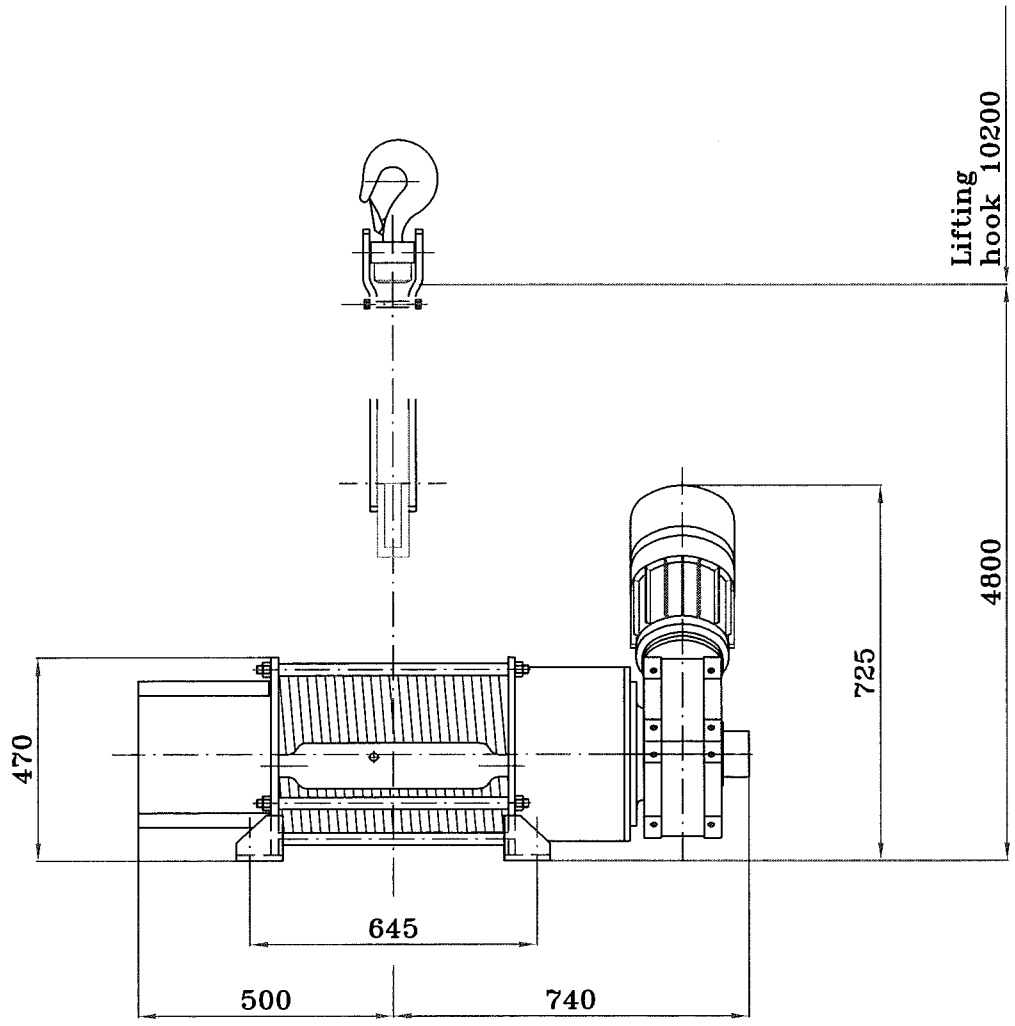
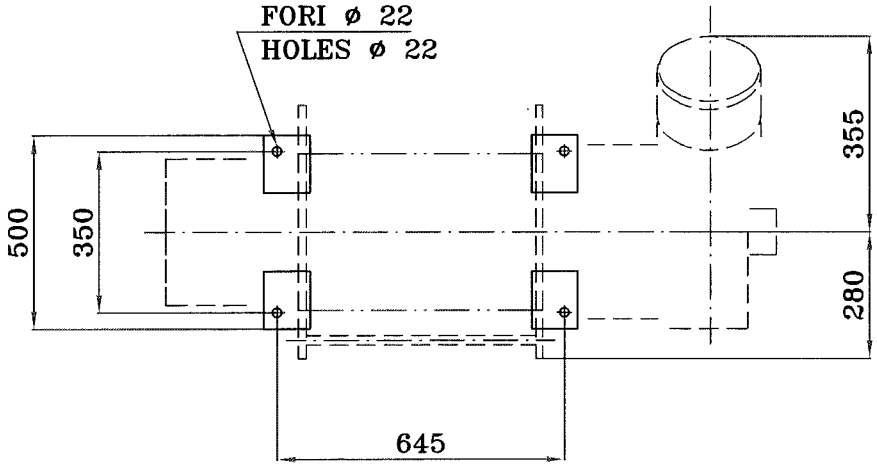




CHARACTERISTICS

ITEM		
CAPACITY	4000	Kg
LIFTING HOOK	13	m
HOOK SPEED	1.3	m/min
MOTOR POWER	1.6	KW
VOLTAGE	400V-50Hz	3Ph
WEIGHT	560	Kg
–	–	
–	–	–

Pegaso Paranchi s.r.l.
– MILANO (ITALY) –

variazioni: 1, 2, 3

COMMESSA–COMMISSION	CLIENTE–CUSTOMER	DIS.–DRAW.	DATA–DATE	SCALA–SCALE
60263/M		neg	11–03–09	

TITOLO–TITLE

Desmet Ballestra– Com. 2E23 –

ELECTRIC ROPE HOIST CAPACITY 4t

type : PC402N/A – Vs. Com. C1E35Z Item 64W3

FORM.–SIZE	REV.
A 4	00

DISEGNO–DRAWING: PC 402 N / A

PEGASO PARANCHI CE

MANUFACTURER'S DECLARATION

(According to the Machinery Directive 98/37/CE and further amendments -Annex IIB)

The undersigned :

PEGASO PARANCHI S.R.L.
*Via Ragazzi del 99, 1/3 – 20022 Castano Primo (Milan – **ITALY**)*
Phone +39 (0)331 877698 Fax +39 (0)331 877698

Declare under on own responsibility that the named machine :

ELECTRIC ROPE HOIST

Type : PC 402 N/A **Capacity Kg. :** 4000

Serial N°: 60263/M **Production year:** 2010

Is in accordance with the Comunitary Directive, norms and technical rules :

MACHINE DIRECTIVE 98/37/CE
(ex 89/392/CE and subsequent amendments 91/368/CEE-93/44/CEE-93/68/CEE)

LOW VOLTAGE DIRECTIVE 73/23/CEE – 93/68/CEE

ELETTROMAGNETIC COMPATIBILITY DIRECTIVE 89/336/CEE-92/31/CEE

EN 12100 part 1ª e 2ª	(Safety of the machinery)
EN 60204-32	(Safety of machinery electrical equipment of machines)
EN 60529	(Degrees of protection provided by enclosures –IP code)
FEM 1.001/98	(Rules for design of hoisting appliances)
FEM 9.511/86	(Classification of mechanisms)
FEM 9.755/93	(Measures for achieving safe working periods for serial hoist units – S.W.P.)
FEM 9.941/95	(Graphical symbol for control devices)
FEM 9.661/86	(Dimensions and design of rope reeving components)
FEM 9.683/95	(Selection of lifting and travel motors)
DIN 15400	(Lifting hooks-Materials, mechanical properties, lifting capacity and stress)
DIN 15401	(Lifting hooks for lifting appliances- Single hooks)
ISO 4301-1	(Lifting equipment classification)

It is forbidden that the machine subject of this declaration, works before that it will completed or incorporated in other machinery in compliance with the requirements of the Directive 98/37/EC

Date: 09/12/2010

PEGASO PARANCHI s.r.l.

PEGASO PARANCHI SRL
Felice Iomini
(Production manager)

PEGASO PARANCHI srl
Sede Amministrativa e Stabilimento:
20022 CASTANO PRIMO (MI) - Italy
Via Ragazzi del 99, 1/3
Tel. 0331/877698 - Fax 0331/877698
e-mail: info@pegasoparanchi.it
Sede Legale: 20129 MILANO - Viale Piave, 7
REA n. 995219 della C.C.I.A.A. di Milano
C.F. e P. IVA 04182440158 - Cap. Soc. €. 48.546,94
Registro delle Impr. di Milano n. 183191 - Trib. di Milano

CERTIFICATO DI COLLAUDO

Testing report

CLIENTE / Customer	BALLESTRA SPA
ORDINE / Order	N. 101828 DEL 06/10/10

PARANCO ELETTRICO A FUNE	: rope chian hoist	PC 402 N/A
PORTATA	: capacity	4000 Kg.
VELOCITA' GANCIO	: lifting speed	1,3 m/min
POTENZA MOTORE	: power motor	1,5 Kw
CORSA GANCIO	: hook lifting	10 mt.
TENSIONE	: voltage	380V 50 Hz
DISEGNO	: drawing	PC 402 N/A
PESO	: weight	560 Kg.

ESITO COLLAUDO FUNZIONALE
Fuctional test results

POSITIVO

PEGASO PARANCHI SRL
Service Manager

Castano Primo, 09/12/2010

PEGASO PARANCHI S.r.l.

PEGASO PARANCHI SRL
Via Ragazzi del 99 n.1/3
20022 CASTANO PRIMO (MI)

Spett.le
DESMET BALLESTRA
Via Piero Portaluppi N. 17
20138 MILANO

ATTESTATO DI CONFORMITA'
CERTIFICATE OF CONFORMITY

La Pegaso Paranchi Srl dichiara che il prodotto sotto descritto è conforme alla Direttiva Macchine 98/37/CE
La Pegaso Paranchi Srl declares that the products here under specified comply with Directive 98/37/EC

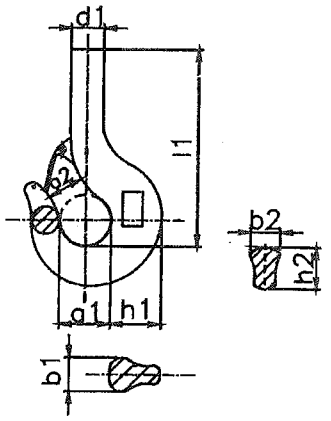
Attestato/ Certificate n°	1LN2356
Tipo fune/Type rope	AZNHDHP6-FC
Lunghezza/Lenght	56 m
Diametro fune/Rope diameter	14 mm
Diametro fili esterni/Outer wires diameter	0.92 mm.
Massa nominale/ Weight for meter	0.773 kg/metro
Formazione/Construction	6X31 KWS + PP
Avvolgimento/Type of lay	crociato dx-right hand ordinary lay
Classe di resistenza fili/Tensile strength	2160 N/mmq
Trefoli/Strands	compattati/compacted
Preformazione/Preformed	Si - Yes
Fili di acciaio/Steel wires	carbonio-carbon
Protezione fili /Protection of wire rope	zincato cl. B galvanized class B
Carico di rottura minimo/Minimum breaking load	174 kN 17.748 Kg
Carico di rottura effettivo /Actual breaking load	
Efficienza dell'applicazione/Application Efficiency	
Capocorda testa fusa /Spelter Socket	100%
Capocorda pressato/Swage Socket	90%
Manicotto Alluminio/ Alluminium Ferrull	90%

