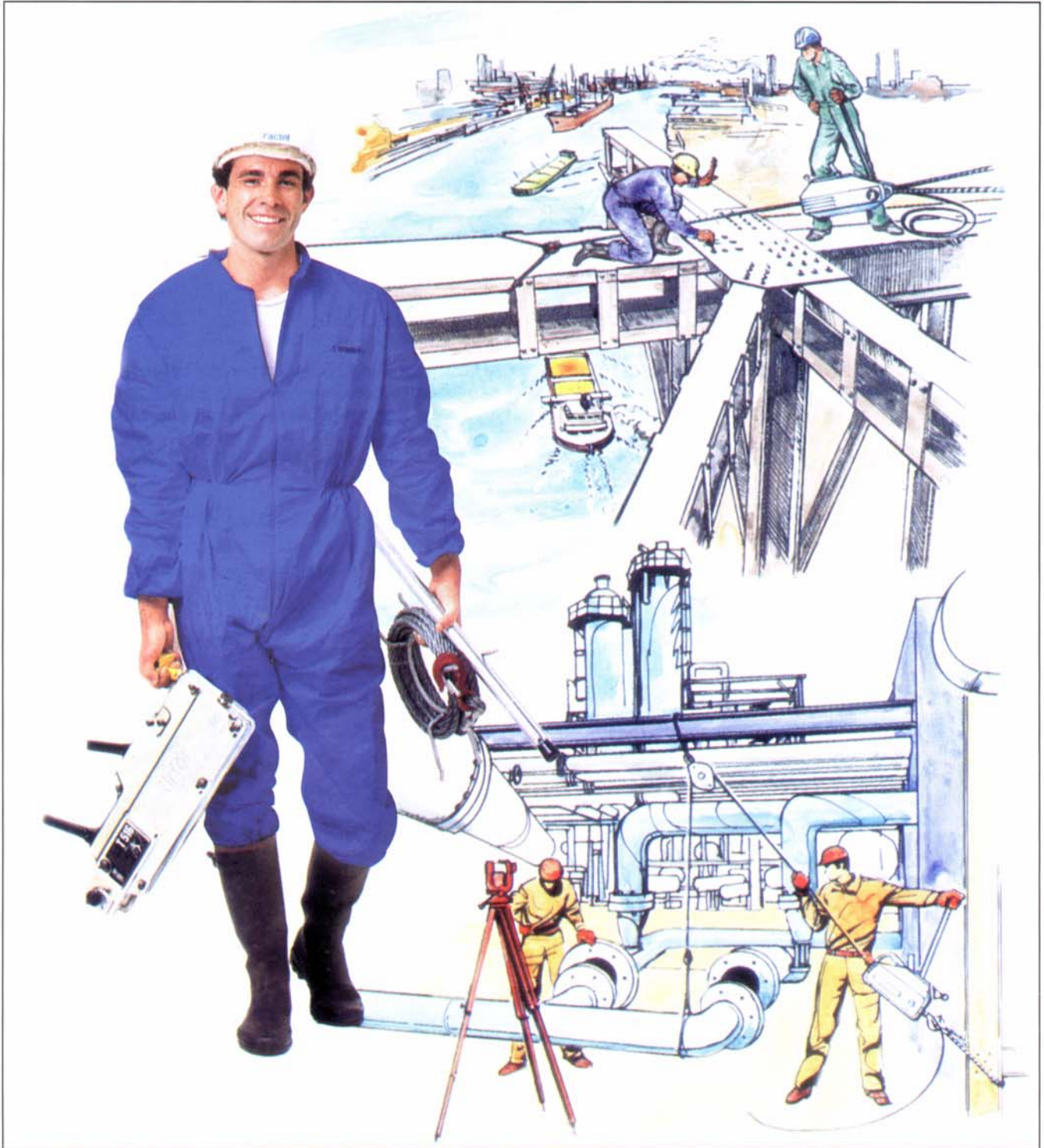


Griphoist-Tirfor

Lifting and pulling machines
with unlimited wire rope



 **Tractel** Inc.

Griphoist Division

GRIPHOIST-TIRFOR. . . reliable lifting, pulling,



Fig. 1 - GRIPHOIST-TIRFOR TU standard range



Fig. 2 - GRIPHOIST-TIRFOR T-500 light duty range

POWERFUL: GRIPHOIST-TIRFOR TU machines are in daily operation on construction sites around the world putting power where it is needed for lifting, pulling and handling a wide variety of loads.

