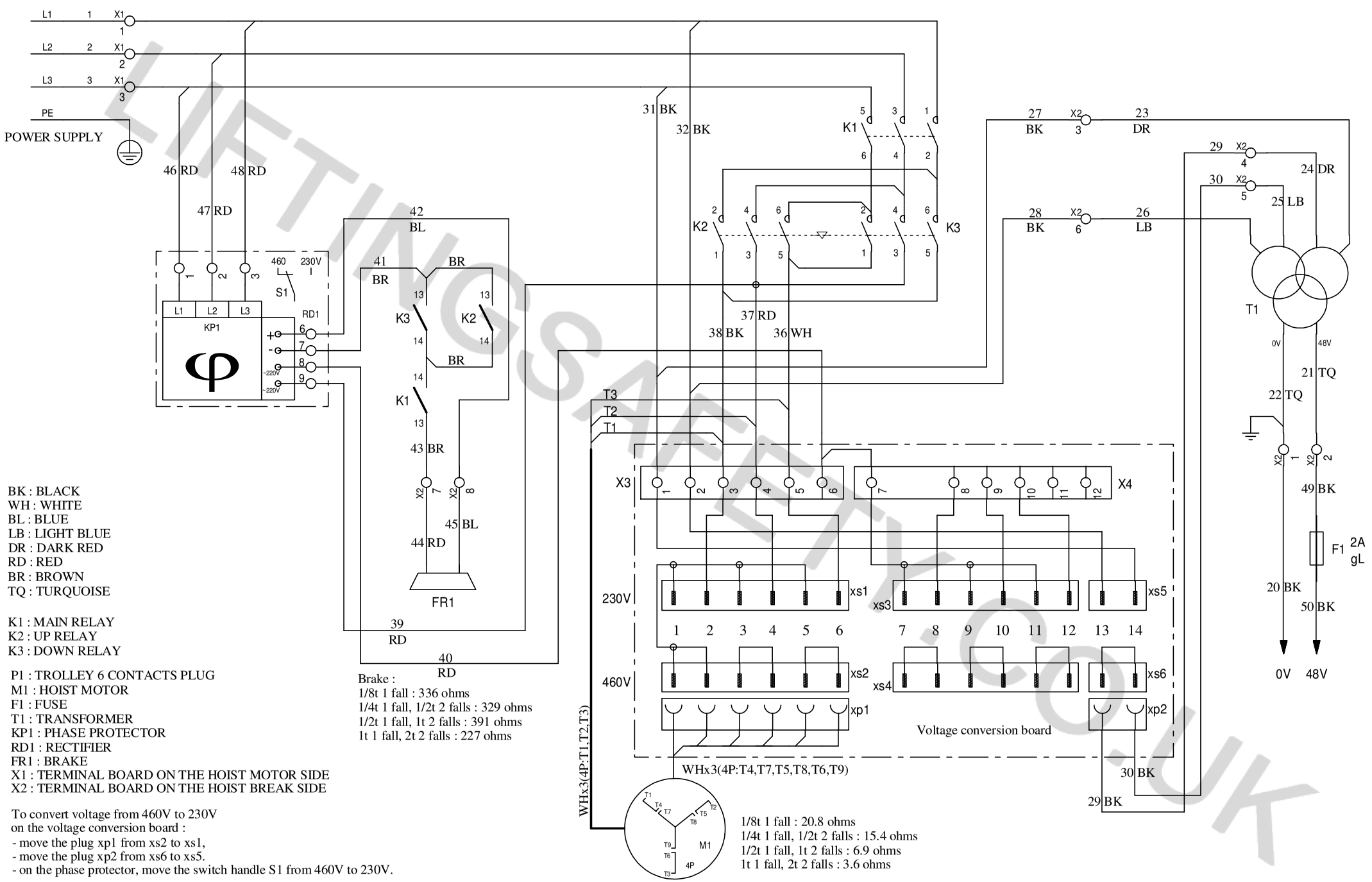
NOTE: Dimensions in mm.

INDICE	N° MODIF	DATE	DESIGNATION	NOM
00		02/04/2003	Lancement	DC

MATIERE : 20cr
EBAUCHE :
TRAITEMENT THERMIQUE :
PROTECTION :
ECHELLE : 1:1
TOLERANCE GEN. ± 0.15
USINAGE GEN.
POIDS :
Dessiné : DC Le 02/04/03
Approuvé Le

ENSEMBLE : TRALIFT TE
DESIGNATION : BOTTOM HOOK

156260 CODE
00 INDICE



BK : BLACK
WH : WHITE
BL : BLUE
LB : LIGHT BLUE
DR : DARK RED
RD : RED
BR : BROWN
TQ : TURQUOISE

K1 : MAIN RELAY
K2 : UP RELAY
K3 : DOWN RELAY

P1 : TROLLEY 6 CONTACTS PLUG
M1 : HOIST MOTOR
F1 : FUSE
T1 : TRANSFORMER
KP1 : PHASE PROTECTOR
RD1 : RECTIFIER
FR1 : BRAKE
X1 : TERMINAL BOARD ON THE HOIST MOTOR SIDE
X2 : TERMINAL BOARD ON THE HOIST BREAK SIDE

To convert voltage from 460V to 230V
on the voltage conversion board :
- move the plug xp1 from xs2 to xs1,
- move the plug xp2 from xs6 to xs5.
- on the phase protector, move the switch handle S1 from 460V to 230V.

Brake :
1/8t 1 fall : 336 ohms
1/4t 1 fall, 1/2t 2 falls : 329 ohms
1/2t 1 fall, 1t 2 falls : 391 ohms
1t 1 fall, 2t 2 falls : 227 ohms

1/8t 1 fall : 20.8 ohms
1/4t 1 fall, 1/2t 2 falls : 15.4 ohms
1/2t 1 fall, 1t 2 falls : 6.9 ohms
1t 1 fall, 2t 2 falls : 3.6 ohms

Tractel S.A.S

DESIGNED BY : S.T
APPROVED BY :
CREATION DATE : 08-01-2004

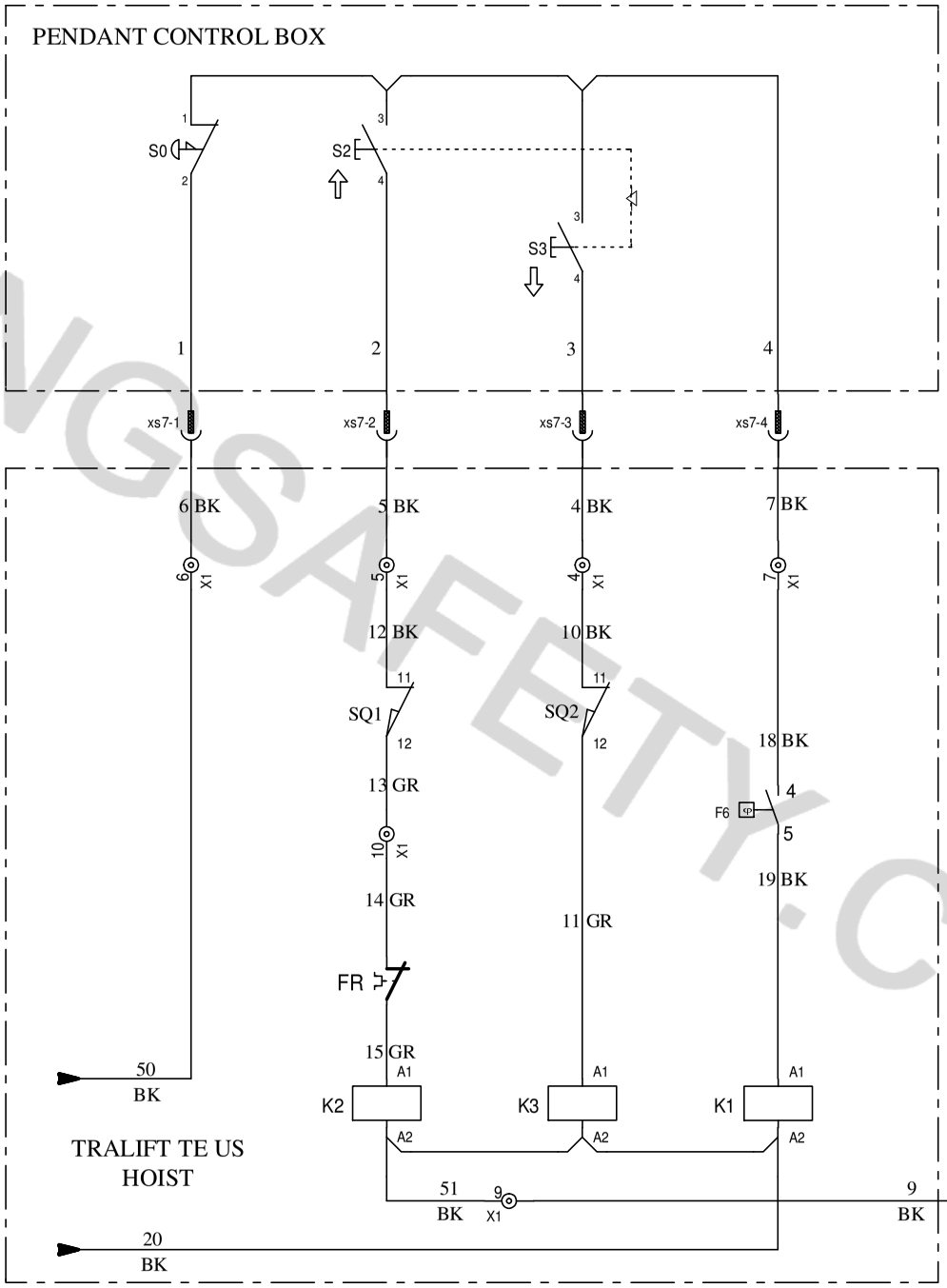
INDEX	DATE	MODIFICATION	DES.
01	26-11-2004	phase outage protection	S.T
00	04-02-2004	Launch	S.T

TRALIFT TE US 1 spd
Main power supply circuit

CODE ED0013

FOLIO 02 / 3

Logiciel SEE v. 2.20



BK : BLACK
GR : GREY

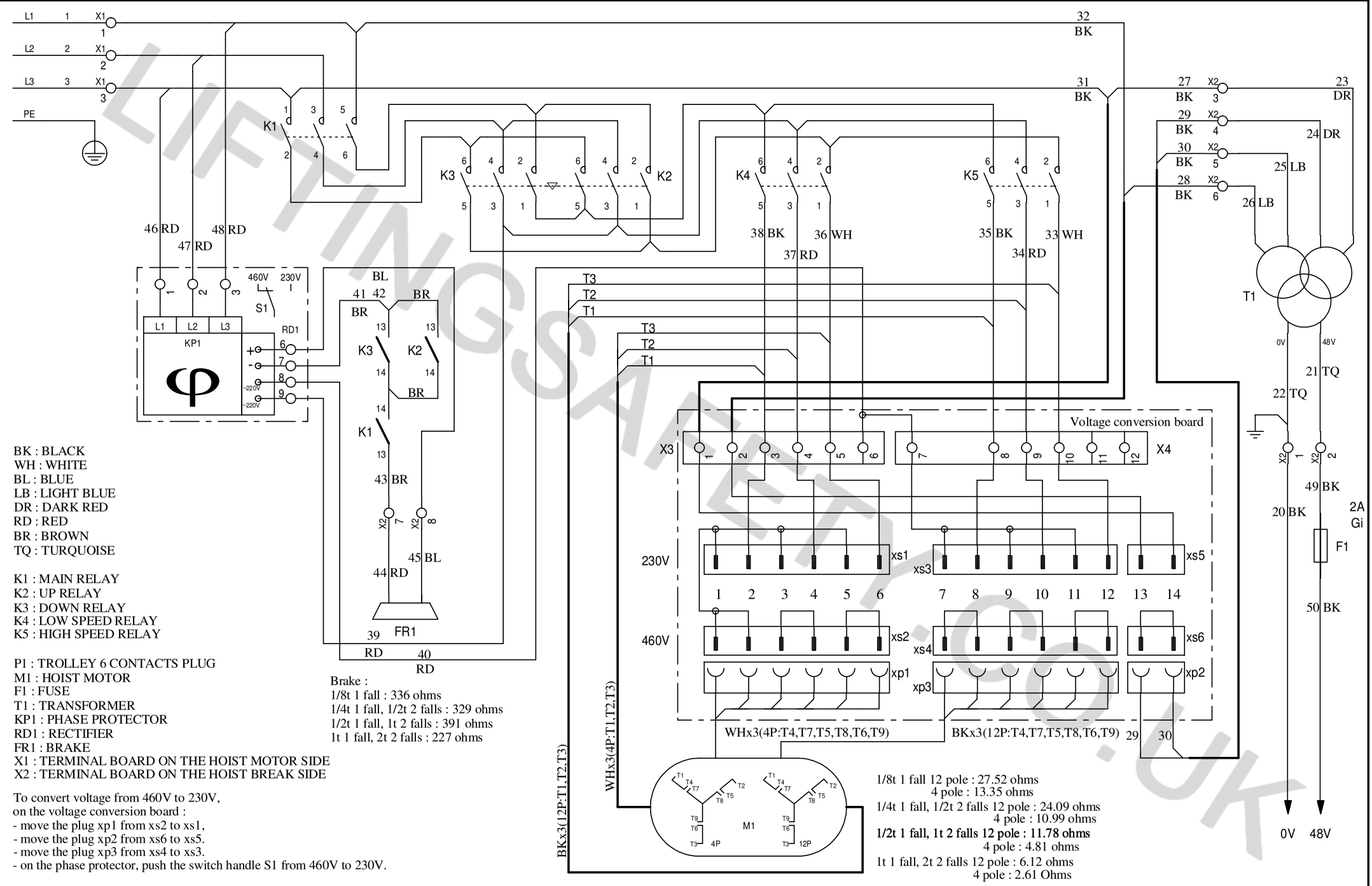
S0 : EMERGENCY STOP
S2 : UP PUSH BUTTON
S3 : DOWN PUSH BUTTON

K1 : MAIN RELAY
K2 : UP RELAY
K3 : DOWN RELAY

FR : THERMAL PROTECTOR
F6 : PHASE PROTECTOR SWITCH
SQ1 : UPPER LIMIT SWITCH
SQ2 : LOWER LIMIT SWITCH
SQ3 : RIGHT LIMIT SWITCH
SQ4 : LEFT LIMIT SWITCH

X1 : TERMINAL BOARD ON THE HOIST MOTOR SIDE
XS7 : HOIST 6 CONTACTS CONNECTOR

Tractel S.A.S	DESIGNED BY : S.T					TRALIFT TE US 1 spd Control 48V circuit	CODE ED0013
	APPROVED BY :						FOLIO 03 / 3
	CREATION DATE : 08-01-2004	00	04-02-2004	Launch	S.T		Logiciel SEE v. 2.20
		INDEX	DATE	MODIFICATION	DES.		