Castano Primo ,18/12/2010

RESPONSABILE PRODOTTO
PEGASO PARANCHI SRL

LIFTING DEVICES

Dormelletto, 15/10/04



Spett. ditta
JOMINI GRU SNC DI JOMINI C.&figli
VIA MAGENTA 135/A
20022 CASTANO PRIMO (VA)

ATTESTATO / *CERTIFICATE* N° **6323.04**
Foglio 1/2 - *Sheet 1/2*

Conforme alla direttiva / *According to* 98/37/CE

Quantità consegnata / *Delivered Quantity*: **PZ 10**

Vs. ordine / *Order:* **433** - Data/*Date:* **11/10/04**

Ns. conferma di vend./*Our Order:* **243704** Data/*Date:* **13/10/04**

Codice / *Code*		**Portata**	**Quote /*Dimensions* (mm)**							
Lamet	**Cliente *Customer***	**WLL (t)**	a1	a2	d1	l1	b1	h1	b2	h2
0G11025PAS	-		63	50	42	253	53	67	45	58

1) Denominazione /*Description*: **GANCIO DIN15401 RSN 2,5-P C/SIC**
2) Carico di prova massimo senza deformazioni permanenti / *Max test load without permanent deformation*: **kN WLLx2,5**
3) Carico di apertura gancio minimo garantito / *Guaranteed minimum hook opening load*: **kN WLLx5**
4) Acciaio impiegato / *Utilized steel*: **StE355 DIN17103**
5) Trattamento termico / *Heat treatment carried out*: **NORMALIZZAZIONE / *NORMALIZATION***
6) Marcatura / *Marking*: **LD P2,5 DIN 15401 CE FC-FB 219, 220, 221, 222, 223, 224, 225, 226, 227, 228**
7) Portata calcolata con coefficiente di sicurezza / *Calculated capacities with safety factor* = **5**
8) Massa unitaria: **6.3** kg

Attenzione : E' indispensabile per la validità dei valori riportati che il carico sia perfettamente in asse rispetto al baricentro delle masse. Si consiglia di non sottoporre il prodotto a temperature >250°C, lo stesso non richiede ulteriori manutenzioni. L'attestato ha validità per materiale nelle condizioni da noi fornite. Eventuali modifiche, lavorazioni non conformi alle norme e unificazioni, e/o trattamenti termici successivi, ci esonerano da qualsiasi responsabilità.

Warning: it is important that the load is perfectly in axis with the mass baricenter. Do not use the product at temperature over 250°C, it does not need any forther maintenance. This certificate is valid for the goods in the conditions we supplied. For any kind of modifications, thermal treat rent, etc, not in accordance with the standards, we will be free from any liability.

Portate del gancio secondo la classe del meccanismo / *Lifting capacity of the lifting hook correlated to the strengh classes and driving gear groups*						
Gancio/*Hook* N° 2,5	Classe di resistenza / *Strength class*: **P**					
Classe meccanismo / *Strength class*:	1Bm / M3	1Am / M4	2m / M5	3m / M6	4m / M7	5m / M8
Portata /*WLL* (kg)	**6300**	**5000**	**4000**	**3200**	**2500**	**2000**

Il responsabile Assicurazione Qualità
Giovanni Zerica

Il rappresentante legale
Giuseppe Gabanella

Uffici e magazzino:
Lamet Sollevamenti srl
28040 Dormelletto (NO)
Via C. Battisti, 14
0322 - 241593 (4 r.a.)
Fax 0322 - 46771
www.lamet.net

Sede legale:
Via P. Nenni, 12
28053 - Castelletto Ticino

Capitale Sociale:
26.000 € i.v.
C.F. e P.I. 01443030034
Tribunale Novara 13892
C.C.I.A.A. 017409

LAMET
LIFTING DEVICES

ATTESTATO / *CERTIFICATE* n° 6323.04 Foglio 2/2 - *Sheet 2/2*

ANALISI CHIMICA / *CHEMICAL COMPOSITION* (Colata / *Cast* 30 143357)

C%	Mn%	Si%	P%	S%	Cr%	Ni%	Mo%	Cu%	Al%	V%
0,14	1,37	0,28	0,006	0,005	0,11	0,028	0,053	0,048	0,03	0,001

PROPRIETÀ MECCANICHE / *MECHANICAL PROPERTIES*

R (N/mm^2)	Re (N/mm^2)	A (%)	Z (%)	KV (-20 °C) (J)	
532	463	23	86	38-50-56	

Controllo superfici e dimensionale secondo DIN 15401: tutte le dimensioni sono comprese nelle tolleranze ammesse.
Surface testing and dimensional check according to DIN 15401: all the dimensions are within the admissible tolerances.

DICHIARAZIONE CE DI CONFORMITÀ
ai sensi della Direttiva Macchina 98/37/CE – allegato II, punti A e C

Il sottoscritto costruttore dichiara sotto la propria responsabilità che il gancio DIN 15401 2,5 - P di cui al presente attestato è conforme alla Direttiva Comunitaria Macchine 98/37/CE
Norme armonizzate applicate : EN - 292 parte 1 e 2 (sicurezza del macchinario). **Dichiara inoltre che: ai sensi dell'allegato V ° della Direttiva Macchine 98/37/CE quando possibile e/o quando previsto, la marcatura del simbolo "CE" è apposta sull'accessorio; il fascicolo tecnico della costruzione è a disposizione presso la sede del costruttore -**

EC DECLARATION OF CONFORMITY
Directive 98/37/CE, Annex II, sub C.

Manufacturer LAMET Sollevamenti srl herewit declares that the Hook type DIN 15401 2,5 – P is in conformity with the provisions of the Machinery Directive (Directive 98/37/CE) and with national implementing legislation, and that the following (parts/clauses of) harmonized standards have been applied:EN - 292 parts 1 - 2

Il responsabile Assicurazione Qualità
Giovanni Zonca

Il rappresentante legale
Giuseppe Gabanella

COPIA CONFORME AL ORIGINALE

Uffici e magazzino
Lamet Sollevamenti srl
28040 Dormelletto (NO)
Via C. Battisti, 14
0322 - 241593 (4 r.a.)
Fax 0322 - 46771
www.lamet.net

Sede legale:
Via P. Nenni, 12
28053 - Castelletto Ticino

Capitale Sociale:
16.000 € i.v.
C.F. e P.I. 01443030034
Tribunale Novara 13892
C.C.I.A.A. 017409

COEL

Certified Quality System
UNI-EN ISO 9001-2000

DICHIARAZIONE DI COLLAUDO E CONFORMITA' / STATEMENT OF TESTING AND COMPILANCE

CLIENTE / CUSTOMER : PEGASO PARANCHI

ORDINE NR. / ORDER NR. : 25

TIPO MOTORE ELETTRICO / ELECTRIC MOTOR TYPE : Mot. F80L4 B14

NUMERO DI MATRICOLA / SERIAL NUMBER : 10110

Il motore è stato collaudato; i valori riscontrati sono conformi a quelli del prototipo entro le tolleranze ammesse dalle norme seguenti :

The motor has been tested; the measured values are conformed to the prototype within the tolerances allowed by the following standards :

- IEC 34 – 1 (CEI 2 – 3 1110)

  Macchine elettriche rotanti – Caratteristiche nominali e di funzionamento

  Rotating electrical machines – Ratings and performances

- IEC 34 – 9

  Macchine elettriche rotanti – Valori limite per rumorosità

  Rotating electrical machines – Noise limits

- IEC 34 – 14 (IEC 2 – 23 14)

  Macchine elettriche rotanti – Limiti delle vibrazioni meccaniche

  Rotating electrical machines – Mechanical vibration limits and severity

COPIA CONFORME ALL'ORIGINALE

DICHIARAZIONE DI INCORPORAZIONE / DECLARATION OF INCORPORATION

Dichiariamo che il suddetto prodotto è progettato per essere montato in una macchina.
Il prodotto, da considerarsi componente, è conforme per progetto alla Direttiva Macchine 89/392/CEE (emendata dalla 91/368/CEE, 93/44/CEE e 93/68/CEE) e 73/23/CEE (emendata dalla 93/68/CEE) e 89/336/CEE (emendata dalla 92/31/CEE e 93/68/CEE) se l'installazione è correttamente eseguita dal costruttore della macchina.
Il prodotto non deve essere messo in servizio finché la macchina in cui è stato incorporato non sia stata dichiarata conforme alla Direttiva Macchine.

We declare that above product is designed to be applied into machinery.
The product, considered as a component, complies by design with the Machinery Directive 89/392/EEC (amended by 91/368/EEC, 93/44/EEC and 93/68/EEC) and 73/23/EEC (amended by 93/68/EEC) and 89/336/EEC (amended by 92/31/EEC and 93/68/EEC) providing that the installation is correctly performed by the manufacturer of the machinery.
The product must not be put on service until the machinery where it has been incorporated is declared in conformity with the Machinery Directive.

COEL MOTORI s.r.l.
Via Campania, 40
20090 FIZZONASCO
di PIEVE EMANUELE (MI)

Coel Motori s.r.l. Via Campania, 38-40 – 20090 Fizzonasco di Pieve Emanuele (Mi)
Tel. 0039 02 90420039 – Fax 0039 02 90420747- e-mail: info@coelmotori.it – Internet: www.coelmotori.it
Cap. Soc. € 98.800,00 int. Vers. – C.F. e P.IVA 11968560158

PEGASO PARANCHI srl
Sede Amministrativa e Stabilimento:
20022 CASTANO PRIMO (MI) - Italy
Via Ragazzi del 99, 1/3
Tel. 0331/877698 - Fax 0331/877698
e-mail: info@pegasoparanchi.it
Sede Legale: 20129 MILANO - Viale Piave, 7
REA n. 995219 della C.C.I.A.A. di Milano
C.F. e P. IVA 04182440158 - Cap. Soc. €. 48.546,94
Registro delle Impr. di Milano n. 183191 - Trib. di Milano

TYPE LUBRIFICANT

TYPE LUBRIFICANT (valido per temperature da - 10° a + 60° C)						
ORGANI DA LUBRIFICARE	**AGIP**	**BP**	**ESSO**	**SHELL**	**TOTAL**	**NOTE**
RIDUTTORE ((Reducer gear	BLASIA 187	GR-XP 220	SPARTAN EP 220	OMALA 220	CARTER 220	Olio + 40 - 0° C
FUNE (Rope)	AGIP GR MU/EP 1	MERCURY 2	SHIELD BK	CARDIUM COMP.D	TOTALUBE COMP.A	Grasso
EVENTUALI INGRANAGGI SCOPERTI, CUSCINETTI E GIUNTI CARDANICI (Naked gears,ball bearingand universal joint)	AGIP GR MU/EP 1	MERCURY 2	SHIELD BK	CARDIUM COMP.D	TOTALUBE COMP.A	Grasso

PEGASO PARANCHI SRL

VIA RAGAZZI DEL 99 N.1/3 - 20022 CASTANO PRIMO (MI)

PARANCO ELETTRICO A FUNE / ELECTRIC ROPE HOIST

SERIE /SERIES	:	PA –PB –**PC**
TIPO / TYPE	:	**PC402 N/A**
N. MATRICOLA /SERIAL NUMBER	:	**60263/M**
ANNO/YEAR	:	**2010**

Pegaso Paranchi srl.

