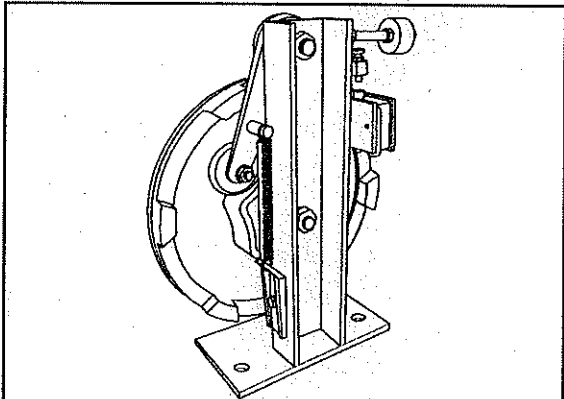
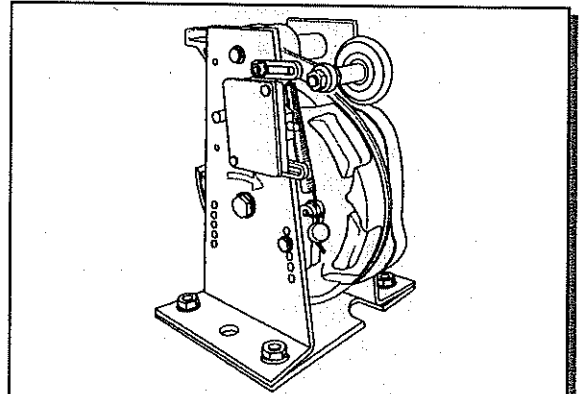


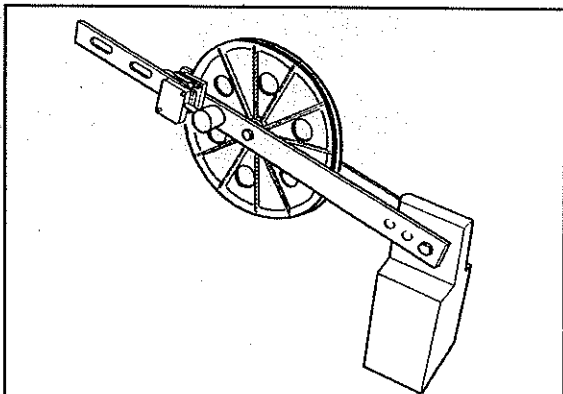
**MANUALE D'USO E MANUTENZIONE
INSTRUCTIONS, USE AND MAINTENANCE MANUAL
NOTICE D'UTILISATION ET D'ENTRETIEN
BETRIEBSANLEITUNG
MANUAL DE USO Y MANTENIMIENTO**



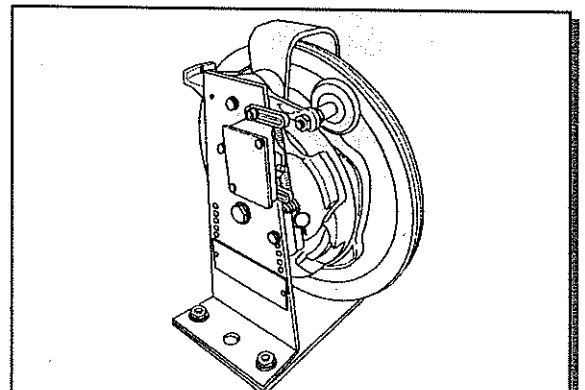
**Limitatore di velocità unidirezionale mod. R3
Unidirectional overspeed governor type R3
Limiteur de vitesse unidirectionnel mod. R3
Einseitig gerichteter Geschwindigkeitsbegrenzer Typ R3
Limitador de velocidad unidireccional mod. R3**



**Limitatore di velocità unidirezionale mod. R5
Unidirectional overspeed governor type R5
Limiteur de vitesse unidirectionnel mod. R5
Einseitig gerichteter Geschwindigkeitsbegrenzer Typ R5
Limitador de velocidad unidireccional mod. R5**



**Tenditore con contrappeso
Tension weight with counterweight
Tendeur par contrepoids
Spanngewicht
Tensor con contrapeso**



**Limitatore di velocità unidirezionale mod. R6
Unidirectional overspeed governor type R6
Limiteur de vitesse unidirectionnel mod. R6
Einseitig gerichteter Geschwindigkeitsbegrenzer Typ R6
Limitador de velocidad unidireccional mod. R6**

AGGIORNAMENTO 01/2000

OPERATING INSTRUCTIONS

INDEX	PAGE
1 GENERAL INFORMATION BEFORE BEGINNING THE ASSEMBLY	8
1.1 Description, operation mode	8
1.2 Responsibility and guarantee	15
1.3 Safety precautions	15
1.4 Working instructions on safety structural elements	15
1.5 Pre-Operations	20
1.6 Type-plate, EC-certification mark, identification	20
1.7 Constitution of supply	24
2 ASSEMBLY	26
2.1 Assembly of the overspeed governor	26
2.1.1 Assembly in the engine room	26
2.1.2 Assembly steps type R3	30
2.1.3 Assembly steps type R5 - R6	31
2.1.4 Assembly on the top of the elevator shaft	32
2.2 Assembly of the rope of the overspeed governor/tension weight with counterweight	35
2.3 Electric installation of the safety switches	39
3 SETTING UP OPERATIONS	42
3.1 Overspeed governor	42
3.2 Tension weight with counterweight	42
4 OPERATION TESTING	47
5 MAINTENANCE, CONTROL, REPAIR	52
5.1 Maintenance and control	52
5.2 Execution of repairs	52
6 TECHNICAL DATA	56
6.1 Overspeed governor type R3	56
6.2 Overspeed governor type R5	56
6.3 Overspeed governor type R5R	57
6.4 Overspeed governor type R5SP	57
6.5 Overspeed governor type R6	58
6.6 Overspeed governor type R6R	58
6.7 Overspeed governor type R6SP	59
6.8 Tension weight with counterweight	59

1 GENERAL INFORMATION BEFORE BEGINNING THE ASSEMBLY

INS

1.1 DESCRIPTION, OPERATION MODE

SO

The overspeed governor is a safety device which turns on when the allowed speed of the elevator car is exceeded.

1

If the elevator car, during its downward run, exceeds its nominal permissible speed, (until the tripping speed is reached), the overspeed governor turns on and, in turn, releases – on the overspeed governor rope – a brake mechanism, called safety gear, which is located on the elevator car. The elevator car stops and is kept back by the guides.

1.1

The overspeed governor (fig. 1, 2, 3) is made up of:

1.2

- a wheel (1) with trapezoidal undercut groove (to house the overspeed governor rope) fitted with test groove for operation tests;

1.3

- cam rim (3);

1.4

- eccentric stop (4).

1.5

1.6

The rope, secured to the clamp of the safety gear and stretched by a weight, operates the governor wheel through its own pressure in the trapezoidal undercut groove.

1.7

2

Beside the trapezoidal groove, a cam rim (3) with eccentric stop (4) is also mounted on the governor wheel. Such rim allows the pendulum (6) to operate with an upward/downward oscillating motion, by means of a pulley mounted on a ball bearing.

2.1

The pendulum, fitted with a idle rubber wheel (7), is drawn to the cam rim by a preloaded tension spring (8), corresponding to the scheduled tripping speed.

2.1

By reaching the tripping speed, the swing of the pendulum on the cam becomes so extended that the tooth it is fitted with, meets the peripheral guide of the eccentric stop, where it is clamped.

2.1

A steel pin (5) applied on the pendulum operates the safety switch (9) before the mechanical clamping of the pendulum. Through it, the control power of the plant is switched off.