BK : BLACK
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BL : BLUE
LB : LIGHT BLUE
DR : DARK RED
RD : RED
BR : BROWN
TQ : TURQUOISE

K1 : MAIN RELAY
K2 : UP RELAY
K3 : DOWN RELAY
K4 : LOW SPEED RELAY
K5 : HIGH SPEED RELAY

P1 : TROLLEY 6 CONTACTS PLUG
M1 : HOIST MOTOR
F1 : FUSE
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To convert voltage from 460V to 230V,
on the voltage conversion board :
- move the plug xp1 from xs2 to xs1,
- move the plug xp2 from xs6 to xs5.
- move the plug xp3 from xs4 to xs3.
- on the phase protector, push the switch handle S1 from 460V to 230V.

Brake :
1/8t 1 fall : 336 ohms
1/4t 1 fall, 1/2t 2 falls : 329 ohms
1/2t 1 fall, 1t 2 falls : 391 ohms
1t 1 fall, 2t 2 falls : 227 ohms

1/8t 1 fall 12 pole : 27.52 ohms
4 pole : 13.35 ohms
1/4t 1 fall, 1/2t 2 falls 12 pole : 24.09 ohms
4 pole : 10.99 ohms
1/2t 1 fall, 1t 2 falls 12 pole : 11.78 ohms
4 pole : 4.81 ohms
1t 1 fall, 2t 2 falls 12 pole : 6.12 ohms
4 pole : 2.61 Ohms

Tractel S.A.S

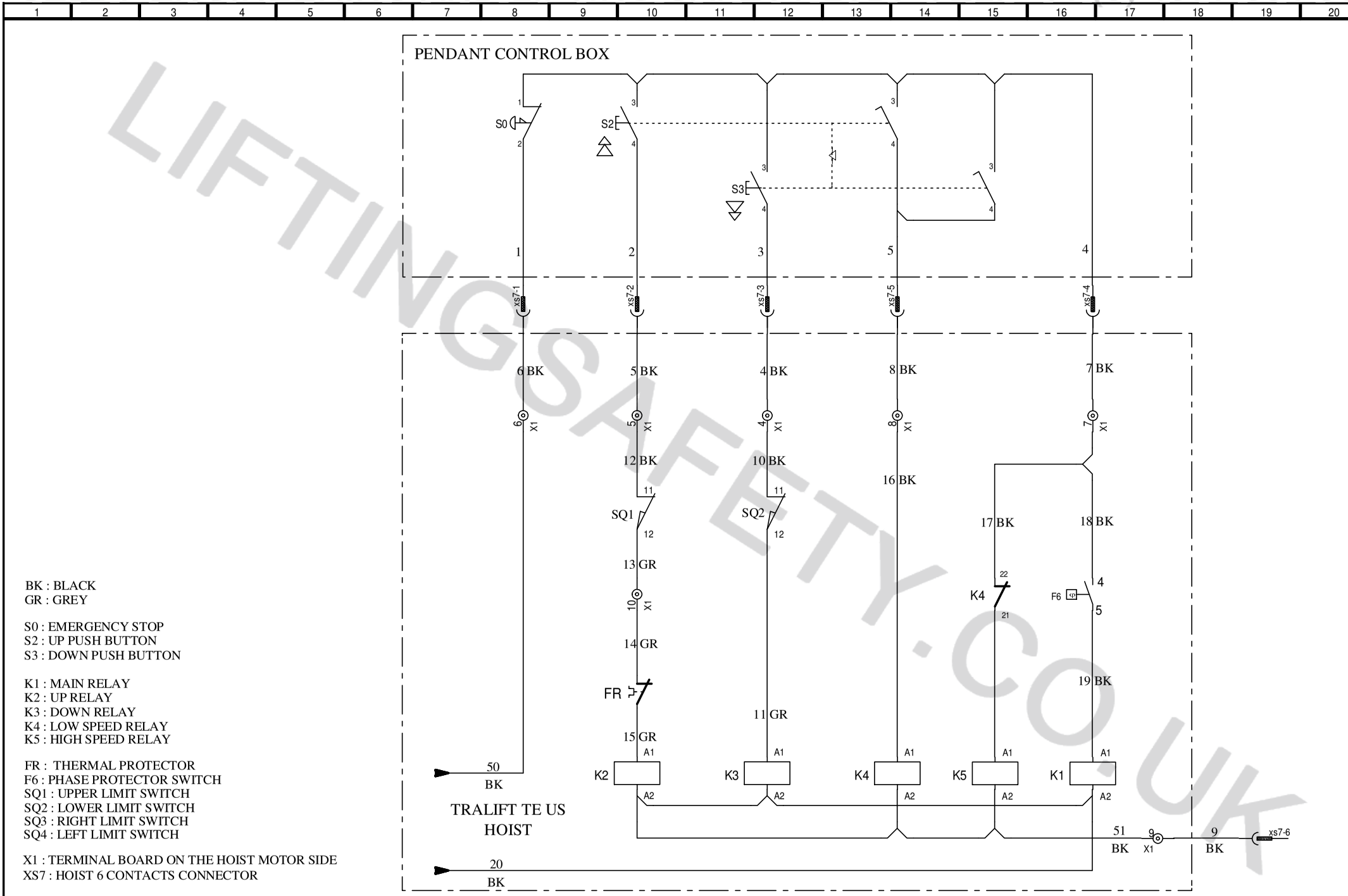
DESIGNED BY : S.T				
APPROVED BY :				
CREATION DATE : 08-01-2004	01	26-11-2004	phase outage protection	S.T
	00	04-02-2004	Launch	S.T
	INDEX	DATE	MODIFICATION	DES.

TRALIFT TE US 2 spd
Main power supply circuit

CODE ED0014

FOLIO 02 / 3

Logiciel SEE v. 2.20



BK : BLACK
GR : GREY

S0 : EMERGENCY STOP
S2 : UP PUSH BUTTON
S3 : DOWN PUSH BUTTON

K1 : MAIN RELAY
K2 : UP RELAY
K3 : DOWN RELAY
K4 : LOW SPEED RELAY
K5 : HIGH SPEED RELAY

FR : THERMAL PROTECTOR
F6 : PHASE PROTECTOR SWITCH
SQ1 : UPPER LIMIT SWITCH
SQ2 : LOWER LIMIT SWITCH
SQ3 : RIGHT LIMIT SWITCH
SQ4 : LEFT LIMIT SWITCH

X1 : TERMINAL BOARD ON THE HOIST MOTOR SIDE
XS7 : HOIST 6 CONTACTS CONNECTOR

Tractel S.A.S	DESIGNED BY : S.T					TRALIFT TE US 2 spd Control 48V circuit	CODE ED0014
	APPROVED BY :						FOLIO 03 / 3
	CREATION DATE : 08-01-2004	00 INDEX	04-02-2004 DATE	Launch MODIFICATION	S.T DES.		Logiciel SEE v. 2.20

3) PREPARATION AND INSTALLATION

3-1 Tools and Equipment Required

Obtain the following tools and equipment below in order to prepare a hoist (sent from the factory) for operation.

- 5 mm allen key
- Screwdriver (phillips)
- Power plug (male, 3 phase)
- Power plug boot (male)
- Load chain
- Chain bag

NOTE:
Equipment requirements will vary depending on the hoist model and application.

3-2 Content of a Standard Product Delivery

Open the hoist packaging and examine the contents. Our hoists are delivered in a cardboard box with internal packing and includes the following:

- A Tralift TE hoist.
- A pendant control(single or dual speed depending on the model).
- A load hook
- An end stop attachment
- Limit switch attachments
- The Electric Chain Hoist instructions manual.
- Quality Assurance / Test Certificate statement.

As an option, the hoist may be delivered with:

- Various chain or pendant control cable lengths.
- A five button pendant control when the hoist is fitted to an electric drive trolley.
- Non-swivel suspension hook (fitted with a latch) or a lug assembly kit.

 **WARNING** 

The branch circuit which supplies power to the hoist shall comply with the requirements of the National Electric Code NEC/NFPA 70 provincial and local codes.

 **WARNING** 

Electrical connections must be performed by a qualified electrician and comply with the National Electrical Code and any relevant regulations.

 **WARNING** 

Working in or around electrical equipment presents the danger of electric shock. Disconnect power and lockout/tag-out according to ANSI Z244.1 procedures before removing cover or servicing this equipment.

 **WARNING** 

Failure to properly ground the hoist or provide a proper power supply presents the danger of electric shock or fire. Permanently ground electric equipment and provide a minimum 20A overcurrent protected power supply per NEC/NFPA70.

 **WARNING** 

Our hoists with dual voltage motors 230/460 volts are always supplied from our workshop for connection 460V except by special request from our customer.

3-3 Electrical Connections

1) Convert the operating voltage to the required voltage if necessary (460V is the factory default, refer to the “Voltage Conversion Procedure” on the next page).

 **CAUTION** 

Operating a hoist that is set to 460V with 230V will cause the hoist to run slowly or not at all.

VOLTAGE CONVERSION PROCEDURE (460V TO 230V)

1) Remove the protective cover on the power supply side.
2) Locate the phase protector and rectifier box (Figure 301) and remove the two casing screws.
3) Move the black switch to the right (Figure 302) and replace the orange cover.

WARNING

Our hoists with dual voltage motors 230/460 volts are always supplied from our workshop for 460V connection except by special request from our customer.

4) Remove the metal rails (4 screws) holding the relays, rectifier, and phase protector to the hoist.

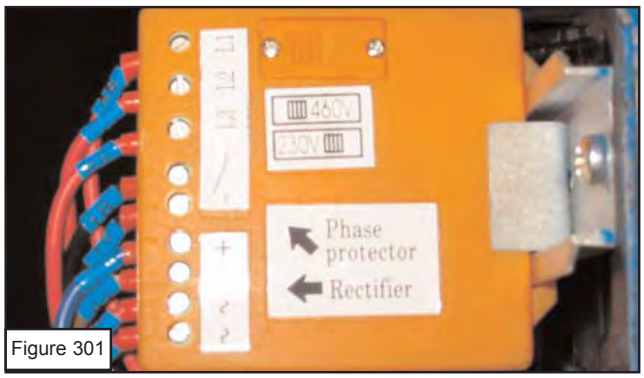


Figure 301

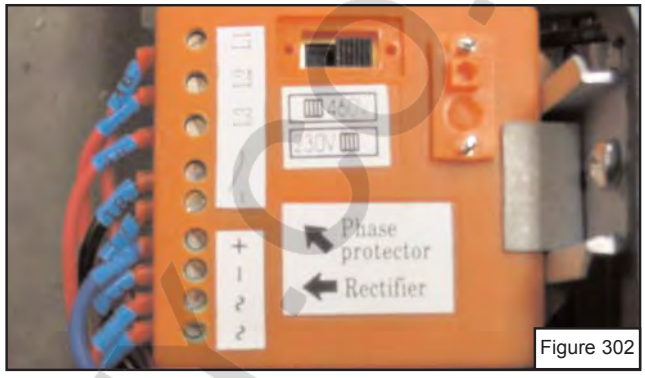


Figure 302

Figures 303 & 304 - Single speed Tralift TE models:

5a) Move the two insulated plugs (XP1 and XP2) shown in Figure 303 to Figure 304.

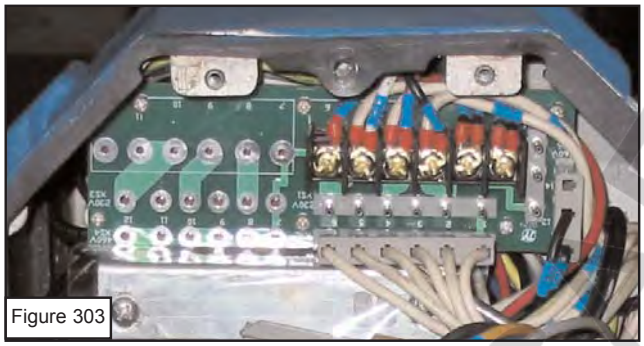


Figure 303


Figure 304

Figures 305 & 306 - Dual speed Tralift TE models:

5b) Move the three insulated plugs (XP1,XP2 and XP3) shown in Figure 305 to Figure 306.