Via Ragazzi del '99 1/3 - 20022 Castano Primo Mi Italy

MARKING

MANIFACTURER :

PEGASO PARANCHI SRL
Via Ragazzi del '99 1/3
20022 CASTANO PRIMO - (MI)
☎ **0331/877698**
FAX **0331/883410**

NAME PLATE **ON THE ROPE HOIST**

MACHINE ☐ **ROPE HOIST**

YEAR OF MANUFACTURE	**2010**
SERIAL NUMBER	**60263/M**
CAPACITY	**4000 KG.**

DOCUMENTATION

Se non altrimenti richiesto in sede di contratto, vengono forniti a corredo della macchina i seguenti documenti:

1. EC Statement of Compilance with Machinery Directive 89/392 EEC, 91/368 EEC and subsequent amendments

2. User's Guide and Maintenance Instructions

OPERATING AND MAINTENANCE INSTRUCTIONS

Pegaso Paranchi srl.

Via Ragazzi del '99 1/3 - 20022 Castano Primo Mi Italy

ELECTRIC ROPE HOIST

Safetv instructions

Symbols

Safety at work

This symbol marks all information on safety at work where risks to life and limb are entailed.

Warning of electrical voltage

Covers such as hoods and caps which are marked with this symbol may only be opened by "skilled or suitably instructed personnel".

Warning of suspended load

It is forbidden for persons to stand under suspended loads. This entails risks to life and limb!

Safety in operation

Information marked with this symbol must be observed to avoid damage to the wire rope hoist or the goods transported.

In these operating instructions, these symbols mark particularly important information on risks and safety in operation.

Pegaso Paranchi srl.

Via Ragazzi del '99 1/3 - 20022 Castano Primo Mi Italy

Safety instructions

Use for intended purpose

.Wire rope hoists are intended solely for lifting freely movable loads. According to design, they are for stationary or mobile use.

.Do not carry out any alterations or modifications. Additional fitments must not prejudice safety.

Not allowed:

.Exceeding the safe working load

.Transporting persons

.Pulling loads at an angle

.Tearing loose, pulling or towing

load

.Manipulating the overload cut- off

.Slack rope.

Safety-conscious operation

Our wire rope hoists are constructed according to the

state of the art and equipped with an overload cut-off to prevent overloads. In spite of this, dangers may arise due to incorrect use or use for an unintended purpose.

.Read the operating instructions

before starting to work with the wire rope hoist.

Observe the "Duties of crane operator"

.Always work in a safety- conscious manner and avoid risks.

.Before starting work, find out where the EMERGENCY STOP facility is (usually in the control pendant).

.Do not use the emergency limit switch (final limit switch for highest and lowest hook position) as an operational limit switch.

-Report damage and defects to the wire rope hoist to the

person responsible immediately.

-Do not use the wire rope hoist until the damage has been repaired.

.Do not remove information plates from the wire rope hoist.

Replace illegible or damaged plates.

Pegaso Paranchi srl.

Via Ragazzi del '99 1/3 - 20022 Castano Primo Mi Italy

Safety instructions

Organisational safety I precautions

.Only direct persons to operate the hoist if they have been

trained or instructed in its use. Observe the legal minimum age!

.At regular intervals. check that work is being carried out in a . safety-conscious manner.

.Observe the intervals specified for periodic tests. File the test reports in the test log book.

.Store the operating instructions within easy reach where the wire rope hoist is operated.

General regulations

.Safety regulations and accident prevention regulations.

.National regulations.

Installation commissioning. maintenance and repairs

Erection. commissioning.

r maintenance and repairs may only be carried out by skilled personnel.

.Use only **original spare parts** for repairs, otherwise the guarantee will expire.

.Do not carry out any alterations or modifications.

.Additional fitments must not prejudice safety.

If the wire rope hoist is constantly operated outside and exposed to the elements, we recommend ,r fitting a small roof or at least .parking. the wire rope hoist under a roof.

Guarantee

.The guarantee expires if these operating instructions are not observed for installation. operation. testing and maintenance.

Pegaso Paranchi srl.

Via Ragazzi del '99 1/3 - 20022 Castano Primo Mi Italy

Safety instructions

Periodic tests

Hoists and cranes must be tested by "**a qualified person**" at least once a year. The results of the test must be recorded and filed in the test log book.

The remaining service life of the hoist acc. to FEM 9.755 is also established during this test.

All tests must be initiated by the operator.

After sales service

With the purchase of this wire

rope hoist, you have decided on a high-quality piece of lifting equipment. Our after sales service will give you advice on its correct use.

In order to preserve the safety

and constant availability of your wire rope hoist, we recommend concluding a maintenance contract according to which we undertake the "recurrent tests" for you.

Repairs will be carried out quickly and economically by our trained personnel.

* Definition of a qualified person: A qualified person is one with the necessary qualification. based on theoretical and practical knowledge. for the required activities as listed in the operating instructions.

Pegaso Paranchi srl.

Via Ragazzi del '99 1/3 - 20022 Castano Primo Mi Italy

Commissioning wire rope hoist

First commissioning

The wire rope hoist has been tested by the manufacturer in accordance with the Machine Directive.

Commissioning must be carried out by a qualified person. The following tests must be carried out:

.Wire rope hoist completed with the correct originai accessories supplied (e.g. bottom hook block),

Check that all electrical equipment has been correctly selected

.Electrical connection.

.Check that the seating of the fixjng screws is firm and secure.

.Check the correct functioning of the runway end stops.

.The direction of motion of the load hook must correspond to the symbols on the control pendant.

.Check that all protective devjces are present and functjon correctly.

.Check emergency hoist limit switch or combined operational and emergency hoist limit switch.

.Check overload cut-off.

.Confirmation that commission-ing has been duly carried out in the test book in section "Confirmation of commissioning".

.Wire rope hoists in conjunction with a crane system are sub- jected to a test load before commissioning. To do this, the overload cut-off must be bridged:

Caution! Remove the bridges after completion of test!

Pegaso Paranchi srl.

Via Ragazzi del '99 1/3 - 20022 Castano Primo Mi Italy

Operating wire rope hoist

Duties of crane operator

When working with wire rope hoists, the following must be observed:

.Every day before starting work, check brakes and limit switches and inspect the system for any visible defects.

.Discontinue working with the crane if there are any defects which might prejudice its safety in operation.

.At close of work, secure cranes which are exposed to wind with the wind safeguard mechanism.

.Do not move loads above people.

.Do not leave suspended loads unattended. The control facility must be within easy reach.

.Do not use emergency limit switch during normal operation.

.Do not load above nominai capacity.

.Pulling loads at angles, dragging loads, or towing vehicles with the load or load bearing element are forbidden!

.Do not heave up any loads which are jammed.

.Approach final positions for hoisting, lowering, and travel only if an operationallimit switch is fitted.

.As far as possible, avoid inching operation (briefly switching on the motor to achieve small movements). This could damage switchgear and motors.

.Observe the safety instructions.

Inspecting and servicing wire rope hoist

This section deals with the operational reliability. availability, and maintaining the value of your wire rope hoist.

Although this wire rope hoist is practically maintenance-free, the components subject to wear (wire rope, brake) must be inspected regularly. This is required by the accident prevention regulations. The inspections must be carried out by qualified persons.

Generai information on

inspection and maintenance .Maintenance and repair work

may only be carried out when the wire rope hoist is unloaded.

.Switch off and padlock main isolator.

.Observe the requirements of the accident prevention regulations.

.A general overhaul must be carried out after the usefullife of the hoist has expired.

.The inspection intervals given in the table apply for use in mechanism groups 1 Bm and 1 Am. If the hoist is operated in mechanism group 2 m or 3 m,

the maintenance intervals must be halved.

Lubricants and lubrication points.

Pegaso Paranchi srl.

Via Ragazzi del '99 1/3 - 20022 Castano Primo Mi Italy

Inspecting and servicing wire rope hoist

Inspection table

Safety equipment 1 Brake

2 Hoist limit switch

3 EMERGENCY OFF, crane switch

4 Overload cut-off

5 Disconnecting switch and main isolator

6 Connections and potential compensation

7 Operating hour counter

Pos.	A	B	C
1	•	•	
2	•	•	
3	•	•	
4	•		•
5	•		•
6	•		•
7			•

Mechanical components

8 Load hook (cracks, cold deformation, wear)

9 Rope and rope anchorage 10 Rope guide

11 Limit switch bar

12 Drive parts (gearing, wheel flanges, etc.)

13 Bolt connections, welds

14 End stops, buffers

15 Oillevel (hoist gearbox)

16 Oillevel

8			•
9	•	•	
10			•
11	•		•
12			•
13			•
14	•		•
15			•
16			•

Electrical components

17 Power supply cable

18 Cable glands

19 Current collectors

20 Switching functions

17	•		•
18	•		•
19			•
20	•		•

A Inspection on commissiong

B Daily inspec1ion on starting work

C Periodic inspec1ions every 12 months

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Inspecting and servicing wire rope hoist

Rope drive

Rope and ropeattachment

After commissioning a new wire rope hoist, or after replacing the rope, twisting may occur in the ci rope of multi-fall hoists. This can be seen from the bottom hook la block turning, particularly when unloaded. Twisting in the rope flt preiudices safety and service life.

Remove any twists!

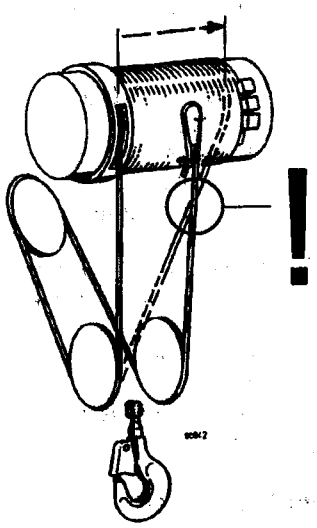
.Regularly inspect the rope for twisting. For this, run the hoist into highest and lowest hook positions without load.

.If twisting is detected, untwist the rope immediately.

"Reeving rope" and . "Removing rope".

.Check rope. Take particular note of the sections of rope

near rope pulleys, return pulleys . or equalizing pulleys and in the region of the rope anchorage.



.If any of the following damage occurs, replace the rope immediately.

1. Excess visible wire fractures.
2. Nest of wire fractures or broken stra nd.
3. Diameter reduced by 10% due to corrosion or wear (independent of breakage).
4. Diameter reduced due to

structural changes over lengthy sections.

5. Formation of baskets or loops, knots, necking, kinks or other mechanical damage.
6. Corkscrew-type deformation. Deformation deviation: ~ *1/3x* rope diameter.
7. In addition, the rope must be removed in the event of damage as described in DIN 15020, page 2.