Only the TU models are UL classified for man-riding. (Please refer to your local safety regulations).

CHOICE: Light and compact, the the GRIPHOIST-TIRFOR T-500 machines are even easier to handle, provide a high mechanical advantage and are economical.

The TU and T-500 ranges of versatile GRIPHOIST-TIRFOR lifting and pulling machines are safe, reliable and efficient. Suitable for many applications, GRIPHOIST-TIRFOR machines are lever operated hoists using a separate wire rope. One-man operated, using a telescopic operating handle, they can work in any position and over any height of lift. They can replace conventional winches and other hoists for many applications.

The GRIPHOIST-TIRFOR principle

The principle may be described as "hand-to-hand", like a sailor pulling on a rope. While one hand pulls the other changes position to pull in turn. The two hands represent the 2 jaws of the GRIPHOIST-TIRFOR. They grip the wire rope without damaging it, and alternately pull it during forward operation and hold it during reverse operation. The effort is transferred to the jaws by two levers: one for forward operation and the other for reverse operation. The load is held securely at all times. Without a ratchet or pawl, loads can be precisely positioned.



GRIPHOIST-TIRFOR wire rope

The wire rope for the GRIPHOIST-TIRFOR machine is not a standard production rope; it has been developed specially to suit the GRIPHOIST-TIRFOR machine. GRIPHOIST-TIRFOR wire ropes are supplied on a reeler for ease of transport and storage.



Fig. 3 - Typical 60' wire rope on reeler. Longer lengths are available.

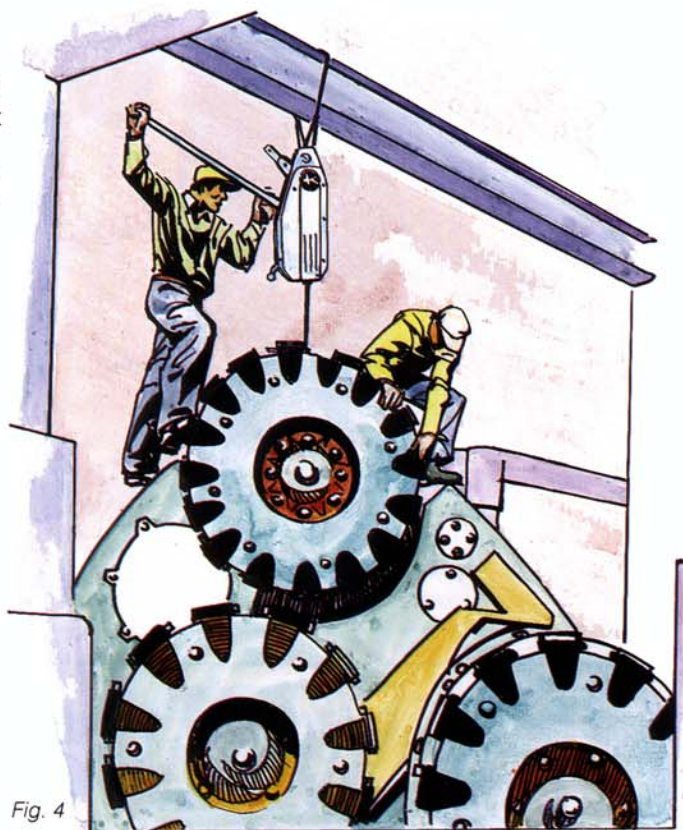


Fig. 4

... lowering and positioning

the main advantages of the GRIPHOIST-TIRFOR

versatility

- works in any position
horizontal, vertical or angled
- unlimited length of wire rope
eases rigging
- increase the nominal capacity with
multiple sheave blocks

simple

- fast and easy installation
- simple to feed in
or remove the wire rope
- continuous operation without jerking
- reduced maintenance by simple
cleaning and regular lubrication
- changeover from forward to reverse
operation by transferring the operating
handle from one lever to another