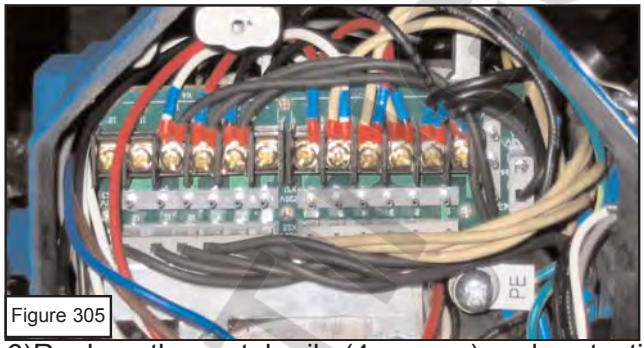


Figure 305

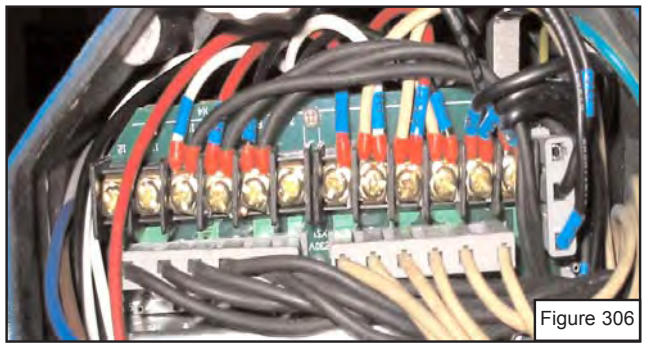


Figure 306

6)Replace the metal rails (4 screws) and protective cover.

7) Attach a male power plug and boot to the power cord of the hoist.

8) Attach the pendant control (single or 2-speed according to the model) to the hoist.

9) Connect the hoist power cord into the appropriate power supply.

CAUTION

To avoid possible malfunction always check that the power supply agrees with that of the hoist and the type of current maximum voltage variation does not exceed ± 10 % of rated motor voltage. When connecting the power supply to the hoist, the terminal block must be used (Refer to wiring diagrams).

The power supply must be provided via a flexible cable of a suitable size. In case of a hoist supplied with an electric drive trolley, the main power supply must be connected to the electrical panel located on the trolley(refer to Figure 307). The trolley supplies power to the hoist.

Connecting procedure of the Tralift TE with the electric drive trolley:

1) Remove the protective cover of the control panel located on the trolley frame.

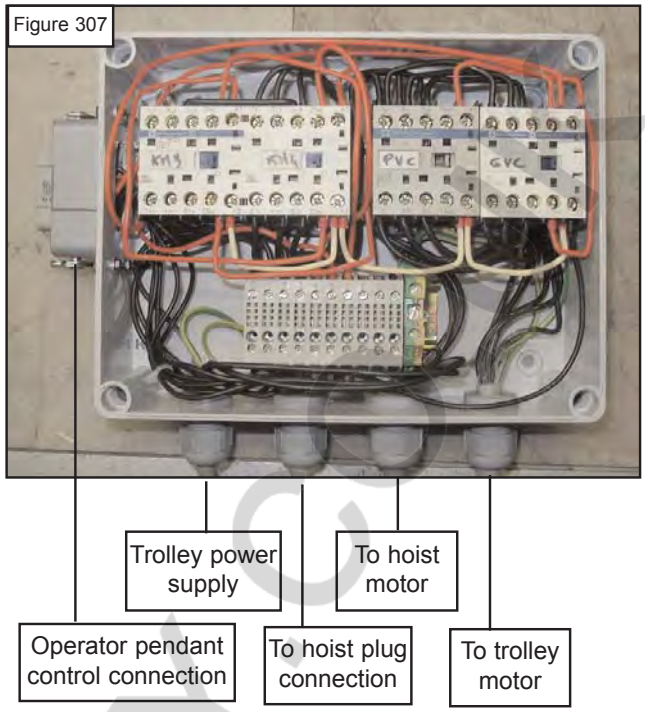
2) Insert the power supply cable through the cable bushing.

3) Connect the three phases and the ground wire to the terminal block (Refer to Corso TE Manual - wiring diagrams).

4) Check that the electrical terminals are correctly tightened.

5) Replace the protective cover.

Figure 307



WARNING

Using other than Tractel supplied load chain may cause chain to jam in hoist or chain breakage. For proper size and physical properties use only Tractel supplied chain. Tractel declines all responsibility for hoists used with chain supplied by others.

3-4 Load Chain Installation

NOTE:
Two fall hoists require twice as much load chain for a desired lifting height than single fall hoists.

1) Cut the new load chain to the length required.
2) Fit an open chain link to one end of the factory load chain on the hoist load wheel. If an open chain link is not available, one may be created by filing a single chain link.

NOTE:
The open chain link opening shall be positioned outside from the load wheel axle.

3) Hook one end of the new chain end onto the open link. The new load chain links weld shall be oriented outside from the load wheel axle (refer to page 24, Section 5-1).

4) Operate the hoist to allow the reeving of the new load chain around the wheel.

9) Remove the factory load chain and open link.

10) For single fall hoists -

Fit the working end of the new load chain to the load hook.

For two fall hoists -

Fit the working end of the new load chain into the bottom hook block sheave ensuring that the chain is not twisted. Rotate manually the block sheave to reeve completely the chain around the sheave sprocket wheel.

Fit the new chain end to the anchor part located on the hoist body checking that the chain is not twisted.

11) On the end of the new load chain going to the chain bag, fit the end stop with its buffer bushing.

CAUTION

Before operating the hoist, check carefully that the new load chain is not twisted and the chain welds are positioned outside the hoist load wheel axle.

3-5 Fitting the Chain Bag

The chain bag is always delivered loose, for the purpose of transport. To avoid fitting problems between the bag and the support mounting, ensure that the bag in not inside out. The seams should be inside the bag as shown on Figure 308.

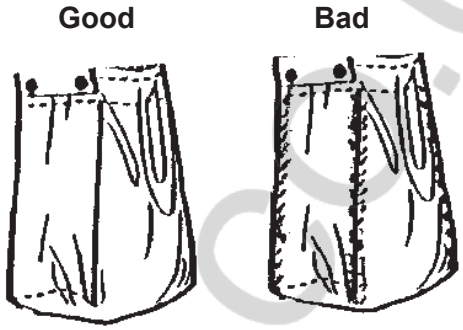


Figure 308

1) Pay out the load chain until the lower limit switch is tripped.

2) Slide the two forks of the support mounting into the stitched pockets under the upper edge of the bag.

3) Close the two self adhesive flaps to hold the bag in position on its mounting.

4) Fit the support mounting with its bag on the hoist in the appropriate position.

5) Place the non loaded end of the chain with the end stop into the bag.

6) Press the "up" button on the control station until the upper limit switch is tripped.

7) Check that the length of chain installed with the hoist is compatible with the dimensions of the bag. Code # are displayed in Chapter 13, “Exploded Views and Parts Lists”.

WARNING

Using the wrong chain bag or support may cause serious injuries or death! Use only the proper TRACTEL supplied chain bags for your particular lifting height.

4) ANCHORING

4-1 Anchoring the Hoist

Before proceeding to any electrical connections, a trained person must check that the supporting structure and anchor point is strong enough for the rated load of the hoist. If the hoist has to be fitted in a location which is dangerous for the operator, the safety precautions laid down in the labor regulations must be implemented to remove all risks not covered in this manual.

The hoist must only be anchored using its suspension hook or lug (optional, see Figure 401). The load shall only be anchored to the load hook. The suspension hook must be placed on a fixed anchor point, such that this device engages fully on the hook. The safety latch must close completely. If there is any problem with fitting the hook onto the anchor point, a sling or shackle of the appropriate load capacity must be placed between the anchor point and the hook.

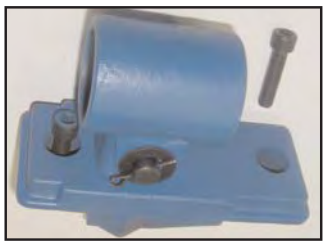


Figure 401

Figure 402

Additional checks:

- The load chain length shall be sufficient for the lifting height.
- The pendant control cable length shall be sufficient to cover the distance between the hoist and the operator position.
- Do not shorten the pendant control cable by tying knots in it.
- The load chain shall be in a good condition and not twisted particularly for the two fall version (refer to the Figure 402 and 403).

CAUTION

Ensure that the load chain is free of any twists such as those caused by rolling the bottom hook through the chain. Once a 2 fall hoist is anchored and the lower hook is hanging reinspect to insure welds on chain are aligned and no twist exits.

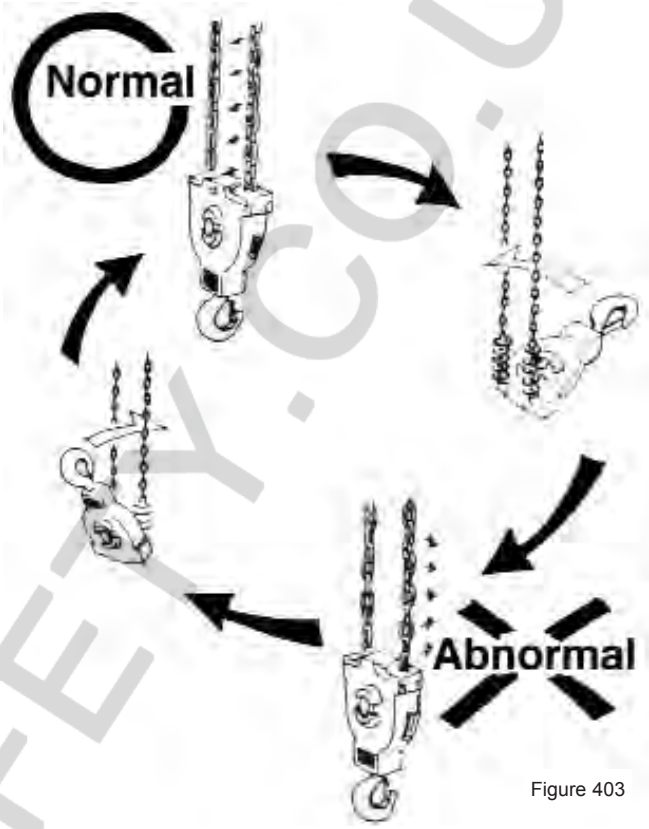


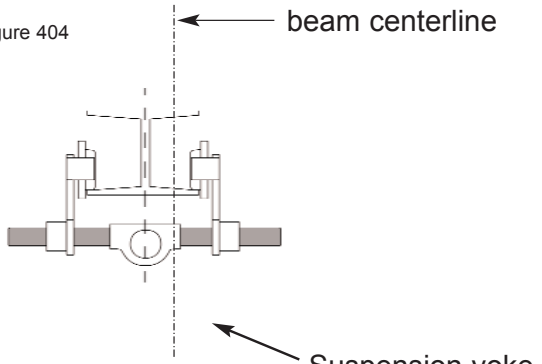
Figure 403

4-2 Anchoring the Trolley

If the hoist is used with a manual or electrical drive trolley, you must check that the load capacity of the trolley is equal to or greater than the rated load of the hoist and that the beam profile and supporting structure is strong enough for the rated load of the hoist.

When fitting the trolley to the beam, the suspension yoke for hook suspension shall be aligned as shown in Figure 404(on the next page).

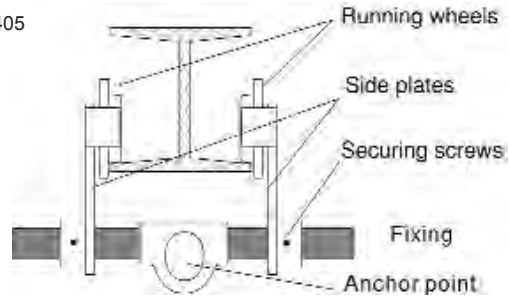
Figure 404



Hook Suspension

Procedure for mounting the trolley on the traversing beam (Refer to Figure 405)

Figure 405



1) Hold the pre-assembled trolley assembly beneath the beam, keeping a wide enough gap between the running wheels to enable the trolley to be positioned on the beam.

2) Place two running wheels on one of the side plates in contact with the lower flange of the traversing beam.

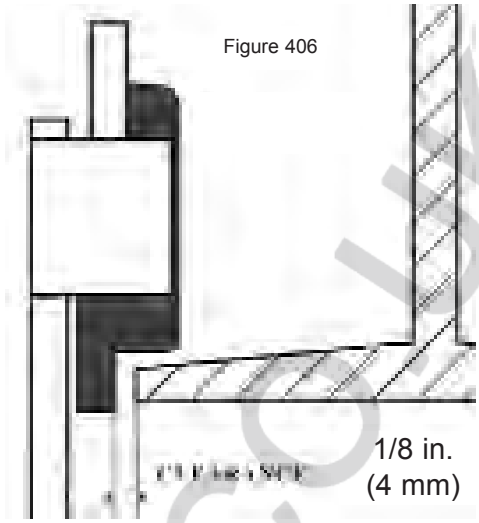
3) Place the two wheels on the opposite side plate in contact with the traversing beam and turn the crossbar to bring the two side plates closer together. This will bring the four running wheels to rest on the lower flange of the beam.
*Handles may be ordered for this process.

4) Adjust the clearance between the wheels and beam to 1/8 in. as shown on Figure 406.

5) Tighten the securing screws on the fixing rod to prevent the assembly from moving.

6) Secure the assembly.

Figure 406



WARNING

The beam should be fitted with rail stops to prevent the trolley from falling off the beam.

WARNING

An excessively worn beam flange may fail. Inspect flange regularly for wear and replace if worn.

WARNING

The trolley must be properly adjusted to fit the beam flange to prevent the trolley from falling off the beam. Consult installation instructions provided by manufacturer with trolley and take notice of any limitations such as curve radius, etc.

4-3 Anchoring the Load

- Never use the load chain of the hoist as a sling by wrapping it around the load and attaching it to the hook.
- Never mount a load on the dead end chain.
- Never remove or modify the hooks' latches.
- Do not apply the load to the tip of the hook or hook latch.
- Never operate a hoist unless load slings or other approved attachments are properly sized and seated in the hook saddle.
- Never load the tralift TE hoist above its rated load capacity.

5) OPERATING INSTRUCTIONS

5-1 Final Checks Before Use

- Lightly oil the load chain with SAE 120 type oil or equivalent.
- Operate the hoist without load to run in the chain, checking it is not twisted.
- The welds on the links of the chain must always be positioned facing outside in relation to the axis of the chain sprocket wheel (Refer to Figure 501).