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REPLACEMENT OFTHEELECTROMAGNET

Loosen screw 27, removqe the casing 26,

detach the six terminals from the clamp, unscrew the three nuts 24 and slip off

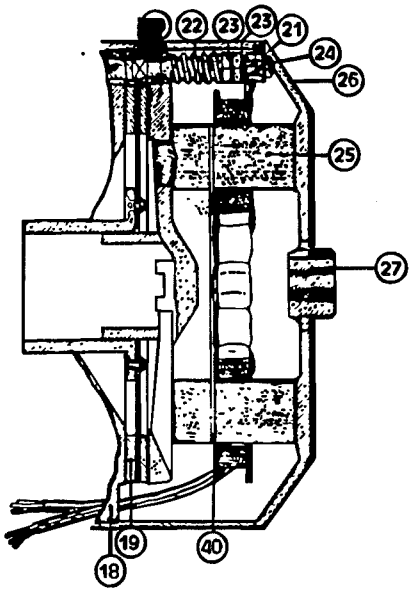
the studs 21 and the electromagnet 25. Put back on the studs the new

electromagnet and be careful to reinsert the terminals and do not correspond the colors. Tighten the nuts 24 and check the electromagnet is working efficiently before you put back the protecting casing.

REPLACEMENT OF THE BRAKE.S DISK

Loosen screws 27 remove the casing 26 ~nd unscrew the three nuts 24 without detaching the terminals.

Remove nuts 23 and springs 22. Apply the new disk.



ADJUSTMENT OF THE BRAKING TORQUE

The Braking torque is proportional to the compression of the spring 22, which may be altered by handling the nuts 23. unscrewing to reduce screwing to increase.

ADJUSTMENT OF THE BRAKE CLEARANCE

The brake clearance 40 (I.E. the distance

the two cores of the electromagnet

and the mobile anchor) should be between 0006-0012 inches wide one should check perlodica"y the clearance because

the wear and tear of the brake.s disk wi" cause it to widen !)y and by.

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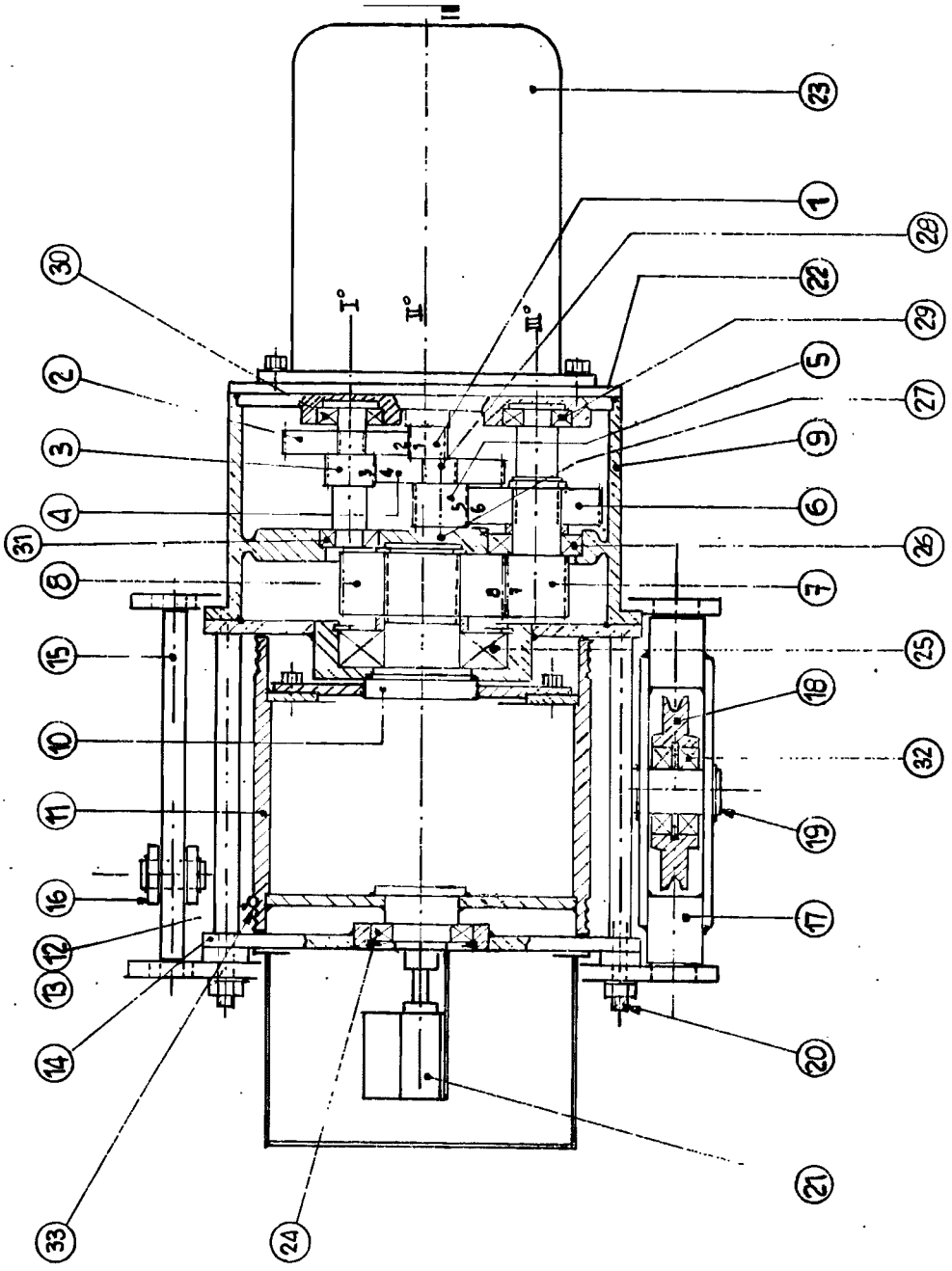
ELECTRIC ROPE HOIST

COMPONENT LIST

1 Motor pinion
2 First plate wheel
3 First shaft with pinion
4 Second plate wheel
5 Second shaft with pinion
6 Third plate wheel
7 Third shaft with pignon
8 Slow plate wheel
9 Reducer box
10 Slow shaft
11 Groveed drum
12 Rope
13 Rope guide
14 Hoist flange
15 Rope girder connection
16 Rope connection
17 Snatch block
18 Pulley
19 Pin
20 Falls
21 Limit switch
22 Reducer cover
23 For motor (see page)
24 bearings



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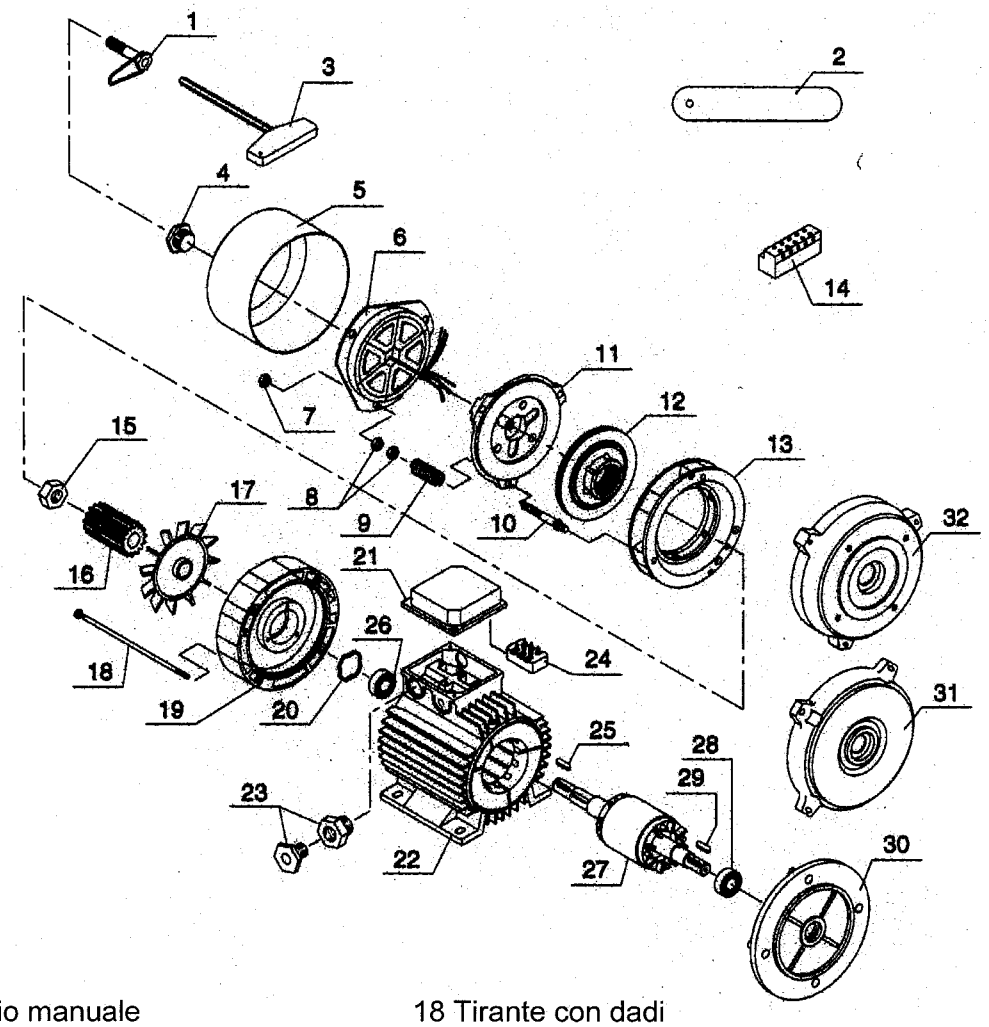
MOTOR
COMPONENT LIST



1 Vite di sbloccaggio manuale
2 Spessimetro mm 0,3
3 Chiave rotazione manuale
4 Vite blocca cuffia
5 Cuffia protezione freno
6 Elettromagnete trifase (o monofase D.C.)
7 Dado bloccamagnete
8 Dadi di regolazione
9 Molla freno
10 Colonnetta di guida
11 Ancora mobile
12 Disco freno
13 Convogliatore con pista d'attrito
14 Raddrizzatore (semionda o onda intera)
15 Anello seeger o dado blocca ingranaggio
16 Mozzo dentato
17 Ventola
18 Tirante con dadi
19 Scudo lato freno
20 Anello compensato re
21 Scatola morsettiera singola o doppia
22 Carcassa motore
23 Bocchettone
24 Morsettiera
25 Chiavetta lato freno
26 Cuscinetto lato freno
27 Gruppo albero rotore
28 Cuscinetto lato comando
29 Chiavetta lato comando
30 Scudo a flangia 85
31 Scudo anteriore
32 Scudo a flangia 814