2.1

2.2

2.3

3

3.1

3.2

4

5

5.1

5.2

6

6.1

6.2

6.3

6.4

6.5

6.6

6.7

6.8

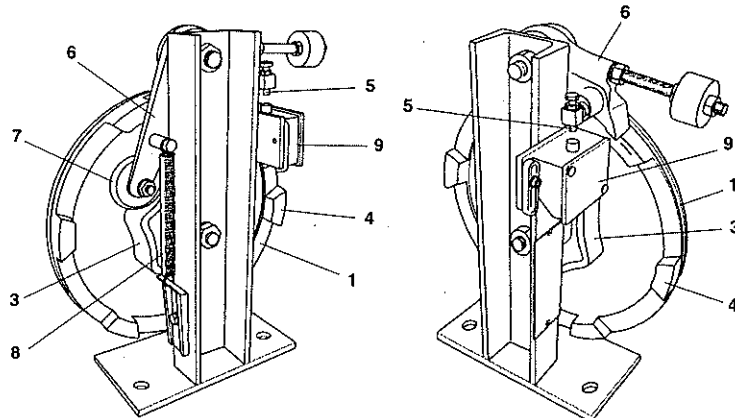


Fig. 1 Overspeed governor type R3

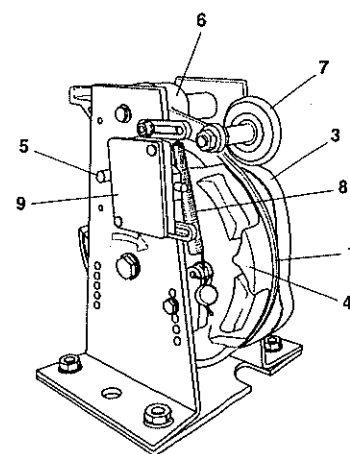


Fig. 2 Overspeed governor type R5

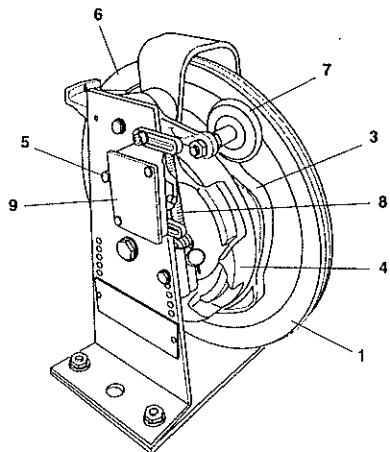


Fig. 3 Overspeed governor type R6

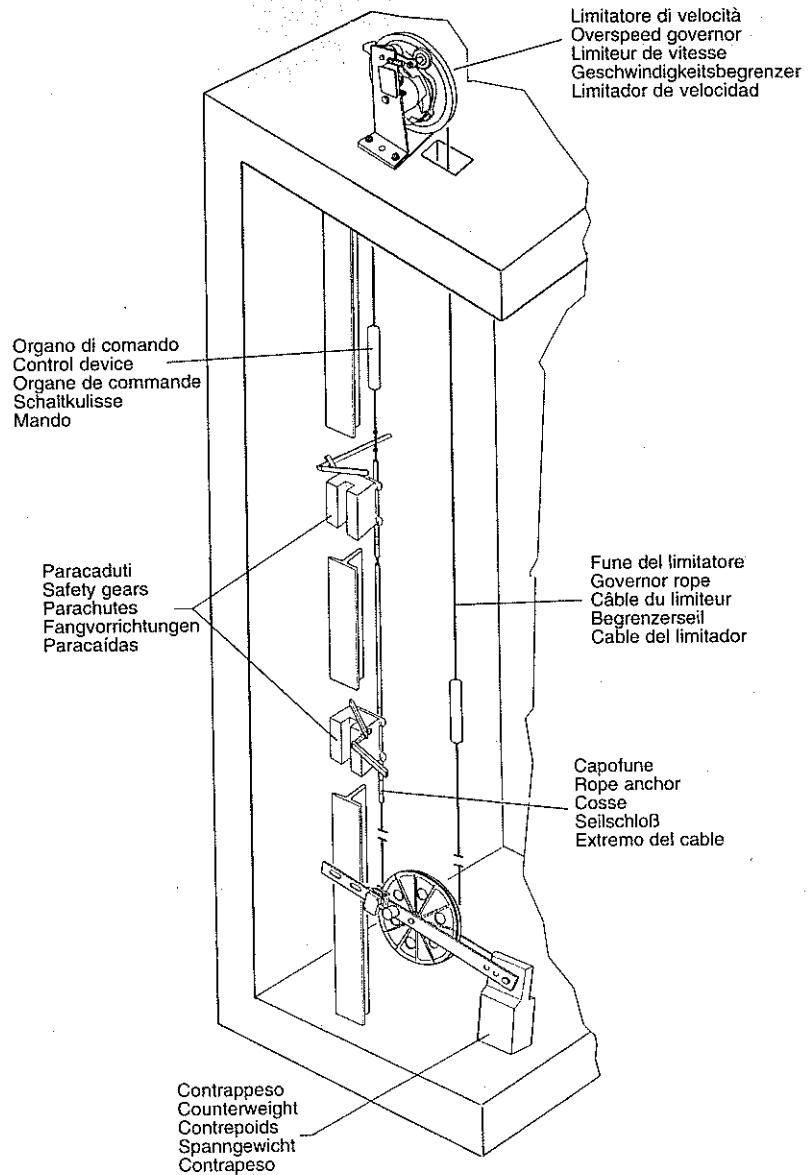
8

4

The overspeed governor is provided with the omologation according to the rules and regulations for elevators 95/16/EC, with the following EC-type-approval test number:

- R3 AGB 083/2
- R5 AGB 064/3
- R6 AGB 065/4

- I** Il limitatore di velocità può essere fornito per il montaggio in sala macchine.
 DISPOSIZIONE IN SALA MACCHINE
- GB** The overspeed governor can be supplied for the assembly in the engine room.
 DISPOSITION IN THE ENGINE ROOM
- F** Le limiteur de vitesse peut être livré pour le montage en salle des machines.
 DISPOSITION EN SALLE DES MACHINES
- D** Der Geschwindigkeitsbegrenzer kann für die Montage im Triebwerksraum geliefert werden.
 ANORDNUNG IM TRIEBWERKSRAUM
- E** El limitador de velocidad puede equiparse para el montaje en la sala de máquinas.
 DISPOSICIÓN EN SALA DE MÁQUINAS



1.2 RESPONSIBILITY AND GUARANTEE

These operating instructions are addressed to persons, who are well acquainted with the assembly of elevators. Thorough knowledge of the elevator construction and maintenance is necessary. The firm P.F.B. takes no responsibility for damages, deriving from operations or actions, that have not been carried out properly according to the following operating instructions and that therefore may damage the characteristics of the product. P.F.B.'s guarantee may not be valid if the component part is used in a different way other than that described in these instructions.

For technical security reasons, **it is generally not allowed:**

- *assembling of wrong overspeed governors, or governors destined to other applications other than the intended one*
- *introduction of changes of any kind to the overspeed governor.*

1.3 SAFETY PRECAUTIONS

Generally the fitters are themselves responsible for the safety of the work.

The observance and respect of all the safety regulations in force and the legal rules are necessary to avoid damages to persons and to the product during the assembly, maintenance and repair.

Instructions that should be particularly considered regarding safety and damage prevention are pointed out with the following symbols:



ATTENTION! Indication of danger. This sign indicates situations, that involve risks for the persons and points out procedures of behaviour.



DANGER! Indication of danger of possible damages to the structural element and to its component parts (e.g.: mistakes in the assembly, etc.).



IMPORTANT! Indication of useful information.

The following operating instructions are an integral part of the whole system. They must be kept in a protected and easily accessible place (e.g. the engine room).

1.4 WORKING INSTRUCTIONS ON SAFETY STRUCTURAL ELEMENTS

Overspeed governors belong to the safety structural elements group. It is absolutely necessary to observe the rules and regulations that refer to this structural element, including the information given in the operating instructions.



For that reason, before beginning to work on this component part, the following operating instructions must be read and understood, in particular with regards to the chapter concerning "safety precautions".

Safety devices need particular attention. Their perfect functioning is essential for a safe operation of the system.

The regulation of the safety devices, that can be set only after the assembly, must be carried out immediately after the assembly itself.

If safety devices are already preset at the factory, their operations have to be immediately tested.

Should it be necessary to disassemble the safety devices during maintenance or repair, when terminated, they have to be immediately reassembled and adequately tested.