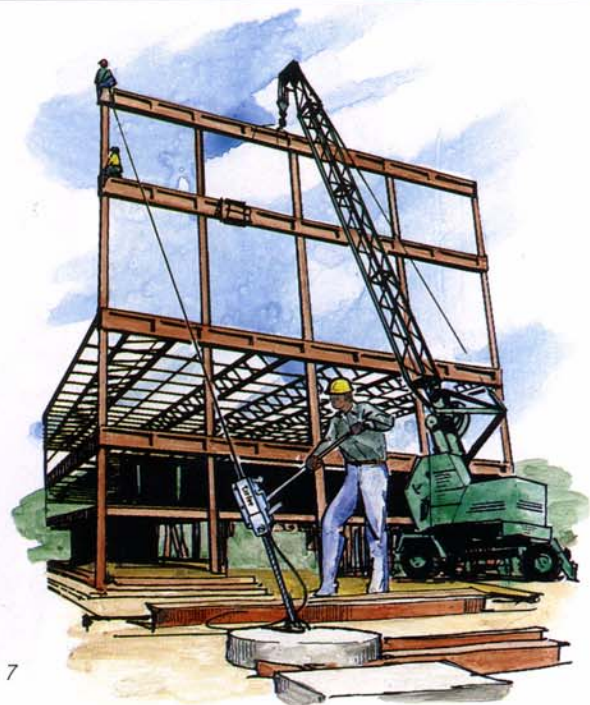
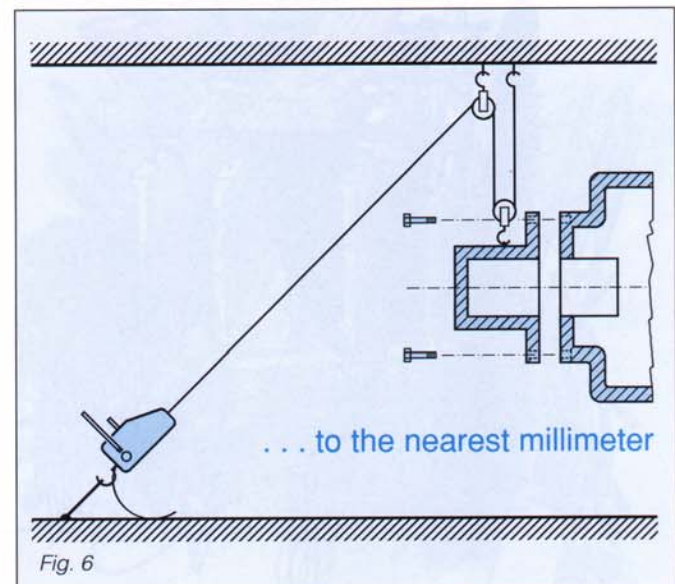
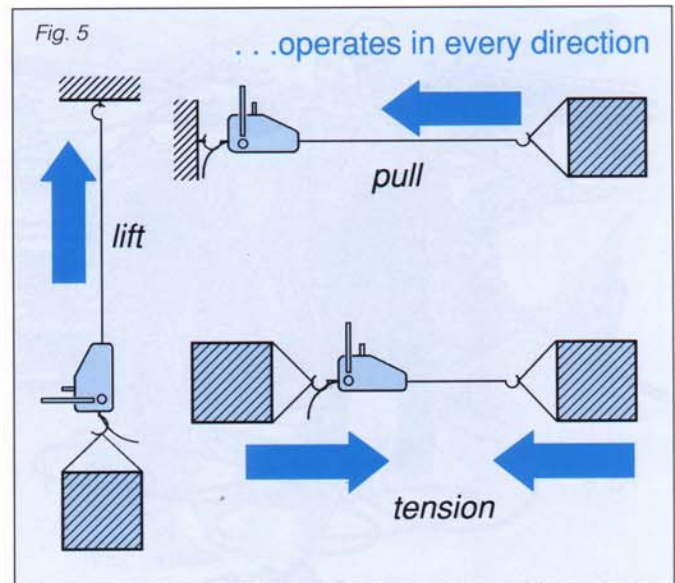
strong

- high mechanical advantage
- both ranges will operate in the most
difficult conditions or rough construction
environments

safe and reliable

- whether lifting or lowering, the load is
permanently controlled with the utmost
precision; when operation stops,
the load is distributed on two
jaw blocks
- safety device to prevent overloading
- TU range approved for man-riding
applications

**the original
GRIPHOIST-TIRFOR...
even better than ever**



GRIPHOIST-TIRFOR, the right tool for the job.