OPERATING AND MAINTENANCE INSTRUCTIONS

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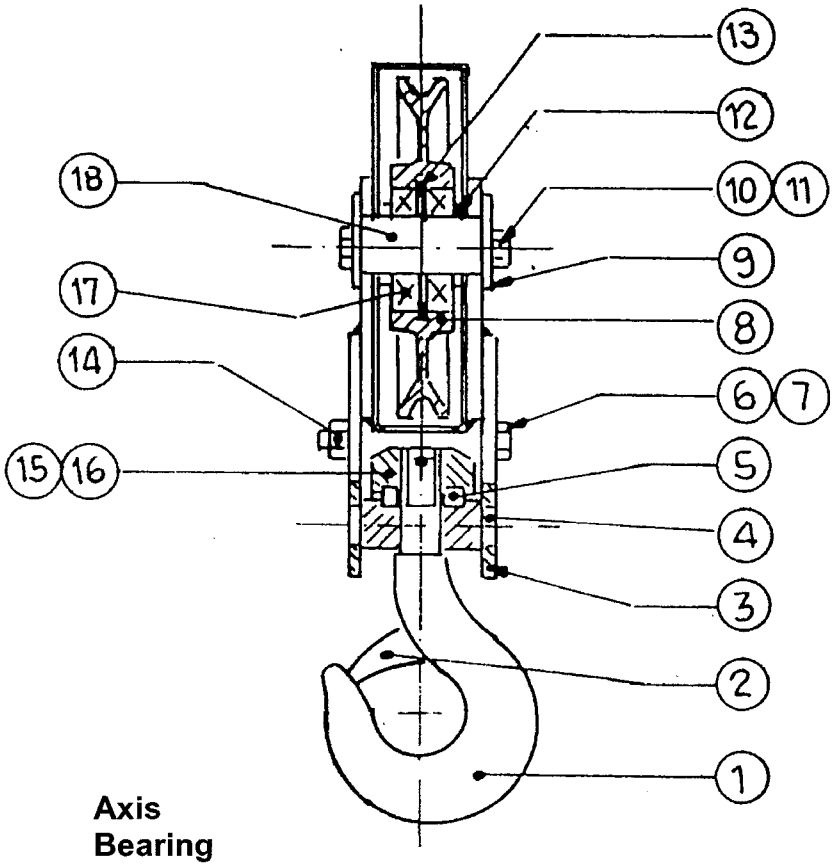
BLOCK HOOK 2 TUGS



18	Axis
17	Bearing
16	Plug
15	Lock nut
14	Screw
13	Rubber ring
12	Space
11	Spring washer
10	Screw
9	Washer
8	Pulley
7	Spring washer
6	Screw nut
5	Thrust bearing
4	Cross beam
3	Semidoby
2	Catch
1	Hook

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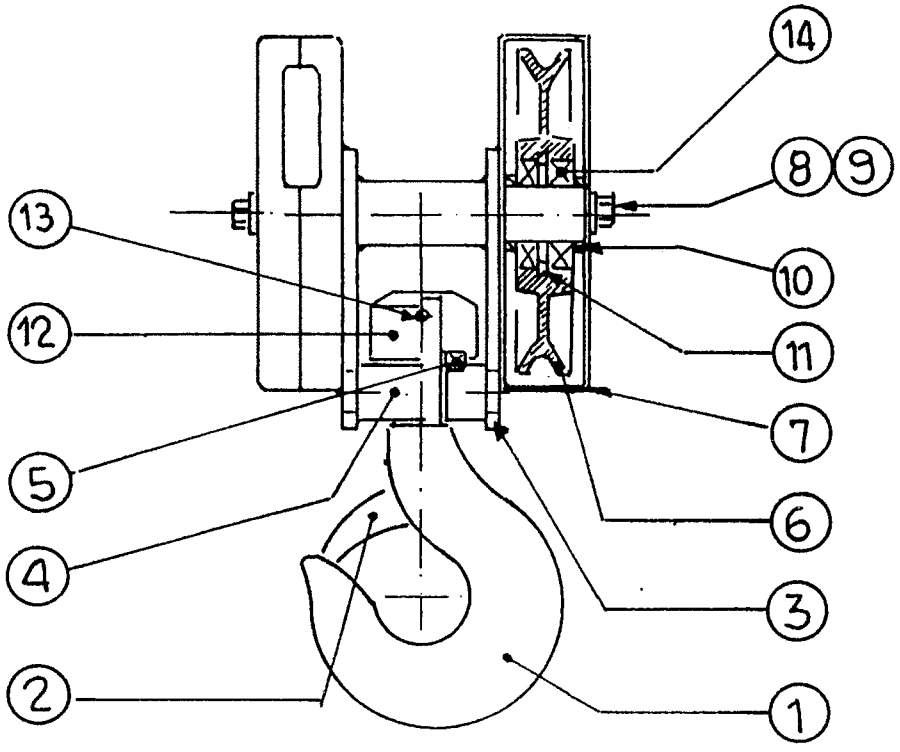
BLOCK HOOK 4/2 TUGS



14	Bearing
13	Plug
12	Lock nut
11	Rubber ring
10	Space
9	Spring washer
8	Screw
7	Protection cover
6	Pulley
5	Thrust bearing
4	Cross beam
3	Semidoby
2	Catch
1	Hook

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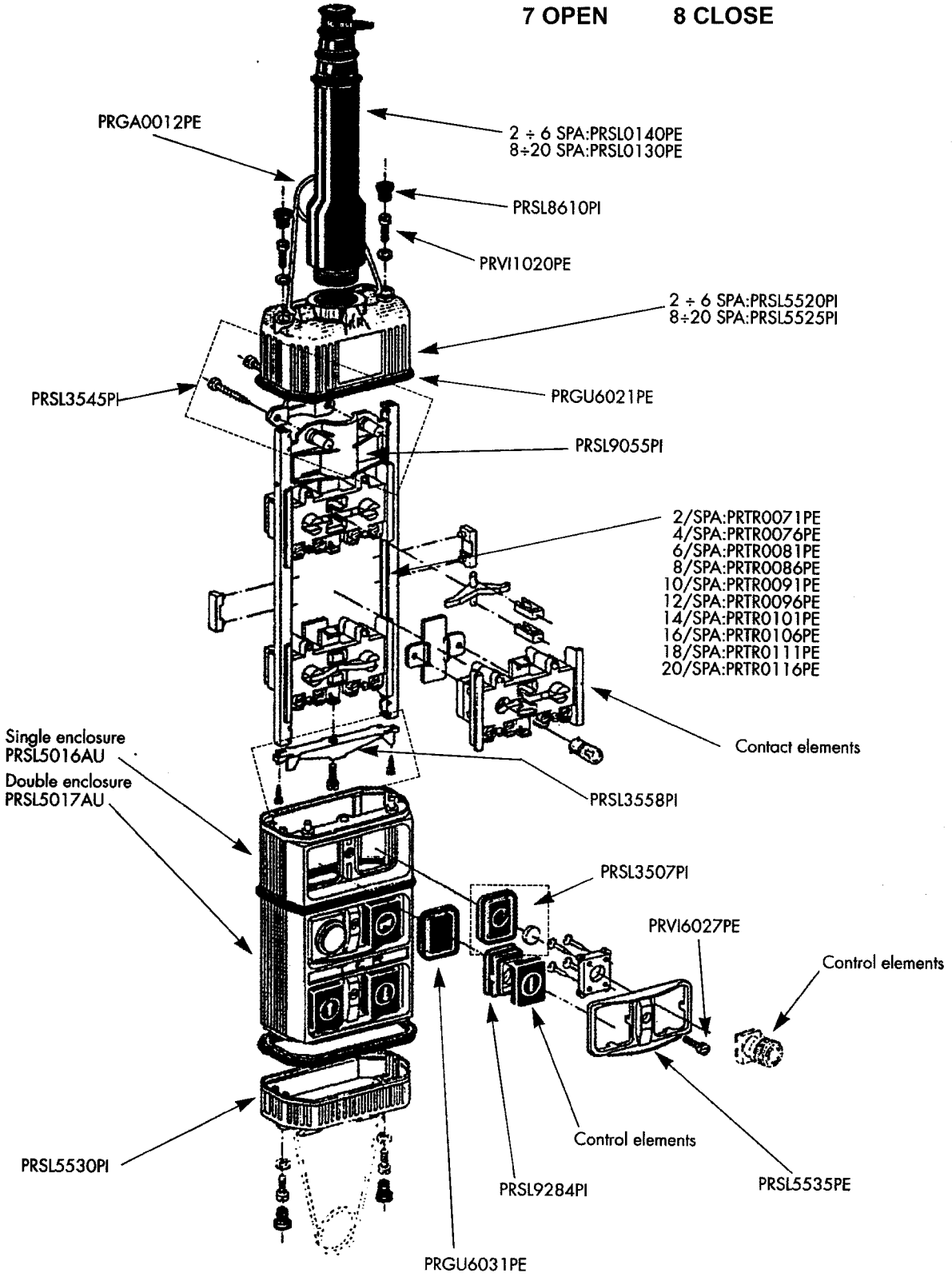
PENDANT CONTROL STATIONS SPA SERIES

1 RESET **2 STOP**
3 UP **4 DOWN**
5 FORW **6 BACKW**
7 OPEN **8 CLOSE**



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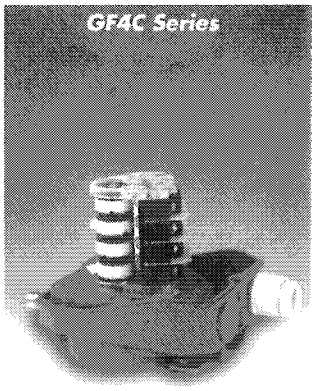
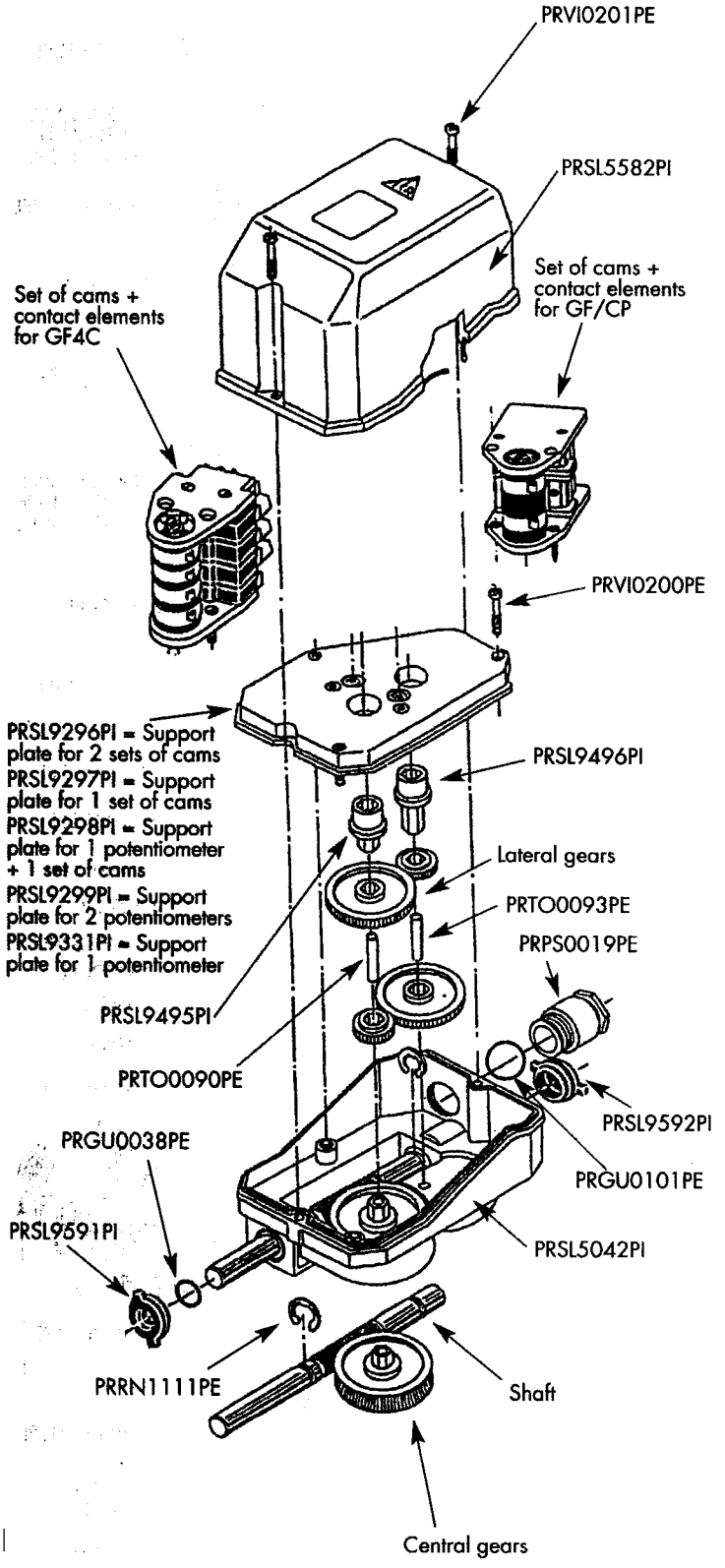
WORM GEAR LIMIT SWITCH SERIES GF4C