In these instructions, the following safety devices are described:

- **safety switch on the overspeed governor (adjusted in the factory);**
- **safety switch on the tension weight with counterweight (only in the systems that are in conformity with EN 81).**

1.5 PRE-OPERATIONS

Before beginning the assembly, it must be made clear, for one's own interests, what are the constructional conditions and conditions relating to the space available, in order to carry out the assembly works in safe conditions and to follow a logical order.



It is therefore advisable, considering all the given circumstances, to mentally simulate the various processes before the assembly activity is inconsiderately or hastily undertaken.

On receipt of the goods, it is necessary to check the parts, by comparing each of them with the purchase order, in order to verify their conformity and completeness.



The data contained in the type-plate must be compared with the order.

1.6 TYPE-PLATE, TEST MARK, IDENTIFICATION



The type-plate of the OVERSPEED GOVERNOR is attached to the structure. The retailer of the system is responsible for it being legible.

	COSTRUTTORE/MANUFACTURER		LIMITATORE DI VELOCITA' R3 OVERSPEED GOVERNOR R3
	P.F.B.srl - MODENA - ITALY		
VEL.NOMINALE/NOMINAL SPEED	VEL.INTERVENTO/TRIPPING SPEED		
<input type="text"/> m/s	<input type="text"/> m/s		
N° MODEL/PRODUCT NR	N° IMPIANTO/REF. NR	ANNO FABBR./YEAR	AGB 083/2 N° UFFICIO QUALIFICATO 0635 No. OF NOTIFIED BODY 0635
<input type="text"/>	<input type="text"/>	1999	

Type-plate type R3

	COSTRUTTORE/MANUFACTURER		LIMITATORE DI VELOCITA' R5 OVERSPEED GOVERNOR R5
	P.F.B.srl - MODENA - ITALY		
VEL.NOMINALE/NOMINAL SPEED	VEL.INTERVENTO/TRIPPING SPEED		
<input type="text"/> m/s	<input type="text"/> m/s		
N° MODEL/PRODUCT NR	N° IMPIANTO/REF. NR	ANNO FABBR./YEAR	AGB 064/3 N° UFFICIO QUALIFICATO 0635 No. OF NOTIFIED BODY 0635
<input type="text"/>	<input type="text"/>	1999	

Type-plate type R5

	COSTRUTTORE/MANUFACTURER		LIMITATORE DI VELOCITA' R6 OVERSPEED GOVERNOR R6
	P.F.B.srl - MODENA - ITALY		
VEL.NOMINALE/NOMINAL SPEED	VEL.INTERVENTO/TRIPPING SPEED		
<input type="text"/> m/s	<input type="text"/> m/s		
N° MODEL/PRODUCT NR	N° IMPIANTO/REF. NR	ANNO FABBR./YEAR	AGB 065/4 N° UFFICIO QUALIFICATO 0635 No. OF NOTIFIED BODY 0635
<input type="text"/>	<input type="text"/>	1999	

Type-plate type R6

- (I) 1.7 FORNITURA COMPLESSIVA
- (GB) 1.7 CONSTITUTION OF SUPPLY
- (F) 1.7 FOURNITURE D'ENSEMBLE
- (D) 1.7 LIEFERUMFANG
- (E) 1.7 EQUIPAMIENTOS

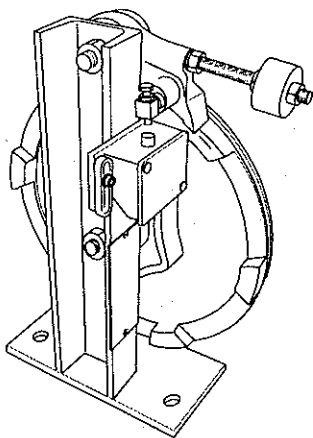


Fig. 1 Limitatore di velocità mod. R3
 Fig. 1 Overspeed governor Type R3
 Fig. 1 Limiteur de vitesse mod. R3
 Abb. 1 Geschwindigkeitsbegrenzer Typ R3
 Fig. 1 Limitador de velocidad mod. R3

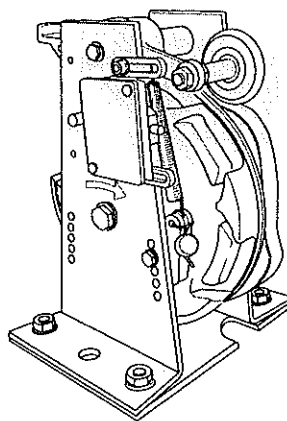


Fig. 2 Limitatore di velocità mod. R5-R5R-R5SP
 Fig. 2 Overspeed governor Type R5 - R5R - R5SP
 Fig. 2 Limiteur de vitesse mod. R5-R5R-R5SP
 Abb. 2 Geschwindigkeitsbegrenzer Typ R5-R5R-R5SP
 Fig. 2 Limitador de velocidad mod. R5-R5R-R5SP

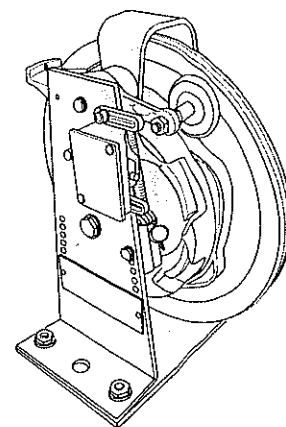


Fig. 3 Limitatore di velocità mod. R6-R6R-R6SP
 Fig. 3 Overspeed governor Type R6 - R6R - R6SP
 Fig. 3 Limiteur de vitesse mod. R6-R6R-R6SP
 Abb. 3 Geschwindigkeitsbegrenzer Typ R6-R6R-R6SP
 Fig. 3 Limitador de velocidad mod. R6-R6R-R6SP

(I) Il Tenditore con contrappeso per guida e tensione della fune, può essere dotato (opzionale) di un interruttore di sicurezza in conformità alla norma EN 81.

(GB) The tension weight with counterweight for the guide and tension of the rope, can be fitted with a safety switch (optional), in conformity to EN 81.

(F) Le tendeur par contrepoids pour le guidage et la tension du câble, peut être doté (en option) d'un interrupteur de sécurité en conformité avec la norme EN 81.

(D) Das Spanngewicht zur Seilführung und -spannung kann mit einem Sicherheitsschalter (optional) nach EN 81 ausgerüstet werden.

(E) El tensor con contrapeso para la guía y tensión del cable puede estar dotado (opcional) con un interruptor de seguridad en conformidad con la EN 81.

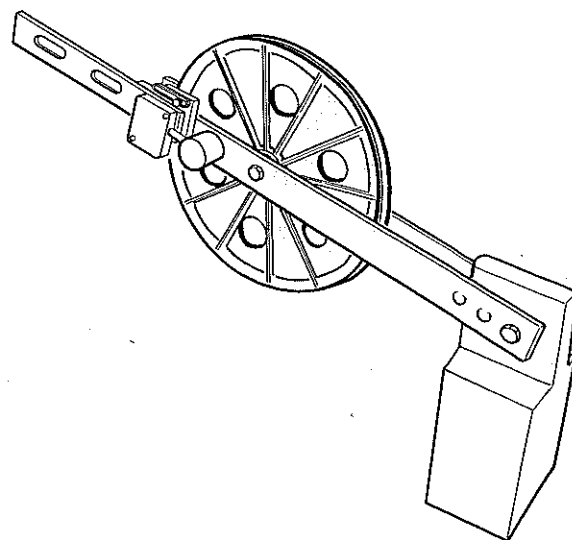


Fig. 4 Tenditore con contrappeso
 Fig. 4 Tension weight with counterweight
 Fig. 4 Tendeur par contrepoids
 Abb. 4 Spanngewicht
 Fig. 4 Tensor con contrapeso

2 ASSEMBLY

For all the assembly works in the engine room or in the elevator shaft, it should be made clear that



The entrance into the assembly area, resp. the execution of all works can be carried out only by skilled workers.

In particular, the following safety measures should be respected:



Fix the anti-fall protection device (working platform, for safety of the persons);



Cover the hole in the floor;
Secure the assembly tools and other objects to avoid unintentional falls; In case the works have to be executed in the elevator shaft, lock the doorways and attach the appropriate warning sign.