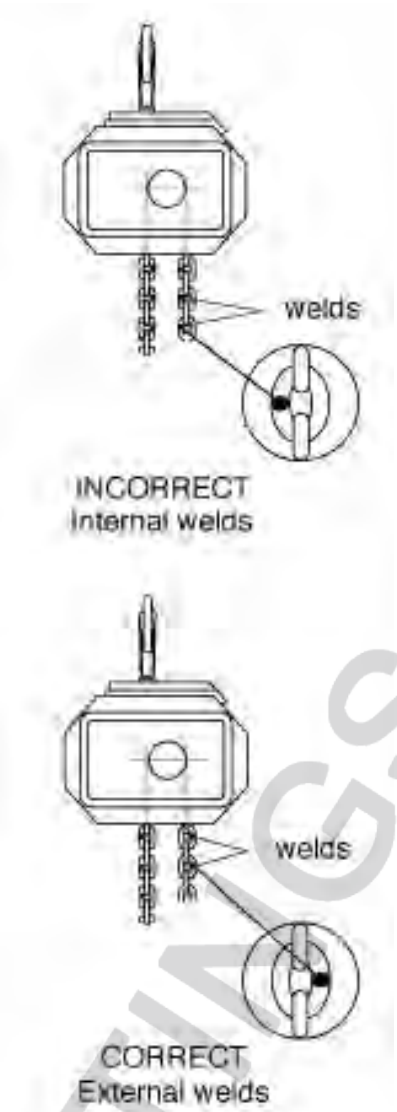


Figure 501

- Check that the paddle limit switches work correctly.
- Check that the lifting brake works correctly by positioning a load at a short distance from the floor level and check that this load does not slip.

5-2 Operating the Hoist

- Maintain a firm footing when operating the hoist.
- Check that the load is correctly secured on the load hook and the latch closes correctly. Hook latches must be in proper condition to retain slings, chains, etc. during slack conditions.
- When moving a load, check that it is not likely to collide with any obstacles in the surrounding area.
- The hoist must be always perpendicular to the load.
- The load must always be correctly balanced.

WARNING

It is prohibited to stand or pass beneath a suspended load. If necessary, place a safety barrier on the ground around the load area. Only unhook the load when it is either on the ground floor or on an adequate strong fixed support.

CAUTION

The following precautions must be taken when performing the various hoist operations:

- Any hoist used outdoors must be appropriately protected against adverse weather conditions. In outdoor use, it is essential to check daily the good condition of the electrical equipment. Also, lightly oil the load chain at least every week.

- Do not use the load limiting device to measure a load.

- Never allow the end of the loaded chain to become slack if the load is not on a support which is sufficiently strong.

- Avoid jogging operation and shock loads.

- If the hoist behaves abnormally or makes any unusual noises, the user must stop operation and inform a trained person.

As soon as the operator stops pressing the directional buttons, the hoist stops. If the lifting operation is over a considerable height, it is recommended that the stopping time is observed which corresponds to the duty cycle of the hoist. A red emergency stop button may be used to stop the hoist if it malfunctions.

NOTE:
Accidental impacts to the suspended load or catching the suspended load on fixed structures in the working area may cause overloads.

6) INSPECTION AND MAINTENANCE

NOTE: A maintenance program should start for each hoist immediately after it is entered into service. This maintenance program should comply with recommendations in the applicable parts and Instruction Manual, and all pertinent Federal, State, Provincial and Local regulations.

Use only TRACTEL replacement parts. The replacement of any part with anything other than a TRACTEL authorized replacement part may adversely affect the function and safety of this hoist and voids the warranty. Tractel disclaims liability for any claims of damages, whether warranty, property damage, personal injury or death arising from the use of unauthorized parts.

Regular inspections should be followed for the life of the hoist and documented by written inspection records.

6-1 Load Chain Inspection

Tralift TE hoist is supplied with a case hardened load chain, grade 80 or better suited to use on electric chain hoists.

WARNING

After an intensive period of use, the chain may show signs of elongation or wear which could damage the hoist or cause the chain to break. It is therefore recommended that the lifting chain is inspected regularly. The chain should be measured and must be replaced if the measurements are greater than those given in the following table.

1) Place the hoist in it's operating position with the load chain hanging down.

2) Count 11 links(Figure 601) and mark them.

3) Clean the links with a non-caustic solvent which is neither acidic or caustic (a white spirit type solvent is recommended).

4) Measure the 11 links and compare the measurements to Table 601.

Load chain size ϕ x pitch mm	Max. L permitted length for 11links Fig. 23 in. (mm)
4 X 12	5.315 (135)
5 X 15	6.634 (168.5)
6.3 X 19	9.114 (231.5)
8 X 24	10.61 (269.5)

Table 601

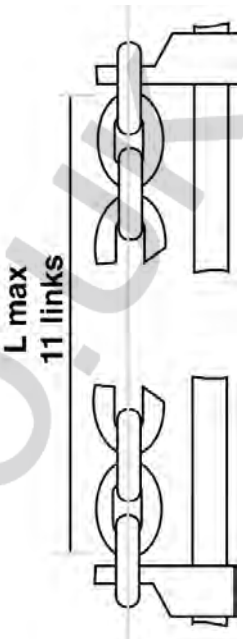


Figure 601

5) Examine the load chain. The load chain must be replaced if any of the following is found:

- Corroded or cracked links.
- Distorted or twisted links.
- Stretched or particularly worn links.

Do not expose the chain to temperatures greater than 212° F (100° C) or to abuse from mechanical or chemical agents. If so, the load chain must be replaced.

Lightly oil the load chain regularly with SAE 120 type oil or equivalent.

CAUTION

Lubricants must be handled and disposed of according to local, state and federal regulations.

NOTE:
Systematically or repeatedly stopping and starting at the same place will cause more rapid wear of the links which stop on the load sprocket wheel. If the chain needs to be replaced, this must be performed by a **TRACTEL** approved service shop.

ADVANCED LOAD CHAIN INSPECTION

1) Obtain a single link from the load chain to be inspected.

2) Take measurements of p (Figure 601), d4, and d5 (Figure 602).

3) Calculate dm and d5.

4) Compare the calculations to Table 602

Variables and Calculations:

d_m = average diameter after wear.

d5 = d3 + d4
(sum of two links diameter together).

d3/d4 : refer to Figure 603.

$$d_m = \frac{d3 + d4}{2} < 0.9\ d$$

WARNING

After an intensive period of use, the chain may show signs of elongation or wear which could damage the hoist or cause the chain to break. It is therefore recommended that the lifting chain is inspected regularly. The chain should be measured and must be replaced if the measurements are greater than those given in the following table.

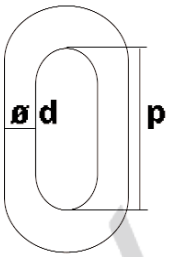


Figure 602

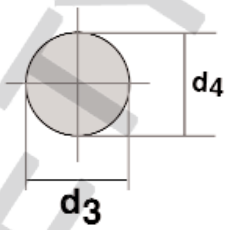


Figure 603

Model	Rated Load ton	Number of Chain Falls	Load chain ϕ x pitch mm	Diameter d Figure 601 in. (mm)	Pitch p Figure 601 in. (mm)	Max. wear on 1 link p + 5% in. (mm)	reject if dm < to 0.9d in. (mm)	reject if d5 < to 1.8d in. (mm)
TE 125	1/8	1	4 X 12	0.157 (4)	0.472 (12)	0.490 (12.60)	0.142 (3.60)	0.283 (7.20)
TE 250	1/4	1	5 X 15	0.197 (5)	0.591 (15)	0.620 (15.75)	0.177 (4.50)	0.354 (9)
TE 500	1/2	2	5 X 15	0.197 (5)	0.591 (15)	0.620 (15.75)	0.177 (4.50)	0.354 (9)
TE 500	1/2	1	6.3 X 19	0.248 (6.3)	0.748 (19)	0.785 (19.95)	0.223 (5.67)	0.446 (11.34)
TE 1000	1	2	6.3 X 19	0.248 (6.3)	0.748 (19)	0.785 (19.95)	0.223 (5.67)	0.446 (11.34)
TE 1000	1	1	8 X 24	0.315 (8)	0.945 (24)	0.992 (25.20)	0.283 (7.20)	0.567 (14.40)
TE 2000	2	2	8 X 24	0.315 (8)	0.945 (24)	0.992 (25.20)	0.283 (7.20)	0.567 (14.40)

Table 602

6-2 Load Chain Replacement

WARNING

Using other than Tractel supplied load chain may cause chain to jam in hoist or chain breakage. For proper size and physical properties use only Tractel supplied chain. Tractel declines all responsibility for hoists used with chain supplied by others.

WARNING

When the load chain needs to be replaced, this operation must be performed by a TRACTEL approved repair shop or qualified technician.

1) Press the << down >> button on the pendant control to empty the chain bag. When the chain stop is positioned at about 4 in. (100 mm) from the hoist body, stop the hoist.

2) Remove the end stop from the chain

3) <u>For single fall hoists</u> -

   At the other end of the chain, remove the load hook from the chain.

   <u>For two fall hoists</u> -

   Remove the opposite end of the chain from the fixing bracket on the hoist body. Pull out this chain fall from the bottom hook block sheave.

NOTE:
Do not remove the entire length of the old load chain from the hoist load wheel. The old load chain will be used in reeving the new load chain into the hoist.

4) Cut the old load chain into short lengths and dispose of it so that it is not reused.

5) Cut the new load chain to the length required.

WARNING

Cutting chain can produce flying particles! Wear eye protection and provide a shield over the load chain.

6) Fit an open link to one end of the old load chain remaining on the hoist load wheel.

NOTE:
The chain link opening shall be positioned outside from the load wheel axle.

7) Hook one end of the new chain end onto the open link. <u>The new load chain links weld shall be oriented outside from the load wheel axle (refer to Section 5-1, Figure 501).</u>

8) Operate the hoist to allow the reeving of the new load chain around the wheel.

9) Remove the old load chain and open link.

10) <u>For single fall hoists</u> -

    a) Insert the chain through the limit switch attachments.
    b) Fit the working end of the new load chain to the load hook.

    <u>For two fall hoists</u> -

    a) Insert the chain through the limit switch attachments.
    b) Fit the working end of the new load chain into the bottom hook block sheave ensuring that the chain is not twisted. Rotate manually the block sheave to reeve completely the chain around the sheave sprocket wheel.
    c) Insert the chain through the limit switch attachments.
    d) Fit the new chain end to the anchor part located on the hoist body checking that the chain is not twisted.

11) On the end of the new load chain going to the chain bag, insert the chain through the limit switch attachments and fit the end stop with its buffer bushing.

NOTE:
1 fall hoist models will come with 2 limit switch attachments. 2 fall hoist models will come with 3 limit switch attachments.

6-3 Hook Inspection

On tralift TE range, the upper suspension hook is fixed and mounted perpendicular to the hoist. Only the load hook has ball bearings and can swivel. The suspension and load hooks should be inspected regularly for wear. Damaged safety latches must be replaced immediately. The hooks should be frequently checked to ensure there is no trace of corrosion, impact, distortions or cracks or elongation.

Model	Rated Load (ton)	Dimension "A" maximum in. (mm)
TE 125	1/8	1.0 (25.3)
TE 250	1/4	1.0 (25.3)
TE 500	1/2	1.17 (29.7)
TE 1000	1	1.56 (39.6)
TE 2000	2	1.73 (44)

Table 602

Inspect the hooks for the following:

1) The load hooks should rotate freely eve when under load.

2) Latches should be appropriately secured in place and open/close properly.

3) Any signs of cracking (use of magnetic particle or dye penetrents are recommended).

4) Any indications of deformation including:

a) *Throat Width*

A maximum movement of 10% of the hook opening distance, “A” in Figure 604, is acceptable according to ANSI B30.10.

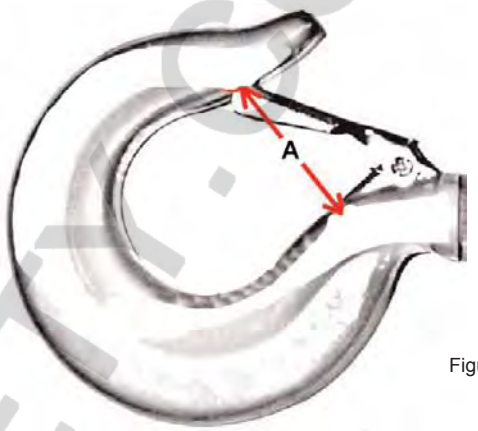


Figure 604

If the maximum opening distance "A" is greater than the values in Table 602, the hook shall be replaced immediately before any further use. This operation must be performed by a competent person or a service shop approved by **TRACTEL**.

b) *Twisting*

Check for twisting of the hook (Figure 605). Discard if twisted over 10°.

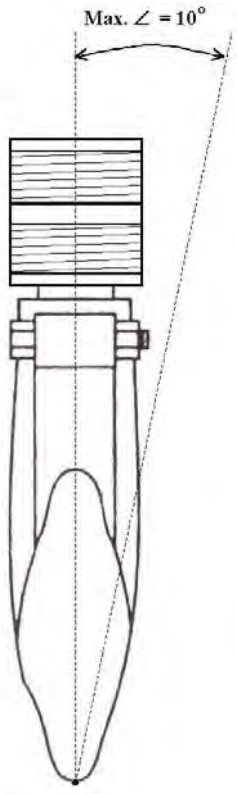


Figure 605

6-4 Limit Switch

Note: All of the newly designed Tralift TE from 2004 and on will have paddle limit switches instead of a screw drive limit switch. It is a simple external system and easy to install.