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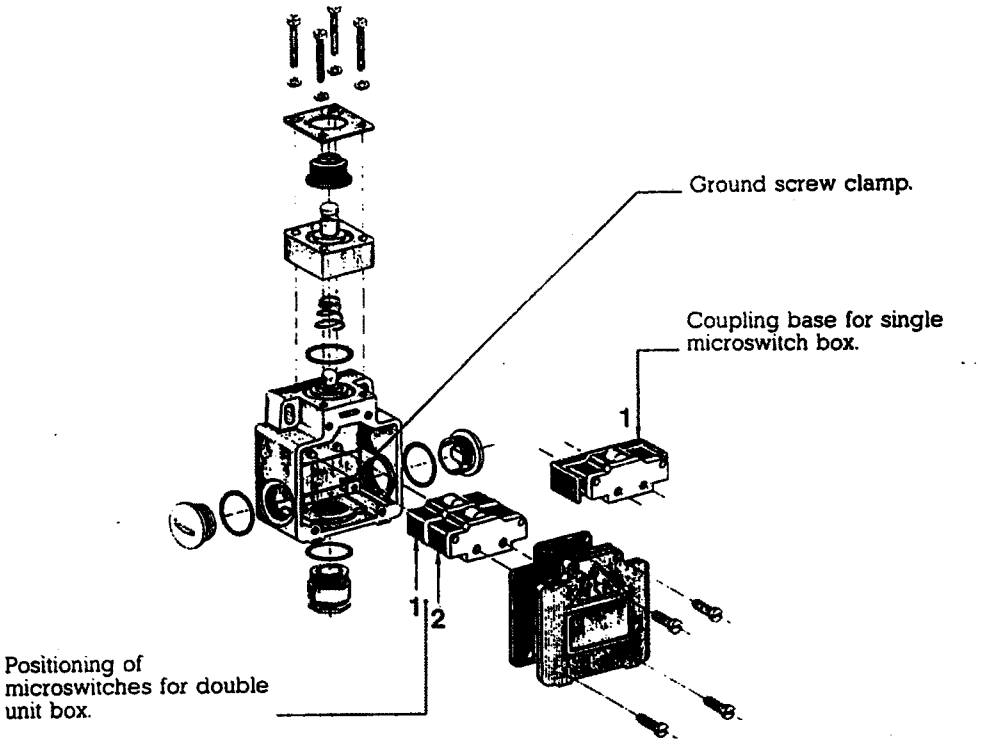
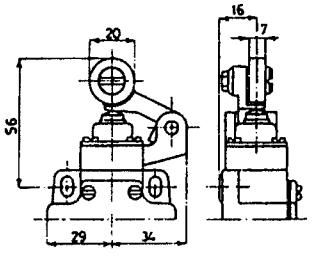
LIMIT SWITCH FOR HOIST

Assembly of " 7000 " series limit switches



Central roller arm



Cat. NO. 7731

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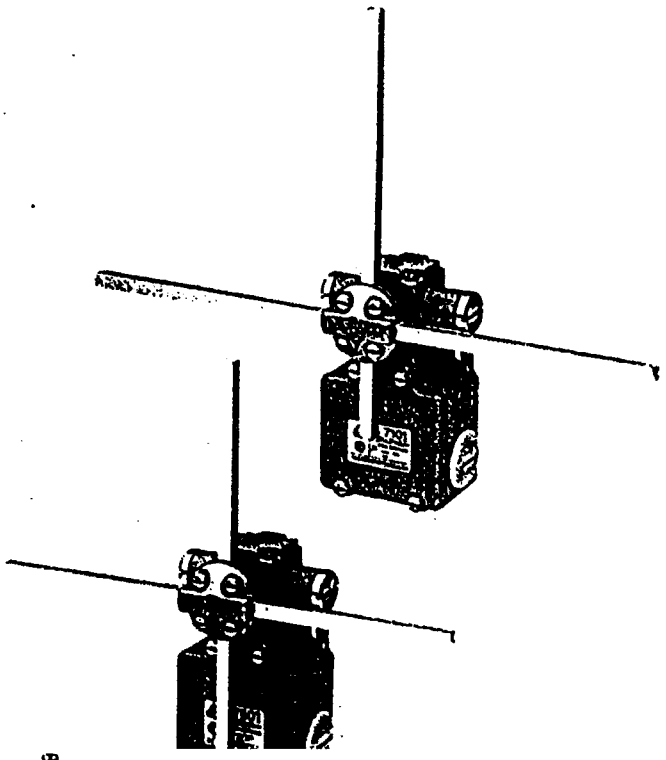
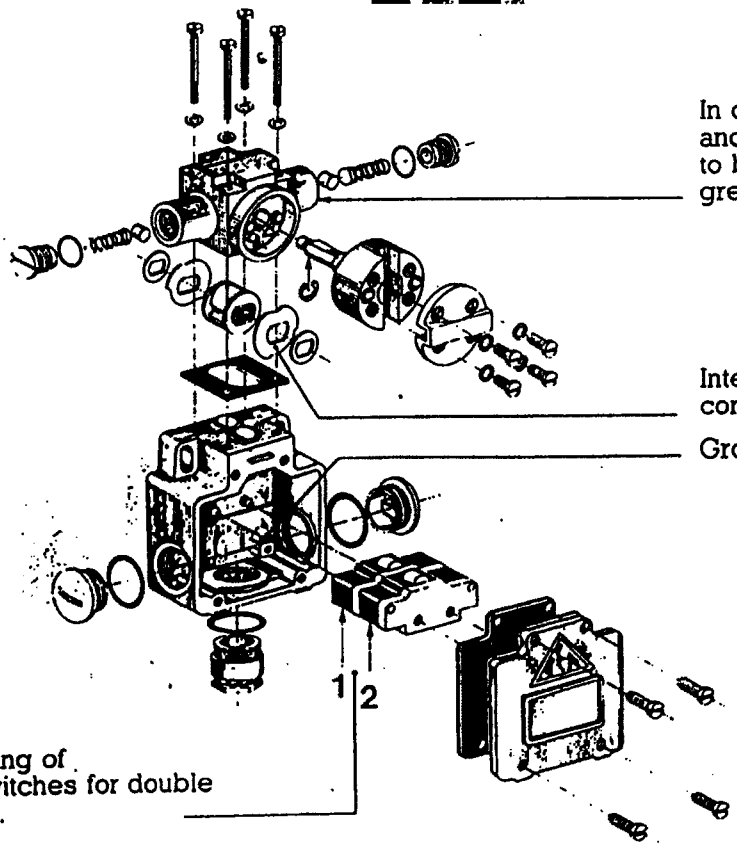
LIMIT SWITCH TROLLEY 7102





In order to obtain faultless operations and long life, the unit has to be lubricated with special grease (MOLICOT).

Interchangeable cams for contact operations.

Ground screw clamp.

Positioning of microswitches for double unit box.

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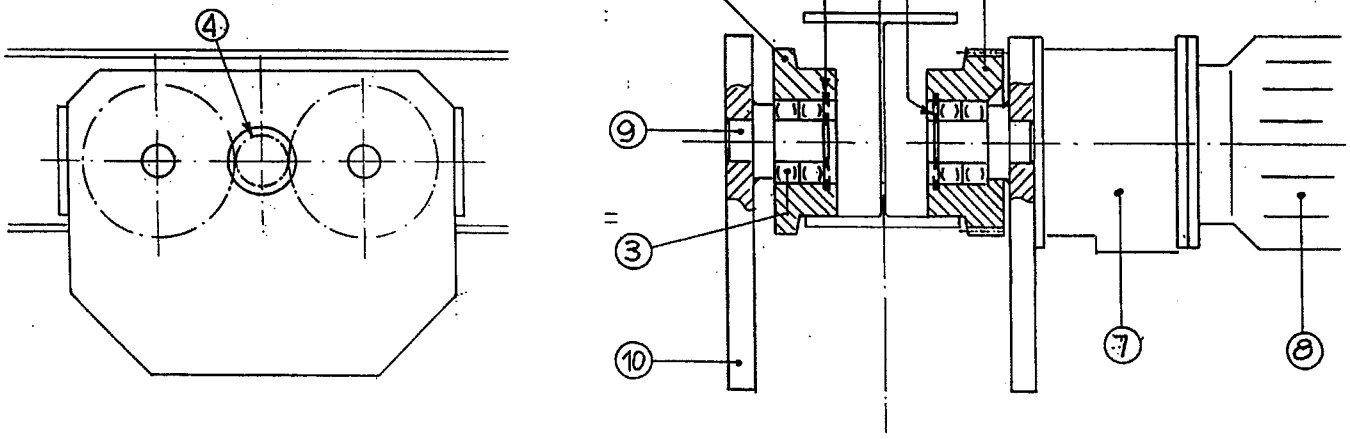
TROLLEY TIPE " N "
COMPONENT LIST



1. **Motor wheel**
2. **Wheel**
3. **Bearing**
4. **Pinion**
5. **Rubber ring**
6. **Rubber ring**
7. **Geared**
8. **Motor**
9. **Axis**
10. **Frame**