2.1 ASSEMBLY OF THE OVERSPEED GOVERNOR

2.1.1 ASSEMBLY IN THE ENGINE ROOM

PREPARATION

The assembly of the overspeed governor occurs either directly on the floor in the engine room or on a support.



Floor and support must resist to a pressure of 25 kN



In the elevators in conformity to EN 81, the passing openings of the rope should be kept as small as possible and must be fitted with safety rings 50 mm high.



For elevators in conformity to TRA, the same procedure is recommended.



Before the assembly takes place, it is necessary to fix an adequate safety ring to the floor.



If, after the assembly on the cement, a stone floor is laid down, its height should be considered (fig. 1)

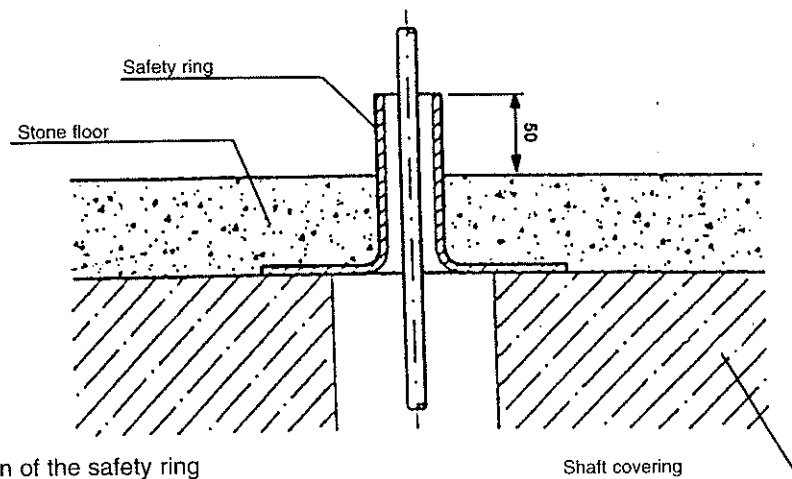


Fig. 1 Disposition of the safety ring

I 2.1.2 FASI DI MONTAGGIO MOD. R3

- Se viene utilizzato un supporto, come prima cosa avvitarlo al limitatore di velocità (Fig. 1)
- Posizionare il limitatore di velocità sul foro di passaggio della fune ed allinearlo con il filo a piombo al dispositivo frenante, cioè al paracadute (Fig. 2).
- Marcare i fori trapanati ed inserire i tasselli che devono resistere ad un carico di 2 kn.
- Fissare il limitatore di velocità (Fig. 3).

GB 2.1.2 ASSEMBLY STEPS TYPE R3

- If a support is used, first of all screw it together with the overspeed governor (fig. 1).
- Place the overspeed governor on the passing opening of the rope and align it with the plumb line to the brake device, i.e. the safety gear (fig. 2).
- Mark the drilled holes and place the inserts that must resist to an operation load of at least 2 kn.
- Fix the overspeed governor (fig. 3).

F 2.1.2 PHASES DE MONTAGE MOD. R3

- Si on a recours à un support, il faudra premièrement le visser au limiteur de vitesse (Fig. 1).
- Positionner le limiteur de vitesse sur le trou de passage du câble et l'aligner sur le fil à plomb au dispositif de freinage, soit au parachute (Fig. 2).
- Marquer les trous percés et enclencher les goujons qui doivent résister à une charge de 2 kn.
- Fixer le limiteur de vitesse (Fig. 3).

D 2.1.2 MONTAGESCHRITTE TYP R3

- Falls ein Unterbau verwendet wird, diesen zuerst mit dem Geschwindigkeitsbegrenzer verschrauben (Abb. 1).
- Geschwindigkeitsbegrenzer über Seildurchbruchöffnung positionieren und an Fangvorrichtung mittels Lot ausrichten (Abb. 2).
- Bohrlöcher markieren und Dübel setzen (Dübel müssen einer Gebrauchslast von mind. 2 kN standhalten).
- Geschwindigkeitsbegrenzer befestigen (Abb. 3).

E 2.1.2 FASES DE MONTAJE MOD. R3

- Si se utiliza un soporte, antes que nada atornillarlo al limitador de velocidad (Fig. 1).
- Situar el limitador de velocidad en el orificio por donde pasa el cable y alinearlo con la plomada al dispositivo frenante, es decir, al paracaídas (Fig. 2).
- Marcar los taladros e introducir los tacos, que deben resistir una carga de 2 KN.
- Fijar el limitador de velocidad (Fig. 3).

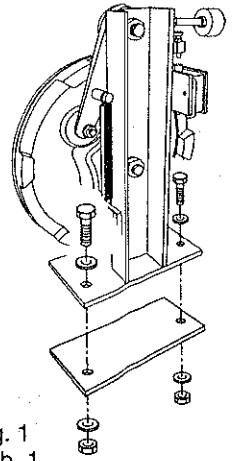


Fig. 1
Abb. 1

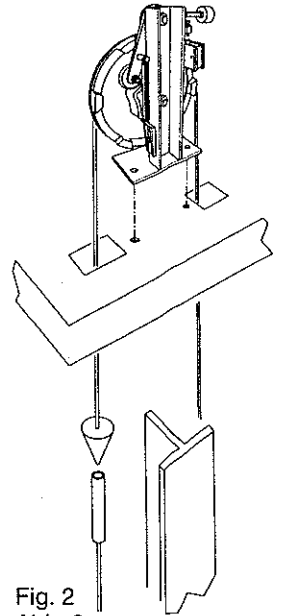


Fig. 2
Abb. 2

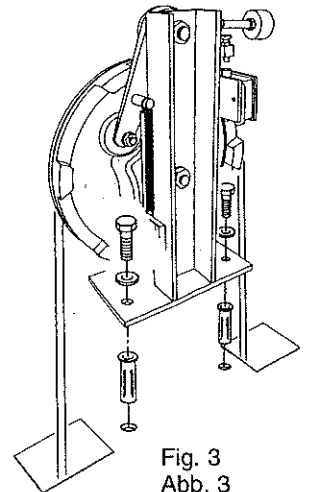


Fig. 3
Abb. 3

I 2.1.3 FASI DI MONTAGGIO MOD. R5-R6

- Se viene utilizzato un supporto, come prima cosa avvitarlo al limitatore di velocità (Fig. 1)
- Posizionare il limitatore di velocità sul foro di passaggio della fune ed allinearlo con il filo a piombo al dispositivo frenante, cioè al paracadute (Fig. 2).
- Marcare i fori trapanati ed inserire i tasselli che devono resistere ad un carico di 2 kn.
- Fissare il limitatore di velocità (Fig. 3).

GB 2.1.3 ASSEMBLY STEPS TYPES R5 - R6

- If a support is used, first of all screw it together with the overspeed governor (fig. 1).
- Place the overspeed governor on the passing opening of the rope and align it with the plumb line to the brake device, i.e. the safety gear (fig. 2).
- Mark the drilled holes and place the inserts that must resist to an operation load of at least 2 kn.
- Fix the overspeed governor (fig. 3).

F 2.1.3 PHASES DE MONTAGE MOD. R5-R6

- Si on a recours à un support, il faudra premièrement le visser au limiteur de vitesse (Fig. 1).
- Positionner le limiteur de vitesse sur le trou de passage du câble et l'aligner sur le fil à plomb au dispositif de freinage, soit au parachute (Fig. 2).
- Marquer les trous percés et enclencher les goujons qui doivent résister à une charge de 2 kn.
- Fixer le limiteur de vitesse (Fig. 3).

D 2.1.3 MONTAGESCHRITTE TYP R5 - R6

- Falls ein Unterbau verwendet wird, diesen zuerst mit dem Geschwindigkeitsbegrenzer verschrauben (Abb. 1).
- Geschwindigkeitsbegrenzer über Seildurchbruchsöffnung positionieren und an Fangvorrichtung mittels Lot ausrichten (Abb. 2).
- Bohrlöcher markieren und Dübel setzen (Dübel müssen einer Gebrauchslast von mind. 2 kN standhalten).
- Geschwindigkeitsbegrenzer befestigen (Abb.3).