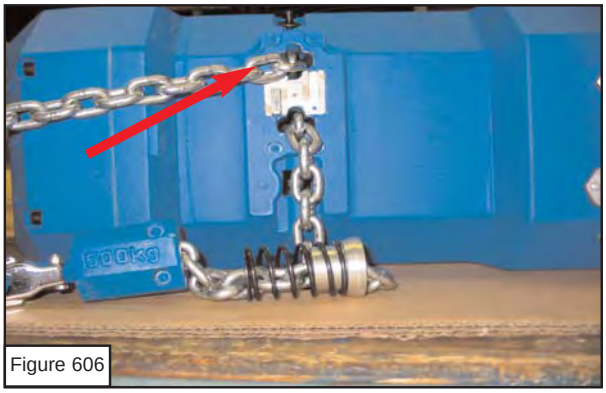


Figure 606

1) The paddle limit switch is located on the bottom of the hoist (Figures 606 & 607) where the chain enters and exits the hoist. It requires no adjustment.

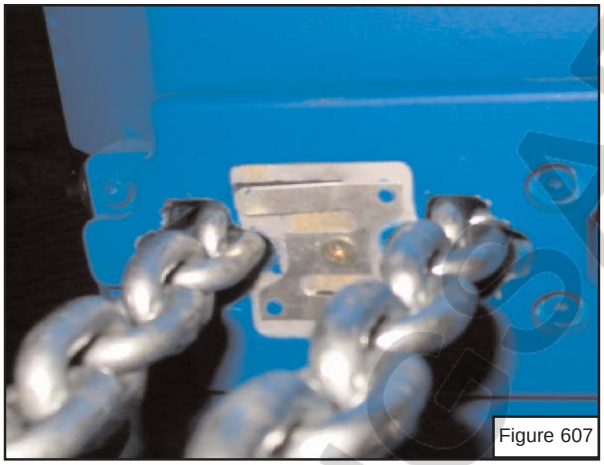


Figure 607

Figure 608

2) Paddle limit switch engages when a spring loaded aluminum stopper com presses the limit switch (Figure 608).

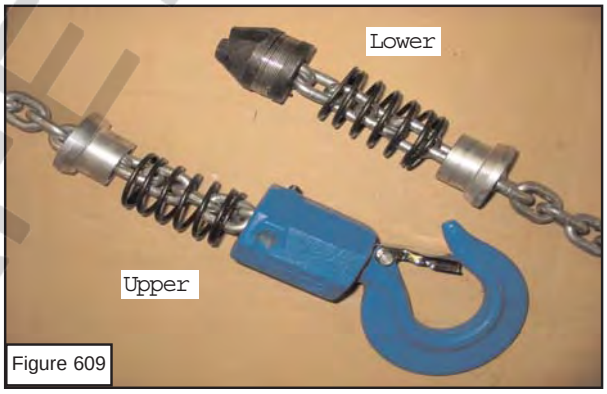


Figure 609

3) The assembly of the spring loaded stop per (Figure 609). Aluminum stopper should have the smaller diameter section facing the spring.

WARNING

Correct assembly is very important for the limit switch to work properly.

6-5 Brake Inspection & Adjustment

NOTE:
Any adjustment to the brake should be done without a load on the hoist.

As the hoist is used, wear of the brake linings may cause the hoist to slip and not hold the load. If slipping occurs, the load should be immediately lowered to the ground. The brake should be checked and adjusted by a qualified person or repair shop who is approved by **TRACTEL** to work on the electric hoist.

Specifications

- The normal gap between the disc support plate linings and the solenoid is between 0.020 to 0.040 in. (0.5 to 1 mm) maximum.
- In normal working conditions, the brake working time is between 1000 to 1500 hours before needing adjustment.

Refer to Figure 606 during the procedure.

NOTE:
For preliminary check of brake wear, you will need 0.020 in. and 0.040 in. (0.5 mm and 1 mm) spacers.

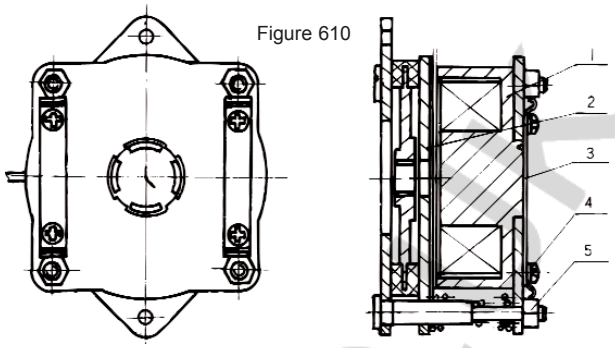
1) Insert the 0.020 in.(0.5 mm) spacer between the disc support plate(#2) and the solenoid(#1). If the spacer DOES NOT fit, the brake gap is not wide enough. Continue to the “Brake Gap Adjustment Procedure”.

2) Insert the 0.040 in.(1.0 mm) spacer between the disc support plate(#2) and the solenoid(#1). If the spacer DOES fit, the brake gap is too wide or the brake is worn down excessively. Continue to the “Brake Gap Adjustment Procedure”.

CAUTION

Never put oil or grease on the brake friction surface. Wipe off and clean any trace of lubricant which may be observed.

Figure 610



1. Solenoid,
2. Support plate
3. Safety plates
4. Fixing screws
5. Adjusting screws

Brake Gap Adjustment (Refer to Figure 610)

1) Disconnect the power supply from the hoist.

2) Open the hoist by removing the cover opposite to the power supply. The brake is on the right side.

3) Remove the two safety plates(#3) by unscrewing the four fixing screws and washers(#4).

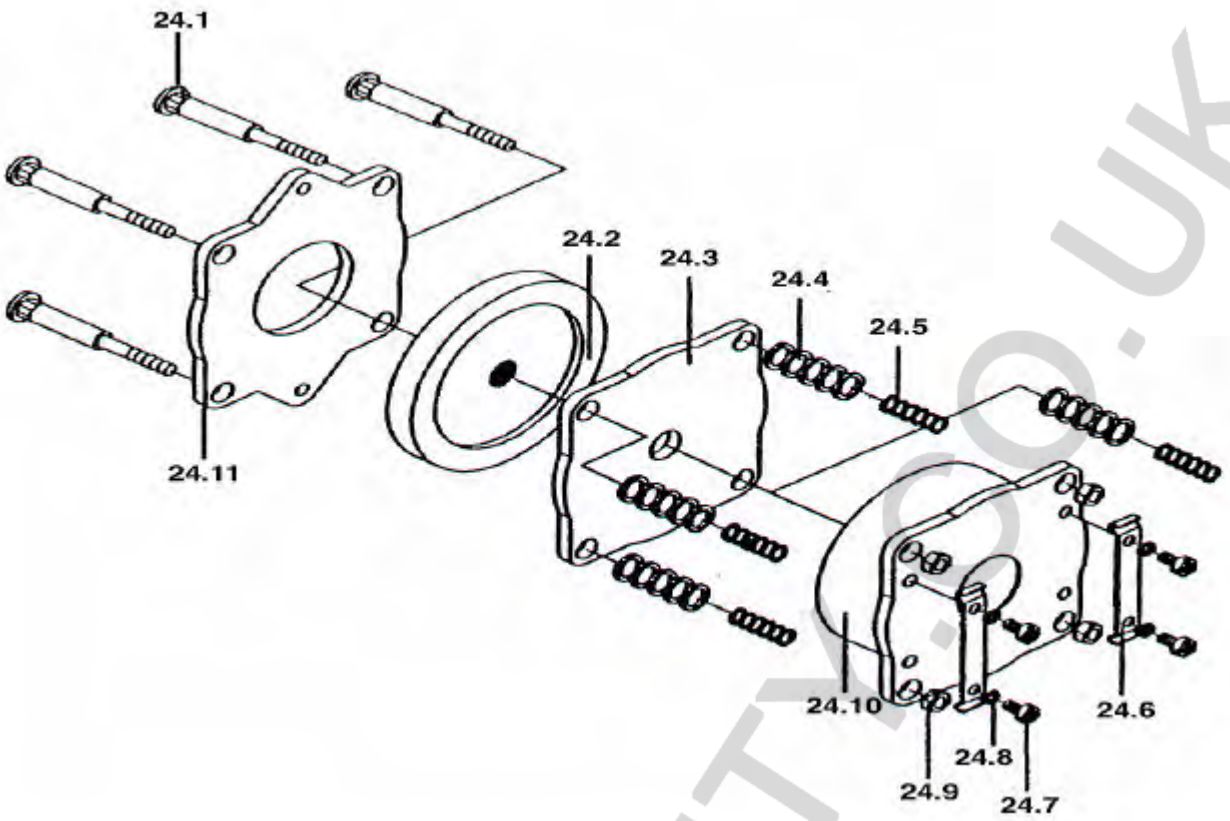
4) Insert a 0.02 in. (0.5 mm) spacer between the solenoid (#1) and the support plate(#2). Tighten the four adjusting screws with nuts item(#5) in the same way. The gap is then correctly adjusted.

5) Release the four adjusting screws(#5) by 1/6 of a turn and remove the spacer. Tighten again the four screws(#5)by 1/6 of a turn to put them back into position.

6) Reposition the two safety plates(#3) and tighten the four fixing screws and washers(#4).

7) Replace the cover and connect the hoist to its power supply.

NOTE:
Badly worn, scratched, or deformed brake discs must be replaced. Refer to the “Brake Disc Replacement Procedure” on the next page.



Brake Disc Replacement
(Refer to Figure 611)

1) Disconnect the power supply from the hoist

NOTE:
If after the brake adjustment the gap between the solenoid and the disc support plate remains greater than 0.040 inches (1mm), the brake disc must be replaced.

2) Put the hoist frame in vertical position in order to get the brake assembly in horizontal position.

3) Remove the two safety plates (#24.6) by unscrewing the four fixing screws and washers (#24.7/24.8).

4) Remove the four nuts (#24.9) which will allow you to slide out the solenoid (#24.10) and the eight springs (#24.4/24.5). When you remove the solenoid, be careful not to damage the electrical wires.

5) Remove the disc support plate (#24.3) and then the brake disc (#24.2).

6) Fit the new brake disc and brake assembly.

7) Re-adjust the brake gap (refer to the “Brake Gap Adjustment Procedure” on Page 31). A normal gap should be between 0.020 to 0.040 in. (0.5 to 1 mm).

8) Reposition the two safety plates (#24.6) and tighten the four fixing screws and washers (#24.7/24.8).

7) WARNINGS AGAINST HAZARDOUS OPERATIONS

Our tralift TE shall be used in accordance with this instruction manual. It is important to draw the attention of users to the following warnings:

- Never use the hoist, even occasionally, for lifting people.
- Never use the hoist under an enviroment which does not comply with its specifications or with this instructions manual.
- Never lift a load heavier than the rated load indicated on the hoist.
- Never use the hoist in dangerous conditions for the operator.
- Never use a hoist upside down (inverted).
- Never suspend the hoist by its load chain hook or its electrical cables.
- Never start up the operation without ensuring that all the safety devices on the hoist are in place and operating correctly. Checks must be made to ensure that the limit switches are in the required locations to stop the hoist automatically in total safety.
- Never connect the hoist without checking that the main electrical installation is accordance with a relevant safety regulation.
- Never drag a load on the floor.
- Never force the hoist movements if the load chain cannot operate freely.
- Never use the pendant control with the controls reversed as this could cause dangerous operating errors and deactivate the limit switches.
- Never mount a load on the dead end chain.
- Transport of hot molten material may require additional equipment or devices refer to ANSI Z241.2.
- Never use the load chain as a sling.
- Never intentionally cause or leave a suspended load to swing.
- Never stand or pass beneath a suspended load.
- Never mount the hoist on a unsuitable support.
- Never remove or modify the hooks' latches.
- Never remove the paddel limit switches.
- Never force the hoist suspension hook or lug (optional) to make hoist rotate on its axis.
- Never touch moving parts in operation.
- Never move a hoist suspended from a chain traveling trolley other than operating the hand chain provided for that purpose.

8) HEALTH AND SAFETY AT WORK

It is the responsibility of every company to ensure that its employees have been fully and properly trained in the safe operation of the equipment. Before using the equipment, check all safety devices of the hoist are in place and operate correctly (Chapter 10).

9) REMOVING FROM SERVICE AND STORAGE

Never release the load from the hoist if this load is not supported properly.

- The hoist may be stored without load providing it is placed indoors in a cool, dry area.
- Never allow an unqualified person who has not read these instructions to use the hoist.

The control cable being fitted with a plug in connector, it is possible to disconnect the pendant control from the hoist to prevent the hoist to be used by this unqualified person (refer to Figure 901).

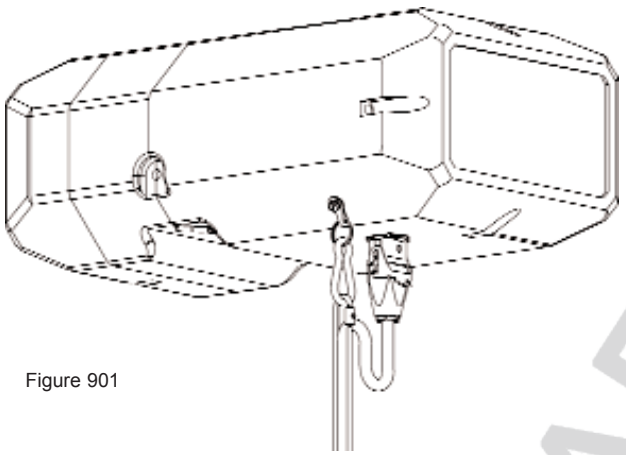


Figure 901

10) Safety Devices

Tralift TE hoists provide the following safety equipment as standard:

- Friction clutch limiting device acting as a safety limit switch.
- Paddle limit switches.
- Asbestos free brake separate from the lifting motor.
- Latches on the suspension and load hooks.
- Mechanical and electrical locking of the pendant control preventing simultaneous operation of the “up-down” controls (and “left-right” buttons when the hoist is supplied with an elctric drive trolley).
- 48 V low voltage electrical control equipment.
- Emergency stop button on the pendant control station. In the event of operating problems, emergency stop is obtained by simply pressing the red button on the pendant control. (To restart the device, the red button must be released by turning it in the direction of the red arrows marked on the button).
- A phase protector which prevents reverse operation.