Here is a selection of the many applications.



Fig. 8

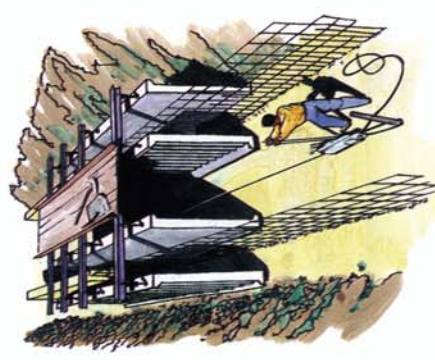


Fig. 9

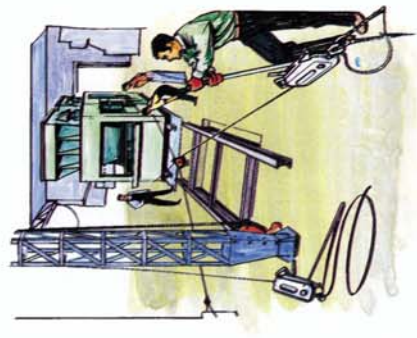


Fig. 10

Construction, public works, civil engineering

- moving and positioning formwork horizontally or vertically (Fig. 9)
- positioning sections of precast concrete beams
- lifting work platforms or suspended working platforms
- dragging, general lifting, guy rope tensioning, etc. . . .

Pipelining and jointing

- positioning of pipes for welding and jointing
- laying concrete pipes and pulling them together
- underwater pipeline assembly

Bridges

- positioning formwork (Fig. 16)
- guy rope tensioning (Fig. 8)
- pulling pre-cast concrete beams
- suspending inspection and maintenance platforms

Steel structures

- plumbing or aligning steel structures (Fig. 7)
- erecting steel silos

Industry

- installation and removal of machine tools and presses (Fig. 10)
- loading and unloading of heavy equipment
- lifting and pulling during maintenance operations

Escalators, elevators

- loading, unloading and rigging of prefabricated escalators (Fig. 28)
- lifting and positioning the cats and hoisting mechanisms

Electricity and telecommunications

- positioning transformers (Fig. 15)
- erection of mobile aeriels and antennas (Fig. 26)
- tensioning underground and overhead cables
- guy rope tensioning operations

Oil and chemical industries

- controlled positioning and assembly of pipes and ducting (See front cover)
- tensioning guy ropes for silos and tanks during construction
- inspection and maintenance work

Mines and quarries

- handling and positioning equipment and underground machinery
- tensioning or splicing conveyors

Shipbuilding and marine engineering

- centering ship's entry dock (Fig. 13)
- anchoring barges and tugboats

Rail and road transport

- lifting and removal of pylons and signals (Fig. 11)
- maintenance and tensioning of lines
- load binding heavy and difficult loads
- loading and unloading

Armed forces

- many applications in the different sections of the Armed Forces (Engineering, Air Force, Army, Navy and Marines, communications and transportation)

Fire services and civil defense

- removing crash wreckage (Fig. 14)
- handling and installing of emergency bridges

Agriculture

- controlling the direction of fall of a tree (Fig. 12)
- clearing fuses and rocks
- pulling tractors, tractors and other vehicles from mud or rivers
- tensioning fences