E 2.1.3 FASES DE MONTAJE MOD. R5-R6

- Si se utiliza un soporte, lo primero que hay que hacer es atornillarlo al limitador de velocidad (Fig. 1).
- Situar el limitador de velocidad en el orificio por donde pasa el cable y alinearlo con la plomada al dispositivo frenante, es decir, al paracaídas (Fig. 2).
- Marcar los taladros e introducir los tacos, que deben resistir una carga de 2 KN.
- Fijar el limitador de velocidad (Fig. 3).

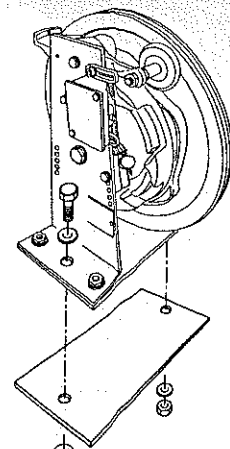


Fig. 1
Abb. 1

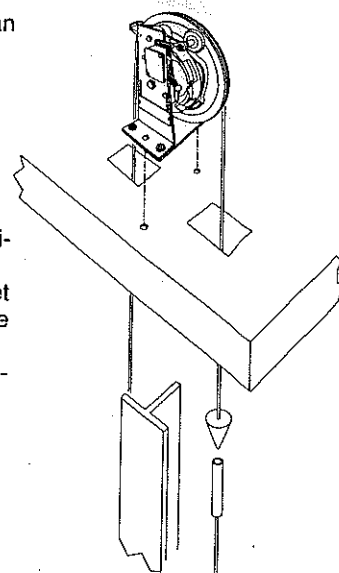


Fig. 2
Abb. 2

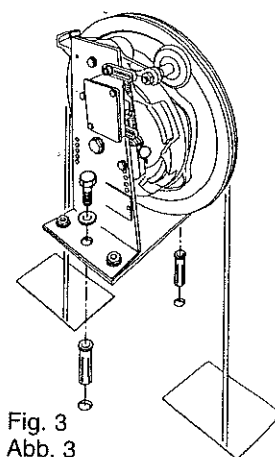


Fig. 3
Abb. 3

I 2.1.4 MONTAGGIO NELLA TESTATA DEL VANO DI CORSA



Sono da rispettare le misure di sicurezza che si riferiscono ai lavori su impianti di ascensori.

Montare il limitatore di velocità come illustrato nelle figure 1 e 2 (o in modo speculare).



In caso di montaggio nel pozzo dell'ascensore, il limitatore di velocità dovrà essere facilmente raggiungibile dall'esterno (esempio: porticina d'ispezione per le operazioni di manutenzione).

GB 2.1.4 ASSEMBLY ON THE TOP OF THE ELEVATOR SHAFT



Safety measures, referring to works on elevator plants, must be observed.

Mount the overspeed governor as shown in fig. 1 and 2 (or in an opposite way).



In case of assembly in the elevator shaft, the overspeed governor must be easily accessible from the outside (e.g. through an inspection door for maintenance operations).

F 2.1.4 MONTAGE DANS LA TETE DU COMPARTIMENT DE COURSE



Il est impératif de respecter les mesures de sécurité se référant aux travaux effectués sur les installations d'ascenseur.

Le montage du limiteur de vitesse doit être effectué conformément à ce qui est illustré sur les figures 1 et 2 (ou d'une façon spéculaire).



En cas de montage dans le puits de l'ascenseur, le limiteur de vitesse doit être aisément accessible de l'extérieur (par exemple: petite trappe de visite pour les opérations d'entretien).

D 2.1.4 MONTAGE IM SCHACHTKOPF



Beachten Sie die Sicherheitsmaßnahmen für Arbeiten an Aufzugsanlagen.

Geschwindigkeitsbegrenzer wie in Abb. 1 u. 2 dargestellt (oder spiegelbildlich) montieren.



Bei Schachtmontage muß der Geschwindigkeitsbegrenzer von außen leicht zugänglich sein (z.B. durch eine Wartungstür)

E 2.1.4 MONTAJE EN LA CABEZA DEL HUECO DE CARRERA

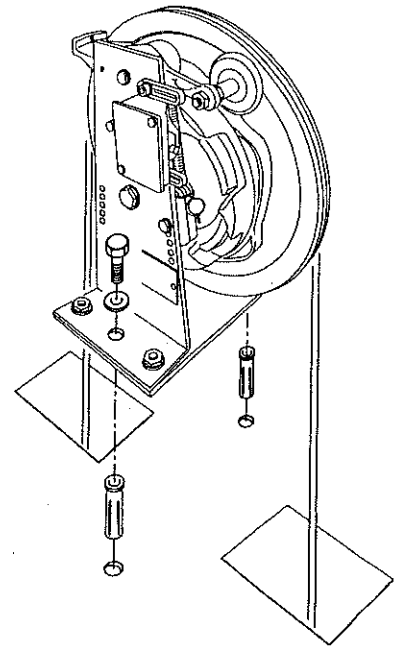
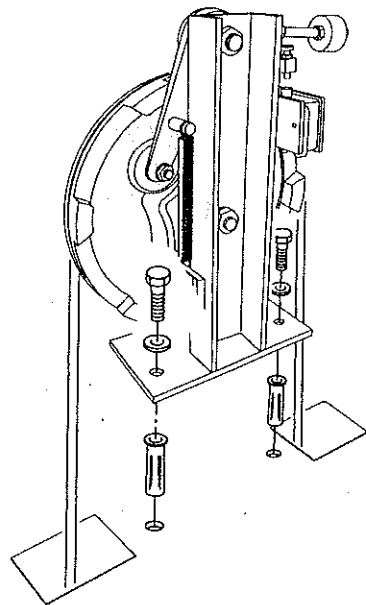
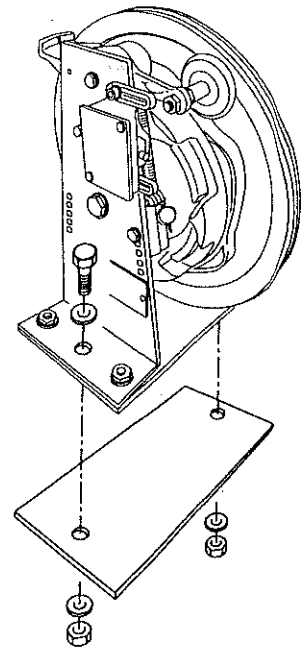
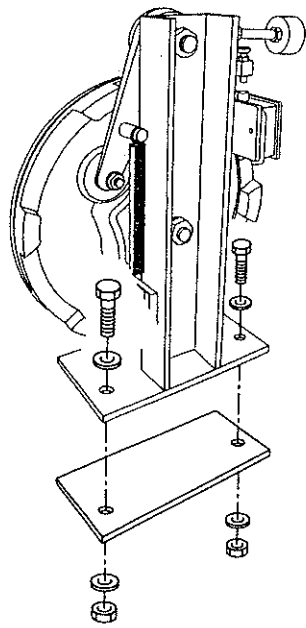


Se deben respetar las medidas de seguridad referentes a la instalación del ascensor.

Montar el limitador de velocidad como se ilustra en las figuras 1 y 2 (o de forma especcular).



Si el montaje se lleva a cabo en el hueco del ascensor, es necesario que el limitador de velocidad esté situado en un lugar fácilmente accesible desde el exterior (p. ej. mediante una puerta de inspección para el mantenimiento).



- (I) Fig. 1 Limitatore mod. R3
- (GB) Fig. 1 Overspeed governor type R3
- (F) Fig. 1 Limiteur mod. R3
- (D) Abb. 1 Geschwindigkeitsbegrenzer Typ R3
- (E) Fig. 1 Limitador mod. R3

- (I) Fig. 2 Limitatore mod. R5-R6
- (GB) Fig. 2 Overspeed governor type R5-R6
- (F) Fig. 2 Limiteur mod. R5-R6
- (D) Abb. 2 Geschwindigkeitsbegrenzer Typ R5-R6
- (E) Fig. 2 Limitador mod. R5-R6

2.2 ASSEMBLY OF THE ROPE OF THE OVERSPEED GOVERNOR / TENSION WEIGHT WITH COUNTERWEIGHT


A technically perfect operation of the overspeed governor is only possible with a correct assembly of the governor rope itself and of the tension weight with counterweight.