11) TROUBLESHOOTING

Problem	Possible cause	Actions
The hoist will not operate	Main cut off switch off	Set it to «on» position
	Emergency stop activated	Deactivate the emergency stop
	Power supply cut	Check all the electrical connections
	Electrical limit switch activated	Move in the opposite direction and adjust the limit switch
	Limit switches inoperative	Call an approved service shop
	Fuse inoperative/circuit	Change the fuse and check the electrical connections
	Contacts on transformer or pendant control station faulty open thermal protector	Call an approved service shop
	Power supply phases reversed	Have an electrician change the electrical power supply connection
Operates in one direction	Paddle limit switch engaged	Hoist may require a longer chain to complete the task
	Contactor coil burnt out or open coil	Call an approved service shop
Poor rotation of lifting motor with muffled noise	Faulty power supply	Check the supply voltage
	Significant voltage drop	Check that voltage is correct and there is no overload,
	Electromagnetic brake does not open	Check the brake gap and call an approved service shop
	Faulty gearbox	Call an approved service shop
	Overload	Check and reduce the load
	Faulty friction clutch	Call an approved service shop
	Loss of one phase	Call an approved service shop

Table 1101

11) TROUBLESHOOTING (Continued)

Problem	Possible cause	Actions
Jamming of the load chain	Distortion or twisting of the chain inside or improper alignment with entry guide	Stop operation immediately.
		Continued operations might cause chain failure. Contact supplier or an approved service shop.
	Catching of the slack chain around an obstacle	If the load is suspended, take up the load with another device which provides the equivalent safety, and remove the load from the hoist. Try to release the chain, and if not, send the hoist to an approved service shop
		The slack chain MUST be freed before resuming operation
Overheating of hoist	Overload	reduce the load
	Low voltage	Have electrician correct low voltage condition of power supply
	Extremely hot operating environment	Ventilate or shield hoist from heat source
	Frequent starting	Avoid inching operations
Brake does not open	Defective rectifier or brake coil	Call an approved service shop
Abnormal noise	Mechanical parts	Call an approved service shop
Unintentional lowering of load/the load slips	Brake lining worn	Adjust the brake gap (Refer to section 6-5)
	Oil or grease on the brakes' lining	Spray the lining with brake cleaner and wipe them off
	Overload	Reduce the load if it exceeds the rated. If the motion continues, send the device to an approved service shop
Hoist will not lift load	Faulty friction clutch	Call an approved service shop
	Low voltage	Have an electrician correct low voltage condition of power

NOTE:
If you cannot find a cause or action for a problem, contact the supplier.

Table 1102

12) TABLE OF INSPECTIONS AND LUBRICATION CHECKS

The checks mentioned in the following table are additional to the periodic inspections required by ANSI/ASME B30.16. This table is given for information only, for use of the hoist, class H4, for normal operating conditions. Inspections should be performed more frequently if the equipment is used for heavy or severe service, or is constantly operated at or near maximum rated load.

Checks and Inspections	Frequency	Person
Check general condition of the hoist	daily	operator
Visual inspection of load chain and hooks		operator
Check the brake is working properly		operator
Cleaning and lubrication of load chain	monthly	operator
Check that paddle limit switches are working properly		operator
Check that electrical connections in hoist and trolley are in good condition		operator
Check chain bag and its attachment		operator
Lubrication of the sheave and rotation axles on the load hook	quarterly	operator
Measurement of load chain wear		approved service shop
Measurement of wear and opening on load hook and check latches operate correctly		approved service shop or operator
Visual inspection of trolley side plates (cracks, distortion)		operator
Wear of brake lining	six months	approved service shop
Check friction clutch limiting device		approved service shop
Vision check of trolley wheels and hand chain		operator
General inspection of pars of the hoist subject to wear and adjustment of brake friction clutch-limiting device and limit switches	yearly	approved service shop

Table 1201

13) RECOMMENDED PRACTICES ELECTRIC AND AIR POWERED HOISTS

Because the manufacturer has no direct control over the hoist and its operation, conformance with good safety practice is the responsibility of the user and operating personnel. ANSI/ASME B30.16 has been used as a guide in preparing this list of SHALL's and SHALL NOT's. Ask your supervisor for a copy. Each is identified according to ANSI/NEMA Z535.4 with either the signal work CAUTION or WARNING to indicate the degree of seriousness.

WARNING

Improper operation of hoist can create a potentially hazardous situation which, if not avoided, could result in death or serious injury. To avoid such a potentially hazardous situation, the operator shall:

1. NOT operate a damaged, malfunctioning or unusually performing hoist.
2. NOT operated the hoist until you have thoroughly read and understood the manufacturer's Operating and Maintenance Instructions or Manuals.
3. NOT operate a hoist which has been modified without the manufacturer's approval or without certification that it is in conformity with ANSI/AMSE B30 volumes.
4. NOT lift more than rated load for the hoist.
5. NOT use hoist with twisted, kinked, damaged, or worn load chain or wire rope.
6. NOT use the hoist to lift, support, or transport people.
7. NOT lift loads over people.
8. NOT operate a hoist unless all persons are and remain clear of the supported load.
9. NOT operate unless load is centered under hoist.
10. NOT attempt to lengthen the load wire rope or chain or repair damaged load wire rope or chain.
11. Protect the hoist's load wire rope or chain from weld splatter or other damaging contaminents.
12. NOT operate hoist when it is restricted from forming a straight line from hook to hook in the direction of loading.
13. NOT use load wire rope or chain as a sling, or wrap load wire rope or chain around load.
14. NOT apply the load to the tip of the hook or to the hook latch.
15. NOT apply load unless load chain is properly seated in the chain wheel(s) or sprocket(s) or wire rope is properly seated in its groove(s).
16. NOT apply load if bearing prevents equal loading on all load supporting ropes chains.
17. NOT operate beyond the limits of the load wire rope or chain travel.
18. NOT leave load supported by the hoist unattended unless specific precautions have been taken.
19. NOT allow the load wire rope, chain or hook to be used as an electrical or welding ground.
20. NOT allow the load wire rope, chain or hook to be touched by a live welding electrode.
21. NOT remove or obscure the warnings on the hoist
22. NOT operate a hoist on which the safety placards or decals are missing or illegible.
23. NOT operate a hoist unless it has been securely attached to a suitable support.
24. NOT operate a hoist unless load slings or other approved single attachments are properly sized and seated in the hook saddle.
25. Take up slack carefully - make sure load is balanced and load holding action is secure before continuing.
26. Shut down a hoist that malfunctions or performs unusually and report such malfunction.
27. Make sure hoist limit switches function properly.
28. Warn personnel of an approaching load.

CAUTION

Improper operation of a hoist can create a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. To avoid such a potentially hazardous situation, the operator shall:

1. Maintain a firm footing or be otherwise secured when operating the hoist.
2. Check brake function by tensioning the hoist prior to each lift operation.
3. Use hook latches. Latches are to retain slings, chains, etc. under slack conditions only.
4. Make sure the hook latches are closed and not supporting any parts of the load.
5. Make sure the load is free to move and will clear all obstructions.
6. Avoid swinging the load or hook.
7. Make sure hook travel is in the same direction as shown on the controls.
8. Inspect the hoist regularly, replace damaged or worn parts, and keep appropriate records of maintenance.
9. Use the hoist manufacturer's recommended parts when repairing the unit.
10. Lubricate load wire rope or chain per hoist manufacturer's recommendations.
11. NOT use the hoist load limiting or warning device to measure load.
12. NOT use limit switches as routine operating stops unless allowed by manufacturer. They are emergency devices only.
13. NOT allow your attention to be diverted from operating the hoist.
14. NOT allow the hoist to be subjected to sharp contact with other hoists, structures, or objects through misuse.
15. NOT adjust or repair the hoist unless qualified to perform such adjustments or repairs.

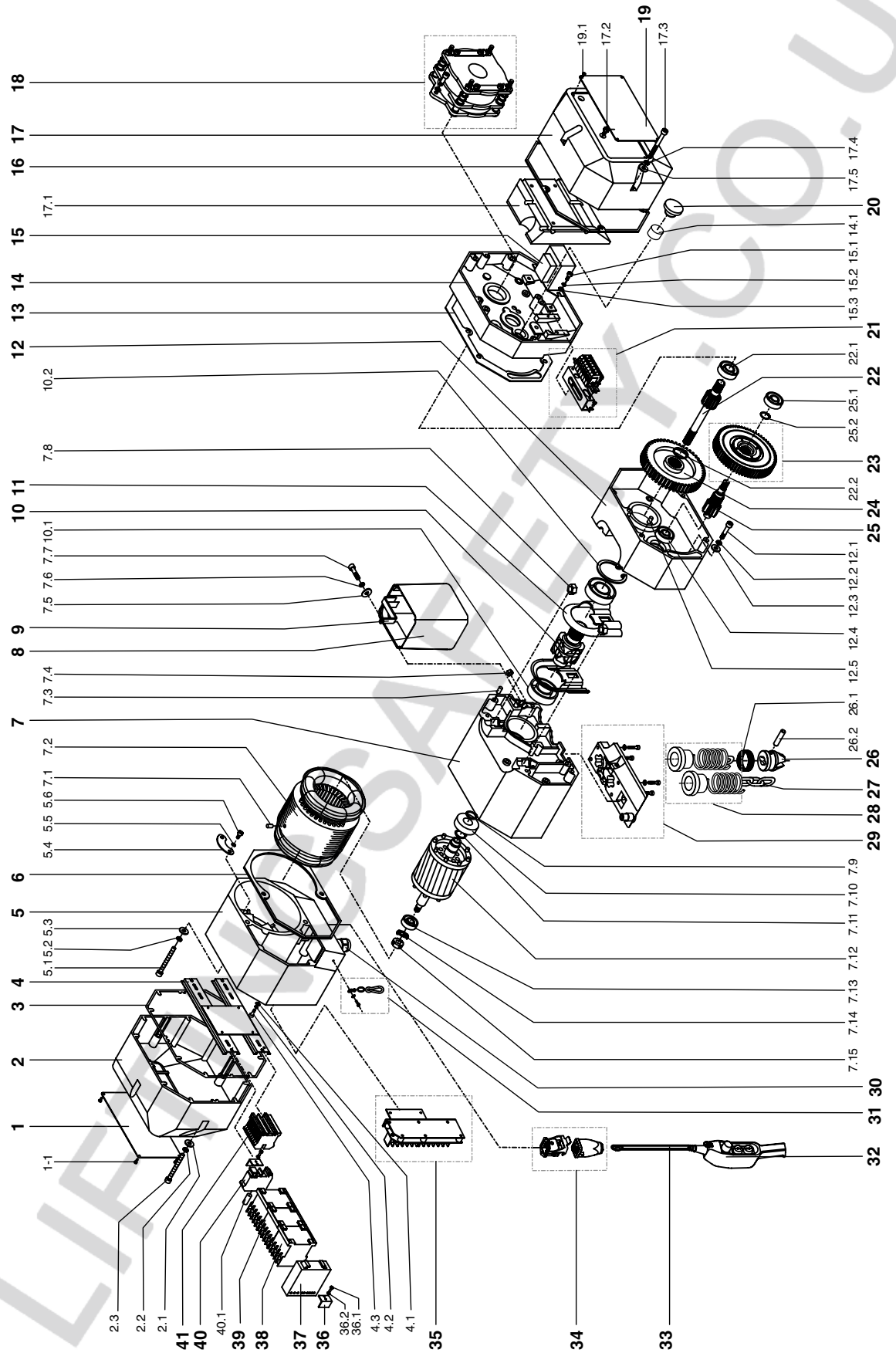
DISCLAIMER

Under no circumstances does the Hoist Manufacturers Institute (HMI) assume any liability for the use of these voluntary recommendations, and no warranty whatsoever is made in connection with them. The recommendations do not take precedence over existing plant safety rules and regulations, OSHA regulations or instructions issued by the Hoist Manufacturer. It is the user's intent to absolve and protect HMI from any and all liability, in tort or otherwise.