... and wherever there is a need for lifting, or pulling heavy loads



Fig. 13



Fig. 14



Fig. 12



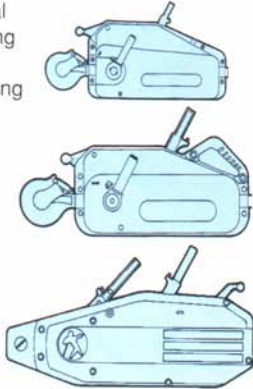
Fig. 11



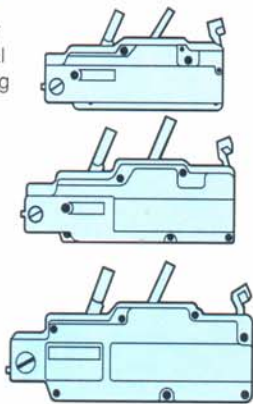
Fig. 15

Technical specification

TU range
material handling and manriding



light-duty range
only for material handling



model	Approx. speed per min. (fpm)	nominal capacity lbs (kg)	weight machine	lbs (kg) wire rope	dimensions in. (mm)		special TIRFOR w. r.	
					machine	handle ext./closed	dia. in. (mm)	break. strain lbs (kg)
TU-17	7-9	2,000*/1,500**	18.5	30ft/9m	20-3/4x9-3/4x4-1/2	28/18	5/16	10,000
		(800/600)	(8.4)	8 (3.6)	(528x284x113)	(730/450)	(8.3)	(4,800)
TU-28	7-8	4,000*/3,000**	41	60ft/18m	26x13x5-3/4	45/26	7/16	20,000
		(1,600/1,200)	(20)	28.9 (13)	(660x360x145)	(1147/648)	(11.5)	(9,600)
TU-32	5	8,000*/6,000**	59.5	30ft/9m	27x13x6-1/8	45/26	5/8	40,000
		(3,200/2,400)	(27)	8 (3.5)	(685x365x156)	(1147/648)	(16.3)	(19,200)
T-508	7-9	2,000*	14.25	30ft/9m	16-1/2x9-7/8x3-7/8	27/16	5/16	10,000
		(800)	(6.6)	8 (3.5)	(420x250x99)	(690/405)	(8.3)	(4,800)
T-516	6	4,000*	30	60ft/18m	20-7/8x12-7/16x5	45/26	7/16	20,000
		(1,600)	(13.5)	28.9 (13)	(530x315x127)	(1147/648)	(11.5)	(9,600)
T-532	6	8,000*	51	30ft/9m	24-7/16x14x5-1/8	45/26	5/8	40,000
		(3,200)	(24)	8 (3.5)	(631x357x148)	(1147/648)	(16.3)	(19,200)

* Capacity for material handling ** Capacity for manriding

(All conversions are approximate.)

Increase the capacity of the TIRFOR

The lifting and pulling power of GRIPHOIST-TIRFOR machines can be greatly increased by the use of multiple sheave blocks. These can increase the nominal capacity of the GRIPHOIST-TIRFOR machine by 2, 3 or 4 times or more (see diagram opposite). For most applications, an allowance must be made for friction in the sheaves. Ensure that the capacity of the blocks and fittings and anchor points are suitable for the load. When using the GRIPHOIST-TIRFOR for pulling purposes it should be remembered that the necessary pulling effort is not equal to the weight of the load to be moved. It should be calculated.