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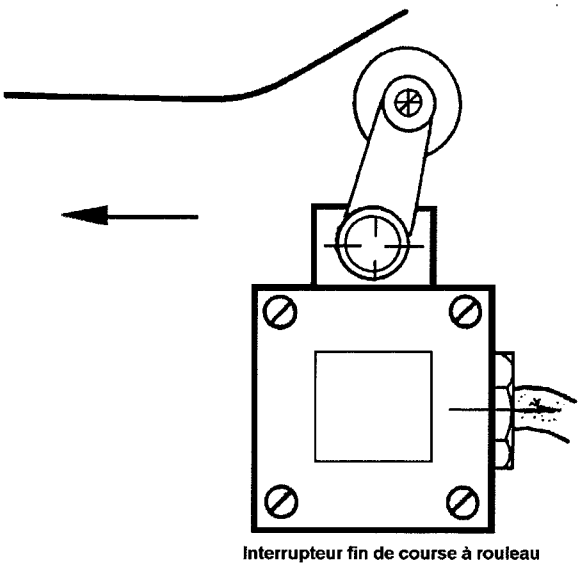
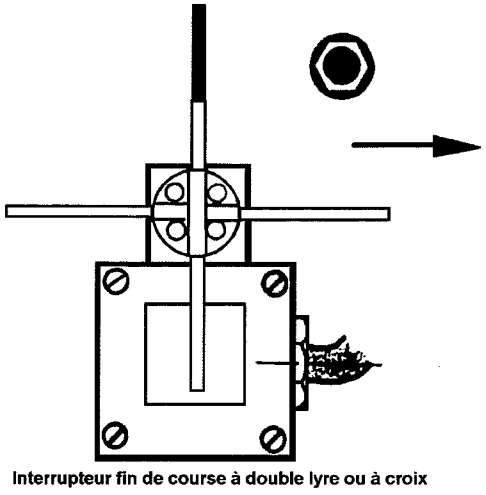
IMPORTANT PERMISE FOR ADJUSTING THE RISE AND DESCENT END STOP

The standard end stops mounted on the lifting systems are safety designed and must not, therefore, be used regularly or frequently as automatic stops at the ends of each definitive movement.
If automatic stops are necessary, supplementary work end stops must be employed, of adequate size and shape on the basis of the service requires.
The constructing company does not, therefore, take any responsibility for the misuse of the standard end stops.
The type of end stop installed on the machine may be noted on the machine diagram in this manual or directly on the machine itself.
The standard lifting end stops, to be used exclusively as safety devices, are of three types: -operated by gears (activated by the drum shaft)
-operated by worm screw (activated by the drum shaft)
-externally operated with MICROCONTACTS (activated by the rope guide)
The machines are delivered with the rising and emergency end stops correctly positioned. For descent, the client must position at the moment of starting operating.
In any case, always leave two entire unused loops of the rope on the drum for each pulling end.



Roller end stop



Double lyre or cross end stop

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MINIMUM SAFETY SPACES RECOMMENDED TO OBSERVE DURING THE ADJUSTEMENT OF RISE AND DESCENT END STOPS

ATTENTION

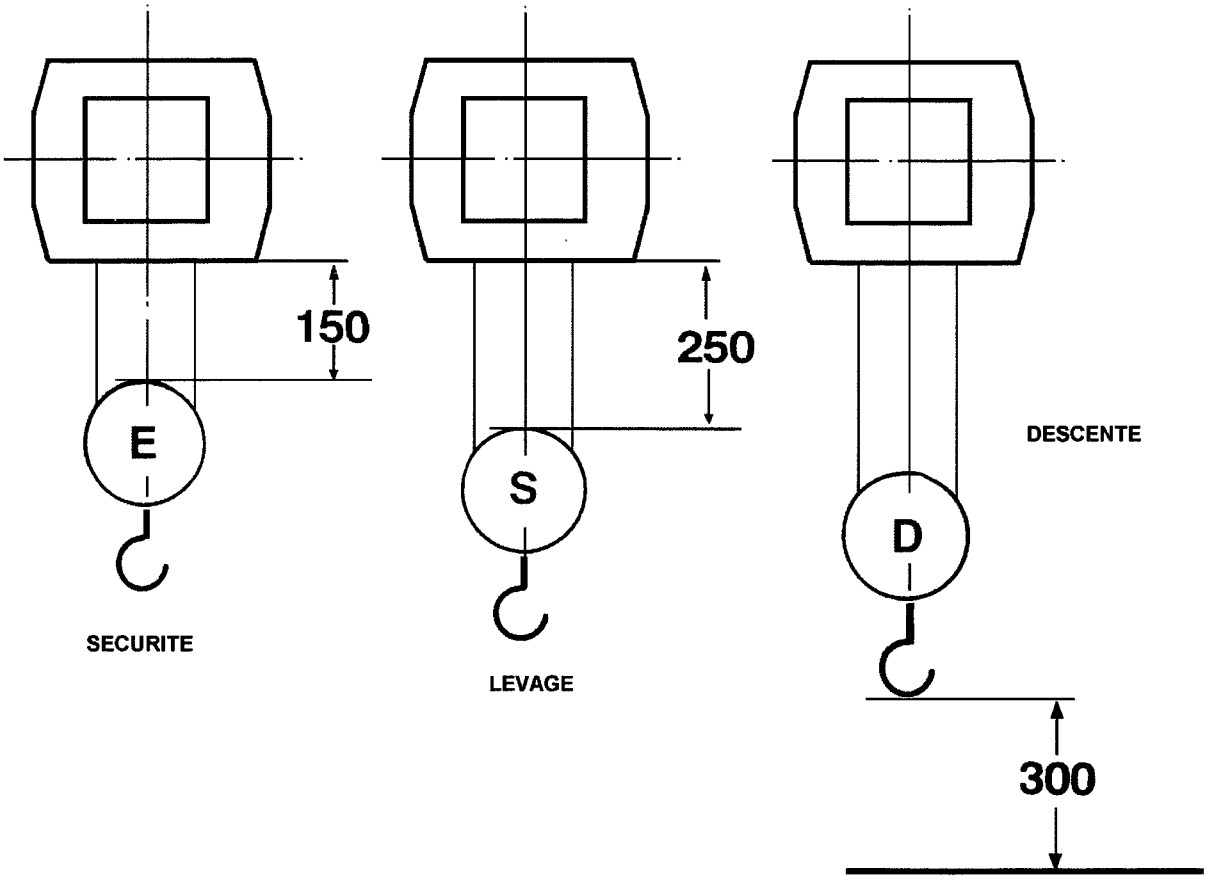
When the emergency rise end stop enters into function it is no longer possible to continue operating the machine with the normal controls.

Procedure must be with one of the following two ways:

.act on the line meter and, at the same time, let the hook down a few centimetres

.make a provisional bridge between the emergency end stop contacts and lower the hook

.check why the rise contact has not functioned, eliminate the problem and withdraw the end stop



All calibraticn cperaticns cf the end stcps and re-setting the safety spaces must be carried cut by specialised electricians authcrised by their respective fcremen.

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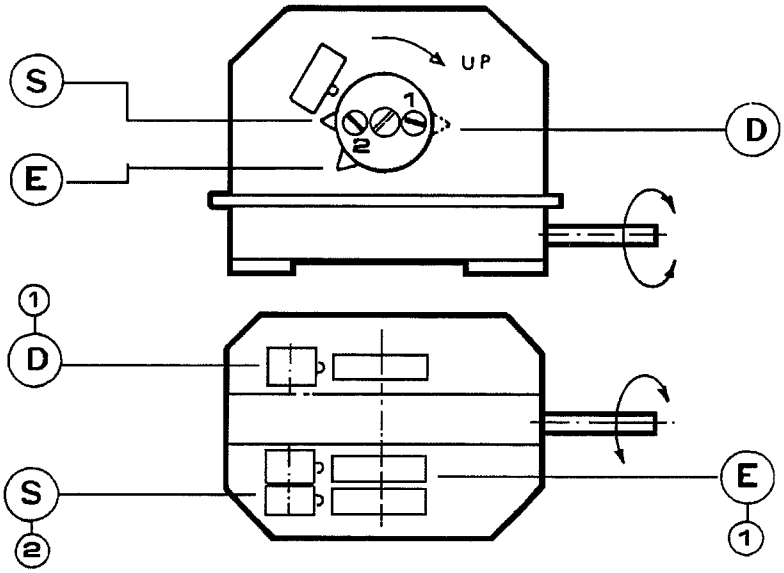
OPERATIONS FOR THE COMPLETE CALIBRATION OF THE WORM SCREW TYPE LIFTING END STOP (to be carried out by a specialised operator)

The safety end stop of this series is composed of a case containing the worm screw unit and the stop microcontacts. It is activated directly by the axle of the rope containing drum to which it is connected by a toothed junction or a hexagonal spindle. Removing the cover reveals the activating cams of the microswitches.
The blocking of the cams is achieved by operating on the centrai screw; the teeth are placed in the exact position to open the contact relative to the two directions of movement with the 1 and 2 lateral screws.
Rescrew the centrai screw and carry out a few lifting manoeuvres for an eventual successive setting up.
If a cam for activating the safety contact which acts on the (emergency) remote controlline exists, make a slightly retarded phase shift in relation to the lift contact.
First the emergency contact must be calibrated and then the lift contact and finally the descent contact, in that order. Screw up the centrai screws tightly and close the container accurately.



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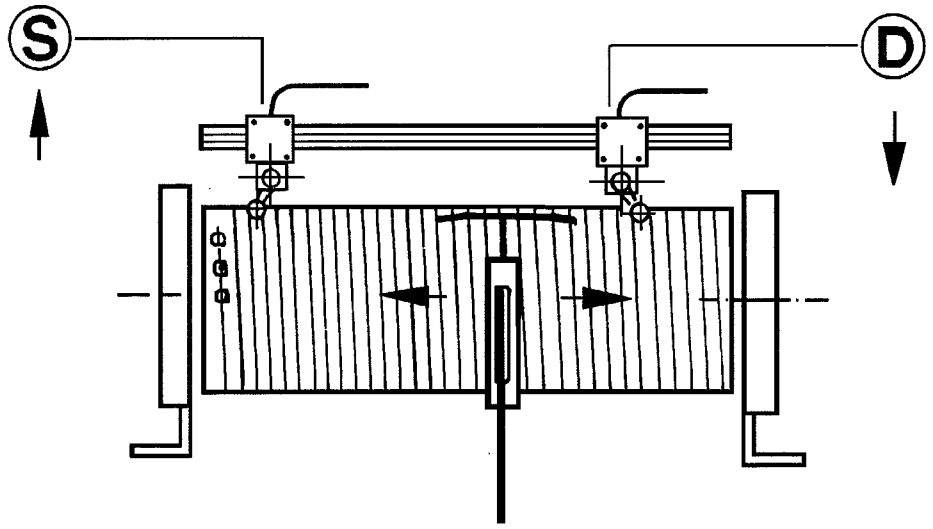
LIFT END STOP WITH EXTERNAL MICROCONT ACTS

(to be carried out by a specialised operator)
These are employed for lifting hoists superior to standard dimensions.
The enclosed microswitches are piace on runners moveable along a section bar specifically placed in front of the drum. Activating the microswitches is obtained by a slide fixed to the rope guide sector; to calibrate, move the microswitch runners and block them in the positions corresponding to the stop spaces. Carry out a few trials and screw up the runner screws tightly.



For machines operating in humid or corrosive areas, the microswitches must be checked visually, lubrified and covered with water-repellent products, at least monthly.