Parts List

Tralift TE USA
All capacities
Spare parts

group :
ref. : -
rev. n° : -
date : **06/04**
page : **1/10**



14) EXPLODED VIEWS AND PARTS LISTS

Position	Description	TRACTEL CODE						
		125 1 Fall	**250** 1 Fall	**500** 2 Fall	**500** 1 Fall	**1000** 2 Fall	**1000** 1 Fall	**2000 2 Fall**
1	Technical Data Plate	24472	24482	24482	24492	24492	24502	24502
1.1	Screws M3 x 6							
2	Motor Side Cover	15042	15052	15052	15062	15062	15072	15072
2.1	Washer Ø 6 mm							
2.2	Spring-Type Washer Ø 6 mm							
2.3	Screw M6 x 60							
3	Motor Cover Seal	127205	127245	127245	127285	127285	127325	127325
4	Mounting Rail Assembly	8731	8731	8731	8731	8731	8731	8731
4.1	Washer Ø 4 mm							
4.2	Spring-Type Washer Ø 4 mm							
4.3	Screw M4 x 12							
5	Motor Casing	15122	15132	15132	15142	15142	15152	15152
5.1	Screw							
5.2	Spring Type Washer							
5.3	Washer							
5.4	Bearing Retainer							
5.5	Spring-Type Washer							
5.6	Screw							
6	Motor Casing Seal	127215	127255	127255	127295	127295	127335	127335
7.0	Motor Complete	24342 - 1 Speed 24352 - 2 Speed	24362 - 1 Speed 24372 - 2 Speed	24382 - 1 Speed 23492- 2 Speed	24382 - 1 Speed 23492 - 2 Speed	24402 - 2 Speed	24412 - 2 Speed	24412 - 2 Speed
7.1	Pin A6 x 10							
7.2	Motor Stator							
7.9	Circlip for Shaft							
7.10	Bearing							
7.11	Circlip for Shaft							
7.12	Motor Rotor One Speed							
7.13	Bearing							
7.14	Lock Washer							
7.15	Circle Nut							
8	Chain Bag	Refer To Page 49						
9	Chain Bag & Bucket Bracket	16242						
10	Chain Sprocket Wheel	15602	15612	15612	15622	15622	15632	15632
10.1	Ball Bearing							
10.2	Circlips							
11	Kit Chain Guide	15562	15572	15572	15582	15582	15592	15592
12	Gear Casing							
12.1	Screw	15682	15692	15692	15702	15702	15712	15712
12.2	Spring-Type washer							
12.3	Washer							
12.4	Bearing							
12.5	Pin A6 x 12							

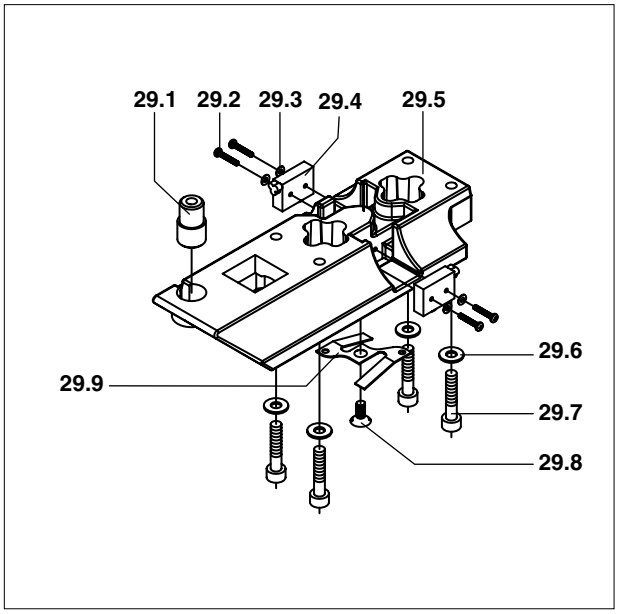
14) EXPLODED VIEWS AND PARTS LISTS

Position	Description	TRACTEL CODE						
		125 1 Fall	**250** 1 Fall	**500** 2 Fall	**500** 1 Fall	**1000** 2 Fall	**1000** 1 Fall	**2000 2 Fall**
13	Back Frame Seal	127225	127265	127265	127305	127305	127345	127345
14	Back Frame Gearbox	15882	15892	15892	15902	15902	15912	15912
14.1	Copper Bush							
15	Transformer	24512				24332		
15.1	Screw M5 x 12							
15.2	Spring-Type Washer Ø 5 mm							
15.3	Washer Ø 5 mm							
16	Back Frame Cover Gasket	127235	127275	127275	127315	127315	127355	127355
17	Back Frame Cover	16122	16132	16132	16142	16142	16152	16152
17.1	Counter Weight							
17.2	Screw							
17.3	Screw							
17.4	Spring-Type Washer Ø 6 mm							
17.5	Washer Ø 6 mm							
18	Brake Kit Complete	32202	32212	32212	32222	32222	32232	32232
19	Name Plate	24422	24432	24522	24442	24532	24452	24462
19.1	Name Plate Screw M3 x 6							
20	Rubber Plug	32432						
21	Terminal Box Kit	16052						
22	Drive Shaft Pinion	15762	15772	15772	15782	15782	15792	15792
22.1	Bearing							
22.2	Circlips							
23	Kit Overload Friction Clutch	32162	32172	32172	32182	32182	32192	32192
24	Primary Gear	15722	15732	15732	15742	15742	15752	15752
25	Secondary Shaft Pinion	15842	15852	15852	15862	15862	15872	15872
25.1	Bearing							
25.2	Circlips for Shaft							
26	Loose End Chain Block	15642	15652	15652	15662	15662	15672	15672
26.1	Round Wire Ring							
26.2	End Chain Pin							
27	Load Chain	8301	17241	17241	15861	15861	15501	15501
28	Limit Switch End Block Kit	32302	32312	32342	32322	32352	32332	32362
29	Limit Switch Assembly	32262	32272	32272	32282	32282	32292	32292
30	Cable Gland	73206	73206	73206	73206	73206	73206	73206
31	Control Cable Support	15202	15202	15202	15202	15202	15202	15202
32	Pendant Control Box	58218-1 Speed				58228-2 Speed		
33	Control Cable	9871	9871	9871	9871	9871	9871	9871
34	Control Plug M/F	15242	15242	15242	15242	15242	15242	15242
35	Voltage Conversion Board	24312 - 1 Speed				24322 - 2 Speed		
36	Phase Protector & Rectifier Support	32412						
36.1	Screw M3 x 6							
36.2	Washer Ø 3 mm							

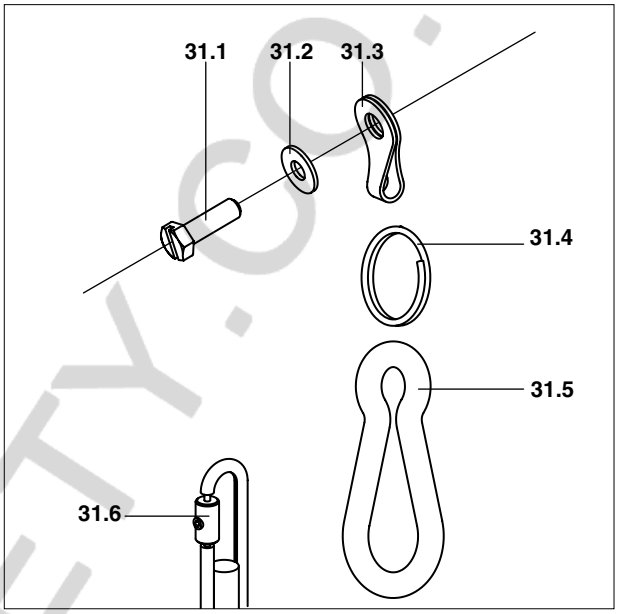
14) EXPLODED VIEWS AND PARTS LISTS

Position	Description	TRACTEL CODE						
		125 1 Fall	**250** 1 Fall	**500** 2 Fall	**500** 1 Fall	**1000** 2 Fall	**1000** 1 Fall	**2000 2 Fall**
37	Phase Protector & Rectifier	24302						
38	Contactor LC1K1210E7	35966	35966	35966	35966	35966	35966	35966
39	Contactor LC2K1210E7	35976	35976	35976	35976	35976	35976	35976
40	Fuse Holder	16222	16222	16222	16222	16222	16222	16222
40.1	Fuse							
41	Terminal	27376	27376	27376	27376	27376	27376	27376

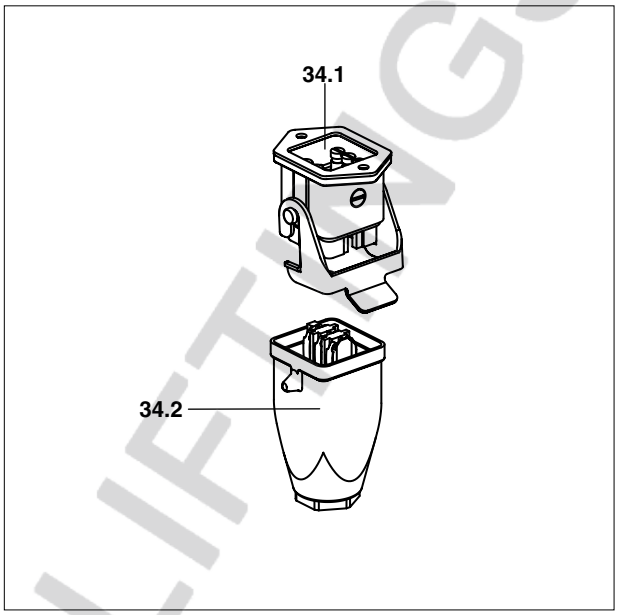
29 - End limit switch



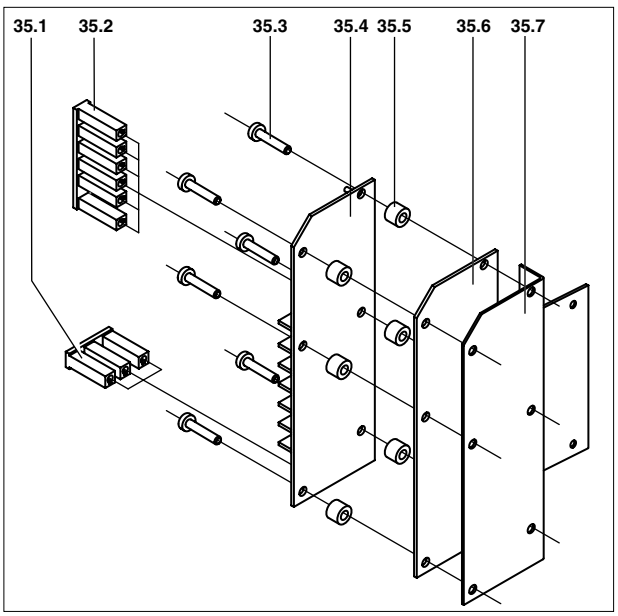
31 - Control plug



34 - Control plug



35 - Voltage conversion board



14) EXPLODED VIEWS AND PARTS LISTS Limit Switch, Control Plugs & Voltage Conversion Board

Position	Description	TRACTEL CODE						
		125 1 Fall	250 1 Fall	500 2 Fall	500 1 Fall	1000 2 Fall	1000 1 Fall	2000 2 Fall
29	Limit Switch End Block Kit	32302	32312	32342	32322	32352	32332	32362
29.1	Bung							
29.2	Screws M2 x 12							
29.3	Washer							
29.4	Microswitch							
29.5	Main Block							
29.6	Washer							
29.7	Screw							
29.8	Screw M4 x 10							
29.9	Limit Switch End Block							
31	Control Cable Support Kit	15202						
31.1	Screw							
31.2	Washer							
31.3	Ring Attachment							
31.4	Suspension Ring							
31.5	Hook Connector							
31.6	Wire Rope Fixation							
34	Control Plug M/F Kit	15242						
34.1	Flat Cable Gland							
34.2	Round Cable Gland							
35	Voltage Conversion Board kit	24312 - 1 Speed - All Models 24322 - 2 Speed - All Models						
35.1	3-Pin Plug							
35.2	6-Pin Plug							
35.3	Screw M3 x 18							
35.4	Printed Circuit Board							
35.5	Isolative Space							
35.6	Isolative Plate							
35.7	Mounting Plate							
-	Pendant Clip	088586 - (Part Not Included In Kits)						

Parts List

Tralift TE USA
Suspension kits
Spare parts

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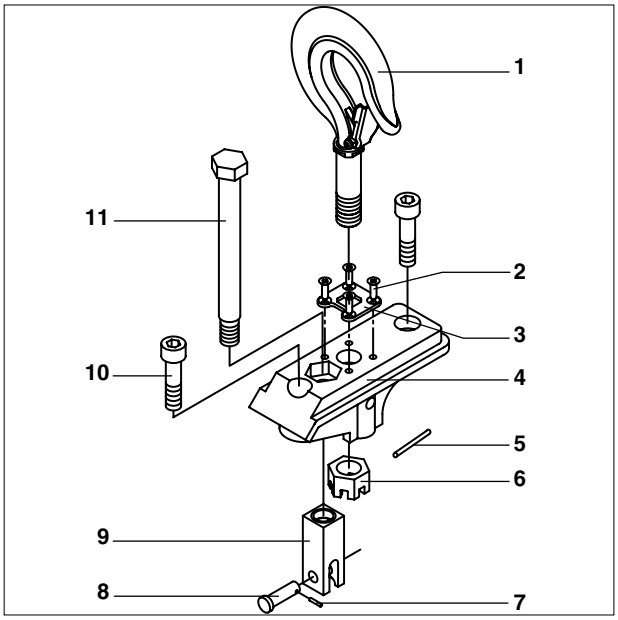
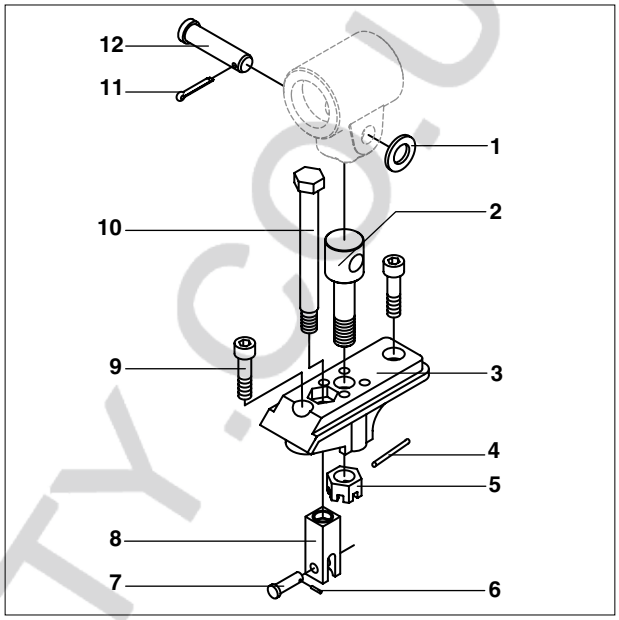
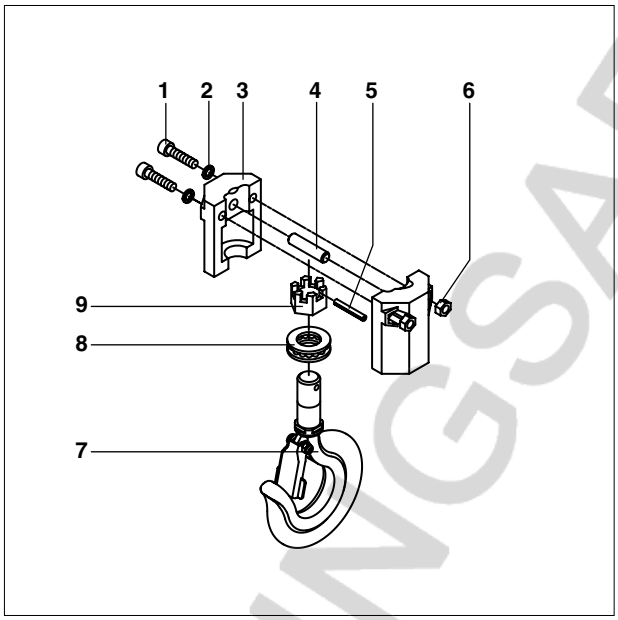
Superior hook