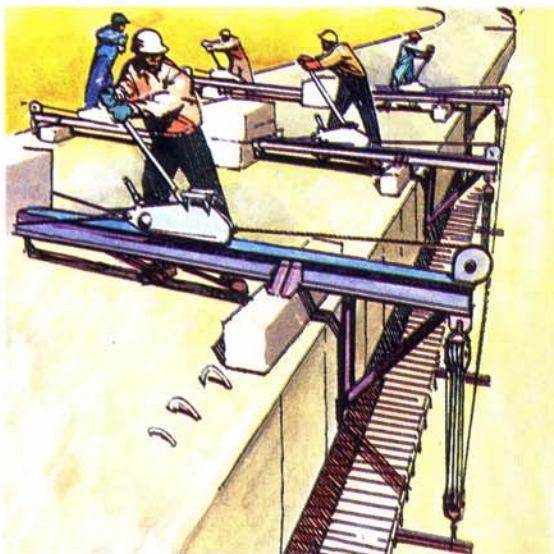


Fig. 16

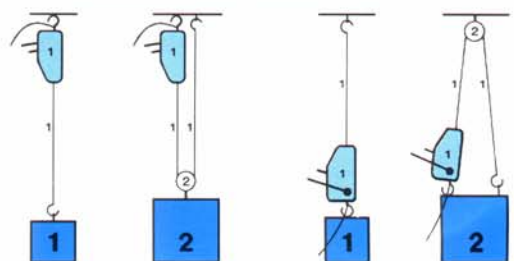
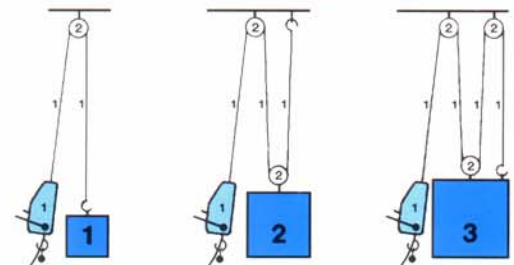
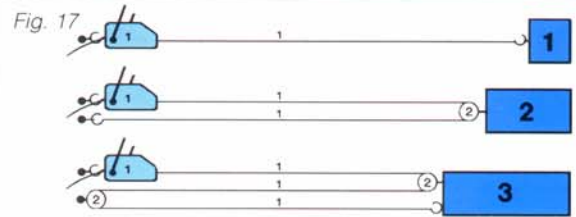
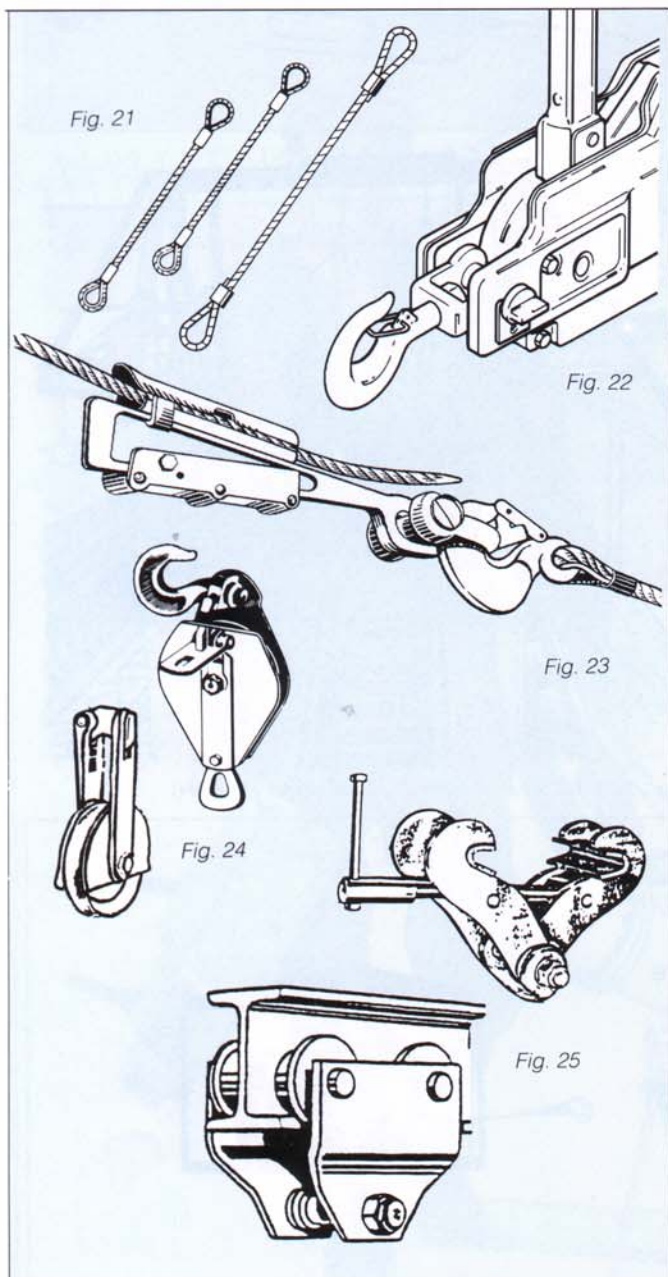


Fig. 17

Accessories

SHACKLES

A range of "D" shackles is available for use with all GRIPHOIST-TIRFOR machines



To make the best use of the GRIPHOIST-TIRFOR machine, choose from the range of specially developed accessories.