While determining at which height the tension weight with counterweight has to be mounted, it must be made clear that:

- in no case, the counterweight must touch the floor (fig. 1), otherwise, the function of the overspeed governor is put out of operation;
 - when the framework of the elevator car reaches its lowest position (by the compressed buffer), the lower rope anchor and the downward remaining rope-end must not meet the pulley of the tension weight.
- Cut the overspeed governor rope sufficiently and lay it down on the rope pulley of the tension weight.
 - Supply the first rope-end with the rope-anchor (fig. 1) and attach it to the safety gear.
 - Let the second piece of rope drop inside the elevator shaft.
 - Mount the mouting support at about 450 mm (approx. value, fig. 2) on the bottom of the shaft.
 - Hold the counterweight, until it is in an oblique position (fig. 2).
 - In the presence of a brake mechanism acting upwards, mount the second rope-end to the rope-anchor of the brake device

or

- supply the second rope-end with the rope-anchor and attach it to the safety gear.
- Remove the support in order to stretch the rope.

 If the assembly has been properly carried out, the counterweight should take a slightly upward angled position (approx. 300 mm, fig. 2).

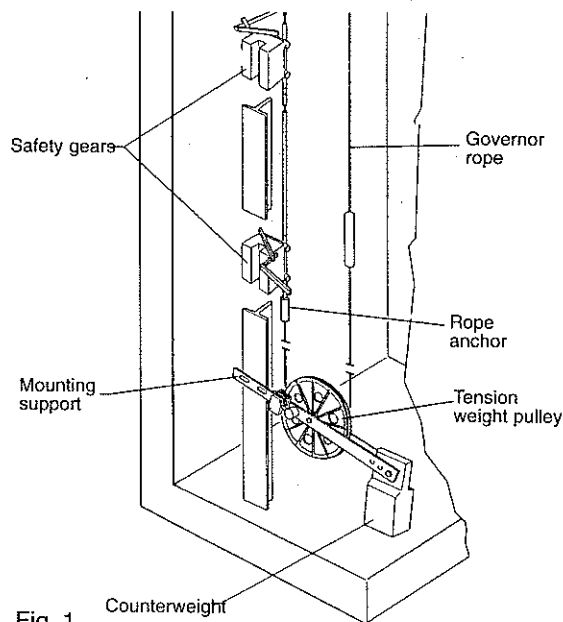


Fig. 1

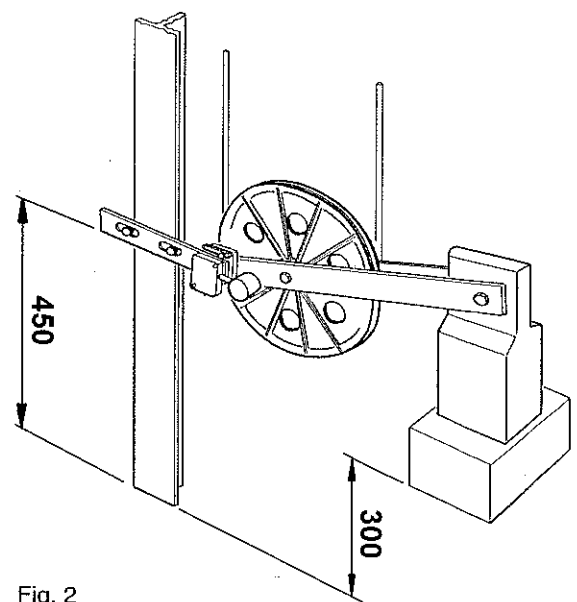


Fig. 2

- (I) Gli interruttori di sicurezza interrompono il circuito elettrico di protezione dell'impianto dell'ascensore. Collegare i seguenti interruttori di sicurezza:
- (GB) The safety switches disconnect the safety circuit of the elevator plant. The following safety switches must be connected:
- (F) Les interrupteurs de sécurité coupent le circuit électrique de protection de l'installation de l'ascenseur. Connecter les interrupteurs de sécurité suivants:
- (D) Sicherheitsschalter unterbrechen den Sicherheitsstromkreis der Auzugsanlage. Folgende Sicherheitsschalter müssen angeschlossen werden:
- (E) Los interruptores de seguridad interrumpen el circuito eléctrico de protección de la instalación del ascensor. Conectar los siguientes interruptores de seguridad:

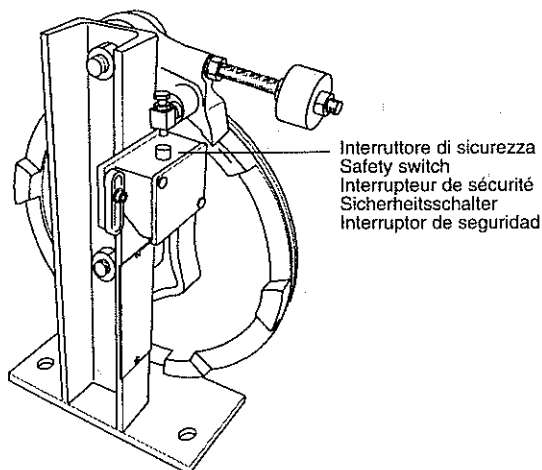


Fig. 1 Limitatore mod. R3
 Fig. 1 Overspeed governor type R3
 Fig. 1 Limiteur mod. R3
 Abb. 1 Geschwindigkeitsbegrenzer Typ R3
 Fig. 1 Limitador mod. R3

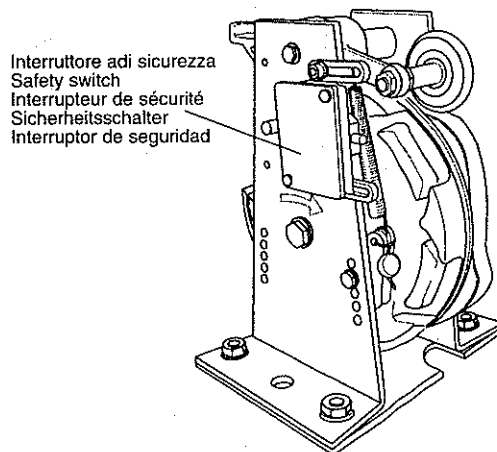


Fig. 2 Limitatore mod. R5-R5R-R5SP
 Fig. 2 Overspeed governor type R5-R5R-R5SP
 Fig. 2 Limiteur mod. R5-R5R-R5SP
 Abb. 2 Geschwindigkeitsbegrenzer Typ R5-R5R-R5SP
 Fig. 2 Limitador mod. R5-R5R-R5SP

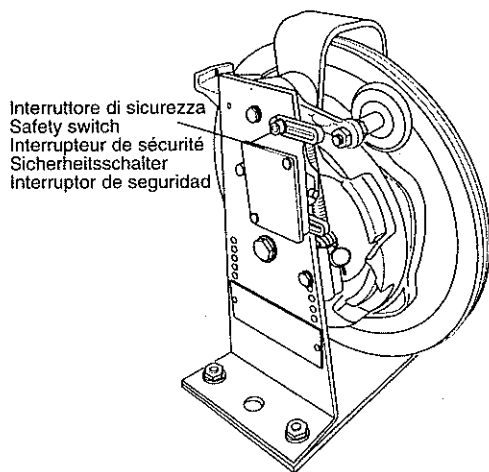


Fig. 3 Limitatore mod. R6-R6R-R6SP
 Fig. 3 Overspeed governor type R6-R6R-R6SP
 Fig. 3 Limiteur mod. R6-R6R-R6SP
 Abb. 3 Geschwindigkeitsbegrenzer Typ R6-R6R-R6SP
 Fig. 3 Limitador mod. R6-R6R-R6SP

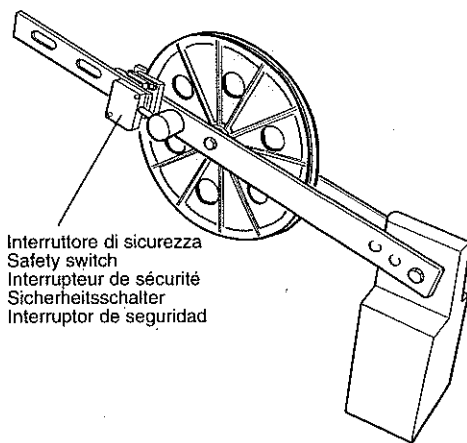


Fig. 4 Tenditore con contrappeso conforme alla norma EN 81
 Fig. 4 Tension weight with counterweight in conformity to EN 81
 Fig. 4 Tendeur par contrepoids conforme à la norme EN 81
 Abb. 4 Spanngewicht nach EN 81
 Fig. 4 Tensor con contrapeso en conformidad con la EN 81

3 SETTING UP OPERATIONS

3.1 OVERSPEED GOVERNOR

The safety switch of the overspeed governor has already been set in the factory. Its position is fixed with sealing-wax and it cannot be modified.