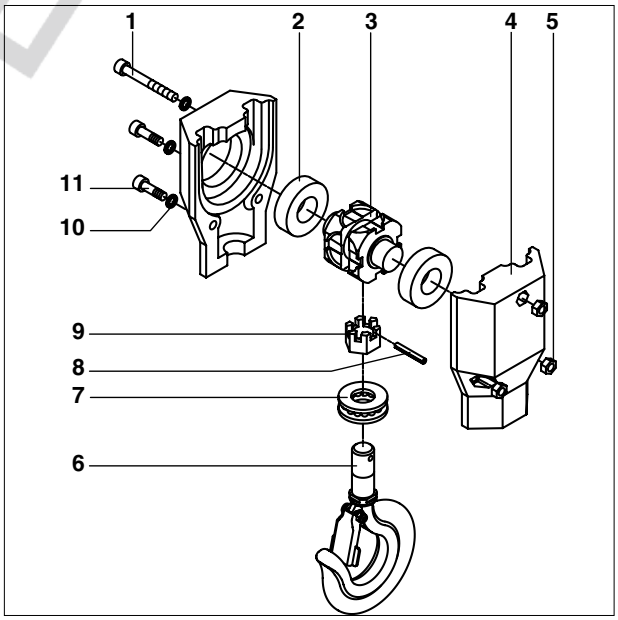
Direct coupling



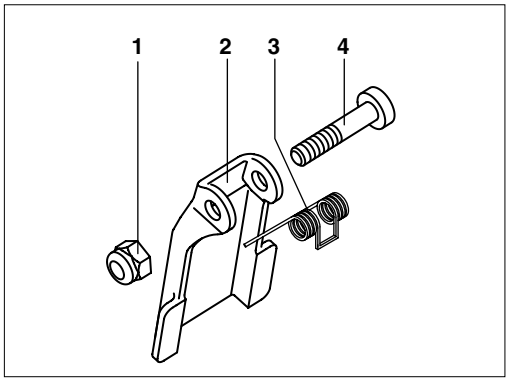
Bottom hook assembly 1 fall



Bottom hook assembly 2 falls



Safety latch



Tractel S.A.S.

14) EXPLODED VIEWS AND PARTS LISTS One Fall & Two Fall Suspension Kits

Position	Description	TRACTEL CODE						
		125 1 Fall	**250** 1 Fall	**500** 2 Fall	**500** 1 Fall	**1000** 2 Fall	**1000** 1 Fall	**2000** 2 Fall
Upper Hook								
1	Upper Hook	31982	31992	32062	32002	32072	32012	32082
2	Set screw M5 x 10							n/a
3	Fastening Plate							32082
4	Suspension Adapter							
5	String-Type Pin 4 x 30	n/a						
6	Nut	31982	31992	32062	32002	32072	32012	
7	Cotter Pin	n/a	n/a		n/a		n/a	
8	Suspension Pin							
9	Dead End Block							
10	Screw	31982	31992		32002		32012	
11	Suspension Stud	n/a	n/a		n/a		n/a	
Direct Coupling								
1	Washer		33582	33612	33592	33622	33602	33632
2	Threaded Suspension Shaft							
3	Suspension Adapter							
4	String-type pin 4 x 30		n/a					
5	Hex Nut		33582		33592	33622	33602	
6	Split Pin		n/a	33612	n/a		n/a	
7	Suspension Pin							
8	Connecting Block							
9	Screw		33582		33592		33602	
10	Suspension Stud		n/a	n/a	n/a		n/a	
11	Split Pin 4x20		33582	33612	33592		33602	
12	Suspension Shaft							

14) EXPLODED VIEWS AND PARTS LISTS One Fall & Two Fall Load Kits

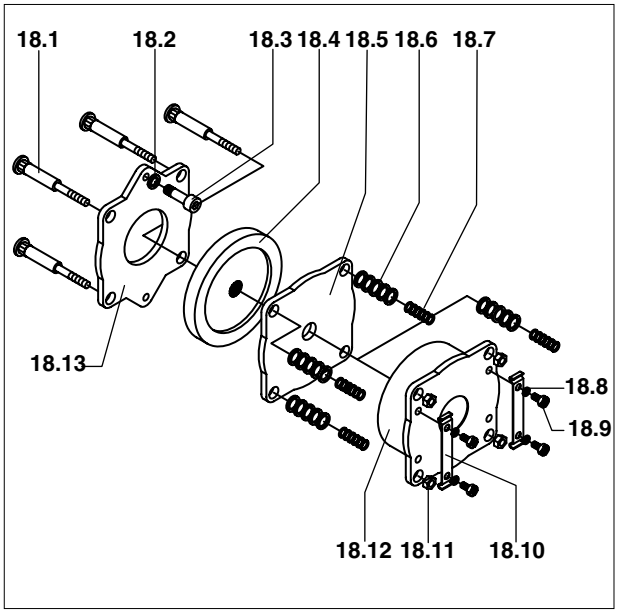
Position	Description	TRACTEL CODE						
		125 1 Fall	**250** 1 Fall	**500** 2 Fall	**500** 1 Fall	**1000** 2 Fall	**1000** 1 Fall	**2000** 2 Fall
Bottom Hook Assembly 1 Fall								
1	Screw M5 x 20	32092	32102		32112		32122	
2	Spring-Type Washer Ø 5 mm							
3	Bottom Hook Black							
4	Chain Pin							
5	Spring-Type Pin							
6	Prevailing Torque Type Nut M5							
7	Lower Hook							
8	Thrust Bearing 8100							
9	Hexagon Slotted Nut							
Bottom Hook Assembly 2 Falls								
1	Screw M6 x 40			32132		32142		32152
2	Bearing 80104							
3	Idle Sheave							
4	Bottom Hook Black							
5	Prevailing Torque Type Nut M6							
6	Lower Hook							
7	Thrust Bearing 8103							
8	Spring-type Pin 4 x 28 mm							
9	Hexagon Slotted Nut M16							
10	Spring-Type Washer Ø 6 mm							
11	Screw M6 x 20							
Upper & Lower Safety Latch								
1	Prevailing Torque Type Nut M4	32022	32022	32032	32032	32042	32042	32052
2	Safety Latch							
3	Double Spring							
4	Screw							

14) EXPLODED VIEWS AND PARTS LISTS Brake, Terminal Box, Friction Clutch & Limit Switch

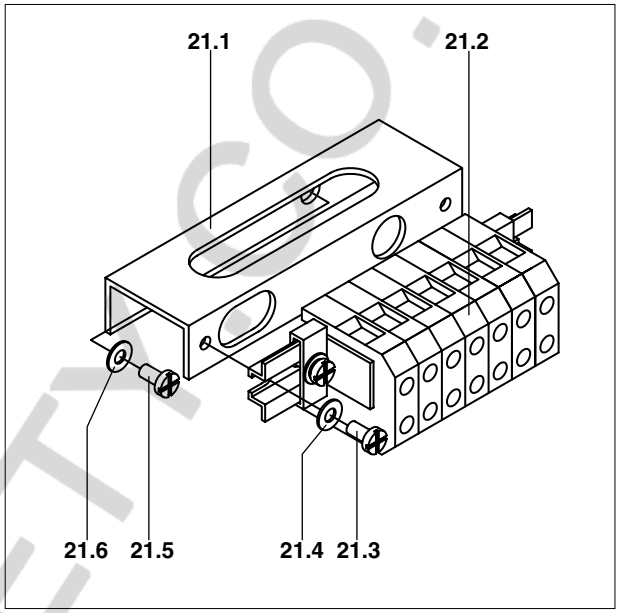
Position	Description	TRACTEL CODE						
		125 1 Fall	250 1 Fall	500 2 Fall	500 1 Fall	1000 2 Fall	1000 1 Fall	2000 2 Fall
18	Brake Complete Kit	32202	32212	32212	32222	32222	32232	32232
18.1	Brake Bolt							
18.2	Spring-Type Washer Ø 6 mm							
18.3	Screw M6 x 20							
18.4	Brake Friction Disk							
18.5	Brake Armature							
18.6	Brake Spring							
18.7	Position Fixing Spring							
18.8	Spring-Type Washer Ø 4 mm							
18.9	Screw M4 x 4							
18.10	Brake Lock Plate							
18.11	Prevailing Torque Type Nut M5							
18.12	Brake Field Sub Assembly							
18.13	Brake Base Plate							
21	Terminal Box Kit	16052						
21.1	Terminal Frame							
21.2	Terminal							
21.3	Screw M3 x 6							
21.4	Washer Ø 3 mm							
21.5	Screw M5 x 12							
21.6	Spring-Type Washer Ø 5 mm							
23	Overload friction Clutch Kit	32162	32172	32172	32182	32182	32192	32192
23.1	Spline Hub							
23.2	Adjusting Washer							
23.3	Belleville Spring Washer							
23.4	Clutch Friction Disk							
23.5	First Stage Gear							
23.6	Clutch Carrier							
23.7	Adjusting Nut							
28	End Block Limit Switch Kit	32302	32312	32342	32322	32352	32332	32362
28.1	Stoper							
28.2	Dead End Stoper							
28.3	Spring							

Parts List	Tralift TE USA Kits Spare parts	group : ref. : - rev. n° : - date : 06/04 page : 1/5

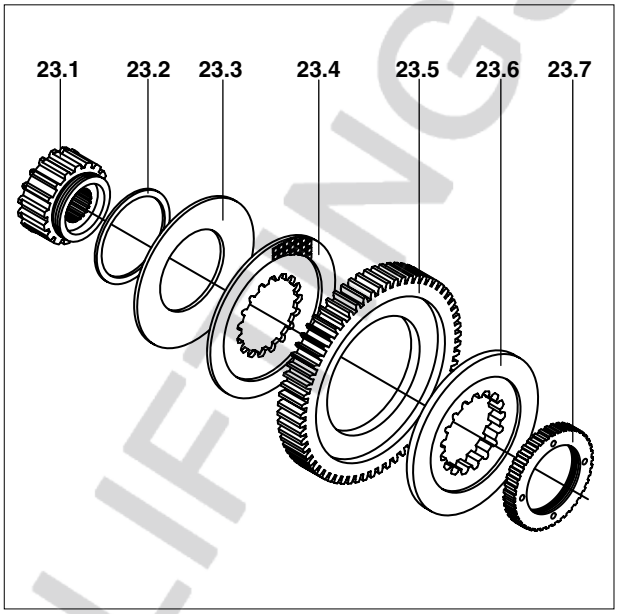
18 - Brake



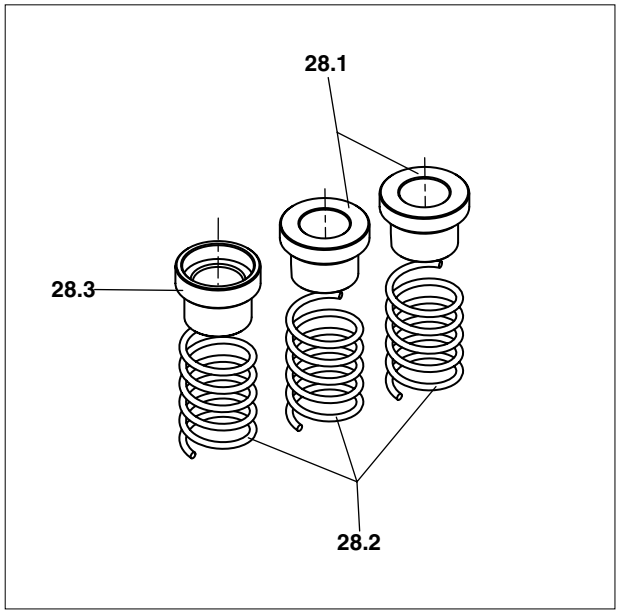
21 - Terminal box



23 - Overload friction clutch



28 - End block limit switch



14) EXPLODED VIEWS AND PARTS LISTS Chain Bag Specifications

WARNING

Using the wrong chain bag or support may cause serious injuries or death! Use only the proper TRACTEL supplied chain bags for your particular lifting height.

Hoist Model	Hoist Info	Height of Lift, ft (m)				
		3 ft to 20 ft (1m to 6m)	**20 ft to 39 ft** (7m to 12m)	**39 ft to 59 ft** (13m to 18m)	**60 ft to 79 ft** (19m to 24m)	**80 ft to 115 ft** (25m to 35m)
125	1 Fall 4 x 12 Bag Support Code: 16242	16272		16342		
250	1 Fall 5 x 15 Bag Support Code: 16242	16282		16342		16352
500	2 Fall 5 x 15 Bag Support Code: 16242	16282	16342	16352	N/A	
500	1 Fall 6.3 x 19 Bag Support Code: 16252	16282		16352		16302
1000	2 Fall 6.3 x 19 Bag Support Code: 16252	16282	16352	105307	N/A	
1000	1 Fall 8 x 24 Bag Support Code: 16252	16342		16302		105317
2000	2 Fall 8 x 24 Bag Support Code: 16252	16342	16302	105317	N/A	

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