Sheave blocks

to increase the capacity of GRIPHOIST-TIRFOR machines in complete safety as described on the previous page.

The following standard blocks are available:

- single side opening snatch block (Fig. 24)
- single snatch block, non-opening
- double blocks
- lightweight opening blocks

CONI-KLAM, wire rope gripper (Fig. 23)

to quickly lengthen a wire rope or sling. The wire rope is held by a pair of serrated jaws, operated by a self-gripping wedge

type	max. load lbs (kg)	suitable for wire rope dia. in (mm)
EC 10	2,200 (1000)	3/16 - 3/8 (5 - 10)
EC 14	4,400 (2000)	7/16 - 9/16 (10.5 - 14)
EC 21	6,600 (3000)	5/8 - 13/16 (15 - 21)

Slings (Fig. 21)

for anchoring the GRIPHOIST-TIRFOR or the load. Manufactured in steel wire rope. The diagram shows the standard types, which are available in the length required.

Any other type on request.

Anchor hooks (Fig. 22)

for GRIPHOIST-TIRFOR model TU-32 and all the models of the T-500 series.

Clamps and Trolleys (Fig. 25)

Fixed beam clamps or overhead travelling trolleys.

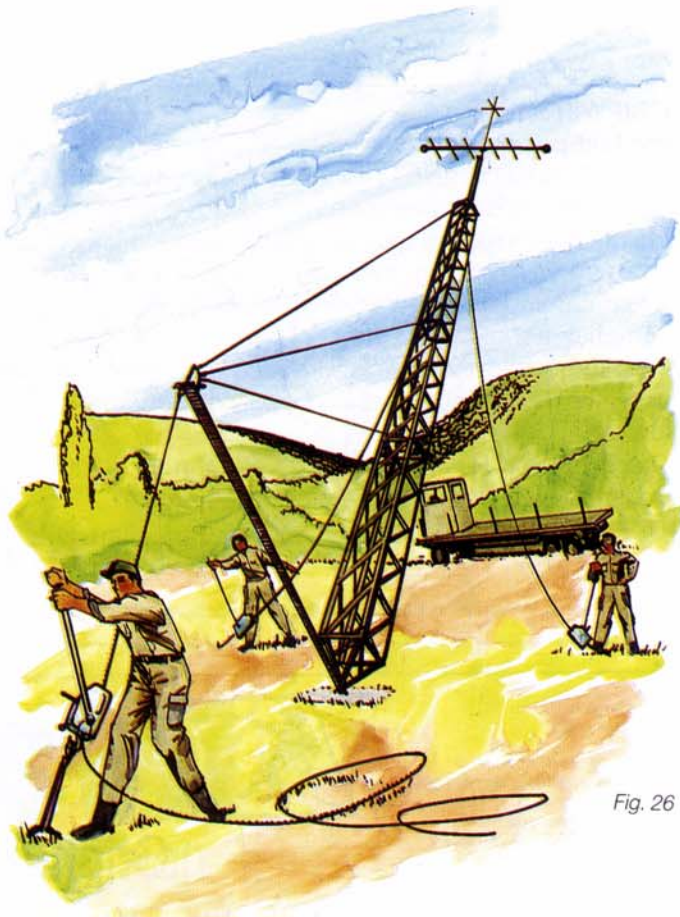


Fig. 26

Powered GRIPHOIST-TIRFOR. . . a winning hand!

The powered models of the GRIPHOIST-TIRFOR machines complement the manual units for heavy loads, such as operating large work platforms, lifting forms, moving machinery, etc. . .

Depending on the application, the working conditions and the power available, powered operation can be electro-hydraulic or pneumatic.