CHECK AND SUBSTITUTION OF THE ROPE Check

Rope and ropeguide are wearable materials. Regular oiling will prolong their lives. It is often possible to improve the performance of the ropes by finding out the causes of their deterioration and then adopting types particularly resistent to those causes, or eliminating or reducing the causes themselves. Finding these causes of deterioration can generally be achieved by examining used ropes.
Substituting the rope is to be determined on the basis of the number and position of broken threads making up the strands, the degree of wear and corrosion, other damage or relevant alterations. Ropes must be substituted when the visible breakage in the threads has reached the maximum deterioration values indicated for one of the two lengths of reference in the table
below, equal to 6 or 30 times the diameter of the rope.

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NUMERAL LIMIT FOR VISIBLE BROKEN THREADS						
ø ROPES	NUMBER OF BROKEN THREADS CROSSED		PARALLEL		LENGTH IN mm TO CHECK	
	6 x d	30x d	6 x d	30 x d	6 x d	30 x d
7	18	36	6	12	42	210
9	18	36	6	12	54	270
10	26	52	9	18	60	300
11	26	52	9	18	66	330
13	26	52	9	18	78	390
14	28	56	9	18	84	420
16	26	52	9	18	96	480
17	28	56	9	18	102	510

Bear in mind that breaks are often difficult to find because the ends of the broken threads remain in their originai position and do not protude from the surface of the rope. To see these breaks, it is necessary to remove the grease which covers the rope. It can be useful to run a piece of soft wood along the rope and, if possible bend the rope so that the ends of the threads are made to rise and, in this way, become visible.

Warning

-Checking the rope must be made UNLOADED

-For easier tracing of eventual breaks, the radius of curvature must correspond to, about, the radius of the pulley -The rope must be substituted, independendly of the above valuation:

.when the total diameter of the rope has been reduced by 10% of the original diameter, even if only at one point .when a strand has broken completely or when, damage has reduced it to 40% of a useful section at some point .when the rope present dents, torsion or permanent bending caused by damage or by having been placed on sharp edges .when the core has escaped from the strand, even if at one point only

.when, even under tension, one or more strands appear loose and protuding from the rope.

Substituting the rope

Find out before mounting a new rope whether the race of the pulley and the thread of the drum have been worn out and deformed by the passage of the old rope. In this case substitute the damaged pieces. Wind on the new rope without kinking so th?t bends do not form.

Correct winding Incorrect winding Correct winding Incorrect winding

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SAFETY NORMS FOR MANOEUVERERS

-Manoeuvering and using the crane is reserved for trained personnel only.
-Before beginning a shift, make sure that there is nothing on the tracks of the crane and try out the end stop and braking devices, signalling any eventual deficiencies to the competent authority.
-Never lift a load over the maximum capacity of the crane or a badly slung load. Refer to the load-carrying data written on the crane.
-Never begin a manoeuvre without having previously received the prescribed signal. -Warn of the beginning of a manoeuvre with the appropriate signal.
-Never start or stop the crane abruptly. Avoid colliding with the fixed stops placed at the end of the track.
-Avoid making the load oscillate in particular to make it descend in areas outside the vertical pull; avoid oblique pulling and towing operations.
-Avoid carrying and lifting loads over work and transit areas. When this cannot be absolutely avoided, warn with appropriate signals both at the beginning of the manoeuvre and during carrying the load.
-Before leaving the manoeuvering position unplug the main switch of the crane, put the control organs to zero and never leave a load suspended.
-Never leave materials or equipment on the walkways; keep the manoeuvering cabin clean and in order. Avoid leaving inflammable materials deposited.
-The main switch of the
crane must be unplugged during repairs and maintenance when the crane is out of service. -For portai jib cranes or similar operating in the open air, hold down with tongs or analogous devices while suspending or
terminating operations.

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-For cranes fed by flexible earthed cab

CARRYING CAPACITY OF THE SIAMESE CONNECTIONS

SIAMESE CONNECTIONS IN STEEL ROPE WITH TEXTILE CORE - res. 180 kg/sq.mm					SIAMESE CONNECTIONS IN GRADE 80 STEEL CHAIN					SF RING SIAMESE CONNECTIONS IN POLYSTYROL						BAND SIAMESE CONNECTIONS					
Ø DIAMETER OF ROPE					Ø DIAMETER OF CHAIN					NAME						WIDTH OF BAND					MATERIAL
mm	kg	kg	kg	kg	mm	kg	kg	kg	kg		kg	kg	kg	kg			kg	kg	kg	kg	
8	650	■	1.300	920	7	1.200	960	1.680	2.500	SF1	1.000	800	2.000	1.400	50	1.350	1.080	2.700	2.700	POLYAMIDE OR NYLON
10	1.000	800	2.000	1.410	10	2.500	2.000	3.500	5.250	SF2	2.000	1.600	4.000	2.800	62	1.600	1.280	3.200	3.200	
12	1.400	1.000	2.800	2.000	13	4.000	3.200	5.600	8.400	SF3	3.000	2.400	6.000	4.200	75	1.800	1.440	3.600	3.600	
14	2.000	1.600	4.000	2.800	16	6.400	5.120	9.000	13.500	SF4	4.000	3.200	8.000	5.600	100	2.500	2.000	5.000	5.000	
16	2.500	2.000	5.000	3.500	20	10.000	8.000	14.000	21.000	SF5	5.000	4.000	10.000	7.000	150	3.250	2.600	6.500	6.500	
18	3.200	2.560	6.400	4.500	22	12.000	9.600	16.800	25.200	SF6	6.000	4.800	12.000	8.400	225	4.500	3.600	9.000	9.000	
20	4.000	3.000	8.000	5.650	26	16.000	12.800	22.400	32.000	SF8	8.000	6.400	16.000	11.200	300	6.000	4.800	12.000	12.000	
22	4.800	3.840	9.600	6.750	32	25.000	20.800	32.000	50.000	SF10	10.000	8.000	20.000	14.000		SAFETY COEFFICIENT = 6				
24	6.000	4.800	12.000	8.500		■	■	■	■	SF12	12.000	9.600	24.00	16.900	50	900	720	1.800	1.800	POLYESTER
26	6.600	5.000	13.200	9.330		■	■	■	■	SF15	15.000	12.000	30.000	21.200	62	1.100	880	2.200	2.200	
28	8.000	■	16.000	11.300		■	■	■	■	SF20	20.000	16.000	40.000	28.200	75	1.350	1.080	2.700	2.700	
30	9.000	■	18.000	12.700		■	■	■	■	SF25	25.000	20.000	50.000	35.300	100	1.800	1.440	3.600	3.600	
32	10.100	■	20.200	14.280		■	■	■	■	SF34	34.000	27.200	68.000	47.900	150	2.250	1.800	4.500	4.500	
36	12.600	■	25.200	17.800		■	■	■	■		■	■	■	■	200	2.700	2.160	5.400	5.400	
40	15.500	■	31.000	22.000		■	■	■	■		■	■	■	■		■	■	■	■	
	SAFETY COEFFICIENT = 6					SAFETY COEFFICIENT = 5					SAFETY COEFFICIENT = 6						SAFETY COEFFICIENT = 5				

□ Carrying capacity refers to new Siamese connections □ When using Siamese connections with several arms, the maximum angle at the vertical of the most widely placed arms must be taken into account □ Siamese connections with angles at the vertical of more than 120° are advisably not to be used □

OPERATING AND MAINTENANCE INSTRUCTIONS

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STORING

Packaged material can normally be stored in a closed environment up to five years as long as the temperature is not less than -20° or greater than + 70°C and the humidity no greater than 70%. For different values the packaging must be specifically constructed. If. for various reasons. the humidity exceeds the foreseen level or the duration of storing is longer. it will be necessary to carry out some preliminary operations before putting the machine into operation. Other packets must not be placed on top of the packaging.

USAGE

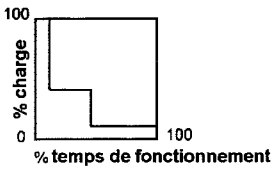
The machine suppfied is designed only for lifting loads verticafly with free cables and therefore without the aid of more or less restraining guides for the ascending load.

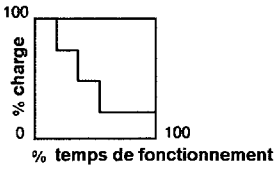
The special cases in which the hoists or the winches are designed for specific purposes or horizontal or inclined traction. are specified in the attached documents or technical data. For end stop calibration. the empfoyment limits of the machine must be verified in order to see if the use is compatible with the envisaged operational needs. If there is any uncertainty on this point. contact the constructing company immediately before putting into operation.

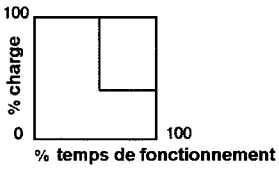
LIMITS OF EMPLOYMENT Classification of lifting apparatus according to FEM and ISO norms

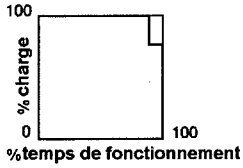
a) Capacity: the nominai capacity of the machine is determined by the maximum weight to be lifted. b) State of stress: characterises the degree of stress which acts on the machine during its life-span.

LIGHT MEDIUM HEAVY
VERY HEAVY









L1 Rarely the Maximun load near maximun

L2 Maximun load and loads Prevalently reduced in equal degree

L3

L4 Frequently the maximum load loads

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C) **Utilisation class : duration of a machine as an orientative value expressed in T number of hours**

HOURS	Utilisation class									
	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9
from		200	400	800	1600	3200	6300	12500	25000	50000
to	200	400	800	1600	3200	6300	12500	25000	50000	

Start classes for lifting engines

Gruppo	Avviamenti	Intermittenza
M1	**90**	**15 %**
M2	**120**	**20 %**
M3	**150**	**25 %**
M4	**180**	**30 %**
M5	**240**	**40 %**
M6	**300**	**50 %**
M7	**360**	**60 %**
M8	**> 360**	**60 %**

Start classes for travelling engine

Group FEM - ISO	Start	Intermittence (limitata a 10')
M1	60	10 %
M2	90	15 %
M3	120	20 %
M4	150	25 %
M5	180	30 %
M6	240	40 %
M7	300	50 %
M8	≥ 300	60 %

The constructor does assume responsabilità for improper use or for exceeding the number or cycles or working time with respect to that envisaged in the planning data

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TIGHTENING COUPLES FOR MAIN STRUCTURE JOINTS

Diametro nominale	Sezione resistente	Classe della vite									
		4,6		5,6		6,6		8,8		10,9	
mm	mm²	Ts (N - M)	Nb (KN)	Ts (N - M)	Nb (KN)	Ts (N - M)	Nb (KN)	Ts (N - M)	Nb (KN)	Ts (N - M)	Nb (KN)
12	84	34	14	49	19	55	23	94	39	127	53
14	115	53	19	73	29	87	31	143	53	204	73
16	157	83	26	112	35	138	43	234	73	317	99
18	192	115	32	155	43	187	52	320	89	436	121
20	245	164	41	220	55	268	67	456	114	620	155
22	303	224	51	299	68	361	82	616	140	840	191
24	353	283	59	379	79	461	96	787	164	1070	223
27	459	416	77	556	103	675	125	1150	213	1566	290

Ts = Tightening couple Nb = Corresponding axial forc