The setting up of the safety switch on the overspeed governor is not necessary.

3.2 TENSION WEIGHT WITH COUNTERWEIGHT (EN 81 AND TRA)

Only in plants in conformity to EN 81:

- shift the mounting clamp of the tension weight with counterweight in such a way that the safety switch does not become operative (fig. 1, pos. 1).



At the same time take into consideration the stretching of the rope!

- On the safety switch, adjust the horizontal connecting position on the slots (fig. 1, pos. 2);
- After the assembly, release the tension rope and check the control function by moving the tension arm. Then fix the position with sealing-wax or similar.
- After the insertion, the tripping pin of the safety switch must be reset by hand in the starting position.

TENSION OPERATION OF THE GOVERNOR ROPE

After starting and running the plant for a longer time, it might be necessary to slightly stretch the governor rope again.



Pay attention to the minimum distance between the shaft bottom and the counterweight (distance must not be less than 30 cm !)

Shift the clamp of the counterweight to the guide, or stretch, on the rope-anchor, the governor rope again.

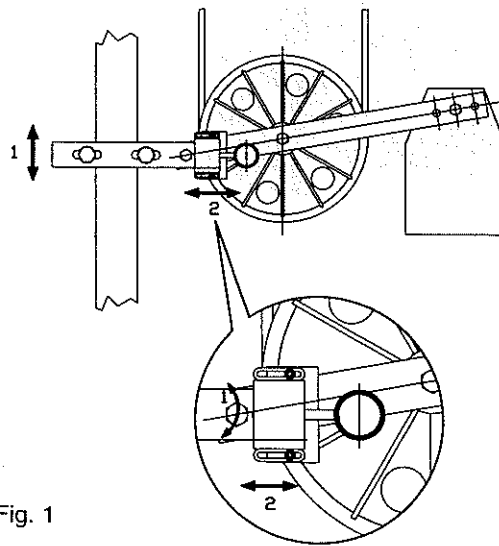


Fig. 1

4 OPERATION TESTING

Although quality and operation of each component are controlled when leaving the factory, an operation testing of the overspeed governor and of the safety devices should be carried out, before the final tests of the elevator take place.

TEST RUN AFTER THE ASSEMBLY



Clean the guides before the first test run takes place.



Before the beginning of the run, leave the elevator shaft free from persons and objects.

Before the general test takes place, it is necessary to slowly run through the whole area of action (with inspection control device). After that, verify the distance to be sufficient for all fastening parts (particularly in the fixing area of the guides and of the governor rope).

If possible before that, locate and remove screw projections and other dangerous narrow points. Subsequently, a static function test has to be carried out:

- operate by hand the overspeed governor: press down the rocker lever.
- Drive the elevator car *slowly* downwards.



The overspeed governor must release the safety gear.

The safety switch must release and switch off the safety circuit of the elevator plant. With a slow movement upwards, place the overspeed governor and the safety gear backwards.

CONTROL OF ALL OPERATIONS

Subsequently, the release is to be controlled at a nominal speed, as well as the relative safety devices. The control of the release is to be carried out as a dynamic function test, with or without rated load of the elevator car.



During test runs, no-one must stay in the elevator car.

Lay down the governor rope into the test groove and drive the elevator car at nominal speed downwards. Alternatively, the overspeed governor can be operated also by hand, by pressing the rocker lever down.

The safety switch must release and switch off the safety circuit of the elevator system.

With a slow movement upwards, bring the overspeed governor and the brake device (the safety gear) back again.

CONTROL OF THE SAFETY DEVICE FOR ROPE TENSION

The safety switch on the tension weight with counterweight is controlled by removing the rope of the overspeed governor from the rope pulley.

When the control is finished, the release pin of the safety switch must be reset by hand.

5 MAINTENANCE, CONTROL AND REPAIR

5.1 MAINTENANCE AND CONTROL

Generally, the overspeed governor and respective tension weight with counterweight do not need any maintenance.

The whole system has been conceived in such a way that, with proper use without damages, there is no need for important maintenance interventions.

According to the frequency of use, controls of the system should be carried out periodically.



After substantial changes or after an accident, it is necessary to carry out a control of the system (see EN 81-2, annex E2). This is necessary especially when safety devices are changed.

Changes, damages or other irregularities must be notified and, if necessary, repaired within the limits of the allowed feasibility.



Periodical controls increase, not only the safety, but also the trouble-free and long-life operation of the system!

Particularly recommended are controls and maintenance operations before the operating tests foreseen by the law take place.

Please contact your supplier if there are any doubts regarding the operation efficiency of the components of the system.

MAINTENANCE AND CONTROL SCHEDULE

- Check every 6 (six) months the operation efficiency of the overspeed governor.
- Check the damage or the distortions of the overspeed governor and respective structural elements.
- Check the wear of the undercut grooves of the overspeed governor and the grooves of the tension pulley.



Danger of tear to the rope! When the governor rope runs in an irregular way, that is to say when the outline of the rope remains stamped in the groove of the overspeed governor.

- Control that the rocker lever is easily movable. If necessary, replace it.
- Control the safety switch by hand (manual release).
- Keep the plant clean from dirt and particularly the signs and the type-plates must always be kept legible.

5.2 EXECUTION OF REPAIRS

Generally, also in case of repairs, the overspeed governor cannot be disassembled or modified in any other way (sealing, sealing-wax).



The spontaneous replacement of parts or element groups is not allowed due to defects or severe wear.

The reasons are the following:

- rules and regulations concerning guarantee and safety technical dispositions
- Only original spare-parts must be mounted.



The operation of the elevator system, is not allowed, even temporarily, without the overspeed governor.

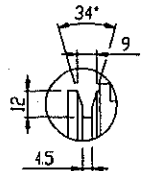
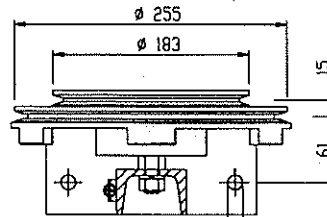
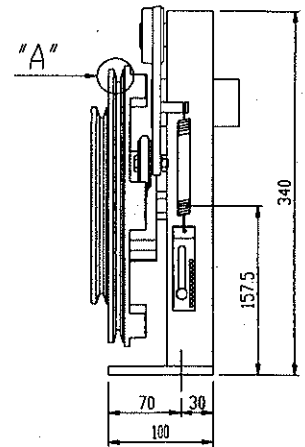
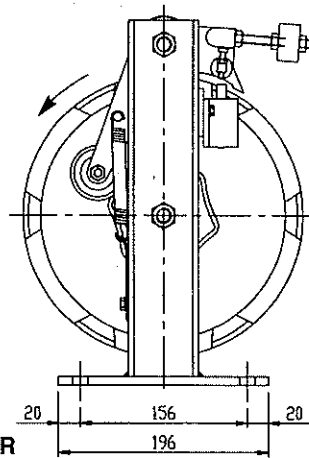
(I) 6. DATI TECNICI
6.1 LIMITATORE DI VELOCITÀ
MOD. R3