- saves time and labor
- no operator fatigue
- continuous operation
- increased safety
- multiple hoist operations

Hydraulic GRIPHOIST-TIRFOR

The GRIPHOIST-TIRFOR hydraulic system includes a hydraulic power pack which allows remote operation (individually or simultaneously) of one, two or four machines: GRIPHOIST-TIRFOR TU-28H or TU-32H, each fitted with a self reciprocating hydraulic ram.

Pneumatic GRIPHOIST-TIRFOR

This machine (model TU-32P) is particularly suitable for operating on construction sites and in industries where there is a danger of explosions or in industries already provided with compressed air facilities.

For additional information, please ask for descriptive documentation on motorized GRIPHOIST-TIRFOR.

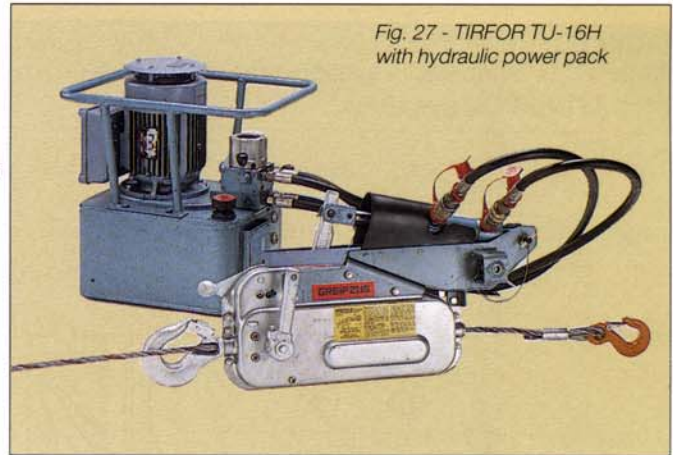


Fig. 27 - TIRFOR TU-16H with hydraulic power pack

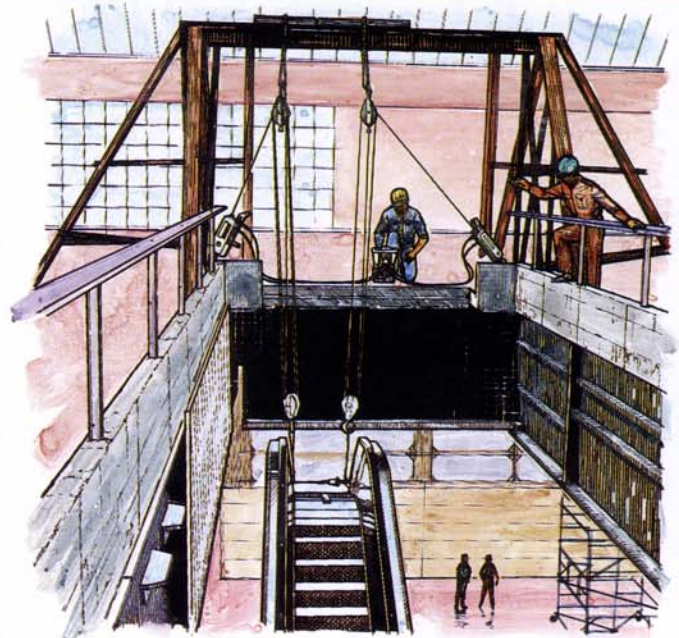


Fig. 28 - Installation of mechanical escalator (TU-28H)

GRIPWINCH

the fast powered winch

As with the GRIPHOIST-TIRFOR machine, the GRIPWINCH also operates on a wire rope which passes through the mechanism. The originality and dependability of its wire rope drive mechanism make it a powered mobile winch which can replace conventional winches in a large number of applications.

Mounted in a frame with its wire rope reeler, the GRIPWINCH assembly is very compact and easily moved from site to site.

The GRIPWINCH, which is approved for man-riding, is available in the frame and reeler configuration.

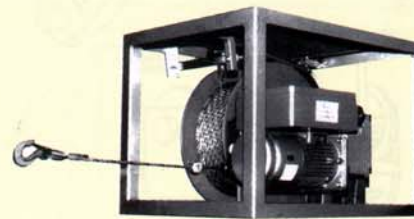


Fig. 28 - GRIPWINCH mobile winch with wire rope reeler mounted in a compact frame.

For additional information please ask for the brochure

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