(GB) 6 TECHNICAL DATA
6.1 OVERSPEED GOVERNOR
TYPE R3

(F) 6. DONNEES TECHNIQUES
6.1 LIMITEUR DE VITESSE
MOD. R3

(D) 6 TECHNISCHE DATEN
6.1 GESCHWINDIGKEITSBEGRENZER
TYP R3

(E) 6 DATOS TÉCNICOS
6.1 LIMITADOR DE VELOCIDAD
MOD. R3



N. 2 fori $\phi 14$
No. 2 holes $\phi 14$
N° 2 trous $\phi 14$
Nr. 2 löcher $\phi 14$
2 orificios $\phi 14$

Ingrandimento "A"
"A" inset
Agrandissement "A"
Vergrößerung "A"
Ampliación "A"

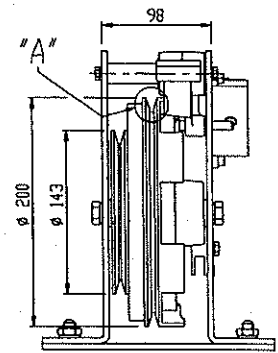
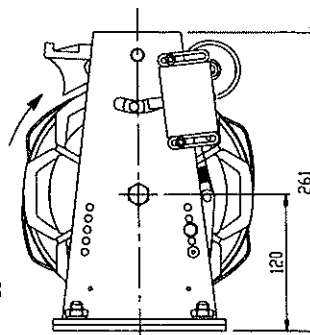
(I) 6.2 LIMITATORE DI VELOCITÀ
MOD. R5

(GB) 6.2 OVERSPEED GOVERNOR
TYPE R5

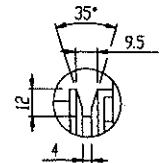
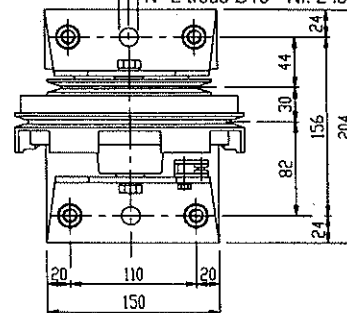
(F) 6.2 LIMITEUR DE VITESSE
MOD. R5

(D) 6.2 GESCHWINDIGKEITSBEGRENZER
TYP R5

(E) 6.2 LIMITADOR DE VELOCIDAD
MOD. R5



N. 2 fori $\phi 16$ - No. 2 holes $\phi 16$
N° 2 trous $\phi 16$ - Nr. 2 löcher $\phi 16$ - 2 orificios $\phi 16$



Ingrandimento "A"
"A" inset
Agrandissement "A"
Vergrößerung "A"
Ampliación "A"

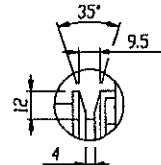
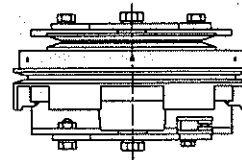
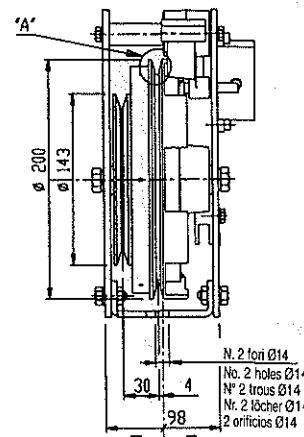
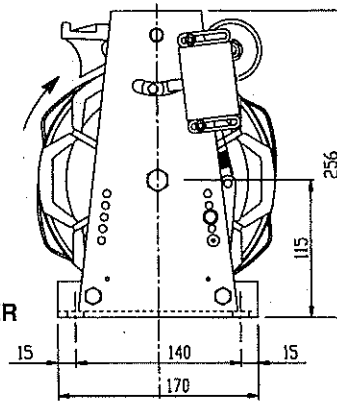
I 6.3 LIMITATORE DI VELOCITÀ
MOD. R5R

GB 6.3 OVERSPEED GOVERNOR
TYPE R5R

F 6.3 LIMITEUR DE VITESSE
MOD. R5R

D 6.3 GESCHWINDIGKEITSBEGRENZER
TYP R5R

E 6.3 LIMITADOR DE VELOCIDAD
MOD. R5R



Ingrandimento "A"
"A" inset
Agrandissement "A"
Vergrößerung "A"
Ampliación "A"

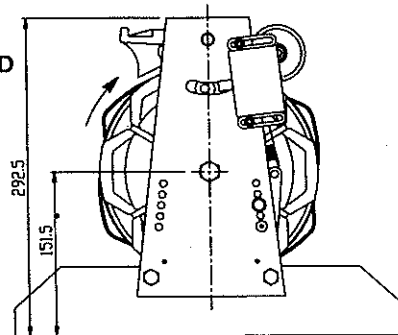
I 6.4 LIMITATORE DI VELOCITÀ
MOD. R5SP

GB 6.4 OVERSPEED GOVERNOR
TYPE R5SP

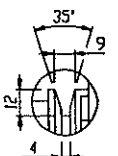
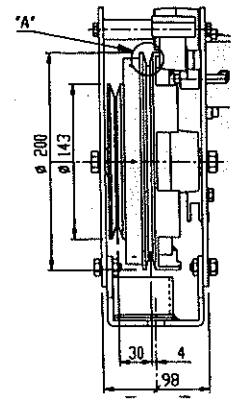
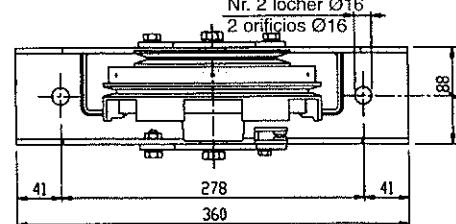
F 6.4 LIMITEUR DE VITESSE
MOD. R5SP

D 6.4 GESCHWINDIGKEITSBEGRENZER
TYP R5SP

E 6.4 LIMITADOR DE VELOCIDAD
MOD. R5SP



N. 2 fori Ø16
No. 2 holes Ø16
N° 2 trous Ø16
Nr. 2 löcher Ø16
2 orificios Ø16



Ingrandimento "A"
"A" inset
Agrandissement "A"
Vergrößerung "A"
Ampliación "A"

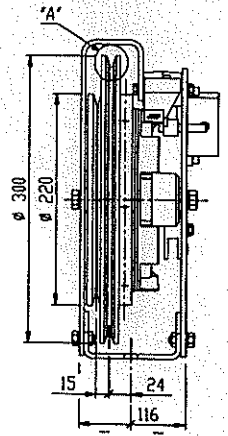
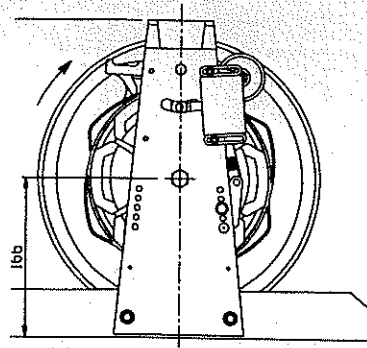
(I) 6.7 LIMITATORE DI VELOCITÀ
MOD. R6SP

(GB) 6.7 OVERSPEED GOVERNOR
TYPE R6SP

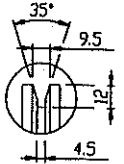
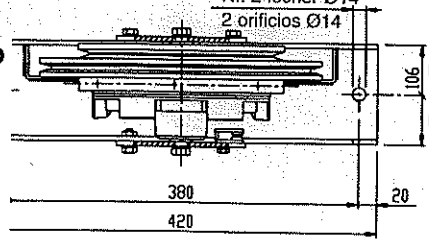
(F) 6.7 LIMITEUR DE VITESSE
MOD. R6SP

(D) 6.7 GESCHWINDIGKEITSBEGRENZER
TYP R6SP

(E) 6.7 LIMITADOR DE VELOCIDAD
MOD. R6SP



N. 2 fori Ø14
No. 2 holes Ø14
N° 2 trous Ø14
Nr. 2 löcher Ø14
2 orificios Ø14



Ingrandimento "A"
"A" inset
Agrandissement "A"
Vergrößerung "A"
Ampliación "A"

(I) 6.8 TENDITORE CON CONTRAPPESO

(GB) 6.8 TENSION WEIGHT WITH COUNTERWEIGHT

(F) 6.8 TENDEUR PAR CONTREPOIDS

(D) 6.8 SPANNGEWICHT

(E) 6.8 TENSOR CON CONTRAPESO

